

Statistics Norway
Economic Statistics

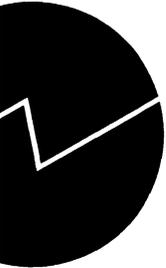
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Documents

Norwegian National Accounts

Documentation of the Compilation
and Methods Applied

- I General Description
- II GDP from the Output Approach



Preface to Volume I

Statistics Norway presents in the series Documents a comprehensive documentation of the compilation and methods applied to estimate GDP (Gross Domestic Product) and its components of the Norwegian National Accounts (NNA). This documentation is referred to as "the inventory" of NNA, an obligation of the EEA (European Economic Area) treaty. Four chapters have been completed and submitted to Eurostat (Statistical Office of the European Union) in March 1996, while two more chapters will be submitted later this year. The documentation presented refers to the revised system established by the 1995 main revision of NNA. Emphasis is made on structure rather than on trends, illustrated by 1990 figures, also describing definitional and other factors behind the revision from former to revised system.

In this first volume, the first two chapters are included. Chapter I is a general description on NNA, approaches and main sources used to calculate GDP, types of accounts and different versions compiled, ways of dissemination and international reporting of NNA estimates, organization and resources used, and a summary on the 1995 main revision results of the Norwegian National Accounts.

The main approach to GDP estimation - the output or production approach - is described in chapter II. It reviews and describes in relatively great detail the estimation of output, intermediate consumption and value added by NACE Rev.1 sections and divisions in current prices. In addition, correction items to GDP - value added tax, other taxes on products, subsidies on products and adjustment for FISIM (Financial Intermediation Services Indirectly Measured) are also described. At the beginning, the classification schemes used are presented, in particular the activity and product classification used in NNA with references to the underlying international activity and product classifications of NACE rev.1 and CPA. At the end of chapter II, there is a summary on industry structure, type of revision and type of sources used.

Chapter III on GDP by expenditure approach and chapter IV on GDP by income approach are described in a second volume issued along with this volume. The forthcoming two volumes of the inventory, covering chapter V on integration of institutional sector accounts and chapter VI on GDP / GNP and exhaustiveness are planned for publication in second half of 1996.

The publication of the inventory in the series of Documents is a first way of presentation a complete picture of the national accounts estimations in the central framework covering the real economy in current prices. The author welcomes any comments to this first presentation.

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CHAPTER I. GENERAL DESCRIPTION

A. NORWEGIAN SYSTEM OF NATIONAL ACCOUNTS

National accounting has long traditions in Norway compared to most countries. Modern national accounts were developed shortly after World War II. Production approach and real flows of the economy have been emphasized. Integrated financial flows and institutional sector accounts have been developed at a much slower pace. Integrated supply and use tables have been a distinctive feature of the Norwegian national accounts. Extensive use of national accounts has been made in economic models and national budgeting work. Norway has followed international recommendations closely, the principles of SNA 1968 introduced from 1973 until July 1995 when SNA 1993 and ESA 1995 were implemented. Norway was the first country in Europe to take on the new systems.

1.1 The Norwegian System of National Accounts - hereafter NNA for short - has a long tradition compared with most other countries. In Norway - as in several other countries - the first phase was characterized by studies aiming at estimating the value of national income, typically based on tax assessment statistics. The first work of this kind dates back to 1891. A second phase occurred in the 1930s when Professor Ragnar Frisch tried to design a general national accounting system. His project was to include a detailed empirical description of Norwegian economic life, industry by industry, in national accounting terms. The empirical work on national accounting started by Frisch was, however, too ambitious for its time. But his work had a strong theoretical basis which proved to be fundamental for the development of national accounts in Norway. The term "nasjonalregnskap" (national accounts) was already used in print in 1933 and Frisch's system of economic concepts (The Eco-circ System) became world-wide renowned.

1.2 In describing the NNA of to-day, it is easily recognized and striking to see how important the influence still is from Frisch's tradition and, in particular, from the early introduction of a "modern" national accounts system in Statistics Norway led by Odd Aukrust in the years following World War II. The new Norwegian national accounting system thus was based on concepts and definitions taken over from Frisch's Eco-circ System, combined with an accounting structure along the lines proposed by Professor Richard Stone in his paper to League of Nations in 1947. The work by Aukrust - empirical work covering the periods 1930-

1939 and 1946-1951 as well as a theoretical discussion of the principles underlying the estimates - was completed in the early 1950s and became an important milestone in respect of national development as well giving impulses internationally to revising the UN system SNA later on, SNA 1968 in particular.

1.3 Generally speaking, the NNA contains a number of important characteristics, among which the following ones are considered particularly important:

- | |
|---|
| <ul style="list-style-type: none">- emphasis on describing the real economy- input-output framework integrated on annual basis- supply and use tables built around commodity flows- detailed breakdown of most variables- long-established tool as integrating and co-ordinating economic statistics- extensively used in national budgeting and economic model analysis |
|---|

1.4 Already in the pioneering years of Frisch and Aukrust there was the standpoint that "real phenomena" were what mattered. It also reflected the particular interest public authorities showed in the real flows in economy. The statistical base early became considerably better for production statistics than for income and financial statistics. Therefore, the production or output approach was the clear choice of main approach for computing GDP.

1.5 Norway is one of few countries that very early (since 1952) has input-output tables (read: supply and use tables) integrated in the annual national accounts. The background for this was both analytical and statistical, and eventually also methodological as the input-output structure became one of the main features of SNA 1968. They played a considerable analytical role already in the economic models of the 1960s, as an empirical basis for use in the work on national budgeting and macro-economic planning as a whole. Another condition, the presence of large data masses necessary to draw up these tables have traditionally existed. Detailed annual statistics for manufacturing industries thus have existed since 1927.

1.6 Supply and use tables built around commodity flows have played a basic role in the Norwegian national accounts for several decades before SNA 1993 and ESA 1995 more explicitly than in its predecessor stated their role as an accounting framework within which the commodity flow method of compiling national accounts can be systematically exploited. That is, total supply and total use of individual types of goods and services have to be balanced with each other, and next providing the basic information and serving the statistical basis for the derivation of detailed input-output tables for purposes of economic analysis and projections.

1.7 In Norway, considerable emphasis has been placed on having the national accounts play a co-ordinating and integrating role in relation to other economic statistics, for the use of joint definitions, classifications etc. Furthermore, Statistics Norway has emphasized the importance of bringing together its role as producer and main user of national accounts. All within Statistics Norway, activities such as economic modelling work (national accounts as basic structure), analysis of business cycles (based on quarterly accounts data) and describing external economy (balance of payments fully integrated in national accounts) are important tasks. In NNA, the integration of basic statistics and basic accounts of institutional sectors has had a slower pace. However, recently integrated financial flows and institutional sector accounts have been explored and developed to a more advanced level than ever before. Thus, a

long expressed aim of integrating institutional sector accounts has now become closer to the ideal framework expressed in the new systems SNA 1993 and ESA 1995.

1.8 Statistics Norway has been a strong follower of international recommendations in the area of national accounts. When SNA 1968 was implemented in 1973, this was to mean that the full SNA matrix framework was established as the framework for the Norwegian national accounts. In the period from 1973 to July 1995, SNA 1968 was the international system basis for the Norwegian national accounts. The European Community version, ESA, was never adhered to. The new situation with harmonized principles of SNA 1993 and ESA 1995 means a first approach for Norway to follow ESA from 1995 on. In fact, by disseminating its first results in July 1995, Norway seems to be the first European country to adopt the new international systems of national accounts.

B. APPROACHES USED TO CALCULATE GDP

Approaches used to calculate GDP in Norway are multi-dimensional. The production approach through the strong emphasis on industrial breakdown is regarded as a main approach. The expenditure approach is also much used through the supporting use of commodity-flow approach. The income approach has played a minor role until recently, but will have a more decisive role with the development of complete sectorized accounts in integrated accounting approaches. The product dimension is a very strong element in the Norwegian approach to national accounting.

1.9 In describing approaches used to calculate GDP, it may first serve useful to look at the various possibilities open. According to the following scheme presented by UNSTAT (at the 1994 IARIW Conference) there are various options or combinations possible in estimating GDP:

1. Production-Income-Expenditure Approaches
 - 1.1 One of the approaches, without data reconciliation check
 - 1.2 Two or three of the approaches, but not entirely independent
 - 1.3 Three approaches in parallel, but to different industries
 - 1.4 Three approaches simultaneously and independently
2. Commodity Flow Approaches
 - 2.1 Aggregated structural parameters from benchmark year for product approach
 - 2.2 Annual aggregated information for product approach
 - 2.3 Detailed structural parameters form benchmark year for product approach
 - 2.4 Annual detailed information for product approach, not entirely independent
 - 2.5 Annual detailed and independent information for product approach
3. Integrated Accounting Approaches
 - 3.1 Integrated accounting approach for data reconciliation
 - 3.2 Integrated accounting approach as data check

1.10 Class 1 approaches may be seen as direct approaches used to calculate GDP. Class 2 approaches brings in product detail as an additional dimension. Class 3 approaches brings in other dimensions, in particular flows of income, but also capital and financial flows and stocks. Countries using class 2 approaches (or class 3 approaches) in addition to class 1 approach are better off than without so. Countries using both class 2 and class 3 approaches in addition to class 1 approach are even better off. Thus, there is a wide range of cases from the most primitive case of 1.1 to the most sophisticated case of 1.4, when combined with 2.5 and 3.2. Within each class, approaches are listed by increasing rank, e.g. within class 1 from 1.1 at the low end to 1.4 at the top.

1.11 So, what is the situation of the GDP estimation in Norway ? It is quite favourable, since we apply not only one or two of the standard direct approaches to estimate GDP (class 1), but also attach to it supporting approaches that brings in integration of a product dimension (class 2), and more recently, other dimensions in the sphere of income flows, capital and finance flows and stocks (class 3). In FNA - referring to the former Norwegian national accounts - approaches 1.3 and 2.4 in combination may be seen as a general characterization of the main approach to calculate GDP. In NNA, approaches 1.3 and 2.4 and 3.1 in combination may be seen as a general characterization of the main approach to calculate GDP. To express a somewhat more articulated view, deterioration regarding frequency for intermediate consumption in manufacturing statistics, may lead to replace 2.4 by a mark between 2.3 and 2.4 for the product dimension.

1.12 In Norway, the data situation has been characterized by more abundant statistics on domestic production, exports and imports than statistics on incomes and expenditures, thus leading to the appraisal that the production approach is the main approach used to estimate GDP per se. In practice, none of the single three approaches of class 1 are used in a pure sense. Even at the industry level, value added may not always in the first place be estimated from using the production approach, inter alia because reliable data for intermediate consumption may not exist, and must be replaced by either the expenditure approach or the income approach. Both these two approaches are improved when used in combination with class 2 approach (the expenditure approach combined with the commodity-flow approach) or class 3 approach (the income approach combined with integrated accounting approach).

1.13 The production approach is used to compute value added for all industries technically speaking and almost all industries in the first place. This is done within the framework of detailed supply and use tables on annual basis and by making use of the commodity-flow method.

1.14 The expenditure approach is used for computing government final consumption expenditure based on government accounts and for exports (and imports) based on external trade statistics and other supplementary sources. The expenditure approach is also used as a main method in computing household final consumption expenditure and gross fixed capital formation, but combined with the detailed commodity-flow method. The expenditure approach dominates in the computation of output for wholesale and retail trade, inasmuch the use of the commodity-flow method on the user side in the accounts determines trade margins, while the production approach is used next to obtain value added. The expenditure approach also played a key role in FNA in computing value added in the construction sector.

1.15 The income approach is used in general to obtain estimates on components of GDP, inter alia compensation of employees, but not for operating surplus which has been regarded as a balancing item arrived at residually. Recently, however, independent estimation of gross operating surplus from accounting statistics has modified this position somewhat (serving as a control for the estimates by industry). The income approach is used to compute value added of the government industries and a few of the market service industries, such as education, research and welfare services.

1.16 Main changes introduced in NNA as compared with the situation in FNA are a stronger use of the production approach (main approach) in construction, and more extensive use of the income approach through utilization of accounting statistics for enterprises. Product data still play a very important role through the balancing of detailed supply and use tables on annual basis. It is too early to say how important the class 3 integrated approach would mean for the GDP calculation, but is certainly reinforcing the data reconciliation for this purpose.

C. MAIN SOURCES USED TO CALCULATE GDP

In estimating GDP in Norway, the most important statistical sources used are in order of NACE for the production approach: Budgeting Committee for Agriculture, Oil and gas activity statistics, Manufacturing statistics, Electricity statistics, Construction statistics, Wholesale and retail trade statistics, Turnover statistics from Business register data, Maritime statistics, Credit market statistics, Business services statistics, Central government accounts and Local government accounts. In addition, most important sources for the expenditure approach are Household surveys of consumer expenditure, Housing statistics, External trade statistics and Foreign exchange statistics. Furthermore, for the income approach and efforts of integration most important additional sources are Wage bill and earnings statistics, Labour force surveys, Accounting statistics of non-financial enterprises and Accounting statistics of self-employed. Throughout, a number of other statistical sources are used as well.

1. STATISTICS NORWAY'S BUSINESS REGISTER

1.17 Statistics Norway's Business Register - the Central Register of Establishments and Enterprises - is an important instrument of the Norwegian statistical system. It should serve the purpose of the identification of population - and utilized for stratifying purposes - for most economic surveys undertaken. The Register has an important role in the context of exhaustiveness (see last chapter).

1.18 The Business Register comprises in principle all production units. Units where the owner is working alone - one-man enterprises - are included. However, in practice, there are certain areas or industries that still need more development before the Business Register could constitute a complete and fully comprehensive register on all economic activities of the

country. Government units represent an important area under development, for which establishing the requisite register information is scheduled to be fulfilled in 1996. Here a major problem seems to be a proper identification of local KAUs in government. The particular industries lacking in the Business Register at the end of 1995, are agriculture, forestry and fishing, water supply, ocean transport, letting of own property, parts of recreational, cultural and sporting activities (other entertainment activities, library, archives, museums and other cultural activities, sporting activities and other recreational activities), private households with employed persons and extra-territorial organizations and bodies. Among these, the introduction and completion of units for ocean transport is particularly difficult and is likely not to be finished before 1997.

1.19 In 1994, Statistics Norway introduced a revised Standard Industrial Classification (SIC94). The basis for SIC94 is EU standard NACE Rev.1 and UN standard ISIC Rev.3. The units of the Business Register have been coded according to SIC94. The Business Register is from 1995 linked to Norway's new national Register of Legal Units, which is established under the auspices of the comprehensive Brønnøysund registers. By this, many administrative registration purposes are co-ordinated. The units are identified by a uniform organization number. For Statistics Norway, this contributes to more efficient use of administrative data.

1.20 The statistical units employed by Statistics Norway in its Business Register form the basis for the compilation and production of economic statistics. The units, which have been redefined in connection with the introduction of SIC94 are: legal units, enterprises, kind-of-activity units (KAUs) and local kind-of-activity units (local KAUs). In most cases, an enterprise will be identical with a sole legal unit, e.g. a limited company. The local KAU is equivalent to the definition of establishment in ISIC Rev.3. In order to divide a local unit into several different local KAUs, the individual activity must be of a certain size. In consequence, the local unit commonly will be the smallest unit in the Business Register.

1.21 The most important sources for updating the units of the Business Register are two other administrative registers: the Value Added Tax Register and the Register of Employers. These two administrative registers are kept by tax authorities and the National Insurance Institution, respectively. Units of production that are not covered by these two registers are difficult to capture in the Business Register. Units going out of business may also be difficult to reveal since - being out of business - costs deter these units to notify cessation to the register. Once a unit is recorded in the Business Register, the statistical information is updated through surveys. Normally, all enterprises are part of some kind of survey each year. In addition to the various main surveys, e.g. industrial statistics, a simple questionnaire is sent to the rest of the registered units.

1.22 The statistical information contained in the Business Register is essentially confined to employment and turnover data. However, these are data that rely on surveys, from which results are finalized after a long time-lag, and occasionally reflect a situation 1- 2 years back.

2. BUDGETING COMMITTEE FOR AGRICULTURE

1.23 The Budgeting Committee for Agriculture (BCA) is responsible for working out the aggregate account of agriculture, which aims at calculating production and income data generated in this industry from the use of factors of production in agriculture in the year of account. This aggregate account can be viewed as an intermediate set of accounting data, between underlying basic agricultural statistics and estimates for agriculture in the national accounts.

1.24 The specifications in the BCA aggregate account of agriculture are quite detailed. They are to a large extent based on prices and quantity data, i.e. the approach of multiplying prices and quantities. Production and incomes data are related to sale of agricultural products and products for own final consumption. Included are also income from freight and own-account construction, and from changes in inventories for livestock and feed. The expenditure side - as represented by intermediate consumption - is equally detailed, also including small repairs and maintenance, whereas expenses of contract work are not included. Feed for own use is also excluded, both in output and intermediate consumption of the BCA aggregate account.

1.25 The calculations of the BCA aggregate account are confined to the agricultural industry. Incomes of the agricultural population outside the agriculture industry - i.e. in industries such as forestry, fishing and construction - are not covered. Production of agricultural products in household gardens is excluded as well.

1.26 The data refer to the accounting year of production, including sales in the following year from this year's production. Data are excluding VAT, while including the investment levy under the respective items.

1.27 Underlying basic agricultural statistics from Statistics Norway comprise annual agricultural sample surveys data as of 1 June, and latest Census of Agriculture from 1989. Other sources are sales organizations connected to agriculture and statistics from the farmers' own sales organizations. From 1984, the Ministry of Agriculture - through administrative data connected with production grants per animal - provides the basis for the official livestock statistics. Thus, the annual surveys of Statistics Norway are used for some limited types of livestock and for making additions for smaller units. From 1990, data on grains are based on sales / deliveries of grain from producers to Statkorn (State monopoly). Data on potatoes are also based on information obtained from the Marketing Board for potatoes and manufacturers of potato products. There is a separate budgeting committee covering reindeer husbandry.

1.28 Price data used for the calculation of the BCA aggregate account are obtained from various administrative data of grants and import regulations adopted in the annual Agricultural Agreement with government. In this context, it is the factual incomes and prices that are recorded. Over the period 1982 - 1990, due to excessive production, the prices used in the aggregate account were typically lower than those of the Agricultural Agreement.

1.29 Labour inputs data of self-employed persons are based on the annual surveys of Statistics Norway: They do not include holdings of less than 5 decares. However, by comparing the survey data and the Agricultural Census data, data for those small holdings have so far not been made as a supplement. There are however, also other sources of labour inputs, especially the Labour Force Surveys.

3. OIL AND GAS ACTIVITY STATISTICS

1.30 Oil and gas activity statistics consist of two different sources, one on annual basis and another on quarterly basis. The quarterly statistics are confined to data on gross fixed capital formation on accruals basis, while the annual statistics cover data on output (incomes from production), intermediate consumption (costs of production), employment, wages and salaries, other current costs, etc. Both statistics cover oil and gas extraction industries (11.1 and 11.2 of NACE Rev.1) and pipeline transport (60.3).

1.31 Both are census-type sources, i.e. they cover all units their population, which are about 230 units in the quarterly statistics and about 170 units in the annual statistics. The population is identified by the Statistics Norway's Business Register and a register of licensed Norwegian establishments, their activity based off-shore (Norwegian continental shelf) or on-shore (Mainland Norway).

1.32 In the quarterly statistics, information is collected from the operators of the Norwegian continental shelf on accrued values of gross fixed capital formation by each individual licence, pipeline and terminal the operators are responsible for. Investment forecasts for the coming 12 to 18 months are also provided. Information provided is structured by production phases, i.e. for exploration, field development and fields in production. The period of exploration is defined from the permit is granted until the exploration programme has been completed or permit returned. The period of field development is defined from the parliamentary license for field development is given until start of field production. The period of field in production may also contain drilling activities.

1.33 In the annual statistics, information is collected from the operators involved at fields in production, terminals and pipeline activities. A number of specifications of incomes and costs are provided on accruals basis. Information on employment, wages and investments are also specified by address in order to enable estimation by regions.

1.34 The specification of variables in the annual statistics include output of crude petroleum, NGL, condensat and natural gas in quantity terms as well as in value terms. Values are recalculated as of prices at the fields. Quantity output is available on monthly basis, published in final version in the annual statistics, also after being scrutinized through commodity balances by product (supply and use). Output of natural gas is problematic due to insufficient information on loss in pipelines. Norm prices of crude petroleum are used, average prices from the four largest fields (75 per cent of output), made public by the Ministry of Industry and Energy. Natural gas prices are indirectly calculated from values and quantities.

1.35 Apart from information on output, the annual statistics provide data on fuel consumption, licensed costs to establish costs of production, taxes on production and electricity production at the fields (relevant for NACE 11.1); wages, costs of administration and investments, intermediate consumption on goods, gross incomes, fixed asset values and GFCF (relevant for NACE 11.2) and data on licensed costs to establish costs of production, quantities transported and tariffs, and gas consumed in pipelines (relevant for NACE 60.3).

1.36 Data in the oil and gas activity statistics are collected in differently structured forms reflecting the various activities involved. These are referred to below in the respective sections describing the sources and methods of estimation.

4. MANUFACTURING STATISTICS

1.37 Statistics Norway since 1927 has published annual statistics covering the manufacturing industry. In 1972, the statistics were altered considerably and activities of crude petroleum and natural gas extraction introduced. Manufacturing statistics during the whole post-war era have had a decisive role for the development and current compilation of detailed national accounts data in Norway.

1.38 From 1993, the statistics are provided according to the revised Norwegian Standard Industrial Classification, which is based on NACE Rev.1. The statistics comprise industry sections C Mining and quarrying and D Manufacturing in NACE Rev.1. The classification employed until this change was implemented was the former Norwegian Standard Industrial Classification based on ISIC Rev.2. This was still the background when the national accounts were to be compiled according to the new system and new nomenclature.

1.39 The statistics contain data on employment, compensation of employees, output, intermediate consumption, value added and gross fixed capital formation. The universe of units covered by the statistics is based on Statistic Norway's Business Register. Statistical data on a full comprehensive scale are collected by questionnaires from all large manufacturing establishments (local KAUs). Large establishments, from 1992, comprise establishments having an annual average of at least 10 persons, while for previous years the limit normally was 5 persons engaged. From small establishments, i.e. below this limit, annual reports are only collected on total employment and sales. Enterprises with individual proprietorship where the owner is working alone (one-man enterprises) are not included.

1.40 The employment figures cover both owners and employees, and they refer to the average number during the year (5 counts). Persons temporarily absent due to illness, vacation etc. are included. Compensation of employees include wages and salaries (i.e. all payments for ordinary working hours, overtime pay, bonuses, holiday pay etc.), other benefits (i.e. pension payments to former employees, contributions to premium funds and pension funds, employers' share of premium for medical and accident insurance etc.), and employers' national insurance contributions.

1.41 Output is defined as the total value of goods produced on own account (i.e. for sale or delivery to other establishments, whether actually delivered, entered into stock or stocks of work in progress), repair work for others, mounting or installation of own products and merchandise, contract work, own-account investment and repair work, rental receipts etc. VAT is not included, whereas all other taxes on production are included. Intermediate consumption is defined as the total sum of raw and auxiliary materials and components used as direct input in the manufacturing process, fuels and electricity consumed, consumption of purchased ready-made containers and packaging material, repair work and contract work by

others, rental expenses etc. Value added at market prices equals output less intermediate consumption, excluding VAT. Value added at factor prices equals value added at market prices including subsidies, less indirect taxes except VAT and investment levy.

1.42 Gross fixed capital formation is defined as acquisitions of fixed durable assets (new and used), and including own-account investment work, with an expected productive life of more than one year, less receipts from sales of fixed durable assets. The manufacturing statistics also contain information on stocks and fire insurance value of buildings and equipment.

5. ELECTRICITY STATISTICS

1.43 Statistics Norway since 1937 has collected information annually for electricity statistics, from 1946 including also investment items. In 1973, the statistics were extended to give even more details. From 1983, the statistics also include district heat production plants.

1.44 From 1993, the statistics are to be provided according to the revised Norwegian Standard Industrial Classification, which is based on NACE Rev.1. By mid-1995, the new statistics for 1993 - destined to be considerably altered due to large structural changes in the electricity market in Norway - have not been published. The information given below is extracted from the 1992 issue of Electricity Statistics, following the former Norwegian Standard Industrial Classification based on ISIC Rev.2 which was still the background when the national accounts were compiled according to the new system and new nomenclature.

1.45 The statistics contain data on employment, compensation of employees, output, intermediate consumption, value added and gross fixed capital formation. Data are collected from all electricity plants in Norway (355 in 1992). Electricity statistics thus cover public supply undertakings with installed capacity of 100 kW or more, electricity plants with capacity of 500 kW or more operated by enterprises in other industry groups, and district heat production plants with a capacity of 1 MW or more. The electricity production on the Continental shelf is not included.

1.46 The employment figures are based on average employment during the year, including all persons working in the electricity plants. Persons temporarily absent due to illness, vacation etc. are included. Compensation of employees include wages and salaries (bonuses, production awards, holiday allowances and wages, and salaries paid during illness included), other benefits, and employers' national insurance contributions.

1.47 Output was defined as the total value of electric power sold to own establishments, power (also occasional power) sold to other consumers, electric power delivered to other electricity plants, power being exported, plus receipts from renting and compensation for other work. In the new system, however, output has been defined considerably narrower, excluding electric power sold to own establishments and electric power delivered to other electricity plants. Correspondingly, electric energy purchased from other electricity plants is excluded as well from intermediate consumption. Value added is equal to output less intermediate consumption, and excludes VAT.

1.48 Gross fixed capital formation is defined as acquisitions of fixed assets (new and used) - and including own-account investment work - with an expected productive life of more than one year, less receipts from sales of fixed assets. The value of gross fixed capital formation is equal to the actual expenses, investment levy included, incurred during the year, irrespective of time of payment.

6. CONSTRUCTION STATISTICS

1.49 Until 1992, statistics covering building and construction services are published by Statistics Norway according to ISIC. From 1993 onwards, the statistics are provided according to the revised Norwegian Standard Industrial Classification based on NACE Rev.1. The statistics comprise industry section F Construction in NACE Rev.1.

1.50 The statistics include own-account construction by central government, by municipalities and construction work performed by the Public Road Administration for the counties. On the other hand, own-account construction by enterprises in mining, manufacturing, power supply etc. is excluded, except in a few cases where the construction activity is carried out on such a large scale that the activity has been considered as a separate establishment. Moreover, excluded are also own-account building and repair work by private individuals and own-account construction by the Military.

1.51 The statistics contain data on employment, compensation of employees, output, intermediate consumption, value added and gross fixed capital formation. The universe of units covered by the statistics is based on Statistic Norway's Business Register. Statistical data on a full comprehensive scale are collected by questionnaires from all large manufacturing establishments (local KAUs). Large establishments, from 1992, comprise establishments having an annual average of at least 10 persons. For all other establishments other than one-man establishments, totals have been estimated, based on information on employment and sales from the Business Register. The data for one-man establishments comprise man-years and output only.

1.52 All establishments - irrespective of size - in oil well drilling and own-account construction in central government, as well as construction work performed by the Public Road Administration for the counties, are covered by the enquiry.

1.53 The employment figures cover both owners and employees, and they refer to the average number during the year. Persons temporarily absent due to illness, vacation etc. are included. Compensation of employees include wages and salaries (i.e. all payments for ordinary working hours, overtime pay, bonuses, holiday pay etc.), other benefits (i.e. pension payments to former employees, contributions to premium funds and pension funds, employers' share of premium for medical and accident insurance etc.), and employers' national insurance contributions.

1.54 Output is defined as the total value invoiced during the year to investors or to main contractors for construction work completed, cost of own-account construction, and gross receipts from other activities. Outgoing VAT is not included in the invoiced amounts. No attention has been paid to the fact that the value of completed, but not yet invoiced work, can change from the beginning to the end of the year. Output in government construction is equal to the total of compensation of employees, material costs, hiring of machinery and other expenditure charged construction projects in the accounts. Intermediate consumption is defined as the total costs of the materials and services required to produce the industry output, including to sub-contractors, hiring expenses etc. Value added equals output less intermediate consumption.

1.55 Gross fixed capital formation is defined as the cost of acquired fixed assets - new and used - less the sale of used fixed assets.

7. WHOLESALE AND RETAIL TRADE STATISTICS

1.56 Wholesale and retail trade statistics in this context involve two different statistical sources; first, the wholesale and retail trade statistics compiled from information in Statistics Norway's Business Register; second, the statistics of accounts for large enterprises in wholesale and retail trade. Both sources are available on annual basis.

1.57 The annual register-based wholesale and retail trade statistics contain information on number of establishments, kind of activity and location, employment and on sales in particular. The sales value consists of gross sales including value of commission sales, while value added tax is excluded. Employment is recorded as man-years worked by the total number of persons in the establishment, including working proprietors and unpaid family workers. Part-time employees are also included. The register data are controlled and updated each year. New establishments are entered based on information from the VAT Register and the Register of Employers. Information on sales and employment of last year - and also kind of activity and location - is collected directly through an annual survey covering most establishments. For enterprises with a single establishment, sales data are extracted directly from the VAT Register, starting in 1991. The latter arrangement has considerably improved the quality of the statistics, and a better coverage has been achieved.

1.58 The statistics cover all establishments grouped with the divisions of wholesale and commission trade and retail trade classified according to the former Norwegian Standard Classification System (ISIC Rev.2-based). The establishment is defined as a functional unit which at a single physical location is engaged predominately in activities within a specific activity group. Number of establishments in 1990 was close to 59 000, of which 39 000 in retail trade, 18 00 in wholesale trade and 1 900 in commission trade (broking).

1.59 The annual statistics of accounts contain information on income statement and balance sheet corresponding in general to the figures given in the annual financial statements from the

enterprises. The accounting data are collected by post. There have been some changes in coverage etc. over the years, which have somewhat limited the comparability of the time series.

1.60 Statistics of accounts cover large enterprises only, i.e. enterprises in wholesale trade with at least 30 persons employed (man-years worked), and joint stock companies and co-operative societies in retail trade with at least 20 persons employed (man-years worked). The enterprise definition corresponds generally to the concept of a company, defined as the smallest legal unit comprising all economic activities engaged in by one and the same owner. The sample size was 1 400 in 1993 for wholesale trade, retail trade and manufacturing combined. The sample consists of a panel of enterprises, to which there are annual updatings (also including new enterprises). The classification of the enterprises by industry group is in accordance with the former Norwegian Standard Industrial Classification (ISIC Rev.2-based). The classification by employment group is based on employment the year before the accounting year.

