4

THE NATIONAL PRODUCT OF DENMARK, 1870–1952

A Summary of Estimates prepared in the Statistical Department
by Kjeld Bjerke[1]

THE estimates presented below are preliminary, but it seemed useful to make them available here for wider circulation and to summarize them so that the several long-term trends emerge clearly.

Further work is under way, and no adequate analysis of the findings has been attempted. Consequently, the presentation is limited to a few summary and analytical tables, which, together with brief introductory comments, comprise Part A of the paper; and to a description of the methods used in deriving the annual estimates, followed by the detailed series, which together constitute Part B. Needless to say, the scarcity of basic data involves numerous approximations, particularly for the early years; and the resulting records are useful mainly for delineating the broad trends.

PART A. SUMMARY AND ANALYTICAL TABLES

Introductory notes

Net and gross domestic product as used here follow the definitions given in *A Standardized System of National Accounts*.[2]

In general, the summary tables reduce the annual series to decennial averages, segregating, however, periods that, because of war, represent substantial deviations from levels of secular performance (1915–20, and 1940–46).

In order to suggest the rates of secular growth, primarily long-term intervals are taken. In addition to the interval between the first decade and 1930–39, omitting 1915–20 (covering a span of six and a half decades) we distinguish in the tables between the pre-World War I period (an interval of four and a half decades) and the inter-war years (an interval of two decades). Further figures on the changes between the individual decades during these long-term intervals are shown.

[1] A condensed version of the mimeographed paper submitted for the discussion at the meeting in Castelgandolfo, September 1953.

[2] *A Standardized System of National Accounts*. Published by the Organisation for European Economic Co-operation, Paris – 1952.

Table I

This portrays the broad movements of total net domestic product, in constant prices, showing population, labour force, and product per capita and per worker. Of the rate of growth of total product during the periods indicated in the tables, close to one-third is accounted for by the growth of total labour force; the remaining two-thirds, by the growth of real product per capita and per worker. To be noted also are:

(*a*) The relative constancy in the rate of growth in total product, when we compare the two periods preceding World War II; to this it may be added that the rate of growth seems to have increased fairly rapidly during the decades prior to World War I.

TABLE I

Net Domestic Product, Population and Labour Force, 1870–1952

(Annual averages)

Period	Total Net Domestic Product (1929 prices)	Population	Labour Force	Net Domestic Product (1929 prices)	
				Per Capita of Total Population	Per Capita of Labour Force
	Millions of kroner	Thousands	Thousands	Kroner	Kroner
1. 1870–79 . .	1,029	1,870	975	550	1,052
2. 1880–89 . .	1,246	2,067	1,041	602	1,197
3. 1890–99 . .	1,664	2,275	1,128	730	1,473
4. 1900–09 . .	2,347	2,563	1,269	914	1,847
5. 1905–14 . .	2,830	2,719	1,345	1,038	2,098
6. 1915–20 . .	3,528	3,016	1,511	1,169	2,334
7. 1921–29 . .	4,460	3,413	1,756	1,305	2,535
8. 1930–39 . .	5,886	3,676	1,982	1,600	2,968
9. 1940–46 . .	5,732	3,957	2,101	1,448	2,728
10. 1947–52 . .	7,199	4,246	2,127	1,694	3,382
Percentage Rates of Change per Decade:					
1870–79 to 1880–89	21.1	10.5	6.8	9.5	13.8
1880–89 to 1890–99	33.5	10.1	8.4	21.3	23.1
1890–99 to 1900–09	41.0	12.7	12.5	25.2	25.4
1900–09 to 1905–14	41.2	12.2	12.0	27.1	27.1
1870–79 to 1905–14	33.2	11.3	9.6	19.9	21.7
1921–29 to 1930–39	33.7	8.1	13.6	23.8	18.0
1870–79 to 1930–39 (excl. 1915–20)	33.3	10.6	10.5	20.8	20.9

(*b*) The decline in the rate of growth of population at the same time as an acceleration in the rate of growth of the labour force.

(*c*) The effects of these different movements in the rates of increase in the national product and in the population series will also be found in the per capita figures.

Table II

Here a distinction is made between agriculture, on the one hand, and all other industries, on the other. For each, the broad movements in net product, in constant prices, in the labour force and in product per worker, are portrayed. Over the

TABLE II

Net Domestic Product, Agriculture and Other Industries, 1929 Prices, 1870–1952

(Annual averages)

Period	Agriculture			Other Industries		
	Net Domestic Product (1929 prices)	Labour Force	Net Domestic Product per Worker (1929 prices)	Net Domestic Product (1929 prices)	Labour Force	Net Domestic Product per Worker (1929 prices)
	Millions of kroner	000	Kroner	Millions of kroner	000	Kroner
1. 1870–79 . .	421	499	845	608	476	1,272
2. 1880–89 . .	441	509	866	805	532	1,513
3. 1890–99 . .	515	512	1,006	1,149	616	1,859
4. 1900–09 . .	643	525	1,223	1,704	744	2,289
5. 1905–14 . .	725	538	1,348	2,105	807	2,597
6. 1915–20 . .	645	577	1,119	2,883	934	3,083
7. 1921–29 . .	942	630	1,495	3,518	1,126	3,120
8. 1930–39 . .	1,301	599	2,175	4,585	1,383	3,312
9. 1940–46 . .	1,162	560	2,080	4,570	1,541	2,963
10. 1947–52 . .	1,446	492	2,949	5,753	1,635	3,517
Percentage Rate of Change per Decade:						
1870–79 to 1880–89	4.8	2.0	2.5	32.4	11.8	18.9
1880–89 to 1890–99	16.8	0.6	16.2	42.7	15.8	22.9
1890–99 to 1900–09	24.9	2.5	21.6	48.3	20.8	23.1
1900–09 to 1905–14	25.5	5.0	20.4	47.1	16.9	26.9
1870–79 to 1905–14	16.9	2.2	14.4	42.0	16.3	22.4
1921–29 to 1930–39	40.1	−5.5	47.9	31.9	24.6	6.5
1870–79 to 1930–39 (excl. 1915–20) .	22.1	0.5	21.9	39.8	18.1	18.9

period up to 1939, the rate of growth in the total product of agriculture is only 55 per cent of that in the total product of other industries; but since at the same time there is hardly any increase in the labour force in agriculture, while there is a substantial growth of it in other industries, the rate of secular rise in product per worker in agriculture is somewhat above the corresponding rise in other industries. Also to be noted are:

(*a*) The acceleration in the rate of growth of product of agriculture, total and per worker, when we compare the period after World War I with that prior to it.

(*b*) The increase in the rate of growth up to World War I and the subsequent decline in the broad sector of 'other' industries.

TABLE III

Share of Agriculture and Effects of Shifts from Agriculture to Other Industries on Net Domestic Products per Worker, 1870–1952

Period	Percentage Share of Agriculture in		Ratio between Net Domestic Product per Worker in Agriculture and Other Industries	Index of Net Domestic Product per Worker, 1929 prices (1921–29=100)		
	Net Domestic Product (1929 prices)	Labour Force		Total	Due to Shift of Labour Force from Agriculture	Holding Distribution of Labour Force Constant
1. 1870–79	41	51	66	41	90	44
2. 1880–89	35	49	57	47	92	50
3. 1890–99	31	45	54	58	94	61
4. 1900–09	27	41	53	73	96	75
5. 1905–14	26	40	52	83	97	85
6. 1915–20	18	38	36	92	98	94
7. 1921–29	21	36	48	100	100	100
8. 1930–39	22	30	66	117	104	114
9. 1940–46	20	27	70	108	106	104
10. 1947–52	20	23	84	133	108	130
Percentage Rate of Change per Decade:						
1870–79 to 1880–89				13.8	2.2	13.6
1880–89 to 1890–99				23.1	2.2	22.0
1890–99 to 1900–09				25.4	2.1	23.0
1900–09 to 1905–14				27.1	2.0	26.6
1870–79 to 1905–14				21.7	2.1	20.5
1921–29 to 1930–39				18.0	4.2	14.7
1870–79 to 1930–39 (excluding 1915–20)				20.9	2.6	19.2

Table III

Here we find the shares of agriculture in total domestic product and labour force, as well as a calculation of the effects of shifts in proportional distribution of the labour force away from agriculture. The share of the labour force engaged in agriculture declines, and even more between 1905–14 and 1947–52 than during the interval prior to World War I. The share of agriculture in net domestic product also declines, but most of the decline occurs before World War I. The ratio of product per worker in agriculture to product per worker in non-agricultural industries is continuously below 1, but describes a long swing consisting of a marked decline to the period of World War I and a marked rise thereafter.

