Norwegian Gross Domestic Product by industry 1830 - 2006

Empirical Evidence on Norwegian Industrial Development and Business Cycle Chronology

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Abstract

This thesis seeks to contribute to the historical national accounting and economic history environment in Norway.

First, I present a novel series for Norwegian gross domestic product by industry covering the period 1830 to 2006 in nominal values, and from 1830 to 1970 in real values. Great parts of this thesis is devoted to the construction, source evaluation, and the theoretical and methodology aspects needed for estimation. By comparing the new series to existing series, I find that the new series are fairly consistent, valid and reliable.

Further, the new series constitutes a basis for mapping the Norwegian industrial development and business cycles from 1830 and onwards. By analyzing the changes in the composition of gross domestic product in light of economic history, I find that the new series provides a quite accurate picture and quantification of the structural changes in the Norwegian economy. After comparing the new series to existing historical series of gross domestic product and supplying with supportive statistics and economic literature, I find that the new series tend to mirror the historical business cycles better. By including series of British and Swedish gross domestic product, I manage to distinguish when Norwegian business cycles are coinciding internationally, and when domestic conditions play a larger role.

In the light of historical and more recent literature on economic history, the new series suggest a revision of the historical national accounts published by Statistics Norway, as first suggested by Grytten (2015).

Acknowledgements

With this thesis I complete my Master of Science (M.Sc.) in Economics Business Administration at the Norwegian School of Economics (NHH). My interest is economic history and business cycle theory arose while taking the courses "Krakk og Kriser" and "Business Cycle Analysis". Digging into the subject matter further, I found that I could use what I have learned to write a thesis within the field of Norwegian economic history centered on the analysis of business cycles and industrial development. Writing this thesis has been challenging and exciting and I hope that it contributes to the literature.

Finally, I would like to thank my advisor, Ola Honningdal Grytten, for introducing me to an interesting topic and for the constructive feedback and guidance during the writing process. It has been a privilege to have an advisor who also is the one of the most prominent contributor of data, foundational research, and literature needed to undertake the work a thesis like this demands.

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1. Introduction

In 2015, Ola Honningdal Grytten presented a novel set of annual gross domestic product series by industry for the period 1830-1930. After analysing and comparing his series with existing series, he suggested a revision of the historical national accounts published by Statistics Norway. His work has served as a stepping stone for this thesis in many ways. Thus, my research can be viewed upon as an extension of his research.

This thesis has three main objectives:

1. The first is to estimate a new series of Norwegian Gross Domestic Product by industry from 1830 and up until modern times.
2. Secondly, this thesis aims conclude more precisely on the sizes of the different industries and their structural development.
3. Thirdly, this thesis aims to throw new light on Norwegian business cycles chronology and their causes.

The motivation for this thesis is mainly the opportunity to continue the work by Grytten (2015) by extending the series of Norwegian gross domestic product (GDP) up to modern times. It is to the best of my knowledge the first attempt of constructing an analogous series of such length. Secondly, I supply my estimates with external sources of historical statistics that have not previously been applied in existing series of GDP. Thirdly, in lack of thereof, I estimate several fixed price series using different deflation techniques. The new fixed price series will be the first of their kind. Further, the overall revision of the series presents an opportunity to dive further into the matter and analyze the domestic industries and business cycles. By studying the industries and their structural changes I can supply and quantify domestic economic history with novel data. In-depth analysis of the business cycles arising in the new series, will similarly throw new light on economic history. Comparing the series to corresponding series of Swedish and British GDP, allows me to conclude more precisely on whether or not historical Norwegian business cycles coincide with international events, or mostly relied on domestic factors.

1.1   Approach

I construct the new series through a holistic and conformal revision of existing data. The earliest period is based on the estimates by Ola Honningdal Grytten and covers the period 1830-1930 (Grytten, 2015). Further I use the manufacturing series by Christian Venneslan from 1896 to 1939 (Venneslan, 2007). For the other industries in the period 1931-1939, I use the series published by Statistics Norway in 1968, namely NOS XII 163 (Statistics Norway, 1968). In 2009, Tor Skoglund revisited series of GDP by industry for the period 1946 – 2006, and I use his series for the corresponding period (Skoglund, 2009).

The most important empirical work encompasses sensible splicing of gross domestic product series, industry by industry, with established series from 1946 and onwards. Beforehand, I establish a national accounts standard to suit the underlying series used in constructing the new series. In lack of thereof, I calculate several fixed price series. The result is a new series of Norwegian GDP from the production side from 1830 to 2006 in nominal values, and from 1830 to 1970 in real values.

The new series constitute a basis for mapping the domestic industrial development and business cycles from 1830 and onwards. I analyze the industries and their development to see if they if they provide an accurate picture of structural changes according to economic history and other statistical sources. Then follows appurtenant calculation of business cycles, and a comparison of the new series with existing Norwegian, Swedish and British series of GDP. The analysis of business cycles is conducted in light of domestic and international economic history.

1.2   Considerations

Gross domestic product (GDP) is a monetary aggregate measure of total value creation through all resident producers in an economy. Although being the most widely cited measure on economic activity, development, and progress, it is not perfect. To calculate GDP, one needs to define what production is and what it is not. The definition of production has changed throughout history, which is described in section 2. Further, it is a common understanding that GDP alone is an imperfect metric for growth and prosperity, and for this reason should be supplemented with other macroeconomic measures. Thirdly, one needs good statistics, which are not always easy to estimate, especially on the basis of historical data

sources which often are scarce and insufficient. However, in terms of its ability to convey information on the economy in a single aggregate, few measures can match GDP.

The National Accounts statistics is a system meant to provide a comprehensive overview of the overall economy, and operate with several aggregate measures, with GDP being the most prominent. Moreover, historical national accounts also reach further back in time than many other empirical sources of data. Due to the limitations on data and the long historical time frame, GDP is a measure that make sense to base this thesis on.

In terms of analysing the newly constructed series, it is crucial to keep in mind that assumptions were made in the construction of the underlying series. The estimates are often based on productivity assumptions, interpolations, and benchmark calculations. It is therefore important to avoid drawing analytical conclusions which actually are assumptions of the original constructions.

Business cycles are generally defined as fluctuations in the aggregate economy, which is further elaborated in section 3.6. It is generally recognized that quarterly data are more adequate in business cycle analysis than annual data. However, quarterly historical data is not available. Thus, the thesis is constructed and analysed on the basis of annual data, an approach shared by many researchers within the field of historical economic data.

I have taken several steps to overcome some of the challenges mentioned above. The reliability and the validity of the sources is considered in section 5. Uncovered shortages are overcome by standalone revisions of the series in section 6. Further, I have included several macroeconomic measures in the analysis of business cycles in section 7.4 to make up for the imperfections of GDP as sole measure on economic activity. Supported with other statistics, it is my belief that GDP is a sufficient measure on historical economic activity. Finally, I take into consideration that history must always be perceived accordingly to its time, and on its own premises.

1.3 Disposition

The following provides the structure of the thesis: Section 2 gives a brief overview of previous historical and more recent attempts of estimating Norwegian GDP from the production side.

Section 3 comprises relevant theoretical aspects relevant for this thesis. Section 4 provides the methodology framework relevant for the estimations conducted. Section 5 describes the sources of data used, and their underlying sources and estimation assumptions. Section 6 comprises the estimation and construction of the new series. The empirical analysis is conducted in section 7, before I conclude my thesis in section 8.

2. Historical Estimates on National Accounts[1]

Statistics Norway did not formally start its production of national accounts until after World War II (Grytten, 2015). However, earlier stand-alone estimations by academics, economic historians, and others were conducted long before this.

The first known estimates of national accounting data was carried out by Professor Anton Martin Schweigaard in 1840. He estimated production across many industries in a representative year around 1835. However, he did not include trade as an industry because it was not considered production at the time. The next estimates were conducted by Maximilanus Braun Tvethe in 1845. He was a civil servant working for the Norwegian customs. He followed up the work by Schweigaard and included wider parts of the economy. In 1887, Anders Nicolai Kiær, the contemporary director of Statistics Norway at the time, produced the third known attempt of estimating the total economy. In his study, trade and services was included for the first time. Schweigaard and Tvethe both attempted to estimate value added by addressing both output and input, however their methods were not consistent. Kiær utterly acknowledged the importance of a value added approach, and was able to gather richer and more reliable data to base his estimates on.

In the 1930s, economists Ingvar Wedervang and Ragnar Fisch pioneered the idea of collecting data to produce national accounts of the total economy. This idea came from the emerging resurrection of quantitative and empirical economics in this decade. The initiative led to the starting point of economic data collection by Statistics Norway as we know it today. Wedervang and his staff at the Norwegian School of Economics concurrently established a historical archive of prices and wages. This archive is internationally renowned for its richness, validity, and reliability, and has served and still continues to serve as an important source of historical data for domestic and international researchers.

The first data by Statistics Norway was processed and finished by Odd Aukrust after World War II. Statistics Norway published a few macroeconomic series in 1946, 1952, and 1953, but the first set of historical national accounts from the expenditure side was first published in 1965, spanning from 1865 to 1960. The latter series was estimated under the supervision of

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[1] This section is based on the historical overview in Grytten (2015) page 4 - 8

economist Juul Bjerke. On the production side, only benchmark year calculations were conducted on aggregated levels up to 1930. After 1930 the series are remarkably detailed, a feature that has been internationally renowned in terms of historical national accounts.

From the 1990s and up until today, many valuable contributors have broadened and extended the data on historical national accounts, especially from academia. Camilla Brautaset, Elisabeth Bjørsvik, Christian Venneslan, Jan Tore Klovland, Fritz Hodne, and Ola H. Grytten have all provided valuable research within the field, to mention some. Hodne and Grytten estimated total GDP for the period 1835-1865 in 1994. In 2003, the series were revisited and extended from 1830 to 2003. The latest revision was conducted by Grytten in 2015, and included for the first time a full set of historical national accounts from the production side between 1830 and 1930. This thesis aims to continue the work by all the above mentioned economists and academics by constructing historical national accounts from the production side from 1830 to 2006.

3. Theoretical Aspects

3.1   Introduction

This section provides a useful introduction to fundamental aspects and theory related to the empirical work of this thesis. I provide general explanations and definitions of national accounts, gross domestic product, the difference between market value and base value, and the difference between current values and real values. The different theoretical aspects will be tied to the construction of the new series in section 6. I further provide insights on business cycle theory which is linked to section 7 where I analyze the results and map out business cycle movements arising in the new series.

3.2   National accounts

The National Accounts statistics is a system meant to provide a comprehensive overview of the overall economy. The system provides summarized descriptions on several levels of aggregation and shows the transactions between the individual sectors in the national economy (OECD, 2002). The system of national accounts used by Statistics Norway today follows the international standards given by The System of National Accounts of 2008 (2008 SNA)[2] and The European System of National and Regional Accounts, 2010 (ESA 2010)[3]. The official classification of industries is manifested in SN2007 by Statistics Norway, which is a Norwegian adaption of the European Commission standard NACE Rev. 2.

The National Accounts operate with several aggregate measures, with gross domestic product being the most prominent as it is the most widely cited measure on economic activity, development and progress.

3.3   Gross domestic product

Gross domestic product (GDP) is a monetary aggregate measure reflecting the market value of total unduplicated value added through all resident producers in an economy (OECD,

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[2] The SNA is established by UN, OECD, The World Bank, IMF and EU. From 2014, Statistics Norway based national accounts on 2008 SNA which replaced the older version, 1993 SNA.
[3] ESA 2010 is established by The European Commission and is a European adaption of 2008 SNA customized for European conditions.

2002). The economic growth in a nation is commonly measured as the development in GDP in real terms, which will be addressed later. GDP per capita, and other macroeconomic variables as a share of GDP, provides a common ground for comparing economic development and other macroeconomic parameters across countries.

There are three different main approaches to how GDP is defined and measured; the expenditure approach, the income approach, and the production approach. The equations below are rendered from the framework by Ola Honningdal Grytten (Grytten, 2015).

3.3.1 The expenditure approach

This approach describes GDP (Y) from the demand side of the economy as it looks at consumption in the different aggregateted macro units of an economy. For period t, (C) denotes private consumption, (I) is gross investments, (G) denotes public expenditures, (X) is exports, and (M) is imports.

$$(3.1) \qquad Y_t = C_t + I_t + G_t + (X_t - M_t)$$

3.3.2 The income approach

In this method GDP is measured as the earnings resulting from using labor and capital in production of goods and services, plus taxes less subsidies on products. For period t; (W) denotes compensation of employees and (S) is gross operating surplus. (T) denotes taxes and (S) subsidies on (Q) production and (M) imports.

$$(3.2) \qquad Y_t = W_t + S_t + \left(T_t^Q - S_t^Q \right) + (T_t^M - S_t^M)$$

3.3.3 The production approach

Going forward, GDP from the production side will be the main emphasis in this thesis. The production approach can be thought of as describing the supply side of an economy as it looks at goods and services produced for end-use. GDP is found by summarizing production, or value added, in each industry. For each industry, value added is found by taking output and

deducting the input. Input is defined as the goods and services that goes into intermediate consumption during the process of completing the product.

This gives us the following equation where (j) denotes production units, (y) is the gross value added, (e) denotes gross value of output in period t, and (h) is gross value of input in period t.

$$(3.3) \qquad \sum y_{j,t} = \sum(e_{j,t} - h_{j,t})$$

GDP (Y) is then found by adding the sums of output (E) subtracting the sums of input (H).

$$(3.4) \qquad Y_t = E_t - H_t$$

3.4 GDP valued at market value and base value

GDP is most commonly referred to and measured in market value. From the production approach, GDP in market value is defined as gross value added summarized across all industries, adding product taxes and subtracting product subsidies and other corrections. These correction posts (taxes, subsidies and other corrections) do not count as production by themselves and are therefore added to the total in the end. Gross value added is found by subtracting intermediate consumption from output. Output is the sum value added through production of goods and services. Intermediate consumption represents the goods and services used as inputs in production such as raw materials, electrical power, services and other operating expenses. Regarding *other corrections* in this context; modern methodology requires correcting for *FISM*, which can be translated into "capital income less interest expenses and income from own funds" (Grytten, 1999).

The base value, or gross value added, is what each producer is left with from production *before* paying VAT and other product taxes and alternatively receiving product subsidies. Summarizing all producers' gross value added gives GDP in base value. The abovementioned give the following dependencies:

For each producer

(3.5)   **Gross value added**   = Output – Intermediate Consumption

For an economy

(3.6)   **GDP in base value**   = $\sum$ Gross value added

(3.7)   **GDP in market value** = $\sum$Gross value added + $\sum$Product taxes – $\sum$Product subsidies
                                – $\sum$Correction for FISM

3.5   Nominal and real values

Series of GDP are often presented in both nominal and real values. A series in current prices will for each observation show the contemporaneous price that was prevalent in the same period the transaction occurred. A change in a nominal series over several time periods can occur due to changes in quantities of goods or changes in price levels. In other words, nominal series include the impact of price changes. To be able to determine if an industry is better or worse off when comparing different time periods, it is necessary to adjust for inflation. By holding prices from previous periods constant, one can consider changes in quantity between consecutive periods. In conclusion, accounting for changes in price level and using an inflation-adjusted measure provides a more accurate figure of economic growth.

Calculating GDP in real values are first done on a disaggregated and detailed product level before summarizing all industries. Real values are based on their current values, and are calculated through deflating, which I will discuss in section 4.2

To arrive at the real GDP for a year, GDP is evaluated at the market price of a selected base year. According to modern methods applied by Statistics Norway, real GDP in year t is calculated with the previous year ($t - 1$) as base year. (Statistics Norway, 2014). To study the development of real GDP over a longer time period, it is useful to present the series in prices to a common reference year. This can be done by chaining the yearly volume changes with the value of the chosen reference year. The volume change from the value in a particular year to its base year will be the same volume change for the same period in the chained series.

Since chaining is conducted on both an aggregated level and more detailed levels, non-additivity is a consequence. The total added sums of the different sub-industries will differ from the value obtained from chaining aggregates. Additivity is only obtained if all the periods share the same base year (Statistics Norway, 2014)

In 1996 a project called "Nordic Historical National Accounts" was launched with the common goal to standardize and establish a common framework for the Nordic historical national accounts (NHNR). The project included each country's representative Central Bureau of Statistics and a network of economic historians. One of the goals for this workforce was to establish a common deflation technique methodology (Grytten, 1999). It was clarified that due to the limitations in historical data, simplifications had to be made. Historical data does not provide enough information to sufficiently adhere to the complex and modern methods used today. The details will be further addressed in section 4.2

3.6 Business cycles

A classical definition of business cycles is given by Arthur Burns and Wesley Mitchell of the US National Bureau of Economic Research in 1946:

"Business cycles are a type of fluctuations found in the aggregate economic activity of nations that organize their work mainly in business enterprises: a cycle consists of expansions occurring at about the same time in many economic activities, followed by similarly general recessions, contractions, and revivals which merge into the expansion phase of the next cycle; the sequence of changes is recurrent but not periodic; in duration business cycle vary from more than one year to ten or twelve years; they are not divisible into shorter cycles of similar character with amplitudes approximating their own." (Burns and Mitchell, 1946)

Business cycles are primarily measured as fluctuations in GDP in real terms, compared to the underlying trend. Other macroeconomic variables have also proven useful to identify business cycle development, especially ongoing or recent cycle movements. Although real GDP is the most-cited indicator on economic development, it is not as suitable as other macroeconomic factors to predict future, current or very recent movements in the economy. The reason for this originates from the subsequent publishing of GDP data, which often is subject to revision

for years after publication. This is not a pressing issue in this thesis as it undertakes historical GDP time series where the period of analytical interests lies adequately in the past.

A time series, X, typically contains four components (Pindyck & Rubinfeld, 1991): A cyclical component (C), a trend component (T), a seasonal component (S), and a residual or measurement error (I). [4]

$$(3.8) \qquad X_t = F(C,T,S,I)$$

Generally, the first two components are the most interesting to analyze, which creates the trend-cyclical curve (Y) in equation 3.9 below. This is equivalent to GDP in real terms (assuming adjustments for seasonality and outlying errors has been conducted).

$$(3.9) \qquad Y = C + T$$

The trend (T) represents the long-term development in the economy and the cyclical component (C) represents the magnitude of a business cycle. We can consider trend (T) as potential output, or potential GDP. The difference between actual output (real GDP) and potential output (trend) is the output gap, or cyclical component ($C = Y - T$). The output gap is most commonly measured as the percentage deviation between the time series and the underlying trend. A trend-cyclical curve (real GDP) above the trend implies a positive output gap and a booming economy. Similarly, the economy is said to be in a slump if a negative output gap is observed, and real GDP lies below trend. To analyze the movement of the economy through business cycles, it is therefore important to extract the trend from real GDP, and examine the cycles, or output gaps. I will use a HP filter to measure the business cycles by differentiating between trend and cyclical component, which will be addressed in section 4.3.

When determining peaks and troughs of a business cycle, one differentiates between classical cycles and growth cycles. The classical cycle considers the fluctuations in the real GDP series, and have its turning points in local maximum and minimum points on the time series where $dY/dt = 0$. Growth cycles have their turning points where the trend-cyclical curve (real

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[4] To maintain original source notations, some duality occurs. The most recent notations will apply for the rest of this thesis.

GDP) has the same growth rate (a) as of the trend curve, implying dY/dt = a. When real GDP grows faster than the trend we are in a phase of expansion. When real GDP grows slower than the trend, we are in a phase of contraction. It is important to note that not all peaks and troughs are defined as turning points. There are demands to duration, depth and diffusion to consider as well (Burns and Mitchell, 1946).

4. Methodology

4.1 Introduction

In the following section I present the methodology used to construct and analyze the new series. To ensure that the different series that go into the new series are in level, I conduct a comprehensive splicing procedure. I further construct new fixed price series using different deflation techniques. The methodologically framework for these procedures are introduced in this section, and I will tie them to the construction of the new series in section 6. I use a HP-filter to extract the cyclical components to analyze the business cycles arising in the new series. The HP-filter is also used to analyze the different industries turning points and magnitude to better understand when they emerged and/or declined. The methodology on the HP-filter is introduced in this section, and applied in section 7.

4.2 Splicing

When constructing long time series of national accounting aggregates, it is necessary to splice together different shorter time series. Different time series will often exhibit heterogeneities due to the quality of primary data sources and methods used for estimation. This will often be more distinct with series of older data as economic historians and researchers might use different methodologies and often need to base their work on incomplete data. Splicing allows us to account for the discrepancy between series that emerges at their linking point.

Written theory on splicing procedures often focuses on connecting an end year in one time series with a start year of a succeeding time series, where the level gap between these two years are considerable. Noteworthy methods for doing this include retropolation, interpolation or a mix of these (de la Fuente Moreno, 2014).[5]

In this research I have the privilege of having overlapping series in certain periods where one of the series is more novel and based on modern techniques for estimation. The available series and the format of the intersection is rendered in the figure below.

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[5] For example see de la Fuente Moreno (2014)
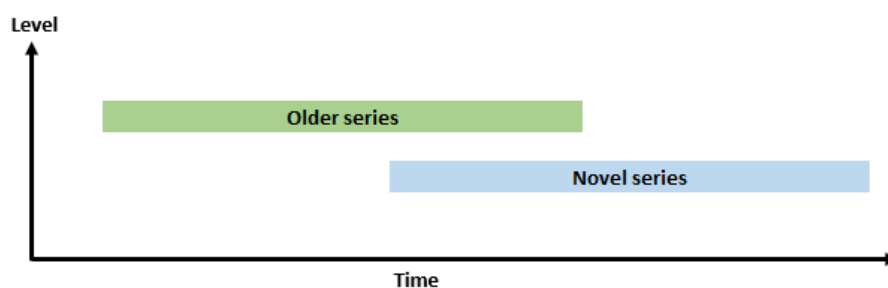
The modern estimation methods used to estimate the novel series supersedes the more dated techniques applied to construct the older series, which notably was constructed more than half a century ago. Therefore, in the final series it is favourable to extend the novel series as far back as possible.
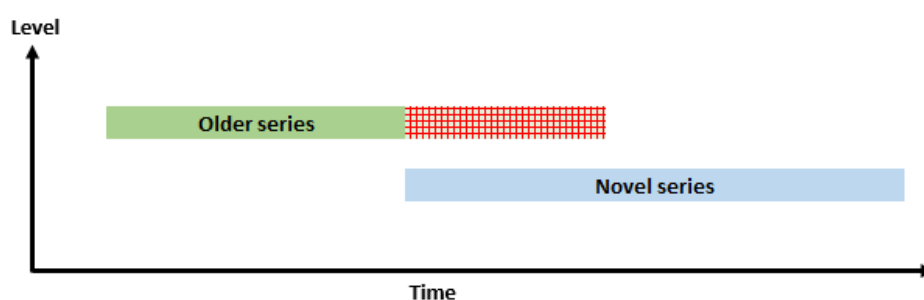
Although the novel series is used in the overlapping period at the expense of the older series, the earlier parts of the older series is still used. This part is not yet directly comparable to the novel series as it lies at a higher level, causing an unrealistic breakage in the comprehensive series. The splicing procedure extends to adjusting the older series down (or up) to accommodate the level of the novel series. By comparing the data in the overlapping period I can calculate the splicing ratios needed to adjust the preceding time series.

Extracting the ratios is a calculation procedure done at the most disaggregated level available. The splicing ratio (SR) in year *t* for sub-industry *i* is found by taking gross value added from sub-industry (*i)* from the novel series (N) and dividing it on the corresponding gross value added in the old series (O).

$$(4.1) \qquad SR_t^i = \frac{GVA_t^{i^N}}{GVA_t^{i^O}}$$

For each sub-industry, this gives us a splicing ratio for each year in the overlapping period. To arrive at *one* splicing ratio to apply on the preceding series of that sub-industry, an average $(\overline{SR^i})$ of the years in the overlapping period (n) is used.

$$(4.2) \qquad \overline{SR}^i = \frac{\sum_{i=1}^n SR_i}{n}$$

The calculated average splicing ratio from equation 4.2 is then applied to the preceding series for the respective sub-industry (GVA^{i^O}), giving the spliced value gross value added (GVA_s^i) for each year (t).

$$(4.3) \qquad GVA_{s_t}^i = GVA_t^{i^O} \overline{SR}^i$$

The splicing procedure is conducted across all industries, and the summarized series will from here on expectantly be more in line with the novel series.
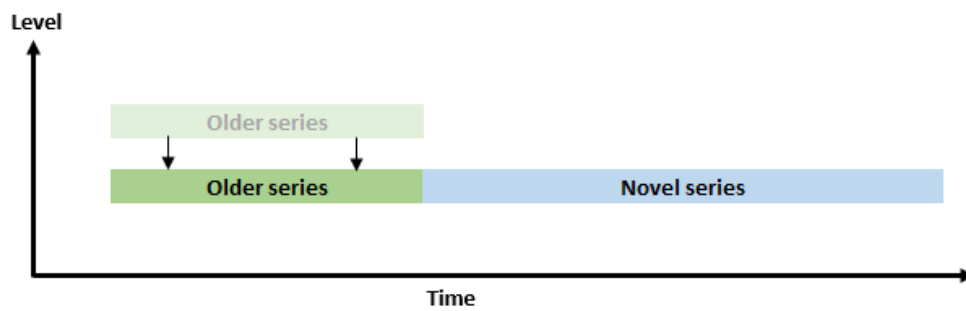
4.3   Deflation techniques

Deflating entails dividing current price estimates by a price index to obtain a fixed price estimate. Using implicit price deflators is also an option, and the implicit deflator is obtained through dividing current price estimates by its corresponding fixed price estimate. The following deflation techniques are in accordance with the guidelines for deflating historical national accounts from the production side by Grytten (1999).

4.3.1   Paasche price index

The Paasche price index is a common index formula used in deflation. The index measures current price levels relative to those of a selected base year. In other words, it allows us to compare a bundle of goods valued at current prices with the value of the same goods at base-year prices. The index for each group is calculated by dividing the values of each considered

year (in their current prices), with the value of each year measured in base-year prices (Grytten, 1999).

$$(4.4) \qquad P^P = \frac{\sum_{i=1}^n p_t^i q_t^i}{\sum_{i=1}^n p_0^i q_t^i}$$

4.3.2 Single deflation technique

Using a single deflation technique means deflating gross value added directly using either a Paasche price index for output (P^P_O) or a Paasche price indices for input (P^P_{IC}).

$$(4.5) \qquad GVA = \frac{\Sigma(p_O q_O)}{P^P{}_O} - \frac{\Sigma(p_{IC} q_{IC})}{P^P{}_O}$$

$$(4.6) \qquad GVA = \frac{\Sigma(p_O q_O)}{P^P{}_{IC}} - \frac{\Sigma(p_{IC} q_{IC})}{P^P{}_{IC}}$$

When using a single deflation technique GDP is deflated as follows:

GDP = Gross Value Added + Product taxes – Product subsidies – Correction for FISM

Using a single deflation technique has several drawbacks. Most importantly is the fact that using a single deflation technique may result in misleading estimates of GDP in fixed prices, given that input and output most likely have different price developments (Grytten, 1999)

4.3.3 Double deflation technique

Deflating following a double deflation technique allows separate deflations on output and intermediate consumption to arrive at gross value added in fixed prices. Output is divided on a price index for output and input is divided on a price index for input. Gross value added is then found by subtracting the separately deflated input value from the separately deflated output value.

$$(4.7) \qquad GVA = \frac{\Sigma(p_O q_O)}{P^P{}_O} - \frac{\Sigma(p_{IC} q_{IC})}{P^P{}_{IC}}$$

When using a double deflation technique GDP is deflated as follows:

GDP = Output – Intermediate consumption + Product taxes – Product subsidies

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– Correction for FISM.

4.3.4 GDP in fixed prices

Using a double deflation technique takes into account that output and input may have different price developments. This is the main reason why using a double deflation technique is the preferred method for deriving estimates of GDP in fixed prices.

$$(4.8) \qquad GDP = \Sigma \left\{ \frac{\Sigma(p_O q_O)}{PP_O} - \frac{\Sigma(p_{IC} q_{IC})}{PP_{IC}} \right\}$$

4.3.5 Implicit deflators

To arrive at an implicit deflator for GDP (ID), I divide current values (Y^C) on real values (Y^F). The principle is more likely applied on detailed sub-industries. It is fair to assume these implicit deflators are derived through double deflating, if a reliable double technique has been applied to calculate the underlying fixed price series, denoted by (DD) (Grytten, 1999).

$$(4.9) \qquad ID = Y^C / Y^F_{DD}$$

4.4 HP-filter

One way to make the real GDP series stationary and extract a cyclical component is to apply the Hodrick-Prescott filter (HP-filter). It is a mathematical tool and a well-cited method to calculate the trend of a time series. HP-filter is a univariate method, implying that the trend series is extracted using the original time series as sole source. The trend (g_t) is obtained through removing the cyclical component (c_t) from the original time series (y_t). In other words, the original time series is divided into a trend and a cyclical component, $y_t = g_t + c_t$.

$$(4.10) \quad \min_{g_t} \quad \sum_{t=1}^{T}(y_t - g_t)^2 + \lambda \sum_{t=2}^{T-1}[(g_{t+1} - g_t) - (g_t - g_{t-1})]^2$$

(Source: Grytten and Hunnes, 2016)

For t = 1,2…T, the trend component is isolated by minimizing fluctuations arising in the original time series. This means minimizing the span between the trend and the original time series (GDP) and simultaneously adding constraints on how much the trend growth is

permitted to fluctuate (Grytten and Hunnes, 2016). The first term is the squared deviation between trend (g_t) and the original time series (y_t), which penalizes the cyclical component (c_t). The last term represents the squared second differences in the trend, and is weighted by the lambda parameter (λ). The lambda is exogenously determined and indicates the permitted fluctuation allotted to the trend growth. Both terms are squared to ascribe equal weights to both negative and positive deviations.

The lambda value (λ) can be any number between 0 and infinity. When λ goes toward infinity, the first term becomes insignificant compared to the last term. Furthermore, the estimated trend growth rate becomes constant, giving us a linear trend line. When $\lambda = 0$, the estimated trend line will follow the original time series. All deviations from the original time series will also be deviations from the trend series, which accumulates to 0. Lambda values of either 0 or ∞ are not realistic given common knowledge on business cycles. The most commonly accepted values for lambda are:

$$\lambda = 100 \text{ for yearly data}$$
$$\lambda = 1600 \text{ for quarterly data}$$
$$\lambda = 14\ 400 \text{ for monthly data}$$

It is argued that the standard values for lambda times a factor of 25 gives a better interpretation of the Norwegian business cycles (Grytten, 2011). This indicates lambda values of 2500 for yearly data.

The HP-filter has some drawbacks.[6] One of the problems is that the method lacks a theoretical foundation and is to a greater extent based on an instrumental assumption. Further, the lambda value is discretionary set. Another problem is end point errors which occurs in the beginning and end of the series. The method uses a two-way filtering which estimates a trend value based on values lying ahead and behind. At the beginning of a series, the filtering will be one-sided as it is mainly based on values lying ahead. The same problem is evident in the end of a series. If newer observations are not available at the end of a series, this might lead to a real-time problem. Finally, the HP-filter gives booms and busts equal weights. This is not always the reality according to Romer (1999). These problems can partly be solved by using a higher lambda value.

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[6] The drawbacks of the HP-filter are rendered from the course FIE431 – *Krakk og Kriser*, lecture 2, 25.08.2016.

5. Data sources and historiography

5.1   Introduction

In this section I will describe the data that is the basis of the new series. I will discuss how the different contributors of data have studied the topic through their use of sources and techniques, and the validity and reliability of these. Further, I introduce the series that serve as base for comparison in the analysis in chapter 7. These are historical series on GDP from Norway, Sweden and the UK.

Initially, I start out with six series of Norwegian GDP. The latest series are those published by Statistics Norway, covering the period 1970 up until today. Next, I look at revised calculations on 1946 - 2006 by Tor Skoglund published in 2009. From 1930-1939 and 1946-1960 I've considered a series by Statistics Norway published in 1968, called NOS XII 163 (Statistics Norway, 1968). Later, I also included NOS A474 which extends the total NOS series up to 1970 (Statistics Norway, 1972). The earliest series is constructed by Ola Honningdal Grytten and covers the period of 1830 to 1930 (Grytten, 2015). Grytten includes a series on manufacturing created by Christian Venneslan that goes from 1896 to 1939 (Venneslan, 2007).

Figure 5.1: The different series on Norwegian GDP 1830 - 2017
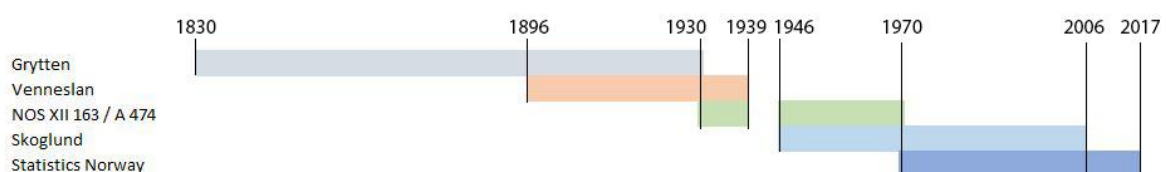
5.2   The Grytten series (1830 – 1930)

A full set of historical national accounts by Ola Honningdal Grytten was published in 2015 in the working paper "Norwegian Gross Domestic Product by industry 1830 – 1930" as a bicentenary project for the central bank of Norway. In the paper, he presents a new set of annual GDP from the production side, which he compares with what he refers to as the *old series*. The old series consist of his previous estimates from 1830 to 1865, which are spliced

with the series by Statistics Norway from 1865 to 1930[7]. His estimates are based on a rich span of sources including archives by Statistical Norway, the Wedervang archives, the central bank, foreign trade statistics and tax records. To estimate public administration, defence, education, health, and others services, he relied considerably on research by Bjørsvik (2004). For forestry, fisheries, and ocean going transport, the work by Brautaset (2002) gave a rich foundation. Other noteworthy sources are provided by Schweigaard, Tvethe, Kiær, Bjerke, Venneslan, Klovland, and Hodne, to mention a few. Grytten used a reliable double technique (Paasche price indices) on most industries to construct the series in fixed prices. He used Laspeyres indices for periods where data on annual volumes was not obtainable.

I use the complete series by Grytten in the new series from 1830 to 1930. He provides both nominal and real values, valued at market value. I also use data on correction posts estimated by Grytten for the same period. However, during the work on this thesis, Grytten decided to revise the *Housing and property* industry in his original series. This is further addressed in section 6.2.2.

5.3   The NOS series (1865 – 1970)

Norges Offisielle Statistikk XII 163 (NOS XII 163) was published by Statistics Norway in 1965 and revised in 1968 (Statistics Norway, 1968). It presents Norwegian GDP by industry from 1930 to 1939, and from 1946 to 1960, on a detailed level. On an aggregate level, the series of total GDP extends back to 1865. Many of the most valuable sources for estimating were statistics kept and supervised by Statistics Norway and include agriculture, production, manufacturing, insurance, forestry, and electricity, amongst others. Further, Statistics Norway carried out estimations based on collected statistics from The Agricultural Budgeting Board, Directorate of Fisheries, Norwegian Whaling Association, Foreign Trade Statistics, and Norwegian Shipowners' Association, to mention a few. Accounts from bureaus such as Norwegian State Railways and Telegrafverket (Telenor) were also used. For the cases with less sufficient sources, Statistics Norway relied on discretionary calculations, which occasionally are claimed as "highly uncertain".[8] The fixed price calculations of the old series were not always based on detailed annual production side calculations for the earlier years[9].

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[7] Grytten, O.H (2004 and Statistics Norway (1968)
[8] Statistics Norway (1968), page 42
[9] Bjerke, J. (1966) page 23

In practice, the estimates were rather based on interpolations between fairly aggregated estimates from benchmark years (Grytten, 2015). From 1865 to 1899 a single deflation technique was applied. It appears that this technique to a large degree continued to be the dominating principle for the succeeding estimates up to 1929.[10]

The NOS series are available in both nominal and fixed prices and valued at market value. [11] In the new series I to use the NOS series from 1931 to 1939, with the exception of manufacturing, which is replaced by the newer series by Venneslan. As mention in section 5.2, the NOS series extends back to 1865 on an aggregated level of total GDP, which I together with Grytten's estimates from 1830 to 1865 will use to compare with the new series in section 7, in which I will refer to as *the old series*. From 1946 the revised series by Skoglund is used. As I will elaborate later, the Skoglund series do not include series in fixed prices. Skoglund does however mentioned how these can be calculated by using the implicit deflator from the NOS series. Since NOS XII 163 only go up to 1960, I look to Norges Offisielle Statistikk A474 (NOS A474) to extract deflators for 1961 – 1970. NOS A474 was published in 1972, and covers the period from 1954 – 1970[12]. The two NOS series overlap from 1954 – 1960, and luckily neither the accounting standard nor the overlapping values had been revised. These publications also come with a volume index by industry which I will address in section 6.2. However, after discussions with my advisor, and checking other independent statistics, NOS XII 163 seem to not display the level and development in some industries correctly, particularly in the primary industries. Therefore, I conduct several stand-alone revisions on the NOS series which is elaborated in section 6.2.2, 6.3.1, and 6.3.2

5.4 The Skoglund series (1946 – 2006)

Statistics Norway conducted a project where the goal was to revise old national accounting series before 1970 and make them more comparable with series after 1970. Tor Skoglund presented these new series and calculations dating back to 1946 in the paper «Gross domestic product by industry and end-use in historical national accounting – calculations for 1946 – 1969» (Skoglund, 2009). By 2009, Statistics Norway had conducted two major revisions of the standards of national accounts. The first in 1970 (adaption SNA 1968) and the second in

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[10] Grytten, O.H. (1996) page 149
[11] The nominal and real series can be found in Statistics Norway (1968) on page 68 - 71 and 244 - 247
[12] The nominal and real series can be found in Statistics Norway (1972) on page 15 and 39

the 1990s (adaption to SNA 1993 and ESA 1995). Smaller revisions were conducted in 2002 and 2006. All revisions are applied to the official statistics of Norwegian GDP from 1970 and up till today. This is not the case for the series in the period 1946-1969. Skoglund found a middle ground by revising the series from 1946 to 1969 and resetting revisions on the series from 1970 to 2006. To reset revisions Skoglund used data sources from Statistics Norway published in 1970, 1979 and 1981. To estimate correction post to derive value added in base value, Skoglund used available data on taxes and subsidies by Statistics Norway and separate calculations. To revise the industries, he relied on data by Statistics Norway, Paal Drevland, Ola Honningdal Grytten, Tove Ladstein, and previous work by himself, to mention some. Skoglund further established an accounting plan for historical national accounts with the intent to better couple historical and new series. The new accounting plan is based on the original SNA 1968 and SNA 1993 accounting plan[13].

The series by Skoglund is a crucial anchor point and benchmark for this thesis in several ways which is elaborated in section 6. I use his complete series of GDP in current values from 1946 to 2006. The series are valued at both market and base value. However, the nominal series stand alone with no fixed-price series counterpart. I therefore calculate a fixed-series based on the nominal values by Skoglund by using the implicit deflator from the original NOS series. This is addressed in section 6.3.1. It will be utterly time consuming and strenuous to extend the new series up to 2018 by resetting revisions on official series of GDP from 2007 to 2018 in accordance with the methodology by Skoglund (2009). I therefore limit the period for the new series to 1830-2006.

5.5 The Venneslan series (1896 – 1939)

Christian Venneslan calculated detailed series for value added in manufacturing from 1896 to 1939 (Venneslan, 2007). These are also included in Grytten's series. He was able to conduct these calculations on the basis of detailed manufacturing and employment statistics collected and kept by Statistics Norway. He complemented the statistics with various livings cost indices, external trade statistics and commercial price statistics from the Wedervang historical archive. The richness in the price material enabled Venneslan to use a reliable and valid double deflation technique to construct fixed series as well. In 2015, Jan Tore Klovland

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[13] Skoglund, T (2009) page 20

revised the series by Venneslan and published his findings in the working paper "Measuring trends and cycles in industrial production in Norway 1896 – 1948" (Klovland, 2015). His results mostly support those by Venneslan, but deviations occur especially in particular sub-industries in the earlier years. In the early stages of writing this thesis, I considered to find a way to move forward using the results by Klovland rather than Venneslan. The problem with taking that direction is first and foremost that only gross output had been revised by Klovland. Gross product, or value added, is made up by adding value added for each sub-industry. Even though a revised series of gross output is available, I also need gross input to reach a revised value added. I can perhaps continue with revised gross output by Klovland and subtract the original gross input by Venneslan. On the other side, if gross output was subject to revision, it makes sense that gross input need a round of evaluation as well. I decide to move forward with the original series by Venneslan but keeping the remarks by Klovland in mind.

5.6   Swedish and British series

In addition to comparing the new series to existing aggregated series of historical Norwegian GDP, I also include a comparison of corresponding series for British and Swedish GDP. Whereas the older Norwegian series are used to ensure reliability and validity of the new series, the international series are included to highlight whether business cycles arising in the new series follow international cycles or relied on domestic conditions.

The British series are constructed by Professor Stephen Broadberry (2015), and spans from 1270 to 1870. For Sweden, I apply a series on Swedish GDP by Professor Rodney Edvinsson, spanning from 1800 to 2010 (Edvinsson, 2010). I could have used a series by Professor Olle Krantz, but found the Edvinsson series a suitable fit for this thesis. Corresponding and sufficient series of Denmark have not yet been constructed.

I have included series of GDP per capita in two formats. First, I present the series as a volume index with 1854=100, based on the annual percentage changes in the fixed price series. These are available in figure A.6 and A.7 in the appendices. Secondly, I present the respective series' output gaps as percentage deviation from trend calculated with a HP-filter, which is found in figure A.8.

5.7   Market value and base value

An important aspect to take into account for the series used in the new series, is that there is heterogeneity in whether the industries add up to become the summarized gross value added (GDP in base value) or GDP at market value.

In modern national account statistics, gross product of each industry is estimated. By summarizing all the industries' gross products we arrive at GDP in basis value. Adding the correction posts gives GDP in market prices. As discussed in section 3.4, correction posts does not count as production in itself, and is therefore added to the total in the end. In most of the earlier series, estimation based on this modern methodology is naturally not applied. In these series the sub-industries add up to GDP in market prices directly. Although I have data on correction posts for the entire period, there is no easy way to locate this directly to each post and derive gross product from each sub-industry. The series by Skoglund (1946-2006) are estimated using modern methodology. Correction posts are left out of each industry and sub-industry and emerges as a separate post. To able to make one continuous time series and draw any analytic conclusions, it is important to make sure I have corresponding analogous industries. Looking at the development in one industry will give incorrect information if one period of the industry-series contains production subsidies and taxes, whereas a later period does not. This problem is solved by splicing series, which is an opportunity arising from having overlapping time series. The exact procedure and methodology for estimation is addressed in section 6.2.3.

6. Empirical revision of the series

6.1 Introduction

This section describes the construction the new series and on the basis of the theoretical aspects and methodology addressed earlier. To create the new series in current prices, I first create a common accounting standard for the historical national accounts. Then follows a matching procedure to fit the series into the new standard. To ensure validity in the new series, I conduct two standalone revisions of applied series based on external and more recent data. Further, I ensure all series are analogous and in level by splicing. Finally, I address how I construct the new series in fixed prices. This entails fixed price calculations through deflation techniques in accordance to standards provided by NHNR (Grytten, 1999), a splicing procedure, and then a chaining procedure to obtain the new series valued at a common reference year. A thorough construction procedure is the most important step to ensure reliability and validity when making inference and analyzing the new series in light of economic history and comparable domestic and international series, which is addressed in section 7.

6.2 Constructing a new series in current prices

6.2.1 The matching procedure

The starting point for creating a novel series extending from 1830 to 2006 is to find a common standard set for the different accounting plans used in the respective series. First glance at the different series reveals disparate standards on how measures of economic activity has been compiled throughout history. The formal standards have been changed and revised over the years, making it less a straightforward matching procedure.

When Skoglund (2009) calculated his series dating back to 1946, he established a new accounting framework with the intent to better couple new and old series. The new framework is partly an aggregate of the detailed standard framework used by Statistics Norway today. He also couples the new accounts with historic versions of SNA, including SNA 1993 and SNA 1968 (Skoglund, 2009). Similar to the considerations of Skoglund's new framework, I couple new and old series to arrive at one comprehensive series. The framework

of national accounts by Skoglund therefore serves as a suitable base for the final series. It is my belief that a new series of historical national accounts constructed within his framework will assure comparability with the GDP series estimated by Statistics Norway today. The original framework by Skoglund is presented in table A.2 in the appendices. Having settled on a framework based on Skoglund, the next challenge is to adapt the older series to fit this framework. Although the matching procedure is labour intensive work, I choose keep the details to a minimum. The new framework requires a new and distinct standardisation, and that is what needs to be emphasized. However, I choose to illustrate a frequent challenge with the matching procedure by an example.

In the NOS series, many sub-categories has merged sums in the years 1930 - 1939. Below is an extraction showing the years 1930-1939, and 1946 - 1947 after the second bold line.

Offentlig og privat tjenesteyting .	267	261	258	258	265	282	300	327	353	375	643	702
Undervisning	83	81	79	79	79	83	88	95	102	107	184	206
Helse- og veterinærvesen	80	80	80	79	82	86	90	96	104	110	209	228
Religiøst og humanitært arbeid	22	22	22	22	23	25	27	29	30	31	41	47
Ikke-forretningsmessige organisasjoner og institusjoner	67	63	60	59	61	65	71	79	85	94	51	53
Forretningsmessig tjenesteyting											86	98
Underholdning m. v.	15	15	17	19	20	23	24	28	32	33	72	70

Source Statistics Norway (1968) page 70

As shown, two sub-industries are merged from 1930 to 1939. The challenge is first and foremost that in the new series these go into separate aggregated industries. In my series "Business services" (Here: Forretningsmessig tjenesteyting) go under "Dwellings, commercial building and business services". This decision is based on the Skoglund series which operates with the same aggregate classification. Therefore, a distinct separation of the two is needed. This is solved by using ratios. By seeing how much of the total value added that go to either "Business services" or "Non-profit making organizations and institutions", I find that the average proportion is 64% and 36% based on the years 1946-1950. After talking with my advisor, I use 70% and 30% instead, as the private sector assumedly was larger in 1930-1939 than in the post-war years which the initial ratio calculations are based on.

The national accounts standard of the original series are presented in Table A.1, A.2, and A.3 in the appendices. The differences are quite distinct, and illustrates that the establishment of a common standard for the new series is less than straightforward. I have nevertheless done my

best, and the national accounts standard for the series are available in Table A.4 in the appendices.

6.2.2   Standalone revisions

Having settled on a common standard of national accounts and matched the different industries, the next step is to ensure that I have valid and reliable data to move forward with. As this section will elaborate, several standalone revisions are considered necessary.

Fisheries

The NOS series is the oldest estimated series used in my work and is, with the expectation of manufacturing, wholly represented in the comprehensive series in the years 1931 to 1939. To ensure reliability, the data from the NOS series has been cross-checked with more novel stand-alone statistics covering the same period. Fisheries is however an industry that did not match the newer data. Below is an extract from the data presented in the original NOS series.

Table 6.1: The fisheries industry from 1930 - 1939 from NOS (1968), in million NOK

Fisheries	1930	1931	1932	1933	1934	1935	1936	1937	1938	1939
Current prices	87	59	57	69	65	73	78	88	91	95
Fixed prices (1938)	91	44	68	92	36	68	82	70	91	88
Yearly growth rate		-52 %	55 %	35 %	-61 %	89 %	21 %	-15 %	30 %	-3 %

Source: Statistics Norway (1968)

Looking at the yearly growth rate emerging from the fixed price values, a considerable and perhaps abnormal amount of volatility is evident. Statistics Norway published "Historical Statistics" in 1978 which presents quantity and value added for each fish species. I find the nominal values by summarizing all value added from the different species for each year. [14] The real values are obtained through creating a price index for each species used to deflate the nominal values (see section 6.2.1.2). The results are displayed below.

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[14] For example see NOS (1978) page 175 - 181

Fisheries	1930	1931	1932	1933	1934	1935	1936	1937	1938	1939
Current prices	90	64	61	70	67	77	81	92	95	101
Fixed prices (1938)	93	73	90	103	82	80	91	92	95	101
Yearly growth rate		-22 %	24 %	14 %	-21 %	-2 %	15 %	0,2 %	4 %	6 %

Source: Statistics Norway (1978)

There is some volatility in the novel series as well, but the data look more reasonable given what we know from history and is estimated based on more recent data. On this foundation I choose to move forward using the newer data. It is noteworthy that the novel series presents the data as gross value added whereas the old series does not. It is however desirable to present the different industries in the new series as value added. This attribute will therefore rather benefit the remaining work.