8. MARITIME STATISTICS

1.61 Official maritime statistics has been produced for a number of years, and published in different forms. The latest publication of Maritime Statistics refers to 1993 and presents a collection of the latest maritime statistics with the aim of describing the development of the different aspects of the shipping industries. Such aspects covered are foreign-going trade, coastal trade, the merchant fleet, crew and marine casualties. As ocean transport is the industry of particular importance in this respect to Norway, the background source of maritime statistics described below mostly deals with foreign-going trade, supplemented by some information on the fleet and crew as well.

1.62 The statistical unit is the vessel itself, either registered in Norway - i.e. vessels registered by the Norwegian Ordinary Ship Register (NOR) or by the Norwegian International Ship Register (NIS) - or registered abroad. The latter are either foreign-owned ships hired by Norwegian ship owners, or Norwegian-owned ships registered abroad while operated by Norwegian ship owners. NIS was established from 1 July 1987. The statistics for Norwegian vessels in foreign-going trade are based on reports from the ship owners for each vessel of 250 gross tons and over (500 gross tons and over before 1978). Reports for foreign-registered vessels in Norwegian foreign-going trades are also collected, irrespective of being operated for the whole year or only part of the year. Clearly, only the vessels from which Statistics Norway receives a report are reflected in the figures for Norwegian registered and foreign registered vessels.

1.63 The statistics include information on number of ships, tonnage, employment, operating earnings, operating expenditure and operating surplus. Data on operating earnings and operating expenditure are available by type of chartering (voyage freights, line freights, time charter hire) and type of vessel (groups of tankers and dry cargo vessels). Operating earnings are also differentiated by size of vessel.

1.64 The crew on vessels registered in Norwegian ship registers is based on the National Insurance Administrations Maritime Employee and Employer Register (MAAR), the National Register, and the Norwegian Maritime Directorates register of ships. The statistics comprise officers and crew on vessels registered in NOR and NIS. If one person has more than one active muster per 31 December, this person is counted with values for the last muster.

1.65 The Norwegian International Ship Register refers to three different ownership groups, of which the first and second are subject to residence of Norway in the context of national accounts. The first article refers to units that are at least 60 per cent Norwegian-owned. The second article refers to units that operates from Norway (head office in Norway and to fulfil certain acts of sea transportation), while no requirement of Norwegian ownership. The third article of NIS refers to non-residents only, although they must have a representative in Norway.

9. CREDIT MARKET STATISTICS

1.66 Credit market statistics consist of accounting statistics for financial institutions, statistics on markets of loans and securities, statistics on foreign assets and liabilities and foreign ownership in Norway, financial balance sheets statistics by institutional sectors, etc. Most relevant as a main basic source for the compilation of national accounts are the various accounting statistics for banks, mortgage companies and finance companies, also including state lending institutions and Bank of Norway. Insurance companies are also part of the credit market statistics.

1.67 The institutional sector classification used in the credit market statistics specifies 5 main sectors and 25 sub-sectors. The main sectors are general government, financial enterprises, non-financial enterprises, households, and rest-of-the-world. The sub-sectors are mostly in line with the NNA sector classification. Some 10 different types of financial assets are specified, some of which also specified by geographical affiliation. Most items of the balance sheets are distinguished on national and foreign exchange, while always recorded in Norwegian kroner (using mean exchange rate of last day of the period).

1.68 The accounting statistics for financial institutions are based on the reporting of accounting data from all banks, mortgage companies and finance companies registered in Norway, including the Norwegian Post bank and branches of foreign banks, mortgage companies and finance companies as well as state lending institutions and Bank of Norway. Reporting comprises filling in and submitting returns (reports and forms). When reporting their annual accounts the reporting units are required to provide figures encompassing their overall activity including the activity of foreign branches (on separate returns). As from beginning 1996, Norges Bank will be the main responsible recipient for most reports and forms. The object of reporting form the basis for ongoing supervision, monetary and credit policy decisions, and moreover, for official statistics and constitute a central element of credit market statistics and used in reports to international organizations. Reporting units are required to submit reports on their balance sheet and profit and loss accounts as well as supplementary specifications in machine--readable form.

1.69 Reporting by commercial and savings banks consists of monthly, quarterly and annual reports. Profit and loss accounts are submitted both quarterly and annually. Various forms have to be submitted in addition. For mortgage companies and finance companies, state lending institutions and Norges Bank there are similar requirements, although not as comprehensive as for the commercial and savings banks.

1.70 The reporting units must use a 4-digit number when reporting, identifying the parent company, including all domestic branches.

1.71 The machine-readable reports are structured according to a common coding system for the various characteristics. Income and expenses are shown by the profit and loss account. Incomes are divided into three main items, i.e. interest and commission income, other operating income and other income. Expenses are also divided into three similar main items: interest expenses, other operating expenses and other expenses. These main items are further subdivided by type of income and expense.

10. CENTRAL GOVERNMENT ACCOUNTS

1.72 Central government accounts - or financial statistics for central government - provide accounting information in a standardized form based on the same principles and definitions as in the national accounts. Central government accounts consist of the central government's fiscal account, other central government accounts and the social security accounts. The basis for the statistics on the central government's income and outlay, assets and liabilities are the accounting statements from the various central government authorities. Most data are transferred to Statistics Norway from the Ministry of Finance. More specialized data are obtained from the various Ministries, Bank of Norway, the Social Security Fund and some other governmental authorities. The figures for central government are divided into the three institutional sub-sectors, central government fiscal account, other central government accounts and social security accounts. Central government as an institutional sector in NNA is an aggregate of these three institutional sectors applied in government financial statistics. Introducing a social security sector was discussed for NNA as well, but rejected - with reference to SNA 93 - for reasons of lacking sufficient degree of autonomy.

1.73 Other central government accounts consist of advance and deposit accounts, government funds, price regulation funds, public service pension funds, central government special accounts, Norwegian Guarantee Institute for Export, and credits. Advance and deposit accounts may be viewed as a supplement to the central government accounts in terms of achieving correct timing and to cover transactions without previous allocation.

1.74 The social security accounts comprise the National Insurance Scheme, other insurance schemes administrated by the National Insurance Administration, National Insurance Fund and Pension Insurance for Seamen.

1.75 Income and outlay items are classified according to national economic categories in order to provide an overview of, as well as the basis for, analyses of the effects of

developments on the socio-economic situation in general. Central government information tabled on basis of the accounting statements include breakdown on chapter (with items at two consecutive sub-levels), type, COFOG, NNA-product and activity according to NACE Rev.1. Breakdown by types are items of transactions that are also used in NNA, at same degree of detail or more aggregated. The purpose or function of the transaction flows is given a code according to COFOG - the international functional classification of government expenditure. COFOG is applied in the financial statistics for central government as well as in corresponding part of NNA, both for total expenditure and particular categories of expenditure, most prominent among which is consumption expenditure. Breakdown by NNA-products is a new feature to these statistics, while the breakdown by activities was established far back and was a feature of FNA and central government accounts before the last revision. In allocating the flows of outlays and incomes to NNA-products, the text attached to the central government accounts was considered useful in some instances, while the main guidance for the allocation work were explanations to the CPA.

1.76 Statistics Norway employs procedures of control and standardization of the individual statements of accounts, both in connection to transfer of data and in following normal accounting rules. Adjustments are also made if the different accounts and accounting principles of the primary statistics deviate from the financial statistics standards. These procedures are followed by internal reconciliation work - internally in the sector - and by external reconciliation work which secures that counter items in the accounts of other sectors are registered in the statistics with the same amount in both sets of accounts.

II. LOCAL GOVERNMENT ACCOUNTS

1.77 Local government accounts - or financial statistics for local government - provide accounting information in a standardized form based on the same principles and definitions as in the national accounts. The basis for the statistics on the local government's income and outlay, assets and liabilities are the accounting statements from each of the 434 municipalities and 19 counties in Norway, and from joint (county) municipal administration activities. Accounting rules or regulations are set by the Ministry of Labour and Municipal Affairs. The figures for local government are divided into the two institutional sectors, municipalities and counties. Local government as an institutional sector in NNA is an aggregate of these two institutional sectors applied in government financial statistics. A split was discussed for NNA as well, but rejected - with reference to ESA 95 - for reasons of lacking sufficient degree of autonomy. In other words, the government level of counties in Norway will not meet the requirements set for introducing the sub-sector of State government in NNA.

1.78 Income and outlay items are classified according to national economic categories in order to provide an overview of, as well as the basis for, analyses of the effects of developments on the socio-economic situation in general. Local government information tabled on basis of the accounting statements include breakdown on chapter, type, COFOG, NNA-product and activity according to NACE Rev.1. Breakdown by types are items of transactions that are also used in NNA, at same degree of detail or more aggregated, or even more disaggregated. The purpose or function of the transaction flows is given a code according to

COFOG - the international functional classification of government expenditure. COFOG is applied in the financial statistics for local government as well as in corresponding part of NNA, both for total expenditure and particular categories of expenditure, most prominent among which is consumption expenditure. Breakdown by NNA-products is a new feature to these statistics, while the breakdown by activities was established far back and was a feature of FNA and local government accounts before the last revision. In allocating the flows of outlays and incomes to NNA-products, the text attached to the local government accounts was considered useful in some instances, while the main guidance for the allocation work were explanations to the CPA.

1.79 Statistics Norway employs procedures of control and standardization of the individual statements of accounts, both in connection to transfer of data and in following normal accounting rules. Adjustments are also made if the different accounts and accounting principles of the primary statistics deviate from the financial statistics standards. These procedures are followed by internal reconciliation work - internally in the sector - and by external reconciliation work which secures that counter items in the accounts of other sectors are registered in the statistics with the same amount in both sets of accounts.

12. BUSINESS SERVICES STATISTICS

1.80 Statistics Norway since 1979 has published annual statistics covering business services. Until 1992, establishments classified under ISIC major industry group 832 Business services were covered. From 1993 onwards, the statistics are provided according to the revised Norwegian Standard Industrial Classification, which is based on NACE Rev.1, and with the coverage of industry section K Real estate, renting and business activities.

1.81 The statistics contain data on employment, compensation of employees, output, intermediate consumption, value added, and gross fixed capital formation. The universe of units covered by the statistics is based on Statistics Norway's Business Register. Statistical data on a full comprehensive scale are collected by questionnaires from all establishments employing three or more persons. Totals have been estimated for other establishments, based on annual statistics on employment and sales as reported to the Business Register. Data for one-man establishments are confined to man-years worked and sales.

1.82 The employment figures cover both owners and employees, and they refer to the average number during the year. Persons temporarily absent due to illness, vacation etc. are included. Figures referring to part-time employees have been translated into whole man-years. Compensation of employees include wages and salaries (i.e. all payments for ordinary working hours, overtime pay, bonuses, holiday pay etc.), other benefits (i.e. pension payments to former employees, contributions to premium funds and pension funds, employers' share of premium for medical and accident insurance etc.), and employers' national insurance contributions.

1.83 Output is defined as the total value of services performed for customers, goods sold and gross earnings derived from other business activities. VAT is not included, whereas all

other taxes on production are included. Intermediate consumption is defined as the total cost of the materials and services required to produce the industry output. Value added at market prices equals output less intermediate consumption, excluding VAT.

1.84 Gross fixed capital formation is defined as the total value of new capital goods such as buildings and plant, machinery, tools, vehicles etc. - both new and used - added to the existing stock of those goods during a given period, less the value of the sale of used capital goods.

13. HOUSEHOLD SURVEYS OF CONSUMER EXPENDITURE

1.85 Statistics Norway has conducted annual household surveys of consumer expenditure since 1974. Before 1974, nation-wide surveys were carried out in 1958, 1967 and 1973. The principal aim of the surveys has been to give a detailed description of the consumption of private households in order to update the weights used in calculating the consumer price index. Other aims have been the study of consumption pattern in various groups of households and as data source material for the national accounts.

1.86 The expenditure data are published as averages for three subsequent years, due to small survey samples, and are calculated at the prices of the latest year. The sample of households underlying the published data corresponds to about 0,2 per cent of the total number of households. The number of households which responded in the 1990 survey was 1 201. The data for use in the national accounts are referring to the respective years, grossed up to cover the whole population.

1.87 The samples of households of the surveys are selected among all private households in the country. They are selected in three stages. The final sample of the third stage is drawn at random and based on the index of names and addresses of the population. The sample is thus made up by households living in the addresses drawn at the time of the interview. Institutional households such as hospitals, boarding houses etc. are not included. A household is defined as one consisting of persons having a common dwelling and sharing at least one meal per day. Lodgers not receiving board are considered as a separate household.

1.88 The consumption expenditures are registered by means of detailed accounting and interview. Four types of forms are used; i.e. introductory interview forms, two types of account books and forms for the concluding interview. The households keep accounts of their private consumer expenditures during a 14 day's period. Data have to be collected for the whole year as size and composition of the household consumption vary according to the season. In order to ensure that all expenditures were registered, the household members 15 years or more keep special accounts of their own cash payments by a secondary account. The accounts also comprise quantity figures for food and beverages. Consumption of products from own production is also accounted for. The interview part register dwelling expenses, purchases of private transport equipment, household machines, expenses for expensive clothing articles, touring trips etc. Payments in kind, such as free dwelling, electricity and fuel and travelling expenses, are also registered.

1.89 The households selected are usually visited twice, i.e. before and after the accounting period. In some cases the interviewers also contact the households during the accounting period to give instructions about the keeping of accounts. Before a household is excluded from the survey, the interviewer would make four attempts to meet the household members. Among 6 330 household originally drawn in 1989-1991, about 3 650 households or 57,8 per cent took part in the survey. Household groups with a high non-response rate are weighted relatively more in estimating average figures. Corrections are also made for absence of household members (upward adjustment) and for casual visitors (reduction in food expenses).

1.90 The consumer expenditures are mainly published as per household figures, the households being classified according to type of household, income, socio-economic status, region, size of total consumption expenditure etc. The most detailed classification of expenditures contains 470 groups of goods and services. These groups are aggregated up to various levels - to 150, 37 and 9 goods and services groups. The total consumption expenditure does not include expenses for direct taxes, social pensions, gifts given away, real investments and contractual savings.

14. HOUSING STATISTICS

1.91 Housing statistics are here referring to the Survey of Housing Conditions 1988 which was one of the main sources used for the estimates on dwelling services. It includes a detailed description of the dwellings, housing expenditure and environment, as well as information about the household living in the dwellings. The survey presents data of size and standard of the dwelling, of debt, interest expenditure and down payment in different regions and population groups.

1.92 Housing surveys of about the same type as in the 1988 survey have been carried out in 1967, 1973 and 1981. Of special importance in the 1988 survey was to find out what has happened in the housing market after a big change in housing politics starting in 1982. The 1988 survey enabled further analysis of housing conditions in the capital area from an increase of the sample in this area.

1.93 The sample for the survey consisted of 7 134 households, including the additional sample for the capital area (1 492 households in Oslo, 2 545 households in Akershus, while a random sample of 3 097 households was selected for the rest of the country). A corresponding random sample was also chosen for Oslo and Akershus, thus making it possible to utilize additional samples without getting problems with the representativity of the national survey.

1.94 General background variables are regional, historical, household structure and resources such as income, wealth, health etc. The detailed grouping by type of household contains 15 different items, 13 of which are one-family households and 2 are many-family households. Type of house is specified in 20 groups, a detailed classification of 14 groups and a less detailed one of 6 groups. Year of construction of the house is registered, and so is dwelling ownership status (by 7 different items).

1.95 Main characteristics in the tables concern number of rooms for habitation in the dwelling, size of dwelling in square metres, spacious standard based on the relationship between number of rooms for habitation in the dwelling and number of persons in the household, building expenses, the acquisition price and total housing expenditure, and finally, housing expenditure in per cent of income.

15. EXTERNAL TRADE STATISTICS

1.96 The external trade statistics are the basic information source on the commodity flows between Norway and other countries. Data are published monthly, based on information collected by the Customs authorities in conjunction with the declaration of exports and imports of goods. For the preparation of data, Statistics Norway receives copies of the Customs declarations from the Customs (now electronically), filled in by exporters and importers. Value and quantity data are provided.

1.97 The coverage of the statistics is mainly in accordance with the recommendations of the UN Statistical Commission and adheres to the general trade principle, under which direct imports are recorded at the time of customs clearance. Goods coming through bonded warehouses are recorded as imports when they enter these warehouses, and as exports when they are sold abroad from the warehouses.

1.98 The Norwegian part of the Continental shelf, as well as Svalbard and Jan Mayen with Bjørnøya are parts of the statistical area of Norway.

1.99 Apart from the Customs declarations, information is also based on special reports to certain extent. The Norwegian Petroleum Directorate reports monthly the quantity of oil exported from the oil fields in the North Sea. The same authority also submits monthly reports on the quantities of gas exported by pipeline. Special reports also provide information on exports and imports of electricity, on exports and imports of ships, and on imports directly to the Norwegian part of the Continental shelf.

1.100 As from 1988 the commodities are grouped according to the Harmonized System (HS), i.e. a 6 digits combined statistical and tariff nomenclature. The international codes are in Norway expanded with 2 more digits for national purposes. From 1988, UN SITC, Rev.3 was also introduced, directly linked to the Harmonized System.

1.101 Export values are f.o.b. values, and imports are c.i.f. values, at Norwegian port or land boundary (or statistical "border"). The value of oil produced on the Norwegian part of the Continental shelf and further exported is calculated on the basis of norm prices determined administratively, adjusted for the transport and terminal costs. As for natural gas, norm prices or other direct reports of values are not available. The prices of gas exported are estimated by Statistics Norway on the basis of other sources like the official import statistics of the partner countries and other published reports.

1.102 Export statistics comprise all merchandise exported from Norway, including re-exports of imported goods. Crude oil shipped directly from the North Sea fields is also included. Equipment manufactured or processed in Norway for ships and aircraft built abroad on Norwegian account is included in the export statistics. When imported, the ships and aircraft are recorded at full value. Certain categories of exports are excluded from the statistics (goods not recorded in external trade statistics, but still included in the aggregate of exports).

1.103 Import statistics comprise commodities cleared on arrival and commodities placed in customs bonded warehouses, i.e. following the general trade principle. Information about imports directly for permanent constructions on the Norwegian part of the Continental shelf is not published in the external trade statistics (but included in the aggregate of imports). Imports for use on the Continental shelf - first cleared by the Customs at ports of entry - are recorded as other goods. Certain categories of imports are not included in the statistics (goods not recorded in external trade statistics, but still included in the aggregate of imports). Commodities with a statistical value less than 1000 kroner are not included, neither in exports nor imports.

16. FOREIGN EXCHANGE STATISTICS

1.104 Foreign exchange statistics are prepared by the Bank of Norway (central bank) on a monthly basis. All payments between residents and non-residents are covered. This comprehensiveness defines foreign exchange statistics as a basic source of framework for the balance of payments. Technically, these statistics appear as a closed system.

1.105 Two main purposes are defined, one of which is source material for the preparation of balance of payments statistics. Information for checking foreign exchange payments - for Customs and Tax authorities - is another purpose behind these statistics. The latter purpose might influence the quality of the statistics. A Foreign exchange Act and Decisions define the legal basis of these statistics.

1.106 Three categories of transactors provide the information needed, i.e. financial institutions, enterprises and persons. Financial institutions to report such information are the so-called foreign exchange banks. These are banks that have authorization from the central bank to make transactions with abroad (or non-residents), both on own-account and on behalf of their clients. The computerized reporting system is called BRAVO to which 40 banks are connected for the time being, but should be extended to more banks. The system records between 1/2 and 1 million payments per month. A separate form covers the second category of transactors, which is the enterprises having accounts abroad, i.e. in foreign banks or otherwise subject to report on certain intermediate recordings, on a monthly basis. About 2 000 such accounts are included. The third category is concerned with persons having accounts abroad, also about 2 000 accounts, but are reporting on a yearly basis only.

1.107 In order to support the information system referred to above - or seen as a corrective to the main system - special surveys are also conducted. Monthly surveys are taken on capital transaction, in particular on loans to and from abroad, on which large transactors are obliged

to provide monthly information in special forms. Annual surveys - actually an annual census for all units involved - are taken on direct investment to and from abroad. Specific statistics on direct investment are prepared by the Bank of Norway on this basis. The new treatment of reinvested earnings is statistically covered in this way, although there are improvements still to be made.

1.108 Formerly, the Bank of Norway issued special foreign exchange licenses and thus was a supplementary source for the foreign exchange statistics. This arrangement has nearly ceased and has no role to play any longer in Norway in 1996.

1.109 Among the types of specification provided by the foreign exchange statistics, the inventory on the GDP and GNI compilation is mostly concerned with transactions of the current account in the balance of payments framework. Specifications of exports and imports are particularly relevant, but specifications on primary income and current transfers from and to abroad are equally important in converting from GDP to GNI and national disposable income. Industry-type information and information by sector are developed in the system - mostly as a means of quality control - but improvements have still to be done. Another field of need for improvement is information for distribution by countries. Until recently, foreign exchange has been a substitute for this purpose, or a country distribution has been lacking completely.

1.110 In certain areas the information provided seem to be more problematic than in other areas. These involve in particular current transactions in shipping, payments for exports of new ships, payments related to services in oil activities, international travel, insurance transactions and government aid support.

17. WAGE AND EARNINGS STATISTICS

1.111 Wage statistics are compiled by Statistics Norway on annual basis, covering most groups of employees in a number of independent statistics. Part of the statistics are compiled in collaboration with the Confederation of Norwegian Business and Industry. For some industry groups, especially in private and personal services, no wage statistics have been compiled.

1.112 Wages and salaries are specified per hour or per month. Average hourly earnings are computed as the ratio between wages paid and the number of hours actually worked in the census period. Payments of sick-leave, vacations and the establishments' indirect wage costs are not included in hourly earnings. The wage data refer to payments before deductions for taxes etc. The statistics also furnish data per hour on earnings on time-work and piece-work and premium work, overtime allowances and shift and other allowances.

1.113 Statistics Norway compiles wage statistics for workers in manufacturing and mining in the form of wage censuses held at intervals of some years and annual wage statistics compiled for the third quarter of each year. Quarterly statistics on average hourly earnings of workers in manufacturing and private construction are based on data from enterprises which are members of the Confederation of Norwegian Business and Industry (CNBI).

1.114 The wage statistics for seamen in coastal trade cover vessels of 100 gross tons and over, except certain types of vessels. The CNBI compiles quarterly wage statistics for workers in private land transport based on information from member establishments. The wage statistics for employees in hotels and restaurants are based on data from establishments affiliated to the CNBI. The wage statistics for employees in wholesale and retail trade are compiled yearly per 1 September. The CNBI compiles statistics on monthly salaries in affiliated establishments as of 1 September each year, covering establishments employing 5 employees or more, mainly in manufacturing. Part-time employees are not included. The wage statistics of employees in banking activity and in insurance activity are compiled every year, excluding information about directors and bank managers and part-time employees. Wage statistics for employees in publicly maintained schools have been compiled yearly from 1973. Wage statistics for local government employees are compiled in co-operation with the Association of Local Authorities, covering all municipalities, county councils etc. From 1990 the employees in health services and social welfare are included in these statistics. Wage statistics for central government employees have been compiled yearly since 1973. Wage statistics for employees in business services, and in business, professional and labour associations are compiled as from 1980, covering all establishments with a minimum of 3 employees.

1.115 RWS - the Register of wages and salaries (or "Register for end of the year certificates") is a new statistical source, originally developed for administrative purposes by the Norwegian Directorate of Taxation. This register comprises all types of payments from employers to employees which are recorded by the tax authorities. Figures from the register are available from 1991 onwards. Since the quality of the statistical information available from the register is not yet fully assessed, we have mainly used the register to estimate wages and salaries in industries where other sources have major shortcomings and to estimate wages and salaries in kind and employers' imputed social contributions. In the RWS register, it is not possible to separate some types of payments in kind from payments in cash (free meals, housing services, holiday travel paid by employers).

1.116 The wage statistics do not cover owners and members of owners' families. The statistics on hourly earnings exclude handicapped workers on special wage conditions. The statistics on monthly earnings do not include part-time employees.

18. LABOUR FORCE SURVEYS

1.117 Statistics Norway has conducted quarterly Labour Force Surveys (LFS) since 1972. The concepts and definitions are in accordance with recommendations given by the International Labour Organization (ILO). The reference period is one week each month (the survey week), and persons aged 16 - 74 are classified as employed persons, as non-employed persons seeking work, or as persons not in the labour force. Employed persons comprise persons at work (at least one hour in the survey week), persons temporarily absent from work (due to illness, holidays etc.), and persons doing compulsory military service.

1.118 The sample unit is the family. Family members aged 16 - 74 are interviewed. The sample is rotated so that each sampled family participates 4 times over a period of 6 quarters. The sample of persons underlying LFS has gradually been expanded. Since 1990, it consists of about 24 000 persons, which corresponds to about 0,8 per cent of population 16 - 74 years. The annual estimates are arithmetical averages of the quarterly estimates.

1.119 Changes in definitions, formulation of questions, estimation procedures and survey weeks have led to some breaks in the time-series for the LFS estimates. However, the estimated annual figures for employed persons are fairly comparable from 1980 onwards, the exceptions being some minor changes in 1986 when all family members without fixed wages were included, and in 1988 with survey week each month instead of each quarter.

1.120 Employed persons are classified by sex, age, marital status, region, industry (ISIC), status (self-employed or employees), occupation and education. Settled and actual working hours per week are both estimated in the LFS. So are also secondary employment.

19. ACCOUNTING STATISTICS OF NON-FINANCIAL ENTERPRISES

1.121 Accounting statistics of non-financial enterprises as a source is available for 1991 and 1992 - and to be continued for the following years - as a means to evaluate a tax reform taken place in Norway from 1992, and to improve on the data sources relevant for the compilation of institutional sector accounts in the national accounts. Due to the tax reform evaluation, accounting data were collected in a sample survey initiated by the Ministry of Finance. Such accounting statistics enabled a deeper analysis than traditionally acquired from the tax statistics as such, primarily due to more variables covered. Earlier in this area of statistics, income and wealth surveys for corporate taxpayers have been conducted for 1982, 1985 and 1988. The sample surveys conducted in 1991 and 1992 - for the purpose of accounting statistics of non-financial enterprises - could in fact be regarded as a more thorough or extended income and wealth survey for corporate taxpayers, i.e. for joint-stock companies and other corporate taxpayers, than those held in earlier years.

1.122 The source material is based on tax data in tax declarations and accounts submitted to the tax authorities. Three different forms were used in 1991 and 1992, while another form were utilized for each of the two years. By their nature, the data are influenced by tax rules and tax auditing practice.

1.123 The accounting statistics of non-financial enterprises are based on a sample survey conducted for approximately 6 600 enterprises. Public enterprises and financial enterprises, such as banks and insurance companies, are not included. The sample was drawn from Statistic Norway's Business Register. The enterprises were stratified in 5 strata according to industry and size (employment and share capital). For large enterprises in strata A and B a full census were held, while 5 per cent of small enterprises were covered in strata C and D. Stratum A covered all manufacturing enterprises with more than 100 employed, all wholesale trade enterprises with more than 30 employed and all joint-stock companies and co-operatives in

retail trade with more than 20 employed people. Stratum B covered all large enterprises in other industries, with sizes varying from 10 to 50 employed people. Stratum C consisted of small enterprises (joint-stock companies) in all industries, with share capital between 50 000 and 100 000 kroner. Stratum D was drawn in such a way that a total sample for private non-financial enterprises is obtained. Finally, in stratum E data for other sectors were obtained. Higher absence than expected required two extra samples to be drawn for 1991, one for new enterprises in all strata, and one for stratum D which was hardest hit by absences.

1.124 Global estimates were obtained by grossing up the survey data using grossing-up factors for the enterprises based on the industry grouping of the sample and the Tax Register behind. The economic status of the enterprise was also taken into account, i.e. whether positive, zero or negative net income.

20. ACCOUNTING STATISTICS OF SELF-EMPLOYED

1.125 Accounting statistics of self-employed as a source is available for the first time in 1991 and 1992 as a means to evaluate a tax reform taken place in Norway from 1992. Thus, accounting data were collected in a sample survey initiated by the Ministry of Finance. Earlier in this area of statistics, there were income and wealth surveys in general, conducted every three years until 1984, since then on annual basis. The sample surveys conducted in 1991 and 1992 - for the purpose of accounting statistics of self-employed - could in fact be regarded as a more thorough or extended income and wealth survey for persons and households than those held in earlier years.

1.126 The source material is based on tax data in tax declarations and accounts (business as well as personal) submitted to the tax authorities. The data are thus influenced by tax rules and tax auditing practice.

1.127 The accounting statistics of self-employed are based on a sample survey conducted for approximately 5 000 self-employed and their household members, in total 12 000 persons over 16 years. Self-employed people, i.e. persons, are units of observation and units of analysis. The sample was established by utilizing information in the 1990 population census and the 1990 tax register. The population census includes information on state of occupation and on industries in which main persons in the households were working. The tax register includes information on entrepreneurial incomes of the people taxed.

1.128 The sample consists of three sub-samples (panels), one used for analysis of living conditions, while the two others are used for household consumer surveys (same year and previous year). Weights are inverted probabilities drawn and are subsequently calibrated against income and wealth variables. Household units are also obtained through links to the 1990 population census. Furthermore, establishments and enterprises are units being utilized in these statistics.

1.129 Total number of self-employed in Norway - according to the 1990 population census - constitute the population for these statistics. This population is structures in sub-populations

for 8 - 10 aggregate industries and 6 categories of types of main income. A special method for calibration of weights in sample surveys was developed for these 1991 statistics. By this method, totals arrived at were closer to the tax register values compared to the more traditional method of stratifying by age afterwards. The calibration method was further improved for the 1992 statistics in order to avoid biased data.

D. TYPES OF ACCOUNTS AND DIFFERENT VERSIONS COMPILED

National accounts are compiled in quite different types of accounts and different versions. Aggregated accounts, annually and quarterly, Supply and use tables, Input-output tables and Institutional sector accounts are fully integrated parts of the Norwegian national accounts. Regional accounts and Labour accounts are adherent compilation also integrated with the national accounts. Balance of payments and Satellite accounts are compilations harmonized with the national accounts. Within each, there are various versions according to present status, final or provisional, detailed or less detailed, adjusted or unadjusted. The annual aggregated accounts are compiled in three consecutive provisional versions and a final one, and occasionally a main revision later on. Following the establishing of modern national accounts some 50 years ago, there have been three more main revisions in Norway, revised estimates initially published in 1962, 1973 and 1995.