On the whole, the shifts of labour force away from agriculture have only a minor effect on the secular rise in net domestic product per worker of the average rise in the latter of over 21 per cent per decade (during the period 1870–79 to 1930–39), only about an eighth can be attributed to this shift, the remainder being due to the secular rise in product per worker within agriculture and within the 'other' industries respectively.

Table IV

This table summarizes rough estimates of changes in average numbers of working hours and allows for the effects of reductions in the latter on movements of net domestic product per labour unit. In general, the decline of hours in 'other industries' is much more marked than that of hours in agriculture. As a result, the increase in the rate of growth of product per labour unit, when we shift from worker to worker-hour, is greater for 'other industries' than for agriculture: in both major sectors of the economy the rate of growth over the period 1870–79 to 1930–39 (excluding 1915–20) in product per worker-hour became the same, about 23 per cent per decade.

When we compare the pre-World War I period with the inter-war years the rate of growth per worker-hour has declined both for the economy as a whole and for the non-agricultural industries, while in agriculture the rate of growth seems to have been accelerating throughout the survey period.

TABLE IV

Average Working Hours and Net Domestic Product per Worker adjusted for Changes in Working Hours

Period	Index of Average Working Hours (1895–1904=100)			Index of Net Domestic Product per Worker-Hour (1859–1904=100)		
	Agriculture	Other Industries	Total	Agriculture	Other Industries	Total
1. 1870–79	101	110	104	77	55	61
2. 1880–89	101	109	104	79	66	69
3. 1890–99	101	105	103	91	85	86
3a. 1895–04	100	100	100	100	100	100
4. 1900–09	97	96	97	116	114	115
5. 1905–14	95	94	95	130	132	133
6. 1915–20	94	90	92	109	164	142
7. 1921–29	92	79	84	149	189	182
8. 1930–39	92	79	84	217	201	213
9. 1940–46	93	79	82	206	179	199
10. 1947–52	91	79	82	298	213	250
Percentage Rate of Change per Decade:						
1870–79 to 1880–89				2.6	20.0	13.1
1880–89 to 1890–99				15.2	28.8	24.6
1890–99 to 1900–09				27.5	34.1	33.7
1900–09 to 1905–14				24.2	31.6	31.4
1870–79 to 1905–14				16.4	28.2	24.9
1921–29 to 1930–39				48.0	6.7	17.9
1870–79 to 1930–39 (excluding 1915–20)				23.4	23.4	23.4

Table V

Here we find a distribution of the population (based on industry attachment of head of family) by industries, back to 1834; and with some attempt to reduce lack of comparability in industrial categories by merging separate categories. In general, the share of population in agriculture declines; that in handicraft and manufacturing rises, but most of the rise is completed by the beginning of the twentieth century. There are fairly consistent rises in the shares of population attached to commerce and related branches, and to professions and government.

TABLE V

Distribution of Population by Industries, 1834–1950

Year	Agriculture and related industries	Handicraft and Manufacture	Transport	Commerce[1] and related industries	Professional Services and related industries	Residual
	%	%	%	%	%	%
1. 1834	57.5	21.3	n.a.	4.2	6.6	10.4
2. 1855	54.4	25.9	n.a.	5.2	5.7	8.8
3. 1870	52.3	25.8	n.a.	6.8	5.9	9.2
4. 1880	51.1	26.0	n.a.	7.7	6.7	8.5
5. 1890	45.9	27.9	n.a.	9.9	7.3	9.0
6. 1901	41.4	29.5	n.a.	11.3	7.9	9.9
7. 1901	38.1	29.3	5.5	8.8	4.9	13.4
8. 1911	36.1	28.4	6.3	10.5	5.3	13.4
9. 1921	33.3	29.2	6.8	10.0	5.7	15.0
10. 1930	30.0	31.8	7.1	10.8	5.8	17.3
11. 1930	31.5	29.2	6.9	10.9	5.5	16.0
12. 1940	27.6	31.8	7.3	11.5	6.3	15.5
13. 1940	27.7	33.3	6.6	12.7	6.8	12.9
14. 1950	23.7	34.7	7.1	13.0	8.5	13.0

[1] For 1834–1901 – Commerce, Banking and Insurance; for 1901 to date – Commerce, Catering Industries, etc.

SOURCE: The table is based on population censuses published by the Statistical Department.

Table VI

This table provides an industrial distribution of gross domestic product, in constant prices, in two years – 1938 and 1950. It is of interest largely as providing details of the industrial distribution. The period is too short to permit observation of long-term trends.

TABLE VI

Distribution of Gross Domestic Product by Industries, 1938 and 1950 (1947 prices)

Industries	1938		1950	
	Millions of kroner	Per-centages	Millions of kroner	Per-centages
1. Agriculture	2,850	19.1	3,450	17.3
2. Related industries (forestry, gardening, fishing, etc.)	485	3.3	789	4.0
1+2	3,335	22.4	4,239	21.3
3. Handicrafts	1,450	9.7	2,005	10.1
4. Manufacturing (including gas, electricity, water)	2,915	19.6	4,252	21.3
5. Construction	700	4.7	1,096	5.5
3+4+5	5,065	34.0	7,353	36.9
6. Shipping	500	3.4	632	3.2
7. Other transportation	650	4.4	979	4.9
6+7	1,150	7.7	1,611	8.1
8. Wholesale and retail trade	2,325	15.6	3,000	15.1
9. Banking and insurance	280	1.9	323	1.6
10. Catering establishments, hotels, theatres, cinemas	280	1.9	326	1.6
8+9+10	2,885	19.4	3,649	18.3
11. Use of dwellings	690	4.6	843	4.1
12. Domestic service	425	2.9	395	2.0
13. Professions	300	2.0	392	2.0
14. Government services	1,050	7.0	1,450	7.3
15. Gross domestic product (including repair and maintenance)	14,900	100.0	19.932	100.0

SOURCE: Published by the Statistical Department in *Statistiske Efterretninger 1951*, p. 238.

Table VII

Here we find the apportionment of either gross domestic product, or of the latter disregarding net changes in claims against foreign countries, between consumption and either gross savings or gross investment – all in current prices.

As it has not been possible to make any estimates of inventory changes prior to 1940 the figures for gross investment (and savings) are confined to include fixed asset formation only.

The share of gross investment in total available supply (sum of consumption and gross investment) has been rather unstable; in general the rate of investment seems to have been increasing

during the decades prior to World War I; this trend was interrupted rather abruptly during the war years and even during the 1920s the rate of investment was at a fairly low level. During the 1930s another increase set in, which has been followed up during the post-war years. A comparison between the period before World War I and the subsequent non-war decades shows that the rate of investment seems to have been slightly higher in the earlier period than in the latter.