Housing and property

Grytten recently revised the *Housing and property* industry in his series. The newer data is now to a larger degree supported by the cost of renting property, where the old series mostly relied on the prices of purchasing. The demand of housing and property as a commodity is commonly known to be highly price elastic. Thus, series of housing and property are particularly important to present correctly as they are considered a well-cited indicator of business cycles. Grytten also revised the deflators used to estimate the fixed price counterpart of these series.

Observing figure 6.1 the new series imply a more modest level and level-development in current values from the start of the Long Depression and up to the start of World War I. This is not unconventional knowing The Christiania Crash and the following recession occurred in-between.

Figure 6.1: Comparing new and old series of Housing and Property provided by Grytten, in current million NOK
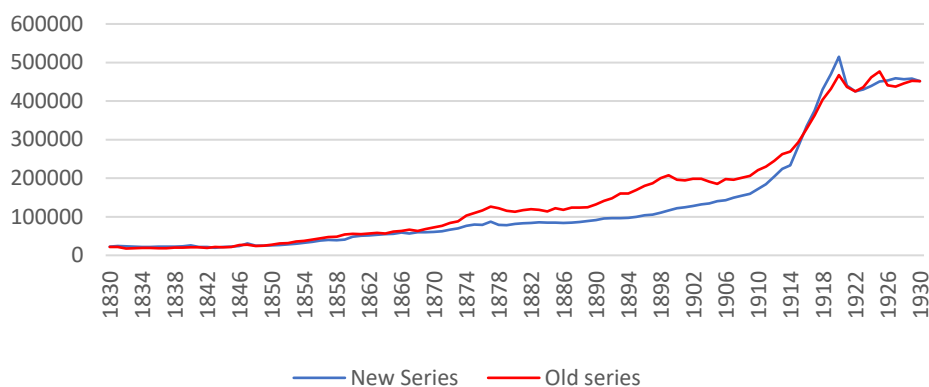
From figure 6.2 it is evident that the old series in several intervals are estimated with a constant growth rate. The opposite is evident in the newer series This can be a result of the new series being estimated based on richer data and more accurate deflators, where the old series might have relied on interpolation between benchmark years and deficient deflators.

Figure 6.2: Comparing annual percentage change of Housing and Property provided by Grytten, in million 1938-NOK
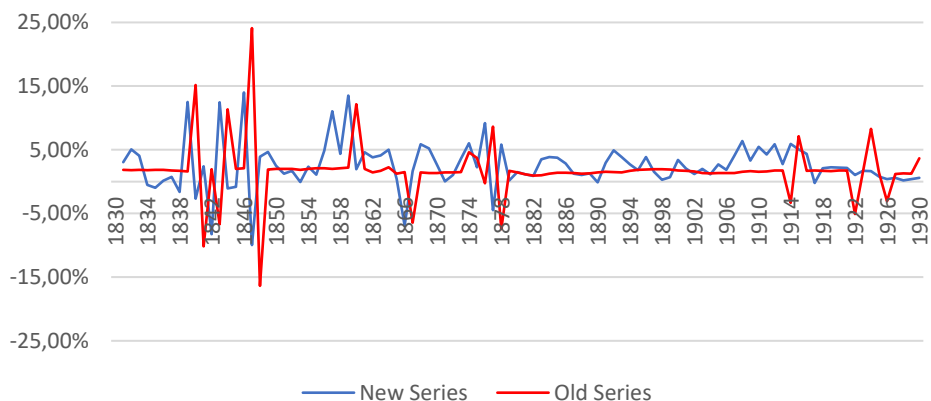
6.2.3   The splicing procedure

In this thesis, I consider several overlapping time series which gives a functional foundation for splicing, which is elaborated in methodology section. I find two cases of overlapping. The earliest case is found in 1930. Grytten provides data from 1830 to 1930, and the NOS series start in 1930, giving one overlapping year. Grytten has already spliced his series to the NOS series (Grytten, 2015) and the differences arising from the overlapping values are marginal. All deviations result from revisions by Grytten. The two series are well in level, and I therefore turn my focus to the next intersection.

The latest case of overlapping is from 1946 – 1970, where I have time series data from both the NOS series and the Skoglund series. The Skoglund series have estimated both GDP in market value and in base value. The difference between these two make up the correction posts which Skoglund estimated. As mentioned in section 5, the sub-industries in the Skoglund series are calculated as base value according to modern estimation methods. The older NOS series naturally do not include correction posts and therefore only display market value. The deviation between the market value of the series is displayed in an extraction below

GDP	1946	1947	1948	1949	1950	1951	1952	1953
Skoglund	10574	12409	13596	14642	16212	20197	22363	22748
NOS	10778	12687	13904	14917	16425	20456	22564	22884
Deviation	-2 %	-2 %	-2 %	-2 %	-1 %	-1 %	-1 %	-1 %

The differences are not too extreme, which on one side is quite assuring. If I instead compare the market values from the NOS series with the base values from the Skoglund series, the story is naturally quite different.

GDP	1946	1947	1948	1949	1950	1951	1952	1953
Skoglund	9924	11644	12758	13643	15000	18446	20312	20720
NOS	10778	12687	13904	14917	16425	20456	22564	22884
Deviation	-8 %	-8 %	-8 %	-9 %	-9 %	-10 %	-10 %	-9 %

The differences are quite remarkable. On the other side, this presents a solution to the pressing issue of the disparate ways the different series have been estimated, which initially makes comparison less than ideal. By splicing the series I can not only level-adjust the series, I can furthermore re-estimate the older series in base value. More precisely this entails removing the correction posts to obtain gross value added on a detailed level in the older series.

Preparing for the splicing procedure is to large degree again a matter of correctly categorizing the industries down to the most disaggregated levels. It is crucial to correctly classify the NOS industries within the accounting framework of the Skoglund series to derive valid and reliable splicing ratios. A lot of time goes into this work and the help I receive from my advisor on this subject is invaluable. I also heavily rely on the preparatory work issued with the

associated series[15]. An erroneous matching procedure will lead to overvaluing some industries whilst undervaluing others. It is only marginally assuring knowing that a splicing procedure will even out this effect to a certain degree. An industry valued too high will have persisting effects when splicing the preceding series. The same applies to the industry which similarly will be valued too low. It is likely that these persisting effect will offset each other on an aggregate level. This is obviously not a resting stone, and toilsome efforts go into ensuring a faultless matching- and splicing procedure.

As discussed earlier, the Skoglund series serves as the benchmark series which I splice the preceding series to. To find the splicing ratios I compare the older NOS series with the more novel Skoglund series. Splicing is done at the most disaggregated level for each industry, and I hereby show the step by step procedure conducted to splice the industry *Mining and Quarrying*. It is one of the more straightforward industries to splice as it is not divided into several sub-industries in the final series.

Figure 6.3: Comparing overlapping series of Mining and Quarrying from NOS XII 163 and Skoglund in current million NOK
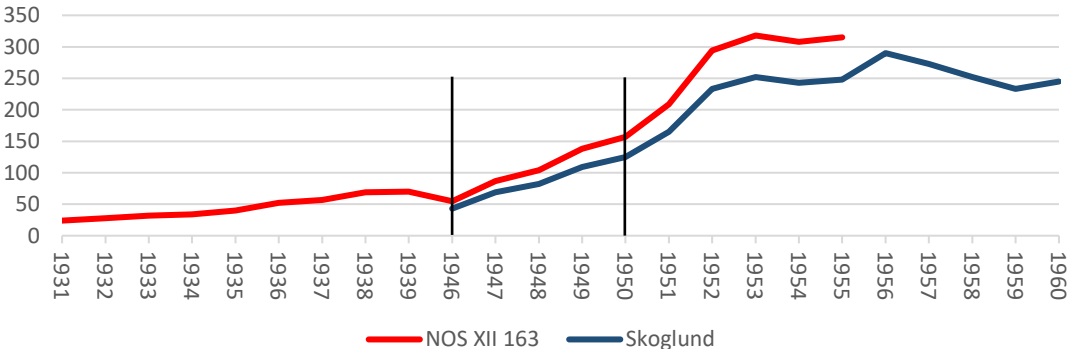
If I combine the NOS XII 163 and NOS A474 series I have an overlapping period of 24 years[16] stretching from 1946 to 1970 compared with the Skoglund series. I base the splicing procedure on the years 1946 to 1950, denoted by the vertical lines in the graph above. The adjustments resulting from splicing will comprise all years from 1830 to 1939, and it is therefore important to choose representative years as close to this period as possible. As data

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[15] The preparatory work is found in Skoglund (2009) page 4 – 11, and in Statistics Norway (1968) page 41 – 52.
[16] The graphs and figures does not display the entire overlapping period of 24 years, just extractions.

from World War 2 is not representative, using the years from 1946 to 1950 appeared to be the most fitting choice.

Mining and quarrying	1937	1938	1939	1946	1947	1948	1949	1950	1951	1952	1953	1954	1955	1956	1957
Skoglund				43	69	82	109	125	165	233	252	243	248	290	273
NOS XII 163	57	69	70	55	87	104	138	157	209	294	318	308	315		
Splicing ratios (Skoglund/NOS)				0,782	0,793	0,788	0,790	0,796							
Average splicing ratio				0,790											

The figure above shows splicing ratios as relative gaps between the series in accordance to equation 4.1. This implies an average splicing ratio of 0,79 based on equation 4.2. Following this, all the preceding values of the industry from 1830 to 1939 are downward adjusted with 0,79 in accordance to equation 4.3. An extract of the new series before and after splicing is displayed below. It goes without saying that excluding data from World War 2 gives a breakage in the comprehensive series. The spliced series are nonetheless more in line with the benchmark series after splicing.

Figure 6.4: Comparing the series of Mining and Quarrying before and after splicing, in current million NOK
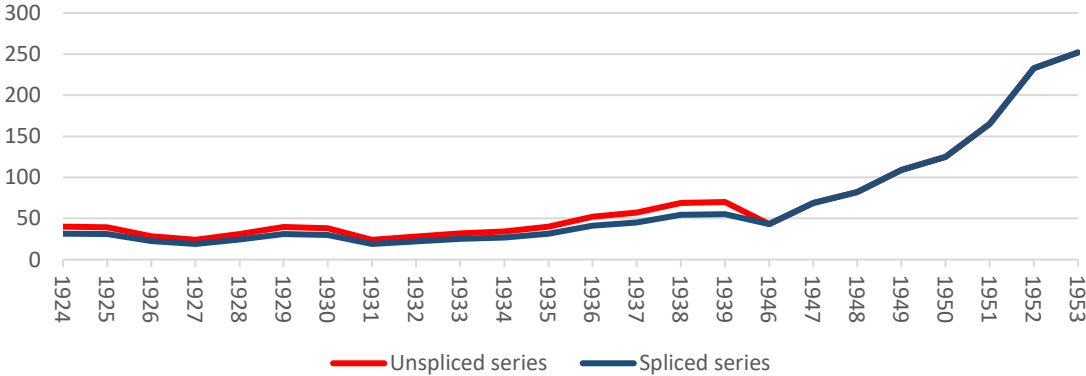
I perform the splicing procedure on all remaining industries. As discussed earlier, the spliced values are now considered to be gross value added, cleared of the impact of correction posts. Summarizing all the industries gross value added gives GDP in base value. Grytten provides data on correction posts from the years 1830 to 1939, and from 1946 and upwards I use the correction posts provided by Skoglund. Adding the correction posts gives GDP in market value. The new series on GDP from 1830 to 2006 in current values are found in Table A.5 (disaggregated level) and Table A.7 (aggregated level) in the appendices. For a disaggregated manufacturing industry, see Table A.9.

6.3   Constructing a new series in fixed prices

Similarly as with the nominal series, the different fixed price series needs to be spliced. They also need to be converted into a common reference year for analysis. As mentioned earlier, I need to estimate the fixed price counterpart of Skoglund's nominal series. Skoglund states that little suggest the old deflators from the NOS series from 1946 and up needs alteration (Skoglund, 2009).

Approaching the real series by NOS it becomes clear that the most evident task is to branch out the different industries into sub-industries. To an even larger degree than in the nominal series, the real series tend to lack values on sub-industry level, only showing aggregated industry sums in the years 1946 – 1949. I solve this by calculating approximations for the missing real values by stipulations based on the distribution in the corresponding nominal values for the associated years. A second challenge is the fact that several industries are merged. *Mining and quarrying* is included in *Manufacturing*, which is further complicated by the latter only being displayed as aggregate sums before 1949. Furthermore, *Public administration* is merged with *Military defence services*, and *Community and business services* is merged with *Personal Services*. Similarly as above, I solved this through approximation calculations based on distribution in the more detailed nominal data. A weakness with calculating approximations based on nominal value distribution is the assumption that inflation is the same for all sub-industries in an industry. Values from sub-industries such as *Railway transport* and *Air transport* might have been subject to differing impact from price changes in the 1930s.

6.3.1   Fixed price calculations

The Skoglund series

The figure below shows the steps taken to obtain fixed prices for the *Construction* industry by Skoglund. I find the Skoglund values in fixed prices by dividing the current values by Skoglund on the corresponding implicit NOS deflator for the respective years, in accordance to equation 4.9. Again the importance of thoroughly matching industries and sub-industries is emphasized.

Construction	1946	1947	1948	1949	1950	1951	1952	1953	1954	1955	1956	1957	1958	1959	1960	1961	1962	1963	1964	1965	1966	1967	1968	1969	1970
Skoglund - Current values	729	849	914	985	1001	1017	1205	1368	1534	1638	1660	1927	1996	2095	2193	2379	2737	3089	3147	3516	4224	4532	4487	4614	5267
NOS - Current values	754	878	946	1019	1079	1183	1395	1544	1718	1836	1917	2184	2292	2419	2532	2755	3144	3490	3661	4114	4732	5423	5618	6313	6885
NOS - Fixed price values	1300	1518	1398	1524	1623	1588	1671	1751	1856	1836	1702	1812	1780	1772	1780	2755	2893	3055	3182	3165	3274	3569	3552	3693	3913
Implicit deflator (C/F)	0,58	0,58	0,68	0,67	0,66	0,74	0,83	0,88	0,93	1,00	1,13	1,21	1,29	1,37	1,42	1,00	1,09	1,14	1,15	1,30	1,45	1,52	1,58	1,71	1,76
Skoglund - Fixed price values (C/ID)	1257	1468	1351	1473	1506	1365	1443	1551	1657	1638	1474	1599	1550	1535	1542	2379	2518	2704	2735	2705	2923	2983	2837	2699	2993

1955 NOK
1961 NOK

More often than not the industries have several sub-industries, and the deflation procedure is conducted at a more disaggregated level. The sub-industries are then summarized to make up the aggregate sum for that industry according to equation 4.8. I conduct the deflation procedure on all industries in the series by Skoglund. This results in a fixed price series with values for 1946 - 1960 in 1955 prices, and from 1961 - 1970 in 1961 prices.[17]

Fisheries

As discussed in section 6.2.2, I choose to move forward using the more novel series on fisheries in 1930 – 1931 at the expense of the original fisheries series from NOS. As this data is not available in fixed price values, I construct them myself. Values in fixed prices are obtained through creating a price index for each species used to deflate the nominal values. Below shows and extract from this price index, displaying three out of a total of 30 different species.

	Salmon				Halibut				Greenland halibut			
	Quant	Value		1938 value	Quant	Value		1938 value	Quant	Value		1938 value
1930	844	2101		1 727	4833	3994		4 778	712	106		84
1931	879	1741		1 799	5293	3696		5 233	884	120		105
1932	807	1494		1 652	5688	3777		5 624	490	69		58
1933	715	1368		1 463	5265	3754		5 206	670	81		79
1934	968	1694		1 981	3859	3233		3 815	1120	125		133
1935	1161	1971		2 376	3728	3060		3 686	1534	162		182
1936	1187	2063		2 429	6272	4841		6 201	830	85		98
1937	1253	2430		2 565	5799	4676		5 734	616	66		73
1938	1198	2452	2,0467	2 452	3454	3415	0,9887	3 415	329	39	0,1185	39
1939	1190	2683		2 436	3244	3130		3 207	459	79		54

The quantities and current values are retrieved directly (Statistics Norway, 1978). To be able to compare the constructed fixed price fisheries series with the older series by NOS, I

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[17] The standalone fixed price series by Skoglund can be provided upon request, as only the chained and spliced series are available in this thesis.

continue to use 1938 as a reference year. The 1938-price for each species is derived through dividing value on quantity in 1938 in accordance to equation 4.4. For each species, the 1938-price is then multiplied with the quantity for each year in the period 1930 - 1939. Finally I summarize value added for each species (in 1938 prices) to arrive at the industry total for each year.

6.3.2 Splicing and chaining

At this point I have a series consisting of several shorter fixed price series with different reference years. The Grytten series is valued in 1930 NOK, the Venneslan series in 1939 NOK, and the NOS series operates with 1938, 1955 and 1961 as reference years. Similarly to NOS, the new Skoglund series in fixed prices also uses 1955 and 1961 as reference years. To be able to analyze the series I need one common reference year for the entire series. I decide to use 1938 as reference year after discussing with my advisor. It is a central year between all the series and several of the series overlap in this period, which is crucial for conversion.

To transition between 1939 and 1946[18] I use the volume index presented in NOS XII 163[19]. Further, NOS A474 provides values for 1961 in both 1955 and 1961 prices, enabling me to use the difference to chain this period. I use information arising from overlapping fixed price series to chain the remaining intersections.

When chaining the fixed priced series, it is under the assumption that the older NOS series has the correct information. I have to be careful with the assumption of correct information given that the Venneslan and Skoglund series are reconstructed by revising the original NOS series. To accommodate this issue some of the industry values in the volume index have been revised to give a more accurate picture of the development from 1939 to 1946. *Fisheries* and *Manufacturing* are two examples. From 1931 – 1939 the NOS series of fisheries and manufacturing are replaced by more novel data, and it is fair to assume this affects the volume index values as well.

The splicing procedure is done in the same operation as converting the series into a common reference year. To show the calculation steps for a more complex industry, I choose to

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[18] The fixed price values in 1939 are measured in 1938 prices, whereas the fixed price values in 1946 are measured in 1955 prices.
[19] Statistics Norway (1968) page 324 – 325.

exemplify this procedure using the industry *Transport and Communication*. This industry has many sub-industries in contrast to the other exemplified industries.

The derived splicing ratios for each sub-industry (derived in section 6.2.3) are applied to the fixed price values, and below shows the fixed price series before and after adjustment. Only values before 1939 are adjusted as the series from 1946 and later are the benchmarking series by Skoglund. Adjusted series are shown in a lighter color. The next step is to convert all series into 1938-values.

	1930 NOK
	1938 NOK
	1955 NOK

Transport and communication	1927	1928	1929	1930	1931	1932	1933	1934	1935	1936	1937	1938	1939	1946	1947	1948	1949
Original series in fixed price values	197	194	201	223	225	223	226	233	240	260	286	292	311	734	835	836	882
Railway transport				234	69	66	67	69	71	76	81	82	88	240	277	279	298
Tramway and suburban railway transport					18	17	17	17	18	19	19	20	22				
Motorvehicle transport, etc.					74	77	79	82	83	91	106	109	119	236	272	272	281
Air transport					0	0	0	0	1	1	1	1	1	44	39	38	40
Services related to transport and storage					1	1	1	1	1	1	1	1	1	22	25	24	25
Communication (Post, telephone, telegraph)					64	62	62	64	66	73	79	79	80	192	222	223	238
Adjusted series in fixed price values	155	152	158	175	176	175	177	182	188	204	224	229	244	734	835	836	882
Railway transport				183	54	52	52	54	55	59	63	64	69	240	277	279	298
Tramway and suburban railway transport					14	13	13	13	14	15	15	16	17				
Motorvehicle transport, etc.					58	61	62	64	65	71	83	85	93	236	272	272	281
Air transport					0	0	0	0	1	1	1	1	1	44	39	38	40
Services related to transport and storage					1	1	1	1	1	1	1	1	1	22	25	24	25
Communication (Post, telephone, telegraph)					50	48	49	50	52	57	62	62	63	192	222	223	238

The earliest intersection occurs from 1930 to 1931 between the series by Grytten and the NOS series. I have one overlapping year as both series provide values for the year 1930. The yearly growth rate from one year to the next shall be the same regardless of reference years used. To find the value for 1929 in 1938 prices I therefore look at the yearly growth rate from 1929 to 1930 in the Grytten series and calculate according to equation 6.1. I convert the fixed price values for the years 1830 - 1929 following these steps and crosscheck by ensuring the yearly growth rate corresponds to the Grytten series throughout this period.

$$(6.1) \qquad GVA_t^{1938} = \frac{GVA_t^{1930}}{GVA_{t+1}^{1930}} GVA_{t+1}^{1938}$$

Transport and communication	1925	1926	1927	1928	1929	1930	1931	1932	1933	1934	1935	1936	1937	1938	1939
Adjusted series in fixed price values	136	151	155	152	158	175	176	175	177	182	188	204	224	229	244
Railway transport						183	54	52	52	54	55	59	63	64	69
Tramway and suburban railway transport							14	13	13	13	14	15	15	16	17
Motorvehicle transport, etc.							58	61	62	64	65	71	83	85	93
Air transport							0	0	0	0	1	1	1	1	1
Services related to transport and storage							1	1	1	1	1	1	1	1	1
Communication (Post, telephone, telegraph)							50	48	49	50	52	57	62	62	63
Spliced series in fixed price values (1938 NOK)	142	159	162	160	166	183	176	175	177	182	188	204	224	229	244
Railway transport							54	52	52	54	55	59	63	64	69
Tramway and suburban railway transport							14	13	13	13	14	15	15	16	17
Motorvehicle transport, etc.							58	61	62	64	65	71	83	85	93
Air transport							0,0	0,0	0,0	0,0	0,8	0,8	0,8	0,8	0,8
Services related to transport and storage							0,8	0,8	0,8	0,8	0,8	0,8	0,8	0,8	0,8
Communication (Post, telephone, telegraph)							50	48	49	50	52	57	62	62	63

The next conversion point is found between 1939 and 1946 where I have an intersection between the NOS series and the Skoglund series. To convert this intersectional I rely on the volume index by NOS. Keep in mind that the Skoglund series in fixed prices are constructed based on the implicit deflator from the NOS series. For each industry, the index presents an index value for 1939 in 1938 prices, and an index value for 1946 in 1955 values. I obtain the volume index factor by dividing the 1946 index value on the 1939 index value. I multiply the value in 1939 (which is in 1938 prices) with this factor to find the value for 1946 in 1938 prices. This is done on all sub-industries as shown below.

Transport and communication	1931	1932	1933	1934	1935	1936	1937	1938	1939	1946	1947	1948	1949
Adjusted series in fixed price values	176	175	177	182	188	204	224	229	244	734	835	836	882
Railway transport	54	52	52	54	55	59	63	64	69	240	277	279	298
Tramway and suburban railway transport	14	13	13	13	14	15	15	16	17				
Motorvehicle transport, etc.	58	61	62	64	65	71	83	85	93	236	272	272	281
Air transport	0	0	0	0	1	1	1	1	1	44	39	38	40
Services related to transport and storage	1	1	1	1	1	1	1	1	1	22	25	24	25
Communication (Post, telephone, telegraph)	50	48	49	50	52	57	62	62	63	192	222	223	238
Spliced series in fixed price values (1938 NOK)	176	175	177	182	188	204	224	229	244	382	441	442	466
Railway transport	54	52	52	54	55	59	63	64	69	135	156	157	168
Tramway and suburban railway transport	14	13	13	13	14	15	15	16	17				
Motorvehicle transport, etc.	58	61	62	64	65	71	83	85	93	146	168	169	174
Air transport	0,0	0,0	0,0	0,0	0,8	0,8	0,8	0,8	0,8	1,2	1,1	1,0	1,1
Services related to transport and storage	0,8	0,8	0,8	0,8	0,8	0,8	0,8	0,8	0,8	1,2	1,4	1,3	1,4
Communication (Post, telephone, telegraph)	50	48	49	50	52	57	62	62	63	99	114	115	122

Volume index factor

1946	49,9
1939	31,8
1946/1939	1,57

At this point I have overlapping values in 1946 with two different reference years; 1938 and 1955. Similarly, I can use the yearly growth rates from the Skoglund fixed price series to derive the values for 1947 – 1960 in 1938 prices, as I did with the earliest intersection above. This is done at the most disaggregated level using the yearly growth rates correspondingly for each sub-industry in accordance with equation 6.2.

$$(6.2) \qquad GVA_t^{1938} = \frac{GVA_t^{1955}}{GVA_{t-1}^{1955}} GVA_{t-1}^{1938}$$

The final intersection is found between the years 1960 and 1961. The same intersection naturally also occurs in the NOS series which the fixed price calculations from the Skoglund series are based on. It is therefore reasonable to use info from NOS for conversion. In the NOS series, values for the year 1961 is presented twice, first in 1955 values and then in 1961 values. This presents an opportunity to use this information as a conversion factor between 1960 and 1961. This information is furthermore available at the most detailed level which benefits the liability of the calculations. The conversion factor is found from dividing the values from 1961 in 1961 prices, on the values from 1961 in 1955 prices. To find the value for 1961 (in 1938-prices) I multiply the value in 1960 (in 1938 prices) with the correspond conversion factor. This is illustrated below.

Transport and communication	1951	1952	1953	1954	1955	1956	1957	1958	1959	1960	1961	1962	1963	1964	1965
Adjusted series in fixed price values	903	964	1002	1052	1121	1141	1152	1176	1247	1316	1819	1906	2008	2128	2185
Railway transport	305	324	312	323	324	324	318	300	306	338	415	420	423	443	443
Tramway and suburban railway transport															
Motorvehicle transport, etc.	300	337	350	374	398	397	405	424	443	448	632	671	690	732	752
Air transport	32	31	44	42	57	77	83	98	105	131	95	119	173	207	232
Services related to transport and storage	30	31	31	36	35	40	43	40	46	52	92	88	86	94	95
Communication (Post, telephone, telegraph)	235	242	265	278	307	304	303	314	347	348	585	607	635	653	662
Spliced series in fixed price values (1938 NOK)	481	518	531	559	590	589	590	598	630	653	886	922	950	995	1012
Railway transport	172	182	175	181	182	182	179	169	172	190	230	233	234	246	246
Tramway and suburban railway transport															
Motorvehicle transport, etc.	186	209	217	232	246	246	251	263	274	277	363	386	397	421	433
Air transport	0,9	0,8	1,2	1,1	1,6	2,1	2,3	2,7	2,9	3,6	2,3	2,9	4,2	5,1	5,7
Services related to transport and storage	1,7	1,7	1,7	2,0	1,9	2,2	2,4	2,2	2,6	2,9	4,4	4,2	4,1	4,4	4,5
Communication (Post, telephone, telegraph)	121	124	136	143	158	156	156	161	179	179	286	296	310	319	323

Comparing fixed price values in 1961 (in 1955 and 1961 prices)

1955 1961	1961 NOK 1961 Year		
488	591	1,21	Railway and tramway transport
620	813	1,31	Motorvehicle transport, etc.
223	144	0,65	Air transport
82	125	1,52	Services related to transport and storage
434	692	1,59	Communication (Post, telephone, telegraph)

I am left with overlapping values for 1961 and can again use the yearly growth rates from the fixed price series by Skoglund to calculate the remaining values for 1962 – 1970 in 1938 prices as shown in equation 6.3

$$(6.3) \qquad GVA_t^{1938} = \frac{GVA_t^{1961}}{GVA_{t-1}^{1961}} GVA_{t-1}^{1938}$$

I perform the splicing and conversion procedure on all remaining industries. Summarizing all the industries gross value added gives GDP in fixed prices valued at base value. I convert the corrections posts into 1938 values, and adding these gives GDP in fixed prices valued at market value. The fixed price series from 1830 to 1970 are available in Table A.6 (disaggregated level) and Table A.8 (aggregated level) the appendices. For a more detailed manufacturing industry, see Table A.10.

7. Empirical Analysis

7.1   Introduction

Estimating historical national accounts is a procedure that requires several assumptions to be made along the way. For this reason, estimates of historical national accounts are always subject to improvements and revision. This section aims to ensure reliability in the new series in two ways. First, I outline the industrial development and structural changes in a selection of industries in section 7.2. I analyze these industries in light of economic history and statistics to see if the new series provide an accurate picture of the development. Secondly, I compare the new series to existing historical series and map out the business cycles arising. After brief and graphical introductory of the compared series in section 7.3, I elaborate the comparison in section 7.4. This is done by highlighting sections of historical interest where the new series might supply economic history and throw light on historical business cycles. The results from each historical segment is presented in a chronological order, supplemented with relevant economic history and external data. I will also supply the analysis with findings by Grytten (Grytten, 2015).[20]

The new series spans from 1830 to 2006 in current prices, and from 1830 to 1970 in fixed 1938 prices. The period of investigation is limited to 1830 – 1939 in this analysis. Before Grytten created his series from 1830 to 1930, few and scarce attempts have been made to map out GDP from the production side in this period. There is far less uncertainty in the conception of the overall economy's development from 1946 and up to today. It is therefore in my interest to use my newly estimated series of GDP to supply and help explain the Norwegian economic history and business cycle chronology in the earlier years. Thus, this section seeks to reconcile the new series with what we know of economic history from 1830 to 1939.

I have used several methods to analyze the industries and compare the different series. One method includes analyzing annual percentage change. This results in stationary series and highlights booming years with rates of positive growth and slump years with negative growth.

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[20] Comparing my findings with those by Grytten is based on his working paper and estimates from 2015 (Grytten, 2015). His recent unpublished revision of housing and property is *only* included in the new series. Further, since a considerate section of the new series originate from the series by Grytten, some parallelism is expected.

Further, I will examine the relative gaps between the new and old series in accordance to equation 7.1 below[21]:

$$(7.1) \qquad Y^G{}_t = lnY^N{}_t - lnY^O{}_t$$

Relative gaps provide insights for both the current series and the fixed price series. Finally, I will address output gaps, or business cycles, according to the new and old series in fixed prices. This is also applied to the analysis of industries. The cycle component is estimated as the annual log-difference between annual calculated GDP (Y) and a trend estimated by a HP-filter (T) with a lambda value of 2500, for each year (t) as shown in equation 7.2 below: [22]

$$(7.2) \qquad C_t = lnY_t - lnT_t$$

I decide to use a lambda value of 2500 for annual data to estimate relative output gaps. Compared to a lambda value of 100, a value of 2500 gives a smoother trend, thus cycles are more distinguished. Further, a lambda value of 2500 makes potential end-point errors less significant (Grytten, 2011).

All data and figures are estimated both as GDP and GDP per capita. The results are strikingly similar, and I therefore to a large extent choose to move forward with GDP in total. I will supply the analysis with data presented as GDP per capita where it diverges from GDP in total. The deviations are most evident in years of large emigration waves.

7.2   Industrial development

Figure 7.1 and 7.2 shows the new series of Norwegian GDP in fixed 1938 NOK presented by 18 aggregated industries from 1830 to 1939. They are split up in two intervals to magnify the development over the period. Corresponding figures in current values are found in figure A.1 and A.2 in the appendices.

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[21] Source: Grytten, O.H (2015) page 23
[22] Source: Grytten, O.H (2015) page 29

Figure 7.1: Aggregated GDP by industry from 1830–1910 in million 1938-NOK
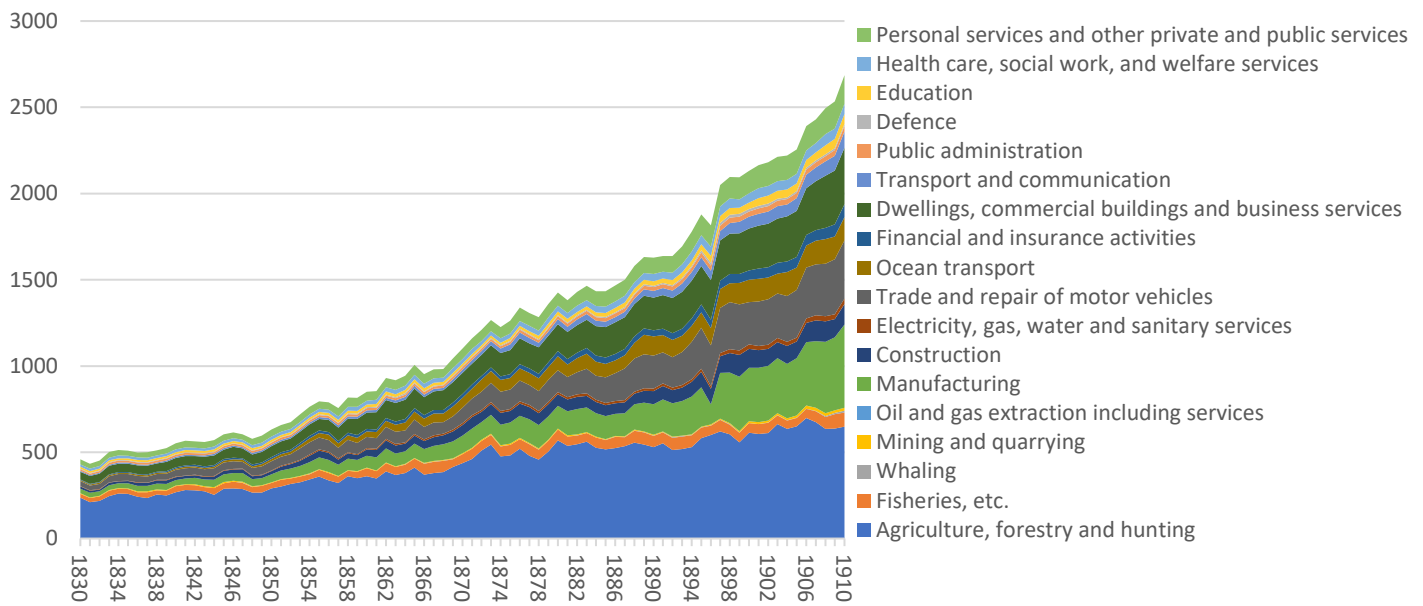
Figure 7.2: Aggregated GDP by industry from 1910–1939 in million 1938-NOK
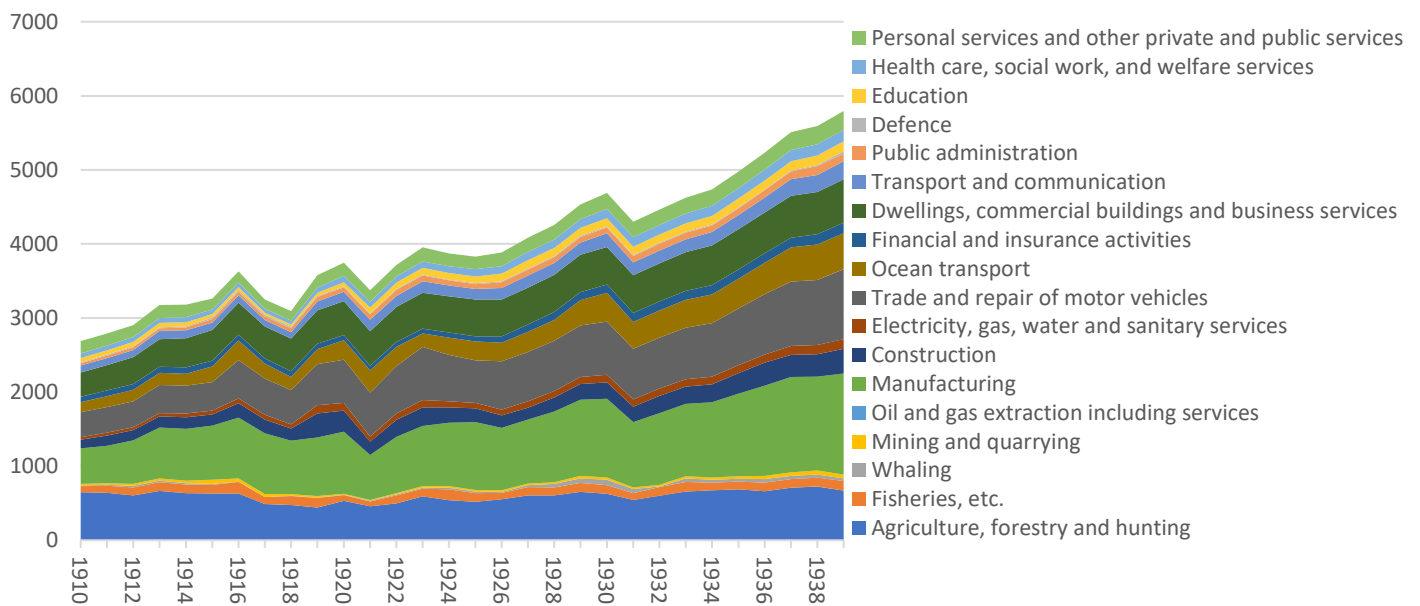
Figure 7.3 displays the development in the different industries as share of GDP from 1830 to 1939. A similar figure on the manufacturing industry is found in figure A.3 in the appendices. Most evident is the diversification away from primary industries such as agriculture into manufacturing and other emerging industries. Economic growth is intrinsically linked to changes in the structure of economic activity. Therefore, based on the new series, I analyze and quantify the industries and their development to see if they if they provide an accurate

picture of structural changes and development according to economic history and other statistical sources. I briefly outline the structural changes in a few selected industries below.

Figure 7.3: Industry share of Norwegian GDP in current prices
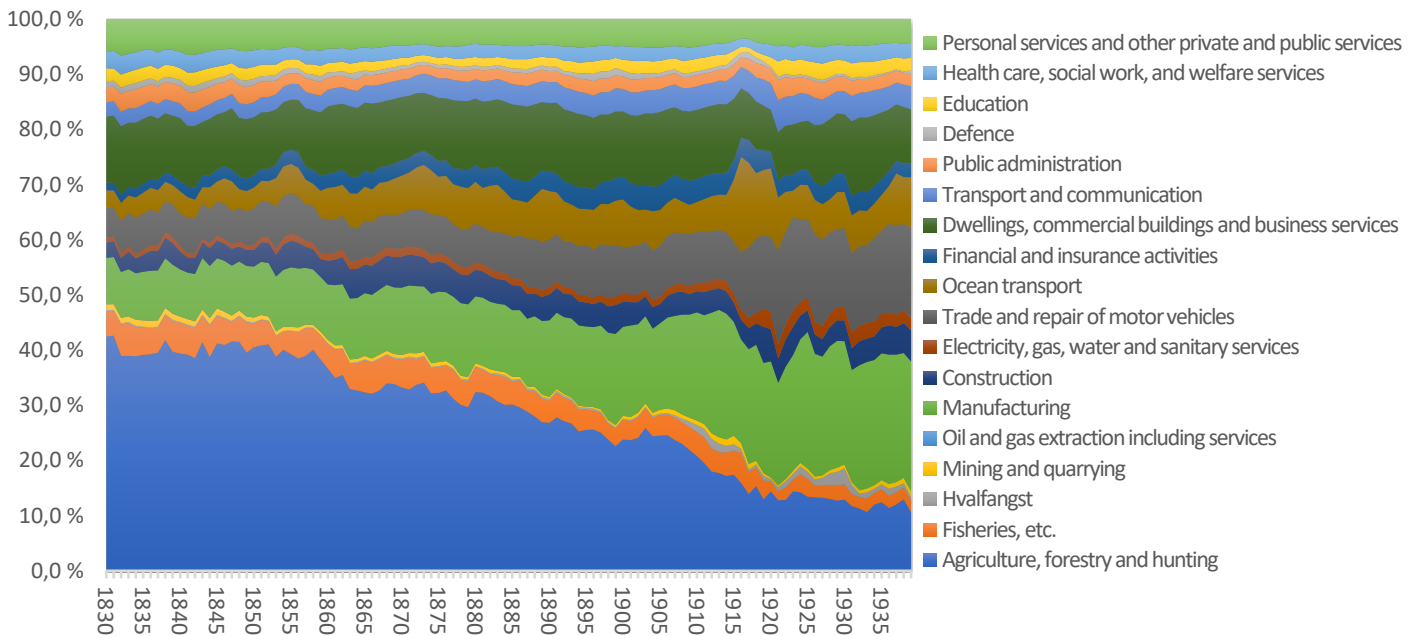
7.1.1 Agriculture

Agriculture was the most important industry in the 19th century. In 1830 agriculture's share of GDP was 32,7%, making it the largest contributor to GDP. The industry was growing for the first half of the century, and the registration of farm production increased with 260% from 1805 to 1855 (Grytten and Hodne, 2000). The two downturns in the overall economy in the beginning and the end of the 1830s were mostly related to failed crops, which is well reflected in the new series (Grytten and Hodne, 2000). Initially, the industry was initially directed toward self-sufficiency. Mid-century, the gradual modernization directed the industry towards a more market-oriented production. Together with increased productivity, this contributed to economic surpluses that permitted investments and directed labor to new and emerging sectors. The relative importance of agriculture declined as a combined result of market adaption, increased efficiency and inelastic demand on food. As industrialization began to develop, labor left the land. The labor force in agriculture fell 22,5% between 1855 and 1910. This is reflected in the new series as agriculture's share of GDP was 30% in 1855, compared to 14% in 1910.

7.1.2 Forestry

In addition to innovations and increased productivity, the forestry industry experienced a series of beneficial abolitions of laws which believed had negatively impacted the growth of the industry. In 1836 the ban on renting out forest for felling was abolished. A law limiting sawmill production was lifted in 1860. Export value of lumber expanded significantly from 1832 to the midst of 1840, followed by a considerable downturn lasting into the beginning of the 1850s (Grytten and Hodne, 2000). For the corresponding periods, the new series shows an average annual deviation from trend of 7,8% followed by -9,7% for the downturn. Grytten and Hodne (2000) reports an annual growth in export value of 3,3% in the years 1850-1865. The average annual growth in value added in the new series are 3,1% for the same period. The primary industries gradually developed linkages into manufacturing and other industries and provided a stepping stone to larger scaled and more modern manufacturing in several ways. One example is the manufacturing of pulp and paper which emerged from forestry. Forestry was no longer solely used for furniture and building.

7.1.3 Fisheries

Second to agriculture, fisheries was the most important industry for Norway for the greater part of the second half of the 19th century, closely followed by forestry. According to the new series, fisheries made up 4,7% of GDP in 1830. Prices on exported fish increased up to 1833, and after a sharp decline the prices rose again in 1839 and 1840 (Grytten and Hodne, 2000). This is well in line with value added from the new series which show a decline of 8% from 1833 to 1834, and a total growth of 41% from 1838 to 1840. The initial growth of the fisheries industry was partly due to increased demands, newfound foreign markets, and increased access to resources. According to Grytten and Hodne (2000), value added increased up to the second half of the 1870s, followed by a relative growth stagnation lasting up to the entrance of the 1890s. Value added grew on average 2,3% per year from 1830 to 1875, according to the new series. From 1876 to 1890 average annual growth was reduced to 1,1%. The following growth of the industry was for the greater part due to increased labor force, organizational changes, higher foreign demand, and increased seepage of several fish species. The introduction of the oil engine contributed to large increases in total catch of fish, especially during World War I (Grytten and Hodne, 2002). The new series supports this notion with an average annual deviation from trend of 22,7% in the years 1914 - 1918.

7.1.4 Whaling

The whaling industry became more significant and expanded in the 1860s. Svend Foyn patented the first explosive harpoon in 1868 (Grytten and Hodne). New technology allowed for the hunting of larger whale species, and no longer restricted the industry to coastal hunting of smaller species. The new series show an average annual growth of 6,9% from 1860 to 1870, and according to deviations from trend, the first turning point came in 1864. As share of GDP, the industry grew from 0,53% in 1859 to 0,83% in 1873. In 1904, a ten-year ban on catching was pronounced, which is evident in terms of a 10% decline in value added from 1904 to 1905. Starting from 1905, modern industrial factory ships was equipped with on board boilers for processing whale oil. Further technological developments increased efficiency even more, and allowed vessels to travel further. On average, the annual growth in value added amounts to 9,7% from 1905 to 1939 despite the troublesome years for the economy that occurred between. From the first production statistics in 1909 to the end of the 1930s, Norway was responsible 28% of world production of whale oil.[23] Admittedly, the production of oil is considered manufacturing, but the detail gives an image of the whaling industry as a whole. As share of GDP, the whaling industry increased to 0,97% on average in the 1910s, 1,30% in the 1920s, and 1,17% in the 1930's.

7.1.5 Manufacturing

Manufacturing can be regarded as the core of an industrialization process. Compared to other Western European countries the industrialization in Norway was rather modest. One reason may be that industries such as fisheries and shipping were more profitable and convenient. In 1830 the new series show manufacturing as only 8,5% of GDP and an average annual growth of 1,7% from 1830 to 1840. In the 1840s, mechanical workshop industry and textile industry emerged. New technology was introduced and productivity increased. Despite the difficulties and setbacks in the 1850s, the decade was a rather good for the emerging industry (Grytten and Hodne, 2000). From the county reports describing the economic situation in Norway 1846-1850, one can read: *"The factory industry did not have insignificant progress in this period as both new factories were established and older factories were expanded and improved."* Followed by "*Manufacturing has begun to take root in the country and promises*

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[23] Statistics Norway (1948) page 105

brighter prospects for the future" (Statistics Norway, 1853). [24] The new series support the above stated with a growth of 38,7% from 1840 to 1850, implying an average annual growth of 3%. A new wave of establishments emerged in the first half of the 1870s. Five new mechanical workshops were established in the capital, e.g. (Grytten and Hodne, 2000). This wave is evident in new series as it shows a growth of 18,3% (annual average of 2,84%) from 1870 to 1875. The two first decades of the 20th century were characterized by a substantial industrial modernization. Manufacturing industries using hydroelectrical power grew tremendously (Grytten, 2008). Electricity had wide applications in the production of other metals and chemicals and spurred a rapid export led growth. From 1905 to 1916 the number of employed within manufacturing increased by two thirds, and a doubling occured in produced quantity (Grytten and Hodne, 2002). The new series supports this with an increase in value added of 147% (annual average 7,8%) for the same period. According to the new series, the declining agricultural sector is bypassed by manufacturing in 1913, which from there on serves as the largest industry share of GDP for the period under investigation.

7.1.6   Shipping

The shipping industry encountered difficulties during the Napoleon War and the following stagnation in international trade. In the second half of the 1820s the difficulties ceased, partly due to establishments of important trade agreements involving the UK, Sweden and Norway, and the industry entered a long period of growth. The shipping industry grew tremendously from 1850 to 1875, causing it to become the largest exporting industry. A reason for this was the lifting of the British navigation laws in 1850, which enabled Norwegian ships to freely serve as a third party for trading countries. Improvements in sailing technology upheld the competitive conditions throughout this period. Net tonnage increased with a factor of 15 from 1826 to 1878, and is assumed that efficiency in the merchant fleet doubled in the same period (Grytten and Hodne, 2000). The new series show a 393% increase in value added from 1830 to 1878, and a growth in share of GDP from 3,1% in 1830, to 7,8% in 1878. The Norwegian merchant fleet was the second largest in the world around 1880-1890 (Grytten and Hodne, 2000). The transition from sail to steam powered vessels was rather slow compared to other seafaring nations. The transition to steam was completed in the early twentieth century after capital began to consolidate in the industry and the incentive to carry larger cargos evolved. The motorized vessels had its breakthrough in the interwar period (Grytten and Hodne, 2002).

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[24] Statistics Norway (1853), section XXIV, page 1, "Industrien"

In the last half of the 1930s the industry's share of GDP was around 9% (a tripling from 1830), according to the new series.

7.3   Comparing the series

Figure 7.4 reports the yearly GDP gaps between the new and the old series in logs in accordance to Equation 7.1. I have similarly included the gaps according to the series by Grytten.[25] The gaps are marginal for the most part, but the new series deviate somewhat more than the series by Grytten. His explanation for the small gaps are that the benchmark calculations behind the old series to a large degree served as benchmarks in his series. However, the series by Grytten was revised, implying that the series should be viewed upon as independent of the old series (Grytten, 2015). The new series has been through further extensive revisions, which explains secessions from the other series. With some exceptions, the most significant deviations from the old series are most evident during times of turbulence or booms.