1.130 The Norwegian national accounts are compiled in quite different types of accounts and in different versions. By order of integration status, the Norwegian system might be structured in the following three types of accounts:

- | | |
|-----|---|
| I | Fully integrated national accounts compilation |
| II | Compilation integrated with the national accounts |
| III | Compilation harmonized with the national accounts |

1.131 The categorization used above is loosely based on three grades of integration. In category I, full integration means that the results (published estimates), the accounting system (codes) and the system of production (software) are considered closely linked together within the same framework. In category II, the accounts listed are integrated with the regular national accounts as far as the first two indicators are concerned (published estimates and codes), while software and production system are separated. In category III, integration is carried as far as harmonizing the results with those of the national accounts, while both accounting and production systems are mostly independently designed.

1.132 Fully integrated parts of the national accounts (category I) are:

A	Aggregated accounts
A.1	Annual
A.2	Quarterly
B	Supply and use tables
C	Input-output tables
D	Institutional sector accounts

1.133 Category II includes the following parts of national accounting compilation:

E	Regional accounts
E.1	Benchmarks
E.2	Annual
F	Labour accounts

1.134 Lastly, category III of national accounting includes:

G.	Balance of payments
G.1	Annual
G.2	Quarterly and monthly
H.	Satellite accounts

1.135 Referring to versions compiled, including the periodicity, the current situation is reflected in the following list as far as category I compilations are concerned (time lag in number of months is indicated):

A.1a	+1	First provisional annual version, quarterly-based
A.1b	+4	Second provisional annual version, quarterly-based
A.1c	+15	Third provisional annual version, detailed basis
A.1d	+27	Final annual version, detailed basis
A.2a	+2	Provisional first version
A.2b	+5	Final unadjusted version
A.2c	+15	Final adjusted version
Ba	+15	Provisional detailed version
Bb	+27	Final detailed version
Ca	+15	Provisional detailed version
Cb	+27	Final detailed version
Da	+4	Provisional aggregated version
Db	+15	Provisional detailed version
Dc	+27	Final detailed version

1.136 For category II calculations, the versions are limited to:

E.1a	+30	Final detailed version
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E.2a	+15	Provisional less detailed version
F.a	+1	First provisional annual version
F.b	+4	Second provisional annual version
F.c	+15	Third provisional annual version
F.d	+27	Final annual version

1.137 Finally, these are the versions for category III calculations:

G.1a	+1	First provisional annual version
G.1b	+4	Second provisional annual version
G.1c	+15	Third provisional annual version
G.1d	+27	Final annual version
G.2a	+2	Provisional first version
G.2b	+3	Final unadjusted version
G.2c	+15	Final adjusted version
H		Ad hoc versions

1.138 In summary, it is seen that integrated annual accounts are compiled in four successive versions, of which the first three are provisional and the fourth being a final version. It should be emphasized that there is a clear distinction between the first two versions - which are based on accumulated quarterly compiled estimates - and the last two - which regularly are based on annual data sources. This cycle of producing and publishing annual national accounts estimates has been established a fairly long time ago, and would be continued until the ESA Regulation of reporting data to Eurostat comes into effect, at the latest. Then, or hopefully well in advance, certain alterations are to be made, in particular reducing time lags of the third and fourth versions by three months to meet the reporting obligations.

1.139 Both the quarterly accounts and the balance of payments monthly accounts are published with a time lag of approximately two months, which again appear in a revised and final version at their next juncture of publication. Once a year, these short-term accounting data are adjusted to become harmonized with the corresponding annual data. This is done following the third version in the cycle of annual accounts.

1.140 The first provisional annual version is made for the Economic Survey, published by Statistics Norway in beginning of February. The estimates are compiled at the end of the year and very beginning of the coming year on the basis of indicators of 10 or 11 months and the accounting base of preceding year. Although the regular accounting system of the quarterly accounts are used, the lacking indicators have to be replaced by forecasted estimates, thus applying a policy of publishing fairly aggregated estimates only.

1.141 The second provisional annual version is made on a complete set of monthly indicators following the quarterly accounts approach, but delayed a good number of weeks in order to prepare for a broader table set for the purpose of Revised National Budget published in

beginning of May. The broader foundation means including part of the sector accounts, in particular accounting data for central and local government.

1.142 The third provisional annual version is published in March next year, now leaving short-term indicators aside to be replaced with provisional annual data instead. Although product balances are introduced as part of the quarterly accounting system as well, it is fair to say that integrated supply and use tables are introduced in the compilation for the first time with this third annual version. Traditionally, the level of details has been held at a clearly more aggregated level than is the case of the final annual accounts. In NNA, this traditional distinction is going to be less pronounced, applying the same coding in both these versions.

1.143 The fourth annual accounts version is the final one, published still another year later. The main difference between the last two versions will be which sources of information are available at the time when the accounts are compiled. In both versions, the predominantly information used are annual-based statistics, which partly are available in time for the third version and partly not. Following the accounting years by sequence, the base of the fourth version has again improved over that of the third version.

E. WAYS OF DISSEMINATION

National accounts estimates are disseminated by ways of official publications, on-line capabilities, diskettes or other means. As many as 12 different types of publications by Statistics Norway contain national accounts estimates, among which most important are Økonomiske analyser (9 issues a year) and annual publications of National Accounting Statistics. First results of the main revision were released in Statistics weekly no. 27/95 in an extra issue. Further revision results are foreseen later in 2nd half of 1995, in Økonomiske analyser and separate publications of National Accounting Statistics.

1.144 Statistics Norway publishes national accounts estimates in its publications, or otherwise provide to users data demanded through other means, such as on-line electronically, diskettes, or traditional direct requests.

1.145 The following publications of Statistics Norway contain national accounts estimates:

- (1) Økonomiske analyser (9 issues a year)
- (2) Economic Survey (no.1 / Økonomiske analyser)
- (3) National Accounting Statistics (issued annually)
- (4) Quarterly National Accounts (issued annually)
- (5) Input-Output Tables (ad hoc)
- (6) National Accounts by County (ad hoc)
- (7) National Accounts Statistics of historical periods (ad hoc)

- | | |
|------|--------------------------------|
| (8) | Series of reports (ad hoc) |
| (9) | Statistics weekly |
| (10) | Statistical Yearbook |
| (11) | Monthly bulletin of statistics |
| (12) | Historical Statistics (ad hoc) |

1.146 The most prominent series of Statistics Norway for the publication of national accounts since mid 1980s has been Økonomiske analyser (Economic analyses). Thus, sources (1) and (2) are the ones used for the main or first presentation of national accounts estimates, i.e. (1) for the second, third and fourth annual versions and the current publications of quarterly accounts estimates, and (2) for the first annual version along with a comprehensive description of analysis based on these estimates. The same applies to those issues of (1) that contain business cycle descriptions (Economic trends) based on most recent quarterly national accounts data. The table set all together has contained 30 tables of quarterly national accounts data. During 1996, the following issues will contain new national accounts estimates:

No.1	February	1995 (provisional and partly forecasted 4th quarter)
No.4	May	Revised 1993, 1994 and 1995
No.5	June	1st quarter 1996
No.6	September	2nd quarter 1996
No.9	December	3rd quarter 1996

Due to special circumstances during the major revision, the March issue to contain revised annual-based estimates was suspended (instead in no.4).

1.147 The other important series of national accounts estimates is the annual publication of National Accounts Statistics (3). During the main revision work, this publication has been suspended as well. The last issue was released in 1993 under title National Accounts Statistics 1991 covering period 1981-1991 in 107 tables over some 300 printed pages. These tables (with text accompanied) were presented in table blocks:

-	Summary tables	15 tables
-	International tables	11 tables
-	Tables on growth rates and price changes	12 tables
-	Kind of activity tables	28 tables
-	Tables by type and purpose	26 tables
-	Institutional sector tables	15 tables

1.148 In NNA, the continuation of the annual publication of national accounts statistics could be in three separate publications, i.e. one main publication mostly on national accounts aggregates, one publication on institutional sector accounts (more elaborated and detailed than before), and one more detailed publication on national accounts of the real economy, also containing data from the supply and use tables and detailed data from labour accounts.

1.149 In addition to (3), detailed national accounts data have been published in (5) for input-output tables, in (6) for regional national accounts estimates by county, in (4) and (7) for national accounts statistics in earlier years (quarterly and annual accounts estimates, respectively), and in (8) for occasional publications.

1.150 Input-output tables are compiled annually, but seldom published by Statistics Norway. The latest comprehensive issue came in 1992, which contained input-output data and analysis for 1970, 1980 and 1990. National accounts estimates by county are issued in separate publications when compiled for selected years, usually every 3 or 4 years. National accounts estimates for more distant periods according to former system go back to 1949 for annual accounts and back to 1978 for quarterly accounts. Institutional sector accounts - not very detailed - are available back to 1975.

1.151 The other publications listed are general ones, in which national accounts estimates constitute just one part. In (9) a selected while small number of tables from the total set are published. That applies to all kinds of national accounts tables, also satellite accounts data presented occasionally. In (10), on monthly basis, balance of payments data are of course published, along with some of the main quarterly national accounts tables. In (11) and (12), again a selected number of main tables are published. Statistical Yearbook nonetheless, includes some 25 tables over more than 20 pages of national accounts information. A new issue of Historical accounts was published in 1995, in which long time series have been emphasized, also for volume data compiled through a simple linking technique.

1.152 Statistics Norway made the choice of issuing an extra edition of (9) for the release of its first results from the main revision of the Norwegian national accounts. Revised estimates for the period 1988 - 1992 were published on 6 July 1995 in a special issue of the Statistics weekly no.27 / 95 fully devoted to the revision of national accounts. It presented 53 pages of tables containing revised estimates, accompanied by 27 pages of textual presentation including numerous illustrations of the size of revision undertaken for the main items, also to a certain extent giving the rationale behind the revisions.

F. INTERNATIONAL REPORTING

International reporting is one important element of national accounting work. Four international organizations are particularly important recipients of national accounts data, i.e. UNStat, OECD, IMF and Eurostat. From 1998 or 1999 onwards, the reporting to Eurostat - as part of the EEA treaty - will be particularly demanding. Reporting to Eurostat, OECD and UNStat is to be harmonized, with data demands in descending order. Short-term data reporting of quarterly accounts and balance of payments data to OECD and IMF is likely to be more extensive than of to-day when adopting the new manuals.

1.153 International reporting of national accounts estimates has increased over the years. International organizations to which national accounts data are regularly reported are the United Nations (UNStat in New York), OECD, IMF and Eurostat. Occasionally, other international organizations might ask for national accounts data as well.

1.154 United Nations' Statistical office (UNStat) has for a long time requested detailed national accounts data through a joint questionnaire in collaboration with the OECD. The currently used joint questionnaire was designed around 1980 and will soon be replaced with another joint questionnaire reflecting the SNA 1993. The present questionnaire contains approximately 70 tables in 7 table sections, among which the one being weakest reported from Norway has been institutional sector accounts data. The reporting of annual national accounts data to UNstat and OECD is in two stages, first through a summary questionnaire followed half a year later by the detailed joint questionnaire. UNStat is not receiving quarterly national accounts data or balance of payments data on a regular basis.

1.155 OECD is in close collaboration with UNStat on annual national accounts data through joint questionnaires. In addition, the OECD is much concerned in the field of quarterly national accounts. Norway submits to the OECD on a current quarterly basis such data in our own national format, which the OECD welcomes and receives on-line. Balance of payments data are also submitted to the OECD regularly.

1.156 IMF is in particular concerned in the fields of balance of payments and government financial accounts where data are regularly reported, in particular quarterly balance of payments data. Aggregated national accounts data are also submitted on a regular basis.

1.157 Eurostat has been receiving annual and quarterly national accounts data regularly in most recent years, before then the OECD file had been made available to Eurostat for statistical purposes. In future, when the ESA Regulation comes into effect from 1999, the reporting to Eurostat of data according to ESA 1995 will be very well structured and distinguishes between a whole range of tables to be reported. It may be mentioned that regional accounts data are also included among these tables. Norway should be in a good position to fulfil this extensive table programme.

1.158 For national readers who might be interested to know, this table programme consists of the following tables, here in order of time delay (number of months) admitted:

Annual reporting:			
+4	Table 1.	Main aggregates	Annual and Quarterly
+8	Table 2	Main aggregates	General government
+9	Table 3	Tables by industry	
	Table 4	Exports and imports	EU / Third countries
	Table 5	Household final consumption expenditure	By purpose
	Table 6	Financial accounts by sector	Transactions
	Table 7	Balance sheets for financial assets and liabilities	
+12	Table 8	Non-financial accounts by sector	Main aggregates
	Table 9	Detailed tax receipts by sector	
	Table 11	Government consumption expenditure	By function
+24	Table 10	Tables by industry and by region	NUTS II, 17 industries
	Table 12	Tables by region	NUTS III, 3 industries

	Table 13	Household accounts by region	NUTS II
	Table 14	Fixed assets for total economy and by product	
+36	Table 15	Supply table at basic prices incl. transformation to purchasers prices	60 industries x 60 products
	Table 16	Use table at purchasers prices	60 industries x 60 products
5-yearly reporting:			
+36	Table 17	Symmetric input-output table at basic prices	60 products x 60 products
	Table 18	Symmetric input-output table for domestic product at basic prices	60 products x 60 products
	Table 19	Symmetric input-output table for imports at basic prices	60 products x 60 products
	Table 20	Cross classification of fixed assets by industry and by product	31 industries x 3 products
	Table 21	Cross classification of production account by industry and by sector	60 industries x 5 sectors
	Table 22	Cross classification of gross fixed capital formation by industry and by product	31 industries x 60 products

1.159 First transmission of these tables will start in 1999 for tables 1 and 2; in 2000 for tables 3, 4, 5, 6, 7, 8, 9 and 10; in 2001 for tables 11, 12, 13 and 14; in 2002 for tables 15, 16, 17, 18 and 19; and in 2003 for tables 20, 21 and 22. Finally, for special parts of some tables considered most difficult to submit, first transmission is also delayed to year 2003, consisting of :

- Acquisition less disposables of valuables Tables 1 and 3
- Hours worked by industry Table 3
- Breakdown of corporations by owner Tables 8
- Breakdown of private households by groups Tables 8

Norway already compiles data for hours worked by industry, has attempted to compile data for household groups, while the two other items listed constitute completely new challenges for us. The same applies to the cross classification tables of production account by industry and by sector. Moreover, a number of tables would contain individual items that could represent a problem of compilation, in some cases even at the time of first transmission.

1.160 The table programme of reporting to Eurostat also include a table no. 23 on so-called backward calculations, in which estimates for 1994 and earlier years are requested for six of the mentioned tables:

Table 1	1970 -1994	in 1999	Annual and Quarterly
Table 2	1970 - 1994	by end 1999	Annual
Table 3	1970 - 1994	by end 2000	Annual
Table 5	1980 - 1994	by end 2000	Annual
Table 8	1980 - 1994	by end 1999/2000	Annual
Table 11	1990 - 1994	by end 2001	Annual

The transmission could be split in two rounds for table 1 (1988-1994 early 1999, and 1970-1987 late 1999) and table 8 (1990-1994 by end 1999, and 1980-1989 by end 2000).

G. REVISING THE NORWEGIAN NATIONAL ACCOUNTS

More than 20 years have elapsed since Statistics Norway undertook its last main revision when SNA 1968 was implemented. The 1995 revision is the fourth main revision of national accounts in Norway, the first one being the establishing of modern national accounts almost exactly 50 years ago. The last main revision might be regarded as a more comprehensive one than the two previous ones, in particular because new sources and estimation methods - after having been delayed over many years - now eventually were implemented directly into their right context. In future, main revisions in Norway most probably will be held more frequent than every 10 years as originally intended. SNA 1993 and ESA 1995 have been implemented with this main revision. Most new definitions and classifications from these international guidelines have been implemented, although some have to be postponed for needs of developing new basic statistics in the meantime. Another area not covered so far due to time constraints is the revision of non-financial capital and consumption of fixed capital (apart from that needed for measuring non-market activities). Moreover, continued pioneering work in the area of the new categories of changes in balance sheets (other volume changes, capital gains etc.) is considered future work. Nevertheless, some breakthroughs have already been achieved from efforts in trying to integrate the institutional sector accounts with the central and traditional body of national accounts for the real economy. The latter - like before - rests on detailed supply and use tables in current and constant prices (of previous year). The revision this time has covered the five years of 1988 - 1992. Further revision work - of course - involves prolonging time series for updated information and carrying them back to 1980, and - more aggregated - further back to 1970. In September 1995, revised estimates for 1993, 1994 and first two quarters of 1995 will be published based on the quarterly accounting approach. Revised estimates back to 1980 is planned for release in 1996, and further revised estimates back to 1970 in 1996 or 1997. The effect on GDP from the main revision of 1995 was about the same as the one from last main revision back in 1973, i.e. the level of GDP was revised about 10 per cent, last time downwards, this time upwards.

1.161 The last main revision, when SNA 1968 was implemented in 1973, was analysed in a separate publication Revidert Nasjonalregnskap (Statistiske Analyser nr.14), issued in 1975. Main revision results - before and after - were compared for 1969, among which some of the results were:

	1969 revision	Percentage change
Gross domestic product (GDP)	- 8 058	- 10,8

Private final consumption expenditure	- 1 284	- 3,2
Government consumption expenditure	121	1,1
Gross capital formation	- 7 103	- 28,7
Exports	- 149	- 0,5
Imports	- 25	- 0,1
Indirect taxes	220	2,1
Subsidies	- 258	- 7,3
Compensation of employees	1 014	2,8
Gross operating surplus	- 9 882	- 28,9

1.162 The latest main revision of 1995 - summarized by the same set of main items - conveys a strikingly similar set of effects, although the direction is now mostly the opposite and the absolute size of the revision far greater this time.

	1990 revision	Percentage change
Gross domestic product (GDP)	61 521	9,3
Private final consumption expenditure	21 035	6,2
Government consumption expenditure	10 350	7,5
Gross capital formation	32 912	24,3
Exports	737	0,3
Imports	3 514	1,5
Indirect taxes	- 240	- 0,2
Subsidies	- 7 427	- 18,8
Compensation of employees	15 214	4,4
Gross operating surplus	39 121	15,8

1.163 The following paragraphs summarize the size of the 1995 main revision in Norway, by illustrating the effects on level of main items. For various reasons (middle year of the period, latest year for which final accounts were compiled in FNA), 1990 was chosen as year of comparison, although in more special cases other years were looked at as well.

GDP

1.164 Gross domestic product (GDP) for 1992 has been revised upwards by 11,6 per cent compared with latest estimate of the former system (which was both provisional and based on accumulated quarterly estimates). The revision for 1991 was up by 11,3 per cent (compared by provisional but annual-based estimate of the former system). Against final estimates of the former system, the GDP revision for 1990 was up 9,3 per cent, and respectively 9,8 and 9,7 per cent for 1989 and 1988.

1.165 GDP growth rates have been revised slightly for 1989, 1990 and 1992 by 0,3, 0,1 and 0,3 percentage points respectively, while more considerably amended for 1991 by 1,6 percentage points. The GDP deflator has been amended by 0,5 percentage point or less in either of these years.

Final uses

1.166 Final consumption has been revised somewhat less than for GDP, upwards by 6,6 percent in 1990. In absolute terms, it is increased by 31 billion kroner, which is half of the GDP revision of 61,5 billion kroner in 1990. This implies a lower percentage of GDP for final consumption, reduced by some 2 percentage points. In relative terms, revision of household (including NPI's) final consumption expenditure was slightly less increased (6,2 per cent) than for government final consumption expenditure (7,5 per cent).

1.167 Final consumption expenditure of households and final consumption expenditure of NPI's have been estimated separately, at 338 and 19 billion kroner respectively. The latter was poorly covered in FNA, implicitly at 2 or 3 billion kroner as part of private final consumption expenditure. The composition of household consumption expenditure is altered substantially as 7 out of 10 main groups have been revised more than 10 per cent. Most significantly, the main group of housing, water, electricity, gas and other fuels has been revised upwards by 17 billion kroner to become the largest of these groups, constituting 28 per cent of total household consumption expenditure as compared with 19 per cent before the revision. The main group of food, beverages and tobacco is down by 10 billion kroner, which means reducing its share from 25 to 21 per cent. The third largest group is transport, revised upwards by 13 billion kroner or more than 35 per cent, part of which is explained by the group of package tours transferred from correction item direct purchases abroad by resident households.

1.168 The alternative consumption concept introduced in the new system - actual consumption - has been estimated as well; the household actual consumption has been given the term personal consumption and counts for 90 per cent of total final consumption. The government actual consumption is termed collective consumption. The COFOG classification has been used to draw the distinction between individual and collective government consumption expenditure, i.e. COFOG groups 04, 05 and 06 were taken as individual in both central and local government, and group 08 as well in local government. Totally in personal consumption, 56 per cent consists of services, thus leaving only 44 per cent as the share for consumption of goods.

1.169 Gross capital formation has been revised upwards by as much as 24,3 per cent in 1990, or close to 33 billion kroner. By this revision, its share of GDP has been increased by some 3 percentage points to more than 23 per cent. About half of the revision is related to oil investment (accruals basis), while wider coverage and higher estimates for services activities are significantly contributing as well. It might be added that gross fixed capital formation and changes in inventories both have been much scrutinized.

1.170 Total exports and total imports are just slightly affected by the revision, for exports less than 1 billion kroner higher than before, while close to 4 billion kroner higher for imports. Current external balance is down from 24,1 to 18,4 billion kroner in 1990. This implies that net

property income and transfers to abroad have been revised downwards by 3 billion kroner, partly by having introduced a new treatment for reinvested earnings.

Output and value added

(i) Agriculture, forestry and fishing

1.171 Value added of agriculture, forestry and fishing is revised upwards by 12 per cent when measured in basic prices. In agriculture, value added has been increased by 24 per cent. Output in basic prices is more or less unaffected by the revision, while intermediate consumption in particular has been reduced when eliminating internal deliveries of own-account output. Another change in definition concerns subsidies, i.e. switch over from other subsidies on production to new treatment as subsidies on products. Compensation of employees has been increased substantially both in agriculture and fishing. Gross operating surplus or mixed income in these industries is slightly lower than before. Their share of GDP is also slightly down from 3,7 to 3,4 per cent in 1990.

(ii) Oil and natural gas extraction, mining and quarrying, manufacturing, electricity, gas and water, and construction

1.172 Value added combined of oil and gas extraction, mining and quarrying, manufacturing, electricity, gas and water, and construction, has not been significantly amended, but has nonetheless reduced their share of GDP from 34,3 to 31,7 per cent in 1990 as a consequence of higher contribution to GDP from service activities. The GDP-share of manufacturing is down by more than 1 percentage point to 11,7 per cent in 1990. Total output of these industries has been reduced by some 5 per cent in 1990.

1.173 In the most significant cases, however, there is a parallel and identical effect on output and intermediate consumption, from removing internal deliveries of electricity and a more direct treatment of building oil platforms. In the manufacturing area, changes in definitions also include reclassifications of units from introducing NACE Rev.1 as a new activity classification. New principles are introduced in recording oil, gas and pipeline transport activities, the latter output of which is now measured as a margin. The electricity industry is split into separate activities of production, transportation and distribution of electricity, while also more differentiated on products. Estimates of construction are significantly higher, one feature being a more direct estimation from utilizing production statistics in construction. For these industries combined, gross operating surplus in 1990 has been revised upwards by moderately 5 per cent, mostly due to increase in construction.

(iii) Service activities

1.174 The most striking result of all in the main revision is the new and higher level of services in the Norwegian economy. The service industries combined has increased their share of GDP from 53 to 58 per cent in 1990. Output level has been revised upwards by close to 115 billion kroner or 20 per cent, the same percentage change also for value added while close to 70 billion higher level, and furthermore, gross operating surplus is up by 43 billion kroner or 33 per cent.

1.175 The three most significant service industries to which this large-scale revision is attributed are wholesale and retail trade, real estate and business services, e.g. these industries combined have their output revised upwards by 61 billion kroner, their combined value added revised upwards by some 42 billion kroner, and their combined gross operating surplus by 34 billion kroner. It should be added, however, that the upward revision has occurred in most service industries.

1.176 In wholesale and retail trade, the basic new sources have been the surveys on trade margins held in 1985 and 1986, while annual accounting statistics have supported the new findings. In real estate, the revision has in particular shed new light on dwelling services. By introducing a new method aligned with the one being urged by the European Community (using observed rents for owner-occupied dwellings), the revised estimates have given a new level similar to comparable European countries. Thus, in terms of share of GDP this puts value added of dwelling services in Norway up from less than 5 per cent to 7 per cent. In business services, production statistics that were introduced already around 1980, now eventually could be utilized directly with the proper levels. Better statistical sources also have given quite radical changes in parts of the transportation industry, in particular for freight transportation by road and for taxi operation. Estimates for producers of non-market services by non-profit institutions serving households have been made, for 1990 output at 21 billion kroner. In the area of service industries, still one fourth of the revision is caused by changes in definitions as suggested by the new SNA / ESA and the new industry classification introduced.

Compensation of employees

1.177 Compensation of employees is revised upwards by 4,4 per cent in 1990. In terms of GDP, the percentage of compensation of employees has been reduced from 51,8 to 49,5 per cent. While wages and salaries have been increased by moderately 2 per cent, the employers' social contributions have increased by 18 per cent. It should be added that wages in kind have been significantly revised upwards as well. The industry breakdown shows most decisive revisions in business services, health and social services, and also in agriculture and fishing.

Employment

1.178 Employment figures have not been much amended by the revision. In 1990, total number of persons employed has been revised upwards by moderately 0,2 per cent, while full-time equivalent persons employed is up by 0,3 per cent. However, due to new information about people on leave, total hours worked has been revised upwards by 1,5 per cent.

Taxes on production

1.179 Taxes on production have about the same level as before. There has been a regrouping towards more taxes on products. More specifically, a higher VAT amount has been estimated on accruals' basis, up from 55,8 to 58,2 billion kroner in 1990, which means - compared with the recorded amount on cash basis including an investment levy - that theoretical VAT of the national accounts after the revision shows a quite reasonable level.

Subsidies on production

1.180 Subsidies on production have been revised downwards by 19 per cent in 1990 when new definitions are introduced. The former treatment of investment levies as subsidies has ceased, now being recorded as capital transfers instead. Despite the lower level of total subsidies, subsidies on products have been increased from less than 1 billion to almost 8 billion kroner.

Gross operating surplus and mixed income

1.181 Gross operating surplus and mixed income have been revised upwards by 18 per cent in 1990. While GDP has been increased by 61,5 billion kroner, a major part of this - 47,9 billion kroner - has resulted in increased operating surplus and mixed income, although gross recorded. Some 18 billion kroner of the revision relate to dwelling services. The remaining increase is located to various service industries and to construction. Gross mixed income has been estimated at 47 billion kroner in 1992, or 15 per cent of total gross operating surplus and mixed income.

Institutional sector accounts

1.182 Institutional sector accounts have been published in separate tables for households and non-financial corporations for 1991 and 1992, for public non-financial corporations, financial corporations, central and local government, and rest-of-the-world for 1988 through 1992. Each table set is structured in five parts: production account, allocation of primary incomes, secondary income distribution, use of disposable income, and financing and investment leading to net lending. For households and financial corporations there are additional tables on social transfers in kind and use of adjusted disposable income. Balance sheets and changes in balance sheets by institutional sectors for the financial assets' part have been published as well, on the same day in a separate publication (Bank- og kredittstatistikk no.8 /95). For the government accounts, additional data were issued simultaneously in the ordinary edition of Weekly statistics (no. 27 / 95).

(i) Non-financial corporations and financial corporations

1.183 Gross saving of the two main corporate sectors - non-financial and financial corporations - has been estimated at 117 billion kroner in 1992, up from 100 billion kroner in the former accounts. Value added is estimated at 490 billion kroner, of which the non-financial corporations are contributing to more than 60 per cent of GDP. Furthermore, value added of

private non-financial corporations is estimated at 327 billion kroner, and public non-financial corporations at 125 billion kroner. From the balance sheets, it is learned that non-financial corporations are the only main sector that exhibited net debt at the end of 1992.

(ii) *General government*

1.184 Value added of general government has been revised upwards from 104 to 113 billion kroner in 1990. Correspondingly, gross disposable income is up by 20 billion and gross saving by 9 billion kroner. Most of the revision occurred for central government. A number of changes in definition are behind these amendments and introduced with the revised international systems. The saving ratio (gross) of general government has been increased with 2,5 percentage points to 23,3 per cent. The ratio of total taxes to GDP has decreased from near 47 per cent to 42,6 per cent (accrued values) in 1990. This implies that Norway now ranks below Belgium, France and Netherlands, in addition to Sweden and Denmark, as concerning tax burden measured against GDP.

(iii) *Households*

1.185 Value added of the household sector (including NPI's) is estimated at 124 billion kroner in 1992 or 16 per cent of GDP. This is considerably above value added of the total manufacturing industry. Half of the household sector's value added concerns owner-occupiers and other activities for own use. The other half consists of value added from activities of self-employed (49 billion) and of NPI's (12 billion). Gross operating surplus (of owner-occupiers) is estimated at some 60 billion kroner, while gross mixed income is 47 billion kroner. From the allocation of primary incomes it is shown that 62 per cent of GNI (Gross National Income) is allocated to the household sector. Gross disposable income and gross saving are both revised upwards by 40 and 12 billion kroner respectively in 1992. The ratio of gross saving to gross disposable income in the household sector is slightly up from 10,5 to 12,3 per cent.

(iv) *Total economy and rest-of-the-world*

1.186 Gross national income (GNI) has been revised upwards by 8,9 per cent in 1990, slightly less than for GDP. For 1992, GNI was estimated at 766,8 billion kroner as compared to 784,3 billion kroner for GDP. Gross disposable income for Norway was somewhat lower than GNI, i.e. 759,3 billion kroner in 1992. In 1990, the revision upwards was 9,3 per cent both for GDP and gross disposable income for Norway. In 1992, the external current balance was 29,1 billion kroner, while net foreign debt at the end of 1992 was estimated at 81 billion kroner in market values, revealed as part of the balance sheet calculations by sectors including rest-of-the-world.