In general, the share of gross savings in gross domestic product averages between 12 and 15 per cent; with the share rising slightly when we compare the decades before World War I with the periods that follow. The difference in the trends of the two shares of investment and savings, respectively, is due, of course, to the shift in the net change in claims against foreign countries – from a deficit in the early decades to a preponderantly positive balance after World War I.

TABLE VII

Consumption, Gross Investment and Gross Savings at Factor Cost (current prices), 1870–1952

(Annual averages)

Period	Consumption (current prices)	Gross Investment (current prices)	Net Changes in the Balance of Payments (current prices)	Gross Savings (current prices)	Gross Investment as a Percentage of Total Available Supply $\left(\frac{\text{Col. 2}}{\text{Col. 1+2}}\right)$	Gross Savings as a Percentage of Gross Domestic Product $\left(\frac{\text{Col. 4}}{\text{Col. 1+4}}\right)$
	Millions of kroner	Millions of kroner	Millions of kroner	Millions of kroner	Per cent	Per cent
1. 1870–79	580	90	−6	84	13	13
2. 1880–89	690	92	−17	75	12	10
3. 1890–99	878	147	−24	123	14	12
4. 1900–09	1,264	228	−34	194	15	13
5. 1905–14	1,559	264	−14	251	14	14
6. 1915–20	5,263	584	−182	402	10	10
7. 1921–29	4,878	591	+21	612	11	11
8. 1930–39	4,937	797	+106	903	14	15
9. 1940–46	9,034	1,106	+998	2,104	11	19
10. 1947–52	16,542	3,328	−255	3,073	17	15
1870–1914	—	—	—	—	14	12
1921–39 and 1947–52	—	—	—	—	13	14

Table VIII

When consumption and gross investment are each adjusted for price changes, the ratio of the latter to total available supply declines from about 17 per cent, in the decades before World War I, to about 12 per cent, in the subsequent non-war periods. The background for this marked deviation from the trend envisaged by the figures in Table VII is that the rise in prices of gross investment, throughout the survey period, seems to have been at a steeper rate than the rise in prices of consumption.

Further, a breakdown of gross investment on building and works, and producers' durable equipment is shown. On the whole, the share of construction in total gross investment is larger than that of producers' durable equipment. But the former share moves downward fairly consistently, declining from 70 per cent for the decades before World War I to just above 50 per cent for the subsequent non-war periods.

TABLE VIII

Consumption, Gross Investment and its two Major Components, at Factor Cost (1929 prices), 1870–1952

(Annual averages)

Period	Consumption (1929 prices)	Gross Investment (1929 prices)	Building and Works (1929 prices)	Equipment etc. (1929 prices)	Gross Investment as a Percentage of Total Available Supply $\left(\frac{\text{Col. 2}}{\text{Col. 1+2}}\right)$	Building and Works as a Percentage of Gross Investment $\left(\frac{\text{Col. 3}}{\text{Col. 2}}\right)$
	Millions of kroner	Millions of kroner	Millions of kroner	Millions of kroner	Per cent	Per cent
1. 1870–79	899	189	144	45	18	76
2. 1880–89	1,120	223	165	58	17	74
3. 1890–99	1,469	335	239	96	18	67
4. 1900–09	2,120	455	306	149	18	67
5. 1905–14	2,544	495	314	181	16	63
6. 1915–20	3,426	408	n.a.	n.a.	11	n.a.
7. 1921–29	4,211	494	281	213	11	57
8. 1930–39	5,389	720	403	317	12	56
9. 1940–46	4,918	601	n.a.	n.a.	11	n.a.
10. 1947–52	6,819	1,118	441	677	14	39
1870–1914	—	—	—	—	17	70
1921–39 and 1947–52	—	—	—	—	12	52

PART B. DESCRIPTION OF METHOD AND BASIC REFERENCE TABLES[1]

In describing methods of deriving estimates of net domestic product and its distribution by industries for the period 1870–1952, three periods should be distinguished: 1870–1920, 1921–29, 1930–52. The estimates for the first period, with the exception of those for agriculture, were derived by a flow of incomes approach. For the period 1921–29 Mr. H. C. Jørgensen[2] based the estimates on production statistics, but his method deviates in some respects from that used by the Statistical Department in the estimates for the years since 1930. For agriculture it has been possible, however, to prepare estimates for the whole period along uniform lines on the basis of production statistics.

I. THE INDUSTRIAL BREAKDOWN

1. *Agriculture*

The estimates for agriculture took as their starting point the volume of production, the volume of raw and auxiliary materials purchased, and the corresponding prices received and paid. In calculating the value of output two main branches were distinguished: (1) sale and consumption of vegetable products (including grain, potatoes, sugar-beet, seed crops, oils and fibres), and (2) animal products. Sale and consumption of grain involved the following ends: milling into flour and meal, industrial consumption (chiefly as a raw material in the production of beer and industrial spirits), and export. The volume of industrial consumption has been estimated annually since 1915. Before that time there were only sporadic estimates, from which consumption in the intervening years has been found by interpolation. It is assumed that this method produces fairly reliable results, because consumption has, on the whole, been fairly constant in proportion to population.

Sales and consumption of potatoes have also been distributed into three channels, viz. final consumption, industrial consumption for production of flour and denatured alcohol, and export. Even in this field exports have been estimated annually throughout the period. For industrial consumption there are estimates from 1915 onwards. For the previous years there are,

[1] This Part is the work of Mr. N. Ussing, The Statistical Department.

[2] See *Hvor stor en del af indtægten unddrager skattesnyderne det offentlige*, Copenhagen, 1946, by H. C. Jørgensen.

as in the case of grain, sporadic estimates on the basis of which consumption has been estimated for the remaining years. Finally, consumption has been estimated on the basis of a number of consumer surveys undertaken at intervals of some years.

Sales of seeds, oils and fibres were estimated from total production. For the years since 1939 there are direct records of the amount and the value of these crops. For the previous years production has been estimated on the basis of the acreage under the crops in question, supplemented by export statistics.

Back to 1927 figures of animal production can be derived from data collected from dairies, slaughter-houses, etc. For the previous years the figures have been estimated on the basis of available information on size of herds, supplemented by export statistics and the results of sporadic consumer surveys. The prices used are quotations, adjusted for carrying charges where necessary to give ex farm prices.

Since the 1880s agricultural consumption of purchased raw and auxiliary materials has consisted chiefly of grain, oil-cakes, and fertilizers. As far as these goods are concerned, consumption can be deduced from import statistics, since all of them have been imported. The consumption of fuel oil and electricity, which has been of some importance for the last twenty or thirty years, was estimated from the available agricultural accounts. This also applies to the consumption of insecticides, veterinary and advisory services, etc. The prices used are quotations or import prices (c.i.f.), adjusted where necessary to prices paid by farmers.

2. *Non-agricultural industries*

1870–1920

The estimates for this period were based on income statistics. Since a permanent income tax was not imposed until 1903, no annual estimates of personal income are available until that year. For 1870 we also have an estimate covering the country as a whole, and there are in addition annual estimates of personal income in Copenhagen.

Before 1917–18 income tax was levied only on incomes above a certain limit, and consequently income-tax returns covered the earnings of wage-earners, for example, only to a limited extent. The determination of the total number of earners has

therefore been based on the number of heads of families as given by population censuses. The latter were undertaken every ten years throughout the survey period.

For the tax-paying part of the population we have – on the basis of nation-wide estimates for 1870 and 1903, data concerning the rate of industrial development and the annual estimates of assessed income in Copenhagen – estimated figures for the average income of tax-payers. The estimates of total income for this group have accordingly been based on these data. For the rest of the population, i.e. persons not recorded in income statistics, personal income has been estimated largely on the basis of data on movements of wages in a number of trades.