Figure 7.4: Relative gaps between the new and old series, and the series by Grytten and the old series from 1830–1939, in current million NOK.
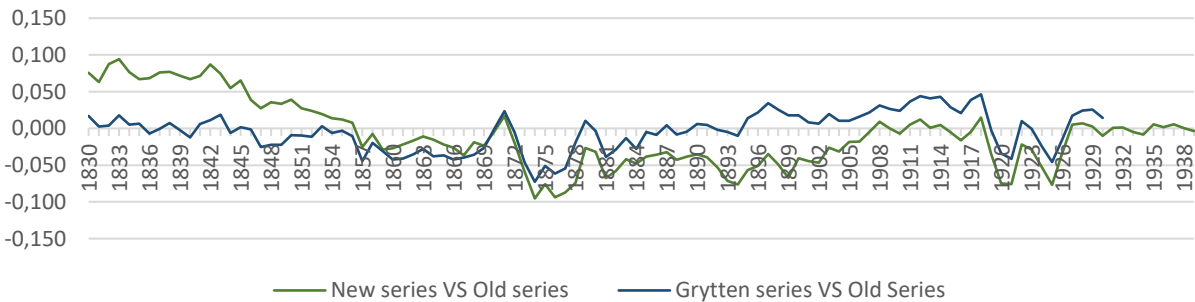
Figure 7.5 show Norwegian GDP according to new and old series in fixed prices. They are quite in line with each other, but has some noteworthy standouts. Similar to Grytten, I too must admit the new series are very high during the years of World War I, but the larger parts of the new series are within the suggested error margins for the old series according to Statistics Norway.[26] However, as mentioned in section 5,3, the fixed price calculations in the NOS series were not consistently based on a double deflation technique until after 1930. In his series, Grytten managed to apply a double deflation technique on most of the industries.

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[25] For example see Grytten, O. H. (2015), page 23
[26] Bjerke, J. (1966) page 21

The same applies to the series by Venneslan. Thus, the newer series should again be able to stand on its own feet.

Figure 7.5: Norwegian GDP according to new and old series, 1830-1939, in million 1938-NOK
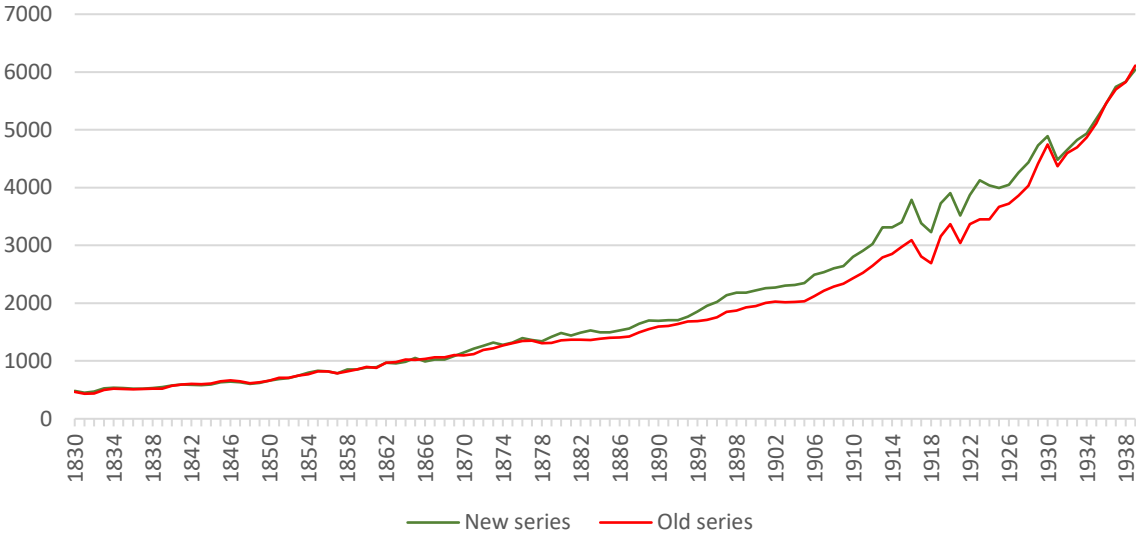
Figure 7.6 display relative gaps between the new and old series in fixed prices. Similar to the figure of nominal values, the new series is more distinguished in busts and booms. Business cycles are further elaborated in section 7.4.

Figure 7.6: Relative gaps between the new and old series, and the series by Grytten and the old series, 1830–1939, in fixed million NOK.
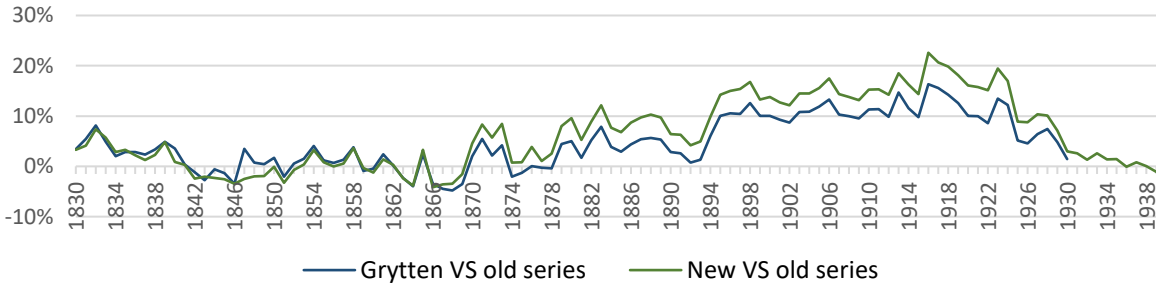
Periodically extractions of annual percentage change and relative output gaps will be presented in the respective sub-sections in section 7.4. Figures for the entire period are available in figure A.4 and A.5 in the appendices.

7.4 Business cycles

From the previous section it is evident that booms and busts are more distinguished in the new series and the series by Grytten, compared to the old series. It is therefore of great interest to dive into international and domestic economic history to analyze historical booms and bust and see if the new series on GDP are reconcilable with history.

To avoid the impact of end point errors arising in from detrending the series with a HP-filter, I narrow the focus in this analysis to the events that occur mainly from 1840 to 1930. Assuring enough, the new series are quite in line with economic history and the old series in these periods, as shown in figure 7.5 and figure A.4 and A.5 in the appendices.

7.4.1 The Revolutionary Crisis 1848 – 1850

The upturn in the Norwegian economy in the beginning of the 1840s is evident in terms of output gaps in figure 7.7, and was likely due to increased foreign trade resulting from economic liberalization. From figure A.8 in the appendices, it is evident that this perhaps was unique for Norway compared to Sweden and the UK, which experienced economic slowdowns in this period. The Swedish struggled to maintain their leading position in the iron market following the increased international competition (Haaskjold, 2009). In the UK, interest rates rose and as one of the consequences, investments diverged away from physical capital to government bonds.

In Norway, a lack of trust to the currency was pervading in the entrance of the 1840s. When silver standard was adapted in 1842, many feared the currency would drop in value and therefore exchanged money for silver (Grytten and Hunnes 2016). This led to a drainage of the silver reserves, and a tightening of the money policy was set in motion as a consequence. In 1843, interest rates were raised and loan grants were considerable restricted (Grytten and Hodne, 2000). From figure 7.7, the abovementioned contraction is visibly manifested in the new series and the series by Grytten with negative output gaps starting in 1843.

Figure 7.7: Relative output gaps 1840–1853, according to series of GDP, ƛ = 2500
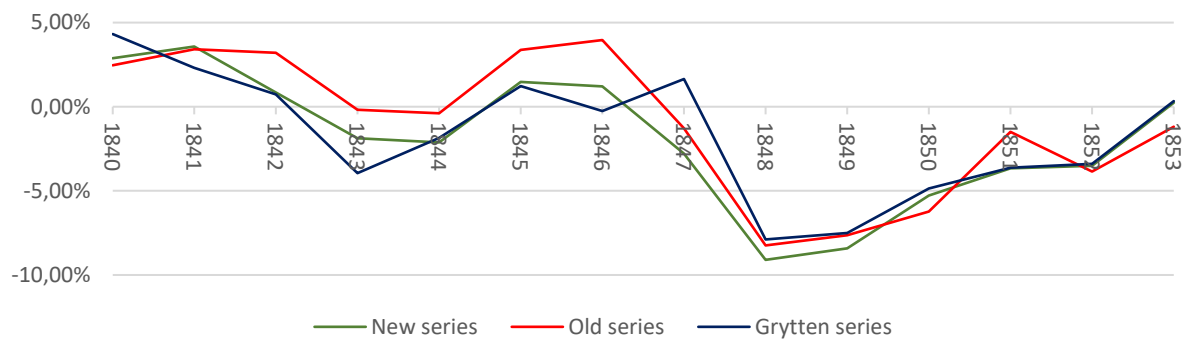
All series display a comeback in terms of positive output gaps after the austerities were slackened. Interest rates were lowered, credit was cheap and accessible, and huge investments were made. Prices on real estate increased as well (Grytten and Hunnes, 2016).

The downturn of 1948 is first and foremost a result of foreign events[27] which heavily impacted trading. The political discontentment emerged from the supply- and demands shocks that occurred in Europe. Failed crops reduced the supply of allied goods, thus increasing the prices. Concurrently, UK abandoned their Corn Laws protecting domestic producers, which further increased the demands and thereby the prices in Europe. Increasing prices on demand-inelastic food soon affected demand for other goods. Thus, the difficulties rapidly branched out to other parts of the economy (Grytten and Hunnes, 2014). Norway first encounter with the crisis was a reduction in exported goods to the countries in distress (Grytten and Hunnes, 2016). The value of export fell more than 24% in 1848 (Grytten, 2004). Mid-crisis, a tightening in the monetary policy only worsened the situation. Thus, the Norwegian economy endured a currency crisis, a financial crisis, a credit crisis, a housing crisis, and a wave of bankruptcies, which had major spillover onto the real economy. This is a possible explanation to why Norway display a more severe bust and a longer recovery compared to Sweden and the UK, as observed in figure A.8. The bottom year of 1848 is distinct for all series in terms of output gaps, annual percentage change and level of real GDP in figure 7.8. The new series shows a more severe bust in terms of output gap and level of GDP.

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[27] The February Revolution of 1848, and uprisings in Prussia, Austria-Hungary, and Italy (Grytten and Hunnes, 2014)

Figure 7.8: Annual percentage change of GDP series & Norwegian GDP according to new and old series, 1840-1853, in fixed million NOK
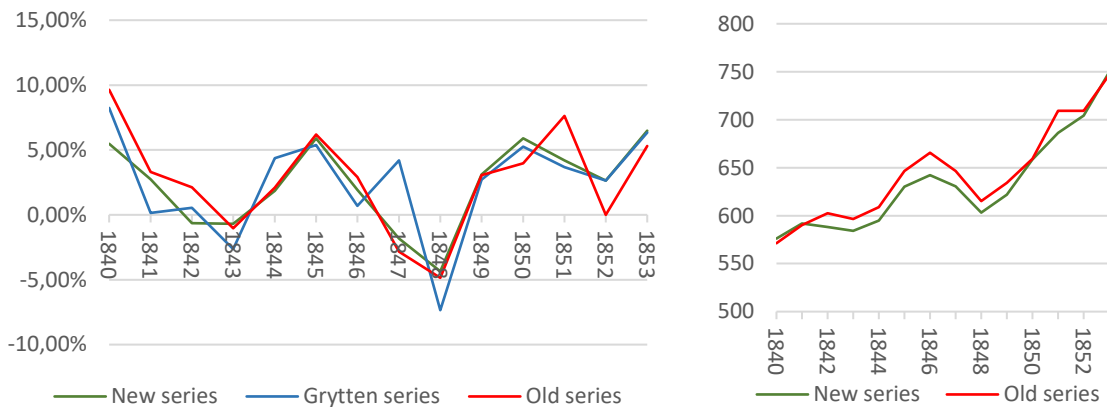
The salvation came in the form of emergency loans approved by the parliament and government in 1848. Through different fiscally expansive measures, new liquidity was added to the capital markets. However, it would take several years before the shocks waves faded. All series portray the recovery in accordance with history in terms of output gaps in figure 7.7. From figure 7.7 and 7.8 a peculiar upturn is observed in the start of the 1850s according to the old series. After not finding support in history, I turn to data on the money broad stock (M2) and total credit to the general public (C3) as shown in figure 7.9:

Figure 7.9: Macroeconomic variables' percentage deviation from trend, calculated with a HP-filter, 1845-1853
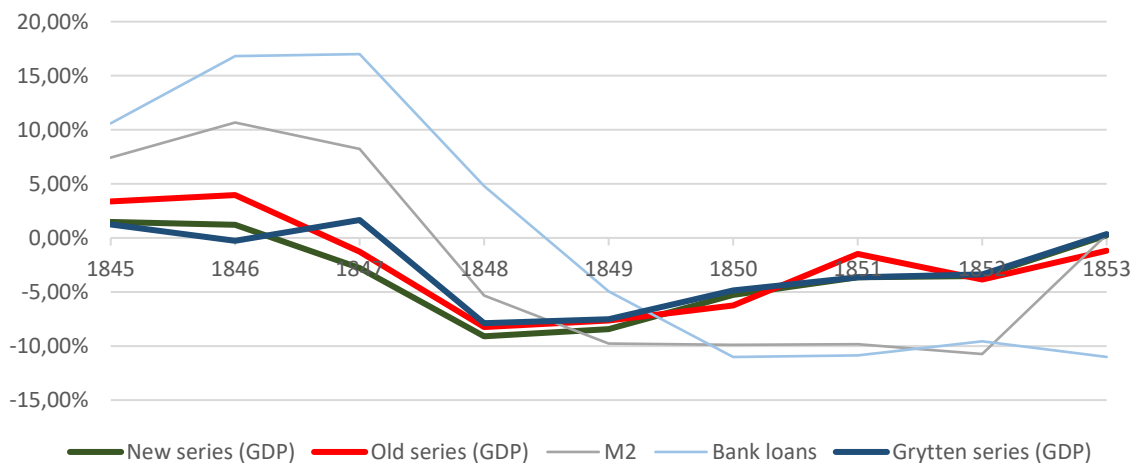
Source for M2 and Bank loans: Grytten and Hunnes (2014)

The old series display a strong positive growth in output gap from 1950 to 1951 and lies only 1,5% below trend in 1851. The newer series lies 3,66% below trend in 1851, and the weaker growth in output gap is supported by bank loans and M2 which both display a stagnant and

negative deviation from trend from 1850 to 1851. Thus, there is perhaps not much evidence to supply such a growth in the output gap in these years, which the old series imply.

For this period all series are quite in line with what is known from history. The new series and the series by Grytten are possible more accurate than the old series, based on the historical information and data available.

7.4.2 The Crimean Crisis 1857 – 1861

The Crimean War 1953 – 1956 had a tremendously global and domestic impact. The immediate impact was firstly a positive one in terms of increased demands internationally (Grytten and Hunnes, 2014). Freight rates and demand in services from merchant fleets increased considerably (Klovland, 2009). Speculative bubbles emerged on the expectation that prices on exported and imported goods would continue to rise. Further, short-term credit fueled business activities across many industries. Following, the good times in Norway was partly a result of the thriving conditions in foreign trade. Other contributing factors entails the forming development in manufacturing and other industries, and an increased productivity in agriculture. From the county reports describing the kingdoms' situation in 1851 – 1855 one can read: *"[…] the hopes of progress are not disappointed, and this progress, especially in agriculture, bas been more even, increasing, and significant than in any previous and similar period".*[28] Further, huge investments were made and the infrastructure improved considerably (Grytten and Hodne, 2000). The money supply grew more than 40% from the entrance of 1953 to the spring of 1855 (Grytten and Hunnes, 2016). According to the new series and the series by Grytten in figure 7.10, a positive output gap is first reached in 1953, the year the Crimean War started. The old series indicate a positive output gap is first reached in 1954. All series peak in 1955. The positive development, especially according to the two newer series, are quite in line with what we know of history from above. The British economy did well too, but not as remarkably as the Norwegian for this first period as shown in figure A.8. Sweden, on the other hand, was still heavily impacted by an underproduction crisis resulting from major failings in crops (Edvinsson, 2010).

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[28] Statistics Norway (1863) page 1

Figure 7.10: Relative output gaps 1853–1862, according to series of GDP, ƛ = 2500
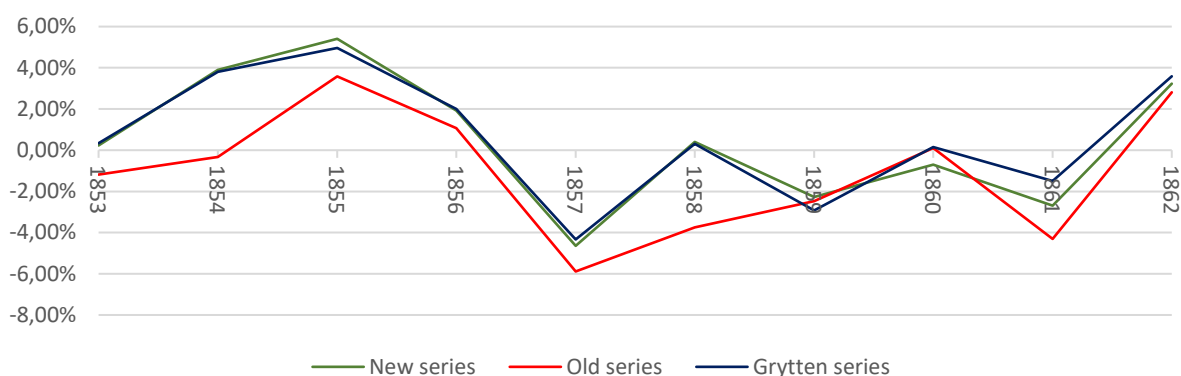
After the war ended in February 1856, the prices of goods fell tremendously. An international panic broke out during the fall of 1857 (Klovland, 2004). The great losses were most evident amongst speculators, owners of ships, and importers with large inventories of goods purchased at high prices (Grytten and Hunnes, 2014). Norwegian merchants and ship owners were profoundly involved in speculation and endured great losses. Between 1856 and 1859, 88 investors and merchants in Bergen went bankrupt (Grytten and Hodne, 2000). The money supply dwindled from 1856 to 1857. Important international short-term creditors for Norwegian companies had to cease their activities, and other creditors demanded quick settlements for their loans (Grytten and Hunnes, 2014). From the county reports describing the economic situation in Norway 1856 – 1960, one can read: "*At the end of 1857 a monetary crisis broke out, causing an upheaval in credit conditions which unavoidably spread out in rural areas*".[29] The credit crunch was accompanied by declining prices on real estate, which up to this point had endured a strong growth the last decade (Grytten and Hunnes, 2016). The economic turmoil is well reflected and evident in all series, in terms of output gaps in figure 7.10, annual percentage change and real GDP in figure 7.11.

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[29] Statistics Norway (1863), section III, page 1

Figure 7.11: Annual percentage change of GDP series & Norwegian GDP according to new and old series, 1853-1862, in fixed million NOK
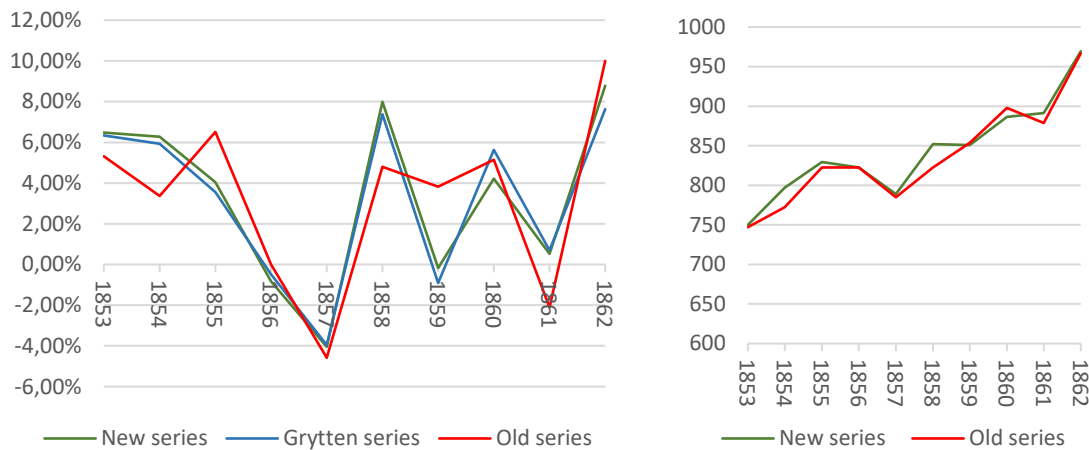
To prevent further worsening of the real economy, a numbers of actions were initiated by the government, parliament, banks and others in the form of expansionary fiscal policy (Grytten and Hunnes, 2016). Trough loans, credit- and guarantee grants, and investments, the initiatives added liquidity to the markets. The parliament approved a loan from Hambro & Son in London in 1858, equivalent to 1,2 billion 2016 NOK (Grytten and Hunnes, 2016). During the late summer of 1858, most of the problems in the markets seemed to cease. At the same time, the difficulties returned to Bergen with renewed strength which did not pass until 1861 (Grytten and Hunnes, 2014). In figure 7.10 and 7.11 the newer series visibly reflects the ceasing of difficulties in 1858. This is not manifested in the old series. From the new series then follows a long period of negative output gaps which is not recovered until 1862, which is satisfactory in line with history. In figure 7.10 the old series display a slight positive output gap in the year 1860, which is odd knowing that 1860-1861 was presumed to be the two worst years for the real economy (Grytten and Hunnes, 2016). From figure A.8, it is evident that, again, the crisis was significantly deeper in Norway than in comparing countries.

For this period, the response pattern in the new series is proved to be much in line with historical events, often to larger extent than the old series.

7.4.3 The Long Depression 1873 – 1887

The Norwegian economy has endured eight economic crises since the end of the long depression. Thus, from a modern view, the long depression is viewed as a series of setbacks rather than *one* long recession. The dating of the depression has been subject to dispute. Some economic historians say it ended in 1887, others 1896. Internationally there is a common

consensus that the depression started in 1873. According to Grytten (2015) and Grytten and Hunnes (2016) the long depression reached Norway in 1874.

In the 1860s, the total value of foreign trade, including exports and imports, amounted to 50% of GDP. This share increased to 60% in the early 1870s (Grytten and Hodne, 2000.) The first three years of the 1870s stand out as booming period for many industries in Norway, with 1873 being the peak year. Rygg's description of the year 1873 translates into *"One [must] use superlatives to characterize the year. A top year for lumber and wood trade. In forestry a wealth that one hardly dared hope for".*[30] Other industries such as fisheries, whaling and textiles also thrived for the earliest years of the 1870s (Grytten and Hodne, 2000). Translated from the county reports describing the years 1871-1875 in the capital: *"In the first three years, 1871 – 1873, trade and other industries took a so far unknown upturn"*.[31] The peak year 1873 is visibly manifested in the new series of real GDP and output gaps in figure 7.12.

Figure 7.12: Norwegian GDP per capita according to new and old series & Relative output gaps according to series of GDP per capita (ᴧ = 2500), 1872-1889, in fixed million NOK
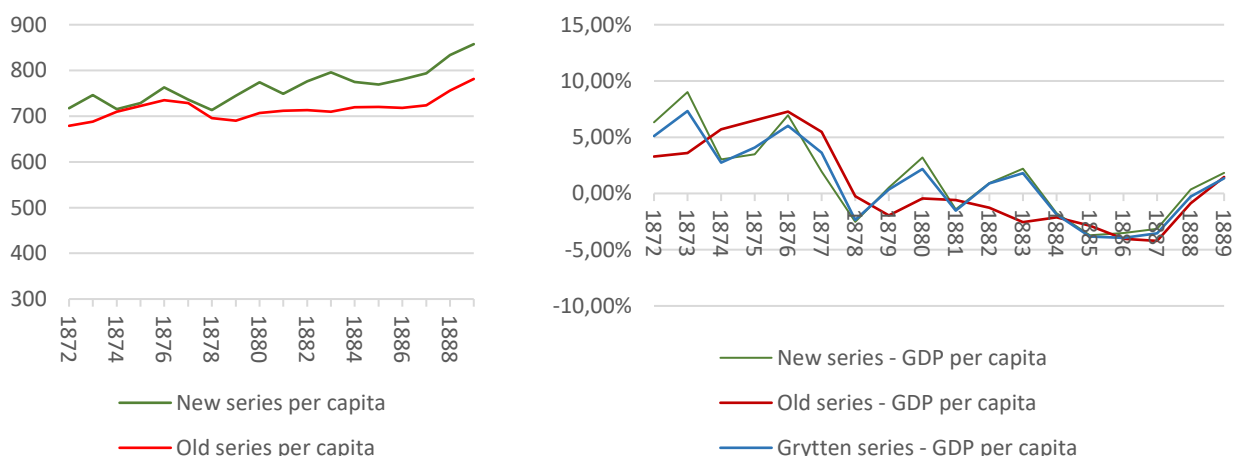
In 1874 things took a turn for the worse. As described in the county reports: *"In 1874, in the different industries, a reaction occurred, whose consequences to a greater extent appeared in 1875"* (Statistics Norway, 1879). The export value for forestry and wood industry peaked in 1873. From 1873 to 1874, the export value fell approximately 3,5%, before it dwindled another 34% from 1874 to 1875.[32] The lumber situation in the capital was described in the following way: *"In 1874 a reaction occurred with increasing slowness in provisions and falling prices on foreign markets"* followed by *"About at the same as the reaction in foreign*

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[30] Rygg, N. (1954) page 144
[31] Statistics Norway (1879), section I, page 1
[32] Einarsen, E. (1904) page 68

markets, came an excessive reduction in the consumption of wood products. Timber prices therefore fell more and more in 1874 until after St. John's Eve [June 23rd] when they were probably at the lowest".[33] More recent literature describes the corresponding prices falling almost 25% from 1874 to 1887 (Grytten and Hodne, 2016). According to a recent working paper by Klovland, the Wholesale Price Index fell -7,4% from 1874 to 1875. [34] The money supply increased with 53% from January 1869 to January 1874, where the latter also represents the month the gold standard was adopted by Norway.

To protect the currency, the interest rate was raised from 3,5% to 7% from 1872 to 1877. (Grytten and Hunnes, 2014) According to the county reports from 1879 the change was fast-paced: *"[In 1875] The money market had soon completely changed as opposed to the previous year's surplus on loan capital. Bank discount rose from 5% to 7% this year"*.[35] Subsequently, the money supply contracted by 28% from 1874 to 1879 (Grytten and Hunnes, 2014). The new series clearly shows a setback of real GDP per capita in 1874 (Figure 7.12). This is also evident in figure 7.13, where the new series show an annual percentage change in GDP per capita of -4,17% from 1873 to 1874. The start of the long depression is further manifested in terms of output gaps (Figure 7.12). Thus, the new series support the notion by Grytten stating that the long depression started in 1874.

Figure 7.13: Annual percentage change of GDP per capita series, 1872–1889, in fixed million NOK
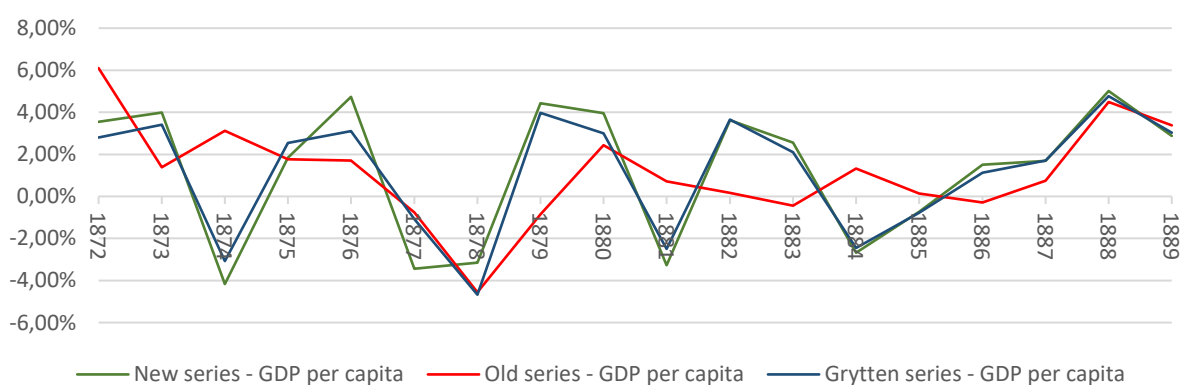
The last peak year of the 1870s came in 1876 as a consequence of large public investments and profitable harvest in fisheries and agriculture (Grytten and Hunnes, 2014). This upturn is evident in all series, in both real GDP and output gaps, which is assuring in terms of

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[33] Statistics Norway (1879) section I, page 2
[34] Klovland, J. (2018) page 211
[35] Statistics Norway (1879) Section I, page 3

reliability and validity. The new series shows a more distinguished growth in real GDP from 1875 to 1876.

After a short period of prosperity, the economy dwindled and reached the bottom in 1878 (Grytten and Hunnes 2016). In a newspaper from 1878 one could read: "*The values are descending, everyone wants to sell, no one wants to buy; nothing but complaints about bad times, lack of money, and unemployment.*"[36] The new series and the series by Grytten clearly display 1878 as a trough-year, both in real GDP and output gaps. All series exhibit a strong negative yearly growth entering this year. The old series display a slightly negative output gap in 1878, but bottom is not reached until 1879. The Norwegian and Swedish business cycles endured a remarkably similar path from the start and of the Long Depression and up to this point, according to annual percentage change and output gaps in figure A.7 and A.8.[37] However, the downturn was considerably more significant in the Norwegian economy. Overall, the setbacks in Norway was probably worsened by the late transition to steam powered vessels (Grytten and Hodne, 2000).

The transition into the 1880s was assumed to be fairly good in Norway. Increasing prices on lumber and freight accompanied by thriving manufacturing provided a good start of the decade (Grytten and Hunnes, 2016). The boom was unfortunately short lived and the downturn came in 1884. Shipping experienced dwindling profitability, and the falling prices on lumber was not compensated by the large turnover in the industry (Grytten and Hunnes, 2016). Both of these events are well reflected in the new series and the series by Grytten in terms of real GDP, output gaps and yearly growth rates. According to the old series the output gap never became positive in the early 1880s, though a positive development is observable.

Recent work points to the positive development in the economy starting in 1887, which sometimes is referred to as the end of the long depression. 1889 stood out as a very good year for the shipping industry in particular (Grytten and Hunnes, 2016). All series reflect the tendencies of 1887 - 1889 in terms of real GDP and output gaps.

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[36] From Morgenbladets' annual summary, rendered by Einarsen, E. (1904) page 93
[37] The series on British GDP per capita only extends up to 1870.

7.4.4 The 1890s

The upturn starting in 1887 was short lived. From figure 7.14 the output gaps in the new series and the series by Grytten confirms Norway *did* experience the international bust in the early 1890s, in contrast to the output gap according to the old series.

Figure 7.14: Relative output gaps 1872–1905, according to series of GDP, ʎ = 2500
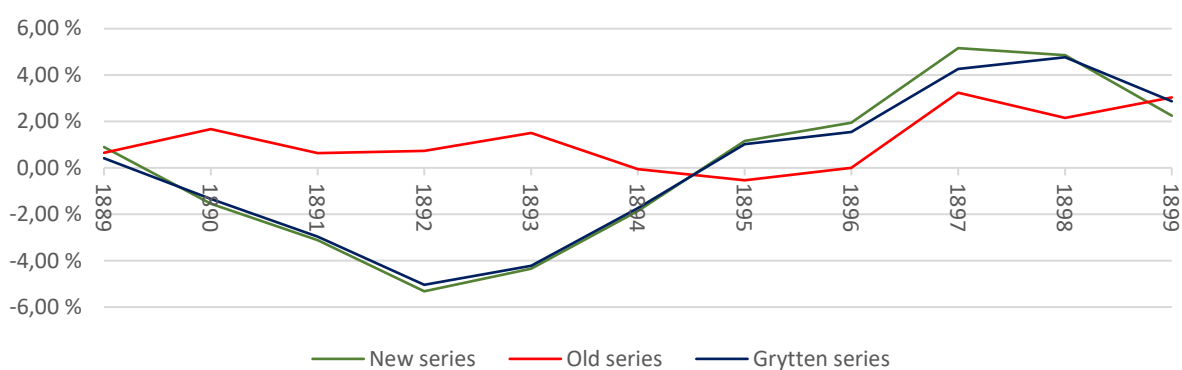
The UK was Norway's largest trading partner and the world's leading political and economic superpower, thus Norwegian business cycles to a large degree followed the British (Grytten and Hodne, 2000). British GDP per capita declined 5,3% from 1889 – 1893. Other important trade partners such as France, Germany and Denmark experienced similar setbacks or growth stagnations in this period (Grytten and Hodne, 2000). It is therefore not unconventional that the same development is reflected in the Norwegian economy in this period. Sweden's average annual output gap amounted to -4,7% in the same period. In addition to the international downturn, the Swedish economy endured a distinct slump due to falling prices on leading exported goods such as iron, steel and oats (Haaskjold, 2009).

In Norway, the gold standard from 1874 was abandoned in 1893. The newly introduced difference system was less rigid than the old quotient system, which lead the way to a more expansive monetary policy and lower interest rates, followed by an expanded money supply and credit growth (Grytten and Hunnes, 2014). Increased productivity in agriculture released considerable amounts of manpower which in combination with an expanding industrialization resulted in large population migrations to urban areas. The largest cities experienced a population growth of 37 – 47%. Demand for property increased drastically, and new dwellings were financed by cheap credit and large stock issues (Grytten and Hunnes, 2014). From 1895 countries such as USA, Britain, Germany and France experienced booming economies, which soon spilled onto the Norwegian economy. The output gaps of the new

series and the series by Grytten display a pervading optimism in the overall economy in this period, with positive output gaps and booming tendencies from 1895. The old series barely reach a positive output gap in 1896.

Looking at the yearly growth rates (figure 7.15) from the period the new series and the series by Grytten follow the same path, with declining or stagnated growth rates during the international busts in the early 1890s, and a strong growth leading up to the booming year of 1895. The series of GDP according to new and old series tells the same story.

Figure 7.15: Annual percentage change of GDP series & Norwegian GDP according to new and old series, 1890-1899, in fixed million NOK
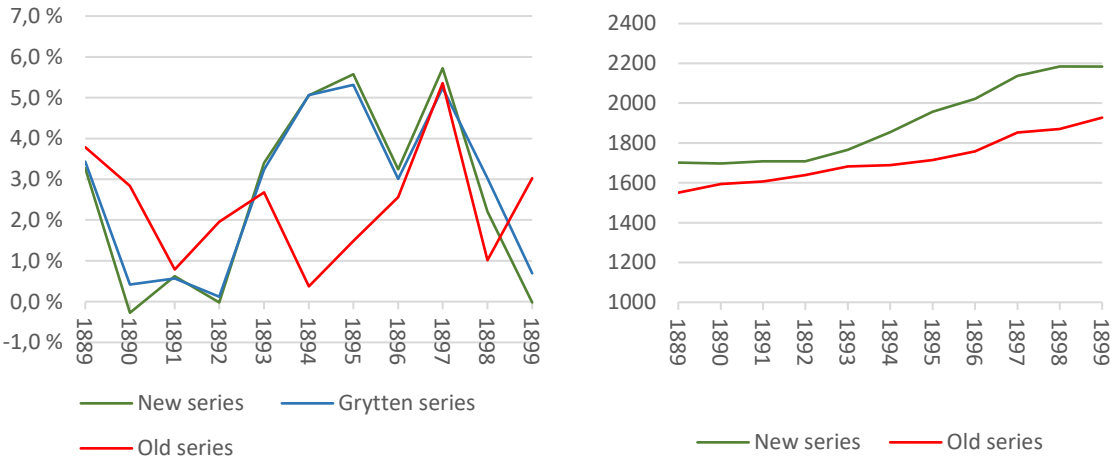
From the table 7.1 below we see that from 1899 to 1892, the new series on GDP grew 0,33%, compared to 5,67% in the old series. For GDP per capita this corresponds to -1,74% and 3,49%. For the years 1892 – 1895 the total growth in GDP and GDP per capita for the new series were 14,68% and 11,54%, compared to 4,6% and 1,73% in the old series. The new series correspond well to the series by Grytten for this period, but are somewhat more distinguished.

Table 7.1: Percentage change in GDP and GDP per capita in the different series from 1889-1892 and 1892-1895

	New series		Grytten series		Old series	
	GDP	GDP per capita	GDP	GDP per capita	GDP	GDP per capita
1889 - 1892	0,33 %	-1,74 %	1,12 %	-0,97 %	5,67 %	3,49 %
1892 - 1895	14,68 %	11,54 %	14,23 %	11,10 %	4,60 %	1,73 %

From what we know of history, the old series seems to overestimate the annual growth of GDP and the output gap during the bust in the early 1890s. Similarly, the old series shows

tendencies to underestimate the growth leading up to the booming year of 1895 and shows a lagged recovery of output gap in this decade. Thus, the new series and the series by Grytten find more support in domestic and international economic history. The booming mid-1890s and the following crash is unique for Norway compared to Sweden (Figure A.7 and A.8), which instead display this period as a gradual recovery from the initial recession, fueled by the resurrection of foreign trade (Haaskjold, 2009).

7.4.5 The 1920s

The downturn of the post-war depression from 1920-1923 is well reflected in all series, which is assuring in terms of reliability and validity. Both the old and the newer series follow the same path in terms of annual growth in GDP which further corresponds well with the annual growth of other macroeconomic variables from the period, observable in figure 7.16.

Figure 7.16: Macroeconomic variables' percentage annual change, 1920-1930
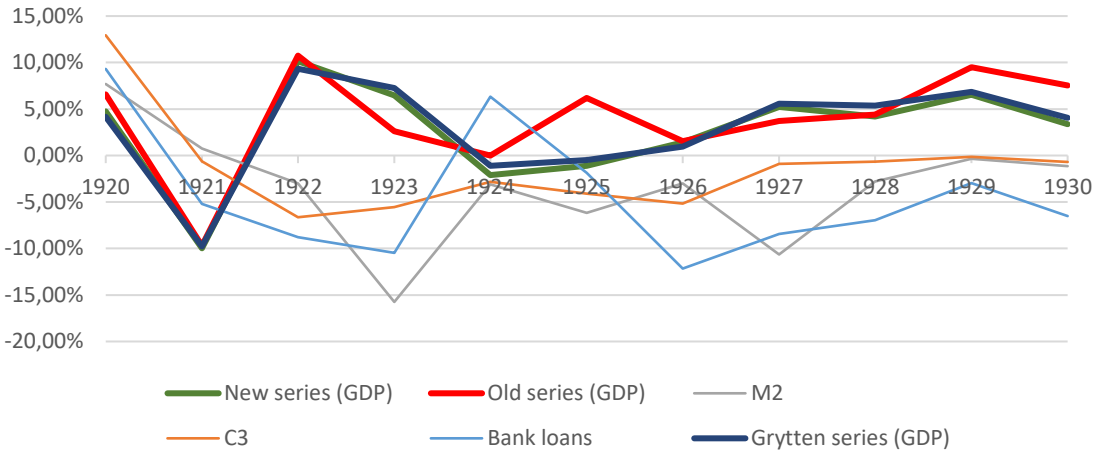
Source for M2, C3 and Bank loans: Grytten and Hunnes (2014)

The same pattern is found in the estimated output gaps in figure 7.17, although a more slow recovery is observable in the old series in the end of this crisis. The Swedish economy endured a similar path in terms of output gaps and growth according to figure A.8 and A.7.

Figure 7.17: Relative output gaps 1920–1930, according to series of GDP, ʎ =2500 [38]
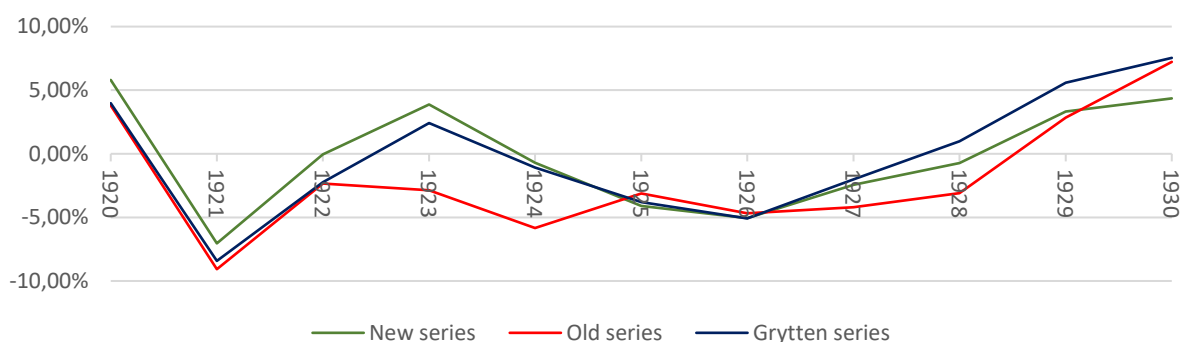
A major finding by Grytten (2015) which the new series undoubtedly supports, is the downgradement of the immense growth observed in the old series from 1924 – 1930. In 1923

Figure 7.18: Norwegian GDP according to new and old series, 1920–1930, in million 1938-NOK
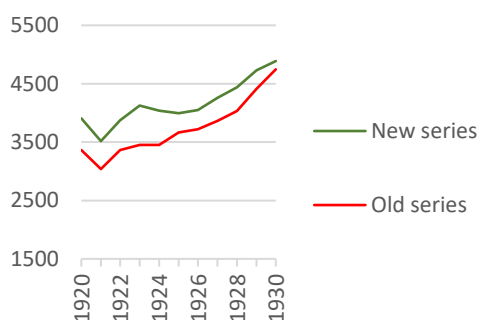
and 1924, there was a suspension in the deflatory monetary policy which resulted in a resuscitation of foreign trade, ceasing of the substantial deficits, and a declination in unemployment (Grytten and Hunnes, 2014). This upturn is more emphasized and prominent in the newer series, both in terms of output gap in figure 7.17 and in real GDP in figure 7.18. The Norwegian krone increased towards its par value from 1924 and 1928, resulting a financial contraction and a stagnated economy, thereby the Parity Crisis (1924 – 1927). One consequence was more than a hundred bankruptcies within the banking sector, where bank failures amounted to 7% of GDP in 1925. Further, the unemployment rate amounted to 8% in the period, a credit crunch lead to a sharp declination in real house prices, and the monetary policy negatively impacted the stock market (Grytten and Hunnes, 2014). As shown in figure 7.18, the Parity Crisis is hardly perceptible in the old series, and only shown as a brief stagnation before it turns into tremendous growth from 1925. This is not reconcilable with what we know of history. The new series visibly manifests both the short upturn before the Parity Crisis, and the Parity Crisis itself, and therefore provides a more accurate picture of the history. Similar to Norway, Sweden also adapted the pre-war parity after the war, but reached par value already in 1922 (Haaskjold, 2009). The preceding contraction before Norway

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[38] The original Grytten series of GDP go from 1830 to 1930. Due to end point errors arising from the HP-filter, the output gaps are considerable larger at the end of this decade, compared to the new and old series.

reached par value in 1928 explains the distinguished slump and slow recovery compared to Sweden which is observable in figure A.7 and A.8.

8. Conclusions

This thesis presents a novel series on Norwegian Gross Domestic Product from the production side from 1830 to 2006 in nominal values, and from 1830 to 1970 in real values. The new series covers 171 years in nominal values, and 135 years in real values.[39] These are the first comprehensive annual series for Norwegian GDP of such extent.

The estimates are conducted on the basis of available sources, volumes and prices. To ensure further reliability and validity, several standalone revisions have been conducted based on more recent data sources. For all estimations, I have followed the procedures and standards by Nordic Historical National Accounts (NHNR).

Through comparison with existing series, my confidence in the new series reliability and validity is further upheld. The new series are in good accordance to the old series and the series by Grytten. However, some noteworthy differences exist between the new and old series.

Through analyzing the changes in the composition of GDP, the new series reveal the industrial changes to be well in line with history. Economic literature describes the emergence and marginalization of industries as well as events leading to periods of considerable growth or stagnation. These events are visibly manifested in the new series. Therefore, it is not unconventional to assume the new series provide a fairly valid and reliable contribution to the quantification of the industrial development in Norway.

According to the new series, most of the Norwegian major recessions coincided with international downturns. However, while some international crises escaped Norway, other crises were significantly deeper in Norway than in other countries, showing that domestic factors were important too. From economy history and supporting statistics, it is evident that the new series are in good accordance with historical events and business cycles. The new series tend to mirror the historical business cycles better than the old series. The new series further support all major findings by Grytten (2015). Moreover, my research broaden the numbers of findings with additional discoveries, often in the form of in-between cycle-movements which finds support in historical economic literature.

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[39] Not including the years of WW2

In all, the analytic results give the perception that the new series on Norwegian gross domestic product by industry is fairly consistent, valid and reliable. I hope that my research has provided an update to the historical economic environment and some valuable insights on the economic history of Norway.