Changes in volume and prices

1.187 In addition to the GDP information already given, changes in volume and prices for the main items are relatively small for the four years 1989 through 1992. Volume change in 1991 constitutes an exception, implying in the revised series an unbroken rising development in

volume terms throughout the period for main consumption items as well as for value added of mainland Norway and GDP. Among main items studied, more than 60 per cent of these showed less than 1 percentage point revision in volume, and correspondingly, close to 90 per cent showed less than 1 percentage point revision in terms of price change. The price deflator for household consumption expenditure now shows a similar development as the official CPI over these years.

New national terms

1.188 On this occasion, Statistics Norway has renamed some of the main items of the national accounts in Norwegian, as well as introducing the new items of SNA 1993 / ESA 1995 in Norwegian terms. Among items renamed in Norwegian are output, intermediate consumption, taxes on products and other taxes on production, subsidies on products and other subsidies on production, current taxes on income, wealth etc., domestic final uses, the various final consumption expenditures by sector, gross fixed capital formation, products and work-in-progress. The new term actual individual consumption is termed (translated to) personal consumption. Among items not renamed in Norwegian are gross domestic product, gross national income, value added, compensation of employees, operating surplus, social benefits, saving, disposable income and national disposable income.

H. ORGANIZATION AND RESOURCES USED

Official statistics in Norway is centrally organized. The Statistical Act of 1989 stipulates that Statistics Norway is the independent statistical institution with centralized responsibilities in this field, while administratively subordinate to the Ministry of Finance. Statistics Norway is divided into six departments, has a staff of approximately 850, of which 500 in Oslo and 350 at Kongsvinger. National Accounts Division belongs to the Department of Economic Statistics; in recent years it has employed 25 - 30 staff members, of which 18 - 20 are graduates, mainly economists.

1.189 The official statistics of Norway are centrally organized. The aims and means of Statistics Norway are largely set out in the Statistics Act of 1989, which stipulates that Statistics Norway is the central body for preparation and dissemination of official statistics in Norway. Statistics Norway is subject to supervisory guidelines and financial frameworks set out by the Government and the Storting (the National Assembly). The Statistics Act stipulates that Statistics Norway is an independent institution in its field, a field that also includes a comprehensive research activity.

1.190 An important provision is Statistics Norway's access to administrative data systems for the production of statistics and the right to be involved in the establishment of new administrative data systems in public administration or major changes to existing ones.

Moreover, Statistics Norway has been assigned co-ordination responsibility when administrative bodies are to carry out major statistical surveys.

1.191 Statistics Norway collects information by means of written questionnaires to companies and institutions, personal interviews at home, telephone surveys and administrative data systems. The use of administrative data systems has increased over the last years and has thus reduced the need for form-based data collection. Still however, the form-based collection constitutes the backbone of business statistics.

1.192 Statistics Norway is administratively subordinate to the Ministry of Finance. About 80 per cent of Statistics Norway's tasks are funded over the central government budget, while about 20 per cent are funded on revenue from assignments and sales of publications. Total current expenditure of Statistics Norway in 1993 was 310 million kroner, of which 164 million as compensation of employees. The Director General is the head of Statistics Norway, engaged for periods of six years.

1.193 Statistics Norway is divided into six departments: three statistical departments - Economic Statistics, Social Statistics and Industry Statistics - one department for Research, one department for Co-ordination and Development, and one department for Administrative Affairs. Statistics Norway has a staff of approximately 850, of which are about 500 employees in Oslo and 350 in the nearby town of Kongsvinger. In addition, the survey organisation has employees working part-time in their local districts.

1.194 The National Accounts Division is part of the Department of Economic Statistics. Until 1991, it belonged to the Research Department. In most recent years, the Division has employed 25 - 30 staff members. About 18 - 20 are graduates, mainly economists. The allocation of the staff to the main fields of national accounts is indicated below:

Central annual accounting work	10 - 12
Institutional sector accounts	6 - 8
General administration	2 - 3
Quarterly accounts	2 - 3
Balance of payments	1 - 2
Labour accounts	1 - 2
Regional accounts	0 - 1
Satellite accounts	0 - 1

1.195 The National Accounts Division is supported by specialized divisions within the department on administrative tasks and computer processing. It collaborates closely with the Division for Public Finance and Credit Market Statistics - also part of the Department of Economic Statistics - on institutional sector accounts, and with the Central Bank of Norway on balance of payments.

CHAPTER II. GDP FROM THE OUTPUT APPROACH

A. CLASSIFICATION SCHEMES USED

The main classification schemes used in the NNA for the estimation of GDP according to the production approach are the activity classification based on NACE Rev.1, and the product classification based on CPA. They replace the former activity classification based on ISIC Rev.2, and a product classification used in FNA that was an aggregated version of the Harmonized System - adjusted to Norwegian production - and the previous nomenclature based on CCCN applied as customs tariff. In FNA some 190 different activities were specified or 167 activities irrespective of category of activity (market or non-market). In NNA, the latter has been reduced to 148 activities, while altogether 178 activities, i.e. slightly reduced but still keeping a detailed profile for the activity classification in the national accounts. In FNA, some 1750 products were specified in the final annual accounts, of which 1550 were goods and 200 services. In NNA, the total number of products are down to some 1250 products, of which 700 are goods, 300 are services, while the remaining products primarily are there for technical or other reasons (partly goods and partly services). Thus, in NNA there is a 70 - 30 distribution between goods and services as concerns characteristic products of the activities of national accounts. Shift from goods to more services in NNA is also an effect of shifting from goods-producing to more service-producing activities being specified in the new national accounts. When referring to the NACE-equivalent number of NNA-activities (148), there is now a 60 - 40 distribution between goods-producing and services-producing activities. The breakdown by categories of production - market, own final use and other non-market - is handled through the coding system (prefixes), by introducing separate categories for market production, production for own final use and three categories for other non-market production, i.e. in central government, local government and NPI's serving households. Analytical classification of activities was a supplementary feature of FNA in grouping into categories of sheltered industries, as well as export-oriented and import-competing industries. In NNA, so far an updated or revised version of this supplementary classification on competitiveness of industries has not been introduced. Meanwhile, another type of analytical classification of industries is being developed by Eurostat on behalf of the analysts in the European Commission.

1. ACTIVITY CLASSIFICATION USED

2.1 The main classification scheme used in the NNA for the estimation of GDP according to the output method or production approach is the activity classification based on NACE Rev.1. It replaces the activity classification in FNA based on ISIC Rev.2.

2.2 In FNA, some 190 different activities were specified, of which 17 activity items in central government production accounts and 8 activity items in local government production accounts. The remaining 165 activity items within production accounts are for market industries. Irrespective of market or non-market production activities - referred to as NA-aggregated activities - FNA contained 167 activities (or 170 activities if counting sub-items in construction).

2.3 In NNA, we have kept a detailed profile for the activity classification, although reduced from 167 activities in FNA to 148 activities in NNA (NA-aggregated activities). Altogether (with prefix), NNA contains 178 activity items. Seven activity items occur exclusively outside market activities (three activities for own final use: hunting, trapping and game propagation; dwelling services production of owner-occupiers, and private household with employed persons, furthermore, four other non-market activities: water supply, public administration and compulsory social security activities; defence activities, and combined nursing activities).

	FNA	NNA
Total number of NA-aggregated activities	167	148
Total number of NA-activities with prefix, of which:	190	178
Market activities (23...)	165	142
Central government activities (24...)	17	14
Local government activities (25...)	8	9
Non-profit institutions serving households activities (26...)	-	7
Own final use activities (22...)	-	6

2.4 There has been a shift towards more services activities in the new activity classification. By following the convention of services running from wholesale and retail trade to the end of the NACE classification, the share of services activities has increased from 30 to 40 per cent in terms of NA-aggregated activities, and from 39 to 47 per cent when counting all NA-activities.

	NA-aggregated		NA-activities with prefix	
	FNA	NNA	FNA	NNA
Goods-producing activities	116	89	116	96
Services-producing activities	51	59	74	85
Total	167	148	190	181

2.5 Alternatively, by counting as services-producing activities also services activities in agriculture and in oil and gas extraction, and if also including construction and electricity, gas, steam and hot water activities as services activities, the number of NA-aggregated activities becomes almost equally divided among the two categories (77 for goods and 71 for services), while activities for services significantly outnumber activities for goods by the total count (102 respectively 79).

2.6 In general and with reference to NACE Rev.1, the NNA activity details in most cases are either at the 2-digit level, at the 3-digit level, or between the two. This is documented in the following paragraphs. Norway, therefore, has no problem identifying 2-digit level of NACE Rev.1 (A60 in ESA) for reporting or other dissemination of activity data from NNA.

2.7 The description of the 3-digit NNA-aggregated activities below is structured on basis of A60, i.e. 60 groupings of NACE Rev.1. Category of activity codes are given in parenthesis. Corresponding NACE Rev.1 items are given in the right column.

NACE - 01	AGRICULTURE, HUNTING AND RELATED SERVICE ACTIVITIES in NNA contains the following 3 activity groups:	
010	Agriculture (23, 22)	01.1 + 01.2 + 01.3
014	Agricultural and animal husbandry service activities (23)	01.4
015	Hunting, trapping and game propagation (22)	01.5

Hunting etc. is considered only for own final use, not for market production. Agricultural production has been split - for sake of convenience and for data reasons - into market production and production for own final use.

NACE - 02	FORESTRY, LOGGING AND RELATED SERVICE ACTIVITIES in NNA contains one single activity:	
020	Forestry and logging (23)	02

**NACE - 05 FISHING, OPERATION OF FISH HATCHERIES AND FISH FARMS;
SERVICE ACTIVITIES INCIDENTAL TO FISHING**
in NNA contains the following 2 activities:

051	Fishing (23, 22)	05.01
052	Operation of fish hatcheries and fish farms (23)	05.02

Fishing for own final use is specified separately in NNA.

NACE - 10 MINING OF COAL AND LIGNITE; EXTRACTION OF PEAT
in NNA has one single item:

100	Mining of coal and lignite; extraction of peat (23)	10
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**NACE - 11 EXTRACTION OF CRUDE PETROLEUM AND NATURAL GAS;
SERVICE ACTIVITIES INCIDENTAL TO OIL AND GAS EXTRACTION
EXCLUDING SURVEYING**
in NNA contains 2 separate activities at 3-digit NACE-level:

111	Extraction of crude petroleum and natural gas (23)	11.1
112	Service activities incidental to oil and gas extraction (23)	11.2

The first activity includes extraction of crude petroleum and natural gas - which are not possible to identify as two separate activities - as well as secondary activities such as services incidental to oil and gas extraction. Furthermore, instead of separating units for the second group carrying out service activities, oil companies of (NACE 11.1) practice renting services from producers of oil platforms (in manufacturing).

NACE - 12 MINING OF URANIUM AND THORIUM ORES
in NNA has no zero production in Norway:

NACE - 13 MINING OF METAL ORES
in NNA contains one item:

130	Mining of metal ores (23)	13
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NACE - 14 OTHER MINING AND QUARRYING
in NNA contains one item as well:

140	Other mining and quarrying (23)	14
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NACE -15	MANUFACTURE OF FOOD PRODUCTS AND BEVERAGES in NNA contains 9 different activity items at 3-digit level of NACE:	
151	Production, processing and preserving of meat and meat products (23)	15.1
152	Processing and preserving of fish and fish products (23)	15.2
153	Processing and preserving of fruit and vegetables (23)	15.3
154	Manufacture of vegetable and animal oils and fats (23)	15.4
155	Manufacture of dairy products (23)	15.5
156	Manufacture of grain mill products, starches and starch products (23)	15.6
157	Manufacture of prepared animal feeds (23)	15.7
158	Manufacture of other food products (23)	15.8
159	Manufacture of beverages (23)	15.9

NACE - 16	MANUFACTURE OF TOBACCO PRODUCTS in NNA contains one single activity:	
160	Manufacture of tobacco products (23)	16

NACE - 17	MANUFACTURE OF TEXTILES in NNA contains one single item:	
170	Manufacture of textiles (23)	17

NACE - 18	MANUFACTURE OF WEARING APPAREL; DRESSING AND DYEING OF FUR in NNA contains one single item as well:	
180	Manufacture of wearing apparel; dressing and dyeing of fur (23)	18

NACE - 19	TANNING AND DRESSING OF LEATHER; MANUFACTURE OF LUGGAGE, HANDBAGS, SADDLERY, HARNESS AND FOOTWEAR in NNA contains one single item also:	
190	Tanning and dressing of leather; manufacture of luggage, handbags, saddlery, harness and footwear (23)	19

NACE - 20 MANUFACTURE OF WOOD AND OF PRODUCTS OF WOOD AND CORK, EXCEPT FURNITURE; MANUFACTURE OF ARTICLES OF STRAW AND PLAITING MATERIALS
in NNA contains 4 different activity groups:

201	Sawmilling and planing of wood, impregnation of wood (23)	20.1
202	Production of veneer sheets, particle board, fibre board etc. (23)	20.2
203	Manufacture of builders' carpentry and joinery (23)	20.3
204	Manufacture of wooden containers and other products of wood (23)	20.4 + 20.5

NACE - 21 MANUFACTURE OF PULP, PAPER AND PAPER PRODUCTS
in NNA contains 3 different activity groups:

211	Manufacture of pulp (23)	21.11
212	Manufacture of paper and paperboard (23)	21.12
213	Manufacture of articles of paper and paperboard (23)	21.2

Specification at 4-digit NACE level is due to the importance of these activities in Norway.

NACE - 22 PUBLISHING, PRINTING AND REPRODUCTION OF RECORDED MEDIA
in NNA contains 3 different activities following 3-digit NACE level:

221	Publishing, including publishing of newspapers (23)	22.1
222	Printing and service activities related to printing (23)	22.2
223	Reproduction of recorded media (23)	22.3

NACE - 23 MANUFACTURE OF COKE, REFINED PETROLEUM PRODUCTS AND NUCLEAR FUEL
in NNA contains 2 activity items at 3-digit level of NACE:

231	Manufacture of coke oven products (23)	23.1
232	Manufacture of refined petroleum products (23)	23.2

Processing of nuclear fuel (NACE 23.3) is not included, due to no production in Norway and no request for data to be reported at 3-digit level of NACE.

NACE - 24 MANUFACTURE OF CHEMICALS AND CHEMICAL PRODUCTS

in NNA contains the following 7 activity items:

241	Manufacture of basic chemicals (23)	24.11 + 24.12 + 24.13 + 24.14
242	Manufacture of fertilizers, pesticides and other agro-chemical products (23)	24.15 + 24.2
243	Manufacture of paints, varnishes and similar coatings, printing ink and mastics (23)	24.3
244	Manufacture of basic pharmaceutical products and pharmaceutical preparations (23)	24.4
245	Manufacture of soap and detergents, cleaning and polishing preparations, perfumes and toilet preparations (23)	24.5
246	Manufacture of other chemical products (23)	24.6
247	Manufacture of plastics and man-made fibres (23)	24.16 + 24.17 + 24.7

Manufacture of fertilizers and nitrogen compounds - an important activity in Norway - for national purpose of energy accounts is seen more appropriately combined with pesticides and other agro-chemical products (NACE 24.2) than with basic chemicals as such (24.1). A similar case is the combined group of plastics in primary forms and man-made fibres.

NACE - 25 MANUFACTURE OF RUBBER AND PLASTIC PRODUCTS
in NNA contains one single activity item:

250	Manufacture of rubber and plastic products (23)	25
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NACE - 26 MANUFACTURE OF OTHER NON-METALLIC MINERAL PRODUCTS
in NNA contains the following 4 activity groups:

261	Manufacture of glass and glass products (23)	26.1
262	Manufacture of ceramic products, bricks, tiles etc. (23)	26.2 + 26.3 + 26.4
265	Manufacture of cement, lime and plaster (23)	26.5
266	Manufacture of articles of concrete, cement and plaster, and non-metallic mineral products (23)	26.6 + 26.7 + 26.8

NACE - 27 MANUFACTURE OF BASIC METALS
in NNA also contains 4 activity groups:

271	Manufacture of iron, steel and ferro-alloys (23)	27.1 + 27.2 + 27.3
273	Aluminium production (23)	27.42
274	Manufacture of other non-ferrous metals (23)	27.41 + 27.43 + 27.44 + 27.45
275	Casting of metals (23)	27.5

Aluminium production is very important in Norway and the reason for being specified at NACE 4-digit level.

NACE - 28	MANUFACTURE OF FABRICATED METAL PRODUCTS, EXCEPT MACHINERY AND EQUIPMENT in NNA contains of the following 3 activity groups:	
281	Manufacture of structural metal products, tanks, reservoirs, steam generators (23)	28.1 + 28.2 + 28.3
286	Manufacture of cutlery, tools and general hardware (23)	28.6
287	Manufacture of other fabricated metal products (23)	28.4 + 28.5 + 28.7

NACE - 29	MANUFACTURE OF MACHINERY AND EQUIPMENT N.E.C. in NNA contains the following 4 activity groups:	
291	Manufacture of machinery of mechanical power and other general purpose machinery (23)	29.1 + 29.2
293	Manufacture of machine-tools and special purpose machinery (23)	29.3 + 29.4 + 29.5
296	Machinery of weapons and ammunition (23)	29.6
297	Manufacture of domestic appliances n.e.c. (23)	29.7

NACE - 30	MANUFACTURE OF OFFICE MACHINERY AND COMPUTERS in NNA contains one single activity item:	
300	Manufacture of office machinery and computers (23)	30

NACE - 31	MANUFACTURE OF ELECTRICAL MACHINERY AND APPARATUS N.E.C. in NNA contains the following 3 activity groups:	
311	Manufacture of electric motors, generators, transformers, and electricity distribution and control apparatus (23)	31.1 + 31.2
313	Manufacture of insulated wire and cable (23)	31.3
314	Manufacture of lighting equipment, electric lamps and other electrical equipment (23)	31.4 + 31.5 + 31.6

NACE - 32 MANUFACTURE OF RADIO, TELEVISION AND COMMUNICATION EQUIPMENT AND APPARATUS
in NNA contains 2 activity groups:

321	Manufacture of television and radio transmitters, communication equipment, electronic components etc. (23)	32.1 + 32.2
323	Manufacture of television receivers, sound or video recording or reproducing apparatus etc. (23)	32.3

NACE - 33 MANUFACTURE OF MEDICAL, PRECISION AND OPTICAL INSTRUMENTS, WATCHES AND CLOCKS
in NNA contains the following 2 activity groups:

331	Manufacture of medical and precision instruments (23)	33.1 + 33.2 + 33.3
334	Manufacture of optical instruments, watches and clocks (23)	33.4 + 33.5

NACE - 34 MANUFACTURE OF MOTOR VEHICLES, TRAILERS AND SEMI-TRAILERS
in NNA contains one single item only:

340	Manufacture of motor vehicles, trailers and semi-trailers (23)	34
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NACE - 35 MANUFACTURE OF OTHER TRANSPORT EQUIPMENT
in NNA contains the following 5 activity groups:

351	Building and repairing of ships, boats and pleasure and sporting boats (23)	35.111 + 35.112 + 35.113 + 35.116 + 35.117 + 35.12
352	Building and repairing of oil platforms and modules (23)	35.114 + 35.115
353	Manufacture of railway and tramway locomotives and rolling stock (23)	35.2
354	Manufacture and repairing of aircraft (23)	35.3
355	Manufacture of other transport equipment, including motorcycles and bicycles (23)	35.4 + 35.5

For Norway - as a oil producing country - building and repairing of oil platforms and modules play an important role in the total economy and therefore constitutes a separate activity group.

NACE - 36	MANUFACTURE OF FURNITURE, MANUFACTURING N.E.C. in NNA contains the following 3 activity groups:	
361	Manufacture of furniture (23)	36.1
362	Manufacture of jewellery and related articles (23)	36.2
363	Manufacture of musical instruments, sports goods, games and toys etc. (23)	36.3 + 36.4 + 36.5 + 36.6

NACE - 37	RECYCLING in NNA contains the 2 activity items at 3-digit level of NACE:	
371	Recycling of metal waste and scrap (23)	37.1
372	Recycling of non-metal waste and scrap (23)	37.2

NACE - 40	ELECTRICITY, GAS, STEAM AND HOT WATER SUPPLY in NNA contains the following 5 activity groups:	
401	Production of electricity (23)	40.101
402	Distribution of electricity, renting (23)	part 40.102
403	Distribution of electricity, sales (23)	part 40.102
404	Manufacture and distribution of gaseous fuels through mains (23)	40.2
405	Steam and hot water supply (23)	40.3

Due to great importance and new economic conditions in the electricity market in Norway (new Energy Act from 1991), production and distribution of electricity (NACE 40.1) has been split first between production and distribution, and furthermore between renting and sales for the distribution part. The latter thus is a rare exception to NACE, specifying activities (for national purposes) beyond NACE Rev.1 details. Activity item 401 consists of producing electricity for delivery to the central distribution network (or to a certain point in the regional network of same voltage). Activity item 402 consists of renting of electricity network for the purpose of distribution of electric power or transforming down voltage. Activity item 403 consists of sales of electric power from the producers in the wholesale market for the purpose of selling electric power to final users, i.e. retail sale of electric power. The 3-way split of the electricity industry is more detailed than in the revised NACE-based standard of activity classification applied for official statistics in Norway, which contains two industries of electricity, one for production (401) and one for distribution (402 + 403). Activity item 405 consists of district heating supply (based on hot water and steam).

NACE - 41	COLLECTION, PURIFICATION AND DISTRIBUTION OF WATER in NNA contains one single activity item:	
410	Collection, purification and distribution of water (25)	41

This activity is considered a non-market activity (of local government), a change from FNA when treated as a market activity (local government enterprise). In both instances, choice of treatment has been debatable.

NACE - 45	CONSTRUCTION in NNA contains the following 5 activity groups:	
451	Site preparation (23)	45.1
452	General construction of buildings etc. (23, 22)	45.211 + 45.22
453	Construction of civil engineering works (23, 25)	45.212 + 45.23 + 45.24 + 45.25
454	Building insulation and completion (23)	45.3 + 45.4
455	Renting of construction or demolition equipment with operator (23)	45.5

The activity group on construction of buildings (452) also consist of own-account production, while construction of civil engineering works is treated partly as market and partly as non-market activity. The latter is due to institutional reasons; construction activities performed in local government are well integrated in the government budget and most adequately treated in this way.

NACE - 50	SALE, MAINTENANCE AND REPAIR OF MOTOR VEHICLES AND MOTORCYCLES; RETAIL SALE AND AUTOMOTIVE FUEL in NNA contains the following 3 activity items:	
501	Sale of motor vehicles (23)	50.1
502	Maintenance and repair of motor vehicles and motorcycles, sale of parts and accessories (23)	50.2 + 50.3 + 50.4
505	Retail sale of automotive fuel (23)	50.5

NACE - 51	WHOLESALE TRADE AND COMMISSION TRADE in NNA contains one single activity item:	
510	Wholesale trade and commission trade (23)	51

NACE - 52	RETAIL TRADE ; REPAIR OF PERSONAL AND HOUSEHOLD GOODS in NNA contains the following 2 activity groups:	
521	Retail trade (23)	52.1 + 52.2 + 52.3 52.4 + 52.5 + 52.6
527	Repair of personal and household goods (23)	52.7

NACE - 55	HOTELS AND RESTAURANTS in NNA contains the following 2 activity groups:	
551	Hotels and other accommodation (23)	55.1 + 55.2
553	Restaurants, canteens and catering (23)	55.3 + 55.4 + 55.5

NACE - 60	LAND TRANSPORT; TRANSPORT VIA PIPELINES in NNA contains the following 6 activity groups:	
601	Transport via railways (23, 24)	60.1
602	Scheduled motor bus transport (23)	60.211
603	Taxi operation (23)	60.22
604	Other land transport (23)	60.23 + 60.24
605	Tramway and suburban transport (23)	60.212
608	Transport via pipelines (23)	60.3

Breakdown into 4-and 5-digit NACE groups reflects a tradition in the Norwegian national accounts for detailed treatment of transport items. Transport via railways is separated into two different activities for institutional reasons, into a non-market part (of central government) concerned with renting out the roadway to a market part concerned with ordinary traffic activity.

NACE - 61	WATER TRANSPORT in NNA contains the following 2 activity groups:	
611	Ocean transport and coastal water transport abroad (23)	61.101 + 61.102
613	Inland water transport (23)	61.103 + 61.104 61.105 + 61.106 61.109 + 61.2

Due to special natural conditions and less importance to inland water transport on rivers and lakes, this alternative two-way split is found more appropriate in Norway than the one adopted in NACE.

NACE - 62	AIR TRANSPORT in NNA contains one single activity item:	
620	Air transport (23)	62

NACE - 63	SUPPORTING AND AUXILIARY TRANSPORT ACTIVITIES; ACTIVITIES OF TRAVEL AGENCIES in NNA contains the following 3 activity groups:	
631	Supporting activities of cargo handling and storage, other supporting land and air transport activities etc. (23, 24)	63.1 + 63.21 + 63.23 + 63.4
632	Other supporting water transport activities (23, 24)	63.22
633	Activities of travel agencies etc. (23)	63.3

In the first two groups, non-market activities performed by central government are also included, i.e. operation of harbours, lighterage and pistage services (NACE 63.22), and operation of airports (NACE 63.23) until 1993 when transferred to market activity due to reorganisation.

NACE - 64	POST AND TELECOMMUNICATIONS in NNA contains the 2 activity items at 3-digit NACE level:	
641	Post and courier activities (23)	64.1
642	Telecommunications (23)	64.2

NACE - 65	FINANCIAL INTERMEDIATION in NNA contains the following 5 activity groups:	
651	Central banking (23)	65.11
652	Other monetary intermediation (23)	65.12
654	Monetary intermediation indirectly measured (23)	n.a.
655	Other financial intermediation (23)	65.2
659	Financial intermediation indirectly measured (23)	n.a.

Financial intermediation services indirectly measured (FISIM) are produced in two auxiliary activity groups (654 and 659) and which are not specified in NACE Rev.1. Central banking is also treated separately in the activity context due to user demands.

NACE - 66	INSURANCE AND PENSION FUNDING in NNA contains 3 different activity groups:	
661	Life insurance (23)	66.01
662	Pension funding (23)	66.02
663	Non-life insurance (23)	66.03

NACE - 67	ACTIVITIES AUXILIARY TO FINANCIAL INTERMEDIATION in NNA contains one single activity item:	
670	Activities auxiliary to financial intermediation (23, 24)	67

Part of the activity is non-market performed by central government agencies.

NACE - 70	REAL ESTATE ACTIVITIES in NNA contains the following 2 activity groups:	
700	Real estate activities (23)	70
704	Dwelling service production, owner-occupiers (22)	n.a.

In NNA - while not in FNA - production of dwelling services by owner-occupiers (704) has been separated from the overall activity of real estate activities. Owner-occupiers are considered producers for own use.

NACE - 71	RENTING OF MACHINERY AND EQUIPMENT WITHOUT OPERATOR AND OF PERSONAL AND HOUSEHOLD GOODS in NNA contains the following 2 activity groups:	
711	Renting of transport equipment (23)	71.1 + 71.2
713	Renting of machinery and equipment and household goods etc. (23)	71.3 + 71.4

NACE - 72	COMPUTER AND RELATED ACTIVITIES in NNA contains one single activity item:	
720	Computer and related activities (23)	72

NACE - 73	RESEARCH AND DEVELOPMENT in NNA contains one single activity item as well:	
730	Research and development (23, 24)	73

Research and development activities are partly market and partly non-market performed by central government agencies. Borderline cases occur, most of which is treated as market activities (receiving subsidies from central government).

NACE - 74	OTHER BUSINESS ACTIVITIES in NNA contains the following 6 activity groups:	
741	Legal, accounting, book-keeping and audit activities; tax consultancy; market research and public opinion polling; business and management consultancy; holdings (23)	74.1
742	Architectural and engineering activities and related technical consultancy etc. (23, 24)	74.2 + 74.3
744	Advertising (23)	74.4
745	Labour recruitment and provision of personnel; investigation and security activities (23, 24)	74.5 + 74.6
747	Industrial cleaning (23)	74.7
748	Miscellaneous business activities n.e.c. (23)	74.8

In two of the activity groups (742 and 745), there are relatively small elements of non-market activities performed by central government units.

NACE - 75	PUBLIC ADMINISTRATION AND DEFENCE; COMPULSORY SOCIAL SECURITY in NNA contains 2 different activity groups:	
751	Public administration and compulsory social security activities (24, 25)	75.1 + 75.21 + 75.23 + 75.24 + 75.25 + 75.3
752	Defence activities (24)	75.22

Due to its integration in the state budget in Norway, compulsory social security activities are combined with public administration. Public administration is performed at both levels of central and local government, the latter also including regional government administration (in 19 counties). Defence activities are confined to central government.

NACE - 80	EDUCATION	
	in NNA contains one single activity item:	
800	Education (23, 24, 25, 26)	80

Education is one of three activities which has a 4-way split of producers performing these activities. The share of market producers is rather small (category 23), while the remaining large share of non-market producers is specified for three different categories, i.e. units of central government (24), local government (25) and non-profit institutions serving households (26). The latter category was not specified in FNA.

NACE - 85	HEALTH AND SOCIAL WORK	
	in NNA contains the following 5 activity groups:	
851	Human health activities (23, 24, 25, 26)	85.1
852	Veterinary activities (23, 24)	85.2
853	Social work activities (23, 24, 25, 26)	85.3
854	Combined nursing activities (25, 26)	part 85.1 + part 85.3
859	Social work activities by disabled workers (23)	n.a.

The same 4-way split of producers as for education is made for human health and social work activities. Veterinary activities are partly market and partly non-market (of central government). There is one kind of particularity here, as part of non-market activities performed by local government can not be distributed between health and social work. It also affects the NPISH part. It should be observed that all four categories still occur for health and social work activities, and that an effort is made eventually to split activity 854 for distribution on activities 851 and 853 when publishing. Another particularity is market activities performed by disabled workers, previously recorded in manufacturing.

NACE - 90	SEWAGE AND REFUSE DISPOSAL, SANITATION AND SIMILAR ACTIVITIES	
	in NNA contains one single activity item:	
900	Sewage and refuse disposal, sanitation and similar activities (23, 25)	90

This item consists of both market and non-market activities, the latter performed by local government units.

NACE - 91	ACTIVITIES OF MEMBERSHIP ORGANIZATIONS N.E.C. in NNA contains one single activity item:	
910	Activities of membership organizations (23, 26)	91

This item consists of both market and non-market activities. The new system (SNA/ ESA) advises which organizations are serving business (category 23) and which serving households (category 26). The latter was non-existent in FNA, while becoming a substantive item in NNA to which current transfers from government constitute important flows for identifying these activities.