In spite of the very low rates of tax levied during the years before the First World War, there seems to be no doubt that tax evasion then, as now, was wide-spread. There seems to have been a tendency for tax evasion to grow in importance during the years from 1870–1914, and accordingly a rising series of percentages have been used to adjust for it. The fixing of this series of percentages, by which it is necessary to increase assessed income of tax-payers in order to get actual income, is one of the most dubious aspects of the survey. In this respect a comparison between the production approach estimate and an income approach estimate for agriculture has given some indication for the estimates of actual personal income. The sum of these adjusted figures for personal income of tax-payers and the estimated income of the groups not recorded in the income statistics, should correspond to total disposable income.

In order to get net domestic product on the basis of this aggregate taxes paid have been added, because tax-payers are entitled to deduct taxes paid in their income-tax returns. Further, an addition has been made for appropriations made within companies. The basis for determining appropriations is rather weak, particularly during the years before 1910, but on the other hand only a small – though increasing – part of commercial and industrial activities went on in the form of joint-stock companies.

Besides this an addition has been made for government income from property and entrepreneurship, but on the other hand, deductions have been made on account of transfers from government to households by way of interest on the domestic national debt and social security transfers, etc.

In Table IX the main components of net domestic product in the non-agricultural industries are presented.

As there were very great changes in the level of prices as well as in relative prices during the First World War, and as estimates of net domestic product before and after 1921 are based on two different principles, the available figures are not very well suited for a comparison of the level of domestic product before and after 1920. Consequently no attempt has been made to adjust the figures for the years before 1920 so that they, unlike the figures for the years from 1920 and onwards, do not include North Schleswig. Since personal income in North Schleswig in 1920 was only about 2½ per cent of the personal income of the country this discrepancy is in itself only of minor importance.

Further there seems to be no doubt, as will be seen from the note on problems of deflation, that the present figures understate the influence which changes in the price-level have had on the trends of income. Since the estimates have been based on income statistics, this seems probable because it is a common experience that income-tax returns somewhat understate fluctuations in actual personal income.

1921–29

For this period an estimate on a statistics of production basis carried out by Mr. H. C. Jørgensen is available. Since the volume of available statistics for the 1920s was less comprehensive than for the following decades the procedure adopted later was not followed in every particular. Of the deviations from the present method of estimation we may mention the treatment of government services, which in the estimates for the 1920s were not considered as final consumption but were allocated to the different industries as a cost of production. Adjustment for this fact has been made on the basis of the estimates for the years 1930 and 1931, for which figures have been computed by both methods.

1930–52

For this period the Statistical Department has undertaken estimates, which have been published most recently in *Nationalindkomsten og Nationalproduktet 1946–1949, 1951* and *Statistical Yearbook 1953*. Though the principles applied are

the same, these twenty years fall into three periods as far as the processing of the figures is concerned.

The estimate for the decade 1930–39 is to some extent influenced by the fact that these estimates were the first national product estimates undertaken in Denmark. During the war years 1940–45 conditions were in many ways so extraordinary that it has been difficult to make an estimate which is fully consistent with the methods later adopted.

In many respects a better basis of estimate has been created during the period 1946–52. At the present time (spring 1954) estimates for the years 1947 and 1949 which are more detailed than the earlier estimates are being prepared, and the results of these estimates will presumably lead to a revision of the figures for other years also, though so far it appears that corrections in over-all totals will be of limited size.

3. *Deflation*

On the basis of data on quantities produced for the whole period and quotations for agricultural products in 1929 it has been possible to give figures for the net domestic product of agriculture in terms of 1929 prices.

The conversion to 1929 prices of the figures of net domestic product in the non-agricultural industries for the years before 1914 has been one of the most difficult parts of the survey. As mentioned above, it must, as a consequence of the method of estimation, be presumed that the income figures in current prices underestimate the influence of price fluctuations on actual personal income. The result of an attempt to carry the deflation through by means of a cost-of-living index was that years of depression showed the greatest increases in net domestic product. As this does not seem very likely no effort was made to attempt a deflation in the normal sense of the word. Instead, after deflating net domestic product in 1913 to 1929 prices by means of a cost-of-living index, it was assumed that the changes in the figures for net domestic product at current prices correspond to the actual changes in domestic product at constant prices.

It is obvious that this method of deflating is unsatisfactory, but there is hardly any doubt that on the basis of the available figures it gives a better reflection of the trend in the real value of domestic product than a deflation by means of available price

indices would have done. However, it is probable that – as a result of the method of estimation used – the available figures overestimate the increase in net domestic product during the years 1905–14, which were characterized by rising prices.

During the years 1914 to 1929, in which price fluctuations were greater than during the period 1870–1914, net domestic product in the non-agricultural industries was deflated by a common price index for all industries. The starting-point was the official cost-of-living index, but as the movements in this index during the First World War were largely influenced by price-control and food subsidies, we judged it inexpedient to base our estimates for this period on such an index. Instead an index computed as an average of the cost-of-living index and an index of the development of the wholesale prices was used for the years 1914–21.

In the publications of the Statistical Department the figures for the national product in constant prices for the period 1930–52 have been given in 1935 prices. As time has not allowed a deflation to 1929 prices on the basis of figures for volume of production, etc., the figures in 1935 prices have been deflated to 1929 prices by means of a common index for all industries in the group 'other industries'. For this purpose a cost-of-living index has been used. Since foodstuffs are recorded with a relatively high weight in this index, and since the price trend in this commodity group did not correspond to the general price trend between 1929 and 1935, it is probable that the figures for the period 1930–52 are too high.

4. *The labour force*

The labour force figures must be regarded as approximate. Population censuses have been carried out at least once every ten years throughout the period, and the results of these censuses have been published by the Statistical Department in a number of volumes of tables. The reason why it has nevertheless been impossible to give figures which correspond to the concept of actual labour force is that different methods have been adopted in the break down on industrial groups and age groups in the population censuses and further that an estimate on the basis of census data of the number of married women industrially employed must be rather rough.

The figures for the labour force in agriculture comprise

independent farmers, farm hands, and domestic servants whether they are engaged in farm-work proper or housework. To this an addition was made for farm-work done by wives of independent farmers. Since average working hours in agriculture are systematically lower for this group than for other groups in the labour force these married women are recorded at a reduced weight in the figures for the labour force.

In order to create consistent series of figures the starting-point for the estimate of the labour force of non-agricultural industries was an estimate of all persons between fifteen and sixty-five years of age, less married women. Although a number of elderly persons still in the labour force have thus been excluded, a comparison with the result of the current labour force surveys, which were commenced in the spring of 1951, showed that the estimates for the labour force arrived at in this way at that time were 1–2 per cent higher than the actual labour force. The difference between the two estimates is mainly due to the fact that disabled persons and students of all kinds are included in the present figures for the labour force.

To this series an addition has been made both on account of married women who are working in family enterprises, mainly in retailing and handicrafts and for the number of married women employed in manufacturing, commerce, banking, etc. For both these groups the statistical basis for determining the exact number is very meagre, especially for the period from 1870 to 1914. Further, an adjustment has been made for the fact that average working hours within the industries are shorter for married women than for other groups in trade and industry.

5. *Working Hours*

Increased leisure being in many cases alternative and equivalent to increased output, it was natural to attempt an adjustment for the reduction in working hours which has taken place throughout the period under review. As satisfactory data are available only for agriculture and for handicrafts and manufacturing the trend in handicrafts and manufacturing has been treated as representative of the trend within the non-agricultural industries.