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[40] (NB: The earliest county reports were not supervised by Statistics Norway (est. 1876), but the Department of Interior (Indredepartementet), on mandate from the Department of Finance)

Appendix - Tables

Table A.1 – NOS national accounting standard

NOS	
Agriculture	Trade
Forestry, etc	Financial institutions
Forestry	Banks, etc
Hunting, etc	Insurance
Fishing	Commerical buildings and dwellings
Whaling	Commerical buildings
Mining and quarrying	Dwellings
Coal mining	Water transport
Metal mining	Ocean and coastal transport
Quarrying and mining, n.e.c	Services related to water transport
Manufacturing	Other transport and communication
Food	Railway transport
Beverages	Tramway and suburban railway transport
Tobacco	Motor vehicle transport, etc.
Textiles	Air transport
Footwear, other wearing apparel made-up textile goods	Services related to transport and storage
Wood and cork products, furniture and fixtures	Communication
Paper and paper products	Government services
Printing, publishing and allied industries	Government administration
Leather and leather products	Military defense services
Rubber products	Community and business services
Chemicals and products of chemical petroleum and coal	Educational services
Non-metallic mineral products	Health and veterinary services
Basic metal industries	Religous and welfare activities
Iron-, metalware- and machinery	Non-profit making organizations and institutions
Electrical machinery, etc	Business services
Ship building and repairing	Recreation services
Other transport equipment	Personal services
Miscellaneous manufactoring	Domestic services
Construction	Hotel and restaurant services
Electricity, gas, water and sanitary services	Laundry, cleaning and other personal services
Electricity supply	Services (= depreciation) of general government fixed capital
Gas supply	
Water and sanitary services	

Table A.2 – Skoglund & Statistics Norway national accounting standard

Skoglund	Statistics Norway
Jordbruk, jakt og viltstell	Jordbruk og skogbruk
Skogbruk	Fiske, fangst og akvakultur
Fiske, fangst og fiskeoppdrett	Bergverksdrift
Hvalfangst	Utvinning av råolje og naturgass, inkl. tjenester
Utvinning av råolje og naturgass, inkl. tjenester	Utvinning av råolje og naturgass
Bergverksdrift	Tjenester tilknyttet utvinning av råolje og naturgass
Industri	Industri
Næringsmiddelindustri	Nærings-, drikkevare- og tobakksindustri
Drikkevare- og tobakksindustri	Tekstil-, beklednings- og lærvareindustri
Tekstil- og bekledningsindustri	Trelast- og trevareindustri, unntatt møbler
Trelast- og trevareindustri	Produksjon av papir og papirvarer
Treforedling	Trykking og reproduksjon av innspilte opptak
Forlag og grafisk industri	Oljeraffinering, kjemisk og farmasøytisk industri
Oljeraffinering, kjem. og mineralsk industri	Produksjon av kjemiske råvarer
Kjemiske råvarer	Gummivare- og plastindustri, mineralproduktindustri
Metallindustri	Produksjon av metaller
Verkstedindustri	Produksjon av metallvarer, elektrisk utstyr og maskiner
Bygging av skip og oljeplattformer	Verftsindustri og annen transportmiddelindustri
Møbelindustri og annen industri	Produksjon av møbler og annen industriproduksjon
Kraftforsyning	Reparasjon og installasjon av maskiner og utstyr
Vannforsyning	Elektrisitets-, gass- og varmtvannsforsyning
Bygge- og anleggsvirksomhet	Vannforsyning, avløp og renovasjon
Varehandel	Bygge- og anleggsvirksomhet
Reparasjon av kjøretøyer mv.	Varehandel og reparasjon av motorvogner
Hotell- og restaurantvirksomhet	Rørtransport
Rørtransport	Utenriks sjøfart
Utenriks sjøfart	Transport utenom utenriks sjøfart
Innenriks sjøfart	Post og distribusjonsvirksomhet
Tjenester tilknyttet sjøtransport	Overnattings- og serveringsvirksomhet
Jernbane- og sporveistransport	Informasjon og kommunikasjon
Biltransport mv.	Finansierings- og forsikringsvirksomhet
Lufttransport	Omsetning og drift av fast eiendom
Tjenester tilknyttet transport ellers	Boligtjenester, egen bolig
Post og telekommunikasjoner	Faglig, vitenskapelig og teknisk tjenesteyting
Bank- og finansieringsvirksomhet	Forretningsmessig tjenesteyting
Forsikring	Offentlig admistrasjon og forsvar
Boliger	Undervisning
Eiendomsdrift og forretningsmessig tjenesteyting	Helse- og omsorgstjenester
Offentlig administrasjon	Kultur, underholdning og annen tjenesteyting
Forsvar	
Undervisning	Korreksjonspost
Helse- og sosialtjenester	
Lønnet husarbeid	
Andre private og offentlige tjenester	
Korreksjonspost	

Table A.3 – Grytten & Venneslan national accounting standard

Grytten
Primary production
Agriculture
Forestry (incl. hunting)
Fisheries
Whaling etc
Industry
Manufacturing
Construction
Mining
Trade
Finance
Housing
Transport and communication
Ocean going
Other
Public administration and defence
Public administration
Defence
Services
Education
Health
Others
Personal services

Venneslan	
Foodstuff	**Chemicals**
Hermetikk mv	Sprengstoff/fyrstikk
Kjøttprodukter	Kjemisk-tekn prod
Fruktprodukter	Såpe/lysprodukter
Margarinprodukter	**Non-metallic minerals**
Meierivarer	Steinbruddsvarer
Mel, gryn mv	Mineralprodukter
Bakeriprodukter	Mølle/slipevarer
Kjeksvarer mv	Kalkvarer
Brennevin mv	Sementvarer
Øl, brus mv	Tegl/potterivarer
Tobakksvarer	Glassvarer
Sukkertøy	Annet stein/glass
Andre produkter	**Metal products**
Textiles	Verkstedsprodukter
Tekstilvarer	Trådstift/spiker mv
Clothing	Skipsbyggerier
Konfeksjon	Elektriske varer
Skotøy	Sykler mv
Annet bekledning	Blikkvarer
Leather/rubber	Armatur mv
Garveriprodukter	Musikkinstrumenter
Rem- og lærvarer	Gull og sølvvarer
Gummivarer	**Electrochemicals/metallurgicals**
Annet lær/gummi	Elektrokjemisk
Lumber products	Elektrometallurgisk
Sagbruk/høvleri	**Oils and fat**
Fabricated wood products	
Wood processing	
Tresliperiprodukter	
Celluloseprodukter	
Papp- og papir	
Papirvareprodukter	
Grafiske produkter	

Table A.4 – The new series' national accounting standard

The new comprehensive series

Agriculture, forestry, and hunting etc.
    Agriculture
    Hunting
    Forestry
Fisheries, etc
Whaling
Mining and quarrying
Oil and gas extruction
Manufacturing
    Food products, bevarages and tobacco products
        Food products
        Bevarages and Tobacco
    Textiles, wearing apparel, leather products and other
        Textiles
        Wearing apparel
        Leather products
        Rubber products
    Lumber and wood products
        Lumber products
        Fabricated wood products
        Furniture and other products
    Paper and paper products
        Groundwood and mechanical pulp
        Cellulose products
        Paperboard and paper products
    Printing, publishing and allied industries
        Graphical products
        Books and other paper products
    Chemicals, non-metallic minerals, and products of petroleum and coal
        Chemicals
        Oils and fat
        Electrochemical
        Oil refining, chemical- and mineral industry
    Metal products
        Nail
        Electronics
        Bycycles
        Tin goods
        Armature
        Musikal Instruments
        Gold- and silverware
        Electrometallurgical
    Workshop industry and machinery
    Building of ships and oil-platforms

Electricity, gas, water and sanitary services
    Electricity supply
    Gas supply
    Water supply, sewerage, and waste
Construction
Trade and repair of motor vehicles
    Repair of motor vehicles
    Wholesale and retail trade
Ocean transport
    Foreign shipping
    Domestic shipping
    Services related to ocean transport
Transport and communication
    Railway transport
    Tramway and suburban railway transport
    Motorvehicle transport, etc.
    Air transport
    Services related to transport and storage
    Communication (Post, telephone, telegraph)
    Pipeline transport
Financial and insurance activities
    Banking, etc
    Insurance
Dwellings, commerical buildings and business services
    Dwellings
    Commercial buildings
    Business services
Public administration
Defence
Education
Health care, social work, and welfare services
    Health
    Religious and welfare activities
    Non-profit making institutions
Personal services, and other private and public services
    Domestic services
    Hotel- and restaurant services
    Laundry, cleaning and other personal services
    Recreation services
    Other services
Correction posts

Table A.5 - Norwegian GDP by industry in current million NOK. Disaggregated level

	Agriculture, forestry, and hunting etc.				Fisheries, etc	Whaling, etc	Mining and quarrying	Oil and gas extraction	Manufacturing
	Agriculture	Hunting	Forestry	Total					
1830	61,60	18,48		80,08	8,61	0,37	1,90	0,00	15,92
1831	67,38	16,62		84,00	8,99	0,38	1,99	0,00	16,87
1832	57,30	15,83		73,13	10,63	0,39	1,92	0,00	15,50
1833	55,62	18,76		74,38	11,38	0,40	2,01	0,00	16,34
1834	53,98	16,61		70,59	9,59	0,38	2,05	0,00	15,28
1835	57,58	15,80		73,38	9,16	0,38	2,21	0,00	16,46
1836	60,20	16,86		77,06	9,25	0,38	2,33	0,00	17,73
1837	61,38	18,20		79,59	9,08	0,38	2,29	0,00	18,15
1838	70,49	18,41		88,90	9,70	0,38	2,37	0,00	19,04
1839	64,90	20,76		85,66	12,02	0,40	2,45	0,00	19,12
1840	68,70	18,70		87,40	12,44	0,40	2,13	0,00	18,99
1841	59,44	17,82		77,26	10,36	0,39	1,97	0,00	16,65
1842	56,24	17,36		73,60	10,48	0,39	1,94	0,00	16,40
1843	61,60	22,28		83,88	9,64	0,38	1,97	0,00	18,94
1844	58,28	24,26		82,53	12,23	0,40	2,37	0,00	20,18
1845	68,23	25,74		93,97	11,43	0,40	2,84	0,00	20,61
1846	74,62	24,76		99,38	11,63	0,40	2,75	0,00	22,33
1847	90,35	25,24		115,58	10,04	0,37	2,76	0,00	25,11
1848	76,37	21,98		98,35	10,82	0,39	2,15	0,00	21,10
1849	68,61	23,32		91,92	12,82	0,41	2,13	0,00	21,29
1850	72,62	24,85		97,47	10,56	0,39	2,05	0,00	22,19
1851	76,80	28,68		105,47	11,82	0,40	2,03	0,00	24,82
1852	83,91	27,80		111,72	11,41	0,40	2,03	0,00	26,42
1853	85,60	30,62		116,22	11,14	0,39	2,37	0,00	29,63
1854	98,46	45,27		143,74	11,99	0,40	2,53	0,00	37,20
1855	109,43	43,17		152,60	16,20	0,44	2,76	0,00	41,81
1856	113,64	42,64		156,28	19,15	0,46	3,16	0,00	43,31
1857	105,76	40,16		145,92	18,76	0,46	1,90	0,00	38,49
1858	108,58	36,26		144,84	14,17	0,42	1,90	0,00	36,32
1859	102,07	34,56		136,63	15,56	0,43	1,90	0,00	35,47
1860	109,39	36,53		145,92	17,84	0,45	2,37	0,00	40,15
1861	108,33	36,91		145,24	21,38	0,52	2,46	0,00	45,33
1862	116,57	37,87		154,44	20,74	0,57	2,54	0,00	47,95
1863	98,92	40,45		139,37	19,71	0,57	2,54	0,00	46,75
1864	105,16	37,76		142,92	21,61	0,97	2,63	0,00	48,30
1865	107,52	40,17		147,69	26,47	0,98	2,74	0,00	51,98
1866	110,61	39,08		149,69	26,20	0,82	2,81	0,00	53,82
1867	119,35	39,73		159,08	27,64	1,08	3,05	0,00	57,47
1868	127,82	42,49		170,31	25,47	1,02	3,16	0,00	59,86
1869	126,70	46,63		173,34	23,65	1,12	3,21	0,00	61,93
1870	128,77	46,67		175,45	26,41	1,26	3,23	0,00	64,24
1871	132,05	51,83		183,88	32,10	1,33	3,62	0,00	68,28
1872	138,03	69,11		207,14	28,61	1,33	5,08	0,00	74,68
1873	152,40	76,30		228,70	31,59	1,52	4,72	0,00	79,51
1874	150,28	74,22		224,50	32,12	1,40	4,44	0,00	88,15
1875	158,24	65,62		223,86	32,72	1,25	5,32	0,00	88,74
1876	156,16	74,77		230,93	32,05	1,35	4,43	0,00	88,24
1877	148,89	72,00		220,89	37,34	1,36	4,04	0,00	88,50
1878	139,90	52,94		192,85	29,25	1,41	3,37	0,00	84,53
1879	138,63	46,81		185,44	29,61	1,61	3,11	0,00	82,34
1880	154,42	66,26		220,68	31,18	1,00	3,44	0,00	82,41
1881	147,09	69,57		216,67	27,42	1,57	3,80	0,00	82,77
1882	149,10	70,86		219,96	28,06	1,65	4,43	0,00	85,17
1883	147,01	67,87		214,88	33,40	2,08	3,41	0,00	84,93
1884	137,29	63,24		200,54	33,47	2,28	3,56	0,00	81,59
1885	129,38	61,29		190,67	26,88	1,94	2,98	0,00	76,64
1886	126,26	58,31		184,56	30,80	1,73	2,30	0,00	75,34

	Agriculture, forestry, and hunting etc.				Fisheries, etc	Whaling, etc	Mining and quarrying	Oil and gas extraction	Manufacturing
	Agriculture	Hunting	Forestry	Total					
1887	119,65	58,48		178,14	23,80	2,09	1,97	0,00	76,18
1888	120,05	64,42		184,47	30,26	2,43	2,87	0,00	84,14
1889	127,38	66,00		193,39	30,84	2,29	2,56	0,00	95,87
1890	137,74	57,91		195,65	29,45	2,35	2,77	0,00	101,17
1891	150,58	57,87		208,46	32,94	3,05	2,30	0,00	103,71
1892	144,58	55,01		199,58	31,45	2,79	1,93	0,00	102,38
1893	137,53	57,67		195,19	29,96	2,46	1,87	0,00	104,59
1894	127,24	57,88		185,12	29,05	2,51	2,14	0,00	106,55
1895	137,27	57,21		194,49	28,17	2,40	1,95	0,00	110,25
1896	137,92	68,05		205,97	27,55	2,42	2,59	0,00	116,56
1897	135,85	78,22		214,07	30,71	2,43	3,03	0,00	130,18
1898	140,16	76,45		216,61	26,20	2,62	3,38	0,00	144,69
1899	141,24	76,84		218,08	30,82	2,37	4,23	0,00	159,46
1900	158,10	88,00		246,10	37,29	1,94	5,38	0,00	166,90
1901	163,09	77,46		240,55	35,00	2,37	5,23	0,00	168,28
1902	157,68	84,14		241,82	37,25	2,64	5,56	0,00	161,38
1903	172,69	91,13		263,82	36,68	2,44	6,11	0,00	161,08
1904	167,47	80,01		247,49	34,14	2,62	6,19	0,00	154,52
1905	172,52	84,32		256,84	39,75	2,71	7,30	0,00	163,85
1906	179,69	97,15		276,85	42,09	3,10	9,17	0,00	185,79
1907	189,38	98,86		288,24	49,54	5,42	10,12	0,00	208,01
1908	200,31	89,31		289,63	49,00	7,95	9,61	0,00	228,08
1909	190,62	87,15		277,78	52,66	12,60	8,73	0,00	236,52
1910	192,24	93,29		285,53	60,06	17,82	10,48	0,00	269,75
1911	198,82	90,90		289,72	69,11	23,74	12,19	0,00	293,18
1912	203,98	92,96		296,94	68,72	29,38	16,44	0,00	360,67
1913	218,09	102,33		320,42	68,21	28,12	20,52	0,00	416,66
1914	226,76	96,17		322,93	78,58	23,04	21,95	0,00	427,84
1915	307,47	132,28		439,75	110,74	28,23	40,43	0,00	521,55
1916	398,73	197,75		596,48	205,58	26,68	38,81	0,00	702,59
1917	437,70	178,16		615,86	171,88	22,08	41,80	0,00	919,93
1918	553,81	217,29		771,10	171,45	26,68	35,43	0,00	1055,13
1919	548,87	208,10		756,97	201,75	45,86	30,46	0,00	1168,93
1920	623,15	362,82		985,97	122,70	28,98	20,07	0,00	1436,10
1921	484,42	146,97		631,39	83,35	35,06	14,09	0,00	921,84
1922	392,67	218,73		611,40	109,84	51,47	20,18	0,00	969,36
1923	450,87	233,11		683,98	98,32	50,44	26,28	0,00	991,97
1924	500,88	231,12		732,00	167,57	73,20	31,56	0,00	1150,16
1925	452,75	227,56		680,31	164,26	62,12	31,14	0,00	1250,53
1926	378,41	199,46		577,86	95,07	46,20	22,50	0,00	966,23
1927	359,34	183,59		542,93	88,19	57,26	19,09	0,00	881,89
1928	349,73	184,36		534,09	103,48	86,42	24,43	0,00	920,63
1929	353,70	182,22		535,92	112,78	107,10	31,23	0,00	965,18
1930	365,45	175,29		540,74	114,06	121,57	30,02	0,00	934,61
1931	303,69	3,35	126,17	433,21	81,10	61,92	18,96	0,00	749,88
1932	307,04	4,47	108,30	419,81	77,63	23,41	22,12	0,00	842,44
1933	284,71	3,35	106,07	394,13	88,21	43,79	25,28	0,00	847,88
1934	345,01	3,35	116,12	464,47	85,26	26,43	26,86	0,00	878,88
1935	398,60	4,47	122,82	525,88	97,87	38,51	31,60	0,00	969,81
1936	405,30	3,35	122,82	531,46	103,14	59,65	41,07	0,00	1090,65
1937	483,45	4,47	160,78	648,70	117,05	56,63	45,02	0,00	1244,30
1938	495,74	4,47	224,42	724,62	120,45	43,04	54,50	0,00	1264,55
1939	502,43	4,47	135,10	642,00	128,00	37,00	55,29	0,00	1412,39
1946	825,00		206,00	1031,00	202,00	103,00	43,00	0,00	2182,00
1947	885,00		260,00	1145,00	277,00	215,00	69,00	0,00	2776,00
1948	1016,00		272,00	1288,00	312,00	212,00	82,00	0,00	3222,00
1949	1106,00		321,00	1427,00	275,00	186,00	109,00	0,00	3179,00
1950	1160,00		273,00	1433,00	312,00	204,00	125,00	0,00	3507,00
1951	1184,00		401,00	1585,00	452,00	240,00	165,00	0,00	4514,00
1952	1251,00		636,00	1887,00	461,00	209,00	233,00	0,00	4528,00

	Agriculture, forestry, and hunting etc.				Fisheries, etc	Whaling, etc	Mining and quarrying	Oil and gas extraction	Manufacturing
	Agriculture	Hunting	Forestry	Total					
1953	1347,00	522,00	1869,00		417,00	112,00	252,00	0,00	4550,00
1954	1490,00	487,00	1977,00		510,00	147,00	243,00	0,00	4997,00
1955	1457,00	553,00	2010,00		549,00	128,00	248,00	0,00	5246,00
1956	1644,00	666,00	2310,00		617,00	147,00	290,00	0,00	5695,00
1957	1569,00	711,00	2280,00		516,00	188,00	273,00	0,00	5849,00
1958	1595,00	640,00	2235,00		478,00	123,00	252,00	0,00	5839,00
1959	1749,00	550,00	2299,00		567,00	120,00	233,00	0,00	6089,00
1960	1688,00	567,00	2255,00		546,00	97,00	245,00	0,00	6731,00
1961	1853,00	625,00	2478,00		539,00	104,00	249,00	0,00	7287,00
1962	1764,00	651,00	2415,00		516,00	60,00	280,00	0,00	7826,00
1963	1801,00	602,00	2403,00		554,00	35,00	296,00	0,00	8431,00
1964	1941,00	679,00	2620,00		670,00	58,00	313,00	0,00	9422,00
1965	2128,00	757,00	2885,00		950,00	63,00	370,00	0,00	10288,00
1966	2184,00	627,00	2811,00		1151,00	38,00	384,00	0,00	11012,00
1967	2300,00	637,00	2937,00		933,00	26,00	441,00	0,00	11750,00
1968	2548,00	530,00	3078,00		779,00	11,00	466,00	0,00	12785,00
1969	2425,00	547,00	2972,00		804,00	0,00	556,00	0,00	14527,00
1970	2818,00	703,00	3521,00		1148,00	0,00	590,00	0,00	16621,00
1971	3136,00	837,00	3973,00		1249,00	0,00	613,00	12,00	18203,00
1972	3311,00	701,00	4012,00		1234,00	0,00	667,00	207,00	20454,00
1973	3470,00	753,00	4223,00		1553,00	0,00	712,00	258,00	23709,00
1974	3868,00	1091,00	4959,00		1648,00	0,00	839,00	1056,00	28099,00
1975	4440,00	1398,00	5838,00		1235,00	0,00	933,00	4188,00	31372,00
1976	5338,00	1326,00	6664,00		1972,00	0,00	953,00	6598,00	33461,00
1977	6516,00	1243,00	7759,00		2039,00	0,00	924,00	8217,00	36469,00
1978	7057,00	1343,00	8400,00		1913,00	0,00	943,00	13907,00	37299,00
1979	6630,00	1443,00	8073,00		2096,00	0,00	983,00	21913,00	43393,00
1980	7474,00	1601,00	9075,00		2464,00	0,00	1030,00	42173,00	43961,00
1981	8320,00	2112,00	10432,00		2777,00	0,00	1147,00	52669,00	46504,00
1982	8878,00	1983,00	10861,00		2959,00	0,00	1119,00	59378,00	49396,00
1983	8513,00	1852,00	10365,00		2937,00	0,00	1320,00	70855,00	53910,00
1984	10099,00	2250,00	12349,00		3196,00	0,00	1329,00	87644,00	61193,00
1985	10191,00	2253,00	12444,00		3622,00	0,00	1311,00	94315,00	65466,00
1986	11365,00	2571,00	13936,00		4253,00	0,00	1483,00	54402,00	69362,00
1987	12196,00	2916,00	15112,00		5160,00	0,00	1559,00	53663,00	76469,00
1988	11750,00	3420,00	15170,00		5295,00	0,00	1512,00	43806,00	82005,00
1989	12827,00	3409,00	16236,00		4319,00	0,00	1763,00	69764,00	81721,00
1990	14232,00	3725,00	17957,00		4392,00	0,00	1730,00	87597,00	80137,00
1991	13237,00	4639,00	17876,00		5096,00	0,00	1655,00	91464,00	81900,00
1992	12039,00	4372,00	16411,00		4928,00	0,00	1783,00	91792,00	84413,00
1993	12853,00	3796,00	16649,00		5633,00	0,00	1489,00	96678,00	90751,00
1994	12041,00	3888,00	15929,00		7384,00	0,00	1793,00	100526,00	96585,00
1995	11631,00	5470,00	17101,00		7787,00	0,00	1822,00	108369,00	107811,00
1996	11737,00	4743,00	16480,00		6974,00	0,00	1918,00	152574,00	109990,00
1997	11189,00	4819,00	16008,00		7510,00	0,00	2152,00	167604,00	118832,00
1998	11619,00	5038,00	16657,00		9616,00	0,00	2124,00	115210,00	127233,00
1999	11078,00	4862,00	15940,00		9909,00	0,00	2465,00	161461,00	132392,00
2000	10927,00	4752,00	15679,00		11634,00	0,00	2575,00	325659,00	138231,00
2001	10431,00	4912,00	15343,00		9282,00	0,00	3090,00	309670,00	144476,00
2002	10193,00	5062,00	15255,00		8315,00	0,00	3260,00	268804,00	144067,00
2003	10368,00	4944,00	15312,00		6368,00	0,00	2996,00	280328,00	148981,00
2004	11159,00	4852,00	16011,00		8999,00	0,00	3657,00	345365,00	158923,00
2005	9731,00	4230,00	13961,00		12593,00	0,00	3720,00	447660,00	169563,00
2006	10094,00	4033,00	14127,00		14761,00	0,00	3916,00	529493,00	191817,00

	Electricity, gas, water and sanitary services				Construction	Trade and repair of motor vehicles		
	Electricity supply	Gas supply	Water supply and sewerage	**Total**		Wholesale and retail trade	Repair of motor vehicles	**Total**
1830				1,60	5,27			10,36
1831				1,72	5,68			10,36
1832				1,51	4,83			11,17
1833				1,83	6,10			11,53
1834				1,46	4,89			11,99
1835				1,72	5,79			12,19
1836				2,10	7,14			12,60
1837				2,05	6,99			12,24
1838				2,31	7,92			11,73
1839				2,45	8,46			12,70
1840				2,09	7,24			13,08
1841				1,55	5,39			12,70
1842				1,59	5,56			12,14
1843				1,64	5,74			12,65
1844				1,95	6,84			13,11
1845				2,06	7,34			13,98
1846				2,11	7,63			15,55
1847				2,41	8,60			16,42
1848				2,03	6,42			14,48
1849				2,11	6,69			14,25
1850				2,24	7,29			15,92
1851				2,53	9,25			16,69
1852				2,76	10,10			17,40
1853				3,23	11,82			22,96
1854				4,49	16,47			26,83
1855				5,11	18,73			28,21
1856				5,26	19,02			28,72
1857				4,38	14,39			24,23
1858				4,14	13,44			24,74
1859				3,74	11,55			22,89
1860				4,86	17,04			24,90
1861				5,57	19,42			24,20
1862				6,10	21,38			26,61
1863				6,41	22,52			26,68
1864				6,47	23,07			25,25
1865				6,63	23,78			29,97
1866				6,92	24,79			29,42
1867				7,20	25,68			32,15
1868				7,43	26,62			29,89
1869				7,72	27,99			31,17
1870				8,11	29,73			32,90
1871				8,58	31,45			36,85
1872				9,25	33,92			42,56
1873				9,78	35,84			47,44
1874				10,52	38,57			51,10
1875				10,31	37,79			48,36
1876				9,97	36,55			49,10
1877				9,72	35,64			48,30
1878				9,10	33,37			42,80
1879				8,99	32,77			43,76
1880				9,16	33,18			47,41
1881				8,89	32,04			45,21
1882				9,05	32,72			47,26
1883				8,83	31,48			50,30
1884				8,52	30,29			47,61
1885				8,08	28,63			47,27
1886				7,88	28,01			48,40
1887				7,77	27,68			54,16
1888				7,59	27,11			57,71
1889				8,63	30,93			62,68

	Electricity, gas, water and sanitary services				Construction	Trade and repair of motor vehicles		
	Electricity supply	Gas supply	Water supply and sewerage	Total		Wholesale and retail trade	Repair of motor vehicles	Total
1890				9,47	33,95			63,16
1891				9,32	33,58			63,31
1892				8,70	31,52			60,88
1893				8,75	31,88			60,54
1894				8,80	32,25			64,01
1895				9,34	33,31			69,99
1896				9,63	33,70			69,69
1897				10,81	37,08			78,39
1898				12,99	43,67			87,96
1899				15,28	50,33			89,43
1900				14,94	46,72			87,97
1901				14,10	43,10			87,81
1902				13,63	40,03			89,29
1903				12,96	37,19			87,64
1904				13,20	39,65			90,82
1905				12,81	37,44			96,97
1906				14,74	44,48			107,23
1907				17,74	51,73			115,06
1908				18,48	52,02			114,97
1909				17,51	46,93			120,27
1910				21,17	52,68			127,40
1911				25,91	62,61			136,54
1912				28,68	67,29			147,80
1913				31,65	72,09			157,13
1914				34,18	75,55			167,64
1915				40,35	86,85			236,42
1916				64,04	134,20			396,70
1917				81,96	167,82			563,20
1918				96,63	193,31			678,33
1919				196,16	383,30			782,33
1920				209,20	399,22			933,02
1921				124,72	216,78			848,80
1922				131,76	239,65			796,31
1923				138,67	246,16			800,69
1924				127,28	220,46			769,09
1925				117,88	199,18			718,81
1926				100,79	151,68			690,91
1927				96,24	130,98			639,97
1928				97,71	143,71			604,08
1929				102,46	156,39			593,87
1930	96,35	5,26	3,50	105,10	156,30			593,48
1931	94,59	6,13	3,50	104,23	145,75			532,58
1932	95,47	6,13	3,50	105,10	161,09			535,48
1933	95,47	6,13	3,50	105,10	155,34			521,95
1934	97,22	5,26	3,50	105,98	167,80			581,88
1935	98,10	6,13	2,63	106,86	197,53			638,91
1936	100,73	6,13	3,50	110,36	248,35			747,16
1937	108,61	6,13	3,50	118,24	271,36			873,78
1938	116,49	6,13	4,38	127,00	303,96			876,68
1939	120,87	5,26	6,13	132,26	343,27			983,97
1946		193,00	8,00	201,00	729,00	1401,00	45,00	1446,00
1947		204,00	9,00	213,00	849,00	1700,00	53,00	1753,00
1948		224,00	10,00	234,00	914,00	1705,00	58,00	1763,00
1949		252,00	12,00	264,00	985,00	2039,00	61,00	2100,00
1950		278,00	15,00	293,00	1001,00	2311,00	72,00	2383,00
1951		292,00	19,00	311,00	1017,00	2880,00	75,00	2955,00
1952		322,00	21,00	343,00	1205,00	3450,00	75,00	3525,00
1953		356,00	23,00	379,00	1368,00	3700,00	77,00	3777,00
1954		417,00	25,00	442,00	1534,00	4177,00	94,00	4271,00
1955		464,00	28,00	492,00	1638,00	4078,00	109,00	4187,00

	Electricity, gas, water and sanitary services				Construction	Trade and repair of motor vehicles		
	Electricity supply	Gas supply	Water supply and sewerage	Total		Wholesale and retail trade	Repair of motor vehicles	Total
1956	486,00	30,00	516,00		1660,00	4519,00	115,00	4634,00
1957	601,00	33,00	634,00		1927,00	4888,00	134,00	5022,00
1958	683,00	35,00	718,00		1996,00	4816,00	145,00	4961,00
1959	733,00	39,00	772,00		2095,00	5095,00	154,00	5249,00
1960	826,00	41,00	867,00		2193,00	5642,00	171,00	5813,00
1961	878,00	43,00	921,00		2379,00	6282,00	204,00	6486,00
1962	993,00	45,00	1038,00		2737,00	6874,00	237,00	7111,00
1963	1062,00	48,00	1110,00		3089,00	7526,00	272,00	7798,00
1964	1139,00	54,00	1193,00		3147,00	8185,00	295,00	8480,00
1965	1251,00	58,00	1309,00		3516,00	9123,00	324,00	9447,00
1966	1345,00	88,00	1433,00		4224,00	9717,00	393,00	10110,00
1967	1540,00	97,00	1637,00		4532,00	10481,00	402,00	10883,00
1968	1718,00	107,00	1825,00		4487,00	10827,00	465,00	11292,00
1969	1828,00	140,00	1968,00		4614,00	11818,00	490,00	12308,00
1970	2417,00	158,00	2575,00		5267,00	11704,00	564,00	12268,00
1971	2389,00	169,00	2558,00		6054,00	12759,00	705,00	13464,00
1972	2589,00	132,00	2721,00		6729,00	14458,00	747,00	15205,00
1973	2868,00	175,00	3043,00		7310,00	15812,00	891,00	16703,00
1974	3508,00	188,00	3696,00		8238,00	19378,00	1009,00	20387,00
1975	3891,00	206,00	4097,00		9811,00	21980,00	1199,00	23179,00
1976	4537,00	264,00	4801,00		10918,00	24516,00	1363,00	25879,00
1977	5104,00	346,00	5450,00		12401,00	27463,00	1559,00	29022,00
1978	6092,00	378,00	6470,00		14641,00	27949,00	1698,00	29647,00
1979	6886,00	378,00	7264,00		13817,00	26974,00	1803,00	28777,00
1980	7447,00	408,00	7855,00		14766,00	33152,00	1980,00	35132,00
1981	8954,00	360,00	9314,00		15914,00	37690,00	2174,00	39864,00
1982	10612,00	434,00	11046,00		18263,00	41288,00	2421,00	43709,00
1983	12449,00	529,00	12978,00		19621,00	44132,00	2636,00	46768,00
1984	14168,00	548,00	14716,00		21153,00	46969,00	2756,00	49725,00
1985	15628,00	619,00	16247,00		23718,00	53680,00	3303,00	56983,00
1986	15668,00	664,00	16332,00		28194,00	60083,00	4010,00	64093,00
1987	17042,00	756,00	17798,00		32624,00	65291,00	4364,00	69655,00
1988	18089,00	877,00	18966,00		37163,00	67950,00	4434,00	72384,00
1989	19600,00	1040,00	20640,00		33554,00	67156,00	4000,00	71156,00
1990	20959,00	1114,00	22073,00		30127,00	68872,00	3906,00	72778,00
1991	22331,00	1222,00	23553,00		28438,00	72957,00	1928,00	74885,00
1992	21664,00	1259,00	22923,00		28911,00	72973,00	2065,00	75038,00
1993	21248,00	1328,00	22576,00		26443,00	75908,00	2247,00	78155,00
1994	19949,00	1458,00	21407,00		31784,00	78274,00	2555,00	80829,00
1995	22757,00	1466,00	24223,00		36613,00	84110,00	3025,00	87135,00
1996	21783,00	1581,00	23364,00		39519,00	90635,00	3181,00	93816,00
1997	24144,00	1638,00	25782,00		45054,00	94948,00	3590,00	98538,00
1998	24343,00	1715,00	26058,00		50245,00	104179,00	3854,00	108033,00
1999	23705,00	1774,00	25479,00		50211,00	105360,00	4321,00	109681,00
2000	24533,00	1891,00	26424,00		53633,00	110704,00	5467,00	116171,00
2001	28202,00	2281,00	30483,00		56376,00	117046,00	5035,00	122081,00
2002	31917,00	2362,00	34279,00		61017,00	117504,00	4649,00	122153,00
2003	35504,00	2279,00	37783,00		62308,00	120213,00	5333,00	125546,00
2004	34645,00	2209,00	36854,00		70228,00	126041,00	5189,00	131230,00
2005	42475,00	2210,00	44685,00		76802,00	136916,00	4036,00	140952,00
2006	47831,00	2186,00	50017,00		85920,00	148362,00	5023,00	153385,00

		Transport and Communications						
	Railway transport	Tramway and other railway transport	Motorvehicle transport	Air transport	Services related to transport and storage	Communication (Post, telephone, telegraph)	Pipeline transport	Total
1830								4,86
1831								5,13
1832								4,77
1833								4,86
1834								4,69
1835								4,86
1836								5,13
1837								5,23
1838								5,50
1839								5,61
1840								5,83
1841								5,15
1842								4,94
1843								5,29
1844								5,64
1845								5,80
1846								6,29
1847								7,27
1848								6,22
1849								6,18
1850								6,41
1851								7,00
1852								7,42
1853								8,24
1854								9,97
1855								10,88
1856								11,51
1857								11,09
1858								10,54
1859								10,76
1860								12,07
1861								12,58
1862								13,23
1863								12,91
1864								13,47
1865								14,25
1866								14,71
1867								15,59
1868								15,89
1869								16,40
1870								16,67
1871								17,40
1872								19,96
1873								22,89
1874								24,98
1875								24,55
1876								25,62
1877								25,74
1878								22,96
1879								21,68
1880								23,75
1881								24,55
1882								25,42
1883								25,27
1884								24,46
1885								23,20
1886								22,95
1887								22,83

	Transport and Communications						
	Railway transport	Tramway and other railway transport	Motorvehicle transport	Air transport	Services related to transport and storage	Communication (Post, telephone, telegraph)	Pipeline transport	Total
1888								24,77
1889								27,06
1890								27,60
1891								28,58
1892								28,67
1893								29,24
1894								29,70
1895								30,49
1896								32,29
1897								34,16
1898								37,36
1899								40,14
1900								42,33
1901								42,09
1902								41,89
1903								41,91
1904								42,20
1905								43,45
1906								47,00
1907								50,44
1908								52,16
1909								53,22
1910								58,78
1911								62,44
1912								67,20
1913								76,83
1914								79,42
1915								105,12
1916								143,00
1917								176,83
1918								218,54
1919								280,01
1920								328,68
1921								285,37
1922								247,28
1923								245,09
1924								272,20
1925								244,15
1926								213,18
1927								183,62
1928								174,34
1929								171,41
1930	57,17	14,10	54,04	0,00	0,78	48,55	0,00	174,64
1931	51,69	13,31	55,60	0,00	0,78	47,77	0,00	169,16
1932	49,34	12,53	57,95	0,00	0,78	46,20	0,00	166,81
1933	50,12	12,53	59,52	0,00	0,78	46,99	0,00	169,94
1934	51,69	12,53	61,08	0,00	0,78	47,77	0,00	173,85
1935	53,25	13,31	62,65	0,78	0,78	50,12	0,00	180,90
1936	56,39	14,10	67,35	0,78	0,78	54,04	0,00	193,43
1937	60,30	14,10	79,10	0,78	0,78	58,73	0,00	213,79
1938	64,22	15,66	85,36	0,78	0,78	61,87	0,00	228,67
1939	70,48	17,23	94,76	0,78	0,78	64,22	0,00	248,25
1946		182,00	160,00	7,00	10,00	141,00	0,00	500,00
1947		192,00	193,00	19,00	14,00	153,00	0,00	571,00
1948		215,00	217,00	17,00	14,00	163,00	0,00	626,00
1949		227,00	238,00	24,00	15,00	179,00	0,00	683,00
1950		247,00	257,00	27,00	17,00	189,00	0,00	737,00
1951		275,00	265,00	35,00	23,00	194,00	0,00	792,00
1952		320,00	312,00	32,00	26,00	220,00	0,00	910,00

		Transport and Communications					
	Railway transport	Tramway and other railway transport	Motorvehicle transport	Air transport	Services related to transport and storage	Communication (Post, telephone, telegraph)	Pipeline transport	Total
1953		316,00	342,00	42,00	28,00	246,00	0,00	974,00
1954		330,00	374,00	44,00	32,00	278,00	0,00	1058,00
1955		324,00	398,00	57,00	35,00	307,00	0,00	1121,00
1956		335,00	413,00	72,00	41,00	356,00	0,00	1217,00
1957		337,00	438,00	70,00	47,00	385,00	0,00	1277,00
1958		328,00	481,00	64,00	47,00	454,00	0,00	1374,00
1959		335,00	518,00	68,00	59,00	521,00	0,00	1501,00
1960		388,00	537,00	90,00	67,00	564,00	0,00	1646,00
1961		415,00	632,00	95,00	92,00	585,00	0,00	1819,00
1962		457,00	709,00	104,00	98,00	658,00	0,00	2026,00
1963		472,00	762,00	142,00	106,00	745,00	0,00	2227,00
1964		485,00	820,00	162,00	118,00	787,00	0,00	2372,00
1965		469,00	899,00	179,00	132,00	907,00	0,00	2586,00
1966		489,00	977,00	220,00	151,00	959,00	0,00	2796,00
1967		546,00	1057,00	279,00	169,00	1074,00	0,00	3125,00
1968		558,00	1164,00	312,00	194,00	1199,00	0,00	3427,00
1969		602,00	1270,00	360,00	219,00	1305,00	0,00	3756,00
1970		715,00	1713,00	394,00	266,00	1471,00	0,00	4559,00
1971		739,00	1876,00	455,00	303,00	1664,00	0,00	5037,00
1972		789,00	2080,00	500,00	369,00	2031,00	0,00	5769,00
1973		766,00	2301,00	514,00	433,00	2350,00	0,00	6364,00
1974		882,00	2398,00	540,00	401,00	2698,00	0,00	6919,00
1975		962,00	2969,00	680,00	587,00	3032,00	30,00	8260,00
1976		1089,00	3471,00	832,00	726,00	3358,00	298,00	9774,00
1977		1172,00	4115,00	937,00	834,00	3533,00	400,00	10991,00
1978		1259,00	4389,00	1040,00	959,00	3989,00	928,00	12564,00
1979		1275,00	4729,00	938,00	1127,00	4333,00	1581,00	13983,00
1980		1341,00	5050,00	1115,00	1261,00	4468,00	2112,00	15347,00
1981		1439,00	5578,00	1233,00	1333,00	5664,00	2520,00	17767,00
1982		1554,00	6288,00	1113,00	1679,00	7359,00	2513,00	20506,00
1983		1569,00	6954,00	1536,00	1906,00	8906,00	2443,00	23314,00
1984		1556,00	7493,00	1666,00	2272,00	9860,00	2448,00	25295,00
1985		1667,00	8796,00	2217,00	2499,00	10054,00	3032,00	28265,00
1986		1637,00	10466,00	2959,00	3102,00	11063,00	5586,00	34813,00
1987		1594,00	11766,00	3102,00	3625,00	12723,00	5911,00	38721,00
1988		1703,00	12241,00	3969,00	4101,00	14367,00	6160,00	42541,00
1989		1470,00	12313,00	3962,00	4436,00	15693,00	7004,00	44878,00
1990		2577,00	13047,00	4485,00	4929,00	16287,00	7803,00	49128,00
1991		2396,00	13613,00	4862,00	5450,00	16324,00	9882,00	52527,00
1992		1958,00	13991,00	5169,00	6054,00	17592,00	10786,00	55550,00
1993		2419,00	13919,00	5067,00	6562,00	17842,00	10864,00	56673,00
1994		2407,00	13490,00	4341,00	7414,00	18197,00	12097,00	57946,00
1995		2452,00	14768,00	4545,00	8341,00	17694,00	11829,00	59629,00
1996		2479,00	15466,00	4460,00	9181,00	18758,00	12870,00	63214,00
1997		1971,00	15608,00	5273,00	10154,00	21553,00	12990,00	67549,00
1998		2304,00	16276,00	6359,00	11687,00	22384,00	13888,00	72898,00
1999		2257,00	15507,00	6381,00	13010,00	24033,00	15130,00	76318,00
2000		2416,00	16138,00	7472,00	14179,00	22253,00	14981,00	77439,00
2001		2297,00	17590,00	6136,00	15345,00	25023,00	15663,00	82054,00
2002		2011,00	18415,00	7425,00	15528,00	28024,00	14658,00	86061,00
2003		1922,00	18762,00	7014,00	15099,00	29769,00	15028,00	87594,00
2004		2271,00	19165,00	7055,00	16249,00	30795,00	15897,00	91432,00
2005		2487,00	20115,00	7395,00	18229,00	31802,00	17681,00	97709,00
2006		2307,00	23563,00	7954,00	20435,00	32292,00	19344,00	105895,00

	Ocean going transport				Financial and insurance activities			Dwellings, commerical buildings, and business Services			
	Foreign shipping	Domestic shipping	Services	Total	Banking	Insurance	Total	Dwellings	Commercial buildings	Business services	Total
1830				5,82			2,63				22,59
1831				6,08			2,72				24,02
1832				6,00			2,77				23,46
1833				6,00			2,77				22,47
1834				6,64			2,87				21,76
1835				7,19			3,02				22,04
1836				7,66			3,17				22,49
1837				8,04			3,53				22,67
1838				7,54			3,69				22,68
1839				7,60			3,86				23,24
1840				9,07			3,96				25,54
1841				7,30			3,93				21,58
1842				6,43			4,07				21,45
1843				5,88			4,25				19,67
1844				8,46			4,65				21,80
1845				8,45			4,98				22,75
1846				11,09			5,34				23,82
1847				15,18			5,78				31,05
1848				8,12			5,46				25,13
1849				8,45			5,15				25,31
1850				9,05			5,28				25,52
1851				9,47			5,68				26,44
1852				10,17			6,02				28,08
1853				15,51			7,55				29,69
1854				19,52			9,21				32,65
1855				20,75			10,30				35,20
1856				21,23			11,50				38,37
1857				16,95			8,48				39,96
1858				13,82			9,21				39,17
1859				17,50			9,75				40,92
1860				22,85			10,21				48,66
1861				24,84			10,98				50,94
1862				24,32			12,05				52,01
1863				25,36			13,14				53,55
1864				27,96			12,99				55,04
1865				28,00			13,40				56,15
1866				28,00			13,49				59,28
1867				29,35			13,88				56,94
1868				29,58			14,28				59,67
1869				33,91			14,22				59,86
1870				36,53			14,57				60,52
1871				37,68			15,10				62,74
1872				46,59			16,04				66,65
1873				55,16			17,44				70,13
1874				56,05			18,93				76,42
1875				48,37			19,70				79,47
1876				53,33			20,31				79,03
1877				51,13			20,87				87,00
1878				49,95			20,58				79,11
1879				46,02			20,47				78,42
1880				51,97			21,26				81,46
1881				47,48			22,11				82,82
1882				57,51			22,70				84,05
1883				60,53			23,19				85,51
1884				50,12			23,67				85,11
1885				43,03			24,12				84,64
1886				39,43			23,54				84,33
1887				40,12			22,94				84,80
1888				51,32			23,05				86,55
1889				69,60			23,97				88,76

	Ocean going transport				Financial and insurance activities			Dwellings, commerical buildings, and business Services			
	Foreign shipping	Domestic shipping	Services	Total	Banking	Insurance	Total	Dwellings	Commercial buildings	Business services	Total
1890				64,26			25,29				91,22
1891				57,05			25,98				95,43
1892				53,79			26,18				96,74
1893				49,63			27,20				96,25
1894				50,39			28,08				97,27
1895				49,74			29,43				99,91
1896				57,42			30,68				103,75
1897				62,65			32,82				105,85
1898				67,72			37,59				110,50
1899				78,12			39,83				116,72
1900				89,09			42,66				122,49
1901				74,69			43,64				124,35
1902				64,55			44,11				127,91
1903				58,99			45,32				132,24
1904				72,17			45,45				134,76
1905				68,43			45,96				140,01
1906				68,07			47,46				143,12
1907				75,84			50,14				149,32
1908				71,60			52,67				154,78
1909				67,38			55,08				159,83
1910				73,99			57,56				171,62
1911				87,43			61,89				184,56
1912				104,73			66,89				203,97
1913				117,18			71,21				224,44
1914				125,98			75,31				233,05
1915				286,60			85,91				282,72
1916				645,68			129,19				335,00
1917				676,53			182,12				375,00
1918				595,88			222,38				430,00
1919				683,64			212,54				470,00
1920				852,34			211,61				515,00
1921				472,43			146,13				440,00
1922				347,42			147,41				425,00
1923				228,53			137,68				430,00
1924				323,68			144,48				439,44
1925				313,13			137,83				450,68
1926				270,46			136,78				453,31
1927				261,77			133,62				459,49
1928				246,49			141,24				456,92
1929				282,65			140,32				458,56
1930	238,21	36,78		274,99			138,17				452,00
1931	223,17	30,09		253,26	90,71	39,03	129,73	370,00	86,00	44,10	500,10
1932	212,30	30,09		242,39	87,54	35,86	123,41	372,00	86,00	42,00	500,00
1933	198,93	30,09		229,02	84,38	42,19	126,57	371,00	86,00	41,30	498,30
1934	213,97	31,76		245,73	81,22	39,03	120,24	372,00	87,00	42,70	501,70
1935	234,03	34,27		268,30	79,11	41,14	120,24	377,00	88,00	45,50	510,50
1936	283,35	38,45		321,79	78,05	46,41	124,46	383,00	89,00	49,70	521,70
1937	460,54	44,30		504,84	82,27	47,46	129,73	398,00	93,00	55,30	546,30
1938	431,29	45,97		477,26	87,54	49,57	137,12	417,00	97,00	59,50	573,50
1939	490,63	48,48		539,11	94,93	53,79	148,72	432,00	100,00	65,80	597,80
1946	737,00	42,00	61,00	840,00	133,00	75,00	208,00	652,00	230,00		882,00
1947	867,00	50,00	80,00	997,00	172,00	76,00	248,00	672,00	248,00		920,00
1948	967,00	55,00	97,00	1119,00	175,00	105,00	280,00	710,00	267,00		977,00
1949	1049,00	60,00	107,00	1216,00	188,00	96,00	284,00	778,00	294,00		1072,00
1950	1401,00	68,00	123,00	1592,00	214,00	102,00	316,00	845,00	319,00		1164,00
1951	2385,00	76,00	157,00	2618,00	268,00	139,00	407,00	854,00	355,00		1209,00
1952	2421,00	84,00	179,00	2684,00	290,00	154,00	444,00	928,00	412,00		1340,00
1953	1932,00	88,00	209,00	2229,00	315,00	149,00	464,00	1129,00	433,00		1562,00
1954	1792,00	92,00	225,00	2109,00	342,00	155,00	497,00	1356,00	465,00		1821,00
1955	2334,00	96,00	247,00	2677,00	360,00	170,00	530,00	1621,00	498,00		2119,00

	Ocean going transport				Financial and insurance activities			Dwellings, commerical buildings, and business Services			
	Foreign shipping	Domestic shipping	Services	Total	Banking	Insurance	Total	Dwellings	Commercial buildings	Business services	Total
1956	3272,00	107,00	256,00	3635,00	383,00	191,00	574,00	1843,00	536,00		2379,00
1957	3616,00	124,00	258,00	3998,00	421,00	210,00	631,00	2123,00	597,00		2720,00
1958	2856,00	133,00	261,00	3250,00	430,00	210,00	640,00	2350,00	652,00		3002,00
1959	2867,00	147,00	267,00	3281,00	470,00	238,00	708,00	2532,00	712,00		3244,00
1960	2990,00	149,00	281,00	3420,00	526,00	249,00	775,00	2770,00	771,00		3541,00
1961	3192,00	155,00	296,00	3643,00	634,00	271,00	905,00	3014,00	842,00		3856,00
1962	3243,00	172,00	313,00	3728,00	627,00	282,00	909,00	3243,00	909,00		4152,00
1963	3543,00	179,00	314,00	4036,00	689,00	277,00	966,00	3357,00	1020,00		4377,00
1964	4030,00	194,00	345,00	4569,00	757,00	284,00	1041,00	3477,00	1143,00		4620,00
1965	4500,00	198,00	392,00	5090,00	851,00	286,00	1137,00	3672,00	1299,00		4971,00
1966	4496,00	206,00	404,00	5106,00	965,00	315,00	1280,00	3843,00	1435,00		5278,00
1967	5532,00	244,00	411,00	6187,00	1107,00	391,00	1498,00	4066,00	1624,00		5690,00
1968	6261,00	249,00	429,00	6939,00	1294,00	419,00	1713,00	4348,00	1842,00		6190,00
1969	5820,00	270,00	471,00	6561,00	1483,00	440,00	1923,00	4467,00	1993,00		6460,00
1970	6843,00	333,00	536,00	7712,00	1784,00	502,00	2286,00	5731,00	2473,00		8204,00
1971	7076,00	347,00	570,00	7993,00	1992,00	592,00	2584,00	6329,00	2956,00		9285,00
1972	7285,00	343,00	636,00	8264,00	2317,00	605,00	2922,00	6968,00	3464,00		10432,00
1973	8960,00	390,00	727,00	10077,00	2803,00	820,00	3623,00	7799,00	3978,00		11777,00
1974	10020,00	456,00	829,00	11305,00	3447,00	960,00	4407,00	8835,00	4714,00		13549,00
1975	7803,00	504,00	990,00	9297,00	3809,00	905,00	4714,00	10167,00	5752,00		15919,00
1976	7562,00	565,00	1140,00	9267,00	4466,00	1051,00	5517,00	11422,00	6894,00		18316,00
1977	7330,00	643,00	1202,00	9175,00	5177,00	1103,00	6280,00	13025,00	8392,00		21417,00
1978	7877,00	732,00	1282,00	9891,00	6306,00	1051,00	7357,00	14104,00	9599,00		23703,00
1979	8923,00	729,00	1497,00	11149,00	7391,00	804,00	8195,00	15334,00	10687,00		26021,00
1980	10799,00	733,00	1667,00	13199,00	8967,00	897,00	9864,00	16346,00	12829,00		29175,00
1981	11382,00	790,00	1849,00	14021,00	11657,00	1227,00	12884,00	18025,00	13703,00		31728,00
1982	9554,00	857,00	1917,00	12328,00	14190,00	1014,00	15204,00	20786,00	15145,00		35931,00
1983	9495,00	934,00	2055,00	12484,00	15732,00	837,00	16569,00	22751,00	17066,00		39817,00
1984	10552,00	1294,00	2192,00	14038,00	14975,00	600,00	15575,00	25400,00	21806,00		47206,00
1985	9598,00	1362,00	2242,00	13202,00	15878,00	1982,00	17860,00	26249,00	26557,00		52806,00
1986	8798,00	1447,00	2317,00	12562,00	21217,00	2649,00	23866,00	26047,00	30703,00		56750,00
1987	5722,00	1628,00	2596,00	9946,00	29135,00	3864,00	32999,00	26008,00	33988,00		59996,00
1988	9211,00	1700,00	3008,00	13919,00	27480,00	5165,00	32645,00	31514,00	37448,00		68962,00
1989	13854,00	1820,00	3361,00	19035,00	28268,00	5135,00	33403,00	39010,00	37048,00		76058,00
1990	16005,00	1794,00	3758,00	21557,00	27542,00	6180,00	33722,00	43936,00	36256,00		80192,00
1991	20541,00	2177,00	3549,00	26267,00	27430,00	6404,00	33834,00	47574,00	38296,00		85870,00
1992	15215,00	2204,00	3596,00	21015,00	29454,00	5875,00	35329,00	49939,00	40481,00		90420,00
1993	18454,00	2410,00	3788,00	24652,00	29734,00	6706,00	36440,00	51972,00	44669,00		96641,00
1994	16571,00	2537,00	3593,00	22701,00	28597,00	8011,00	36608,00	51910,00	48525,00		100435,00
1995	16381,00	2636,00	3119,00	22136,00	26091,00	9435,00	35526,00	53565,00	53314,00		106879,00
1996	15898,00	2912,00	3035,00	21845,00	24175,00	9232,00	33407,00	54840,00	59989,00		114829,00
1997	19547,00	3191,00	2939,00	25677,00	29268,00	6503,00	35771,00	54642,00	72046,00		126688,00
1998	18666,00	3329,00	3420,00	25415,00	31621,00	6103,00	37724,00	55825,00	85598,00		141423,00
1999	18495,00	3051,00	3048,00	24594,00	32908,00	2960,00	35868,00	59349,00	102025,00		161374,00
2000	26708,00	1942,00	3275,00	31925,00	36139,00	3463,00	39602,00	64464,00	115864,00		180328,00
2001	31968,00	2164,00	4009,00	38141,00	37376,00	3361,00	40737,00	67830,00	128437,00		196267,00
2002	24202,00	2480,00	3487,00	30169,00	36584,00	5028,00	41612,00	71910,00	136266,00		208176,00
2003	23640,00	2408,00	3964,00	30012,00	46252,00	9517,00	55769,00	72547,00	141637,00		214184,00
2004	26465,00	2345,00	4157,00	32967,00	52185,00	14525,00	66710,00	71857,00	150060,00		221917,00
2005	29243,00	2094,00	4478,00	35815,00	51585,00	16794,00	68379,00	74284,00	167482,00		241766,00
2006	30071,00	2507,00	4982,00	37560,00	49986,00	15559,00	65545,00	81806,00	179584,00		261390,00