NACE - 92	RECREATIONAL, CULTURAL AND SPORTING ACTIVITIES in NNA contains the following 4 activity groups:	
921	Motion picture and other entertainment, news agency and cultural activities (23, 24, 25, 26)	92.1 + 92.3 + 92.4 + 92.5
922	Radio and television activities (23)	92.2
926	Sporting activities and other recreational activities (23, 26)	92.6 + 92.72
927	Gambling and betting activities (23)	92.71

The first and third activity groups consist of both market and non-market activities, the latter part performed by government units (both central and local) and by non-profit organizations serving households in 921, while only by the NPI's in 926. It is convenient to distinguish gambling and betting activities, although specified at 4-digit level of NACE.

NACE - 93	OTHER SERVICE ACTIVITIES in NNA contains one single activity item:	
930	Other service activities (23)	93

NACE - 95	PRIVATE HOUSEHOLDS WITH EMPLOYED PERSONS in NNA contains one single activity item:	
950	Private households with employed persons (22)	95

This activity is considered as production for own final consumption.

This NACE item is outside the scope of domestic production. Thus, in the activity classification of NNA the activities of these organizations and bodies are excluded and are instead included as part of the activity of the rest-of-the-world sector.

2. PRODUCT CLASSIFICATION USED

2.8 The product classification scheme used in NNA is based on the CPA. It replaces the product classification used in FNA which was an aggregated version of the Harmonized System (adjusted to Norwegian production) and the previous nomenclature based on CCCN applied as customs tariff.

2.9 In FNA, some 1750 products were specified in the final annual accounts, of which 1550 were goods and 200 services. These have been aggregated from more than 5000 commodity groups in external trade statistics and manufacturing statistics, to about 1350 commodity groups in the national accounts. The remaining 400 groups of goods and services in FNA thus were goods produced in industries other than mining and manufacturing and different types of services.

2.10 In NNA, we have continued applying a relatively detailed product classification scheme, although efforts have been made to reduce number of products and product flows significantly to a more manageable body of details, in particular for manufactured goods. Thus, total number of characteristic goods from manufacturing has decreased by more than half to 565 products in NNA. Total number of products, the total counted from characteristic products of NA-aggregated activities, are some 980 products. Number of services by this count has increased from 200 to 300. The remaining 115 products are goods outside manufacturing. For technical and other reasons - in addition - there are some 300 more products (see end of this section). Approximately one half of the latter products reflects duplicates arising from prefixed parallel activities when recording products of government services. The other half deals with products introduced for technical reasons or products otherwise defined as not being characteristic of any activities.

2.11 The distinction between market output, output for own final use and other non-market output is not entirely and systematically drawn up in this context as products. However, products for own final use have been specified along with other products. For instance, there are 9 products for own final consumption in agriculture, forestry and fishing. Products of non-market producers are given special attention as concerns services of central and local government, while not for NPIHS producers. Products of the latter are the same as relevant for market producers. For central and local government producers, however, we have found it convenient - e.g. for deflation purposes - to specify directly a double set of products, one for their services as such and one for fees connected to the same services. Such a solution, significantly increases total number of products.

2.12 In the same way as for activities, there has been a substantive shift in the composition of products as between goods and services. From 11 per cent in FNA, the share of services has increased to 31 per cent in NNA, well above 25 per cent which was a goal set in the 1980's for the forthcoming main revision. Services are defined as in the CPA explanatory notes, including characteristic products of industries like electricity etc. and construction. Goods-producing industries of manufacturing also include some 30 services.

	FNA		NNA	
Goods	1550	0.89	680	0.69
Services	200	0.11	300	0.31
Total	1750		980	

2.13 In general, the NNA product details are typically somewhat between 5-digit and 6-digit CPA. They are coded identical with CPA when applied directly at these levels; when applied between 5- and 6-digit levels, codes are closely related as well in combining 6-digit items. In the presentation below, broad references to CPA level are given as well as commenting upon particularities. The link between CPA and CPA-based products of NNA is well documented, but not reproduced in this inventory. The product presentation below follows P60 of ESA in parallel with A60 for activities, indicating at next level (3-digit CPA) the product details in NNA. The presentation also shows that Norway could provide a product breakdown according to CPA 3-digit level.

2.14 As a summary to the presentation that follows in detail below, here is first a listing of the number of products and corresponding activities specified in NNA. Products are characteristic CPA-related products by order of which industries they relate to. The full count of products is alternatively indicated behind a slash. However, the count means neglecting products introduced solely on a technical basis and neglecting government services for own consumption and as fees whenever a corresponding product already appears (market or non-market).

P60 code	P60 text	Number of NNA-activities	Number of NNA-products
01	Agriculture, hunting and related service activities	3	60
02	Forestry, logging and related service activities	1	12
05	Fishing, operation of fish hatcheries etc.	2	13
10	Mining of coal and lignite, extraction of peat	1	3
11	Extraction of crude oil and natural gas etc.	2	5
12	Mining of uranium and thorium ores	1	1
13	Mining of metal ores	1	5
14	Other mining and quarrying	1	15
15	Manufacture of food products and beverages	9	75
16	Manufacture of tobacco products	1	1
17	Manufacture of textiles	1	30

18	Manufacture of wearing apparel	1	12
19	Tanning and dressing of leather etc.	1	7
20	Manufacture of wood and wood products	4	14
21	Manufacture of pulp, paper and paper products	3	14
22	Publishing, printing and reproduction	3	22
23	Manufacture of refined petroleum products etc.	2	18
24	Manufacture of chemicals and chemical products	7	48
25	Manufacture of rubber and plastic products	1	27
26	Manufacture of other non-metallic mineral products	4	33
27	Manufacture of basic metals	4	42
28	Manufacture of fabricated metal products	3	27
29	Manufacture of machinery and equipment	4	83
30	Manufacture of office machinery and computers	1	3
31	Manufacture of electrical machinery and apparatus	3	21
32	Manufacture of radio, television etc.	2	12
33	Manufacture of medical instruments, clocks etc.	2	16
34	Manufacture of motor vehicles, trailers etc.	1	11
35	Manufacture of other transport equipment	5	43
36	Manufacture of furniture etc.	3	34
37	Recycling	2	2
40	Electricity, gas, steam and hot water supply	5	13
41	Collection, purification and distribution of water	1	1 / 3
45	Construction	5	21
50	Sale and repair of motor vehicles and fuel etc.	3	5
51	Wholesale trade and commission trade	1	2
52	Retail trade, repair of household goods etc.	2	5
55	Hotels and restaurants	2	5
60	Land transport, transport via pipelines	6	17 / 18
61	Water transport	2	12
62	Air transport	1	7
63	Supporting and auxiliary transport activities etc.	3	17 / 31
64	Post and communications	2	16
65	Financial intermediation	5	8
66	Insurance and pension funding	3	4
67	Activities auxiliary to financial intermediation	1	4 / 6
70	Real estate activities	2	5 / 9
71	Renting of machinery and equipment etc.	2	10
72	Computer and related activities	1	7
73	Research and development	1	2 / 5
74	Other business activities	6	20 / 28
75	Public administration and defence etc.	2	31 / 87
80	Education	1	5 / 21
85	Health and social work	5	18 / 48
90	Sewage and refuse disposal, sanitation etc.	1	3 / 7
91	Activities of membership organizations	1	3
92	Recreational, cultural and sporting activities	4	24 / 42
93	Other service activities	1	4
95	Private households with employed persons	1	1

Average number of NNA products per NA aggregated activity thus are between 6 and 7.

2.15 The description below of the representation of products in NNA is structured on basis of P60, i.e. 60 groupings of CPA. In this listing, the number of CPA-based products in NNA is given at both 2-digit level of CPA (in top heading) and at 3-digit level of CPA (in the right column).

CPA - 01	PRODUCTS OF AGRICULTURE, HUNTING AND RELATED SERVICES in NNA contains 60 products distributed as follows:	
011	Crops, products of market gardening and horticulture	37
012	Live animals and animal products	17
014	Agricultural and animal husbandry services	5
015	Hunting, trapping, game propagation and related services	1

About half of the products are specified at 6-digit CPA, others between 5- and 6-digits, while relatively few are directly adopted at 5-digit CPA. On the other hand, more details than 6-digit CPA are given for fresh vegetables and for fruits and berries. For 6 products (potatoes, vegetables, fruits and berries, milk, eggs, meat), separate products identify items for own final consumption. Products of agricultural and animal husbandry services (5 items) are constructed more to serve national uses than breakdowns of CPA.

In addition to CPA-related characteristic products, 7 more products are introduced for output from activities like own-account construction in agriculture and for recording output from work-in-progress etc.

CPA - 02	PRODUCTS OF FORESTRY, LOGGING AND RELATED SERVICES in NNA contains 12 products:	
020	Products of forestry, logging and related services	12

Wood in the rough has details, while items for natural gums and natural cork are combined due to national circumstances. Christmas trees constitute a separate item. For 2 products (logs and fuel wood), separate products are identified for own final use. Services incidental to forestry and logging are specified as a product, while not as an activity.

In addition, 2 more products are introduced for output from own-account construction and changes in cultivated assets.

CPA - 05	FISH AND OTHER FISHING PRODUCTS, SERVICES INCIDENTAL TO FISHING in NNA contains 13 products:	
050	Fish and other fishing products	13

Reflecting national importance and interest, NNA (like FNA) specifies more product details than do CPA at 6-digits. For salmon and trout, two sets of products are specified, one from ordinary fishing and one from fish farms. Product groups like crustaceans, oysters etc., other aquatic products and pearls are specified at 5-digit CPA. Product from whaling is combined with that of sealing. The latter actually belongs to hunting, but is more conveniently treated as fishing activity, partly because hunting in Norway exclusively is considered production for own final use. Fish for own final consumption is specified. Services incidental to fishing appear at product level, while not as an activity.

In addition, 3 more products are introduced for output from own-account construction, freight trade and work-in-progress in fish farms.

CPA - 10	COAL AND LIGNITE; PEAT in NNA contains 3 products at 5-digit CPA level:	
101	Mining of hard coal	1
102	Mining of lignite	1
103	Extraction of peat	1

CPA - 11	CRUDE PETROLEUM AND NATURAL GAS; SERVICES INCIDENTAL TO OIL AND GAS EXTRACTION in NNA contains 5 products:	
111	Crude petroleum and natural gas	3
112	Services incidental to oil and gas extraction	2

Given the great importance to the Norwegian economy, crude petroleum and natural gas are specified as two different products, while not possible to identify as separate activities. Own-account construction is a third product related to this industry. Putting down pipelines is included among services incidental to oil and gas extraction.

CPA - 12 **URANIUM AND THORIUM ORES**
in NNA has no product in Norway

CPA - 13	METAL ORES in NNA contains 5 products, either at 6-digit or combined 6-digit level of CPA:	
131	Iron ores	1
132	Non-ferrous metal ores	4

CPA - 14	OTHER MINING AND QUARRYING PRODUCTS in NNA contains 15 products:	
141	Stone for construction	5
142	Sand and clay	4
143	Chemical and fertilizer minerals	4
144	Salt	1
145	Other mining and quarrying products n.e.c.	1

With few exceptions (item 145 at 4-digit level) and one product of item 142 at 5-digit), these products identify CPA 6-digit items.

CPA - 15	FOOD PRODUCTS AND BEVERAGES in NNA contains 75 products:	
151	Meat and meat products	14
152	Processed and preserved fish and fish products	7
153	Prepared and preserved fruit and vegetables	6
154	Animal and vegetable oils and fats	4
155	Dairy products and ice cream	7
156	Grain mill products, starches and starch products	7
157	Prepared animal feeds	2
158	Other food products	19
159	Beverages	9

Most products are specified at 6-digit or 5-digit CPA level. Others are combinations of 6-digit CPA items (and less frequent combinations of 5-digit items). Several of the fish products are more detailed than 6-digit CPA. A special item is introduced for returned milk (from dairies to farmers). CPA 6-digit level is mainly followed for beverages as well. Among the products of the first group, one is a service item, i.e. cooking and other preparation services for the production of meat products.

CPA - 16	TOBACCO PRODUCTS in NNA contains one single product at 4-digit CPA:	
160	Tobacco products	1

CPA - 17	TEXTILES AND TEXTILE PRODUCTS	
	in NNA contains 30 products:	
171	Textile yarn and thread	7
172	Textile fabrics	4
173	Textile finishing services	1
174	Made-up textile articles	6
175	Other textiles	9
176	Knitted or crocheted fabrics	1
177	Knitted or crocheted articles	2

About half of the products are 6-digit CPA items, otherwise at 5-digit or combined versions. Three products are services (item 173, repair of camping equipment etc. within item 174, and repair of nets and rope work within item 175).

CPA - 18	WEARING APPAREL; FURS	
	in NNA contains 12 products:	
181	Leather clothes	1
182	Other wearing apparel and accessories	10
183	Furs; articles of fur	1

Most products are specified at 5-digit CPA, or by combining 6-digit items across 5-digit groups.

CPA - 19	LEATHER AND LEATHER PRODUCTS	
	in NNA contains 7 products:	
191	Leather	1
192	Luggage, handbags and the like; saddlery and harness	2
193	Footwear	4

Footwear is mostly specified at 5-digit CPA level, leather at 4-digit level, while item 192 is most detailed among these (direct at 6-digit level or combined).

CPA - 20	WOOD AND PRODUCTS OF WOOD AND CORK, ARTICLES OF STRAW AND PLAITING MATERIALS in NNA contains 14 products:	
201	Wood, sawn, planed or impregnated	5
202	Veneer sheets; plywood, laminboard, particle board and other panels and boards	2
203	Builders' joinery and carpentry, of wood	4
204	Wooden containers	1
205	Other products of wood; articles of cork, straw and plaiting materials	2

These products are equally divided as between 5- and 6-digit CPA. One of the products in the first group is a service, i.e. impregnation of timber services.

CPA - 21	PULP, PAPER AND PAPER PRODUCTS in NNA contains 14 products:	
211	Pulp, paper and paperboard	7
212	Articles of paper and paperboard	7

Half of the products are 5-digit CPA items, while the other half is either at 6-digit or combinations or special constructs of 6-digit items (such as cigarette paper - part of 6-digit CPA).

CPA - 22	PRINTED MATTER OR RECORDED MEDIA in NNA contains 22 products:	
221	Books, newspapers and other printed matter and recorded media	8
222	Printing services and services related to printing	11
223	Reproduction services of recorded media	3

In the first product group, specification at 5-digit level is most common. Newspaper advertising services constitute a separate product. The second and third product groups consist of 6-digit CPA items exclusively. Altogether, 9 products are services.

CPA - 23	COKE, REFINED PETROLEUM PRODUCTS AND NUCLEAR FUEL in NNA contains 18 products:	
231	Coke oven products	1
232	Refined petroleum products	16
233	Nuclear fuel	1

Refined petroleum products are more specified than CPA 6-digit in NNA due to special interest (energy accounts purposes etc.). Nuclear fuel is a zero item, while coke oven products are collected as one single item.

CPA - 24	CHEMICALS, CHEMICAL PRODUCTS AND MAN-MADE FIBRES in NNA contains 48 products:	
241	Basic chemicals	25
242	Pesticides and other agro-chemical products	1
243	Paints, varnishes and similar coatings, printing ink and mastics	3
244	Pharmaceuticals, medicinal chemicals and botanical products	3
245	Glycerol; soap and detergents, cleaning and polishing preparations, perfumes and toilet preparations	6
246	Other chemical products	9
247	Man-made fibres	1

Almost all basic chemicals are specified at 5-digit CPA level. Basic pharmaceuticals are collected into one 4-digit CPA item, while medicaments are one NNA item at 5-digit level. Man-made fibres are also at 4-digit CPA, while rest of the products are 5- and 6-digit CPA items or combinations of the latter.

CPA - 25	RUBBER AND PLASTIC PRODUCTS in NNA contains 27 products:	
251	Rubber products	11
252	Plastic products	16

A majority of the products are specified at 6 digit CPA level.

CPA - 26	OTHER NON-METALLIC MINERAL PRODUCTS in NNA contains 33 products:	
261	Glass and glass products	6
262	Non-refractory ceramic goods other than for construction purposes; refractory ceramic products	7
263	Ceramic tiles and flags	1
264	Bricks, tiles and construction products, in baked clay	1
265	Cement, lime and plaster	3
266	Articles of concrete, plaster and cement	9
267	Monumental or building stone and articles thereof	1
268	Other non-metallic mineral products	5

Most typically, these products are specified at 5-digit CPA level, while some are more detailed.

CPA - 27	BASIC METALS		
	in NNA contains 42 products:		
271	Basic iron and steel and ferro-alloys (ecsc)	7	
272	Tubes	4	
273	Other iron and steel and non-ecsc ferro-alloys		6
274	Basic precious metals and metals clad with precious metals	24	
275	Foundry work services	1	

Basic metals are mostly specified at 5-digit level of CPA, or at 6-digit in many cases where CPA items are common at 5- and 6-digits.

CPA - 28	FABRICATED METAL PRODUCTS		
	in NNA contains 27 products:		
281	Structural metal products	5	
282	Tanks, reservoirs and containers of metal; central heating radiators and boilers	3	
283	Steam generators	1	
284	Forging, pressing, stamping and roll forming of metal services; powder metallurgy	1	
285	Treatment and coating of metals services; general mechanical engineering services	1	
286	Cutlery, tools and general hardware	7	
287	Other fabricated metal products	9	

While the services are specified at 4-digit (or 3-digit) CPA, most goods follow CPA at 5-or 6-digit level (or combined).

CPA - 29	MACHINERY AND EQUIPMENT		
	in NNA contains as many as 83 products:		
291	Machinery for the production and use of mechanical power	12	
292	Other general purpose machinery	25	
293	Agricultural and forestry machinery	8	
294	Machine-tools	7	
295	Other special purpose machinery	16	
296	Weapons and ammunition	5	
297	Domestic appliances	9	
299	Repair of machinery and non-electrical equipment	1	

The groups consist of 5-digit CPA items, except that second group is at a more detailed level (6-digit CPA items are common, e.g. for general purpose machinery). More detailed are also

the groups for weapons and ammunition, and for domestic appliances. Repair of non-electrical machinery and equipment constitutes a separate product.

CPA - 30	OFFICE MACHINERY AND COMPUTERS in NNA contains 3 products:	
300	Office machinery and computers	3

This group constitutes three 5-digit CPA items, one of which is computers and other information processing equipment.

CPA - 31	ELECTRICAL MACHINERY AND APPARATUS in NNA contains 21 products:	
311	Electric motors, generators and transformers	7
312	Electricity distribution and control apparatus	4
313	Insulated wire and cable	1
314	Accumulators, primary cells and primary batteries	2
315	Lighting equipment and electric lamps	4
316	Electric equipment n.e.c.	3

Most products are at 5-digit CPA level, but some are combinations of either 5- or 6-digit CPA items. Repair of electrical machinery and equipment is a separate item in the first group.

CPA - 32	RADIO, TELEVISION AND COMMUNICATION EQUIPMENT AND APPARATUS in NNA contains 12 products:	
321	Electronic valves and tubes and other electronic components	1
322	Television and radio transmitters, apparatus for line telephony and telegraphy	4
323	Television and radio receivers, sound or video recording or reproducing apparatus and associated goods	7

The first group is at 4-digit CPA, while most other products are specified at 6-digit CPA level. Aerials and reflectors are even split into two products.

CPA - 33	MEDICAL, PRECISION AND OPTICAL INSTRUMENTS, WATCHES AND CLOCKS in NNA contains 16 products:	
331	Medical and surgical equipment and orthopaedic appliances	2
332	Instruments and appliances for measuring, checking, testing, navigating and other purposes	8
333	Industrial process control equipment	1
334	Optical instruments and photographic equipment	4
335	Watches and clocks	1

The last group is specified at 4-digit CPA, while the other products almost exclusively are at 5-digit CPA. Repair of industrial goods is not always specified under each activity (but at a more aggregated level - unspecified).

CPA - 34	MOTOR VEHICLES, TRAILERS AND SEMI-TRAILERS in NNA contains 11 products:	
341	Motor vehicles	5
342	Bodies for motor vehicles; trailers and semi-trailers	3
343	Parts and accessories for motor vehicles and their engines	3

Most products are specified at 5-digit CPA level.

CPA - 35	OTHER TRANSPORT EQUIPMENT in NNA contains 43 products:	
351	Ships and boats	26
352	Railway and tramway locomotives and rolling stock	5
353	Aircraft and spacecraft	6
354	Motorcycles and bicycles	5
355	Other transport equipment n.e.c.	1

Great national interest is paid to ships in Norway, which is the reason for the detailed product specifications found here. Items are usually 6-digit CPA items, with a number of additions such as modules to oil platforms, repair of oil platforms, repair of fishing vessels, contract work by shipyards and rebuilding of ships, and 6 separate items for second-hand transport equipment. For the other groups, products are usually at 5-digit level. Altogether, 9 products constitute services.

CPA -36	FURNITURE; OTHER MANUFACTURED GOODS N.E.C. in NNA contains 34 products:	
361	Furniture	7
362	Jewellery and related articles	3
363	Musical instruments	1
364	Sports goods	4
365	Games and toys	1
366	Miscellaneous manufactured goods n.e.c.	18

Products specified at 6-digit CPA are in majority. Games and toys, on the other hand, are collected into one product at 4-digit CPA.

CPA - 37	RECOVERED SECONDARY RAW MATERIALS in NNA contains 2 products:	
371	Recovered secondary metal raw materials	1
372	Recovered secondary non-metal raw materials	1

CPA - 40	ELECTRICAL ENERGY, GAS, STEAM AND HOT WATER in NNA contains 13 products:	
401	Production and distribution services of electricity	11
402	Manufactured gas and distribution services of gaseous fuels through mains	1
403	Steam and hot water supply services	1

The product breakdown of production and distribution services of electricity in NNA goes far beyond CPA. It specifies 6 characteristic products of electricity production, 1 product of distribution network renting and 2 products of retail sales of electric power. In addition, there are 2 products of own-account construction (machinery and constructions, respectively). The six products of electricity production are constructed with a view to homogeneity in terms of physical characteristics such as delivery conditions, and price and tax structure. That means separate products of electricity delivered to energy intensive manufacturing units, electricity for exports, electricity for household consumption and electricity delivered to other producers. In addition, one product takes care of loss of electricity in the network, while another product potentially covers spent second-hand fuel elements of nuclear reactors (6-digit CPA item).

CPA - 41	COLLECTED AND PURIFIED WATER, DISTRIBUTION SERVICES OF WATER in NNA contains one product only, i.e.:	
410	Collected and purified water, distribution services of water	1

Treated as a product of local government, duplicative (consumption and fees) recordings exist for this product.

CPA - 45	CONSTRUCTION WORK in NNA contains 22 products:	
451	Site preparation work	2
452	Works for complete constructions or parts thereof; civil engineering work	9
453	Building installation work	4
454	Building completion work	6
455	Renting services of construction or demolition equipment with operator	1

The first group specifies two products at 4-digit CPA level, the latter of which in NNA consisting of test drilling and boring work outside drilling for oil and gas (in CPA 112) and outside water well drilling etc. (in CPA 452). The second group mainly consists of 5-digit CPA items, while two products are at 4-digit level (other construction work) or a combination of 5-digit items (general construction work for constructions other than buildings). In addition, due to great importance in Norway, foundry work of oil platform modules in concrete constitutes a separate product of this group. The items of building installation work and building completion work are all corresponding 4-digit CPA items, except that glazing work and painting work are treated as separate products at 5-digit level.

CPA - 50	TRADE, MAINTENANCE AND REPAIR SERVICES OF MOTOR VEHICLES AND MOTORCYCLES; RETAIL TRADE SERVICES OF AUTOMOTIVE OF AUTOMOTIVE FUEL in NNA contains 5 products:	
501	Trade services of motor vehicles	2
502	Maintenance and repair services of motor vehicles	2
503	Retail trade services of automotive fuel	1

The first and last groups include two products in the form of trade margins of the groups respectively. A second product of the first group is registration duty on motor vehicles, considered as other taxes on production and treated here as a kind of "trade margin" on used car sales. The second group, which consists of both sale and maintenance and repair in the NACE context, is confined to two products of maintenance and repair services at 5-digit and

combined 5-digit CPA level. The products of the sale activities of NACE 50.3 and 50.4 are not identified, while in practice they appear with the first group of motor vehicles.

CPA - 51	WHOLESALE TRADE AND COMMISSION TRADE SERVICES, EXCEPT OF MOTOR VEHICLES AND MOTORCYCLES in NNA contains 2 products in this context (while the product of wholesale trade margins is distributed over the whole spectrum of goods of relevance):	
510	Wholesale trade and commission trade services	2

There is no point referring to the usual 3-digit CPA framework in the case of wholesale trade (and likewise for retail trade). The two products in this context are wholesale trade margins and commission trade services. It should be observed that wholesale trade industry produces both wholesale trade margins and retail trade margins, while in NNA the latter is not distinguished from the former and therefore treated with a one-to-one correspondence. The product in fact constitutes trade margins irrespective of wholesale or retail trade.

CPA - 52	RETAIL TRADE SERVICES, EXCEPT OF MOTOR VEHICLES AND MOTORCYCLES; REPAIR SERVICES OF PERSONAL AND HOUSEHOLD GOODS in NNA contains 5 products in this context (while the product of retail trade margins is distributed over the whole spectrum of goods of relevance):	
52x	Retail trade services	1
527	Repair services of personal and household goods	4

The comments under wholesale trade services also are valid for retail trade services and vice versa. Thus, retail trade margins constitute one product. Commission retail trade services (inter alia, for betting services) are collected with those of wholesale trade. The repair services specified are 5-digit (= 4-digit) CPA items.

CPA -55	HOTEL AND RESTAURANT SERVICES in NNA contains 5 products:	
551	Hotel services	1
552	Camping sites and other short-stay accommodation services	1
553	Food serving services	1
554	Beverage serving services	1
555	Canteen and catering services	1

As seen from above, all products specified are 3-digit CPA items. The second product, like the first, is a characteristic product of hotel and other accommodation industry. Both industries,

however, produce non-characteristic products as well, such as food serving services in the hotel and other accommodation industry.

CPA - 60	LAND TRANSPORT AND TRANSPORT VIA PIPELINE SERVICES in NNA contains 18 products:	
601	Railway transportation services	6
602	Other land transport services	10
603	Transportation services via pipelines	2

Railway transportation services distinguish between interurban passenger transportation services (5-digit CPA) and freight transportation (5-digit CPA), from which mail transportation has been excluded and treated as a separate product (6-digit CPA). Roadway services constitute a separate product distinguished from railway transportation services related to traffic. Own-account construction on railway structures and roadway construction are also specified by products. The second group products are specified somewhat different from CPA by separate products for bus transportation and tramway and suburban train, respectively. Bus transportation services are furthermore specified on urban and suburban transportation, and interurban transportation. Otherwise, products are mostly at 5-digit CPA level (urban and suburban passenger railway transportation, taxi services and rental services of passenger cars with operators, freight transportation services by road, rental services of commercial freight vehicles with operator). Two more products are between 5- and 6-digit CPA (rental services of buses etc.) and at 6-digit CPA (mail transportation). Bus transportation services provided on a contract basis constitute a separate product as well. Transport services via pipelines are also detailed, distinguishing between oil and natural gas.

CPA - 61	WATER TRANSPORT SERVICES in NNA contains 12 products:	
611	Sea and coastal water transportation services	4
612	Inland water transportation services	8

Borderline between the two groups is not easy to draw. In fact, all products have been given prefix code 611. As for the first group, CPA has not been followed strictly, when specifying the two kinds of passenger transportation services by cruise ships and others, and freight transportation services (very important to Norway), while rental services of sea-going vessels with crew align with CPA at 6-digit level. The second group follows a similar product breakdown; on passengers it distinguishes between transportation by ferries, other urban and suburban transportation, and interurban transportation (which is defined to include coastal transportation by "hurtigruta" between Bergen and Kirkenes, exclusively). Furthermore, a separate product is introduced for supply transportation services for the oil extraction industry, while towing and pushing services constitute another separate product. Both these products are probably most likely to be connected to inland water transportation services as characteristic products.

CPA - 62	AIR TRANSPORT SERVICES in NNA contains 7 products:	
621	Scheduled air transportation services	3
622	Non-scheduled air transportation services	4

These products are close to most detailed CPA items at 6-digit level. Transportation by helicopters for the oil activity constitutes another separate product in the second group.

CPA - 63	SUPPORTING AND AUXILIARY TRANSPORT SERVICES; TRAVEL AGENCIES SERVICES in NNA contains 17 products:	
631	Cargo handling and storage services	2
632	Other transport supporting services	10
633	Travel agency and tour operator services; tourist assistance services n.e.c.	2
634	Other transport agency services	3

The first group specifies products at 5-digit CPA level. The second group is very detailed for institutional reasons, i.e. 23 products, while down to 10 CPA-based products. Basically, 5- or 6-digit CPA items are specified. The diversified approach concerns port and water operation services, pilotage and navigation aid services, other supporting services for water transport and supporting services for air transport. The third and fourth groups specify products at 6-digit CPA level, inter alia for travel agency and tour operator services, respectively. Tourist information and tourist guide services are not specified, rather non-identified local government services.

CPA - 64	POST AND TELECOMMUNICATION SERVICES in NNA contains 16 products:	
641	Post and courier services	7
642	Telecommunications services	9

Postal services are 6-digit CPA items, while courier services are at 5-digit level. Two additional products are included reflecting institutional arrangements, i.e. services from postal service to Post Office Savings Bank and services from postal service to Postgiro (Postal current account), respectively. Most telecommunications services are specified at 6-digit CPA level.

CPA - 65	FINANCIAL INTERMEDIATION SERVICES, EXCEPT INSURANCE AND PENSION FUNDING SERVICES in NNA contains 8 products:	
651	Monetary intermediation services	4
652	Other financial intermediation services	4

Central banking services and other monetary intermediation services, 6-digit CPA items, are both split into two, i.e. those directly and those indirectly measured. The same is the case for other credit granting services in the second group, which otherwise also follow 6-digit CPA.

CPA - 66	INSURANCE AND PENSION FUNDING SERVICES, EXCEPT COMPULSORY SOCIAL SECURITY SERVICES in NNA contains 4 products:	
660	Insurance and pension funding services	4

Products are at 6-digit CPA, except that non-life insurance services are split further into motor vehicle insurance and other non-life insurance.