The adjustment has accordingly been carried out by dividing the estimates reached for net domestic product per head of the labour force in each year by the index of working hours. In the

adjustment of net domestic product the indices found for working hours in agriculture and non-agricultural industries respectively were combined by weighting them according to the ratio in which the labour force is distributed between the two industrial groups.

II. BREAKDOWN OF CONSUMPTION, INVESTMENT, EXPORT SURPLUS, AND SAVING

As an estimate of depreciation must inevitably be rather arbitrary, we preferred to analyse domestic product into consumption and investment on the basis of an estimate of gross investment. In consequence we have to use gross figures also for domestic product and the figures previously stated for net domestic product have accordingly been increased by a series for depreciation. This method has the advantage that the arbitrary element involved in the calculation of depreciation will affect figures for consumption instead of figures for investment. For the sake of international comparability we have also in the present breakdown used figures for the national product at factor cost.

In order to get total available supply on the basis of gross domestic product an addition has been made for the net deficit on the balance of payments current account (excluding net interest on the foreign debt since these payments enter into domestic product), and finally consumption was determined as a residual.

The value of changes in inventories has only been recorded from 1940 to 1952, and the estimates of gross investment were accordingly limited to fixed asset formation only. Since consumption is estimated residually as the difference between total available supply and the value of fixed gross investment, the consequence has been that in periods with a high degree of economic expansion (particularly the two post-war periods) the figures exaggerate the actual increase in consumption while, on the other hand, there is reason to believe that in years of depression the figures for gross investment understate the actual fall brought about by the depression.

Gross saving was estimated by deducting net deficit on the current balance of payments from gross investment; there is undoubtedly a considerable error attached to this figure.

In the following pages further details will be given for cases

where figures were determined by direct estimate, i.e. the values of exports and imports, net deficit on the balance of payments current account, total fixed investment and depreciation.

1. *Imports, exports and net deficit on the balance of payments current account*

For the whole period 1870–1952 annual estimates of the value of total exports and imports are available, whereas estimates of the value of special imports and exports are available only as far back as 1897. For the years 1870–72 the official estimates were made in 1873 prices, and it was therefore necessary to undertake an estimate in current prices on the basis of the rather meagre knowledge of price trends. Since estimates of the f.o.b. value of imports are available only for the post-war years, the figures for imports are computed on a c.i.f. basis for the whole period, whereas exports have been estimated on a f.o.b. basis. For the 1870s it has been maintained that the official estimate of the value of exports is less complete than that for imports. Although this cannot be denied, it is beyond doubt that the most important source of error in estimates of the net deficit on balance of payments current account is the estimate of the balance of the invisible items.

Of the service items in the balance of payments earnings of shipping are the most important. Data on earnings from freight traffic are available back to 1905, but even with this knowledge valuation of the outlay on freight carried by foreign ships and income and outlay in connection with calls at ports, etc., will contain an element of error.

The basis for a direct estimate being thus somewhat doubtful, we have also – for the years before the First World War – relied upon estimates of the total foreign debt; these estimates have been undertaken at intervals back to 1872. We have also drawn upon estimates of the trend in the balance of payments made by a number of Danish economists, including P. Casse, C. Thalbitzer, K. Korst and J. Warming.

For the 1920s there are occasional discrepancies between the data from the different sources; nevertheless the basis for an estimate of the balance of payments is somewhat better than for earlier periods.

For the years after 1930 the figures given for the net deficit on the balance of payments current account correspond to the

figures previously published by the Statistical Department.

As time has not allowed an attempt at a separate deflation of total exports and total imports, the reduction to 1929 prices of the net deficit on the balance of payments current account for the whole period 1870–1952 was carried out on the basis of the price trend for total national product.

For the years 1930–52 the Statistical Department carried out a deflation to 1953 prices on the basis of statistics of the price trends for the most important items in the balance of payments, but as there was a great change in relative prices between 1929 and 1935, we did not attempt to convert to 1929 prices the net balance of payments deficit calculated in 1935 prices.

2. *Gross investment*

A separate estimate was made for each of the following groups of fixed investment:

(*a*) Building
(*b*) Construction
(*c*) Machinery and equipment
(*d*) Means of transportation.

(a) *Building*

An estimate of the total completed floor area has been undertaken only as far back as 1938. For the years before 1938 the estimates have been based on available data on the changes in the quantities of the two most important building materials, bricks and imported sawn timber, used in building. These estimates rest on the dubious assumption that the consumption of materials for repair and maintenance has constituted a constant share of total sales of building materials.

Looking at the results of the estimates it seems probable that the figures arrived at for the value of building in the years before the turn of the century are somewhat too high, and as building activity during these decades accounted for more than half of fixed asset formation the high rate of investment indicated in the tables for these decades should be regarded with some reservation.

As data on the price trends for the most important cost elements in building are available a separate deflation of this group of investments has been carried out for the whole period.

(b) *Construction*

We have distinguished between the following six categories of construction:

(1) Railways
(2) Post, telegraph and telephone
(3) Ports
(4) Roads and sewers
(5) Gas, electricity and water works
(6) Development and improvement of land, etc.

By far the largest part of the construction has been carried out either direct by government authorities or by public utilities, so that the estimates are largely based on data in central and local government accounts, and these figures should consequently be fairly reliable. The accurate information on the value of the construction within the private sector is, on the other hand, very meagre.

The value of construction for the years before 1930 has been deflated to 1929 prices by means of a weighted index which includes (1) the trend in the wages of navvies, (2) an index of building costs, and finally (3) on account of the considerable outlay on engines and development of telephone network, etc., an index of the price trends in the machinery, etc., group of capital goods.

(c) *Machinery and equipment*

Detailed information is available back to 1916 in production statistics, import and export statistics, and it has thus been possible to make an estimate of gross investment in machinery by means of data on sales of capital equipment. In view of the difficulty of estimating the value of the investment goods produced in handicrafts the estimate even for this period is inaccurate. Moreover, the estimate for the period 1916–29 is not exhaustive because the calculations were based on a number of representative goods for the industries buying machinery and equipment.

As detailed production statistics are available for 1913 also, the estimates for the other years before 1916 were based on an estimate for this year. During this period from 1870–1915 the import statistics were the most important source, but back to 1905 reliance was placed on various surveys in the annual

industrial reports prepared by the Federation of Danish Industries. However, in the years from 1870 to 1909 the classification of imported iron and metal products is very rough, and the basis of the estimate of the value of these investments is accordingly rather shaky, especially for the years before the turn of the century. The result of the estimates seems, however, to agree fairly well with what might be expected in view of the trends in trade and industry during this period.

During the years from 1870 to 1930 this sector of investments was deflated to 1929 prices by means of an index which was made by combining an index of the trend in wages in the iron industry and an index of the trend of unit prices of imported iron. For the years after 1930 the deflation was in principle based on data for quantities produced, imported, and exported, of the individual goods in the group.

(d) *Means of transport*

Separate estimates have been made for the following four groups of means of transport:

(1) Railway rolling stock
(2) Ships
(3) Motor vehicles
(4) Other means of transport.

Since the major part of the Danish railways is owned by the Government, specific information for most of the capital expenditures within the first group can be found in government accounts. For private railways total capital expenditure only is known and the division into outlay on works and rolling stock is more or less arbitrary. For the merchant navy the Statistical Department has estimated the value of the annual net increase for the whole period 1870–1952. For motor vehicles information concerning the number of vehicles registered for tax purposes is available back to the First World War. As statements from different sources for the 1920s do not agree, and as passenger cars were allocated between investment and consumption according to different criteria before and after the Second World War, some inaccuracy is involved in these estimates. The estimates for the group 'other means of transport', which consists largely of vehicles of various kinds, depend on a very shaky basis. As we had no basis for a special price

index for means of transport, we relied upon the same indices for the deflation to 1929 prices as were used for deflation of investment in the machinery group.