	Public administration	Defence	Education	Health care, social work, and welfare services			
				Health	Religious and welfare activities	Non-profit making institutions	Total
1830	5,12	2,07	4,34	3,88		1,78	5,66
1831	5,26	2,07	4,42	4,33		1,87	6,20
1832	6,18	2,07	4,43	4,72		1,77	6,49
1833	6,19	2,05	4,43	4,43		1,78	6,22
1834	6,15	2,04	4,43	4,10		1,76	5,87
1835	6,10	2,03	4,47	4,00		1,83	5,83
1836	6,09	2,05	4,51	3,96		1,86	5,82
1837	6,24	2,07	4,55	4,07		1,87	5,94
1838	6,58	2,07	4,59	4,06		1,93	5,99
1839	6,86	2,32	4,67	4,24		1,97	6,21
1840	7,16	2,41	4,70	4,43		2,10	6,53
1841	6,93	2,30	4,68	4,33		1,91	6,24
1842	6,58	2,31	4,72	4,24		1,90	6,14
1843	6,66	2,42	4,74	4,29		1,92	6,21
1844	6,66	2,46	4,80	4,48		2,06	6,54
1845	6,80	2,31	4,87	4,58		2,19	6,78
1846	6,81	2,54	4,97	4,74		2,33	7,07
1847	7,66	2,67	5,10	4,82		2,66	7,48
1848	7,46	2,62	5,09	4,96		2,38	7,33
1849	7,24	2,72	5,16	4,95		2,32	7,28
1850	7,54	2,76	5,20	4,85		2,37	7,22
1851	7,53	2,42	5,26	4,90		2,49	7,39
1852	7,69	2,66	5,52	4,99		2,61	7,60
1853	7,42	3,12	5,61	5,13		2,82	7,95
1854	7,50	3,63	5,79	5,10		3,23	8,33
1855	7,57	3,88	5,95	5,41		3,43	8,83
1856	7,90	3,92	6,16	5,51		3,62	9,14
1857	9,30	3,05	6,37	5,80		3,55	9,35
1858	9,15	3,65	6,64	5,97		3,47	9,44
1859	8,78	3,67	6,75	6,32		3,50	9,82
1860	8,90	3,56	6,86	6,45		3,75	10,19
1861	8,75	3,28	7,12	6,63		3,83	10,46
1862	8,65	3,85	7,29	6,85		4,02	10,87
1863	8,67	3,51	7,54	6,90		4,03	10,93
1864	8,82	6,11	7,68	6,98		4,11	11,09
1865	8,93	3,42	7,84	7,09		4,23	11,31
1866	9,14	3,18	8,22	6,83		4,35	11,18
1867	9,46	3,38	8,21	7,23		4,47	11,70
1868	9,62	3,49	7,63	7,88		4,60	12,48
1869	9,59	3,55	7,81	7,80		4,47	12,28
1870	9,92	3,60	7,32	7,22		4,58	11,80
1871	10,25	3,65	7,41	7,79		4,72	12,51
1872	10,25	3,74	7,43	7,22		5,24	12,45
1873	10,90	3,96	8,27	7,25		5,88	13,12
1874	11,56	4,01	8,33	7,18		6,47	13,65
1875	12,54	4,22	9,13	7,46		6,57	14,03
1876	12,87	4,74	9,47	7,63		6,56	14,19
1877	13,52	4,74	9,64	8,39		6,92	15,31
1878	12,21	4,22	9,51	8,31		5,95	14,26
1879	12,87	4,35	9,74	9,29		5,73	15,01
1880	12,87	4,41	10,20	10,06		6,12	16,18
1881	13,19	4,48	10,29	10,05		6,37	16,41
1882	13,52	4,74	10,32	10,67		6,35	17,02
1883	13,52	4,46	10,04	9,26		6,45	15,71
1884	13,19	4,52	10,36	8,75		6,23	14,98
1885	13,52	4,56	10,57	9,08		6,00	15,08
1886	13,85	4,65	10,70	8,96		5,91	14,87
1887	14,18	4,74	11,06	9,14		5,76	14,89
1888	14,18	5,06	11,44	8,92		6,12	15,03
1889	14,83	5,27	11,77	9,45		6,54	15,99

	Public administration	Defence	Education	Health care, social work, and welfare services			
				Health	Religious and welfare activities	Non-profit making institutions	Total
1890	14,83	5,44	11,58	10,78		6,73	17,51
1891	15,16	5,48	11,92	9,69		7,18	16,87
1892	16,47	5,65	13,37	11,85		7,21	19,06
1893	17,12	5,80	14,22	12,00		7,29	19,29
1894	17,45	6,71	14,26	12,75		7,43	20,18
1895	18,76	8,32	15,85	13,03		7,62	20,65
1896	21,05	10,54	18,25	13,36		7,97	21,33
1897	21,58	10,79	17,40	13,91		8,28	22,19
1898	22,69	11,45	18,82	14,35		9,01	23,35
1899	22,59	12,65	17,94	10,93		9,66	20,59
1900	23,25	11,59	19,70	15,31		10,18	25,48
1901	23,90	11,06	23,42	15,41		10,25	25,66
1902	23,90	10,01	23,24	15,26		10,26	25,51
1903	23,25	8,96	22,61	14,59		10,26	24,85
1904	22,59	7,90	22,33	15,01		10,07	25,08
1905	22,92	8,43	22,63	15,11		10,33	25,43
1906	23,25	8,55	23,24	15,11		10,76	25,87
1907	24,23	8,67	24,85	15,43		11,44	26,87
1908	24,89	8,74	27,87	20,86		11,83	32,69
1909	26,20	8,96	29,20	16,63		12,12	28,75
1910	27,50	9,48	32,39	16,52		12,83	29,35
1911	28,81	10,01	32,61	18,82		13,53	32,36
1912	33,07	11,85	36,36	20,70		14,63	35,33
1913	35,36	12,80	36,72	21,01		15,70	36,71
1914	37,43	16,86	35,21	21,41		16,51	37,92
1915	51,41	27,50	35,35	25,90		20,35	46,25
1916	65,49	35,56	39,31	28,66		27,60	56,25
1917	94,96	50,74	42,63	30,90		36,67	67,57
1918	129,01	51,21	53,55	43,38		45,74	89,12
1919	151,93	40,57	69,31	58,86		57,84	116,70
1920	171,91	31,61	116,98	89,60		69,75	159,35
1921	181,40	29,51	135,72	76,06		58,43	134,49
1922	170,27	27,92	130,20	65,12		53,85	118,97
1923	152,26	24,76	124,85	65,64		52,11	117,75
1924	146,69	23,46	140,76	78,53		55,59	134,12
1925	142,11	23,34	137,17	87,15		54,24	141,39
1926	129,99	23,71	125,31	76,45		45,88	122,33
1927	122,13	22,13	121,78	80,57		42,68	123,26
1928	114,60	20,55	118,09	76,39		39,78	116,18
1929	110,67	20,30	106,63	76,50		39,26	115,76
1930	108,05	19,49	104,09	76,46	20,93	19,13	116,52
1931	100,45	17,33	101,59	76,12	20,93	17,98	115,04
1932	92,84	14,08	99,08	76,12	20,93	17,13	114,18
1933	88,27	13,00	99,08	75,17	20,93	16,84	112,95
1934	91,31	13,00	99,08	78,02	21,88	17,41	117,32
1935	101,97	13,00	104,09	81,83	23,79	18,55	124,17
1936	111,10	13,00	110,36	85,64	25,69	20,27	131,59
1937	114,14	13,00	119,14	91,35	27,59	22,55	141,49
1938	118,71	14,08	127,92	98,96	28,55	24,26	151,77
1939	129,36	43,32	134,19	104,67	29,50	26,83	161,00
1946	373,00	172,00	231,00				287,00
1947	393,00	119,00	258,00				313,00
1948	402,00	132,00	283,00				347,00
1949	416,00	169,00	307,00				373,00
1950	440,00	151,00	332,00				390,00
1951	489,00	232,00	372,00				431,00
1952	578,00	307,00	439,00				507,00
1953	613,00	359,00	483,00				568,00
1954	655,00	410,00	522,00				596,00
1955	703,00	469,00	573,00				621,00

	Public administration	Defence	Education	Health care, social work, and welfare services			
				Health	Religious and welfare activities	Non-profit making institutions	Total
1956	801,00	528,00	694,00				680,00
1957	865,00	568,00	780,00				738,00
1958	930,00	599,00	840,00				787,00
1959	1050,00	632,00	921,00				890,00
1960	1096,00	671,00	1009,00				946,00
1961	1138,00	710,00	1125,00				1099,00
1962	1314,00	779,00	1360,00				1286,00
1963	1436,00	859,00	1533,00				1436,00
1964	1580,00	947,00	1727,00				1641,00
1965	1748,00	1029,00	1984,00				1889,00
1966	1953,00	1085,00	2260,00				2119,00
1967	2255,00	1277,00	2611,00				2401,00
1968	2438,00	1376,00	2922,00				2665,00
1969	2553,00	1534,00	3206,00				2935,00
1970	3032,00	1638,00	3601,00				3483,00
1971	3637,00	1764,00	4286,00				4178,00
1972	4122,00	1941,00	4728,00				5048,00
1973	4795,00	2124,00	5333,00				5952,00
1974	5613,00	2276,00	6049,00				6980,00
1975	6691,00	2656,00	7172,00				8697,00
1976	7919,00	3127,00	8424,00				10594,00
1977	8847,00	3385,00	9491,00				12519,00
1978	9758,00	3836,00	10696,00				14180,00
1979	10395,00	3852,00	11457,00				15711,00
1980	11791,00	4128,00	12889,00				18276,00
1981	13528,00	4560,00	14489,00				21031,00
1982	15484,00	5219,00	16509,00				23926,00
1983	17123,00	5663,00	17960,00				26481,00
1984	18678,00	5970,00	19579,00				28872,00
1985	20397,00	6419,00	21510,00				31561,00
1986	22401,00	7115,00	23861,00				35362,00
1987	25179,00	7973,00	26815,00				41039,00
1988	27075,00	8590,00	28917,00				44480,00
1989	28330,00	9211,00	30845,00				46955,00
1990	29683,00	10137,00	32461,00				50679,00
1991	31501,00	10426,00	34181,00				55768,00
1992	33720,00	10586,00	36246,00				59884,00
1993	35953,00	10960,00	37174,00				62712,00
1994	37269,00	10942,00	38673,00				65607,00
1995	38672,00	11031,00	40446,00				70367,00
1996	40625,00	11567,00	43051,00				76276,00
1997	42254,00	12107,00	45348,00				83893,00
1998	45056,00	13030,00	49856,00				90102,00
1999	47733,00	13909,00	52994,00				97058,00
2000	49418,00	14677,00	56332,00				103535,00
2001	54947,00	14424,00	61574,00				113529,00
2002	55531,00	14719,00	64590,00				123581,00
2003	56920,00	14474,00	69991,00				131712,00
2004	60060,00	14270,00	72668,00				139261,00
2005	62070,00	13981,00	76456,00				149122,00
2006	67461,00	14726,00	79795,00				160497,00

| | Personal services, and other private and public services | | | | | | Correction post | GDP in base value | GDP in market value |
	Domestic services	Hotel- and restaurant services	Laundry, cleaning and other personal services	Recreation services	Other services	Total	Taxes, subsidies, and other corrections	Gross Value Added summarized	
1830		8,91		2,31		11,21	5,25	188,41	193,65
1831		8,94		2,43		11,37	4,71	197,24	201,95
1832		10,05		2,30		12,35	4,89	187,59	192,48
1833		9,75		2,31		12,07	5,95	191,01	196,96
1834		8,51		2,29		10,80	5,90	181,46	187,36
1835		8,17		2,38		10,55	4,64	187,39	192,03
1836		8,30		2,41		10,71	6,79	196,22	203,02
1837		9,68		2,42		12,10	7,63	201,13	208,76
1838		9,06		2,50		11,56	7,20	212,55	219,75
1839		9,41		2,56		11,97	7,32	215,59	222,91
1840		10,46		2,73		13,19	8,29	222,15	230,45
1841		10,35		2,48		12,83	7,40	197,20	204,60
1842		9,79		2,46		12,25	7,93	190,99	198,91
1843		9,91		2,49		12,40	8,23	202,36	210,59
1844		9,68		2,67		12,35	7,50	212,95	220,45
1845		9,90		2,85		12,74	8,42	228,09	236,51
1846		10,20		3,03		13,22	8,40	242,94	251,33
1847		11,18		3,45		14,63	7,54	278,12	285,66
1848		10,49		3,09		13,58	7,63	236,75	244,38
1849		10,48		3,01		13,49	8,15	232,60	240,75
1850		10,46		3,07		13,54	8,79	240,63	249,42
1851		10,69		3,23		13,93	8,95	258,11	267,07
1852		11,51		3,38		14,89	8,30	272,29	280,58
1853		13,02		3,66		16,68	8,32	299,54	307,86
1854		14,39		4,19		18,58	9,27	358,83	368,10
1855		14,93		4,44		19,37	9,15	388,57	397,72
1856		15,91		4,70		20,61	10,45	405,67	416,12
1857		16,65		4,61		21,25	10,62	374,34	384,96
1858		15,61		4,51		20,12	8,46	361,72	370,18
1859		15,81		4,54		20,35	10,63	356,48	367,10
1860		16,47		4,86		21,33	11,42	398,15	409,57
1861		17,14		4,97		22,11	11,37	415,18	426,55
1862		17,54		5,21		22,75	12,12	435,36	447,48
1863		18,05		5,23		23,28	12,62	423,44	436,06
1864		17,69		5,33		23,02	12,65	437,40	450,05
1865		17,82		5,49		23,30	12,63	456,84	469,47
1866		19,02		5,65		24,66	12,88	466,32	479,20
1867		19,25		5,80		25,05	12,02	486,92	498,94
1868		18,78		5,96		24,74	13,08	501,13	514,21
1869		18,60		5,80		24,40	12,11	512,15	524,26
1870		19,23		5,94		25,17	12,22	527,42	539,63
1871		20,29		6,13		26,42	12,19	559,25	571,44
1872		21,47		6,79		28,27	13,22	613,95	627,17
1873		22,89		7,62		30,51	14,55	671,49	686,04
1874		24,87		8,39		33,26	16,71	698,00	714,71
1875		26,13		8,52		34,65	17,45	695,02	712,47
1876		25,72		8,51		34,23	17,60	706,43	724,03
1877		26,08		8,97		35,05	18,53	708,78	727,32
1878		24,01		7,72		31,73	12,30	641,21	653,51
1879		21,58		7,43		29,01	19,06	625,20	644,26
1880		22,58		7,93		30,52	15,86	681,05	696,91
1881		22,95		8,26		31,21	18,00	670,92	688,92
1882		23,58		8,24		31,82	20,52	695,40	715,92
1883		23,98		8,36		32,34	18,64	699,87	718,51
1884		23,84		8,08		31,92	20,14	666,20	686,34
1885		23,06		7,79		30,85	20,12	632,64	652,76
1886		22,68		7,67		30,35	19,50	623,69	643,19
1887		22,46		7,47		29,93	20,55	617,26	637,81
1888		23,09		7,94		31,02	20,46	659,02	679,48

	Personal services, and other private and public services						Correction post	GDP in base value	GDP in market value
	Domestic services	Hotel- and restaurant services	Laundry, cleaning and other personal services	Recreation services	Other services	**Total**	Taxes, subsidies, and other corrections	Gross Value Added summarized	
1889		24,20		8,48		32,68	23,35	**717,11**	**740,46**
1890		25,14		8,73		33,87	22,79	**729,56**	**752,35**
1891		26,14		9,31		35,45	22,02	**748,59**	**770,61**
1892		27,16		9,36		36,52	21,17	**735,69**	**756,86**
1893		26,70		9,46		36,17	21,02	**730,16**	**751,18**
1894		27,97		9,63		37,60	21,80	**732,07**	**753,87**
1895		28,42		9,89		38,31	23,31	**761,36**	**784,67**
1896		29,85		10,34		40,20	26,65	**803,64**	**830,29**
1897		30,61		10,74		41,36	31,59	**855,47**	**887,06**
1898		32,32		11,69		44,00	37,42	**911,61**	**949,03**
1899		34,78		12,54		47,32	27,66	**965,88**	**993,54**
1900		37,39		13,20		50,59	35,07	**1034,42**	**1069,49**
1901		37,06		13,30		50,36	36,11	**1015,63**	**1051,74**
1902		37,27		13,31		50,57	34,07	**1003,30**	**1037,37**
1903		38,86		13,32		52,18	34,50	**1018,23**	**1052,73**
1904		39,50		13,07		52,57	33,30	**1013,68**	**1046,97**
1905		40,43		13,40		53,83	36,10	**1048,74**	**1084,85**
1906		41,95		13,96		55,91	39,88	**1125,91**	**1165,78**
1907		44,23		14,84		59,07	43,66	**1215,28**	**1258,93**
1908		46,99		15,35		62,34	53,41	**1257,47**	**1310,88**
1909		49,36		15,73		65,09	48,91	**1266,69**	**1315,60**
1910		51,64		16,64		68,28	50,97	**1373,84**	**1424,81**
1911		53,73		17,56		71,29	53,63	**1484,39**	**1538,02**
1912		55,31		18,98		74,28	50,78	**1649,59**	**1700,37**
1913		59,19		20,37		79,56	52,41	**1805,63**	**1858,04**
1914		60,53		21,42		81,95	53,24	**1874,84**	**1928,08**
1915		72,33		26,41		98,73	56,00	**2523,93**	**2579,93**
1916		93,66		35,80		129,46	65,00	**3744,03**	**3809,03**
1917		108,69		47,57		156,27	60,00	**4407,16**	**4467,16**
1918		149,09		59,35		208,43	96,00	**5026,19**	**5122,19**
1919		183,42		75,04		258,47	126,00	**5848,92**	**5974,92**
1920		221,50		90,50		311,99	101,00	**6834,72**	**6935,72**
1921		169,19		75,81		245,00	88,50	**4946,09**	**5034,59**
1922		152,72		69,87		222,59	104,00	**4767,04**	**4871,04**
1923		173,18		67,60		240,78	115,00	**4738,23**	**4853,23**
1924		167,31		72,13		239,44	145,00	**5135,59**	**5280,59**
1925		171,03		70,37		241,40	144,00	**5055,43**	**5199,43**
1926		159,11		59,53		218,64	141,00	**4344,95**	**4485,95**
1927		151,12		55,38		206,50	149,00	**4090,86**	**4239,86**
1928		146,40		51,62		198,02	149,00	**4100,98**	**4249,98**
1929		142,45		50,94		193,39	151,00	**4204,63**	**4355,63**
1930	81,03	43,44	20,05	51,97		196,48	153,00	**4180,32**	**4333,32**
1931	75,18	38,42	20,05	34,25	12,53	180,43	150,00	**3694,70**	**3844,70**
1932	71,84	35,92	19,21	34,25	14,20	175,42	151,00	**3715,28**	**3866,28**
1933	69,33	35,92	19,21	34,25	15,87	174,58	153,00	**3693,38**	**3846,38**
1934	69,33	37,59	19,21	36,75	16,71	179,59	154,00	**3879,39**	**4033,39**
1935	71,84	40,10	20,05	37,59	19,21	188,78	167,00	**4218,91**	**4385,91**
1936	75,18	45,11	21,72	40,93	20,05	202,98	196,00	**4662,28**	**4858,28**
1937	81,03	50,95	24,22	50,12	23,39	229,71	224,00	**5387,25**	**5611,25**
1938	86,04	55,13	25,89	54,30	26,73	248,09	238,00	**5591,93**	**5829,93**
1939	89,38	56,80	27,57	58,47	27,57	259,78	236,00	**5995,73**	**6231,73**
1946	147,00	147,00		200,00		494,00	650,00	**9924,00**	**10574,00**
1947	154,00	166,00		208,00		528,00	765,00	**11644,00**	**12409,00**
1948	159,00	179,00		227,00		565,00	838,00	**12758,00**	**13596,00**
1949	161,00	193,00		244,00		598,00	999,00	**13643,00**	**14642,00**
1950	156,00	198,00		266,00		620,00	1212,00	**15000,00**	**16212,00**
1951	164,00	204,00		289,00		657,00	1751,00	**18446,00**	**20197,00**
1952	163,00	228,00		321,00		712,00	2051,00	**20312,00**	**22363,00**
1953	158,00	240,00		346,00		744,00	2028,00	**20720,00**	**22748,00**

		Personal services, and other private and public services					Correction post	GDP in base value	GDP in market value
	Domestic services	Hotel- and restaurant services	Laundry, cleaning and other personal services	Recreation services	Other services	Total	Taxes, subsidies, and other corrections	Gross Value Added summarized	
1954	157,00	257,00		379,00		793,00	2170,00	**22582,00**	**24752,00**
1955	153,00	263,00		392,00		808,00	2309,00	**24119,00**	**26428,00**
1956	149,00	273,00		423,00		845,00	2732,00	**27222,00**	**29954,00**
1957	142,00	285,00		477,00		904,00	2861,00	**29170,00**	**32031,00**
1958	142,00	300,00		516,00		958,00	3099,00	**28982,00**	**32081,00**
1959	135,00	344,00		576,00		1055,00	3357,00	**30706,00**	**34063,00**
1960	133,00	363,00		617,00		1113,00	3483,00	**32964,00**	**36447,00**
1961	129,00	380,00		676,00		1185,00	3893,00	**35923,00**	**39816,00**
1962	129,00	428,00		736,00		1293,00	4255,00	**38830,00**	**43085,00**
1963	130,00	467,00		802,00		1399,00	4365,00	**41985,00**	**46350,00**
1964	131,00	498,00		858,00		1487,00	5151,00	**45887,00**	**51038,00**
1965	132,00	573,00		958,00		1663,00	5479,00	**50925,00**	**56404,00**
1966	134,00	635,00		1060,00		1829,00	6174,00	**54869,00**	**61043,00**
1967	133,00	699,00		1195,00		2027,00	6674,00	**60210,00**	**66884,00**
1968	130,00	758,00		1321,00		2209,00	6885,00	**64602,00**	**71487,00**
1969	127,00	868,00		1481,00		2476,00	8895,00	**69153,00**	**78048,00**
1970	119,00	1022,00		1635,00		2776,00	11648,00	**79281,00**	**90929,00**
1971	147,00	1114,00		1890,00		3151,00	14105,00	**88041,00**	**102146,00**
1972	176,00	1271,00		2147,00		3594,00	15399,00	**98049,00**	**113448,00**
1973	204,00	1396,00		2480,00		4080,00	17183,00	**111636,00**	**128819,00**
1974	230,00	1580,00		2825,00		4635,00	18229,00	**130655,00**	**148884,00**
1975	276,00	1914,00		3416,00		5606,00	20554,00	**149665,00**	**170219,00**
1976	321,00	2166,00		3994,00		6481,00	23454,00	**170665,00**	**194119,00**
1977	368,00	2531,00		4561,00		7460,00	26789,00	**191846,00**	**218635,00**
1978	397,00	2720,00		5050,00		8167,00	27854,00	**213372,00**	**241226,00**
1979	404,00	2917,00		5401,00		8722,00	30306,00	**235801,00**	**266107,00**
1980	412,00	3345,00		6105,00		9862,00	33711,00	**280987,00**	**314698,00**
1981	416,00	3910,00		7241,00		11567,00	40631,00	**320196,00**	**360827,00**
1982	450,00	4479,00		8230,00		13159,00	44187,00	**354997,00**	**399184,00**
1983	530,00	5131,00		9401,00		15062,00	50248,00	**393227,00**	**443475,00**
1984	552,00	5786,00		10347,00		16685,00	55453,00	**443203,00**	**498656,00**
1985	688,00	6513,00		11631,00		18832,00	67474,00	**484958,00**	**552432,00**
1986	743,00	7811,00		12845,00		21399,00	80708,00	**490184,00**	**570892,00**
1987	765,00	8704,00		14513,00		23982,00	84177,00	**538690,00**	**622867,00**
1988	805,00	9254,00		16004,00		26063,00	82579,00	**569493,00**	**652072,00**
1989	800,00	9126,00		17100,00		27026,00	80876,00	**614894,00**	**695770,00**
1990	780,00	9404,00		18320,00		28504,00	83440,00	**652854,00**	**736294,00**
1991	760,00	10463,00		20149,00		31372,00	89114,00	**686613,00**	**775727,00**
1992	750,00	11123,00		21805,00		33678,00	94687,00	**702627,00**	**797314,00**
1993	815,00	11444,00		22620,00		34879,00	103840,00	**734458,00**	**838298,00**
1994	865,00	12325,00		24396,00		37586,00	114803,00	**764004,00**	**878807,00**
1995	899,00	13215,00		25855,00		39969,00	127921,00	**815516,00**	**943437,00**
1996	912,00	14452,00		28533,00		43897,00	139643,00	**893346,00**	**1032989,00**
1997	945,00	15763,00		30481,00		47189,00	151219,00	**967956,00**	**1119175,00**
1998	960,00	17178,00		33614,00		51752,00	157928,00	**982432,00**	**1140360,00**
1999	1104,00	18374,00		36168,00		55646,00	167394,00	**1073032,00**	**1240426,00**
2000	1310,00	18832,00		39364,00		59506,00	178473,00	**1302768,00**	**1481241,00**
2001	1350,00	19237,00		41121,00		61708,00	182705,00	**1354182,00**	**1536887,00**
2002	1381,00	20724,00		44951,00		67056,00	183662,00	**1348645,00**	**1532307,00**
2003	1395,00	19865,00		47783,00		69043,00	184505,00	**1409321,00**	**1593826,00**
2004	1451,00	21119,00		49711,00		72281,00	200208,00	**1542833,00**	**1743041,00**
2005	1524,00	22262,00		52928,00		76714,00	213768,00	**1731948,00**	**1945716,00**
2006	1593,00	28522,00		54875,00		84990,00	238278,00	**1921295,00**	**2159573,00**

Table A.6 - Norwegian GDP by industry in fixed 1938 million NOK. Disaggregated level.

	Agriculture, forestry, and hunting etc.				Fisheries, etc	Whaling, etc	Mining and quarrying	Oil and gas extraction	Manufacturing
	Agriculture	Hunting	Forestry	Total					
1830	172,57	64,94		237,51	21,46	0,39	3,11	0,00	27,12
1831	153,81	57,25		211,05	23,58	0,42	3,13	0,00	27,65
1832	157,21	60,45		217,67	25,97	0,40	3,13	0,00	26,26
1833	177,00	69,38		246,38	30,50	0,45	3,43	0,00	28,87
1834	191,68	69,47		261,15	27,79	0,47	3,51	0,00	27,14
1835	184,70	75,01		259,71	26,25	0,46	3,79	0,00	29,33
1836	179,39	63,70		243,09	25,63	0,44	4,05	0,00	32,05
1837	172,99	62,70		235,69	32,80	0,58	3,93	0,00	32,31
1838	189,70	66,01		255,71	23,95	0,40	4,17	0,00	34,82
1839	176,06	74,43		250,49	26,74	0,38	4,28	0,00	34,69
1840	196,14	73,01		269,15	33,71	0,46	3,53	0,00	32,70
1841	206,48	74,53		281,01	29,01	0,46	3,88	0,00	33,96
1842	205,20	73,47		278,67	30,73	0,48	4,18	0,00	36,81
1843	205,60	67,49		273,09	25,30	0,42	3,97	0,00	39,59
1844	195,61	58,38		253,98	38,11	0,53	4,87	0,00	43,10
1845	225,84	62,80		288,64	32,00	0,47	5,89	0,00	44,36
1846	228,05	62,58		290,64	39,18	0,57	5,31	0,00	44,79
1847	222,82	63,33		286,15	36,81	0,58	5,34	0,00	50,42
1848	215,72	51,15		266,87	31,74	0,48	4,05	0,00	41,29
1849	210,74	56,11		266,85	37,59	0,51	3,99	0,00	41,41
1850	225,10	65,64		290,75	30,96	0,48	4,04	0,00	45,37
1851	231,15	70,46		301,60	38,25	0,55	3,88	0,00	49,31
1852	242,19	74,01		316,20	31,24	0,46	3,94	0,00	53,38
1853	248,57	76,84		325,40	33,07	0,49	4,41	0,00	57,24
1854	267,70	75,39		343,09	29,89	0,42	4,24	0,00	64,79
1855	276,73	81,55		358,28	39,58	0,45	4,30	0,00	67,57
1856	254,99	82,32		337,31	41,86	0,43	5,04	0,00	71,71
1857	238,89	83,99		322,88	36,82	0,38	3,05	0,00	64,11
1858	282,36	78,64		361,00	30,99	0,39	3,36	0,00	66,78
1859	266,60	82,59		349,19	37,66	0,44	3,36	0,00	65,16
1860	276,04	85,00		361,04	45,85	0,49	3,89	0,00	68,44
1861	258,89	90,06		348,95	41,64	0,43	3,97	0,00	76,18
1862	299,87	89,31		389,18	47,42	0,56	4,16	0,00	81,57
1863	268,96	100,08		369,04	45,08	0,55	3,93	0,00	74,97
1864	281,11	99,01		380,12	48,09	0,92	3,79	0,00	72,21
1865	303,38	106,92		410,30	52,35	0,82	4,15	0,00	81,79
1866	273,84	97,21		371,05	62,73	0,83	3,99	0,00	79,41
1867	287,48	91,97		379,45	65,61	1,09	4,46	0,00	87,33
1868	277,82	107,56		385,38	64,77	1,10	4,60	0,00	90,46
1869	287,61	126,90		414,51	45,52	0,91	4,89	0,00	97,82
1870	307,33	130,36		437,69	50,91	1,03	4,97	0,00	102,63
1871	324,94	136,61		461,55	58,62	1,03	5,65	0,00	110,88
1872	339,50	170,39		509,89	54,97	1,09	6,65	0,00	101,58
1873	358,83	186,04		544,87	56,00	1,15	6,21	0,00	108,69
1874	316,63	160,37		477,00	56,57	1,05	5,80	0,00	119,73
1875	326,17	156,31		482,48	60,31	0,98	7,01	0,00	121,40
1876	332,49	188,73		521,23	54,77	0,98	6,25	0,00	129,36
1877	308,14	171,51		479,65	67,06	1,03	6,01	0,00	136,92
1878	312,50	145,78		458,28	57,61	1,18	5,18	0,00	135,07
1879	347,91	155,17		503,09	63,24	1,46	4,93	0,00	135,67
1880	357,18	210,86		568,04	63,84	0,86	5,24	0,00	130,37
1881	332,09	205,42		537,51	52,87	1,28	6,16	0,00	139,27
1882	335,71	210,46		546,17	50,31	1,25	7,25	0,00	144,99
1883	344,49	216,40		560,89	50,01	1,32	5,49	0,00	142,16
1884	334,72	191,07		525,79	58,85	1,70	5,66	0,00	134,79
1885	324,92	192,10		517,02	53,09	1,62	4,96	0,00	132,48
1886	335,22	190,03		525,25	64,82	1,54	3,77	0,00	128,26
1887	335,92	199,70		535,61	52,48	1,95	3,33	0,00	133,87

	Agriculture, forestry, and hunting etc.				Fisheries, etc	Whaling, etc	Mining and quarrying	Oil and gas extraction	Manufacturing
	Agriculture	Hunting	Forestry	Total					
1888	333,71		221,68	555,39	69,02	2,35	4,83	0,00	147,05
1889	329,63		215,93	545,56	69,41	2,19	4,29	0,00	166,63
1890	348,20		181,84	530,03	64,54	2,19	4,66	0,00	176,82
1891	373,26		179,63	552,90	61,76	2,43	3,96	0,00	185,86
1892	340,75		172,26	513,00	71,15	2,67	3,51	0,00	193,55
1893	338,81		179,94	518,75	72,68	2,53	3,44	0,00	199,79
1894	334,31		194,98	529,29	68,34	2,51	4,23	0,00	218,22
1895	380,85		201,02	581,87	61,38	2,22	3,88	0,00	228,34
1896	363,47		236,28	599,74	54,50	2,03	5,13	0,00	239,39
1897	352,95		267,34	620,28	66,77	2,24	5,90	0,00	264,71
1898	356,18		248,25	604,43	56,01	2,38	6,52	0,00	293,15
1899	342,22		216,32	558,54	55,25	1,80	7,94	0,00	314,60
1900	368,19		245,59	613,78	54,78	1,21	9,55	0,00	310,11
1901	376,29		229,68	605,97	56,74	1,63	9,38	0,00	315,85
1902	364,22		248,21	612,43	59,28	1,78	10,39	0,00	316,58
1903	388,40		275,08	663,48	50,67	1,43	11,53	0,00	318,33
1904	391,42		244,46	635,89	47,83	1,56	12,04	0,00	315,69
1905	393,69		256,94	650,63	48,33	1,40	14,04	0,00	331,48
1906	409,53		288,79	698,32	53,28	1,67	17,24	0,00	367,29
1907	410,65		263,35	673,99	63,27	2,93	17,84	0,00	385,60
1908	429,47		207,00	636,47	68,64	4,72	16,50	0,00	413,58
1909	414,42		223,68	638,11	82,42	8,36	14,82	0,00	422,33
1910	403,97		243,88	647,84	82,97	10,44	17,69	0,00	480,86
1911	411,80		228,96	640,75	94,20	13,72	19,98	0,00	507,39
1912	395,18		211,66	606,84	107,60	19,50	25,28	0,00	588,22
1913	450,99		216,76	667,74	115,71	20,22	31,74	0,00	687,43
1914	442,36		192,18	634,54	117,98	16,73	33,86	0,00	702,27
1915	421,06		212,28	633,34	116,69	11,73	53,38	0,00	730,86
1916	414,32		215,92	630,25	155,01	7,58	42,53	0,00	819,35
1917	357,74		129,69	487,43	95,29	3,06	35,17	0,00	821,51
1918	337,81		139,06	476,87	118,72	3,32	22,54	0,00	722,92
1919	320,61		121,77	442,38	126,30	6,97	19,10	0,00	793,98
1920	341,66		189,07	530,73	79,75	4,14	10,75	0,00	837,79
1921	351,47		108,48	459,95	64,87	9,27	8,60	0,00	609,74
1922	323,56		172,41	495,97	108,86	15,51	14,46	0,00	759,42
1923	429,65		161,90	591,54	102,97	15,30	20,19	0,00	811,39
1924	383,61		157,93	541,53	146,54	19,28	22,16	0,00	855,77
1925	336,77		183,28	520,05	117,09	21,26	21,52	0,00	916,80
1926	362,12		191,89	554,01	84,01	16,89	18,68	0,00	845,31
1927	408,21		195,65	603,86	113,75	28,15	17,78	0,00	864,75
1928	403,96		199,65	603,61	108,45	48,07	24,06	0,00	953,16
1929	439,72		212,36	652,08	123,25	59,89	31,66	0,00	1028,99
1930	409,76		217,72	627,49	117,96	70,98	32,11	0,00	1059,95
1931	369,57	4,50	169,67	543,75	91,99	57,39	19,31	0,00	881,59
1932	434,33	6,68	161,92	602,92	114,35	7,55	23,72	0,00	965,27
1933	474,52	5,61	177,50	657,63	130,14	48,33	26,83	0,00	976,44
1934	477,87	5,57	193,17	676,61	103,41	37,75	28,29	0,00	1015,56
1935	489,04	6,97	191,77	687,78	101,27	40,77	35,04	0,00	1114,06
1936	475,64	4,95	181,51	662,10	116,00	46,06	43,91	0,00	1217,75
1937	510,25	5,40	194,46	710,11	116,26	40,77	47,60	0,00	1290,01
1938	495,74	4,47	224,42	724,62	120,45	43,04	54,50	0,00	1264,55
1939	500,20	5,43	164,28	669,91	128,14	36,24	53,21	0,00	1366,03
1946	410,25		180,46	590,72	89,98	18,12	40,38	0,00	1338,87
1947	454,51		197,10	651,62	122,04	30,26	46,37	0,00	1560,38
1948	430,15		200,77	630,92	184,89	31,60	61,58	0,00	1630,07
1949	444,23		232,61	676,84	172,31	33,99	77,20	0,00	1830,68
1950	446,30		199,35	645,64	197,88	46,19	78,50	0,00	2016,08
1951	442,40		199,14	641,55	243,18	44,05	83,56	0,00	2133,97
1952	457,77		281,36	739,13	236,35	44,52	92,00	0,00	2096,29
1953	486,33		235,60	721,93	197,05	32,66	98,76	0,00	2210,55

	Agriculture, forestry, and hunting etc.				Fisheries, etc	Whaling, etc	Mining and quarrying	Oil and gas extraction	Manufacturing
	Agriculture	Hunting	Forestry	Total					
1954	474,69	217,38	692,07		238,06	39,66	98,33	0,00	2333,54
1955	424,20	233,18	657,39		231,90	30,85	105,85	0,00	2426,81
1956	498,25	262,01	760,25		261,80	33,03	116,35	0,00	2642,33
1957	491,31	256,26	747,57		213,38	39,63	107,45	0,00	2704,45
1958	476,39	240,14	716,52		186,41	31,25	106,56	0,00	2632,04
1959	488,01	219,00	707,01		205,40	30,36	108,76	0,00	2740,62
1960	477,62	218,88	696,50		197,69	22,28	116,19	0,00	3001,01
1961	502,46	263,28	765,73		239,60	24,37	103,63	0,00	3302,58
1962	461,91	273,04	734,95		220,04	21,76	115,56	0,00	3382,85
1963	470,43	255,33	725,77		224,72	10,89	125,14	0,00	3602,65
1964	460,94	277,66	738,60		263,17	13,05	125,37	0,00	3952,50
1965	483,39	283,88	767,27		350,47	10,60	139,88	0,00	4208,62
1966	475,33	234,68	710,01		399,81	6,98	142,02	0,00	4369,54
1967	480,22	241,66	721,89		427,30	5,61	172,91	0,00	4404,11
1968	510,39	224,66	735,04		356,20	4,44	184,52	0,00	4645,45
1969	466,43	232,39	698,83		307,81	0,00	207,21	0,00	4980,43
1970	455,42	242,11	697,53		303,23	0,00	192,79	0,00	4967,24

	Electricity, gas, water and sanitary services				Construction	Trade and repair of motor vehicles		
	Electricity supply	Gas supply	Water supply and sewerage	Total		Wholesale and retail trade	Repair of motor vehicles	Total
1830				2,44	11,53			29,96
1831				2,52	11,97			27,19
1832				2,29	10,51			31,13
1833				2,88	13,86			35,16
1834				2,31	11,16			39,65
1835				2,73	13,27			37,61
1836				3,39	16,58			37,38
1837				3,26	16,00			35,27
1838				3,77	18,64			32,42
1839				3,97	19,75			35,65
1840				3,21	16,03			38,89
1841				2,81	14,14			42,49
1842				3,18	16,04			40,81
1843				3,05	15,43			41,49
1844				3,71	18,78			44,18
1845				3,95	20,30			45,40
1846				3,78	19,67			44,44
1847				4,32	22,21			39,35
1848				3,55	16,16			44,27
1849				3,66	16,75			47,08
1850				4,09	19,17			53,16
1851				4,48	23,64			52,21
1852				4,97	26,23			51,88
1853				5,56	29,37			66,26
1854				6,98	36,88			71,56
1855				7,37	38,92			68,36
1856				7,77	40,50			65,28
1857				6,51	30,82			61,71
1858				6,79	31,78			71,93
1859				6,12	27,29			65,72
1860				7,39	37,36			64,93
1861				8,35	41,97			61,26
1862				9,25	46,76			67,89
1863				9,17	46,44			69,92
1864				8,64	44,37			68,57
1865				9,31	48,12			82,17
1866				9,11	47,04			72,59
1867				9,77	50,18			74,90

	Electricity, gas, water and sanitary services				Construction	Trade and repair of motor vehicles		
	Electricity supply	Gas supply	Water supply and sewerage	Total		Wholesale and retail trade	Repair of motor vehicles	Total
1868				10,02	51,75			65,91
1869				10,89	56,87			77,28
1870				11,56	61,07			87,52
1871				12,43	65,69			95,18
1872				11,23	59,33			106,69
1873				11,93	63,00			110,55
1874				12,75	67,37			110,79
1875				12,59	66,49			113,02
1876				13,05	68,92			120,98
1877				13,42	70,91			114,79
1878				12,98	68,58			116,13
1879				13,22	69,43			127,96
1880				12,92	67,51			126,92
1881				13,35	69,34			116,82
1882				13,75	71,63			129,06
1883				13,19	67,77			143,83
1884				12,56	64,36			140,85
1885				12,46	63,64			149,14
1886				11,97	61,32			160,96
1887				12,18	62,55			184,00
1888				11,83	60,93			192,19
1889				13,38	69,13			197,38
1890				14,77	76,30			191,93
1891				14,90	77,39			179,93
1892				14,67	76,62			175,30
1893				14,91	78,32			190,07
1894				16,08	84,93			216,32
1895				17,25	88,73			238,92
1896				17,65	89,00			236,14
1897				19,54	96,56			261,04
1898				23,26	112,68			271,90
1899				26,58	126,19			267,09
1900				24,59	110,81			245,85
1901				23,42	103,21			257,67
1902				23,60	99,95			262,80
1903				22,66	93,72			258,98
1904				23,79	103,03			264,97
1905				22,85	96,25			275,88
1906				25,68	111,70			296,38
1907				28,99	121,80			294,28
1908				29,41	119,34			304,39
1909				27,53	106,36			319,79
1910				33,13	118,82			337,14
1911				39,36	137,10			346,59
1912				40,88	138,25			348,80
1913				45,37	148,95			377,20
1914				48,87	155,68			377,92
1915				49,38	153,21			387,26
1916				65,04	196,46			514,76
1917				63,93	188,68			487,91
1918				56,97	164,28			461,37
1919				113,97	321,01			554,33
1920				103,82	285,58			586,97
1921				70,56	176,80			594,07
1922				87,48	229,36			638,67
1923				98,73	252,64			716,19
1924				82,82	206,77			626,74
1925				75,51	183,90			574,16
1926				77,58	168,29			652,76
1927				83,10	163,02			667,19

	Electricity, gas, water and sanitary services				Construction	Trade and repair of motor vehicles		
	Electricity supply	Gas supply	Water supply and sewerage	**Total**		Wholesale and retail trade	Repair of motor vehicles	**Total**
1928				89,19	189,10			677,73
1929				96,27	211,81			695,87
1930				104,23	223,42			716,23
1931	92,21	5,98	3,42	101,60	206,16			684,34
1932	92,29	5,93	3,39	101,60	233,96			686,27
1933	93,08	5,98	3,42	102,48	233,00			695,93
1934	95,61	5,17	3,45	104,23	244,51			719,13
1935	98,90	6,18	2,65	107,73	279,03			763,59
1936	101,52	6,18	3,53	111,24	311,63			813,86
1937	110,22	6,22	3,56	119,99	297,25			868,95
1938	116,49	6,13	4,38	127,00	303,96			876,68
1939	120,07	5,22	6,09	131,38	330,81			943,38
1946	230,58		11,21	241,78	417,11	921,19	29,59	950,78
1947	229,30		11,26	240,56	487,12	1108,82	34,57	1143,39
1948	194,01		9,63	203,65	448,24	1064,86	36,22	1101,09
1949	228,50		11,39	239,89	488,87	1080,84	32,34	1113,17
1950	252,52		13,39	265,92	499,67	1089,91	33,96	1123,87
1951	256,17		14,81	270,97	453,04	1109,62	28,90	1138,51
1952	262,07		15,50	277,57	479,00	1211,16	26,33	1237,49
1953	282,24		16,18	298,42	514,84	1304,66	27,15	1331,81
1954	317,55		16,86	334,41	549,96	1414,95	31,84	1446,79
1955	336,35		18,18	354,53	543,58	1383,91	36,99	1420,90
1956	346,28		18,22	364,50	489,10	1437,68	36,59	1474,26
1957	401,96		18,98	420,94	530,56	1496,66	41,03	1537,69
1958	445,28		19,04	464,33	514,42	1379,72	41,54	1421,26
1959	450,36		19,15	469,50	509,29	1442,86	43,61	1486,47
1960	498,56		19,81	518,37	511,62	1584,52	48,02	1632,54
1961	604,20		27,86	632,06	785,68	1894,41	61,52	1955,92
1962	651,82		28,54	680,36	831,75	1947,32	67,14	2014,46
1963	700,62		27,65	728,27	893,01	2057,64	74,37	2132,01
1964	727,70		29,25	756,95	903,33	2083,75	75,10	2158,85
1965	802,32		29,61	831,93	893,33	2131,09	75,68	2206,77
1966	799,14		40,84	839,98	965,18	2182,65	88,28	2270,93
1967	871,73		42,16	913,89	985,03	2257,20	86,58	2343,78
1968	996,40		41,76	1038,16	936,91	2325,16	99,86	2425,02
1969	972,30		51,84	1024,14	891,40	2540,48	105,33	2645,81
1970	1043,44		55,42	1098,85	988,60	2334,66	112,50	2447,16

	Transport and Communications							
	Railway transport	Tramway and other railway transport	Motorvehicle transport	Air transport	Services related to transport and storage	Communication (Post, telephone, telegraph)	Pipeline transport	**Total**
1830								5,86
1831								5,61
1832								5,55
1833								6,18
1834								6,48
1835								6,25
1836								6,34
1837								6,29
1838								6,35
1839								6,57
1840								7,23
1841								7,19
1842								6,92
1843								7,24
1844								7,93
1845								7,85
1846								7,50
1847								7,27
1848								7,93
1849								8,52
1850								8,93
1851								9,13
1852								9,23
1853								9,92
1854								11,10
1855								11,00
1856								10,91
1857								11,78
1858								12,79
1859								12,89
1860								13,13
1861								13,29
1862								14,08
1863								14,11
1864								15,27
1865								16,30
1866								15,14
1867								15,16
1868								14,62
1869								16,96
1870								18,50
1871								18,75
1872								21,16
1873								24,49
1874								25,08
1875								33,78
1876								33,60
1877								31,22
1878								25,94
1879								23,88
1880								28,99
1881								30,19
1882								32,60
1883								32,40
1884								31,80
1885								31,32
1886								30,52
1887								30,15
1888								32,95