CPA - 67	SERVICES AUXILIARY TO FINANCIAL INTERMEDIATION in NNA contains 4 products:	
671	Services auxiliary to financial intermediation, except to insurance and pension funding	3
672	Services auxiliary to insurance and pension funding	1

Products are 6-digit CPA items. As central government is involved in one of the products of 671, technically speaking products of central government service and government fees therefore appear as well.

CPA - 70	REAL ESTATE SERVICES in NNA contains 5 products:	
701	Real estate services with own property	1
702	Letting services of own property	2
703	Real estate agency services on a fee or contract basis	1
704	Dwelling services, owner-occupiers	1

The first and third groups consist of single 3-digit CPA items, respectively. Dwelling services of owner-occupiers (not identified in CPA as such) constitute a separate product in NNA (not in FNA), while other dwelling services belong to letting services as these cover own residential property as well as own non-residential property (6-digit CPA items). This second group

contains more products as both categories of letting services (residential and non-residential) include flows of services from and fees to both central and local government.

CPA - 71	RENTING SERVICES OF MACHINERY AND EQUIPMENT WITHOUT OPERATOR AND OF PERSONAL AND HOUSEHOLD GOODS in NNA contains 10 products:	
711	Renting services of automobiles	1
712	Renting services of other transport equipment	3
713	Renting services of other machinery and equipment	5
714	Renting services of personal and household goods n.e.c.	1

Most products constitute 5-digit CPA items. Furthermore, renting of oil rigs is introduced as a separate product due to national interest.

CPA - 72	COMPUTER AND RELATED SERVICES in NNA contains 7 products:	
721	Hardware consultancy services	1
722	Software consultancy and supply services	2
723	Data processing services	1
724	Data base services	1
725	Maintenance and repair services of office, accounting and computing machinery	1
726	Other computer related services	1

Products are at CPA 3-digit level, except for software consultancy and supply services partly at 5-digit level.

CPA - 73	RESEARCH AND DEVELOPMENT SERVICES in NNA contains 2 products:	
731	Research and experimental development services on natural sciences and engineering	1
732	Research and experimental development services on social sciences and humanities	1

The two groups are 5-digit CPA items. In NNA, they are not exhaustively defined, since for the central government part, two additional products are introduced for such services and for fees to central government without allocating them to the two areas of natural sciences and engineering, and social sciences and humanities.

CPA - 74	OTHER BUSINESS SERVICES in NNA contains 23 products:	
741	Legal, accounting, book-keeping and auditing services; tax consultancy services; market research and public opinion polling services; business and management consultancy services; holding services	4
742	Architectural, engineering and related technical consultancy services	5
743	Technical testing and analysis services	2
744	Advertising services	1
745	Labour recruitment and provision of personnel services	3
746	Investigation and security services	1
747	Industrial cleaning services	1
748	Miscellaneous business services n.e.c.	6

Most products are specified at 4-digit CPA level or by combinations of 4-digit CPA items. In the first group, the latter means one product for CPA items 74.14 and 74.15. In the second group, however, products are either at 5-digit CPA level or combinations of 5-digit items. In three areas (CPA 74.20.7 - 74.30 - 74.50), there are central government services and corresponding flows of fees to central government. In the last group (CPA 74.8), photographic services are specified in two products, while the three remaining 4-digit CPA items are specified. Furthermore, services from licences, patents, royalties etc. constitute another product of the last group.

CPA - 75	PUBLIC ADMINISTRATION AND DEFENCE SERVICES, COMPULSORY SOCIAL SECURITY SERVICES in NNA contains 31 products:	
751	Administration services of the state and the economic and social policy of the community	19
752	Provision of services to the community as a whole	11
753	Compulsory social security services	1

In the first group, 19 different products of central government services are included, all CPA related services at 6-digit level. The second group has a similar constitution, 11 products of central government services, again reflecting 6-digit CPA items. Compulsory social security services are at 5-digit CPA, however. Technically, altogether 87 products are involved in CPA-75, with central government and local government services and separate products for fees to central and local government as well.

CPA - 80	EDUCATION SERVICES in NNA contains 5 products:	
801	Primary education services	1
802	Secondary education services	1
803	Higher education services	1
804	Adult and other education services	2

In the context of CPA, there are 5 products at 5-digit level, except for secondary education services which are kept together in one single item (3-digit). Driving school services are specified separately. Apart from the latter, there are blockwise groups with separate products for private services, central and local government services (higher education by central government only), and corresponding flows of fees.

CPA - 85	HEALTH AND SOCIAL SERVICES in NNA contains 18 products:	
851	Human health services	8
852	Veterinary services	3
853	Social work services	6
854	Combined nursing services	1

Most products constitute 5-digit CPA items or combinations of 6-digit items. Detailed products of the latter category mean that somatic and psychiatric hospital services are distinguished for central and local government services. Services provided by physiotherapists and other para-medical persons, ambulance services, veterinary services for pet animals, other veterinary services and child day-care services are all products specified at 6-digit CPA level. Furthermore, like for education services, a number of the CPA-related products have counterparts as either central government services and corresponding fees (veterinary services, other social work services), or local government services and fees (dental practice services, other human health services n.e.c., child day-care services, combined nursing services), or both (somatic and psychiatric hospitals, medical practice services, social work services with accommodation).

CPA - 90	SEWAGE AND REFUSE DISPOSAL SERVICES, SANITATION AND SIMILAR SERVICES in NNA contains 3 products:	
900	Sewage and refuse disposal services, sanitation and similar activities	3

Products are specified either at 5-digit CPA level or as a combination of 5-digit CPA items. For sewage services and for refuse disposal services etc., both technically consist of three

products, one market, one non-market of local government services and one for corresponding fees to local government.

CPA - 91	MEMBERSHIP ORGANIZATION SERVICES N.E.C. in NNA contains 3 products:	
911	Services furnished by business, employers and professional organizations	1
912	Services furnished by trade unions	1
913	Other membership organizations services	1

These are products specified at 3-digit level of CPA (the second one at the same time constitutes a 6-digit CPA item).

CPA - 92	RECREATIONAL, CULTURAL AND SPORTING SERVICES in NNA contains 24 products:	
921	Motion picture and video services	5
922	Radio and television services	2
923	Other entertainment services	4
924	News agency services	1
925	Library, archives, museums and other cultural services	4
926	Sporting services	2
927	Other recreational services	6

In common, there are 24 CPA-related products, while the remaining products are central government services (motion picture production, botanical and zoological garden services) with corresponding flows of fees, or local government services and fees (sporting services, other recreational services), or both central and local government services with corresponding flows of fees (artistic creation and interpretation services, library and archive services, and museums services). Relation to CPA is mostly at 5-digit level, while more detailed specification for radio and television services (licence and advertising), gambling and betting services (into 4 types) and services provided by authors, while on the other hand, fair and amusement park services (both at 5-digit level) are combined with other entertainment services into one single product, and sporting services at 3-digit CPA level. In the market sphere, library, archives, museums and other cultural services are specified at 3-digit CPA level only. Own-account construction of structures for sports constitutes a separate product.

CPA - 93	OTHER SERVICES in NNA contains 4 products:	
930	Other services	4

The four products specified are at 4-digit CPA level, except the last one consisting of the fourth and fifth 4- digit CPA items combined.

CPA - 95	PRIVATE HOUSEHOLDS WITH EMPLOYED PERSONS in NNA contains one single item, at all levels of CPA:	
950	Private households with employed persons	1

2.16 Finally, some 110 products may be added to the products specified above for various technical reasons. Mainly, they appear as intermediate aggregated products through which the commodity flows are more easily allocated among users. A typical case is small items of office accessories which are purchased and consumed over the whole range of industries. Such articles are channelled from producers to an auxiliary industry (dummy) that collects these small items and "produces" from it one single aggregate item (product), which again is more easily distributed among the industries for intermediate consumption. Other product aggregates serving the same purpose of easing the product allocation among users, are ancillary costs like postal services, transport costs, telecommunications, business entertainment etc. Costs of repairs and maintenance are treated in the same way. Furthermore, various unspecified products of balance of payments, mostly imports, are introduced for various kinds of adjustments, which will be described in their appropriate context. Finally, there are some products not connected to any particular industry, such as own-account construction and the like.

2.17 A last category of "products" are items which are aggregated fixed assets through which gross fixed capital formation (46 items) or net acquisition of existing fixed assets (14 items) are cross-classified for industry destinations (see below).

3. MARKET / NON-MARKET DISTINCTION

2.18 In Norway, national accounts as well as economic models requiring national accounts data have a long-established tradition for categorizing among type of producers. In almost all such cases, industry breakdowns have been subordinated to types of producer. In FNA, tables by industry were published in three blocks, one main block for industries (industry as of SNA 1968), another block for producers of central government services, and one for producers of local government services. In order to arrive at activity totals, e.g. for education or health, the relevant activity figures of the three blocks simply had to be added together.

2.19 In FNA, the basic distinction behind the categorization was probably more private (or non-government) versus government, than the market versus non-market distinction now being emphasized. Thus, all government units of production were considered producers of government services (central or local), i.e. no government enterprises were grouped with

industries as non-government. On the other hand, NPI's serving household were not distinguished from other units of private industries. For instance, private hospitals were treated and estimated alongside hospitals operated by units considered NPI's (e.g. by the Red Cross).

2.20 In NNA, Statistics Norway has joined the new market vs. non-market distinction of producers and production. This is expressed in the coding system through prefix to the activity classification. Their percentage shares in 1990 of total value added by industries and of GDP are indicated as well.

Prefix	Categories of market and non-market production	Percentages of:	
		Total Value added	GDP
23	Market production	73,2	67,9
22	Production for own final use	8,4	7,8
24	Other non-market production of central government	5,3	4,9
25	Other non-market production of local government	11,6	10,7
26	Other non-market production of NPI's serving households	1,6	1,5

2.21 These five groups of market and non-market categories are used throughout all variables or items by industry. Thus, output, intermediate consumption, value added, compensation of employees, wages and salaries, employers' social contributions, other taxes on production, other subsidies on production, gross operating surplus, gross mixed income, gross fixed capital formation, number of employed persons, number of employees and self-employed, full-time equivalent persons, and hours worked., are all estimated with such a breakdown. In fact, these are considered elements of bottom-up building blocks rather than from a top-down distribution. Missing items from the list just given are consumption of fixed capital and corresponding net items like operating surplus, plus stocks of fixed assets. They are to be estimated later on according to the new principles.

2.22 Obviously, there were borderline cases met in this context when implementing the new system. Sometimes the criteria of ESA 1995 had to be looked at carefully. In some cases, provisional solutions had to be found, especially when restrictions concerning government accounts had to be adhered to, until a more satisfactory treatment might be implemented at next juncture. Such borderline cases will be described under the respective headings.

2.23 As indicated already in the passage through the activity classification above, most activities are categorized as market activities. Moreover, most 3-digit NACE-based activities in NNA are market activities solely. However, those which are not, most often apply to two or even three or four of the above mentioned categories of market and non-market production. Individual industries specified within the categories of production for own final use and other non-market production are listed to elucidate their contents, with their respective percentage share (1990) of industry value added total:

<i>Production for own final use</i>		
010	Agriculture	8
015	Hunting etc.	100
051	Fishing	4
452	General construction of buildings	27
704	Dwelling services production, owner-occupiers	100
950	Private households with employed persons	100
<i>Other non-market production</i>		
410	Collection, purification and distribution of water	100
453	Construction of civil engineering works	32
601	Transport via railways	0 (24)*
631	Supporting transport activities (excl. for water transport)	18
632	Other supporting water transport activities	9
670	Activities auxiliary to financial intermediation	2
730	Research and development	27
742	Architectural and engineering activities etc.	4
745	Labour recruitment and provision of personnel etc.	26
751	Public administration and compulsory social security	100
752	Defence activities	100
800	Education	93
851	Human health activities	80
852	Veterinary activities	17
853	Social work activities	74
854	Combined nursing activities	100
900	Sewage and refuse disposal, sanitation etc.	72
910	Activities of membership organizations	89
921	Motion picture and other entertainment, cultural activities etc.	49
926	Sporting activities and other recreational activities	74

* Referring to output in parenthesis

4. ANALYTICAL CLASSIFICATION OF INDUSTRIES

2.24 In FNA, a supplementary industrial classification by competitive type has been drawn up for special analytical reasons. In particular, this industrial classification has played a key role in the economic models which have been used in formulating Norwegian price and income distribution policy. The price and income model PRIM was formulated by the "Reporting

Committee for the Income Settlements in 1966", with Dr. Odd Aukrust as chairman, and was later integrated in MODIS IV in 1974 and carried along in subsequent modelling when related to aspects of price and incomes. The assumptions concerning the industries' ability to shift higher costs over to product prices form a basis for classifying them into sheltered industries and industries exposed to competition. Sheltered industries are industries selling most of their production on the domestic market without facing significant foreign price competition. Industries exposed to competition are those for which it is assumed that most of their output is sold abroad or on the domestic market in competition with foreign goods. These two situations have defined export-oriented industries and import-competing industries, respectively.

2.25 In FNA, a majority of industries were classified as sheltered. Those not classified as sheltered activities are listed below in broad terms as export-oriented and import-competing activities, and a separate oil activity group distinguished as well. Within manufacturing, sheltered industries are thus confined to manufacture of food, beverages and tobacco, and printing and publishing.

Export-oriented industries	<ul style="list-style-type: none"> Mining and quarrying Manufacture of paper and paper products Manufacture of industrial chemicals Petroleum refining Manufacture of metals Oil drilling Ocean transport
Import-competing industries	<ul style="list-style-type: none"> Forestry Fishing and breeding of fish Manufacture of textiles, wearing apparel and footwear Manufacture of wood and wood products, furniture etc. Manufacture of chemical and mineral products Manufacture of ships and boats Manufacture of other manufacturing goods
Oil activities	<ul style="list-style-type: none"> Crude petroleum and natural gas extraction Pipeline transport

2.26 Shares of exports and imports observed for the characteristic products of the respective industries have been used, among others, as the criterion for this analytical classification in Norway. However, since last revision of the criteria set, this classification has been more and more disputed from the side of the business society, which claim to be more competitively exposed than in the past on a broader scale than defined in the existing classification. Statistics Norway, therefore, did not adopt a new version of this analytical classification for the new national accounts. For the sake of continuity, in the statistical system outside national accounts, the breakdown into sheltered, export-oriented and import-competing groups has been kept within manufacturing. This entails that the former classification is still in force in manufacturing while regrouped according to NACE Rev.1. The wider issue of revising this classification of all industries to serve as an updated version for the production structure of today, is presently on the research agenda in the Research Department of Statistics Norway.

2.27 During 1994 and 1995, Eurostat on behalf of the European Commission has pushed strongly for implementing an analytical classification of industries primarily based on end use categories. The latest version is referred to as "Aggregations for economic analysis A 20". It consists of the following 20 headings with NACE Rev.1 references given for each heading:

1.	Agriculture, forestry and fisheries	01, 02, 05
2.	Energy	10, 11, 12, 23, 40
3.	Production of intermediate goods other than energy products	13, 14, 15.6-7, 17.1-3, 20, 21, 24.1-3, 24.7, 25, 26, 27, 28.4-7, 31.2-6, 32.1, 37, 41
4.	Motor vehicle industry	34
5.	Manufacture of equipment other than motor vehicles industry	28.1-3, 29.1-6, 30, 31.1, 32.2, 33.1-3, 35.1-3
6.	Durable consumer goods	29.7, 32.3, 33.4-5, 35.4-5, 36.1-3
7.	Agri-food industries	15.1-5, 15.8-9, 16
8.	Non-durable consumer goods other than agri-food products	17.4-7, 18, 19, 22, 24.4-5, 36.4-6
9.	Construction	45
10.	Wholesale and retail trade	50, 51, 52
11.	Hotels and restaurants	55
12.	Transport	60, 61, 62, 63
13.	Post and telecommunications	64
14.	Financial activities	65, 66, 67
15.	Real estate activities	70
16.	Service activities mainly geared to business	71, 72, 73, 74, 90
17.	Service activities mainly geared to individuals	92, 93, 95
18.	Education	80
19.	Health, social work	85
20.	Administration	75, 91, 99

2.28 When implementing such a scheme for national accounts items, it is imperative that the definition of the 20 headings is such that they could be identified in the national accounts of the respective countries. The activity classification of NNA was finalized long before Eurostat made its proposal for aggregated economic analysis classification. When looking into the NNA activity classification in searching for the 20 aggregated industries, this reveals a problem of combining manufacturing industries differently in the two activity classifications. Statistics Norway - on basis of the new national accounts - therefore could only approximate the proposed Eurostat classification, although these approximations might be relatively small in most cases:

Headings for which approximations are necessary:	3, 5, 6, 8
Headings for which NNA provides data as requested:	1, 2, 4, 7, 9-20

B. AGRICULTURE, HUNTING AND FORESTRY - NACE A CONTENTS, DEFINITIONS, SOURCES AND METHODS OF ESTIMATION

- 01 AGRICULTURE, HUNTING AND RELATED SERVICE ACTIVITIES**
- 02 FORESTRY, LOGGING AND RELATED SERVICE ACTIVITIES**

Value added of NACE A - Agriculture, hunting and forestry - amounts to 2,5 per cent of GDP in 1990. The 1990 revision from FNA to NNA has slightly increased the GDP share from 2,4 per cent. Output and intermediate consumption have both been reduced from definitional changes, by 1,1 and 3,3 billion kroner respectively. Value added of NACE A contributes by 2,7 billion to the 61,5 billion increase in 1990 GDP, of which 2,2 billion from definitional changes. Agriculture has far largest GDP share - 2,0 per cent in 1990 - from these activities. Its estimation is soundly based on the Aggregate account of agriculture compiled by the Budgeting Committee for Agriculture. This source is almost exhaustive for the NA estimation of output as well as intermediate consumption, just a few adjustments are needed. NACE A is covered by detailed specifications in NNA, in 4 industries and output by more than 70 characteristic products, plus some non-characteristic products. Output for own final use constitutes a small part of agricultural output - 1,0 out of 27,8 billion in total output of NACE 01 Agriculture.

Contents

2.29 In NNA, the activities of NACE A are distinguished in 4 industries:

010	Agriculture
014	Agricultural and animal husbandry service activities
015	Hunting, trapping and game propagation
020	Forestry and logging

2.30 While market producers exist in the first, second and fourth of the NNA industries listed, the third one consists of producers for own final use, exclusively. Hunting, in fact, is confined to estimated first-hand value of catching. In addition, agricultural production for own final consumption is distinguished separately and adds to the market part of agricultural production. Products for own final consumption are produced in both agricultural industries, i.e. among products of the market producers, and products of garden production outside farms etc., the producers of the latter part distinguished as agricultural production for own final consumption in NNA industry 22 010. Picking of mushrooms and wild berries are

included here, while in forestry in FNA. NACE 3-digit industries are not approached at all, neither the breakdown into crops and animals - like established in FNA - nor an additional mixed farming industry.

2.31 In FNA, there were 6 different industries, i.e. agriculture divided into crop production and livestock production, while own-account construction in agriculture constituted a separate industry rather than - as in NNA - a separate product. Non-market industry within producers of central government services were also specified for forestry and logging (although insignificant amount).

1. VALUE ADDED

2.32 Agriculture, hunting and forestry makes a contribution of 2,5 per cent to GDP in 1990. In NNA, value added in million kroner - in basic prices - and their shares of total value added and GDP are estimated as follows:

		1990		
		Million kroner	Percentage of: Total GDP value added	
010	Agriculture	14 158	2,11	1,96
014	Agricultural and animal husbandry service activities	172	0,03	0,02
015	Hunting, trapping and game propagation	206	0,03	0,03
020	Forestry and logging	3 783	0,56	0,52
Total		18 319	2,73	2,54

2.33 The 1990 revision from FNA to NNA has slightly increased the GDP share of these industries from 2,4 to 2,5 per cent:

		Billion kroner		Percentage of GDP	
		FNA	NNA	FNA	NNA
01	Agriculture etc.	11,7	14,5	1,8	2,0
02	Forestry and logging	4,0	3,8	0,6	0,5
Total		15,7	18,3	2,4	2,5

2. OUTPUT

Introduction

2.34 In NNA, output of these industries - valued in basic prices - is estimated at 32,5 billion kroner in 1990. Almost all output is characteristic output of some 72 products - 31,9 billion kroner. Non-characteristic output is mostly own-account construction.

		Output 1990. Billion kroner		Total
		Characteristic	Non-characteristic	
010	Agriculture	27,1	0,5	27,5
014	Agricultural and animal husbandry service activities	0,2	0,1	0,3
015	Hunting etc.	0,2	-	0,2
020	Forestry and logging	4,4	0,0	4,4
Total		31,9	0,6	32,5

2.35 The 1990 revision from FNA to NNA has slightly reduced output of these industries from 32,9 to 32,5 billion kroner. However, when adjusted for changes in definition, output was moderately increased.

		Billion kroner		Revision	
		FNA	NNA	Total	Definitional
01	Agriculture etc.	28,2	28,0	-0,2	-1,1
02	Forestry and logging	4,7	4,4	-0,3	-
Total		32,9	32,5	-0,4	- 1,1

2.36 In NNA, two important changes in definitions have been introduced that affect output in agriculture, although the two work in each direction and nearly cancel out the net effect. The upward change is caused by a new treatment of subsidies, related to the agricultural output valuation. Some of the subsidies related to agriculture were treated as other subsidies on production in FNA, while now considered subsidies on products. In 1990, subsidies on products amounts to 3,9 billion kroner in output of agriculture, of which 2,7 billion kroner on raw milk and 0,9 billion kroner on two kinds of livestock for slaughter. Since all subsidies to agriculture in FNA were treated as other subsidies on production, output in basic prices has been increased by 3,9 billion kroner when comparing values in basic prices before and after the revision.

2.37 The downward change in definition is caused by the elimination of internal deliveries from introducing the national farm principle. In FNA, such internal deliveries followed from the treatment of separate industries for crop and livestock production and certain flows between the two. In particular, fodder for own use was produced in crop production and used in livestock production, while dung etc. was produced and used the other way. In Norway, farms most often run both kinds of production. Therefore, when eliminating this treatment, the national farm principle was introduced by the same token. In 1990, these two flows of internal deliveries - affecting output and intermediate consumption in agriculture equally - amounted to 5,0 billion kroner, of which 4,1 billion on fodder for own use.

Sources

2.38 Main sources are:

- Aggregate account of agriculture, compiled by the Budgeting Committee for Agriculture (see section I. C.2 above)
- Aggregate account of forestry, compiled by Statistics Norway

2.39 Aggregate account of agriculture is almost an exhaustive source for estimating agricultural output. Other sources used are limited to aggregate account of the reindeer industry, compiled by the Economic Committee of the reindeer industry (minor importance), and in some cases, special calculations made ad hoc.

2.40 BCA Aggregate account of agriculture contain a number of tables that are referred to in the documentation below. The headings of these tables referred to as incomes - of relevance for the NNA output estimation - are as follows:

Tab.1	Grains, peas and oil seeds
Tab.2	Potatoes
Tab.3	Straw and forage etc.
Tab.4	Horticultural products
Tab.5	Milk
Tab.6	Meat
Tab.7	Eggs
Tab.8	Wool
Tab.9	Furskins
Tab.10	Sale of live animals
Tab.11	Rabbits and bees
Tab.12	Income from transport
Tab.13	Own-account construction
Tab.14	Changes in livestock
Tab.15	Changes in inventories, seeds

2.41 Hunting statistics of Statistics Norway provide a basis for estimating output of the hunting industry. Data are collected from the district game management - from 1993 collected from the municipalities - on the yield of big game and small game felled. Statistics on hunters

are based on the hunter register, which is updated when the hunting tax is paid to the Directorate of Nature Management.

2.42 For forestry and logging, the Aggregate account of forestry is published as a separate table in the annual publications on Forestry statistics by Statistics Norway. This table is the source for the national accounts estimates, but some definitional adjustments have to be made. Relevant sources behind the Aggregate account are in particular production data on roundwood cut. Quantities cut for sale and industrial production from private forests and local government forests are reported by the District Forestry Boards, and wood from common forests and State forests by their respective management. The reports are collected by the forest administration in each county and forwarded to Statistics Norway.

2.43 Other sources used for forestry are Census of Agriculture and Forestry held every 10 years or so (last in 1989) and The National Forest Inventory as concerns forest resources and forest properties and forest roads. For silviculture, the Ministry of Agriculture is the source through the District Forestry Boards on forest regeneration and afforestation data, while the Ministry of Agriculture also provides data on new ditches for forest drainage, maintenance of ditches and forest fertilization. Supplementary sources are manufacturing statistics, external trade statistics and the annual sample survey of agriculture and forestry.

Methods of estimation

Agriculture

2.44 The aggregate account of agriculture, compiled by the Budgeting Committee for Agriculture is used to estimate output in agriculture. In a few cases, adjustments are made to the basic data, or in some other cases, special ad hoc calculations are made. Reference is basically made to relevant tables of the main source (BCA Aggregate account). Output is specified by 46 characteristic NNA-products, including 3 products of own-account construction and 3 special products recorded with changes in inventories.

2.45 Illustration by 1990 figures and summarized references to sources and methods follows by products:

		1990. Billion kroner
Market output		
011 111	Wheat	0,8
011 115	Barley	2,2
011 116	Rye and oats	1,6
	Tab.1, sub-total for sale, plus own final consumption, by various grains; adjustment for water quality, distributed among NNA-products based on tons of grains	
011 121	Potatoes	0,5
	Tab.2 item	

011 129	Potatoes for own consumption Tab.2 item	0,0
011 130	Oiled seeds etc. Tab.1 item	0,1
011 160	Straw and forage Tab.3, 3 items	0,0
011 192	Seeds of forage plants Special calculation based on tab.20 (main source) on use of domestically grown meadow seed multiplied by weighted import prices for seeds	0,0
011 211	Carrots Tab.4 item	0,1
011 212	Tomatoes Tab.4 item	0,1
011 213	Cabbages Tab.4, 5 items	0,1
011 214	Other fresh vegetables Tab.4, 13 items	0,4
011 221	Live plants Tab.4, 3 items; in addition, part of flowers cultivated in small gardens etc.	0,8
011 222	Flowers Tab.4, 2 items; in addition, flowers cultivated in small gardens etc. not covered in item above	0,6
011 224	Vegetable seeds Special calculation, similar to item 011 192	0,0
011 323	Apples Tab.4, sub-total item	0,1
011 324	Other fresh fruits Tab.4, 4 items	0,1
011 325	Strawberries Tab.4 item	0,2
011 326	Other fresh berries Tab.4, 4 items	0,1
012 110	Bovine cattle Tab.6, sub-total item	3,4
012 121	Raw milk from bovine cattle Tab.5, item for deliveries to dairies	9,4
012 129	Milk for own consumption Tab.5, 3 items	0,1
012 211	Sheep Tab.6, sub-total item	1,0
012 212	Goats Tab.6, sub-total item	0,0
012 213	Horses Tab.6, sub-total item and tab.10 on domestic sale and export of horses	0,0

012 222	Raw milk from goats Tab.5, item for dairy deliveries	0,2
012 230	Wool and animal hair Tab.8 item (sale and hire spinning)	0,2
012 310	Swines Tab.6, sub-total item incl. direct sale	2,2
012 410	Poultry Tab.6, sub-total item excl. down	0,4
012 421	Eggs Tab.7 item	0,7
012 429	Eggs for own consumption Tab.7 item	0,0
012 511	Other live animals Tab.10 item (export other animal, foxes and minks); tab.11 (rabbit meat), and part of reindeer meat and bee products	0,1
012 519	Meat for own consumption Tab. 10 item; tab.11 item, and item consumption reindeer meat for own consumption	0,1
012 520	Natural honey etc. Tab.11, sub-total item	0,1
012 530	Raw furskins Tab.9, 3 items	0,2
014 002	Income from transport, capital formation Tab.12 item	0,0
014 003	Stabling of horses Tab.12 item	0,0
014 004	Other income from transport Tab.12 item	0,3
060 001	Changes in breeding livestock Tab. 14 and 32 items; distributed on cattle types, sheep, goats, swine, fur animals and reindeer; for 1992, calculated as changes in livestock valued at current year prices	-0,0
060 003	Changes in livestock for slaughter Tab. 14 and 32 items; distributed on cattle types, swine and hens; from 1992, calculated as changes in livestock valued at current year prices	-0,0
060 006	Changes in stock of fruit trees Special calculation based on number of fruit trees and prices in data base of the Norwegian Agricultural Economic Research Institute on reference holdings	-0,0
070 001	Own-account construction, ditching and for cultivating Tab. 13 item	0,0
070 002	Own-account construction, machinery and	

	equipment	0,1
	Tab. 13 item	
070 003	Own-account construction, non-residential buildings	0,5
	Total market output	26,6
	Production for own use	
011 129	Potatoes for own consumption	0,0
011 219	Fresh vegetables for own consumption	0,2
011 329	Fresh fruit for own consumption	0,5
012 511	Other live animals	0,3
	Total production for own use	1,0
	Total output	27,6

2.46 A small fraction of total agricultural output (3,5 per cent in 1990) is treated as output from agricultural production for own final use. The estimation is partly based on previous calculations, taking into account information on uses from the household consumer surveys. Four such products are specified (see above), among them are pets (other live animals)

2.47 The output estimates of NNA are very close to those given in the main source of BCA Aggregate account. Minor corrections occur only. They are illustrated by 1988 figures below. The total difference - or added adjustment to the basic source - is approximately 100 million kroner or 0,5 per cent. Different coverage of subsidies on products is also quite small (0,3 per cent).

Income in BCA Aggregate account	23 453
Output in NNA in basic prices	23 574
Total adjustment to BCA income	121
- Output of the reindeer industry	90
- Output of seeds production	41
- Changes in stock of fruit trees	6
- Different coverage of subsidies on products	- 12
- Other	- 4

Agricultural services

2.48 Output of agricultural and animal husbandry service activities are estimated for 3 characteristic NNA-products and one non-characteristic product. Illustration by 1990 figures and summarized references to sources and methods follows by products:

		1990. Billion kroner
Characteristic output		
014 001	Insemination Calculated in combination with item bovine semen, as a residual on basis of farmers' costs to insemination (including semen) from tab.21 of BCA Aggregate agriculture account	0,1
014 003	Stabling of horses Minor part of this product also in the ordinary agriculture industry, tab.12 of BCA Aggregate account as source	0,0
014 005	Other agricultural and animal husbandry services Covered are cowhouse accounting services and services from kennel activities, the former based on tab.21 of BCA Aggregate account, the latter based on information from the County veterinarians on capacity, utilization and charges (1992 estimate: 41 million kroner)	0,2
Non-characteristic output		0,1
Includes bovine semen, calculated as price (data on fees from the cattle organization in Norway) multiplied by number of inseminations (tab.21 in BCA Aggregate agriculture account)		
Total output		0,3

Hunting

2.49 The single product covered from the hunting industry is meat for own final use. The hunting exploit quantity data are inflated by utilizing price indices of corresponding meat products delivered from agriculture. Big game is valued somewhat higher than price of reindeer meat, grouse and other birds to a slightly lower price than poultry meat, whereas small game is valued by using the price of hare meat.