In spite of the inaccuracies in the estimates of gross investment in the individual sub-groups, the series for the value of investment in current prices seem to give a fairly satisfactory reflection of the main trends – although it is possible that, as a consequence of an overestimate of the volume of building, the figures for gross investment in the 1870s exaggerate the volume of total investment. From the table showing the share of investment in gross domestic product it will be seen that for the period 1870–1914 there are quite considerable differences between an estimate in constant prices and one in current prices. This suggests that during the period from 1870 to 1920 the price increase for investment goods seems to have been greater than for consumer goods.[1]

3. *Depreciation*

In accordance with the procedure adopted by the Statistical Department for the period 1930–52 changes in depreciation are determined on the basis of fluctuations in the value of output in the individual industries. While for the post-war years the estimates of gross investment so far published include the value of repairs and maintenance of the existing capital equipment the published figures do not distinguish the value of depreciation and repair and maintenance.

For the years 1921–29 the computations were carried out by using an average of the relations between the estimates of depreciations and net domestic product in the 1930s. For the war years and the immediate post-war years somewhat higher percentages have been applied on account of the greater wear and tear due to the use of raw materials of inferior quality. For the years before 1914 separate estimates were made of the value of depreciation for building and construction and other fixed investment respectively; but the point of departure has during the whole period been the change in the value of net domestic product.

In fixing depreciation percentages for machinery and ships, etc., a sliding scale was applied for the years from 1870 to 1914, allowing for the large increase in the volume of these investments during this period.

[1] Cf. p. 131 above.

TABLE IX

Composition of Net Domestic Product in Non-agricultural Industries, 1870–1914

Year	Disposable Income of Tax-payers	Disposable Income of Non-Tax-payers	Company Appro-priations, etc.	Taxes Paid, Net Surplus of Govern-ment Enterprises, etc.	Net Domestic Product
	Millions of kroner	Millions of kroner	Millions of kroner	Millions of kroner	Millions of kroner
1870	172	98	5	14	289
1871	191	102	6	15	314
1872	198	105	9	12	324
1873	212	110	10	13	345
1874	220	112	9	14	355
1875	225	116	8	16	365
1876	234	117	6	15	372
1877	223	117	5	17	362
1878	221	116	14	17	368
1879	232	117	12	17	378
1880	250	122	10	18	400
1881	262	127	10	18	417
1882	275	129	10	21	435
1883	286	134	12	21	453
1884	294	137	10	21	462
1885	298	137	12	20	467
1886	294	137	6	23	460
1887	312	140	10	24	486
1888	328	145	11	26	510
1889	339	150	12	25	526
1890	344	156	16	27	543
1891	358	158	18	30	564
1892	374	164	16	29	583
1893	388	166	16	30	600
1894	400	170	16	34	620
1895	420	171	20	35	646
1896	450	176	24	38	688
1897	472	178	27	40	717
1898	546	182	32	49	809
1899	557	181	22	49	809
1900	589	185	30	42	846
1901	610	188	30	44	872
1902	632	190	24	52	898
1903	640	190	23	65	918
1904	608	241	24	63	936
1905	636	242	29	69	976
1906	691	236	33	72	1,032
1907	736	232	39	73	1,080
1908	744	232	21	74	1,071
1909	781	232	30	77	1,120
1910	832	226	29	88	1,175
1911	888	222	38	99	1,247
1912	992	218	74	106	1,390
1913	1,080	207	65	111	1,463
1914	1,160	222	56	118	1,556

TABLE X. *Break Down of Net Domestic Product by Industries*

Year	Current Prices (millions of kroner)			1929 Prices (millions of kroner)		
	Agriculture	Other Industries	Net Domestic Product	Agriculture	Other Industries	Net Domestic Product
1870	272	289	561	420	505	925
1871	277	314	591	413	548	961
1872	290	324	614	437	566	1,003
1873	310	345	655	423	605	1,028
1874	313	355	668	432	620	1,052
1875	299	364	663	419	635	1,054
1876	311	376	687	423	658	1,081
1877	261	362	623	393	633	1,026
1878	266	368	634	423	643	1,066
1879	264	378	642	429	661	1,090
1880	311	400	711	443	699	1,142
1881	296	417	713	417	730	1,147
1882	293	435	728	442	761	1,203
1883	291	453	744	448	792	1,240
1884	261	462	723	435	807	1,242
1885	245	467	712	408	817	1,225
1886	252	460	712	458	804	1,262
1887	248	486	734	469	850	1,319
1888	236	500	736	440	874	1,314
1889	262	526	788	447	920	1,367
1890	306	543	849	512	950	1,462
1891	332	564	896	544	986	1,530
1892	320	583	903	523	1,020	1,543
1893	298	599	897	502	1,048	1,550
1894	274	620	894	490	1,084	1,574
1895	307	647	954	536	1,132	1,668
1896	293	688	981	537	1,204	1,741
1897	285	717	1,002	500	1,253	1,753
1898	289	803	1,092	498	1,404	1,902
1899	279	809	1,088	504	1,414	1,918
1900	337	846	1,183	558	1,478	2,036
1901	368	872	1,240	591	1,524	2,115
1902	361	898	1,259	589	1,570	2,159
1903	401	918	1,319	656	1,606	2,262
1904	386	937	1,323	669	1,640	2,309
1905	417	976	1,393	651	1,706	2,357
1906	416	1,031	1,447	606	1,804	2,410
1907	427	1,079	1,506	680	1,888	2,568
1908	442	1,072	1,514	716	1,875	2,591
1909	451	1,117	1,568	712	1,952	2,664
1910	491	1,174	1,665	736	2,052	2,788
1911	529	1,245	1,774	767	2,178	2,945
1912	524	1,393	1,917	739	2,436	3,175
1913	577	1,465	2,042	746	2,562	3,308
1914	681	1,558	2,239	899	2,596	3,495
1915	745	2,072	2,817	707	2,558	3,265
1916	1,009	3,004	4,013	764	2,945	3,709
1917	1,047	3,432	4,479	756	2,681	3,437
1918	1,236	4,132	5,368	552	2,683	3,235
1919	1,151	5,369	6,520	465	3,140	3,605
1920	1,537	6,776	8,313	627	3,289	3,916
1921	1,332	4,535	5,867	715	3,194	3,909
1922	1,062	3,737	4,799	773	3,233	4,006
1923	1,289	3,955	5,244	873	3,321	4,194
1924	1,488	4,341	5,829	904	3,476	4,380
1925	1,250	4,282	5,532	883	3,510	4,393
1926	973	3,807	4,780	964	3,578	4,542
1927	917	3,750	4,667	1,097	3,666	4,763
1928	1,025	3,804	4,829	1,127	3,760	4,887
1929	1,145	3,921	5,066	1,145	3,921	5,066
1930	981	4,023	5,004	1,220	4,326	5,546
1931	755	3,990	4,745	1,333	4,337	5,670
1932	756	3,697	4,453	1,494	3,975	5,469
1933	846	3,971	4,817	1,338	4,224	5,562
1934	904	4,298	5,202	1,263	4,477	5,740
1935	941	4,589	5,530	1,195	4,635	5 830
1936	993	4,808	5,801	1,233	4,760	5,993
1937	1,017	5,187	6,204	1,311	4,940	6,251
1938	1,143	5,317	6,460	1,255	4,969	6,224
1939	1,246	5,776	7,022	1,372	5,204	6,576
1940	1,660	5,841	7,501	1,431	4,279	5,710
1941	1,761	6,730	8,491	1,041	4,068	5,109
1942	1,677	7,849	9,526	937	4,272	5,209
1943	2,236	8,540	10,776	1,154	4,594	5,748
1944	2,404	9,560	11,964	1,176	5,106	6,282
1945	2,275	9,733	12,008	1,161	4,648	5,809
1946	2,354	10,784	13,138	1,237	5,023	6,260
1947	2,449	12,042	14,491	1,094	5,423	6,517
1948	2,739	12,945	15,684	1,046	5,576	6,622
1949	3,193	13,420	16,613	1,338	5,547	6,885
1950	3,803	15,138	18,941	1,520	5,972	7,492
1951	4,002	16,626	20,628	1,797	5,995	7,792
1952	4,546	17,280	21,826	1,882	6,005	7,887