	Transport and Communications							
	Railway transport	Tramway and other railway transport	Motorvehicle transport	Air transport	Services related to transport and storage	Communication (Post, telephone, telegraph)	Pipeline transport	**Total**
1889								37,37
1890								38,73
1891								40,41
1892								42,89
1893								48,62
1894								49,88
1895								51,22
1896								53,71
1897								54,33
1898								61,34
1899								65,92
1900								67,65
1901								68,57
1902								71,07
1903								71,91
1904								69,57
1905								73,12
1906								78,01
1907								80,54
1908								84,74
1909								85,70
1910								93,59
1911								97,66
1912								96,17
1913								108,75
1914								107,57
1915								100,07
1916								99,76
1917								84,39
1918								89,64
1919								119,88
1920								123,98
1921								152,78
1922								145,49
1923								154,59
1924								147,06
1925								142,39
1926								158,78
1927								162,26
1928								159,78
1929								165,52
1930								183,25
1931	53,84	13,87	57,92	0,00	0,82	49,76	0,00	176,20
1932	51,65	13,12	60,67	0,00	0,82	48,37	0,00	174,64
1933	52,20	13,05	61,99	0,00	0,82	48,94	0,00	176,99
1934	54,25	13,15	64,11	0,00	0,82	50,14	0,00	182,47
1935	55,33	13,83	65,09	0,81	0,81	52,07	0,00	187,95
1936	59,35	14,84	70,89	0,82	0,82	56,88	0,00	203,61
1937	63,17	14,77	82,86	0,82	0,82	61,53	0,00	223,98
1938	64,22	15,66	85,36	0,78	0,78	61,87	0,00	228,67
1939	69,15	16,90	92,97	0,77	0,77	63,00	0,00	243,55
1946		135,03	145,88	1,21	1,21	98,86	0,00	382,18
1947		156,04	168,19	1,06	1,41	114,32	0,00	441,03
1948		156,78	168,62	1,03	1,34	114,67	0,00	442,44
1949		167,73	174,03	1,09	1,38	122,27	0,00	466,50
1950		168,44	184,46	1,15	1,46	121,91	0,00	477,42
1951		171,65	185,82	0,88	1,68	120,91	0,00	480,93
1952		182,05	208,65	0,84	1,73	124,34	0,00	517,61
1953		175,21	216,90	1,21	1,72	136,15	0,00	531,18

	Transport and Communications						
	Railway transport	Tramway and other railway transport	Motorvehicle transport	Air transport	Services related to transport and storage	Communication (Post, telephone, telegraph)	Pipeline transport	**Total**
1954	181,41	231,58	1,15	1,98	142,94	0,00	559,06
1955	182,21	246,44	1,56	1,94	157,85	0,00	590,01
1956	182,31	245,86	2,11	2,20	156,14	0,00	588,61
1957	178,79	250,82	2,27	2,41	155,91	0,00	590,21
1958	168,83	262,57	2,69	2,24	161,26	0,00	597,59
1959	172,12	274,17	2,88	2,58	178,58	0,00	630,33
1960	189,93	277,17	3,60	2,86	179,11	0,00	652,68
1961	230,02	363,45	2,33	4,37	285,58	0,00	885,75
1962	232,88	386,06	2,92	4,16	296,42	0,00	922,43
1963	234,37	397,04	4,23	4,10	310,23	0,00	949,98
1964	245,58	421,12	5,06	4,44	318,56	0,00	994,76
1965	245,72	432,51	5,68	4,52	323,31	0,00	1011,74
1966	240,37	445,28	7,54	4,96	338,28	0,00	1036,43
1967	251,04	461,92	8,93	5,14	376,05	0,00	1103,09
1968	246,51	488,91	9,95	5,45	389,94	0,00	1140,76
1969	265,76	508,05	11,31	5,40	415,73	0,00	1206,26
1970	275,32	612,74	12,51	5,23	420,75	0,00	1326,56

	Ocean going transport				Financial and insurance activities			Dwellings, comerical buildings, and business Services			
	Foreign shipping	Domestic shipping	Services	Total	Banking etc	Insurance	Total	Dwellings	Commercial buildings	Business services	Total
1830				5,45			4,32				44,17
1831				5,28			4,05				45,52
1832				5,74			4,39				47,83
1833				6,25			4,80				49,77
1834				6,22			5,39				49,53
1835				6,61			5,30				49,05
1836				6,84			5,34				49,12
1837				7,11			5,78				49,49
1838				7,00			5,79				48,70
1839				7,82			6,15				54,79
1840				8,50			6,69				53,33
1841				8,15			7,47				54,62
1842				8,26			7,77				50,12
1843				7,76			7,93				56,38
1844				10,16			8,89				55,78
1845				10,42			9,19				55,32
1846				11,18			8,67				63,07
1847				12,48			7,87				56,79
1848				11,03			9,48				59,00
1849				12,77			9,66				61,75
1850				14,14			10,01				63,28
1851				15,57			10,09				64,08
1852				15,63			10,20				65,18
1853				19,12			12,37				65,15
1854				22,32			13,95				66,69
1855				27,39			14,17				67,42
1856				32,09			14,84				70,71
1857				26,48			12,27				78,52
1858				24,92			15,21				81,93
1859				29,29			15,91				92,98
1860				30,60			15,12				94,81
1861				33,75			15,80				99,17
1862				34,54			17,47				102,95
1863				40,29			19,56				107,19
1864				45,98			20,04				112,57
1865				46,86			20,86				113,06
1866				47,52			20,45				105,25
1867				51,25			21,04				106,97

	Ocean going transport				Financial and insurance activities			Dwellings, comerical buildings, and business Services			
	Foreign shipping	Domestic shipping	Services	Total	Banking etc	Insurance	Total	Dwellings	Commercial buildings	Business services	Total
1868				50,44			21,64				113,24
1869				56,75			22,35				119,13
1870				58,43			22,90				122,28
1871				57,72			23,95				122,35
1872				69,59			20,47				123,64
1873				69,24			19,74				128,10
1874				69,16			19,83				135,82
1875				67,00			21,71				138,88
1876				70,62			23,61				151,66
1877				70,82			25,12				144,86
1878				73,41			26,87				153,26
1879				73,94			28,95				153,55
1880				81,33			29,82				155,85
1881				72,12			31,54				157,61
1882				82,17			31,59				159,00
1883				87,53			32,52				164,56
1884				81,62			34,34				170,93
1885				77,40			36,88				177,38
1886				75,42			37,34				182,42
1887				76,33			36,73				184,73
1888				90,95			37,26				186,69
1889				113,85			36,00				189,13
1890				111,16			35,47				188,88
1891				101,10			37,06				194,47
1892				101,29			38,99				204,03
1893				94,93			41,59				211,96
1894				93,42			43,32				217,70
1895				89,02			46,26				221,65
1896				100,28			46,50				230,20
1897				108,89			48,86				233,78
1898				110,29			52,73				234,42
1899				124,40			51,60				235,99
1900				128,96			54,03				244,00
1901				131,53			60,22				249,00
1902				126,78			59,42				252,00
1903				115,22			62,03				257,00
1904				139,52			62,71				260,00
1905				130,25			61,91				267,00
1906				126,86			61,03				272,00
1907				137,23			62,58				283,00
1908				142,71			65,74				301,00
1909				130,66			71,36				311,00
1910				135,09			73,46				328,00
1911				145,89			76,12				342,00
1912				153,86			79,96				362,00
1913				166,73			82,79				372,00
1914				159,67			84,65				394,00
1915				209,27			79,68				414,00
1916				266,05			76,94				432,00
1917				201,92			71,72				431,00
1918				176,17			77,66				440,00
1919				202,31			72,73				450,00
1920				260,97			68,28				460,00
1921				300,62			58,92				470,00
1922				259,58			65,67				475,00
1923				181,76			67,74				483,00
1924				233,06			69,08				491,00
1925				253,21			69,62				495,00
1926				249,96			83,51				497,00
1927				273,01			96,10				500,00

	Ocean going transport				Financial and insurance activities			Dwellings, comerical buildings, and business Services			
	Foreign shipping	Domestic shipping	Services	Total	Banking etc	Insurance	Total	Dwellings	Commercial buildings	Business services	Total
1928				280,86			107,98				501,00
1929				339,94			111,30				503,00
1930				386,99			114,97				506,00
1931	317,44	42,80		360,24	84,07	36,17	120,24	377,32	87,70	44,97	510,00
1932	319,91	45,34		365,26	86,05	35,25	121,30	383,16	88,58	43,26	515,00
1933	326,70	49,42		376,12	80,86	40,43	121,30	386,41	89,57	43,02	519,00
1934	340,61	50,56		391,17	83,35	40,05	123,41	395,95	92,60	45,45	534,00
1935	349,22	51,14		400,36	82,58	42,94	125,52	403,22	94,12	48,66	546,00
1936	373,87	50,73		424,60	80,70	47,98	128,68	402,31	93,49	52,21	548,00
1937	422,42	40,63		463,05	83,61	48,24	131,84	410,17	95,84	56,99	563,00
1938	431,29	45,97		477,26	87,54	49,57	137,12	417,36	97,08	59,55	574,00
1939	441,95	43,67		485,62	90,89	51,50	142,39	422,75	97,86	64,39	585,00
1946	228,21	13,00	23,67	264,88	107,10	60,69	167,80	418,13	160,48		578,61
1947	294,36	16,98	30,54	341,87	112,26	64,00	176,27	433,44	162,75		596,18
1948	386,47	21,98	40,06	448,51	118,56	67,53	186,09	444,34	164,08		608,42
1949	427,58	24,46	43,96	495,99	119,08	67,92	187,00	461,93	169,51		631,44
1950	511,58	24,83	50,11	586,52	117,39	68,11	185,50	487,20	177,07		664,27
1951	630,04	20,08	58,54	708,65	117,97	69,21	187,19	481,20	183,42		664,62
1952	619,39	21,49	61,55	702,43	120,90	70,95	191,85	483,43	190,29		673,71
1953	625,33	28,48	67,05	720,86	122,46	74,92	197,38	524,95	194,81		719,76
1954	609,45	31,29	71,04	711,78	132,95	79,80	212,75	573,24	200,71		773,95
1955	717,46	29,51	75,93	822,90	139,95	84,19	224,14	605,84	206,61		812,45
1956	823,33	26,92	75,89	926,15	146,33	87,34	233,67	631,07	200,55		831,62
1957	889,23	30,49	75,28	995,01	151,90	91,85	243,75	668,32	209,37		877,69
1958	861,78	40,13	75,93	977,84	151,83	92,95	244,77	692,61	216,31		908,93
1959	896,48	45,97	76,83	1019,27	158,72	99,61	258,34	714,17	226,24		940,42
1960	1002,45	49,95	78,92	1131,32	172,79	104,28	277,07	736,30	235,68		971,98
1961	888,76	44,29	86,93	1019,99	223,88	130,63	354,51	1098,13	328,91		1427,04
1962	941,58	51,25	87,49	1080,32	216,30	138,16	354,46	1150,60	342,14		1492,74
1963	1037,61	53,80	84,92	1176,33	235,30	140,00	375,30	1161,06	350,50		1511,56
1964	1125,39	55,60	85,71	1266,70	243,91	120,49	364,40	1176,10	352,59		1528,68
1965	1261,88	56,98	93,41	1412,27	261,29	123,32	384,61	1200,29	351,45		1551,74
1966	1260,55	59,27	95,10	1414,92	265,04	147,60	412,64	1211,91	338,63		1550,54
1967	1480,69	67,02	87,68	1635,39	273,49	121,05	394,55	1248,24	350,31		1598,55
1968	1618,73	66,07	90,08	1774,87	277,11	118,91	396,02	1281,06	346,33		1627,39
1969	1574,64	74,97	89,91	1739,52	283,68	155,59	439,27	1276,54	344,14		1620,68
1970	1574,37	78,62	99,37	1752,37	333,91	71,44	405,35	1510,69	357,17		1867,86

	Public administration	Defence	Education	Health care, social work, and welfare services		
				Health	Religious and welfare activities	Non-profit making institutions	**Total**
1830	8,73	3,65	10,50	9,84	4,53	14,38
1831	8,71	3,38	10,58	10,51	4,33	14,85
1832	10,37	3,39	10,72	11,54	4,34	15,88
1833	10,54	3,43	10,87	11,03	4,79	15,82
1834	10,59	3,43	11,02	10,31	5,14	15,46
1835	10,44	3,34	11,15	9,94	4,98	14,91
1836	10,33	3,26	11,24	9,67	4,86	14,53
1837	10,56	3,22	11,38	9,85	4,74	14,59
1838	11,12	3,15	11,53	9,73	4,69	14,42
1839	11,63	3,55	11,74	10,18	4,88	15,05
1840	12,08	3,51	11,93	10,41	5,51	15,91
1841	11,88	3,49	11,97	10,44	5,63	16,06
1842	11,27	3,49	12,06	10,18	5,61	15,79
1843	11,04	3,29	12,00	9,66	5,55	15,21
1844	11,04	3,39	12,09	10,15	6,11	16,25
1845	11,10	3,12	12,14	10,23	6,27	16,50
1846	10,94	3,36	12,25	10,40	5,87	16,27
1847	11,94	3,32	12,31	10,12	5,61	15,73
1848	11,85	3,49	12,31	10,83	6,40	17,23
1849	11,49	3,67	12,45	10,90	6,76	17,66
1850	12,01	3,81	12,52	10,79	6,97	17,76
1851	11,93	3,36	12,64	10,93	6,86	17,79
1852	12,03	3,62	13,08	10,94	6,85	17,79
1853	11,51	4,20	13,10	11,11	7,17	18,28
1854	11,27	4,68	13,23	10,67	7,59	18,27
1855	11,13	4,91	13,32	11,10	7,31	18,42
1856	11,20	4,80	13,40	10,97	7,25	18,23
1857	13,85	3,77	14,70	11,89	7,97	19,86
1858	14,02	4,85	15,61	12,85	8,90	21,75
1859	13,45	4,91	15,89	13,69	8,86	22,54
1860	13,48	4,68	16,10	13,80	8,60	22,40
1861	13,56	4,96	16,63	15,30	8,55	23,84
1862	13,41	5,83	17,02	15,81	9,03	24,84
1863	13,34	5,32	17,52	15,89	9,30	25,19
1864	13,64	9,26	17,77	16,04	9,83	25,87
1865	13,64	5,18	18,06	16,25	10,21	26,46
1866	13,65	4,70	18,51	15,32	9,46	24,78
1867	13,53	4,79	17,72	15,51	9,17	24,69
1868	13,19	4,75	15,78	16,23	8,93	25,16
1869	14,33	5,26	17,59	17,50	9,77	27,27
1870	14,19	5,10	15,80	15,51	10,73	26,24
1871	15,14	5,35	16,51	17,27	10,74	28,01
1872	13,37	4,83	14,63	14,14	11,56	25,70
1873	13,09	4,71	14,97	13,06	12,06	25,12
1874	13,87	4,78	15,08	12,94	12,35	25,29
1875	15,05	5,02	16,52	13,43	13,52	26,96
1876	15,44	5,64	17,15	13,75	14,24	27,99
1877	16,68	5,80	17,92	15,54	14,48	30,02
1878	16,09	5,51	18,90	16,45	14,22	30,67
1879	19,01	6,37	21,70	20,60	14,75	35,35
1880	17,47	5,94	20,89	20,51	14,42	34,93
1881	17,92	6,03	21,07	20,48	14,49	34,97
1882	17,65	6,14	20,32	20,91	15,27	36,18
1883	18,18	5,95	20,36	18,69	16,23	34,92
1884	19,28	6,55	22,84	19,19	16,24	35,43
1885	20,20	6,75	23,82	20,35	16,68	37,03
1886	21,16	7,04	24,66	20,55	17,31	37,87
1887	21,91	7,27	25,78	21,19	17,22	38,42
1888	21,91	7,76	26,66	20,69	17,94	38,63
1889	21,67	7,63	25,93	20,74	18,14	38,88

	Public administration	Defence	Education	Health care, social work, and welfare services			
				Health	Religious and welfare activities	Non-profit making institutions	Total
1890	22,15	8,05	26,08	24,18	18,01		42,19
1891	21,68	7,78	25,70	20,81	17,97		38,77
1892	23,55	8,02	28,83	25,43	18,29		43,73
1893	25,30	8,49	31,68	26,61	20,16		46,77
1894	26,07	9,94	32,12	28,60	22,10		50,70
1895	28,02	12,32	35,71	29,21	22,92		52,13
1896	31,10	15,44	40,67	29,63	23,79		53,42
1897	31,88	15,81	38,76	30,86	24,29		55,14
1898	31,77	15,90	39,74	30,16	24,52		54,68
1899	30,07	16,69	36,00	21,84	25,42		47,26
1900	29,76	14,72	38,03	29,42	25,05		54,47
1901	30,90	14,18	45,66	29,91	26,50		56,41
1902	31,81	13,21	46,65	30,49	26,58		57,07
1903	31,25	11,94	45,84	29,45	26,72		56,16
1904	30,68	10,64	45,72	30,59	25,89		56,48
1905	30,21	11,02	44,98	29,89	25,88		55,77
1906	29,76	10,86	44,87	29,04	26,19		55,23
1907	29,88	10,60	46,21	28,57	25,77		54,33
1908	30,14	10,50	50,91	37,92	27,59		65,51
1909	32,61	11,06	54,81	31,08	28,39		59,46
1910	33,01	11,18	58,63	29,77	29,90		59,67
1911	33,68	11,38	57,49	33,04	30,26		63,29
1912	36,74	12,68	60,93	34,53	30,40		64,94
1913	37,73	12,90	59,09	33,66	33,19		66,85
1914	39,00	15,84	55,33	33,50	32,77		66,28
1915	45,47	21,93	47,15	34,39	29,36		63,75
1916	46,33	22,68	41,94	30,44	31,54		61,98
1917	47,10	22,69	31,89	23,01	27,98		50,99
1918	51,77	18,53	32,41	26,13	27,40		53,54
1919	60,43	14,88	41,57	35,15	36,10		71,24
1920	62,30	10,51	59,14	45,10	38,65		83,75
1921	73,76	11,30	79,07	44,11	36,02		80,13
1922	84,84	12,48	87,69	42,85	37,33		80,18
1923	77,50	11,87	91,05	47,65	41,05		88,70
1924	66,32	9,99	91,17	50,63	39,90		90,54
1925	68,61	10,34	92,39	58,43	38,16		96,59
1926	76,80	12,85	103,27	62,72	38,18		100,90
1927	79,64	13,59	113,77	74,94	39,19		114,13
1928	75,60	13,11	114,55	73,77	39,31		113,08
1929	74,76	13,60	108,18	77,59	40,52		118,11
1930	77,70	14,02	112,85	82,52	43,43		125,95
1931	84,52	14,58	112,69	84,44	23,22	19,95	127,61
1932	87,82	13,32	113,09	86,89	23,89	19,55	130,33
1933	87,01	12,81	116,12	88,10	24,53	19,74	132,37
1934	88,78	12,64	116,70	91,90	25,78	20,51	138,19
1935	94,22	12,01	118,52	93,18	27,09	21,13	141,39
1936	98,03	11,47	121,17	94,02	28,21	22,25	144,47
1937	106,27	12,10	125,87	96,50	29,15	23,82	149,47
1938	118,71	14,08	127,92	98,96	28,55	24,26	151,77
1939	101,42	33,96	132,12	103,05	29,04	26,42	158,51
1946	201,77	67,57	209,65				251,52
1947	192,76	64,52	206,29				248,29
1948	203,91	68,29	205,36				247,64
1949	202,28	73,96	209,91				251,06
1950	208,64	64,35	218,79				259,74
1951	213,55	93,17	228,31				271,37
1952	219,76	107,08	238,58				284,24
1953	225,87	123,75	251,58				293,57
1954	232,85	140,11	268,65				299,74
1955	239,29	156,95	284,83				301,32

	Public administration	Defence	Education	Health care, social work, and welfare services			
				Health	Religious and welfare activities	Non-profit making institutions	Total
1956	242,06	160,80	310,14				307,70
1957	247,19	168,40	326,50				316,20
1958	251,02	173,73	350,90				320,74
1959	264,16	176,31	373,29				343,87
1960	270,39	178,27	395,72				358,88
1961	377,49	231,57	518,76				486,25
1962	398,41	223,77	552,01				546,14
1963	407,92	234,71	590,27				555,30
1964	422,72	243,94	628,06				589,23
1965	436,67	249,43	673,33				633,73
1966	450,56	244,75	713,64				655,84
1967	486,26	273,51	777,75				682,76
1968	492,82	278,55	818,71				703,45
1969	494,90	297,47	859,32				735,34
1970	554,81	297,43	912,65				836,38

	Personal services, and other private and public services						Correction post	GDP in base value	GDP in market value
	Domestic services	Hotel- and restaurant services	Laundry, cleaning and other personal services	Recreation services	Other services	Total	Taxes, subsidies, and other corrections	Gross Value Added summarized	
1830		23,53		6,04		29,57	19,58	**460,13**	**479,71**
1831		21,44		5,77		27,21	18,42	**432,72**	**451,14**
1832		25,59		5,79		31,38	19,26	**452,61**	**471,87**
1833		27,16		6,38		33,55	21,40	**502,73**	**524,13**
1834		25,71		6,85		32,56	21,87	**513,86**	**535,72**
1835		23,03		6,63		29,66	21,70	**509,87**	**531,57**
1836		22,50		6,47		28,97	21,22	**498,59**	**519,81**
1837		25,47		6,32		31,78	21,28	**500,03**	**521,31**
1838		22,87		6,25		29,12	21,75	**511,05**	**532,80**
1839		24,13		6,49		30,62	22,29	**523,87**	**546,17**
1840		28,40		7,33		35,73	23,52	**552,61**	**576,13**
1841		31,63		7,49		39,13	24,16	**567,72**	**591,88**
1842		30,06		7,47		37,53	24,01	**564,13**	**588,14**
1843		29,70		7,40		37,10	23,84	**560,29**	**584,14**
1844		29,80		8,14		37,94	24,29	**570,71**	**595,00**
1845		29,36		8,36		37,72	25,72	**604,39**	**630,11**
1846		26,62		7,82		34,44	26,22	**616,04**	**642,25**
1847		24,48		7,48		31,95	25,74	**604,85**	**630,59**
1848		29,30		8,53		37,83	24,62	**578,55**	**603,17**
1849		31,63		9,01		40,64	25,38	**596,47**	**621,85**
1850		31,92		9,28		41,20	26,88	**631,68**	**658,56**
1851		30,56		9,14		39,70	28,01	**658,20**	**686,21**
1852		31,34		9,12		40,47	28,75	**675,53**	**704,28**
1853		34,32		9,55		43,87	30,61	**719,33**	**749,94**
1854		35,06		10,11		45,17	32,54	**764,52**	**797,05**
1855		33,04		9,74		42,79	33,85	**795,38**	**829,23**
1856		33,03		9,66		42,69	33,57	**788,77**	**822,33**
1857		38,74		10,62		49,36	32,21	**756,88**	**789,09**
1858		41,46		11,85		53,32	34,79	**817,40**	**852,18**
1859		41,46		11,80		53,26	34,73	**816,06**	**850,79**
1860		39,24		11,46		50,71	36,19	**850,43**	**886,62**
1861		39,65		11,38		51,03	36,38	**854,80**	**891,17**
1862		40,88		12,03		52,90	39,57	**929,84**	**969,41**
1863		43,19		12,39		55,59	39,03	**917,18**	**956,22**
1864		43,90		13,09		57,00	40,18	**944,09**	**984,27**
1865		44,61		13,61		58,22	42,88	**1007,65**	**1050,53**
1866		42,87		12,60		55,47	40,52	**952,23**	**992,75**
1867		40,95		12,22		53,17	41,75	**981,10**	**1022,85**
1868		37,83		11,90		49,73	41,81	**982,53**	**1024,35**

	Personal services, and other private and public services						Correction post	GDP in base value	GDP in market value
	Domestic services	Hotel- and restaurant services	Laundry, cleaning and other personal services	Recreation services	Other services	Total	Taxes, subsidies, and other corrections	Gross Value Added summarized	
1869		42,13		13,02		55,15	44,41	**1043,48**	**1087,88**
1870		46,75		14,29		61,04	46,89	**1101,86**	**1148,76**
1871		47,87		14,31		62,18	49,41	**1160,98**	**1210,39**
1872		49,18		15,40		64,58	51,47	**1209,42**	**1260,89**
1873		48,74		16,07		64,81	53,91	**1266,65**	**1320,56**
1874		49,25		16,45		65,70	52,16	**1225,68**	**1277,85**
1875		55,77		18,02		73,79	53,75	**1262,98**	**1316,73**
1876		57,87		18,97		76,84	56,95	**1338,10**	**1395,04**
1877		56,61		19,29		75,90	55,67	**1308,15**	**1363,82**
1878		59,52		18,94		78,46	54,65	**1284,12**	**1338,77**
1879		57,66		19,65		77,31	57,84	**1359,06**	**1416,90**
1880		55,24		19,21		74,45	60,66	**1425,38**	**1486,04**
1881		54,19		19,30		73,49	58,80	**1381,55**	**1440,34**
1882		58,84		20,34		79,18	60,82	**1429,23**	**1490,05**
1883		62,64		21,63		84,27	62,36	**1465,34**	**1527,70**
1884		64,44		21,63		86,08	61,00	**1433,42**	**1494,43**
1885		66,45		22,22		88,67	61,02	**1433,86**	**1494,88**
1886		68,94		23,06		92,00	62,40	**1466,32**	**1528,73**
1887		69,71		22,95		92,66	63,83	**1499,94**	**1563,78**
1888		70,22		23,90		94,13	67,26	**1580,53**	**1647,79**
1889		69,60		24,16		93,77	69,46	**1632,21**	**1701,67**
1890		69,77		24,00		93,77	69,27	**1627,73**	**1697,00**
1891		67,86		23,94		91,80	69,70	**1637,89**	**1707,59**
1892		71,45		24,37		95,82	69,69	**1637,60**	**1707,30**
1893		76,58		26,86		103,45	72,06	**1693,25**	**1765,31**
1894		86,36		29,44		115,81	75,70	**1778,88**	**1854,59**
1895		88,60		30,53		119,13	79,93	**1878,05**	**1957,97**
1896		92,43		31,70		124,12	82,52	**1939,03**	**2021,55**
1897		93,12		32,36		125,47	87,24	**2049,96**	**2137,20**
1898		91,27		32,67		123,94	89,16	**2095,15**	**2184,31**
1899		94,92		33,87		128,79	89,15	**2094,72**	**2183,87**
1900		95,47		33,37		128,84	90,70	**2131,14**	**2221,84**
1901		99,37		35,30		134,67	92,14	**2164,99**	**2257,13**
1902		100,19		35,42		135,61	92,79	**2180,44**	**2273,24**
1903		104,90		35,59		140,49	94,17	**2212,66**	**2306,83**
1904		105,29		34,49		139,78	94,47	**2219,91**	**2314,39**
1905		105,08		34,48		139,55	95,95	**2254,67**	**2350,63**
1906		105,91		34,89		140,80	101,75	**2390,97**	**2492,72**
1907		103,32		34,33		137,64	103,45	**2430,72**	**2534,16**
1908		113,69		36,75		150,45	106,17	**2494,75**	**2600,92**
1909		119,88		37,82		157,69	107,84	**2534,07**	**2641,91**
1910		124,85		39,83		164,68	114,32	**2686,19**	**2800,51**
1911		124,59		40,31		164,90	118,80	**2791,49**	**2910,29**
1912		119,22		40,51		159,72	123,52	**2902,37**	**3025,89**
1913		129,81		44,22		174,03	135,13	**3175,23**	**3310,36**
1914		124,69		43,66		168,35	135,27	**3178,54**	**3313,81**
1915		108,25		39,12		147,37	138,93	**3264,54**	**3403,47**
1916		111,04		42,02		153,06	154,56	**3631,72**	**3786,28**
1917		86,02		37,27		123,29	138,23	**3247,98**	**3386,21**
1918		92,64		36,51		129,14	131,75	**3095,85**	**3227,61**
1919		118,73		48,09		166,82	152,27	**3577,90**	**3730,16**
1920		127,30		51,49		178,79	159,47	**3747,26**	**3906,74**
1921		104,90		47,98		152,89	143,56	**3373,33**	**3516,89**
1922		105,06		49,73		154,80	158,12	**3715,46**	**3873,58**
1923		136,28		54,69		190,97	168,36	**3956,15**	**4124,51**
1924		120,11		53,16		173,27	164,83	**3873,08**	**4037,91**
1925		120,67		50,84		171,50	162,99	**3829,94**	**3992,94**
1926		131,98		50,87		182,85	165,27	**3883,43**	**4048,70**
1927		139,49		52,21		191,70	173,88	**4085,81**	**4259,69**

	Personal services, and other private and public services						Correction post	GDP in base value	GDP in market value
	Domestic services	Hotel- and restaurant services	Laundry, cleaning and other personal services	Recreation services	Other services	Total	Taxes, subsidies, and other corrections	Gross Value Added summarized	
1928		144,94		52,37		197,32	181,15	**4256,65**	**4437,80**
1929		146,96		53,98		200,94	193,01	**4535,17**	**4728,18**
1930		156,66		57,86		214,52	199,54	**4688,61**	**4888,15**
1931	83,39	42,62	22,24	45,11	13,90	207,26	182,97	**4299,46**	**4482,44**
1932	82,00	41,00	21,93	46,78	16,21	207,92	189,99	**4464,32**	**4654,31**
1933	81,26	42,10	22,52	47,61	18,60	212,08	196,81	**4624,58**	**4821,39**
1934	81,66	44,28	22,63	49,28	19,68	217,53	201,48	**4734,37**	**4935,86**
1935	81,80	45,65	22,83	50,12	21,88	222,27	211,83	**4977,53**	**5189,36**
1936	82,54	49,52	23,84	51,79	22,01	229,70	222,67	**5232,26**	**5454,94**
1937	85,60	53,83	25,59	52,63	24,71	242,35	234,44	**5508,88**	**5743,32**
1938	86,04	55,13	25,89	54,30	26,73	248,09	238,00	**5592,43**	**5830,43**
1939	88,00	55,92	27,14	55,13	27,14	253,33	246,62	**5795,02**	**6041,64**
1946	135,72	135,72		100,76		372,20	263,17	**6183,91**	**6447,08**
1947	135,06	145,58		99,53		380,17	294,89	**6929,13**	**7224,02**
1948	132,33	148,97		103,09		384,39	301,61	**7087,08**	**7388,69**
1949	125,31	150,22		103,63		379,15	320,47	**7530,23**	**7850,70**
1950	117,44	149,06		109,27		375,76	336,83	**7914,74**	**8251,57**
1951	112,63	140,10		108,30		361,03	349,72	**8217,67**	**8567,39**
1952	104,32	145,93		112,10		362,35	361,74	**8499,98**	**8861,71**
1953	98,17	149,12		117,30		364,58	375,98	**8834,56**	**9210,54**
1954	93,02	152,27		122,53		367,81	395,76	**9299,52**	**9695,28**
1955	87,55	150,49		122,39		360,43	407,03	**9564,11**	**9971,14**
1956	81,72	149,73		126,59		358,04	429,85	**10100,42**	**10530,27**
1957	73,03	146,58		133,86		353,47	443,45	**10420,10**	**10863,55**
1958	71,41	150,88		141,60		363,89	436,73	**10262,21**	**10698,94**
1959	66,23	168,78		154,20		389,21	453,35	**10652,61**	**11105,96**
1960	64,13	175,04		162,34		401,51	482,35	**11333,99**	**11816,34**
1961	79,40	216,70		197,14		493,23	578,96	**13604,17**	**14183,13**
1962	74,13	227,89		200,41		502,43	598,97	**14074,43**	**14673,40**
1963	71,92	239,38		210,24		521,55	628,38	**14765,36**	**15393,74**
1964	70,00	246,57		217,25		533,82	658,97	**15484,14**	**16143,10**
1965	66,01	265,49		227,00		558,50	694,58	**16320,89**	**17015,47**
1966	63,70	279,68		238,76		582,15	713,52	**16765,93**	**17479,45**
1967	60,58	295,00		257,92		613,50	746,45	**17539,87**	**18286,32**
1968	57,36	309,89		276,19		643,45	774,62	**18201,77**	**18976,39**
1969	53,18	336,76		293,85		683,79	801,45	**18832,19**	**19633,64**
1970	44,76	356,17		291,40		692,33	823,11	**19341,12**	**20164,24**

Table A.7 - Norwegian GDP by industry in current million NOK. Aggregated level

	Agriculture, forestry, and hunting etc.	Fisheries, etc	Whaling, etc	Mining and quarrying	Oil and gas extraction	Manufacturing	Electricity, gas, water and sanitary services	Construction
1830	80,08	8,61	0,37	1,90	0,00	15,92	1,60	5,27
1831	84,00	8,99	0,38	1,99	0,00	16,87	1,72	5,68
1832	73,13	10,63	0,39	1,92	0,00	15,50	1,51	4,83
1833	74,38	11,38	0,40	2,01	0,00	16,34	1,83	6,10
1834	70,59	9,59	0,38	2,05	0,00	15,28	1,46	4,89
1835	73,38	9,16	0,38	2,21	0,00	16,46	1,72	5,79
1836	77,06	9,25	0,38	2,33	0,00	17,73	2,10	7,14
1837	79,59	9,08	0,38	2,29	0,00	18,15	2,05	6,99
1838	88,90	9,70	0,38	2,37	0,00	19,04	2,31	7,92
1839	85,66	12,02	0,40	2,45	0,00	19,12	2,45	8,46
1840	87,40	12,44	0,40	2,13	0,00	18,99	2,09	7,24
1841	77,26	10,36	0,39	1,97	0,00	16,65	1,55	5,39
1842	73,60	10,48	0,39	1,94	0,00	16,40	1,59	5,56
1843	83,88	9,64	0,38	1,97	0,00	18,94	1,64	5,74
1844	82,53	12,23	0,40	2,37	0,00	20,18	1,95	6,84
1845	93,97	11,43	0,40	2,84	0,00	20,61	2,06	7,34
1846	99,38	11,63	0,40	2,75	0,00	22,33	2,11	7,63
1847	115,58	10,04	0,37	2,76	0,00	25,11	2,41	8,60
1848	98,35	10,82	0,39	2,15	0,00	21,10	2,03	6,42
1849	91,92	12,82	0,41	2,13	0,00	21,29	2,11	6,69
1850	97,47	10,56	0,39	2,05	0,00	22,19	2,24	7,29
1851	105,47	11,82	0,40	2,03	0,00	24,82	2,53	9,25
1852	111,72	11,41	0,40	2,03	0,00	26,42	2,76	10,10
1853	116,22	11,14	0,39	2,37	0,00	29,63	3,23	11,82
1854	143,74	11,99	0,40	2,53	0,00	37,20	4,49	16,47
1855	152,60	16,20	0,44	2,76	0,00	41,81	5,11	18,73
1856	156,28	19,15	0,46	3,16	0,00	43,31	5,26	19,02
1857	145,92	18,76	0,46	1,90	0,00	38,49	4,38	14,39
1858	144,84	14,17	0,42	1,90	0,00	36,32	4,14	13,44
1859	136,63	15,56	0,43	1,90	0,00	35,47	3,74	11,55
1860	145,92	17,84	0,45	2,37	0,00	40,15	4,86	17,04
1861	145,24	21,38	0,52	2,46	0,00	45,33	5,57	19,42
1862	154,44	20,74	0,57	2,54	0,00	47,95	6,10	21,38
1863	139,37	19,71	0,57	2,54	0,00	46,75	6,41	22,52
1864	142,92	21,61	0,97	2,63	0,00	48,30	6,47	23,07
1865	147,69	26,47	0,98	2,74	0,00	51,98	6,63	23,78
1866	149,69	26,20	0,82	2,81	0,00	53,82	6,92	24,79
1867	159,08	27,64	1,08	3,05	0,00	57,47	7,20	25,68
1868	170,31	25,47	1,02	3,16	0,00	59,86	7,43	26,62
1869	173,34	23,65	1,12	3,21	0,00	61,93	7,72	27,99
1870	175,45	26,41	1,26	3,23	0,00	64,24	8,11	29,73
1871	183,88	32,10	1,33	3,62	0,00	68,28	8,58	31,45
1872	207,14	28,61	1,33	5,08	0,00	74,68	9,25	33,92
1873	228,70	31,59	1,52	4,72	0,00	79,51	9,78	35,84
1874	224,50	32,12	1,40	4,44	0,00	88,15	10,52	38,57
1875	223,86	32,72	1,25	5,32	0,00	88,74	10,31	37,79
1876	230,93	32,05	1,35	4,43	0,00	88,24	9,97	36,55
1877	220,89	37,34	1,36	4,04	0,00	88,50	9,72	35,64
1878	192,85	29,25	1,41	3,37	0,00	84,53	9,10	33,37
1879	185,44	29,61	1,61	3,11	0,00	82,34	8,99	32,77
1880	220,68	31,18	1,00	3,44	0,00	82,41	9,16	33,18
1881	216,67	27,42	1,57	3,80	0,00	82,77	8,89	32,04
1882	219,96	28,06	1,65	4,43	0,00	85,17	9,05	32,72
1883	214,88	33,40	2,08	3,41	0,00	84,93	8,83	31,48
1884	200,54	33,47	2,28	3,56	0,00	81,59	8,52	30,29
1885	190,67	26,88	1,94	2,98	0,00	76,64	8,08	28,63
1886	184,56	30,80	1,73	2,30	0,00	75,34	7,88	28,01
1887	178,14	23,80	2,09	1,97	0,00	76,18	7,77	27,68
1888	184,47	30,26	2,43	2,87	0,00	84,14	7,59	27,11

	Agriculture, forestry, and hunting etc.	Fisheries, etc	Whaling, etc	Mining and quarrying	Oil and gas extraction	Manufacturing	Electricity, gas, water and sanitary services	Construction
1889	193,39	30,84	2,29	2,56	0,00	95,87	8,63	30,93
1890	195,65	29,45	2,35	2,77	0,00	101,17	9,47	33,95
1891	208,46	32,94	3,05	2,30	0,00	103,71	9,32	33,58
1892	199,58	31,45	2,79	1,93	0,00	102,38	8,70	31,52
1893	195,19	29,96	2,46	1,87	0,00	104,59	8,75	31,88
1894	185,12	29,05	2,51	2,14	0,00	106,55	8,80	32,25
1895	194,49	28,17	2,40	1,95	0,00	110,25	9,34	33,31
1896	205,97	27,55	2,42	2,59	0,00	116,56	9,63	33,70
1897	214,07	30,71	2,43	3,03	0,00	130,18	10,81	37,08
1898	216,61	26,20	2,62	3,38	0,00	144,69	12,99	43,67
1899	218,08	30,82	2,37	4,23	0,00	159,46	15,28	50,33
1900	246,10	37,29	1,94	5,38	0,00	166,90	14,94	46,72
1901	240,55	35,00	2,37	5,23	0,00	168,28	14,10	43,10
1902	241,82	37,25	2,64	5,56	0,00	161,38	13,63	40,03
1903	263,82	36,68	2,44	6,11	0,00	161,08	12,96	37,19
1904	247,49	34,14	2,62	6,19	0,00	154,52	13,20	39,65
1905	256,84	39,75	2,71	7,30	0,00	163,85	12,81	37,44
1906	276,85	42,09	3,10	9,17	0,00	185,79	14,74	44,48
1907	288,24	49,54	5,42	10,12	0,00	208,01	17,74	51,73
1908	289,63	49,00	7,95	9,61	0,00	228,08	18,48	52,02
1909	277,78	52,66	12,60	8,73	0,00	236,52	17,51	46,93
1910	285,53	60,06	17,82	10,48	0,00	269,75	21,17	52,68
1911	289,72	69,11	23,74	12,19	0,00	293,18	25,91	62,61
1912	296,94.	68,72	29,38	16,44	0,00	360,67	28,68	67,29
1913	320,42	68,21	28,12	20,52	0,00	416,66	31,65	72,09
1914	322,93	78,58	23,04	21,95	0,00	427,84	34,18	75,55
1915	439,75	110,74	28,23	40,43	0,00	521,55	40,35	86,85
1916	596,48	205,58	26,68	38,81	0,00	702,59	64,04	134,20
1917	615,86	171,88	22,08	41,80	0,00	919,93	81,96	167,82
1918	771,10	171,45	26,68	35,43	0,00	1055,13	96,63	193,31
1919	756,97	201,75	45,86	30,46	0,00	1168,93	196,16	383,30
1920	985,97	122,70	28,98	20,07	0,00	1436,10	209,20	399,22
1921	631,39	83,35	35,06	14,09	0,00	921,84	124,72	216,78
1922	611,40	109,84	51,47	20,18	0,00	969,36	131,76	239,65
1923	683,98	98,32	50,44	26,28	0,00	991,97	138,67	246,16
1924	732,00	167,57	73,20	31,56	0,00	1150,16	127,28	220,46
1925	680,31	164,26	62,12	31,14	0,00	1250,53	117,88	199,18
1926	577,86	95,07	46,20	22,50	0,00	966,23	100,79	151,68
1927	542,93	88,19	57,26	19,09	0,00	881,89	96,24	130,98
1928	534,09	103,48	86,42	24,43	0,00	920,63	97,71	143,71
1929	535,92	112,78	107,10	31,23	0,00	965,18	102,46	156,39
1930	540,74	114,06	121,57	30,02	0,00	934,61	105,10	156,30
1931	433,21	81,10	61,92	18,96	0,00	749,88	104,23	145,75
1932	419,81	77,63	23,41	22,12	0,00	842,44	105,10	161,09
1933	394,13	88,21	43,79	25,28	0,00	847,88	105,10	155,34
1934	464,47	85,26	26,43	26,86	0,00	878,88	105,98	167,80
1935	525,88	97,87	38,51	31,60	0,00	969,81	106,86	197,53
1936	531,46	103,14	59,65	41,07	0,00	1090,65	110,36	248,35
1937	648,70	117,05	56,63	45,02	0,00	1244,30	118,24	271,36
1938	724,62	120,45	43,04	54,50	0,00	1264,55	127,00	303,96
1939	642,00	128,00	37,00	55,29	0,00	1412,39	132,26	343,27
1946	1031,00	202,00	103,00	43,00	0,00	2182,00	201,00	729,00
1947	1145,00	277,00	215,00	69,00	0,00	2776,00	213,00	849,00
1948	1288,00	312,00	212,00	82,00	0,00	3222,00	234,00	914,00
1949	1427,00	275,00	186,00	109,00	0,00	3179,00	264,00	985,00
1950	1433,00	312,00	204,00	125,00	0,00	3507,00	293,00	1001,00
1951	1585,00	452,00	240,00	165,00	0,00	4514,00	311,00	1017,00
1952	1887,00	461,00	209,00	233,00	0,00	4528,00	343,00	1205,00
1953	1869,00	417,00	112,00	252,00	0,00	4550,00	379,00	1368,00
1954	1977,00	510,00	147,00	243,00	0,00	4997,00	442,00	1534,00

	Agriculture, forestry, and hunting etc.	Fisheries, etc	Whaling, etc	Mining and quarrying	Oil and gas extraction	Manufacturing	Electricity, gas, water and sanitary services	Construction
1955	2010,00	549,00	128,00	248,00	0,00	5246,00	492,00	1638,00
1956	2310,00	617,00	147,00	290,00	0,00	5695,00	516,00	1660,00
1957	2280,00	516,00	188,00	273,00	0,00	5849,00	634,00	1927,00
1958	2235,00	478,00	123,00	252,00	0,00	5839,00	718,00	1996,00
1959	2299,00	567,00	120,00	233,00	0,00	6089,00	772,00	2095,00
1960	2255,00	546,00	97,00	245,00	0,00	6731,00	867,00	2193,00
1961	2478,00	539,00	104,00	249,00	0,00	7287,00	921,00	2379,00
1962	2415,00	516,00	60,00	280,00	0,00	7826,00	1038,00	2737,00
1963	2403,00	554,00	35,00	296,00	0,00	8431,00	1110,00	3089,00
1964	2620,00	670,00	58,00	313,00	0,00	9422,00	1193,00	3147,00
1965	2885,00	950,00	63,00	370,00	0,00	10288,00	1309,00	3516,00
1966	2811,00	1151,00	38,00	384,00	0,00	11012,00	1433,00	4224,00
1967	2937,00	933,00	26,00	441,00	0,00	11750,00	1637,00	4532,00
1968	3078,00	779,00	11,00	466,00	0,00	12785,00	1825,00	4487,00
1969	2972,00	804,00	0,00	556,00	0,00	14527,00	1968,00	4614,00
1970	3521,00	1148,00	0,00	590,00	0,00	16621,00	2575,00	5267,00
1971	3973,00	1249,00	0,00	613,00	12,00	18203,00	2558,00	6054,00
1972	4012,00	1234,00	0,00	667,00	207,00	20454,00	2721,00	6729,00
1973	4223,00	1553,00	0,00	712,00	258,00	23709,00	3043,00	7310,00
1974	4959,00	1648,00	0,00	839,00	1056,00	28099,00	3696,00	8238,00
1975	5838,00	1235,00	0,00	933,00	4188,00	31372,00	4097,00	9811,00
1976	6664,00	1972,00	0,00	953,00	6598,00	33461,00	4801,00	10918,00
1977	7759,00	2039,00	0,00	924,00	8217,00	36469,00	5450,00	12401,00
1978	8400,00	1913,00	0,00	943,00	13907,00	37299,00	6470,00	14641,00
1979	8073,00	2096,00	0,00	983,00	21913,00	43393,00	7264,00	13817,00
1980	9075,00	2464,00	0,00	1030,00	42173,00	43961,00	7855,00	14766,00
1981	10432,00	2777,00	0,00	1147,00	52669,00	46504,00	9314,00	15914,00
1982	10861,00	2959,00	0,00	1119,00	59378,00	49396,00	11046,00	18263,00
1983	10365,00	2937,00	0,00	1320,00	70855,00	53910,00	12978,00	19621,00
1984	12349,00	3196,00	0,00	1329,00	87644,00	61193,00	14716,00	21153,00
1985	12444,00	3622,00	0,00	1311,00	94315,00	65466,00	16247,00	23718,00
1986	13936,00	4253,00	0,00	1483,00	54402,00	69362,00	16332,00	28194,00
1987	15112,00	5160,00	0,00	1559,00	53663,00	76469,00	17798,00	32624,00
1988	15170,00	5295,00	0,00	1512,00	43806,00	82005,00	18966,00	37163,00
1989	16236,00	4319,00	0,00	1763,00	69764,00	81721,00	20640,00	33554,00
1990	17957,00	4392,00	0,00	1730,00	87597,00	80137,00	22073,00	30127,00
1991	17876,00	5096,00	0,00	1655,00	91464,00	81900,00	23553,00	28438,00
1992	16411,00	4928,00	0,00	1783,00	91792,00	84413,00	22923,00	28911,00
1993	16649,00	5633,00	0,00	1489,00	96678,00	90751,00	22576,00	26443,00
1994	15929,00	7384,00	0,00	1793,00	100526,00	96585,00	21407,00	31784,00
1995	17101,00	7787,00	0,00	1822,00	108369,00	107811,00	24223,00	36613,00
1996	16480,00	6974,00	0,00	1918,00	152574,00	109990,00	23364,00	39519,00
1997	16008,00	7510,00	0,00	2152,00	167604,00	118832,00	25782,00	45054,00
1998	16657,00	9616,00	0,00	2124,00	115210,00	127233,00	26058,00	50245,00
1999	15940,00	9909,00	0,00	2465,00	161461,00	132392,00	25479,00	50211,00
2000	15679,00	11634,00	0,00	2575,00	325659,00	138231,00	26424,00	53633,00
2001	15343,00	9282,00	0,00	3090,00	309670,00	144476,00	30483,00	56376,00
2002	15255,00	8315,00	0,00	3260,00	268804,00	144067,00	34279,00	61017,00
2003	15312,00	6368,00	0,00	2996,00	280328,00	148981,00	37783,00	62308,00
2004	16011,00	8999,00	0,00	3657,00	345365,00	158923,00	36854,00	70228,00
2005	13961,00	12593,00	0,00	3720,00	447660,00	169563,00	44685,00	76802,00
2006	14127,00	14761,00	0,00	3916,00	529493,00	191817,00	50017,00	85920,00