Forestry and logging

2.50 The NNA output estimation is directly based on items of the Aggregate account of forestry, supplemented by more roundwood cut details when split on several CPA-based products. Output is specified by 10 characteristic and 2 non-characteristic NNA-products.

2.51 Illustration by 1990 figures and summarized references to sources and methods follows by products:

		1990. Billion kroner
Characteristic output		
020 111	Logs of coniferous wood All specialized timber now included in this item, partly transferred from item other wood in the rough	3,6
020 112	Logs of non-coniferous wood	0,1
020 114	Fuel wood for sale	0,1
020 115	Other wood in the rough	0,0
020 118	Logs consumed on farms and fencewood	0,1
020 119	Fuel wood consumed on farms	0,1
020 141	Christmas trees	0,0
020 143	Foliage and moss Minor item, partly estimated	0,0
020 150	Own-account construction, silviculture	0,1
020 210	Services incidental to forestry and logging New calculation, not estimated in FNA	0,2
Non-characteristic output		0,0
Includes changes in inventories of timber, and own-account construction on forest roads		
Total output		4,4

2.52 Services incidental to forestry and logging is estimated for the first time with an output value of some 4 per cent of total forestry and logging output. They cover the activities of timber floating, timber scaling, spraying of trees and forestry management planning. Timber scaling is estimated on the basis of data from the timber scaling associations, while the District Forestry Boards report data on forestry management etc. In recent years, timber floating has almost ceased in Norway.

2.53 Own-account construction on silviculture and forest roads are treated as output delivered from the forest and logging industry as input for intermediate consumption in the construction industry (also similar repair and maintenance work).

3. INTERMEDIATE CONSUMPTION

Introduction

2.54 In NNA, intermediate consumption in these industries - valued in purchasers' prices - is estimated at 14,1 billion kroner in 1990. No intermediate consumption is estimated in hunting.

		Intermediate consumption 1990	
		Billion kroner	No. NNA-products
010	Agriculture	13,4	75
014	Agricultural and animal husbandry service activities	0,1	18
015	Hunting etc.	-	
020	Forestry and logging	0,6	22
Total		14,1	

2.55 The 1990 revision from FNA to NNA has reduced intermediate consumption of these industries from 17,2 to 14,1 billion kroner. This revision is heavily influenced by changes in definition.

		Billion kroner		Revision	
		FNA	NNA	Total	Definitional
01	Agriculture etc.	16,5	13,5	-3,0	-3,3
02	Forestry and logging	0,7	0,6	-0,1	
Total		17,2	14,1	-3,1	-3,3

2.56 In NNA, two changes in definitions have been introduced that affect intermediate consumption in agriculture. One upward change is related to supplementary grants per animal from government for livestock production. By treating these grants now as subsidies, intermediate consumption in agriculture is increased by the same amount, 1,7 billion kroner in 1990. The other change in definition is downward by 5,0 billion kroner in 1990 - i.e. parallel to the one for output - caused by the elimination of internal deliveries from introducing the national farm principle.

Sources

2.57 Main sources are same as for output:

- Aggregate account of agriculture, compiled by the Budgeting Committee for Agriculture (see section I. C.2 above)
- Aggregate account of forestry, compiled by Statistics Norway

Methods of estimation

Agriculture

2.58 A similar list of NNA-products consumed in agriculture like the one on output above could have been presented here. Some 70 NNA-products are estimated directly from the Aggregate account of agriculture, i.e. items from tables 16 through 22 of the BCA source. In some cases, a BCA item has to be split for several NNA-products, in other cases BCA items are combined to form one NNA-product. Special calculations are also made (for vegetable seeds and for electricity).

2.59 Total intermediate consumption of NNA (in purchasers' prices) is close to the corresponding total costs of production inputs in the main source of BCA Aggregate account, as illustrated below by 1988 figures. The difference - i.e. a downward adjustment to the basic source - is close to 500 million kroner or less than 4 per cent and consists of the following components:

Operating costs in BCA Aggregate account	13 183
Intermediate consumption in NNA	12 711
Total adjustment to BCA operating costs	- 472
- Intermediate consumption of the reindeer industry	35
- Seeds production	41
- Correction, part of social security contribution item	- 481
- Correction to electricity item	- 100
- Other	33

2.60 A small fraction of total intermediate consumption in agriculture (less than 1 per cent in 1990) is recorded as intermediate consumption in agricultural production for own final use. Specified are 5 NNA-products. The estimation is partly based on the data base of the Norwegian Agricultural Economic Research Institute on reference holdings, i.e. the types of holdings that seem most relevant in this case. Prices used for this purpose are stipulated somewhat higher than corresponding prices for ordinary holdings in agriculture (adding VAT and additional trade margin). No intermediate consumption is estimated for pet production in this context.

Agricultural services

2.61 For agricultural and animal husbandry service activities, intermediate consumption is estimated on basis of accounting data from agricultural organizations in areas of cattle and swine and data from Norwegian Dairies Association as regards cowhouse accounting activities. For kennel services, assumptions are made on basis of the information collected from the County veterinarians (e.g. price of fodder cost set at 1/4 of price of service output). In

total, intermediate consumption of the agricultural and animal husbandry service activities is specified on some 20 different NNA products.

Forestry and logging

2.62 The items of the Aggregate account of forestry are used to estimate most of the 20 or so NNA-products included in intermediate consumption of forestry and logging. In some cases, an item has to be split for several NNA-products. For services incidental to forestry and logging, intermediate consumption in timber floating and timber scaling is based on data from the timber scaling associations (also broken down by products), while for forestry management planning fixed at 50 per cent of its output, mostly based on reports of two forestry owners associations.

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<p>C. FISHING - NACE B CONTENTS, DEFINITIONS, SOURCES AND METHODS OF ESTIMATION</p>
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05 FISHING

Value added of NACE B - Fishing - amounts to 0,6 per cent of GDP in 1990. The 1990 revision from FNA to NNA has slightly decreased the GDP share from 0,7 per cent. Output has been reduced by 0,6 billion kroner from definitional changes. Value added of NACE B contributes negatively by 0,9 billion to the 61,5 billion increase in 1990 GDP, of which 0,6 billion from definitional changes. Fish farming is included with a 0,2 per cent GDP share in these activities. The estimation of fishing output is based on detailed catch statistics, and register-based annual census data for fish farming, while sources for intermediate consumption are annual cost surveys of fishing boats and fish farming. NACE B is covered by 2 industries and output by 10 characteristic products specified in NNA, plus some non-characteristic products. Output for own final use constitutes a small part of fishing output - 0,2 out of 10,4 billion in total output of NACE 05 Fishing.

Contents

2.63 In NNA, the activities of NACE B are distinguished in 2 industries:

051	Fishing, excluding fish farming
052	Operation of fish hatcheries and fish farms (fish farming)

2.64 Fishing is an important industry in Norway, especially along the coastline of Northern and Western Norway with long fishery traditions. In more recent years, fish hatcheries and fish farms have been expressively developed to become one of the fast-growing industries of Norway. It is therefore highly expedient that fish hatcheries and fish farms constitute a separate industry distinguished from traditional fishing. For the latter - like in agriculture - production for own final consumption has been separated from the rest, in NNA industry 22 051. Fishing in inland water - such as salmon fishing in rivers - is included here since own-account fishing of this kind is quantitatively important in relation to the total supply of salmon, trout and the like in Norway.

2.65 In FNA, operation of fish hatcheries was also distinguished from traditional fishing. Fishery production for own final consumption was specified by products only, not as a separate activity.

1. VALUE ADDED

2.66 Fishing - although considered an important industry in Norway - makes a rather small contribution of 0,6 per cent to GDP in 1990. In NNA, value added in million kroner - in basic prices - and the shares of total value added and GDP are estimated as follows:

		1990	
		Million kroner	Percentage of: Total GDP value added
051	Fishing, excluding fish farming	3 267	0,49 0,45
052	Operation of fish hatcheries and fish farms	1 261	0,19 0,17
Total		4 528	0,68 0,63

2.67 The 1990 revision from FNA to NNA has slightly decreased the GDP share of fishing from 0,7 to 0,6 per cent.

		Billion kroner		Percentage of GDP	
		FNA	NNA	FNA	NNA
05	Fishing	4,6	4,5	0,7	0,6

2. OUTPUT

Introduction

2.68 In NNA, output of these industries - valued in basic prices - is estimated at 10,4 billion kroner, most of which is characteristic output, in 1990 actually by equal values in the two industries.

		Output 1990. Billion kroner		
		Characteristic	Non-characteristic	Total
051	Fishing, excluding fish farming	5,0	0,4	5,4
052	Operation of fish hatcheries and fish farms	5,0	-	5,0
	Total	10,0	0,4	10,4

2.69 The 1990 revision from FNA to NNA has slightly reduced output in fishing from 11,0 to 10,4 billion kroner, due to change in definition in fish farming.

		Billion kroner		Revision	
		FNA	NNA	Total	Definitional
05	Fishing	11,0	10,4	- 0,6	- 0,6

2.70 The principle of recording continuously as "work-in-progress" output from a process of production that takes a long time to complete, seems relevant in fish farming when breeding smolt (young salmon) for later slaughtering. In NNA, therefore, included in output is an estimate of change in inventory of smolt, in practice estimated as changes in inventory of smolt, salmon and trout in fish farming units. Surely, changes in inventories might turn out to be either positive or negative; in this particular case there was a negative change of 0,6 billion kroner for 1990, while an increase of 1,3 billion kroner was estimated for 1988.

Sources

2.71 Main sources are:

- | |
|---|
| <ul style="list-style-type: none">- Catch statistics from the Directorate of Fisheries- Annual census data of fish farming |
|---|

2.72 The catch statistics from the Directorate of Fisheries contain detailed data on quantities and values by fish species. By landing of the catch, a bill is filled in showing quantities and values of the landed fish species, type of fishing gear, disposition of the catch, fishing ground, landing place and the register identification of the boat. Nearly all sales organizations deliver this information to the Directorate of Fisheries for producing statistics. In addition, there is obtained aggregated information from organizations which do not deliver information on magnetic tape, information from the yearly enquiry of the salmon and sea trout fisheries done by Statistics Norway and information from a few other sources. The statistics of catches from the Directorate of Fisheries comprise all catches by Norwegian registered boats in the sea fisheries. Excepted are sealing, whaling, seaweed, oyster, mussel and landings which are not registered by the sales organizations and unregistered sales of fish. Rearing of fish and fishery for own consumption are not included. The sales organizations also give information about landings by foreign boats, but these are not included in the statistics.

2.73 The annual census data of fish farming are based on a register subject to licences managed by the Ministry of Fishing. Data refer to sale, production and investments in fish farming and are collected and published by Statistics Norway. All producers (approximately 1000 units) are covered.

Methods of estimation

2.74 The catch statistics from the Directorate of Fisheries are utilized to estimate output of the traditional fishing industry. Like for agriculture and forestry, production data are summarized in a specific Aggregate account of fishing, from which the data required for NNA have been extracted, included also a product breakdown of item unregistered catch. For fish farming, the annual census data have been used for the estimation of output. In total for the two industries, output is specified by 10 characteristic and 3 non-characteristic NNA-products. Three products are characteristic of fish farming, i.e. in particular, salmon and trout, while also fry and young fish, and changes in inventories in fish farming relating to smolt breeding (young fish). Fish for own consumption is specified both at industry and product level.

2.75 Illustration by 1990 figures and summarized references to sources and methods follows by products:

1990. Billion kroner

Characteristic output

050 011	Fry, young fish, aquarium fish Items of annual census of fish farming	0,8
050 012	Salmon and trout, fish farming Items of annual census of fish farming	4,8
050 013	Salmon and trout, fresh or chilled Items of catch statistics	0,0
050 014	Herring, sprat and capelin, fresh or chilled Items of catch statistics	0,5
050 015	Cod, fresh or chilled Items of catch statistics, and minor amount from the annual census of fish farming	1,2
050 016	Mackerel, fresh or chilled Items of catch statistics	0,4
050 017	Other fishes, fresh or chilled Items of catch statistics, and minor amount from the annual census of fish farming	1,7
050 019	Fish for own consumption Benchmark from the 1971 Fishery census, extrapolated by 5 per cent annual decrease in volume multiplied by price index for fresh fish	0,2
050 020	Crustaceans, shrimps, oysters etc. Items of catch statistics	0,9
050 030	Other aquatic products Items of catch statistics	0,1
060 004	Changes in inventories, fish farming Calculation made from annual census data of fish farming	-0,6
	Non-characteristic output Includes products n.e.c. of fish or crustaceans (fish offals), and minor items of own-account construction and freight transportation	0,4
	Total output	10,4

2.76 Services incidental to fishing are not estimated (minor importance). Products of sealing and whaling are also of minor importance or non-existent in this period. In 1988, for output of whaling there are insignificant amounts, partly produced by the fishing industry, partly by the research and development industry. The latter would appear again in quite insignificant amounts in most recent years. In Norway, no production exists for CPA item of pearls (only small amount of imports).

3. INTERMEDIATE CONSUMPTION

Introduction

2.77 In NNA, intermediate consumption in fishing - valued in purchasers' prices - is estimated at 5,9 billion kroner in 1990.

		Intermediate consumption 1990	
		Billion kroner	No. NNA-products
051	Fishing, excluding fish farming	2,1	27
052	Operation of fish hatcheries and fish farms	3,7	24
Total		5,9	

2.78 The 1990 revision from FNA to NNA has increased intermediate consumption of fishing from 5,6 to 5,9 billion kroner. Changes in definition have not been observed for intermediate consumption of the fishing industry, except a minor change to own-account repair valuation.

		Billion kroner		Revision	
		FNA	NNA	Total	Definitional
05	Fishing	5,6	5,9	0,3	0,0

Sources

2.79 Main sources are:

- Cost surveys of fishing boats
- Cost surveys of fish farming

2.80 The annual cost surveys of fishing boats are managed by the Budgeting Committee of Fishing. They contain data by type, as average data by boat. In order to utilize these data, a grossing up procedure is necessary. A similar cost survey is available for fish farming. Other sources used are the energy accounts worked out in Statistics Norway and corresponding

prices available from the Norwegian Petroleum Institute and some of the oil companies. Furthermore, basic data from the Directorate of Fisheries used for the publication *Fishing and Rearing of Salmon* etc. prepared by Statistics Norway are also available for the estimation of intermediate consumption (and also on output).

Methods of estimation

2.81 In traditional fishing, the annual cost surveys of fishing boats provide useful data that have been utilized for the Aggregate account of fishing and accordingly for the NNA estimate of intermediate consumption. In FNA - before these cost survey data became available - the estimate of intermediate consumption to a large extent was obtained from extrapolating benchmark fishery census data by the use of indicators. Most significant revisions were observed for repairs and maintenance of fishing boats and of machinery and equipment, insurance costs and fuels. The grossing up procedure - necessary for the utilization of the cost survey data - is based on income data from the catch statistics after first multiplying by the number of boats to prepare for a comparison of value data. Thus, the ratio between the two income category items - in the catch statistics and the cost surveys - is used to gross up the level of the cost surveys. Insurance data - based on gross premiums grossed up from the cost surveys and estimated claims based on data from a hull insurance statistics institution - are transformed into the net basis of the national accounts. Fuel consumption is estimated from the price data (see sources) and quantity data of the energy accounts.

2.82 The annual cost surveys of fish farming has been utilized for the estimation of intermediate consumption in fish farming, supplemented by data from other sources (energy accounts, data for the *Fishing and Rearing of Salmon* publication).

**D. MINING AND QUARRYING - NACE C
IN PARTICULAR: EXTRACTION OF CRUDE
PETROLEUM AND NATURAL GAS
CONTENTS, DEFINITIONS, SOURCES AND
METHODS OF ESTIMATION**

- 10 MINING OF COAL AND LIGNITE; EXTRACTION OF PEAT
- 11 EXTRACTION OF CRUDE PETROLEUM AND NATURAL GAS;
SERVICE ACTIVITIES INCIDENTAL TO OIL AND GAS
EXTRACTION EXCLUDING SURVEYING
- 12 MINING OF URANIUM AND THORIUM ORES
- 13 MINING OF METAL ORES
- 14 OTHER MINING AND QUARRYING

Value added of NACE C - Mining and quarrying - amounts to 12,6 per cent of GDP in 1990, of which 12,3 per cent is value added of the oil and gas extraction activities. The 1990 revision from FNA to NNA has reduced the GDP share from 13,7 per cent. Output and intermediate consumption have both been reduced from definitional changes, by 7,6 billion kroner in both cases. Value added of NACE C contributes by 0,6 billion to the 61,5 billion increase in 1990 GDP, while no net effect from definitional changes. Its estimation is based on detailed statistics, i.e. oil and gas activity statistics and manufacturing statistics. These sources are almost exhaustive for the NA estimation of output and intermediate consumption, just a few adjustments are needed. NACE C is covered by detailed specifications in NNA, in 6 industries and output by some 30 characteristic products, of which 5 products within oil and gas extraction activities, plus non-characteristic products.

Contents

2.83 In NNA, the activities of NACE C are distinguished in 6 industries:

100	Mining of coal and lignite; extraction of peat
111	Extraction of crude petroleum and natural gas
112	Service activities incidental to oil and gas extraction
120	Mining of uranium and thorium
130	Mining of metal ores
140	Other mining and quarrying

2.84 In FNA, there were 5 industries under this heading, while an industry item of oil and gas exploration and drilling - when considered activity on contract basis - was grouped with construction.

2.85 Mining of uranium and thorium is non-existing in Norway.

2.86 Oil and gas extraction activity (NACE 11) is of utmost importance to Norway. The value added share of GDP 1990 is 12,3 per cent, which is higher than for manufacturing (11,7 per cent) and wholesale and retail trade (9,9 per cent). Oil and gas extraction is therefore presented as a main industry item in aggregated tables by industry in Norway.

1. VALUE ADDED

2.87 Mining and quarrying, including extraction of crude petroleum and natural gas, make up for 12,6 per cent of GDP. In NNA, value added in million kroner - in basic prices - and their shares of total value added and GDP are estimated as follows:

		1990	
		Million kroner	Percentage of: Total GDP value added
100	Mining of coal and lignite; extraction of peat	47	0,01 0,01
111	Extraction of crude petroleum and natural gas	87 118	12,99 12,07
112	Service activities incidental to oil and gas extraction	1 920	0,29 0,27
120	Mining of uranium and thorium	-	
130	Mining of metal ores	519	0,08 0,08
140	Other mining and quarrying	1 222	0,18 0,17
	Total	90 826	13,55 12,58

2.88 The 1990 revision from FNA to NNA has reduced the GDP share of these industries from 13,7 to 12,6 per cent.

		Billion kroner		Percentage of GDP	
		FNA	NNA	FNA	NNA
10	Mining of coal and lignite; extraction of peat	0,0	0,0	0,0	0,0
11	Extraction of crude petroleum and natural gas; Service activities incidental to oil and gas extraction	88,6	89,0	13,4	12,3
12	Mining of uranium and thorium	-	-		
13	Mining of metal ores	0,5	0,5	0,1	0,1
14	Other mining and quarrying	1,2	1,2	0,2	0,2
	Total	90,3	90,8	13,7	12,6

2. OUTPUT

Introduction

2.89 In NNA, output of mining and quarrying, including in particular extraction of crude petroleum and natural gas - valued in basic prices - is estimated at 113,2 billion kroner, of which 108,8 billion kroner from extraction of crude petroleum and natural gas.

		Output 1990. Billion kroner		
		Characteristic	Non-characteristic	Total
100	Mining of coal and lignite; extraction of peat			
		0,2	0,1	0,2
111	Extraction of crude petroleum and natural gas	96,5	8,5	105,0
112	Service activities incidental to oil and gas extraction	3,4	0,4	3,8
120	Mining of uranium and thorium	-		-
130	Mining of metal ores	1,3	0,1	1,4
140	Other mining and quarrying	2,5	0,3	2,8
	Total	103,8	9,4	113,2

2.90 About 8 per cent of industry output is non-characteristic, most of which is produced in the extraction of crude petroleum and natural gas industry. Non-characteristic items are

contract work (6,5 billion kroner), refined products (1,1 billion) and adjustment for foreign ownership share of oil and gas fields on the continental shelf (0,8 billion). Renting of oil rigs is non-characteristic output of the industry service activities incidental to oil and gas extraction.

2.91 The 1990 revision from FNA to NNA has reduced output of these industries from 121,0 to 113,2 billion kroner. The reduction is mostly due to changes in definition in the extraction industry.

		Billion kroner		Revision	
		FNA	NNA	Total	Definitional
10	Mining of coal and lignite; extraction of peat	0,2	0,2	0,0	-
11	Extraction of crude petroleum and natural gas; Service activities incidental to oil and gas extraction	116,7	108,8	-7,9	- 7,6
12	Mining of uranium and thorium	-	-		
13	Mining of metal ores	1,4	1,4	0,0	-
14	Other mining and quarrying	2,7	2,8	0,1	-
	Total	121,0	113,2	-7,8	- 7,6

2.92 Major changes in definition have been introduced in the extraction of crude petroleum and natural gas industry, related to valuation of output of the two products. Output is now measured at the production sites in the North Sea - while at the Norwegian border in FNA - and which implies that the pipeline transportation value no longer is included in output and intermediate consumption of the extraction industry. The new solution treats and measures pipeline transportation as output of pipeline transport directly and regarded as a kind of transport margin. In 1990, this means 4,3 billion lower output of natural gas and 3,3 billion lower output of crude petroleum as compared with FNA. For crude petroleum, two components are involved in explaining the revision. One is the change in definition just described, the other - 0,6 billion kroner in 1990 - relates to a new method or approach in utilizing data available (see below), and should be regarded as a new method of estimation rather than a change in definition.

Sources

2.93 Main source is:

- Oil and gas activity statistics
- Manufacturing statistics

2.94 Oil and gas activity statistics as considered one of the main sources for national accounts estimation and thus described in section I C.3 as part of the general description. These basic statistics include data on output collected annually in six different statistical forms, distinguishing separate oil and gas activities:

Form D	Oil and gas fields in operation off-shore
Form B	On-shore activities
Form R	Pipeline transportation
Form O	Terminals in operation
Form H	Supporting activities, oil and gas extraction
Form A	Supporting activities, pipeline transport

2.95 Annual manufacturing statistics (see main sources in section I.C) traditionally cover mining and quarrying industries in the same manner as for all manufacturing industries. For coal mining and metal ore mining (NACE 10 and 13) all units are considered large establishments and thus subject to complete annual reports. Units of NACE 14 consist of both large and small establishments, in 1990 the contribution from large establishments was 2,2 billion kroner, while 2,7 billion kroner as total output of this group. In order to present a full coverage of NACE C (and former major division 2 of ISIC), output data (and other data) for crude petroleum and natural gas production are included as well in the annual publications of manufacturing statistics.

2.96 Other sources used for output estimation of NACE 11 include statistics on oil drilling which is part of construction statistics, and to some extent also balance of payments data based on foreign exchange statistics obtained from Bank of Norway.

Methods of estimation

Oil and gas extraction and services incidental to

2.97 Oil and gas activity statistics are mainly used to estimate output of this industry. Data are collected on forms H and D of the oil and gas activity statistics, supplemented by balance of payments (BOP) data, as far as extraction (NACE 111) is concerned. Output of the corresponding service activities (NACE 112) is estimated on the basis of construction statistics, i.e. data collected on statistical form of oil drilling etc. Various adjustments and supplements to these data sources are necessary, however. Output is specified by 5 characteristic and 5 non-characteristic NNA-products.

2.98 Illustration by 1990 figures and summarized references to sources and methods follows by products:

1990. Billion kroner

Characteristic output

111 010	Crude petroleum	84,4
	Item in form D of main source	
111 020	Natural gas	9,7
	Item in form R of main source, supplemented by BOP data on natural gas exports less total incomes from pipeline transport on Norwegian continental shelf	
111 050	Own-account construction	2,3
	Item in form H of main source, estimated share of 60 per cent of this item	
112 011	Drilling services	2,7
	Items in construction statistics used, added to output (and intermediate consumption) are fuels paid by employer	
112 012	Other services incidental to oil and gas extraction	0,7
	Item in construction statistics used	

Non-characteristic output 8,9

Included are in particular contract work (6,5 billion kroner), estimated from items of form D and O of main source, and foreign ownership adjustment to oil and gas fields (0,8 billion), gasoline, naphtha (0,2 billion) and propane and butanes (0,9 billion), all estimated from items in form D of main source, and rental services concerning oil rigs (0,4 billion), estimated from items of construction statistics

Total output 108,8

2.99 In general, contract work in national accounts means payments for contract work carried out by hired personnel, recorded as intermediate consumption of the industry that pays for the work and recorded as output of the industry that hires out the personnel involved. However, contract work in this context includes compensation of employees in activities carried out on-shore by units of the extraction industry that are not specified as separate units in the statistics. The activities at on-shore terminals are also included. This kind of recording is considered most preferable for the regional accounts. Value added of the extraction industry is not affected by this, as this item appears as intermediate consumption as well.

2.100 Foreign ownership adjustment to oil and gas fields refers to estimated income (deducting amounts of cost) from border fields (Frigg, Statfjord fields) of the Norwegian continental shelf. Gasoline, naphtha and propane and butanes are recorded products sold at the terminal, while the part produced at the fields of the same products are recorded as sale of oil. Rental services concerning oil rigs are recorded as rental on bare boat basis.

Mining and quarrying

2.101 Output data in manufacturing statistics are used as the basis for the NNA output estimates. The latter is slightly higher, as illustrated by 1990 figures:

	Output. Million kroner	
	Manufacturing statistics	NNA
NACE 10	172	221
NACE 12	-	-
NACE 13	1 462	1 394
NACE 14	2 696	2 788
Total	4 330	4 403

2.102 Output data in manufacturing statistics are here grouped according to ISIC Rev.2, while regrouped according to NACE Rev.1 in NNA. The assumptions made for the regrouping work is described below in the manufacturing section. Other changes in definition introduced in the mining and quarrying and manufacturing industries are also made reference to in the manufacturing section. These changes in definition can explain the transition from manufacturing statistics data to NNA estimates, but considered the small adjustments made (less than 2 per cent in 1990), further explanation seems not essential at this point.

3. INTERMEDIATE CONSUMPTION

Introduction

2.103 In NNA, intermediate consumption in these industries - valued in purchasers' prices - is estimated at 22,3 billion kroner in 1990.

		Intermediate consumption 1990	
		Billion kroner	No. NNA-products
100	Mining of coal and lignite; extraction of peat	0,2	26
111	Extraction of crude petroleum and natural gas	17,8	32
112	Service activities incidental to oil and gas extraction	1,9	13
120	Mining of uranium and thorium	-	-
130	Mining of metal ores	0,9	41
140	Other mining and quarrying	1,6	44
Total		22,3	

2.104 The 1990 revision from FNA to NNA has substantially reduced intermediate consumption of mining and quarrying, including extraction of crude petroleum and natural gas, from 30,7 to 22,3 billion kroner. As for output, definitional changes explain most of this decrease, in fact their size coincide in both cases.

		Billion kroner		Revision	
		FNA	NNA	Total	Definitional
10	Mining of coal and lignite; extraction of peat	0,1	0,2	0,1	-
11	Extraction of crude petroleum and natural gas; Service activities incidental to oil and gas extraction	28,1	19,7	-8,4	-7,6
12	Mining of uranium and thorium	-	-		
13	Mining of metal ores	0,9	0,9	0,0	-
14	Other mining and quarrying	1,5	1,6	0,1	-
Total		30,7	22,3	-8,4	-7,6

Sources

2.105 Main source is:

-	Oil and gas activity statistics
-	Manufacturing statistics

2.106 Oil and gas activity statistics as considered one of the main sources for national accounts estimation and thus described in section I C.3 as part of the general description. These basic statistics include data on intermediate consumption collected annually in six different statistical forms, as listed in the output section above. Other sources used for estimation of NACE 11 include statistics on oil drilling which is part of construction statistics, and to some extent also balance of payments data based on foreign exchange statistics obtained from Bank of Norway. The latter becomes imperative when preparing estimates for direct imports in relation to oil and gas activities, as such relevant for intermediate consumption.

2.107 For other mining and quarrying - as for output - the main source is the manufacturing statistics, which until recent years have provided detailed annual input data (see limitations described under manufacturing).

Methods of estimation

Oil and gas extraction and services incidental to

2.108 Intermediate consumption in the oil and gas extraction industry is estimated on the basis of the oil and gas activity statistics collected annually on the various forms indicated above. Estimates of some 30 NNA-products are specified, most of them compiled from these forms.

2.109 For some of the input NNA-products, more specific information might better explain the methods of estimation. Foreign ownership adjustment to oil and gas fields (see also output) involves additional adjustment for costs incurred on the border field of Murchinson. Item of electricity includes electricity purchased, and excluding electricity produced on oil platforms at the fields. Item of non-life insurance is estimated on national accounting principles, and is distributed among the industries of extraction and services proportional to their non-financial assets.

2.110 Direct imports - i.e. unspecified goods and services directly imported to the continental shelf - are of particular concern as they are not covered by the customs and external trade statistics. The method of estimation in these cases - as in the balance of payments estimation - is to utilize data on import shares by oil and gas fields given on the D-forms of the oil and gas activity statistics, and multiply these import shares by relevant items to arrive at value terms:

-	Direct imports of goods, for intermediate consumption	Form D, item 298 on import shares for goods directly bound for continental shelf or in transit, multiplied by D-items 209 (total consumption of goods) and 211 (materials)
-	Direct imports of services, for intermediate consumption	Form D, item 299 on import shares for services purchased from companies registered abroad, multiplied by D-items 219 (total maintenance) less 211 (materials), 229 (rental services of equipment), 233 (other transportation and communication services) and 238 (other services)

2.111 For the oil drilling services, intermediate consumption involves direct imports either estimated from the construction statistics or from data obtained from foreign exchange statistics of the Bank of Norway (balance of payments data). Information from these two sources are judged before estimation eventually is made. In 1990, total intermediate consumption of the services incidental to oil and gas extraction industry is close to 50 per cent of its corresponding output, while 17 per cent in the oil and gas extraction industry.