TABLE XI. *Gross Domestic Product at Factor Cost*

Year	Current Prices (millions of kroner)			1929 Prices (millions of kroner)		
	Consumption	Gross Investment	Gross Domestic Product	Consumption	Gross Investment	Gross Domestic Product
1870	498	78	576	781	171	952
1871	555	81	636	848	190	1,038
1872	549	90	639	862	184	1,046
1873	595	105	700	902	197	1,099
1874	590	118	708	884	229	1,113
1875	589	114	703	886	232	1,118
1876	624	103	727	926	217	1,143
1877	588	80	668	926	173	1,099
1878	600	64	664	974	144	1,118
1879	605	72	677	982	173	1,155
1880	649	87	736	981	203	1,184
1881	659	104	763	980	249	1,229
1882	694	79	773	1,095	184	1,279
1883	689	120	809	1,107	287	1,394
1884	687	106	793	1,112	260	1,372
1885	685	92	777	1,128	230	1,358
1886	663	69	732	1,128	175	1,303
1887	694	80	774	1,201	202	1,403
1888	714	87	801	1,229	220	1,449
1889	759	99	858	1,270	235	1,505
1890	793	111	904	1,311	257	1,568
1891	847	109	956	1,374	264	1,638
1892	850	108	958	1,389	257	1,646
1893	852	105	957	1,420	248	1,668
1894	845	104	949	1,436	251	1,687
1895	895	124	1,019	1,508	295	1,803
1896	879	172	1,051	1,489	395	1,884
1897	872	190	1,062	1,444	437	1,881
1898	968	234	1,202	1,628	501	2,129
1899	974	219	1,193	1,691	443	2,134
1900	1,098	200	1,298	1,881	379	2,260
1901	1,141	189	1,330	1,987	399	2,386
1902	1,143	211	1,354	1,903	436	2,339
1903	1,180	214	1,394	1,964	444	2,408
1904	1,208	215	1,423	2,060	446	2,506
1905	1,270	213	1,483	2,089	439	2,528
1906	1,336	271	1,607	2,171	534	2,705
1907	1,398	283	1,681	2,350	534	2,884
1908	1,393	246	1,639	2,334	480	2,814
1909	1,469	239	1,708	2,450	468	2,918
1910	1,532	238	1,770	2,521	454	2,975
1911	1,625	254	1,879	2,669	463	3,132
1912	1,786	286	2,072	2,938	501	3,439
1913	1,887	310	2,197	3,011	548	3,559
1914	1,897	302	2,199	2,902	531	3,433
1915	2,446	361	2,807	2,749	504	3,253
1916	3,576	417	3,993	3,232	459	3,691
1917	4,043	386	4,429	3,106	293	3,399
1918	5,089	579	5,668	3,062	354	3,416
1919	7,425	855	8,280	4,128	450	4,578
1920	8,998	904	9,902	4,277	388	4,665
1921	5,536	644	6,180	3,745	373	4,118
1922	4,636	553	5,189	3,888	444	4,332
1923	5,075	620	5,695	4,068	487	4,555
1924	5,457	699	6,156	4,113	513	4,626
1925	5,165	630	5,795	4,119	483	4,602
1926	4,484	524	5,008	4,259	500	4,759
1927	4,385	498	4,883	4,489	494	4,983
1928	4,511	525	5,036	4,566	533	5,099
1929	4,652	621	5,273	4,652	621	5,273
1930	4,472	782	5,264	5,074	749	5,823
1931	4,276	739	5,015	5,259	733	5,992
1932	4,054	535	4,589	5,096	540	5,636
1933	4,338	646	4,984	5,116	639	5,755
1934	4,679	771	5,450	5,275	739	6,014
1935	4,875	801	5,676	5,234	750	5,984
1936	5,224	815	6,039	5,499	740	6,239
1937	5,514	873	6,387	5,703	732	6,435
1938	5,716	934	6,650	5,661	746	6,407
1939	6,187	1,075	7,262	5,972	829	6,801
1940	6,271	840	7,111	4,845	568	5,413
1941	7,155	956	8,111	4,280	600	4,880
1942	8,215	1,167	9,382	4,458	672	5,130
1943	8,385	1,218	9,603	4,468	654	5,122
1944	8,893	953	9,846	4,669	501	5,170
1945	10,803	969	11,772	5,215	480	5,695
1946	13,510	1,648	15,158	6,488	734	7,222
1947	13,899	2,135	16,034	6,331	880	7,211
1948	14,955	2,365	17,320	6,405	908	7,313
1949	15,325	2,990	18,315	6,484	1,106	7,590
1950	17,633	3,695	21,328	7,164	1,272	8,436
1951	18,431	4,245	22,676	7,314	1,252	8,566
1952	19,006	4,540	23,546	7,219	1,290	8,509

TABLE XII. *The Balance of Payments*

Year	General Trade		Net Deficit on Current Account of the Balance of Payments
	Exports of Goods (f.o.b.)	Imports of Goods (c.i.f.)	
	Millions of kroner	Millions of kroner	Millions of kroner
1870	133	138	−6
1871	132	160	20
1872	160	177	−8
1873	170	229	15
1874	180	233	10
1875	171	228	10
1876	181	229	5
1877	164	225	15
1878	153	190	−5
1879	158	199	0
1880	197	227	−10
1881	183	245	15
1882	188	253	10
1883	200	289	30
1884	178	274	35
1885	159	249	30
1886	163	212	−10
1887	183	251	5
1888	187	274	30
1889	209	304	35
1890	234	307	15
1891	249	335	20
1892	252	325	15
1893	235	320	20
1894	264	349	15
1895	269	364	20
1896	284	384	25
1897	328	417	10
1898	326	462	55
1899	365	492	45
1900	393	526	50
1901	407	513	20
1902	447	563	25
1903	494	583	0
1904	498	599	20
1905	534	623	5
1906	560	726	70
1907	605	789	80
1908	617	712	30
1909	608	725	40
1910	681	763	5
1911	627	706	0
1912	682	819	40
1913	721	857	35
1914	867	797	−170
1915	1,129	1,160	−180
1916	1,309	1,362	−300
1917	1,066	1,089	−350
1918	759	949	−160
1919	1,008	2,605	1,200
1920	1,962	3,243	880
1921	1,564	1,697	−37
1922	1,283	1,553	100
1923	1,685	2,031	141
1924	2,154	2,366	−23
1925	1,959	2,082	−67
1926	1,517	1,620	−62
1927	1,551	1,662	−64
1928	1,657	1,736	−81
1929	1,712	1,794	−93
1930	1,616	1,729	−28
1931	1,333	1,465	7
1932	1,138	1,143	−118
1933	1,213	1,266	−105
1934	1,235	1,355	−45
1935	1,267	1,331	−166
1936	1,377	1,486	−95
1937	1,606	1,702	−190
1938	1,589	1,665	−186
1939	1,630	1,781	−168
1940	1,536	1,390	−821
1941	1,291	1,317	−868
1942	1,056	1,212	−692
1943	1,341	1,229	−1,792
1944	1,366	1,169	−2,767
1945	906	697	−916
1946	1,633	2,864	876
1947	2,368	3,147	343
1948	2,783	3,475	271
1949	3,644	4,285	197
1950	4,747	6,022	742
1951	5,994	7,164	203
1952	5,994	6,656	−225

[1] Excluding net interest on foreign debt.