	Trade and repair of motor vehicles	Ocean going transport	Transport and communications	Financial and insurance activities	Dwellings, comerical buildings, and business Services	Public administration	Defence	Education
1830	10,36	5,82	4,86	2,63	22,59	5,12	2,07	4,34
1831	10,36	6,08	5,13	2,72	24,02	5,26	2,07	4,42
1832	11,17	6,00	4,77	2,77	23,46	6,18	2,07	4,43
1833	11,53	6,00	4,86	2,77	22,47	6,19	2,05	4,43
1834	11,99	6,64	4,69	2,87	21,76	6,15	2,04	4,43
1835	12,19	7,19	4,86	3,02	22,04	6,10	2,03	4,47
1836	12,60	7,66	5,13	3,17	22,49	6,09	2,05	4,51
1837	12,24	8,04	5,23	3,53	22,67	6,24	2,07	4,55
1838	11,73	7,54	5,50	3,69	22,68	6,58	2,07	4,59
1839	12,70	7,60	5,61	3,86	23,24	6,86	2,32	4,67
1840	13,08	9,07	5,83	3,96	25,54	7,16	2,41	4,70
1841	12,70	7,30	5,15	3,93	21,58	6,93	2,30	4,68
1842	12,14	6,43	4,94	4,07	21,45	6,58	2,31	4,72
1843	12,65	5,88	5,29	4,25	19,67	6,66	2,42	4,74
1844	13,11	8,46	5,64	4,65	21,80	6,66	2,46	4,80
1845	13,98	8,45	5,80	4,98	22,75	6,80	2,31	4,87
1846	15,55	11,09	6,29	5,34	23,82	6,81	2,54	4,97
1847	16,42	15,18	7,27	5,78	31,05	7,66	2,67	5,10
1848	14,48	8,12	6,22	5,46	25,13	7,46	2,62	5,09
1849	14,25	8,45	6,18	5,15	25,31	7,24	2,72	5,16
1850	15,92	9,05	6,41	5,28	25,52	7,54	2,76	5,20
1851	16,69	9,47	7,00	5,68	26,44	7,53	2,42	5,26
1852	17,40	10,17	7,42	6,02	28,08	7,69	2,66	5,52
1853	22,96	15,51	8,24	7,55	29,69	7,42	3,12	5,61
1854	26,83	19,52	9,97	9,21	32,65	7,50	3,63	5,79
1855	28,21	20,75	10,88	10,30	35,20	7,57	3,88	5,95
1856	28,72	21,23	11,51	11,50	38,37	7,90	3,92	6,16
1857	24,23	16,95	11,09	8,48	39,96	9,30	3,05	6,37
1858	24,74	13,82	10,54	9,21	39,17	9,15	3,65	6,64
1859	22,89	17,50	10,76	9,75	40,92	8,78	3,67	6,75
1860	24,90	22,85	12,07	10,21	48,66	8,90	3,56	6,86
1861	24,20	24,84	12,58	10,98	50,94	8,75	3,28	7,12
1862	26,61	24,32	13,23	12,05	52,01	8,65	3,85	7,29
1863	26,68	25,36	12,91	13,14	53,55	8,67	3,51	7,54
1864	25,25	27,96	13,47	12,99	55,04	8,82	6,11	7,68
1865	29,97	28,00	14,25	13,40	56,15	8,93	3,42	7,84
1866	29,42	28,00	14,71	13,49	59,28	9,14	3,18	8,22
1867	32,15	29,35	15,59	13,88	56,94	9,46	3,38	8,21
1868	29,89	29,58	15,89	14,28	59,67	9,62	3,49	7,63
1869	31,17	33,91	16,40	14,22	59,86	9,59	3,55	7,81
1870	32,90	36,53	16,67	14,57	60,52	9,92	3,60	7,32
1871	36,85	37,68	17,40	15,10	62,74	10,25	3,65	7,41
1872	42,56	46,59	19,96	16,04	66,65	10,25	3,74	7,43
1873	47,44	55,16	22,89	17,44	70,13	10,90	3,96	8,27
1874	51,10	56,05	24,98	18,93	76,42	11,56	4,01	8,33
1875	48,36	48,37	24,55	19,70	79,47	12,54	4,22	9,13
1876	49,10	53,33	25,62	20,31	79,03	12,87	4,74	9,47
1877	48,30	51,13	25,74	20,87	87,00	13,52	4,74	9,64
1878	42,80	49,95	22,96	20,58	79,11	12,21	4,22	9,51
1879	43,76	46,02	21,68	20,47	78,42	12,87	4,35	9,74
1880	47,41	51,97	23,75	21,26	81,46	12,87	4,41	10,20
1881	45,21	47,48	24,55	22,11	82,82	13,19	4,48	10,29
1882	47,26	57,51	25,42	22,70	84,05	13,52	4,74	10,32
1883	50,30	60,53	25,27	23,19	85,51	13,52	4,46	10,04
1884	47,61	50,12	24,46	23,67	85,11	13,19	4,52	10,36
1885	47,27	43,03	23,20	24,12	84,64	13,52	4,56	10,57
1886	48,40	39,43	22,95	23,54	84,33	13,85	4,65	10,70
1887	54,16	40,12	22,83	22,94	84,80	14,18	4,74	11,06
1888	57,71	51,32	24,77	23,05	86,55	14,18	5,06	11,44
1889	62,68	69,60	27,06	23,97	88,76	14,83	5,27	11,77

	Trade and repair of motor vehicles	Ocean going transport	Transport and communications	Financial and insurance activities	Dwellings, comerical buildings, and business Services	Public administration	Defence	Education
1890	63,16	64,26	27,60	25,29	91,22	14,83	5,44	11,58
1891	63,31	57,05	28,58	25,98	95,43	15,16	5,48	11,92
1892	60,88	53,79	28,67	26,18	96,74	16,47	5,65	13,37
1893	60,54	49,63	29,24	27,20	96,25	17,12	5,80	14,22
1894	64,01	50,39	29,70	28,08	97,27	17,45	6,71	14,26
1895	69,99	49,74	30,49	29,43	99,91	18,76	8,32	15,85
1896	69,69	57,42	32,29	30,68	103,75	21,05	10,54	18,25
1897	78,39	62,65	34,16	32,82	105,85	21,58	10,79	17,40
1898	87,96	67,72	37,36	37,59	110,50	22,69	11,45	18,82
1899	89,43	78,12	40,14	39,83	116,72	22,59	12,65	17,94
1900	87,97	89,09	42,33	42,66	122,49	23,25	11,59	19,70
1901	87,81	74,69	42,09	43,64	124,35	23,90	11,06	23,42
1902	89,29	64,55	41,89	44,11	127,91	23,90	10,01	23,24
1903	87,64	58,99	41,91	45,32	132,24	23,25	8,96	22,61
1904	90,82	72,17	42,20	45,45	134,76	22,59	7,90	22,33
1905	96,97	68,43	43,45	45,96	140,01	22,92	8,43	22,63
1906	107,23	68,07	47,00	47,46	143,12	23,25	8,55	23,24
1907	115,06	75,84	50,44	50,14	149,32	24,23	8,67	24,85
1908	114,97	71,60	52,16	52,67	154,78	24,89	8,74	27,87
1909	120,27	67,38	53,22	55,08	159,83	26,20	8,96	29,20
1910	127,40	73,99	58,78	57,56	171,62	27,50	9,48	32,39
1911	136,54	87,43	62,44	61,89	184,56	28,81	10,01	32,61
1912	147,80	104,73	67,20	66,89	203,97	33,07	11,85	36,36
1913	157,13	117,18	76,83	71,21	224,44	35,36	12,80	36,72
1914	167,64	125,98	79,42	75,31	233,05	37,43	16,86	35,21
1915	236,42	286,60	105,12	85,91	282,72	51,41	27,50	35,35
1916	396,70	645,68	143,00	129,19	335,00	65,49	35,56	39,31
1917	563,20	676,53	176,83	182,12	375,00	94,96	50,74	42,63
1918	678,33	595,88	218,54	222,38	430,00	129,01	51,21	53,55
1919	782,33	683,64	280,01	212,54	470,00	151,93	40,57	69,31
1920	933,02	852,34	328,68	211,61	515,00	171,91	31,61	116,98
1921	848,80	472,43	285,37	146,13	440,00	181,40	29,51	135,72
1922	796,31	347,42	247,28	147,41	425,00	170,27	27,92	130,20
1923	800,69	228,53	245,09	137,68	430,00	152,26	24,76	124,85
1924	769,09	323,68	272,20	144,48	439,44	146,69	23,46	140,76
1925	718,81	313,13	244,15	137,83	450,68	142,11	23,34	137,17
1926	690,91	270,46	213,18	136,78	453,31	129,99	23,71	125,31
1927	639,97	261,77	183,62	133,62	459,49	122,13	22,13	121,78
1928	604,08	246,49	174,34	141,24	456,92	114,60	20,55	118,09
1929	593,87	282,65	171,41	140,32	458,56	110,67	20,30	106,63
1930	593,48	274,99	174,64	138,17	452,00	108,05	19,49	104,09
1931	532,58	253,26	169,16	129,73	500,10	100,45	17,33	101,59
1932	535,48	242,39	166,81	123,41	500,00	92,84	14,08	99,08
1933	521,95	229,02	169,94	126,57	498,30	88,27	13,00	99,08
1934	581,88	245,73	173,85	120,24	501,70	91,31	13,00	99,08
1935	638,91	268,30	180,90	120,24	510,50	101,97	13,00	104,09
1936	747,16	321,79	193,43	124,46	521,70	111,10	13,00	110,36
1937	873,78	504,84	213,79	129,73	546,30	114,14	13,00	119,14
1938	876,68	477,26	228,67	137,12	573,50	118,71	14,08	127,92
1939	983,97	539,11	248,25	148,72	597,80	129,36	43,32	134,19
1946	1446,00	840,00	500,00	208,00	882,00	373,00	172,00	231,00
1947	1753,00	997,00	571,00	248,00	920,00	393,00	119,00	258,00
1948	1763,00	1119,00	626,00	280,00	977,00	402,00	132,00	283,00
1949	2100,00	1216,00	683,00	284,00	1072,00	416,00	169,00	307,00
1950	2383,00	1592,00	737,00	316,00	1164,00	440,00	151,00	332,00
1951	2955,00	2618,00	792,00	407,00	1209,00	489,00	232,00	372,00
1952	3525,00	2684,00	910,00	444,00	1340,00	578,00	307,00	439,00
1953	3777,00	2229,00	974,00	464,00	1562,00	613,00	359,00	483,00
1954	4271,00	2109,00	1058,00	497,00	1821,00	655,00	410,00	522,00
1955	4187,00	2677,00	1121,00	530,00	2119,00	703,00	469,00	573,00

	Trade and repair of motor vehicles	Ocean going transport	Transport and communications	Financial and insurance activities	Dwellings, comerical buildings, and business Services	Public administration	Defence	Education
1956	4634,00	3635,00	1217,00	574,00	2379,00	801,00	528,00	694,00
1957	5022,00	3998,00	1277,00	631,00	2720,00	865,00	568,00	780,00
1958	4961,00	3250,00	1374,00	640,00	3002,00	930,00	599,00	840,00
1959	5249,00	3281,00	1501,00	708,00	3244,00	1050,00	632,00	921,00
1960	5813,00	3420,00	1646,00	775,00	3541,00	1096,00	671,00	1009,00
1961	6486,00	3643,00	1819,00	905,00	3856,00	1138,00	710,00	1125,00
1962	7111,00	3728,00	2026,00	909,00	4152,00	1314,00	779,00	1360,00
1963	7798,00	4036,00	2227,00	966,00	4377,00	1436,00	859,00	1533,00
1964	8480,00	4569,00	2372,00	1041,00	4620,00	1580,00	947,00	1727,00
1965	9447,00	5090,00	2586,00	1137,00	4971,00	1748,00	1029,00	1984,00
1966	10110,00	5106,00	2796,00	1280,00	5278,00	1953,00	1085,00	2260,00
1967	10883,00	6187,00	3125,00	1498,00	5690,00	2255,00	1277,00	2611,00
1968	11292,00	6939,00	3427,00	1713,00	6190,00	2438,00	1376,00	2922,00
1969	12308,00	6561,00	3756,00	1923,00	6460,00	2553,00	1534,00	3206,00
1970	12268,00	7712,00	4559,00	2286,00	8204,00	3032,00	1638,00	3601,00
1971	13464,00	7993,00	5037,00	2584,00	9285,00	3637,00	1764,00	4286,00
1972	15205,00	8264,00	5769,00	2922,00	10432,00	4122,00	1941,00	4728,00
1973	16703,00	10077,00	6364,00	3623,00	11777,00	4795,00	2124,00	5333,00
1974	20387,00	11305,00	6919,00	4407,00	13549,00	5613,00	2276,00	6049,00
1975	23179,00	9297,00	8260,00	4714,00	15919,00	6691,00	2656,00	7172,00
1976	25879,00	9267,00	9774,00	5517,00	18316,00	7919,00	3127,00	8424,00
1977	29022,00	9175,00	10991,00	6280,00	21417,00	8847,00	3385,00	9491,00
1978	29647,00	9891,00	12564,00	7357,00	23703,00	9758,00	3836,00	10696,00
1979	28777,00	11149,00	13983,00	8195,00	26021,00	10395,00	3852,00	11457,00
1980	35132,00	13199,00	15347,00	9864,00	29175,00	11791,00	4128,00	12889,00
1981	39864,00	14021,00	17767,00	12884,00	31728,00	13528,00	4560,00	14489,00
1982	43709,00	12328,00	20506,00	15204,00	35931,00	15484,00	5219,00	16509,00
1983	46768,00	12484,00	23314,00	16569,00	39817,00	17123,00	5663,00	17960,00
1984	49725,00	14038,00	25295,00	15575,00	47206,00	18678,00	5970,00	19579,00
1985	56983,00	13202,00	28265,00	17860,00	52806,00	20397,00	6419,00	21510,00
1986	64093,00	12562,00	34813,00	23866,00	56750,00	22401,00	7115,00	23861,00
1987	69655,00	9946,00	38721,00	32999,00	59996,00	25179,00	7973,00	26815,00
1988	72384,00	13919,00	42541,00	32645,00	68962,00	27075,00	8590,00	28917,00
1989	71156,00	19035,00	44878,00	33403,00	76058,00	28330,00	9211,00	30845,00
1990	72778,00	21557,00	49128,00	33722,00	80192,00	29683,00	10137,00	32461,00
1991	74885,00	26267,00	52527,00	33834,00	85870,00	31501,00	10426,00	34181,00
1992	75038,00	21015,00	55550,00	35329,00	90420,00	33720,00	10586,00	36246,00
1993	78155,00	24652,00	56673,00	36440,00	96641,00	35953,00	10960,00	37174,00
1994	80829,00	22701,00	57946,00	36608,00	100435,00	37269,00	10942,00	38673,00
1995	87135,00	22136,00	59629,00	35526,00	106879,00	38672,00	11031,00	40446,00
1996	93816,00	21845,00	63214,00	33407,00	114829,00	40625,00	11567,00	43051,00
1997	98538,00	25677,00	67549,00	35771,00	126688,00	42254,00	12107,00	45348,00
1998	108033,00	25415,00	72898,00	37724,00	141423,00	45056,00	13030,00	49856,00
1999	109681,00	24594,00	76318,00	35868,00	161374,00	47733,00	13909,00	52994,00
2000	116171,00	31925,00	77439,00	39602,00	180328,00	49418,00	14677,00	56332,00
2001	122081,00	38141,00	82054,00	40737,00	196267,00	54947,00	14424,00	61574,00
2002	122153,00	30169,00	86061,00	41612,00	208176,00	55531,00	14719,00	64590,00
2003	125546,00	30012,00	87594,00	55769,00	214184,00	56920,00	14474,00	69991,00
2004	131230,00	32967,00	91432,00	66710,00	221917,00	60060,00	14270,00	72668,00
2005	140952,00	35815,00	97709,00	68379,00	241766,00	62070,00	13981,00	76456,00
2006	153385,00	37560,00	105895,00	65545,00	261390,00	67461,00	14726,00	79795,00

	Health care, social work, and welfare services	Personal services, and other private and public services	Correction post Taxes, subsidies, and other corrections	GDP in base value Gross Value Added summarized	GDP in market value
1830	5,66	11,21	5,25	**188,41**	**193,65**
1831	6,20	11,37	4,71	**197,24**	**201,95**
1832	6,49	12,35	4,89	**187,59**	**192,48**
1833	6,22	12,07	5,95	**191,01**	**196,96**
1834	5,87	10,80	5,90	**181,46**	**187,36**
1835	5,83	10,55	4,64	**187,39**	**192,03**
1836	5,82	10,71	6,79	**196,22**	**203,02**
1837	5,94	12,10	7,63	**201,13**	**208,76**
1838	5,99	11,56	7,20	**212,55**	**219,75**
1839	6,21	11,97	7,32	**215,59**	**222,91**
1840	6,53	13,19	8,29	**222,15**	**230,45**
1841	6,24	12,83	7,40	**197,20**	**204,60**
1842	6,14	12,25	7,93	**190,99**	**198,91**
1843	6,21	12,40	8,23	**202,36**	**210,59**
1844	6,54	12,35	7,50	**212,95**	**220,45**
1845	6,78	12,74	8,42	**228,09**	**236,51**
1846	7,07	13,22	8,40	**242,94**	**251,33**
1847	7,48	14,63	7,54	**278,12**	**285,66**
1848	7,33	13,58	7,63	**236,75**	**244,38**
1849	7,28	13,49	8,15	**232,60**	**240,75**
1850	7,22	13,54	8,79	**240,63**	**249,42**
1851	7,39	13,93	8,95	**258,11**	**267,07**
1852	7,60	14,89	8,30	**272,29**	**280,58**
1853	7,95	16,68	8,32	**299,54**	**307,86**
1854	8,33	18,58	9,27	**358,83**	**368,10**
1855	8,83	19,37	9,15	**388,57**	**397,72**
1856	9,14	20,61	10,45	**405,67**	**416,12**
1857	9,35	21,25	10,62	**374,34**	**384,96**
1858	9,44	20,12	8,46	**361,72**	**370,18**
1859	9,82	20,35	10,63	**356,48**	**367,10**
1860	10,19	21,33	11,42	**398,15**	**409,57**
1861	10,46	22,11	11,37	**415,18**	**426,55**
1862	10,87	22,75	12,12	**435,36**	**447,48**
1863	10,93	23,28	12,62	**423,44**	**436,06**
1864	11,09	23,02	12,65	**437,40**	**450,05**
1865	11,31	23,30	12,63	**456,84**	**469,47**
1866	11,18	24,66	12,88	**466,32**	**479,20**
1867	11,70	25,05	12,02	**486,92**	**498,94**
1868	12,48	24,74	13,08	**501,13**	**514,21**
1869	12,28	24,40	12,11	**512,15**	**524,26**
1870	11,80	25,17	12,22	**527,42**	**539,63**
1871	12,51	26,42	12,19	**559,25**	**571,44**
1872	12,45	28,27	13,22	**613,95**	**627,17**
1873	13,12	30,51	14,55	**671,49**	**686,04**
1874	13,65	33,26	16,71	**698,00**	**714,71**
1875	14,03	34,65	17,45	**695,02**	**712,47**
1876	14,19	34,23	17,60	**706,43**	**724,03**
1877	15,31	35,05	18,53	**708,78**	**727,32**
1878	14,26	31,73	12,30	**641,21**	**653,51**
1879	15,01	29,01	19,06	**625,20**	**644,26**
1880	16,18	30,52	15,86	**681,05**	**696,91**
1881	16,41	31,21	18,00	**670,92**	**688,92**
1882	17,02	31,82	20,52	**695,40**	**715,92**
1883	15,71	32,34	18,64	**699,87**	**718,51**
1884	14,98	31,92	20,14	**666,20**	**686,34**
1885	15,08	30,85	20,12	**632,64**	**652,76**
1886	14,87	30,35	19,50	**623,69**	**643,19**
1887	14,89	29,93	20,55	**617,26**	**637,81**
1888	15,03	31,02	20,46	**659,02**	**679,48**
1889	15,99	32,68	23,35	**717,11**	**740,46**

	Health care, social work, and welfare services	Personal services, and other private and public services	Correction post Taxes, subsidies, and other corrections	GDP in base value Gross Value Added summarized	GDP in market value
1890	17,51	33,87	22,79	**729,56**	**752,35**
1891	16,87	35,45	22,02	**748,59**	**770,61**
1892	19,06	36,52	21,17	**735,69**	**756,86**
1893	19,29	36,17	21,02	**730,16**	**751,18**
1894	20,18	37,60	21,80	**732,07**	**753,87**
1895	20,65	38,31	23,31	**761,36**	**784,67**
1896	21,33	40,20	26,65	**803,64**	**830,29**
1897	22,19	41,36	31,59	**855,47**	**887,06**
1898	23,35	44,00	37,42	**911,61**	**949,03**
1899	20,59	47,32	27,66	**965,88**	**993,54**
1900	25,48	50,59	35,07	**1034,42**	**1069,49**
1901	25,66	50,36	36,11	**1015,63**	**1051,74**
1902	25,51	50,57	34,07	**1003,30**	**1037,37**
1903	24,85	52,18	34,50	**1018,23**	**1052,73**
1904	25,08	52,57	33,30	**1013,68**	**1046,97**
1905	25,43	53,83	36,10	**1048,74**	**1084,85**
1906	25,87	55,91	39,88	**1125,91**	**1165,78**
1907	26,87	59,07	43,66	**1215,28**	**1258,93**
1908	32,69	62,34	53,41	**1257,47**	**1310,88**
1909	28,75	65,09	48,91	**1266,69**	**1315,60**
1910	29,35	68,28	50,97	**1373,84**	**1424,81**
1911	32,36	71,29	53,63	**1484,39**	**1538,02**
1912	35,33	74,28	50,78	**1649,59**	**1700,37**
1913	36,71	79,56	52,41	**1805,63**	**1858,04**
1914	37,92	81,95	53,24	**1874,84**	**1928,08**
1915	46,25	98,73	56,00	**2523,93**	**2579,93**
1916	56,25	129,46	65,00	**3744,03**	**3809,03**
1917	67,57	156,27	60,00	**4407,16**	**4467,16**
1918	89,12	208,43	96,00	**5026,19**	**5122,19**
1919	116,70	258,47	126,00	**5848,92**	**5974,92**
1920	159,35	311,99	101,00	**6834,72**	**6935,72**
1921	134,49	245,00	88,50	**4946,09**	**5034,59**
1922	118,97	222,59	104,00	**4767,04**	**4871,04**
1923	117,75	240,78	115,00	**4738,23**	**4853,23**
1924	134,12	239,44	145,00	**5135,59**	**5280,59**
1925	141,39	241,40	144,00	**5055,43**	**5199,43**
1926	122,33	218,64	141,00	**4344,95**	**4485,95**
1927	123,26	206,50	149,00	**4090,86**	**4239,86**
1928	116,18	198,02	149,00	**4100,98**	**4249,98**
1929	115,76	193,39	151,00	**4204,63**	**4355,63**
1930	116,52	196,48	153,00	**4180,32**	**4333,32**
1931	115,04	180,43	150,00	**3694,70**	**3844,70**
1932	114,18	175,42	151,00	**3715,28**	**3866,28**
1933	112,95	174,58	153,00	**3693,38**	**3846,38**
1934	117,32	179,59	154,00	**3879,39**	**4033,39**
1935	124,17	188,78	167,00	**4218,91**	**4385,91**
1936	131,59	202,98	196,00	**4662,28**	**4858,28**
1937	141,49	229,71	224,00	**5387,25**	**5611,25**
1938	151,77	248,09	238,00	**5591,93**	**5829,93**
1939	161,00	259,78	236,00	**5995,73**	**6231,73**
1946	287,00	494,00	650,00	**9924,00**	**10574,00**
1947	313,00	528,00	765,00	**11644,00**	**12409,00**
1948	347,00	565,00	838,00	**12758,00**	**13596,00**
1949	373,00	598,00	999,00	**13643,00**	**14642,00**
1950	390,00	620,00	1212,00	**15000,00**	**16212,00**
1951	431,00	657,00	1751,00	**18446,00**	**20197,00**
1952	507,00	712,00	2051,00	**20312,00**	**22363,00**
1953	568,00	744,00	2028,00	**20720,00**	**22748,00**
1954	596,00	793,00	2170,00	**22582,00**	**24752,00**
1955	621,00	808,00	2309,00	**24119,00**	**26428,00**

	Health care, social work, and welfare services	Personal services, and other private and public services	Correction post Taxes, subsidies, and other corrections	GDP in base value Gross Value Added summarized	GDP in market value
1956	680,00	845,00	2732,00	27222,00	29954,00
1957	738,00	904,00	2861,00	29170,00	32031,00
1958	787,00	958,00	3099,00	28982,00	32081,00
1959	890,00	1055,00	3357,00	30706,00	34063,00
1960	946,00	1113,00	3483,00	32964,00	36447,00
1961	1099,00	1185,00	3893,00	35923,00	39816,00
1962	1286,00	1293,00	4255,00	38830,00	43085,00
1963	1436,00	1399,00	4365,00	41985,00	46350,00
1964	1641,00	1487,00	5151,00	45887,00	51038,00
1965	1889,00	1663,00	5479,00	50925,00	56404,00
1966	2119,00	1829,00	6174,00	54869,00	61043,00
1967	2401,00	2027,00	6674,00	60210,00	66884,00
1968	2665,00	2209,00	6885,00	64602,00	71487,00
1969	2935,00	2476,00	8895,00	69153,00	78048,00
1970	3483,00	2776,00	11648,00	79281,00	90929,00
1971	4178,00	3151,00	14105,00	88041,00	102146,00
1972	5048,00	3594,00	15399,00	98049,00	113448,00
1973	5952,00	4080,00	17183,00	111636,00	128819,00
1974	6980,00	4635,00	18229,00	130655,00	148884,00
1975	8697,00	5606,00	20554,00	149665,00	170219,00
1976	10594,00	6481,00	23454,00	170665,00	194119,00
1977	12519,00	7460,00	26789,00	191846,00	218635,00
1978	14180,00	8167,00	27854,00	213372,00	241226,00
1979	15711,00	8722,00	30306,00	235801,00	266107,00
1980	18276,00	9862,00	33711,00	280987,00	314698,00
1981	21031,00	11567,00	40631,00	320196,00	360827,00
1982	23926,00	13159,00	44187,00	354997,00	399184,00
1983	26481,00	15062,00	50248,00	393227,00	443475,00
1984	28872,00	16685,00	55453,00	443203,00	498656,00
1985	31561,00	18832,00	67474,00	484958,00	552432,00
1986	35362,00	21399,00	80708,00	490184,00	570892,00
1987	41039,00	23982,00	84177,00	538690,00	622867,00
1988	44480,00	26063,00	82579,00	569493,00	652072,00
1989	46955,00	27026,00	80876,00	614894,00	695770,00
1990	50679,00	28504,00	83440,00	652854,00	736294,00
1991	55768,00	31372,00	89114,00	686613,00	775727,00
1992	59884,00	33678,00	94687,00	702627,00	797314,00
1993	62712,00	34879,00	103840,00	734458,00	838298,00
1994	65607,00	37586,00	114803,00	764004,00	878807,00
1995	70367,00	39969,00	127921,00	815516,00	943437,00
1996	76276,00	43897,00	139643,00	893346,00	1032989,00
1997	83893,00	47189,00	151219,00	967956,00	1119175,00
1998	90102,00	51752,00	157928,00	982432,00	1140360,00
1999	97058,00	55646,00	167394,00	1073032,00	1240426,00
2000	103535,00	59506,00	178473,00	1302768,00	1481241,00
2001	113529,00	61708,00	182705,00	1354182,00	1536887,00
2002	123581,00	67056,00	183662,00	1348645,00	1532307,00
2003	131712,00	69043,00	184505,00	1409321,00	1593826,00
2004	139261,00	72281,00	200208,00	1542833,00	1743041,00
2005	149122,00	76714,00	213768,00	1731948,00	1945716,00
2006	160497,00	84990,00	238278,00	1921295,00	2159573,00

Table A.8 - Norwegian GDP by industry in fixed 1938 million NOK. Aggregated level.

	Agriculture, forestry, and hunting etc.	Fisheries, etc	Whaling, etc	Mining and quarrying	Oil and gas extraction	Manufacturing	Electricity, gas, water and sanitary services	Construction
1830	237,51	21,46	0,39	3,11	0,00	27,12	2,44	11,53
1831	211,05	23,58	0,42	3,13	0,00	27,65	2,52	11,97
1832	217,67	25,97	0,40	3,13	0,00	26,26	2,29	10,51
1833	246,38	30,50	0,45	3,43	0,00	28,87	2,88	13,86
1834	261,15	27,79	0,47	3,51	0,00	27,14	2,31	11,16
1835	259,71	26,25	0,46	3,79	0,00	29,33	2,73	13,27
1836	243,09	25,63	0,44	4,05	0,00	32,05	3,39	16,58
1837	235,69	32,80	0,58	3,93	0,00	32,31	3,26	16,00
1838	255,71	23,95	0,40	4,17	0,00	34,82	3,77	18,64
1839	250,49	26,74	0,38	4,28	0,00	34,69	3,97	19,75
1840	269,15	33,71	0,46	3,53	0,00	32,70	3,21	16,03
1841	281,01	29,01	0,46	3,88	0,00	33,96	2,81	14,14
1842	278,67	30,73	0,48	4,18	0,00	36,81	3,18	16,04
1843	273,09	25,30	0,42	3,97	0,00	39,59	3,05	15,43
1844	253,98	38,11	0,53	4,87	0,00	43,10	3,71	18,78
1845	288,64	32,00	0,47	5,89	0,00	44,36	3,95	20,30
1846	290,64	39,18	0,57	5,31	0,00	44,79	3,78	19,67
1847	286,15	36,81	0,58	5,34	0,00	50,42	4,32	22,21
1848	266,87	31,74	0,48	4,05	0,00	41,29	3,55	16,16
1849	266,85	37,59	0,51	3,99	0,00	41,41	3,66	16,75
1850	290,75	30,96	0,48	4,04	0,00	45,37	4,09	19,17
1851	301,60	38,25	0,55	3,88	0,00	49,31	4,48	23,64
1852	316,20	31,24	0,46	3,94	0,00	53,38	4,97	26,23
1853	325,40	33,07	0,49	4,41	0,00	57,24	5,56	29,37
1854	343,09	29,89	0,42	4,24	0,00	64,79	6,98	36,88
1855	358,28	39,58	0,45	4,30	0,00	67,57	7,37	38,92
1856	337,31	41,86	0,43	5,04	0,00	71,71	7,77	40,50
1857	322,88	36,82	0,38	3,05	0,00	64,11	6,51	30,82
1858	361,00	30,99	0,39	3,36	0,00	66,78	6,79	31,78
1859	349,19	37,66	0,44	3,36	0,00	65,16	6,12	27,29
1860	361,04	45,85	0,49	3,89	0,00	68,44	7,39	37,36
1861	348,95	41,64	0,43	3,97	0,00	76,18	8,35	41,97
1862	389,18	47,42	0,56	4,16	0,00	81,57	9,25	46,76
1863	369,04	45,08	0,55	3,93	0,00	74,97	9,17	46,44
1864	380,12	48,09	0,92	3,79	0,00	72,21	8,64	44,37
1865	410,30	52,35	0,82	4,15	0,00	81,79	9,31	48,12
1866	371,05	62,73	0,83	3,99	0,00	79,41	9,11	47,04
1867	379,45	65,61	1,09	4,46	0,00	87,33	9,77	50,18
1868	385,38	64,77	1,10	4,60	0,00	90,46	10,02	51,75
1869	414,51	45,52	0,91	4,89	0,00	97,82	10,89	56,87
1870	437,69	50,91	1,03	4,97	0,00	102,63	11,56	61,07
1871	461,55	58,62	1,03	5,65	0,00	110,88	12,43	65,69
1872	509,89	54,97	1,09	6,65	0,00	101,58	11,23	59,33
1873	544,87	56,00	1,15	6,21	0,00	108,69	11,93	63,00
1874	477,00	56,57	1,05	5,80	0,00	119,73	12,75	67,37
1875	482,48	60,31	0,98	7,01	0,00	121,40	12,59	66,49
1876	521,23	54,77	0,98	6,25	0,00	129,36	13,05	68,92
1877	479,65	67,06	1,03	6,01	0,00	136,92	13,42	70,91
1878	458,28	57,61	1,18	5,18	0,00	135,07	12,98	68,58
1879	503,09	63,24	1,46	4,93	0,00	135,67	13,22	69,43
1880	568,04	63,84	0,86	5,24	0,00	130,37	12,92	67,51
1881	537,51	52,87	1,28	6,16	0,00	139,27	13,35	69,34
1882	546,17	50,31	1,25	7,25	0,00	144,99	13,75	71,63
1883	560,89	50,01	1,32	5,49	0,00	142,16	13,19	67,77
1884	525,79	58,85	1,70	5,66	0,00	134,79	12,56	64,36
1885	517,02	53,09	1,62	4,96	0,00	132,48	12,46	63,64
1886	525,25	64,82	1,54	3,77	0,00	128,26	11,97	61,32
1887	535,61	52,48	1,95	3,33	0,00	133,87	12,18	62,55
1888	555,39	69,02	2,35	4,83	0,00	147,05	11,83	60,93

	Agriculture, forestry, and hunting etc.	Fisheries, etc	Whaling, etc	Mining and quarrying	Oil and gas extraction	Manufacturing	Electricity, gas, water and sanitary services	Construction
1889	545,56	69,41	2,19	4,29	0,00	166,63	13,38	69,13
1890	530,03	64,54	2,19	4,66	0,00	176,82	14,77	76,30
1891	552,90	61,76	2,43	3,96	0,00	185,86	14,90	77,39
1892	513,00	71,15	2,67	3,51	0,00	193,55	14,67	76,62
1893	518,75	72,68	2,53	3,44	0,00	199,79	14,91	78,32
1894	529,29	68,34	2,51	4,23	0,00	218,22	16,08	84,93
1895	581,87	61,38	2,22	3,88	0,00	228,34	17,25	88,73
1896	599,74	54,50	2,03	5,13	0,00	239,39	17,65	89,00
1897	620,28	66,77	2,24	5,90	0,00	264,71	19,54	96,56
1898	604,43	56,01	2,38	6,52	0,00	293,15	23,26	112,68
1899	558,54	55,25	1,80	7,94	0,00	314,60	26,58	126,19
1900	613,78	54,78	1,21	9,55	0,00	310,11	24,59	110,81
1901	605,97	56,74	1,63	9,38	0,00	315,85	23,42	103,21
1902	612,43	59,28	1,78	10,39	0,00	316,58	23,60	99,95
1903	663,48	50,67	1,43	11,53	0,00	318,33	22,66	93,72
1904	635,89	47,83	1,56	12,04	0,00	315,69	23,79	103,03
1905	650,63	48,33	1,40	14,04	0,00	331,48	22,85	96,25
1906	698,32	53,28	1,67	17,24	0,00	367,29	25,68	111,70
1907	673,99	63,27	2,93	17,84	0,00	385,60	28,99	121,80
1908	636,47	68,64	4,72	16,50	0,00	413,58	29,41	119,34
1909	638,11	82,42	8,36	14,82	0,00	422,33	27,53	106,36
1910	647,84	82,97	10,44	17,69	0,00	480,86	33,13	118,82
1911	640,75	94,20	13,72	19,98	0,00	507,39	39,36	137,10
1912	606,84	107,60	19,50	25,28	0,00	588,22	40,88	138,25
1913	667,74	115,71	20,22	31,74	0,00	687,43	45,37	148,95
1914	634,54	117,98	16,73	33,86	0,00	702,27	48,87	155,68
1915	633,34	116,69	11,73	53,38	0,00	730,86	49,38	153,21
1916	630,25	155,01	7,58	42,53	0,00	819,35	65,04	196,46
1917	487,43	95,29	3,06	35,17	0,00	821,51	63,93	188,68
1918	476,87	118,72	3,32	22,54	0,00	722,92	56,97	164,28
1919	442,38	126,30	6,97	19,10	0,00	793,98	113,97	321,01
1920	530,73	79,75	4,14	10,75	0,00	837,79	103,82	285,58
1921	459,95	64,87	9,27	8,60	0,00	609,74	70,56	176,80
1922	495,97	108,86	15,51	14,46	0,00	759,42	87,48	229,36
1923	591,54	102,97	15,30	20,19	0,00	811,39	98,73	252,64
1924	541,53	146,54	19,28	22,16	0,00	855,77	82,82	206,77
1925	520,05	117,09	21,26	21,52	0,00	916,80	75,51	183,90
1926	554,01	84,01	16,89	18,68	0,00	845,31	77,58	168,29
1927	603,86	113,75	28,15	17,78	0,00	864,75	83,10	163,02
1928	603,61	108,45	48,07	24,06	0,00	953,16	89,19	189,10
1929	652,08	123,25	59,89	31,66	0,00	1028,99	96,27	211,81
1930	627,49	117,96	70,98	32,11	0,00	1059,95	104,23	223,42
1931	543,75	91,99	57,39	19,31	0,00	881,59	101,60	206,16
1932	602,92	114,35	7,55	23,72	0,00	965,27	101,60	233,96
1933	657,63	130,14	48,33	26,83	0,00	976,44	102,48	233,00
1934	676,61	103,41	37,75	28,29	0,00	1015,56	104,23	244,51
1935	687,78	101,27	40,77	35,04	0,00	1114,06	107,73	279,03
1936	662,10	116,00	46,06	43,91	0,00	1217,75	111,24	311,63
1937	710,11	116,26	40,77	47,60	0,00	1290,01	119,99	297,25
1938	724,62	120,45	43,04	54,50	0,00	1264,55	127,00	303,96
1939	669,91	128,14	36,24	53,21	0,00	1366,03	131,38	330,81
1946	590,72	89,98	18,12	40,38	0,00	1338,87	241,78	417,11
1947	651,62	122,04	30,26	46,37	0,00	1560,38	240,56	487,12
1948	630,92	184,89	31,60	61,58	0,00	1630,07	203,65	448,24
1949	676,84	172,31	33,99	77,20	0,00	1830,68	239,89	488,87
1950	645,64	197,88	46,19	78,50	0,00	2016,08	265,92	499,67
1951	641,55	243,18	44,05	83,56	0,00	2133,97	270,97	453,04
1952	739,13	236,35	44,52	92,00	0,00	2096,29	277,57	479,00
1953	721,93	197,05	32,66	98,76	0,00	2210,55	298,42	514,84
1954	692,07	238,06	39,66	98,33	0,00	2333,54	334,41	549,96

	Agriculture, forestry, and hunting etc.	Fisheries, etc	Whaling, etc	Mining and quarrying	Oil and gas extraction	Manufacturing	Electricity, gas, water and sanitary services	Construction
1955	657,39	231,90	30,85	105,85	0,00	2426,81	354,53	543,58
1956	760,25	261,80	33,03	116,35	0,00	2642,33	364,50	489,10
1957	747,57	213,38	39,63	107,45	0,00	2704,45	420,94	530,56
1958	716,52	186,41	31,25	106,56	0,00	2632,04	464,33	514,42
1959	707,01	205,40	30,36	108,76	0,00	2740,62	469,50	509,29
1960	696,50	197,69	22,28	116,19	0,00	3001,01	518,37	511,62
1961	765,73	239,60	24,37	103,63	0,00	3302,58	632,06	785,68
1962	734,95	220,04	21,76	115,56	0,00	3382,85	680,36	831,75
1963	725,77	224,72	10,89	125,14	0,00	3602,65	728,27	893,01
1964	738,60	263,17	13,05	125,37	0,00	3952,50	756,95	903,33
1965	767,27	350,47	10,60	139,88	0,00	4208,62	831,93	893,33
1966	710,01	399,81	6,98	142,02	0,00	4369,54	839,98	965,18
1967	721,89	427,30	5,61	172,91	0,00	4404,11	913,89	985,03
1968	735,04	356,20	4,44	184,52	0,00	4645,45	1038,16	936,91
1969	698,83	307,81	0,00	207,21	0,00	4980,43	1024,14	891,40
1970	697,53	303,23	0,00	192,79	0,00	4967,24	1098,85	988,60

	Trade and repair of motor vehicles	Ocean going transport	Transport and communications	Financial and insurance activities	Dwellings, comerical buildings, and business Services	Public administration	Defence	Education
1830	29,96	5,45	5,86	4,32	44,17	8,73	3,65	10,50
1831	27,19	5,28	5,61	4,05	45,52	8,71	3,38	10,58
1832	31,13	5,74	5,55	4,39	47,83	10,37	3,39	10,72
1833	35,16	6,25	6,18	4,80	49,77	10,54	3,43	10,87
1834	39,65	6,22	6,48	5,39	49,53	10,59	3,43	11,02
1835	37,61	6,61	6,25	5,30	49,05	10,44	3,34	11,15
1836	37,38	6,84	6,34	5,34	49,12	10,33	3,26	11,24
1837	35,27	7,11	6,29	5,78	49,49	10,56	3,22	11,38
1838	32,42	7,00	6,35	5,79	48,70	11,12	3,15	11,53
1839	35,65	7,82	6,57	6,15	54,79	11,63	3,55	11,74
1840	38,89	8,50	7,23	6,69	53,33	12,08	3,51	11,93
1841	42,49	8,15	7,19	7,47	54,62	11,88	3,49	11,97
1842	40,81	8,26	6,92	7,77	50,12	11,27	3,49	12,06
1843	41,49	7,76	7,24	7,93	56,38	11,04	3,29	12,00
1844	44,18	10,16	7,93	8,89	55,78	11,04	3,39	12,09
1845	45,40	10,42	7,85	9,19	55,32	11,10	3,12	12,14
1846	44,44	11,18	7,50	8,67	63,07	10,94	3,36	12,25
1847	39,35	12,48	7,27	7,87	56,79	11,94	3,32	12,31
1848	44,27	11,03	7,93	9,48	59,00	11,85	3,49	12,31
1849	47,08	12,77	8,52	9,66	61,75	11,49	3,67	12,45
1850	53,16	14,14	8,93	10,01	63,28	12,01	3,81	12,52
1851	52,21	15,57	9,13	10,09	64,08	11,93	3,36	12,64
1852	51,88	15,63	9,23	10,20	65,18	12,03	3,62	13,08
1853	66,26	19,12	9,92	12,37	65,15	11,51	4,20	13,10
1854	71,56	22,32	11,10	13,95	66,69	11,27	4,68	13,23
1855	68,36	27,39	11,00	14,17	67,42	11,13	4,91	13,32
1856	65,28	32,09	10,91	14,84	70,71	11,20	4,80	13,40
1857	61,71	26,48	11,78	12,27	78,52	13,85	3,77	14,70
1858	71,93	24,92	12,79	15,21	81,93	14,02	4,85	15,61
1859	65,72	29,29	12,89	15,91	92,98	13,45	4,91	15,89
1860	64,93	30,60	13,13	15,12	94,81	13,48	4,68	16,10
1861	61,26	33,75	13,29	15,80	99,17	13,56	4,96	16,63
1862	67,89	34,54	14,08	17,47	102,95	13,41	5,83	17,02
1863	69,92	40,29	14,11	19,56	107,19	13,34	5,32	17,52
1864	68,57	45,98	15,27	20,04	112,57	13,64	9,26	17,77
1865	82,17	46,86	16,30	20,86	113,06	13,64	5,18	18,06
1866	72,59	47,52	15,14	20,45	105,25	13,65	4,70	18,51
1867	74,90	51,25	15,16	21,04	106,97	13,53	4,79	17,72
1868	65,91	50,44	14,62	21,64	113,24	13,19	4,75	15,78
1869	77,28	56,75	16,96	22,35	119,13	14,33	5,26	17,59

	Trade and repair of motor vehicles	Ocean going transport	Transport and communications	Financial and insurance activities	Dwellings, comerical buildings, and business Services	Public administration	Defence	Education
1870	87,52	58,43	18,50	22,90	122,28	14,19	5,10	15,80
1871	95,18	57,72	18,75	23,95	122,35	15,14	5,35	16,51
1872	106,69	69,59	21,16	20,47	123,64	13,37	4,83	14,63
1873	110,55	69,24	24,49	19,74	128,10	13,09	4,71	14,97
1874	110,79	69,16	25,08	19,83	135,82	13,87	4,78	15,08
1875	113,02	67,00	33,78	21,71	138,88	15,05	5,02	16,52
1876	120,98	70,62	33,60	23,61	151,66	15,44	5,64	17,15
1877	114,79	70,82	31,22	25,12	144,86	16,68	5,80	17,92
1878	116,13	73,41	25,94	26,87	153,26	16,09	5,51	18,90
1879	127,96	73,94	23,88	28,95	153,55	19,01	6,37	21,70
1880	126,92	81,33	28,99	29,82	155,85	17,47	5,94	20,89
1881	116,82	72,12	30,19	31,54	157,61	17,92	6,03	21,07
1882	129,06	82,17	32,60	31,59	159,00	17,65	6,14	20,32
1883	143,83	87,53	32,40	32,52	164,56	18,18	5,95	20,36
1884	140,85	81,62	31,80	34,34	170,93	19,28	6,55	22,84
1885	149,14	77,40	31,32	36,88	177,38	20,20	6,75	23,82
1886	160,96	75,42	30,52	37,34	182,42	21,16	7,04	24,66
1887	184,00	76,33	30,15	36,73	184,73	21,91	7,27	25,78
1888	192,19	90,95	32,95	37,26	186,69	21,91	7,76	26,66
1889	197,38	113,85	37,37	36,00	189,13	21,67	7,63	25,93
1890	191,93	111,16	38,73	35,47	188,88	22,15	8,05	26,08
1891	179,93	101,10	40,41	37,06	194,47	21,68	7,78	25,70
1892	175,30	101,29	42,89	38,99	204,03	23,55	8,02	28,83
1893	190,07	94,93	48,62	41,59	211,96	25,30	8,49	31,68
1894	216,32	93,42	49,88	43,32	217,70	26,07	9,94	32,12
1895	238,92	89,02	51,22	46,26	221,65	28,02	12,32	35,71
1896	236,14	100,28	53,71	46,50	230,20	31,10	15,44	40,67
1897	261,04	108,89	54,33	48,86	233,78	31,88	15,81	38,76
1898	271,90	110,29	61,34	52,73	234,42	31,77	15,90	39,74
1899	267,09	124,40	65,92	51,60	235,99	30,07	16,69	36,00
1900	245,85	128,96	67,65	54,03	244,00	29,76	14,72	38,03
1901	257,67	131,53	68,57	60,22	249,00	30,90	14,18	45,66
1902	262,80	126,78	71,07	59,42	252,00	31,81	13,21	46,65
1903	258,98	115,22	71,91	62,03	257,00	31,25	11,94	45,84
1904	264,97	139,52	69,57	62,71	260,00	30,68	10,64	45,72
1905	275,88	130,25	73,12	61,91	267,00	30,21	11,02	44,98
1906	296,38	126,86	78,01	61,03	272,00	29,76	10,86	44,87
1907	294,28	137,23	80,54	62,58	283,00	29,88	10,60	46,21
1908	304,39	142,71	84,74	65,74	301,00	30,14	10,50	50,91
1909	319,79	130,66	85,70	71,36	311,00	32,61	11,06	54,81
1910	337,14	135,09	93,59	73,46	328,00	33,01	11,18	58,63
1911	346,59	145,89	97,66	76,12	342,00	33,68	11,38	57,49
1912	348,80	153,86	96,17	79,96	362,00	36,74	12,68	60,93
1913	377,20	166,73	108,75	82,79	372,00	37,73	12,90	59,09
1914	377,92	159,67	107,57	84,65	394,00	39,00	15,84	55,33
1915	387,26	209,27	100,07	79,68	414,00	45,47	21,93	47,15
1916	514,76	266,05	99,76	76,94	432,00	46,33	22,68	41,94
1917	487,91	201,92	84,39	71,72	431,00	47,10	22,69	31,89
1918	461,37	176,17	89,64	77,66	440,00	51,77	18,53	32,41
1919	554,33	202,31	119,88	72,73	450,00	60,43	14,88	41,57
1920	586,97	260,97	123,98	68,28	460,00	62,30	10,51	59,14
1921	594,07	300,62	152,78	58,92	470,00	73,76	11,30	79,07
1922	638,67	259,58	145,49	65,67	475,00	84,84	12,48	87,69
1923	716,19	181,76	154,59	67,74	483,00	77,50	11,87	91,05
1924	626,74	233,06	147,06	69,08	491,00	66,32	9,99	91,17
1925	574,16	253,21	142,39	69,62	495,00	68,61	10,34	92,39
1926	652,76	249,96	158,78	83,51	497,00	76,80	12,85	103,27
1927	667,19	273,01	162,26	96,10	500,00	79,64	13,59	113,77
1928	677,73	280,86	159,78	107,98	501,00	75,60	13,11	114,55
1929	695,87	339,94	165,52	111,30	503,00	74,76	13,60	108,18