TABLE XIII. *Composition of Gross Investment*

Year	Current Prices (millions of kroner)			1929 Prices (millions of kroner)		
	Building and Works	Machinery and Equipment	Total	Building and Works	Machinery and Equipment	Total
1870	61	17	78	133	38	171
1871	64	17	81	152	38	190
1872	67	23	90	148	36	184
1873	74	31	105	157	40	197
1974	86	32	118	180	49	229
1875	78	36	114	166	66	232
1876	75	28	103	160	57	217
1877	60	20	80	130	43	173
1878	45	19	64	102	42	144
1879	54	18	72	132	41	173
1880	67	20	87	164	39	203
1881	80	24	104	197	52	249
1882	51	28	79	124	60	184
1883	88	32	120	214	73	287
1884	76	30	106	187	73	260
1885	70	22	92	175	55	230
1886	51	18	69	131	44	175
1887	58	22	80	150	52	202
1888	65	22	87	164	56	220
1889	67	32	99	162	73	235
1890	77	34	111	187	70	257
1891	81	28	109	201	63	264
1892	77	31	108	186	71	257
1893	72	33	105	170	78	248
1894	70	34	104	170	81	251
1895	86	38	124	206	89	295
1896	126	46	172	287	108	395
1897	140	50	190	318	119	437
1898	163	71	234	360	141	501
1899	139	79	218	305	138	443
1900	134	66	200	273	106	379
1901	133	57	190	286	113	399
1902	148	63	211	313	123	436
1903	144	70	214	305	139	444
1904	139	76	215	296	150	446
1905	144	69	213	303	136	439
1906	175	96	271	354	180	534
1907	177	106	283	344	190	534
1908	148	98	246	298	182	480
1909	152	87	239	302	166	468
1910	156	82	238	303	151	454
1911	167	87	254	307	156	463
1912	178	108	286	314	187	501
1913	186	124	310	323	225	548
1914	168	134	302	293	238	531
1915	n.a.	n.a.	361	n.a.	n.a.	504
1916	n.a.	n.a.	417	n.a.	n.a.	459
1917	n.a.	n.a.	386	n.a.	n.a.	293
1918	n.a.	n.a.	579	n.a.	n.a.	354
1919	n.a.	n.a.	855	n.a.	n.a.	450
1920	n.a.	n.a.	904	n.a.	n.a.	388
1921	301	343	644	203	170	373
1922	316	237	553	270	174	444
1923	371	249	620	306	181	487
1924	392	307	699	304	209	513
1925	345	285	630	267	216	483
1926	303	221	524	283	217	500
1927	282	216	498	272	222	494
1928	294	231	525	295	238	533
1929	339	282	621	339	282	621
1930	394	388	782	390	359	749
1931	407	332	739	416	317	733
1932	316	219	535	327	213	540
1933	397	249	646	403	236	639
1934	469	303	772	460	279	739
1935	456	345	801	439	311	750
1936	436	379	815	408	332	740
1937	447	426	873	387	445	732
1938	451	483	934	376	370	746
1939	528	547	1,075	420	409	829
1940	n.a.	n.a.	840	n.a.	n.a.	568
1941	n.a.	n.a.	956	n.a.	n.a.	600
1942	n.a.	n.a.	1,167	n.a.	n.a.	672
1943	n.a.	n.a.	1,218	n.a.	n.a.	654
1944	n.a.	n.a.	953	n.a.	n.a.	501
1945	n.a.	n.a.	969	n.a.	n.a.	480
1946	n.a.	n.a.	1,644	n.a.	n.a.	734
1947	775	1,360	2,135	333	547	880
1948	975	1,390	2,365	388	520	908
1949	1,185	1,805	2,990	455	651	1,106
1950	1,389	2,306	3,695	498	774	1,272
1951	1,610	2,635	4,245	472	780	1,252
1952	1,735	2,805	4,540	498	792	1,290

TABLE XIV. *Total Population and Labour Force*

Year	Total Population	Labour Force		Total
		Agriculture	Other Industries	
	Thousands	Thousands	Thousands	Thousands
1870	1,793	486	454	940
1871	1,807	488	460	948
1872	1,821	491	466	957
1873	1,838	494	470	964
1874	1,856	498	474	972
1875	1,874	499	481	980
1876	1,894	503	484	987
1877	1,917	506	490	996
1878	1,940	509	493	1,002
1879	1,960	511	497	1,008
1880	1,976	510	503	1,013
1881	1,995	510	508	1,018
1882	2,013	510	515	1,025
1883	2,029	509	523	1,032
1884	2,051	509	529	1,038
1885	2,076	510	533	1,043
1886	2,102	509	541	1,050
1887	2,124	508	547	1,055
1888	2,143	508	554	1,062
1889	2,161	507	562	1,069
1890	2,179	504	570	1,074
1891	2,195	505	577	1,082
1892	2,210	506	585	1,091
1893	2,226	508	596	1,104
1894	2,248	512	608	1,122
1895	2,276	514	618	1,132
1896	2,306	515	631	1,146
1897	2,338	516	644	1,160
1898	2,371	516	659	1,175
1899	2,403	519	671	1,190
1900	2,432	519	685	1,204
1901	2,463	519	698	1,217
1902	2,491	515	716	1,231
1903	2,519	520	724	1,244
1904	2,546	524	736	1,260
1905	2,574	526	750	1,276
1906	2,603	529	761	1,290
1907	2,635	531	776	1,307
1908	2,668	534	787	1,321
1909	2,702	536	799	1,335
1910	2,737	540	811	1,351
1911	2,770	543	823	1,366
1912	2,802	542	841	1,383
1913	2,833	546	853	1,399
1914	2,866	549	869	1,418
1915	2,901	560	879	1,439
1916	2,936	569	896	1,465
1917	2,972	574	916	1,490
1918	3,006	573	941	1,514
1919	3,041	572	952	1,524
1920	3,241[1]	617[1]	1,019[1]	1,636[1]
1921	3,285	615	1,035	1,650
1922	3,322	614	1,065	1,679
1923	3,356	627	1,081	1,708
1924	3,389	649	1,086	1,735
1925	3,425	637	1,126	1,763
1926	3,452	628	1,160	1,788
1927	3,475	630	1,177	1,807
1928	3,497	632	1,196	1,828
1929	3,518	635	1,215	1,850
1930	3,542	622	1,258	1,880
1931	3,569	597	1,301	1,898
1932	3,603	594	1,327	1,921
1933	3,633	606	1,343	1,949
1934	3,666	606	1,365	1,971
1935	3,695	596	1,403	1,999
1936	3,722	595	1,426	2,021
1937	3,749	590	1,453	2,043
1938	3,777	590	1,470	2,060
1939	3,805	590	1,484	2,074
1940	3,832	584	1,500	2,084
1941	3,863	580	1,514	2,094
1942	3,903	572	1,528	2,100
1943	3,949	562	1,545	2,107
1944	3,998	553	1,553	2,106
1945	4,045	542	1,564	2,106
1946	4,105	525	1,584	2,109
1947	4,146	507	1,599	2,106
1948	4,190	497	1,614	2,111
1949	4,230	492	1,625	2,117
1950	4,271	489	1,644	2,133
1951	4,304	488	1,657	2,145
1952	4,336	480	1,673	2,153

[1] In 1920 North Schleswig was incorporated in Denmark.