	Trade and repair of motor vehicles	Ocean going transport	Transport and communications	Financial and insurance activities	Dwellings, comerical buildings, and business Services	Public administration	Defence	Education
1930	716,23	386,99	183,25	114,97	506,00	77,70	14,02	112,85
1931	684,34	360,24	176,20	120,24	510,00	84,52	14,58	112,69
1932	686,27	365,26	174,64	121,30	515,00	87,82	13,32	113,09
1933	695,93	376,12	176,99	121,30	519,00	87,01	12,81	116,12
1934	719,13	391,17	182,47	123,41	534,00	88,78	12,64	116,70
1935	763,59	400,36	187,95	125,52	546,00	94,22	12,01	118,52
1936	813,86	424,60	203,61	128,68	548,00	98,03	11,47	121,17
1937	868,95	463,05	223,98	131,84	563,00	106,27	12,10	125,87
1938	876,68	477,26	228,67	137,12	574,00	118,71	14,08	127,92
1939	943,38	485,62	243,55	142,39	585,00	101,42	33,96	132,12
1946	950,78	264,88	382,18	167,80	578,61	201,77	67,57	209,65
1947	1143,39	341,87	441,03	176,27	596,18	192,76	64,52	206,29
1948	1101,09	448,51	442,44	186,09	608,42	203,91	68,29	205,36
1949	1113,17	495,99	466,50	187,00	631,44	202,28	73,96	209,91
1950	1123,87	586,52	477,42	185,50	664,27	208,64	64,35	218,79
1951	1138,51	708,65	480,93	187,19	664,62	213,55	93,17	228,31
1952	1237,49	702,43	517,61	191,85	673,71	219,76	107,08	238,58
1953	1331,81	720,86	531,18	197,38	719,76	225,87	123,75	251,58
1954	1446,79	711,78	559,06	212,75	773,95	232,85	140,11	268,65
1955	1420,90	822,90	590,01	224,14	812,45	239,29	156,95	284,83
1956	1474,26	926,15	588,61	233,67	831,62	242,06	160,80	310,14
1957	1537,69	995,01	590,21	243,75	877,69	247,19	168,40	326,50
1958	1421,26	977,84	597,59	244,77	908,93	251,02	173,73	350,90
1959	1486,47	1019,27	630,33	258,34	940,42	264,16	176,31	373,29
1960	1632,54	1131,32	652,68	277,07	971,98	270,39	178,27	395,72
1961	1955,92	1019,99	885,75	354,51	1427,04	377,49	231,57	518,76
1962	2014,46	1080,32	922,43	354,46	1492,74	398,41	223,77	552,01
1963	2132,01	1176,33	949,98	375,30	1511,56	407,92	234,71	590,27
1964	2158,85	1266,70	994,76	364,40	1528,68	422,72	243,94	628,06
1965	2206,77	1412,27	1011,74	384,61	1551,74	436,67	249,43	673,33
1966	2270,93	1414,92	1036,43	412,64	1550,54	450,56	244,75	713,64
1967	2343,78	1635,39	1103,09	394,55	1598,55	486,26	273,51	777,75
1968	2425,02	1774,87	1140,76	396,02	1627,39	492,82	278,55	818,71
1969	2645,81	1739,52	1206,26	439,27	1620,68	494,90	297,47	859,32
1970	2447,16	1752,37	1326,56	405,35	1867,86	554,81	297,43	912,65

	Health care, social work, and welfare services	Personal services, and other private and public services	Correction post Taxes, subsidies, and other corrections	GDP in base value Gross Value Added summarized	GDP in market value
1830	14,38	29,57	19,58	**460,13**	**479,71**
1831	14,85	27,21	18,42	**432,72**	**451,14**
1832	15,88	31,38	19,26	**452,61**	**471,87**
1833	15,82	33,55	21,40	**502,73**	**524,13**
1834	15,46	32,56	21,87	**513,86**	**535,72**
1835	14,91	29,66	21,70	**509,87**	**531,57**
1836	14,53	28,97	21,22	**498,59**	**519,81**
1837	14,59	31,78	21,28	**500,03**	**521,31**
1838	14,42	29,12	21,75	**511,05**	**532,80**
1839	15,05	30,62	22,29	**523,87**	**546,17**
1840	15,91	35,73	23,52	**552,61**	**576,13**
1841	16,06	39,13	24,16	**567,72**	**591,88**
1842	15,79	37,53	24,01	**564,13**	**588,14**
1843	15,21	37,10	23,84	**560,29**	**584,14**

	Health care, social work, and welfare services	Personal services, and other private and public services	Correction post Taxes, subsidies, and other corrections	GDP in base value Gross Value Added summarized	GDP in market value
1844	16,25	37,94	24,29	570,71	595,00
1845	16,50	37,72	25,72	604,39	630,11
1846	16,27	34,44	26,22	616,04	642,25
1847	15,73	31,95	25,74	604,85	630,59
1848	17,23	37,83	24,62	578,55	603,17
1849	17,66	40,64	25,38	596,47	621,85
1850	17,76	41,20	26,88	631,68	658,56
1851	17,79	39,70	28,01	658,20	686,21
1852	17,79	40,47	28,75	675,53	704,28
1853	18,28	43,87	30,61	719,33	749,94
1854	18,27	45,17	32,54	764,52	797,05
1855	18,42	42,79	33,85	795,38	829,23
1856	18,23	42,69	33,57	788,77	822,33
1857	19,86	49,36	32,21	756,88	789,09
1858	21,75	53,32	34,79	817,40	852,18
1859	22,54	53,26	34,73	816,06	850,79
1860	22,40	50,71	36,19	850,43	886,62
1861	23,84	51,03	36,38	854,80	891,17
1862	24,84	52,90	39,57	929,84	969,41
1863	25,19	55,59	39,03	917,18	956,22
1864	25,87	57,00	40,18	944,09	984,27
1865	26,46	58,22	42,88	1007,65	1050,53
1866	24,78	55,47	40,52	952,23	992,75
1867	24,69	53,17	41,75	981,10	1022,85
1868	25,16	49,73	41,81	982,53	1024,35
1869	27,27	55,15	44,41	1043,48	1087,88
1870	26,24	61,04	46,89	1101,86	1148,76
1871	28,01	62,18	49,41	1160,98	1210,39
1872	25,70	64,58	51,47	1209,42	1260,89
1873	25,12	64,81	53,91	1266,65	1320,56
1874	25,29	65,70	52,16	1225,68	1277,85
1875	26,96	73,79	53,75	1262,98	1316,73
1876	27,99	76,84	56,95	1338,10	1395,04
1877	30,02	75,90	55,67	1308,15	1363,82
1878	30,67	78,46	54,65	1284,12	1338,77
1879	35,35	77,31	57,84	1359,06	1416,90
1880	34,93	74,45	60,66	1425,38	1486,04
1881	34,97	73,49	58,80	1381,55	1440,34
1882	36,18	79,18	60,82	1429,23	1490,05
1883	34,92	84,27	62,36	1465,34	1527,70
1884	35,43	86,08	61,00	1433,42	1494,43
1885	37,03	88,67	61,02	1433,86	1494,88
1886	37,87	92,00	62,40	1466,32	1528,73

	Health care, social work, and welfare services	Personal services, and other private and public services	Correction post Taxes, subsidies, and other corrections	GDP in base value Gross Value Added summarized	GDP in market value
1887	38,42	92,66	63,83	**1499,94**	**1563,78**
1888	38,63	94,13	67,26	**1580,53**	**1647,79**
1889	38,88	93,77	69,46	**1632,21**	**1701,67**
1890	42,19	93,77	69,27	**1627,73**	**1697,00**
1891	38,77	91,80	69,70	**1637,89**	**1707,59**
1892	43,73	95,82	69,69	**1637,60**	**1707,30**
1893	46,77	103,45	72,06	**1693,25**	**1765,31**
1894	50,70	115,81	75,70	**1778,88**	**1854,59**
1895	52,13	119,13	79,93	**1878,05**	**1957,97**
1896	53,42	124,12	82,52	**1939,03**	**2021,55**
1897	55,14	125,47	87,24	**2049,96**	**2137,20**
1898	54,68	123,94	89,16	**2095,15**	**2184,31**
1899	47,26	128,79	89,15	**2094,72**	**2183,87**
1900	54,47	128,84	90,70	**2131,14**	**2221,84**
1901	56,41	134,67	92,14	**2164,99**	**2257,13**
1902	57,07	135,61	92,79	**2180,44**	**2273,24**
1903	56,16	140,49	94,17	**2212,66**	**2306,83**
1904	56,48	139,78	94,47	**2219,91**	**2314,39**
1905	55,77	139,55	95,95	**2254,67**	**2350,63**
1906	55,23	140,80	101,75	**2390,97**	**2492,72**
1907	54,33	137,64	103,45	**2430,72**	**2534,16**
1908	65,51	150,45	106,17	**2494,75**	**2600,92**
1909	59,46	157,69	107,84	**2534,07**	**2641,91**
1910	59,67	164,68	114,32	**2686,19**	**2800,51**
1911	63,29	164,90	118,80	**2791,49**	**2910,29**
1912	64,94	159,72	123,52	**2902,37**	**3025,89**
1913	66,85	174,03	135,13	**3175,23**	**3310,36**
1914	66,28	168,35	135,27	**3178,54**	**3313,81**
1915	63,75	147,37	138,93	**3264,54**	**3403,47**
1916	61,98	153,06	154,56	**3631,72**	**3786,28**
1917	50,99	123,29	138,23	**3247,98**	**3386,21**
1918	53,54	129,14	131,75	**3095,85**	**3227,61**
1919	71,24	166,82	152,27	**3577,90**	**3730,16**
1920	83,75	178,79	159,47	**3747,26**	**3906,74**
1921	80,13	152,89	143,56	**3373,33**	**3516,89**
1922	80,18	154,80	158,12	**3715,46**	**3873,58**
1923	88,70	190,97	168,36	**3956,15**	**4124,51**
1924	90,54	173,27	164,83	**3873,08**	**4037,91**
1925	96,59	171,50	162,99	**3829,94**	**3992,94**
1926	100,90	182,85	165,27	**3883,43**	**4048,70**
1927	114,13	191,70	173,88	**4085,81**	**4259,69**
1928	113,08	197,32	181,15	**4256,65**	**4437,80**
1929	118,11	200,94	193,01	**4535,17**	**4728,18**

	Health care, social work, and welfare services	Personal services, and other private and public services	Correction post Taxes, subsidies, and other corrections	GDP in base value Gross Value Added summarized	GDP in market value
1930	125,95	214,52	199,54	**4688,61**	**4888,15**
1931	127,61	207,26	182,97	**4299,46**	**4482,44**
1932	130,33	207,92	189,99	**4464,32**	**4654,31**
1933	132,37	212,08	196,81	**4624,58**	**4821,39**
1934	138,19	217,53	201,48	**4734,37**	**4935,86**
1935	141,39	222,27	211,83	**4977,53**	**5189,36**
1936	144,47	229,70	222,67	**5232,26**	**5454,94**
1937	149,47	242,35	234,44	**5508,88**	**5743,32**
1938	151,77	248,09	238,00	**5592,43**	**5830,43**
1939	158,51	253,33	246,62	**5795,02**	**6041,64**
1946	251,52	372,20	263,17	**6183,91**	**6447,08**
1947	248,29	380,17	294,89	**6929,13**	**7224,02**
1948	247,64	384,39	301,61	**7087,08**	**7388,69**
1949	251,06	379,15	320,47	**7530,23**	**7850,70**
1950	259,74	375,76	336,83	**7914,74**	**8251,57**
1951	271,37	361,03	349,72	**8217,67**	**8567,39**
1952	284,24	362,35	361,74	**8499,98**	**8861,71**
1953	293,57	364,58	375,98	**8834,56**	**9210,54**
1954	299,74	367,81	395,76	**9299,52**	**9695,28**
1955	301,32	360,43	407,03	**9564,11**	**9971,14**
1956	307,70	358,04	429,85	**10100,42**	**10530,27**
1957	316,20	353,47	443,45	**10420,10**	**10863,55**
1958	320,74	363,89	436,73	**10262,21**	**10698,94**
1959	343,87	389,21	453,35	**10652,61**	**11105,96**
1960	358,88	401,51	482,35	**11333,99**	**11816,34**
1961	486,25	493,23	578,96	**13604,17**	**14183,13**
1962	546,14	502,43	598,97	**14074,43**	**14673,40**
1963	555,30	521,55	628,38	**14765,36**	**15393,74**
1964	589,23	533,82	658,97	**15484,14**	**16143,10**
1965	633,73	558,50	694,58	**16320,89**	**17015,47**
1966	655,84	582,15	713,52	**16765,93**	**17479,45**
1967	682,76	613,50	746,45	**17539,87**	**18286,32**
1968	703,45	643,45	774,62	**18201,77**	**18976,39**
1969	735,34	683,79	801,45	**18832,19**	**19633,64**
1970	836,38	692,33	823,11	**19341,12**	**20164,24**

Table A.9 - Norwegian manufacturing in current million NOK

	Food products, bevarages and tobacco products	Textiles, wearing apparel, leather products and other	Lumber and wood products	Paper and paper products	Printing, publishing and allied industries	Chemicals, minerals, and products of petroleum and coal	Metal products	Workdshop industry and machinery	Building of ships and oil-platforms	Total
1896	33,30	16,97	27,24	9,53	3,91	12,94	3,49	4,41	4,76	116,56
1897	38,11	18,01	30,23	10,86	4,43	14,53	4,16	4,85	5,01	130,18
1898	42,76	19,31	31,98	12,24	5,78	16,75	4,68	5,53	5,65	144,69
1899	47,08	21,61	34,37	12,85	6,31	19,46	5,20	6,30	6,27	159,46
1900	49,02	23,32	38,79	13,19	5,89	18,14	5,57	6,17	6,80	166,90
1901	49,48	24,37	37,44	13,50	5,88	18,28	5,30	5,89	8,15	168,28
1902	48,25	23,94	33,59	13,05	5,91	17,38	5,04	5,70	8,52	161,38
1903	47,16	23,30	35,32	12,94	5,95	17,36	4,95	5,61	8,49	161,08
1904	45,75	19,83	32,93	13,17	5,77	17,54	5,68	5,43	8,43	154,52
1905	48,08	22,80	32,86	15,28	6,11	18,42	5,95	5,65	8,72	163,85
1906	55,24	24,84	37,02	17,51	6,89	21,47	6,68	6,87	9,27	185,79
1907	60,44	26,31	41,25	20,52	7,75	23,96	8,77	8,41	10,60	208,01
1908	64,27	29,06	37,31	26,50	8,55	31,89	9,53	9,85	11,11	228,08
1909	65,65	31,37	37,57	29,31	9,40	31,50	11,37	10,30	10,06	236,52
1910	74,39	33,80	41,34	35,57	10,69	36,26	14,30	11,98	11,42	269,75
1911	77,25	36,37	41,95	38,82	11,51	43,07	17,70	13,68	12,84	293,18
1912	92,20	43,13	44,46	50,03	13,39	57,29	24,44	19,20	16,53	360,67
1913	114,51	48,78	46,16	61,24	15,41	63,08	25,05	24,27	18,14	416,66
1914	121,20	50,64	45,33	63,22	16,29	64,10	23,99	24,80	18,27	427,84
1915	141,21	63,71	56,91	79,03	18,44	80,03	33,12	28,37	20,74	521,55
1916	174,97	88,05	97,13	98,28	23,11	113,88	49,03	34,15	24,00	702,59
1917	216,13	116,83	137,05	94,67	27,01	177,21	78,92	40,30	31,82	919,93
1918	214,20	134,40	145,36	125,81	42,48	207,18	78,38	58,70	48,61	1055,13
1919	287,63	152,60	147,54	134,94	50,17	190,28	75,40	70,01	60,36	1168,93
1920	371,83	201,06	157,75	170,98	55,19	232,44	92,58	85,18	69,09	1436,10
1921	291,05	117,43	90,44	88,82	46,29	140,26	51,40	49,45	46,71	921,84
1922	301,52	132,35	88,77	117,40	46,58	119,09	64,70	62,84	36,12	969,36
1923	301,00	134,61	94,80	111,67	44,13	132,90	74,13	59,94	38,80	991,97
1924	362,16	147,54	127,09	102,46	48,60	165,92	92,92	63,03	40,44	1150,16
1925	391,50	161,65	114,92	130,29	53,43	183,10	96,26	68,81	50,57	1250,53
1926	337,97	126,40	76,59	91,53	46,07	135,86	66,23	51,98	33,59	966,23
1927	313,90	119,83	68,12	88,98	43,80	120,50	57,35	44,60	24,81	881,89
1928	287,03	120,35	74,93	93,95	41,23	142,31	72,17	54,46	34,18	920,63
1929	313,87	120,60	72,28	95,91	39,36	145,33	78,79	57,55	41,50	965,18
1930	298,26	121,94	63,91	81,66	39,30	158,61	74,52	55,24	41,18	934,61
1931	279,64	95,66	49,42	43,95	32,82	126,89	57,47	44,01	20,03	749,88
1932	307,87	111,29	52,84	74,18	38,17	123,44	65,47	46,78	22,40	842,44
1933	317,37	105,89	52,34	69,89	38,74	123,21	71,60	44,93	23,92	847,88
1934	325,14	108,91	59,51	78,46	40,05	111,78	80,78	48,62	25,62	878,88
1935	357,35	116,46	62,77	74,17	42,75	144,12	88,23	54,75	29,21	969,81
1936	384,14	131,24	74,91	90,48	47,49	155,88	101,91	67,75	36,86	1090,65
1937	412,93	148,74	92,95	112,03	51,42	169,14	130,69	80,87	45,54	1244,30
1938	425,29	151,22	86,27	85,58	54,69	174,65	143,74	82,21	60,90	1264,55
1939	466,11	176,14	102,79	104,58	59,11	201,97	158,12	90,12	53,46	1412,39
1946	557,00	253,00	187,00	227,00	116,00	273,00	111,00	304,00	154,00	2182,00
1947	630,00	322,00	243,00	369,00	126,00	340,00	150,00	410,00	186,00	2776,00
1948	753,00	368,00	300,00	452,00	148,00	377,00	165,00	450,00	209,00	3222,00
1949	691,00	403,00	304,00	358,00	149,00	412,00	181,00	489,00	192,00	3179,00
1950	794,00	424,00	324,00	390,00	157,00	466,00	230,00	528,00	194,00	3507,00
1951	914,00	489,00	346,00	926,00	165,00	528,00	309,00	594,00	243,00	4514,00
1952	937,00	487,00	418,00	688,00	175,00	555,00	371,00	633,00	264,00	4528,00
1953	878,00	525,00	445,00	488,00	185,00	594,00	408,00	712,00	315,00	4550,00
1954	915,00	551,00	495,00	611,00	203,00	712,00	371,00	829,00	310,00	4997,00
1955	1004,00	554,00	516,00	609,00	221,00	720,00	403,00	865,00	354,00	5246,00
1956	1108,00	610,00	516,00	582,00	257,00	698,00	605,00	878,00	441,00	5695,00
1957	1067,00	587,00	535,00	566,00	278,00	738,00	663,00	953,00	462,00	5849,00
1958	1116,00	540,00	500,00	550,00	276,00	761,00	603,00	1007,00	486,00	5839,00

	Food products, bevarages and tobacco products	Textiles, wearing apparel, leather products and other	Lumber and wood products	Paper and paper products	Printing, publishing and allied industries	Chemicals, minerals, and products of petroleum and coal	Metal products	Workdshop industry and machinery	Building of ships and oil-platforms	Total
1959	1209,00	592,00	507,00	581,00	224,00	855,00	656,00	987,00	478,00	6089,00
1960	1241,00	637,00	563,00	655,00	357,00	880,00	814,00	1082,00	502,00	6731,00
1961	1300,00	668,00	646,00	582,00	402,00	1046,00	793,00	1295,00	555,00	7287,00
1962	1411,00	713,00	702,00	550,00	421,00	1138,00	791,00	1509,00	591,00	7826,00
1963	1469,00	749,00	735,00	591,00	543,00	1220,00	764,00	1720,00	640,00	8431,00
1964	1549,00	792,00	856,00	688,00	588,00	1420,00	928,00	1842,00	759,00	9422,00
1965	1601,00	846,00	947,00	693,00	632,00	1548,00	1104,00	2039,00	878,00	10288,00
1966	1796,00	859,00	999,00	680,00	688,00	1620,00	1169,00	2271,00	930,00	11012,00
1967	1913,00	871,00	1095,00	712,00	768,00	1577,00	1218,00	2481,00	1115,00	11750,00
1968	2075,00	865,00	1209,00	863,00	858,00	1800,00	1417,00	2607,00	1091,00	12785,00
1969	2337,00	952,00	1398,00	954,00	948,00	2053,00	1623,00	3022,00	1240,00	14527,00
1970	2511,00	1131,00	1774,00	978,00	1142,00	2375,00	1562,00	3971,00	1177,00	16621,00
1971	2858,00	1180,00	2012,00	946,00	1335,00	2610,00	1435,00	4520,00	1307,00	18203,00
1972	3197,00	1194,00	2321,00	1100,00	1522,00	2925,00	1499,00	5059,00	1637,00	20454,00
1973	3403,00	1180,00	2706,00	1289,00	1647,00	3794,00	1946,00	5785,00	1959,00	23709,00
1974	3810,00	1267,00	3080,00	1925,00	1721,00	4323,00	2793,00	6952,00	2228,00	28099,00
1975	4467,00	1294,00	3458,00	1662,00	2026,00	4738,00	2677,00	8049,00	3001,00	31372,00
1976	4835,00	1417,00	3860,00	1634,00	2271,00	4795,00	2620,00	8877,00	3152,00	33461,00
1977	4898,00	1481,00	4093,00	1608,00	2735,00	5176,00	2577,00	9658,00	4243,00	36469,00
1978	4801,00	1516,00	4178,00	1690,00	2927,00	5583,00	2842,00	10095,00	3667,00	37299,00
1979	5174,00	1585,00	4427,00	2021,00	3071,00	8889,00	4275,00	10111,00	3840,00	43393,00
1980	5695,00	1717,00	4892,00	1972,00	3245,00	6737,00	4791,00	10988,00	3924,00	43961,00
1981	6450,00	1798,00	5076,00	2231,00	3855,00	6362,00	3551,00	12801,00	4380,00	46504,00
1982	7386,00	1709,00	5157,00	2223,00	4098,00	6919,00	3167,00	13651,00	5086,00	49396,00
1983	7880,00	1604,00	5400,00	2543,00	5068,00	7812,00	5120,00	13972,00	4511,00	53910,00
1984	8392,00	1765,00	5555,00	3207,00	5635,00	9547,00	7140,00	15116,00	4836,00	61193,00
1985	9265,00	1842,00	6212,00	3196,00	6544,00	10079,00	6202,00	16695,00	5431,00	65466,00
1986	10076,00	1948,00	6904,00	3306,00	7351,00	10225,00	5563,00	18715,00	5274,00	69362,00
1987	10777,00	1995,00	7396,00	3483,00	8234,00	12730,00	6126,00	19806,00	5922,00	76469,00
1988	11410,00	1902,00	7231,00	4249,00	8471,00	13448,00	9783,00	19632,00	5879,00	82005,00
1989	11814,00	1644,00	6724,00	4677,00	8731,00	12826,00	10190,00	19198,00	5917,00	81721,00
1990	11771,00	1753,00	6763,00	4561,00	9061,00	13339,00	6389,00	19829,00	6671,00	80137,00
1991	13526,00	1894,00	6393,00	4024,00	9426,00	12883,00	5617,00	20086,00	8051,00	81900,00
1992	15871,00	2094,00	6442,00	3444,00	9747,00	12377,00	5316,00	20421,00	8701,00	84413,00
1993	16474,00	2140,00	6526,00	3782,00	10516,00	14289,00	6152,00	20734,00	10138,00	90751,00
1994	16391,00	2130,00	7619,00	4427,00	11187,00	15558,00	7274,00	22521,00	9478,00	96585,00
1995	17395,00	1984,00	7586,00	7026,00	11655,00	17288,00	9553,00	24786,00	10538,00	107811,00
1996	16569,00	2269,00	7853,00	5794,00	12436,00	18764,00	8278,00	27560,00	10467,00	109990,00
1997	17165,00	2262,00	9353,00	4931,00	13408,00	19536,00	8756,00	30956,00	12465,00	118832,00
1998	17888,00	2398,00	9925,00	5673,00	13515,00	19205,00	10017,00	33378,00	15234,00	127233,00
1999	20007,00	2180,00	9769,00	5780,00	13683,00	19966,00	9930,00	35460,00	15617,00	132392,00
2000	22794,00	2169,00	10821,00	6377,00	14588,00	21159,00	12852,00	33886,00	13585,00	138231,00
2001	25405,00	2460,00	11494,00	7251,00	14987,00	20597,00	11975,00	35930,00	14377,00	144476,00
2002	26785,00	2196,00	11143,00	5101,00	15318,00	19991,00	8973,00	38321,00	16239,00	144067,00
2003	28534,00	2160,00	11175,00	4857,00	15872,00	22829,00	9900,00	37564,00	16090,00	148981,00
2004	30000,00	2221,00	13449,00	4862,00	16727,00	24190,00	12727,00	38930,00	15817,00	158923,00
2005	31076,00	2434,00	13682,00	4465,00	16679,00	27558,00	12383,00	43438,00	17848,00	169563,00
2006	32800,00	2714,00	14896,00	4812,00	17282,00	30334,00	15294,00	50937,00	22748,00	191817,00

Table A.10 - Norwegian manufacturing in fixed 1938 million NOK

	Food products, bevarages and tobacco products	Textiles, wearing apparel, leather products and other	Lumber and wood products	Paper and paper products	Printing, publishing and allied industries	Chemicals, minerals, and products of petroleum and coal	Metal products	Workdshop industry and machinery	Building of ships and oil-platforms	Total
1896	125,08	24,62	20,87	13,24	4,75	33,69	4,79	4,96	7,39	239,39
1897	140,55	26,19	22,05	14,78	5,21	36,56	5,97	5,53	7,87	264,71
1898	155,41	27,85	23,24	16,33	6,60	41,64	6,85	6,32	8,90	293,15
1899	164,51	31,02	24,77	16,70	7,00	47,14	7,17	6,87	9,42	314,60
1900	162,32	32,83	26,99	16,60	6,38	41,43	7,21	6,49	9,85	310,11
1901	165,57	34,80	25,81	16,81	6,36	41,71	6,80	6,19	11,80	315,85
1902	167,35	35,92	24,39	16,34	6,48	40,93	6,69	6,08	12,41	316,58
1903	167,37	35,83	25,48	16,63	6,69	40,86	6,62	6,13	12,72	318,33
1904	167,97	29,53	24,69	17,52	6,69	42,50	7,56	6,11	13,12	315,69
1905	174,02	33,76	25,19	20,12	7,11	43,46	7,73	6,36	13,74	331,48
1906	195,68	35,76	27,27	22,64	7,96	47,16	8,51	7,66	14,66	367,29
1907	201,55	36,04	29,63	25,43	8,68	48,18	10,64	9,09	16,35	385,60
1908	205,68	40,11	29,15	32,55	9,39	58,00	11,63	10,43	16,65	413,58
1909	203,24	43,11	30,75	36,33	10,18	59,62	13,73	10,75	14,62	422,33
1910	229,59	46,51	38,55	40,73	12,49	66,08	17,99	11,94	16,99	480,86
1911	228,36	50,42	45,17	40,68	14,30	73,32	22,87	12,93	19,34	507,39
1912	256,34	59,22	50,06	46,27	17,45	85,53	30,81	17,23	25,32	588,22
1913	318,56	66,34	59,36	51,36	20,93	89,79	33,00	20,48	27,61	687,43
1914	322,22	69,41	63,99	49,78	24,27	89,12	32,90	21,04	29,53	702,27
1915	315,36	79,37	72,73	51,04	27,65	89,43	39,23	23,05	32,98	730,86
1916	334,65	97,21	95,52	53,13	31,16	99,20	46,56	27,38	34,55	819,35
1917	299,89	111,14	100,67	43,31	33,08	104,78	55,67	31,41	41,55	821,51
1918	228,50	102,59	90,55	44,13	32,32	107,18	50,62	28,73	38,31	722,92
1919	281,16	112,68	93,26	46,95	34,60	102,07	48,75	32,13	42,38	793,98
1920	292,37	131,61	89,17	55,11	33,06	107,33	50,62	36,43	42,09	837,79
1921	243,97	83,23	58,92	32,62	28,93	77,89	32,97	22,30	28,92	609,74
1922	289,52	110,46	71,95	56,27	34,64	82,94	52,18	35,18	26,28	759,42
1923	286,16	118,80	82,23	60,86	36,16	96,14	61,72	38,79	30,55	811,39
1924	293,83	121,95	100,10	54,96	37,86	107,52	69,45	40,53	29,58	855,77
1925	302,70	132,87	91,68	74,41	40,79	120,38	73,16	45,20	35,60	916,80
1926	299,96	120,88	76,57	66,79	40,85	109,81	61,84	41,50	27,12	845,31
1927	312,30	124,73	78,14	71,73	41,46	114,19	62,69	37,71	21,81	864,75
1928	300,58	132,36	85,71	78,46	41,28	154,40	76,33	51,27	32,78	953,16
1929	339,72	128,07	86,76	83,23	41,85	153,31	96,13	58,36	41,56	1028,99
1930	326,26	122,53	86,19	79,27	42,64	186,61	117,43	56,57	42,45	1059,95
1931	310,11	98,61	70,91	45,37	37,73	151,40	98,36	47,97	21,13	881,59
1932	344,67	111,46	69,73	81,77	44,81	143,72	95,78	49,15	24,17	965,27
1933	352,66	107,21	67,33	77,24	45,51	146,85	98,26	54,98	26,39	976,44
1934	366,32	109,55	74,93	85,94	46,66	133,15	106,48	63,61	28,92	1015,56
1935	391,72	116,82	82,40	86,14	48,55	176,60	119,00	61,12	31,70	1114,06
1936	422,09	128,76	84,45	97,47	52,76	174,78	136,77	79,71	40,95	1217,75
1937	448,04	144,35	85,69	108,42	53,33	177,51	132,75	90,84	49,08	1290,01
1938	425,29	151,22	86,27	85,58	54,69	174,65	143,74	82,21	60,90	1264,55
1939	459,13	170,44	90,08	102,28	55,03	188,54	159,63	87,74	53,17	1366,03
1946	450,00	167,05	88,29	100,24	53,94	184,79	156,46	86,00	52,11	1338,87
1947	479,42	200,23	108,05	153,46	55,18	216,74	184,12	109,23	53,96	1560,38
1948	521,45	208,25	121,39	171,07	58,98	218,72	166,43	109,11	54,67	1630,07
1949	512,27	244,39	134,38	148,48	65,78	275,90	257,51	128,64	63,32	1830,68
1950	620,36	266,16	142,60	159,99	67,05	280,08	281,26	140,09	58,50	2016,08
1951	656,92	275,49	147,66	176,05	69,49	309,12	277,52	159,98	61,76	2133,97
1952	603,41	247,77	158,35	155,42	71,43	348,47	300,65	150,28	60,51	2096,29
1953	567,49	252,68	166,82	167,74	69,70	379,18	370,29	166,17	70,49	2210,55
1954	554,04	258,36	179,97	190,29	74,91	455,71	365,91	185,90	68,46	2333,54
1955	638,67	261,02	187,23	194,07	76,52	443,67	361,94	193,52	70,17	2426,81
1956	731,45	282,10	178,33	187,59	84,12	418,28	491,20	189,61	79,66	2642,33
1957	766,24	270,04	180,15	198,56	83,43	440,08	486,48	199,73	79,74	2704,45

	Food products, bevarages and tobacco products	Textiles, wearing apparel, leather products and other	Lumber and wood products	Paper and paper products	Printing, publishing and allied industries	Chemicals, minerals, and products of petroleum and coal	Metal products	Workdshop industry and machinery	Building of ships and oil-platforms	Total
1958	709,53	244,04	167,68	196,78	77,11	435,35	511,39	210,35	79,81	2632,04
1959	675,72	268,90	167,17	218,83	57,86	480,52	592,18	207,43	71,99	2740,62
1960	689,97	292,46	195,64	237,70	94,42	497,27	682,73	234,10	76,70	3001,01
1961	779,39	337,48	218,98	205,01	132,68	527,32	738,64	260,81	102,27	3302,58
1962	764,75	340,86	227,22	200,72	134,59	569,36	760,90	284,00	100,46	3382,85
1963	841,31	342,88	246,23	220,35	164,92	606,70	770,80	307,27	102,20	3602,65
1964	836,64	349,80	269,74	254,02	172,53	702,16	931,60	320,71	115,30	3952,50
1965	920,68	354,70	283,63	264,67	174,33	737,49	1013,71	340,61	118,80	4208,62
1966	964,88	345,15	287,91	260,20	179,55	775,72	1072,38	363,96	119,80	4369,54
1967	913,34	328,82	304,58	267,86	195,78	784,29	1093,16	382,62	133,67	4404,11
1968	907,29	311,37	317,80	301,55	198,83	828,34	1261,20	384,76	134,31	4645,45
1969	915,39	335,96	356,75	322,95	197,68	913,19	1378,42	422,85	137,25	4980,43
1970	918,92	342,77	366,16	326,19	193,49	911,40	1286,40	486,98	134,93	4967,24

Appendix – Figures

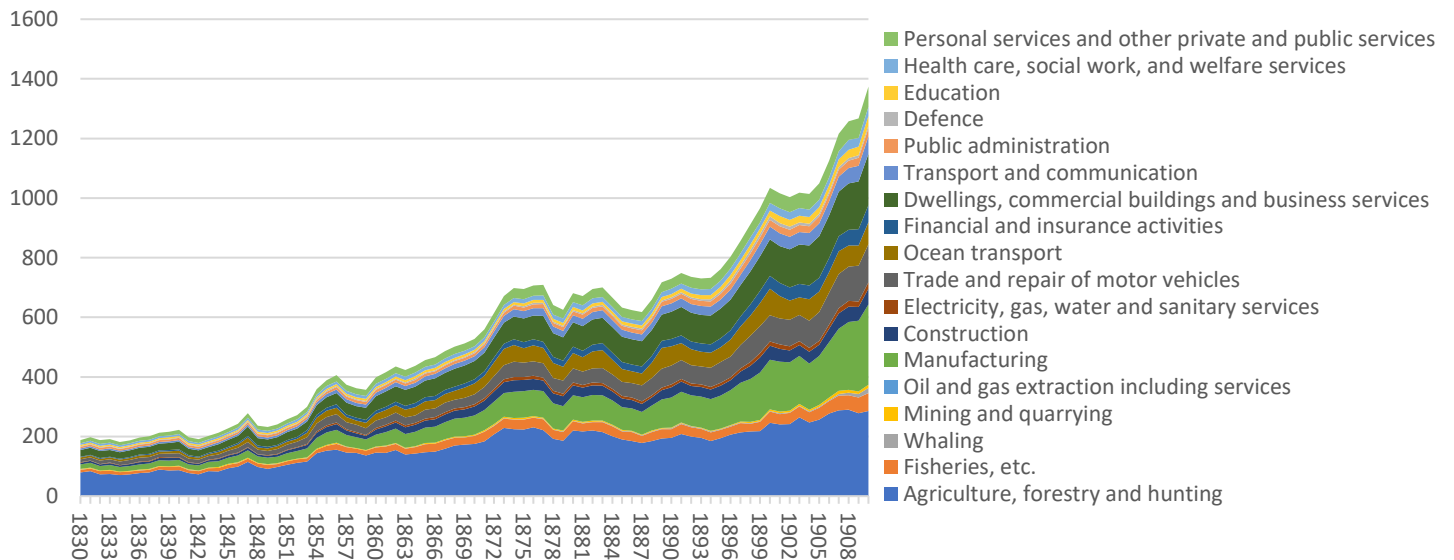*Figure A.1: Aggregated GDP by industry from 1830–1910 in current million NOK*

Figure A.2: Aggregated GDP by industry from 1910–1939 in current million NOK
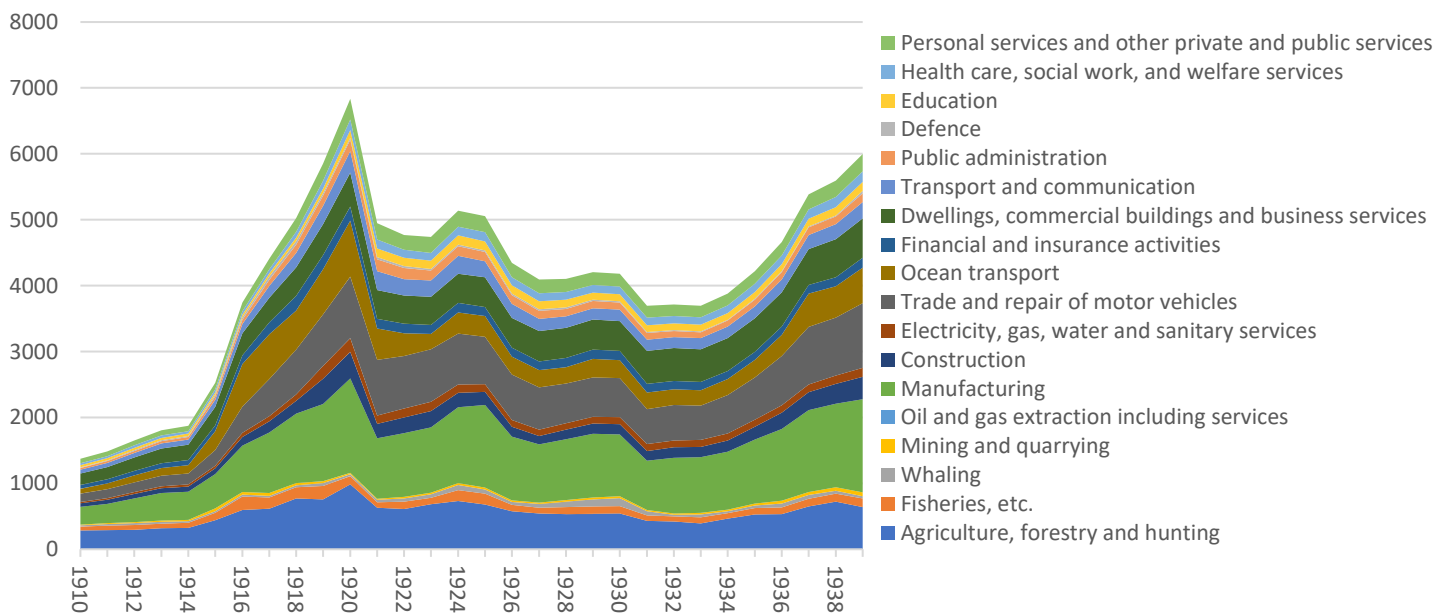
Figure A.3: Sub-industries share of total Manufacturing, 1896 – 1939, in current prices
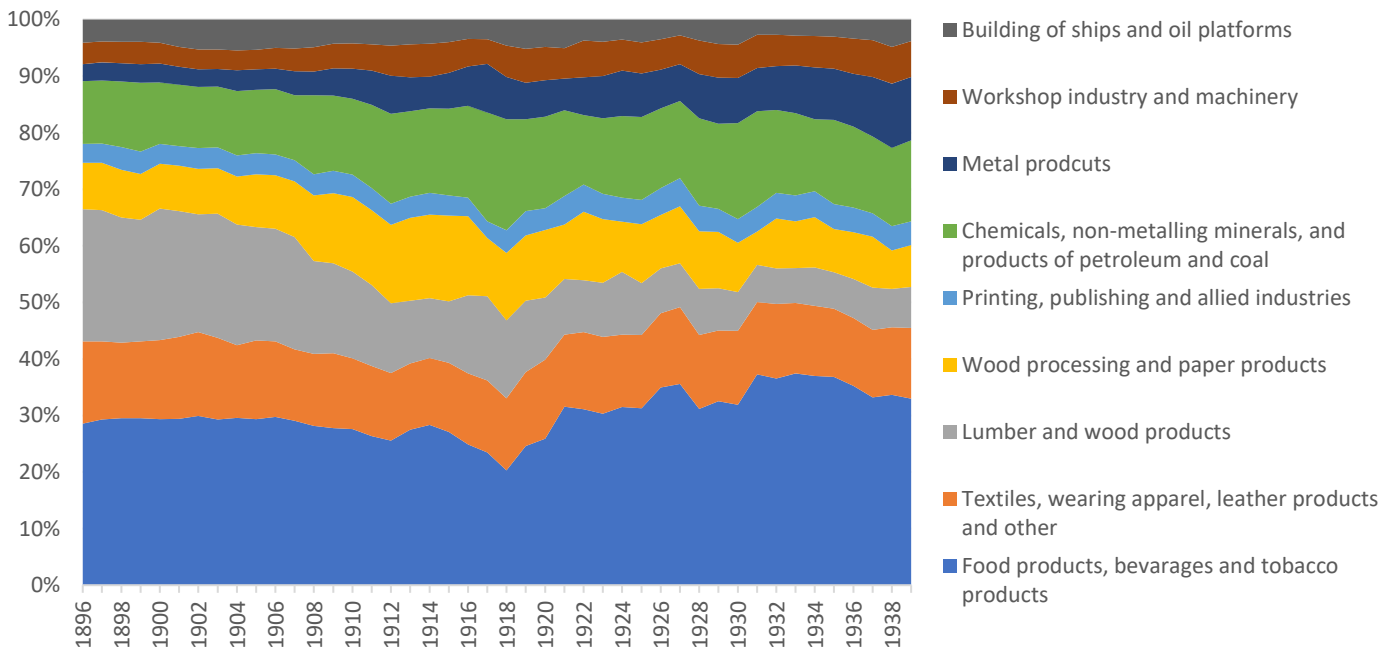

Figure A.4: Annual percentage change of GDP series, 1830–1939, in fixed million NOK
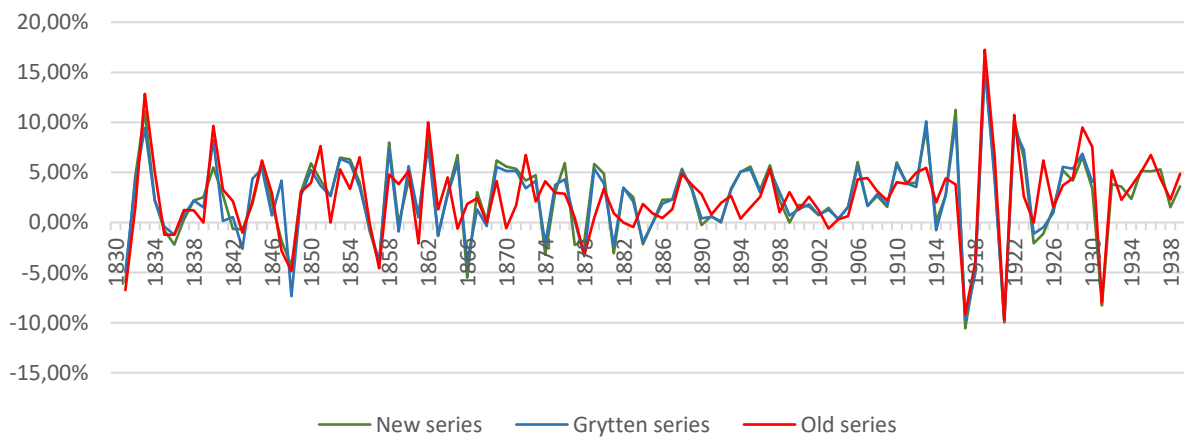

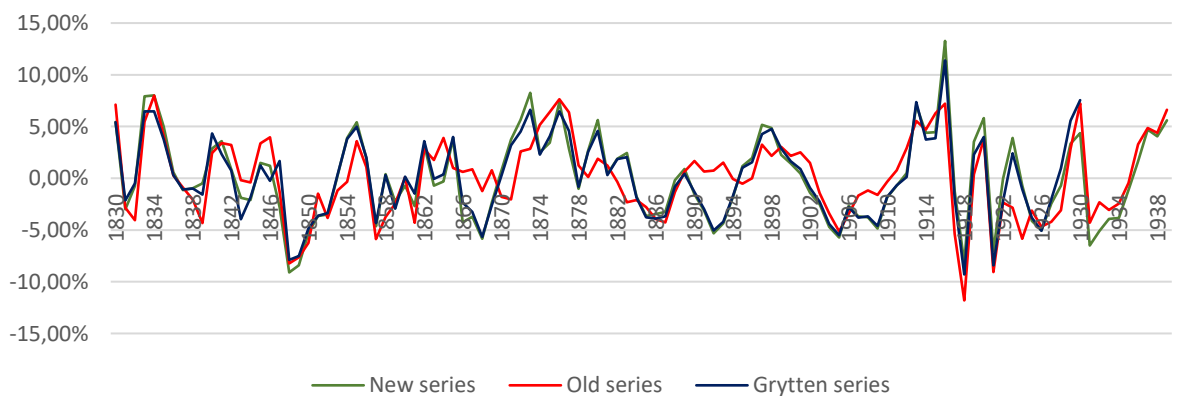*Figure A.5: Relative output gaps 1830–1839, according to series of GDP, ʎ = 2500*

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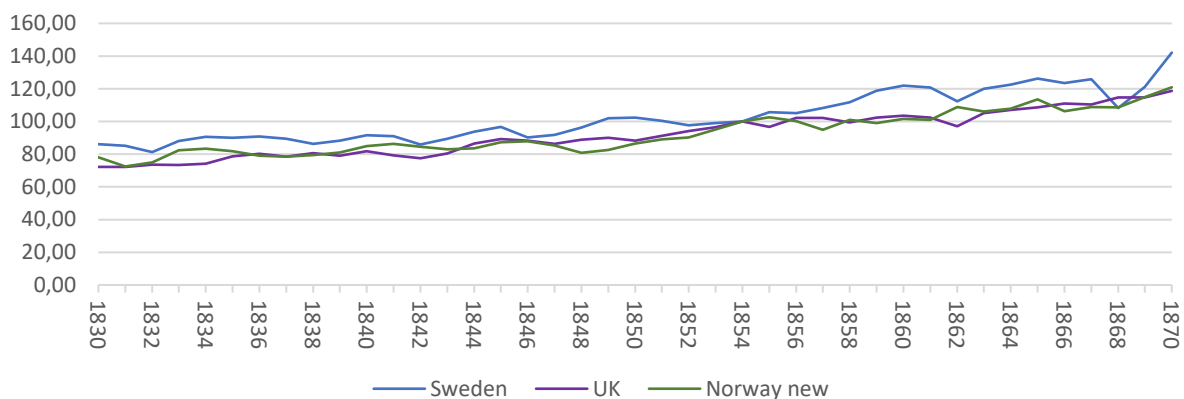*Figure A.6: Volume index for Norwegian, Swedish and British series of GDP per capita, 1830 – 1870, 1954 = 100*

Figure A.7: Volume index for Norwegian and Swedish series of GDP per capita, 1871 – 1939, 1954 = 100
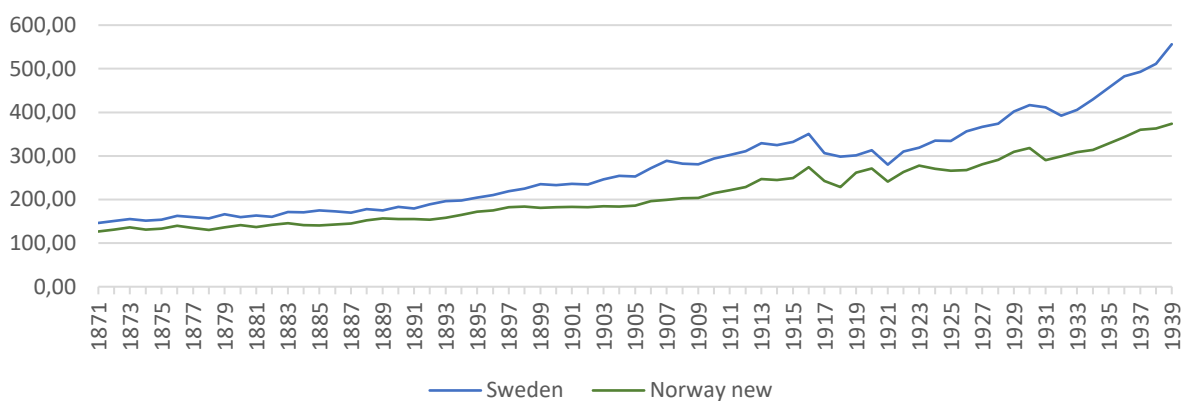

Figure A.8: Relative output gaps according to Norwegian, Swedish and British series of GDP per capita (ʎ = 2500), 1830-1939, in fixed million NOK