Mining and quarrying

2.112 Data on intermediate consumption in manufacturing statistics are used as the basis for the NNA estimation. In later years, the manufacturing statistics intermediate consumption data have been published indirectly as the difference between output and value added data. Like for output, 1990 figures show small differences between the two sets of data (in fact, less than 0,5 per cent):

	Intermediate consumption. Million kroner	
	Manufacturing statistics	NNA
NACE 10	149	174
NACE 12	-	-
NACE 13	944	875
NACE 14	1 533	1 566
Total	2 626	2 615

2.113 The data in manufacturing statistics are also here grouped according to ISIC Rev.2, while regrouped according to NACE Rev.1 in NNA. Changes in definition and nomenclature explain the transition from manufacturing statistics data to NNA estimates, but considered the small adjustments made, further explanation seems not essential at this point.

<p>E. MANUFACTURING - NACE D CONTENTS, DEFINITIONS, SOURCES AND METHODS OF ESTIMATION</p>
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- 15 MANUFACTURE OF FOOD PRODUCTS AND BEVERAGES
- 16 MANUFACTURE OF TOBACCO PRODUCTS
- 17 MANUFACTURE OF TEXTILES
- 18 MANUFACTURE OF WEARING APPAREL;
DRESSING AND DYEING OF FUR
- 19 TANNING AND DRESSING OF LEATHER;
MANUFACTURE OF LUGGAGE, HANDBAGS, SADDLERY,
HARNESS AND FOOTWEAR
- 20 MANUFACTURE OF WOOD AND OF PRODUCTS OF WOOD
AND CORK, EXCEPT FURNITURE; MANUFACTURE OF
ARTICLES OF STRAW AND PLAITING MATERIALS
- 21 MANUFACTURE OF PULP, PAPER AND PAPER PRODUCTS
- 22 PUBLISHING, PRINTING AND REPRODUCTION OF RECORDED MEDIA
- 23 MANUFACTURE OF COKE, REFINED PETROLEUM PRODUCTS AND
NUCLEAR FUEL
- 24 MANUFACTURE OF CHEMICALS AND CHEMICAL PRODUCTS
- 25 MANUFACTURE OF RUBBER AND PLASTIC PRODUCTS
- 26 MANUFACTURE OF OTHER NON-METALLIC MINERAL PRODUCTS
- 27 MANUFACTURE OF BASIC METALS
- 28 MANUFACTURE OF FABRICATED METAL PRODUCTS,
EXCEPT MACHINERY AND EQUIPMENT
- 29 MANUFACTURE OF MACHINERY AND EQUIPMENT N.E.C.
- 30 MANUFACTURE OF OFFICE MACHINERY AND COMPUTERS
- 31 MANUFACTURE OF ELECTRICAL MACHINERY AND
APPARATUS N.E.C.
- 32 MANUFACTURE OF RADIO, TELEVISION AND COMMUNICATION
EQUIPMENT AND APPARATUS
- 33 MANUFACTURE OF MEDICAL, PRECISION AND OPTICAL
INSTRUMENTS, WATCHES AND CLOCKS
- 34 MANUFACTURE OF MOTOR VEHICLES, TRAILERS AND
SEMI-TRAILERS
- 35 MANUFACTURE OF OTHER TRANSPORT EQUIPMENT
- 36 MANUFACTURE OF FURNITURE, MANUFACTURING N.E.C.
- 37 RECYCLING

Value added of NACE D - Manufacturing - amounts to 11,7 per cent of GDP in 1990. The 1990 revision from FNA to NNA has reduced the GDP share from 12,9 per cent. Output and intermediate consumption have both been reduced from definitional changes, by 15,9 and 14,9 billion kroner respectively, primarily from a new treatment of the building and repairing of oil platforms and modules. Value added of NACE D contributes negatively by 1,0 billion to the 61,5 billion increase in 1990 GDP, exclusively due to definitional changes. Its estimation is soundly based on detailed manufacturing statistics, although their data on intermediate consumption have declined in quality over the last couple of years. NACE D is covered by detailed specifications in NNA, in 67 industries and manufacturing output by 565 characteristic products, plus a good deal of non-characteristic products.

Contents

2.114 In NNA, the activities of NACE D are distinguished in 67 industries:

151	Production, processing and preserving of meat and meat products
152	Processing and preserving of fish and fish products
153	Processing and preserving of fruit and vegetables
154	Manufacture of vegetable and animal oils and fats
155	Manufacture of dairy products
156	Manufacture of grain mill products, starches and starch products
157	Manufacture of prepared animal feeds
158	Manufacture of other food products
159	Manufacture of beverages
160	Manufacture of tobacco products
170	Manufacture of textiles
180	Manufacture of wearing apparel; dressing and dyeing of fur
190	Tanning and dressing of leather; manufacture of luggage, handbags, saddlery, harness and footwear
201	Sawmilling and planing of wood, impregnation of wood
202	Production of veneer products, particle board, fibre board etc.
203	Manufacture of builders' carpentry and joinery
204	Manufacture of wooden containers and other products of wood
211	Manufacture of pulp
212	Manufacture of paper and paperboard
213	Manufacture of articles of paper and paperboard
221	Publishing, including publishing of newspapers
222	Printing and service activities related to printing
223	Reproduction of recorded media

- 231 Manufacture of coke oven products
- 232 Manufacture of refined petroleum products

- 241 Manufacture of basic chemicals
- 242 Manufacture of fertilizers, pesticides and other agro-chemical products
- 243 Manufacture of paints, varnishes and similar coatings,
printing ink and mastics
- 244 Manufacture of basic pharmaceutical products and
pharmaceutical preparations
- 245 Manufacture of soap and detergents, cleaning and polishing
preparations, perfumes and toilet preparations
- 246 Manufacture of other chemical products
- 247 Manufacture of plastics and man-made fibres

- 250 Manufacture of rubber and plastic products

- 261 Manufacture of glass and glass products
- 262 Manufacture of ceramic products, bricks, tiles etc.
- 265 Manufacture of cement, lime and plaster
- 266 Manufacture of articles of concrete, cement and plaster,
non-metallic mineral products

- 271 Manufacture of iron, steel and ferro-alloys
- 273 Aluminium production
- 274 Manufacture of other non-ferrous metals
- 275 Casting of metals

- 281 Manufacture of structural metal products, tanks, reservoirs,
steam generators
- 286 Manufacture of cutlery, tools and general hardware
- 287 Manufacture of other fabricated metal products

- 291 Manufacture of machinery of mechanical power and
other general purpose machinery
- 293 Manufacture of machine-tools and special purpose machinery
- 296 Manufacture of weapons and ammunition
- 297 Manufacture of domestic appliances etc.

- 300 Manufacture of office machinery and computers

- 311 Manufacture of electric motors, generators, transformers, and
electricity distribution and control apparatus
- 313 Manufacture of insulated wire and cable
- 314 Manufacture of lighting equipment, electric lamps and other electric
equipment

- 321 Manufacture of television and radio transmitters, communication
equipment, electronic components etc.

323	Manufacture of television receivers, sound or video recording or reproducing apparatus etc.
331	Manufacture of medical and precision instruments
334	Manufacture of optical instruments, watches and clocks
340	Manufacture of motor vehicles, trailers and semi-trailers
351	Building and repairing of ships, boats and pleasure and sporting boats
352	Building and repairing of oil platforms and modules
353	Manufacture of railway and tramway locomotives and rolling stock
354	Manufacture and repairing of aircraft
355	Manufacture of other transport equipment, incl. motorcycles and bicycles
361	Manufacture of furniture
362	Manufacture of jewellery and related articles
363	Manufacture of musical instruments, sports goods, games and toys etc.
371	Recycling of metal waste and scrap
372	Recycling of non-metal waste and scrap

2.115 In FNA, there were 97 manufacturing industries specified, i.e. 30 more than in the new system. Within manufacture of food products (reduced from 15 to 8 industries) and manufacture of textiles (from 7 industries to 1 single industry), in particular, there has been a more concentrated representation.

2.116 Both in FNA and NNA, all manufacturing industries consist of market producers. At the industry level, the two recycling industries imply new elements in manufacturing (although FNA covered a minor part in ship breaking). Publishing of sound recordings is also a new manufacturing activity (transferred from cultural services). Same applies to reproduction of recorded media, while of minor importance with first results to appear for 1993. More important, manufacture of own-account wooden prefabricated buildings is now considered a manufacturing activity, transferred from the construction industry. Casting of foundations in concrete for oil platforms is transferred the opposite way, from manufacturing to construction. Furthermore, establishments for disabled workers producing manufactured goods have been transferred from manufacturing to make up a separate industry connected to social work activities (a service-producing industry).

1. VALUE ADDED

2.117 Manufacturing makes up for 11,7 per cent of GDP in 1990. In NNA, value added in million kroner - in basic prices - and their shares of total value added and GNP are estimated as follows:

		1990	
		Million kroner	Percentage of: Total GDP value added
151	Production, processing and preserving of meat and meat products	2 221	0,33 0,31
152	Processing and preserving of fish and fish products	2 196	0,33 0,30
153	Processing and preserving of fruit and vegetables	425	0,06 0,06
154	Manufacture of vegetable and animal oils and fats	248	0,04 0,03
155	Manufacture of dairy products	1 379	0,21 0,19
156	Manufacture of grain mill products, starches and starch products	357	0,05 0,05
157	Manufacture of prepared animal feeds	937	0,14 0,13
158	Manufacture of other food products	3 148	0,47 0,44
159	Manufacture of beverages	1 448	0,22 0,20
160	Manufacture of tobacco products	412	0,06 0,06
170	Manufacture of textiles	1 252	0,19 0,17
180	Manufacture of wearing apparel; dressing and dyeing of fur	384	0,06 0,05
190	Tanning and dressing of leather; manufacture of luggage, handbags, saddlery, harness and footwear	181	0,03 0,03
201	Sawmilling and planing of wood, impregnation of wood	2 003	0,30 0,28
202	Production of veneer products, particle board, fibre board etc.	337	0,05 0,05
203	Manufacture of builders' carpentry and joinery	1 759	0,26 0,24
204	Manufacture of wooden containers and other products of wood	257	0,04 0,04
211	Manufacture of pulp	1 138	0,17 0,16
212	Manufacture of paper and paperboard	2 586	0,39 0,36
213	Manufacture of articles of paper and paperboard	1 079	0,16 0,15
221	Publishing, including publishing of newspapers	5 926	0,88 0,82
222	Printing and service activities related to printing	3 432	0,51 0,48
223	Reproduction of recorded media	-	- -
231	Manufacture of coke oven products	1	0,00 0,00
232	Manufacture of refined petroleum products	1 363	0,20 0,19
241	Manufacture of basic chemicals	2 857	0,43 0,40

242	Manufacture of fertilizers, pesticides and other agro-chemical products	1 110	0,17	0,15
243	Manufacture of paints, varnishes and similar coatings, printing ink and mastics	438	0,07	0,06
244	Manufacture of basic pharmaceutical products and pharmaceutical preparations	1 206	0,18	0,17
245	Manufacture of soap and detergents, cleaning and polishing preparations, perfumes and toilet preparations	405	0,06	0,06
246	Manufacture of other chemical products	394	0,06	0,05
247	Manufacture of plastics and man-made fibres	972	0,14	0,13
250	Manufacture of rubber and plastic products	2 043	0,30	0,28
261	Manufacture of glass and glass products	525	0,08	0,07
262	Manufacture of ceramic products, bricks, tiles etc.	260	0,04	0,04
265	Manufacture of cement, lime and plaster	433	0,06	0,06
266	Manufacture of articles of concrete, cement and plaster, non-metallic mineral products	2 078	0,31	0,29
271	Manufacture of iron, steel and ferro-alloys	1 611	0,24	0,22
273	Aluminium production	3 729	0,56	0,52
274	Manufacture of other non-ferrous metals	1 358	0,20	0,19
275	Casting of metals	80	0,01	0,01
281	Manufacture of structural metal products, tanks, reservoirs, steam generators	2 089	0,31	0,29
286	Manufacture of cutlery, tools and general hardware	457	0,07	0,06
287	Manufacture of other fabricated metal products	2 187	0,33	0,30
291	Manufacture of machinery of mechanical power and other general purpose machinery	3 984	0,59	0,55
293	Manufacture of machine-tools and special purpose machinery	1 624	0,24	0,22
296	Manufacture of weapons and ammunition	699	0,10	0,10
297	Manufacture of domestic appliances etc.	372	0,06	0,05
300	Manufacture of office machinery and computers	781	0,12	0,11
311	Manufacture of electric motors, generators, transformers, and electricity distribution and control apparatus	1 706	0,25	0,24
313	Manufacture of insulated wire and cable	541	0,08	0,07
314	Manufacture of lighting equipment, electric lamps and other electric equipment	914	0,14	0,13
321	Manufacture of television and radio transmitters, communication equipment, electronic components etc.	1 112	0,17	0,15
323	Manufacture of television receivers, sound or video recording or			

	reproducing apparatus etc.	145	0,02	0,02
331	Manufacture of medical and precision instruments	1 104	0,16	0,15
334	Manufacture of optical instruments, watches and clocks	53	0,01	0,01
340	Manufacture of motor vehicles, trailers and semi-trailers	952	0,14	0,13
351	Building and repairing of ships, boats and pleasure and sporting boats	3 043	0,45	0,42
352	Building and repairing of oil platforms and modules	3 927	0,59	0,54
353	Manufacture of railway and tramway locomotives and rolling stock	507	0,08	0,07
354	Manufacture and repairing of aircraft	1 209	0,18	0,17
355	Manufacture of other transport equipment, incl. motorcycles and bicycles	129	0,02	0,02
361	Manufacture of furniture	1 927	0,29	0,27
362	Manufacture of jewellery and related articles	212	0,03	0,03
363	Manufacture of musical instruments, sports goods, games and toys etc.	551	0,08	0,08
371	Recycling of metal waste and scrap	-	-	-
372	Recycling of non-metal waste and scrap	3	0,00	0,00
	Total	84 196	12,57	11,67

2.118 The 1990 revision from FNA to NNA has reduced the GDP share of manufacturing from 12,9 to 11,7 per cent.

		Billion kroner		Percentage of GDP	
		FNA	NNA	FNA	NNA
15	Manufacture of food products and beverages	12,2	12,4	1,8	1,7
16	Manufacture of tobacco products	0,3	0,4	0,0	0,1
17	Manufacture of textiles	1,2	1,3	0,2	0,2
18	Manufacture of wearing apparel, dressing and dyeing of fur	0,4	0,4	0,1	0,1
19	Tanning and dressing of leather; manufacture of luggage, handbags, saddlery, harness and footwear	0,2	0,2	0,0	0,0
20	Manufacture of wood and of products of wood and cork,				

	except furniture; manufacture of articles of straw and plaiting materials	4,2	4,4	0,6	0,6
21	Manufacture of pulp, paper and paper products	5,1	4,8	0,7	0,7
22	Publishing, printing and reproduction of recorded media	9,3	9,4	1,4	1,3
23	Manufacture of coke, refined petroleum products and nuclear fuel	1,7	1,4	0,3	0,2
24	Manufacture of chemicals and chemical products	7,7	7,4	1,2	1,0
25	Manufacture of rubber and plastic products	2,2	2,0	0,3	0,3
26	Manufacture of other non-metallic mineral products	3,1	3,3	0,5	0,5
27	Manufacture of basic metals	7,5	6,8	1,1	0,9
28	Manufacture of fabricated metal products, except machinery and equipment	5,3	4,7	0,8	0,7
29	Manufacture of machinery and equipment n.e.c.	5,4	6,6	0,8	0,9
30	Manufacture of office machinery and computers	0,8	0,8	0,1	0,1
31	Manufacture of electrical machinery and apparatus n.e.c.	2,8	3,2	0,4	0,4
32	Manufacture of radio, television and communication equipment and apparatus	2,0	1,3	0,3	0,2
33	Manufacture of medical, precision and optical instruments, watches and clocks	0,6	1,2	0,1	0,2
34	Manufacture of motor vehicles, trailers and semi-trailers	-	1,0	-	0,1
35	Manufacture of other transport equipment	10,9	8,8	1,7	1,2
36	Manufacture of furniture, manufacturing n.e.c.	2,3	2,7	0,3	0,4
37	Recycling	-	0,0	-	0,0
	Total	85,2	84,2	12,9	11,7

2. OUTPUT

Introduction

2.119 In NNA, output of manufacturing - valued in basic prices - is estimated at 300,9 billion kroner. In the table that follows - at the 2-digit industry level this time - 1990 output is shown distinguished between characteristic and non-characteristic products.

		Output 1990. Billion kroner		
		Characteristic	Non-characteristic	Total
15	Manufacture of food products and beverages	62,7	6,7	69,4
16	Manufacture of tobacco products	0,9	0,0	0,9
17	Manufacture of textiles	2,7	0,7	3,4
18	Manufacture of wearing apparel, dressing and dyeing of fur	0,8	0,2	1,0
19	Tanning and dressing of leather; manufacture of luggage, handbags, saddlery, harness and footwear	0,5	0,0	0,5
20	Manufacture of wood and of products of wood and cork, except furniture; manufacture of articles of straw and plaiting materials	13,2	1,3	14,5
21	Manufacture of pulp, paper and paper products	17,2	1,1	18,3
22	Publishing, printing and reproduction of recorded media	20,3	2,1	22,4
23	Manufacture of coke, refined petroleum products and nuclear fuel	17,1	1,0	18,1
24	Manufacture of chemicals and chemical products	18,8	4,6	23,4
25	Manufacture of rubber and plastic products	4,9	0,8	5,7
26	Manufacture of other non-metallic mineral products	7,0	1,9	8,9
27	Manufacture of basic metals	26,6	2,7	29,3
28	Manufacture of fabricated metal products, except			

	machinery and equipment	8,6	3,4	12,0
29	Manufacture of machinery and equipment n.e.c.	11,0	7,0	18,0
30	Manufacture of office machinery and computers	1,7	0,7	2,4
31	Manufacture of electrical machinery and apparatus n.e.c.	7,0	2,5	9,5
32	Manufacture of radio, television and communication equipment and apparatus	2,4	1,0	3,4
33	Manufacture of medical, precision and optical instruments, watches and clocks	2,0	1,0	3,0
34	Manufacture of motor vehicles, trailers and semi-trailers	2,3	0,5	2,8
35	Manufacture of other transport equipment	20,7	6,1	26,8
36	Manufacture of furniture, manufacturing n.e.c.	6,1	1,2	7,3
37	Recycling	-	0,0	0,0
	Total	254,4	46,5	300,9

2.120 Approximately 15 per cent of manufacturing output appears as non-characteristic. More than 50 per cent of non-characteristic output is found in four industry divisions, i.e. NACE 15 (food products and beverages), 24 (chemicals and chemical products), 29 (machinery and equipment n.e.c.) and 35 (other transport equipment). In analysing these four divisions further in this respect, more than 55 per cent of their non-characteristic output is output which are not attached as characteristic of any NACE industry. This is a technical solution chosen in NNA on the basis of basic information available. What is recorded as contract work, often is contract work for units of the same industry. In effect, the share of non-characteristic output to total output in manufacturing is likely to be somewhat below 10 per cent rather than 15 per cent as shown in NNA. Furthermore, NNA-product fees for various services might be possible - in future - to reclassify among ordinary NNA-services.

Non-characteristic output of NACE 15 / 24 / 29 / 35 Million kroner. 1990	
Total	24,4
Non-characteristic output, goods	9,4
Non-characteristic output, services	1,1
Contract work	10,1
Fees for various services	2,2

Other

1,6

2.121 The 1990 revision from FNA to NNA has reduced manufacturing output in basic prices from 316,8 to 300,9 billion kroner, i.e. by 5 per cent. The reduction is solely due to changes in definitions including activity reclassifications.

	Billion kroner		Revision	
	FNA	NNA	Total	Definitional
15	69,7	69,4	- 0,3	- 0,3
16	0,8	0,9	0,1	0,1
17	3,3	3,4	0,1	0,1
18	1,0	1,0		
19	0,5	0,5		
20	13,6	14,5	0,9	0,9
21	18,3	18,3		
22	21,8	22,4	0,6	0,6
23	19,1	18,1	- 1,0	- 1,0
24	22,2	23,4	1,2	1,2
25	6,0	5,7	- 0,3	- 0,3
26	8,3	8,9	0,6	0,6
27	31,1	29,3	- 1,8	- 1,8
28	14,2	12,0	- 2,2	- 2,2
29	16,9	18,0	1,1	1,1

30	Manufacture of office machinery and computers	..	2,4	2,4	2,4
31	Manufacture of electrical machinery and apparatus n.e.c.	13,8	9,5	- 4,3	- 4,3
32	Manufacture of radio, television and communication equipment and apparatus	..	3,4	3,4	3,4
33	Manufacture of medical, precision and optical instruments, watches and clocks	..	3,0	3,0	3,0
34	Manufacture of motor vehicles, trailers and semi-trailers	..	2,8	2,8	2,8
35	Manufacture of other transport equipment	48,6	26,8	- 21,8	- 21,8
36	Manufacture of furniture, manufacturing n.e.c.	7,3	7,3		
37	Recycling	..	0,0		
	Total	316,8	300,9	- 15,9	- 15,9

2.122 The most apparent change is seen in NACE division 35. The two figures compared are both including the activity of building and repairing of oil platforms and modules, for which the big revision concerns. In FNA, a fully completed oil platform was treated as a product of manufacturing. This is not the treatment chosen in NNA. Modules are now produced in manufacturing directly for gross fixed capital formation, while casting of foundation in concrete for oil platforms is considered an activity and a product of the construction industry. Output (and intermediate consumption) is reduced by 15,5 billion kroner from this change in definition. In the new system, and in the context of products, oil platforms only appears as second-hand oil platforms through imports. In the context of assets, though, oil platforms constitute a separate type of asset by putting together the modules and the concrete foundation etc.

2.123 Another main reason for the revision in manufacturing output is the reclassification of units from change in activity nomenclature (from ISIC Rev.2 to NACE Rev.1). The effect on the output figures of this change in nomenclature is to a very large extent seen in the right columns of the table above. Most important changes of this kind are:

Revision 1990. Billion kroner

Units reclassified and leaving manufacturing:	
- Casting of foundations in concrete for oil platforms (construction in NNA)	- 1,3
- Disabled workers producing manufacturing goods (social work services in NNA)	- 1,0
- Catering establishments (restaurants in NNA)	- 0,7
- Repair of computers (computer and related activities in NNA)	- 0,4
Units reclassified and entering manufacturing	
- Prefabricated wooden buildings (construction in FNA)	0,4
Units reclassified - net effect for manufacturing	- 3,0

2.124 Other changes in definitions that affect manufacturing output are new treatments of brokerage, own-account repair work and trade margins. In FNA, brokerage was treated as a negative adjustment to output in manufacturing, while treated as operating costs in NNA, and thus as parallel upward revisions to both intermediate consumption and output, in total 3,5 billion kroner in 1990. Eliminating wages from the recording of own-account repair work, means 1,4 billion kroner reduced output and intermediate consumption. Trade margins were recorded exclusively in the wholesale and retail industry in FNA, while now treated also as non-characteristic output in manufacturing - contributing to 0,8 billion kroner in increased output.

Sources

2.125 Main source is:

- | |
|----------------------------|
| - Manufacturing statistics |
|----------------------------|

2.126 Annual manufacturing statistics are one of the most important statistical sources for national accounting and therefore described already in the introductory section I C 4. For most of manufacture of dairy products (ISIC 31121 and 31122), part of manufacture of prepared animal feed (ISIC 31151 and 31154), manufacture of tobacco products, manufacture of refined petroleum products, and building and repairing of oil platforms and modules, all units are considered large establishments and thus subject to complete annual reports. In total manufacturing, output of large establishments was 323,0 billion kroner in 1990, while 313,7

billion kroner in total. Thus, the share of output in large establishments in 1990 was as high as 97,1 per cent.

Methods of estimation

2.127 Output in manufacturing industries is estimated on the basis of output (gross value of production) data provided by the manufacturing statistics. Data sets of manufacturing statistics are readily available and thus constitute a fundamental data base for national accounting in Norway. Given the established practice and close co-operation between the teams of manufacturing statistics and national accounts as concerns economic data in the area of manufacturing, a further description on methods of handling the manufacturing statistics data should be unnecessary. It should be observed, however, that a few minor adjustments are necessary in transferring these data for national accounts purposes.

2.128 Total output in manufacturing is available in these versions:

	Output 1990. Billion kroner
Manufacturing statistics, all establishments	
in producers' prices	323,0
National accounts in former system (FNA)	
in basic prices	316,8
in producers' prices	321,9
National accounts in new system (NNA)	
in basic prices	300,9
in producers' prices	306,0

Thus, it is observed how close definitions and treatments are, to produce a minor difference of 1,1 billion kroner between the output estimates of manufacturing statistics and national accounts recorded in producers' prices. Manufacturing statistics data for 1990 were just available according to the former system and in producers' prices, and consequently should be compared with national accounts data accordingly. In publishing manufacturing statistics, it used to be a separate table (until 1982) explaining the difference between manufacturing statistics and national accounts as far as value added is concerned. 1981 data from that table confirm the small size of this difference (0,6 billion kroner when also covering mining and oil and gas extraction). The two items that are of some importance and call for a relatively minor deviation between the two data sets concern one-man establishments and insurance expenses. Some other deviations might occur in output and intermediate consumption as such, but are probably of less importance. In output, one such difference in the former system concerned sales from tradable goods, included in manufacturing statistics while excluded in FNA (excluding even the trade margin part). A comparison between the two data sets in the new system is not possible to conduct yet.

2.129 The reclassifying process - linking units classified by ISIC-based activities in FNA to NACE-based activities in NNA - became a quite challenging task for the national accounts unit in the main revision. As the implementation of NACE Rev.1 in manufacturing statistics was

lagged behind the schedule as of the main revision of national accounts, the national accounts unit had to recodify manufacturing statistics to the new nomenclature. Later in the revision process, amendments had to be made when the first results of the true NACE-based manufacturing statistics became available. The recodifying work of the manufacturing units according to NACE Rev.1 was completed after the release of the revised national accounts during summer 1995. While the recodifying work of the manufacturing statistics was made for one year only (1992), the national accounts unit had to recodify back to 1988.

2.130 In the reclassifying process, it was experienced that a great number of establishments were created or shut down during these years. New establishments were codified according to NACE Rev.1 at the unit level. The method used was a CPA-based one, i.e. the 4-digit CPA item with highest value determined its corresponding NACE industry. This method - for the sake of continuity - had to be the choice for 1992 in the national accounts as well, despite deviations from the results of the recodifying work by the manufacturing statistics team. The deviations were looked into and a common solution agreed upon throughout. The CPA-based method worked well, and should also be taken into account in the regular annual control of activity code for units in the manufacturing statistics. Such a procedure could be established along with a introduction of Prodcom statistics later on.

3. INTERMEDIATE CONSUMPTION

Introduction

2.131 In NNA, intermediate consumption in manufacturing - valued in purchasers' prices - is estimated at 216,7 billion kroner in 1990. The number of inputs specified could be quite high (over 150 in some cases), while also including a good number of insignificant values.

		Intermediate consumption 1990	
		Billion kroner	No. of NNA-products
15	Manufacture of food products and beverages	57,0	44 - 95
16	Manufacture of tobacco products	0,5	27
17	Manufacture of textiles	2,1	81
18	Manufacture of wearing apparel, dressing and dyeing of fur	0,6	50
19	Tanning and dressing of leather; manufacture of luggage, handbags, saddlery, harness and footwear	0,3	40
20	Manufacture of wood and of products of wood and cork,		

	except furniture; manufacture of articles of straw and plaiting materials	10,1	35 - 81
21	Manufacture of pulp, paper and paper products	13,5	49 - 57
22	Publishing, printing and reproduction of recorded media	13,0	47 - 53
23	Manufacture of coke, refined petroleum products and nuclear fuel	16,7	5 - 42
24	Manufacture of chemicals and chemical products	16,0	34 - 81
25	Manufacture of rubber and plastic products	3,6	98
26	Manufacture of other non-metallic mineral products	5,7	36 - 95
27	Manufacture of basic metals	22,5	33 - 83
28	Manufacture of fabricated metal products, except machinery and equipment	7,3	52 - 142
29	Manufacture of machinery and equipment n.e.c.	11,4	43 - 166
30	Manufacture of office machinery and computers	1,6	35
31	Manufacture of electrical machinery and apparatus n.e.c.	6,3	66 - 97
32	Manufacture of radio, television and communication equipment and apparatus	2,2	40 - 56
33	Manufacture of medical, precision and optical instruments, watches and clocks	1,9	20 - 90
34	Manufacture of motor vehicles, trailers and semi-trailers	1,8	128
35	Manufacture of other transport equipment	11,3	33 - 167
36	Manufacture of furniture, manufacturing n.e.c.	4,6	28 - 101
37	Recycling	..	
	Total	216,7	

2.132 The 1990 revision from FNA to NNA has reduced intermediate consumption in manufacturing from 231,6 billion kroner to 216,7 billion kroner, i.e. by 6,5 per cent.

		Billion kroner		Revision	
		FNA	NNA	Total	Definitional
15	Manufacture of food products and beverages	57,4	57,0	- 0,4	- 0,4
16	Manufacture of tobacco products	0,5	0,5		
17	Manufacture of textiles	2,1	2,1		
18	Manufacture of wearing apparel, dressing and dyeing of fur	0,7	0,6	- 0,1	- 0,1
19	Tanning and dressing of leather; manufacture of luggage, handbags, saddlery, harness and footwear	0,3	0,3		
20	Manufacture of wood and of products of wood and cork, except furniture; manufacture of articles of straw and plaiting materials	9,4	10,1	0,7	0,7
21	Manufacture of pulp, paper and paper products	13,2	13,5	0,3	0,3
22	Publishing, printing and reproduction of recorded media	12,5	13,0	0,5	0,5
23	Manufacture of coke, refined petroleum products and nuclear fuel	17,4	16,7	- 0,7	- 0,7
24	Manufacture of chemicals and chemical products	14,5	16,0	1,5	1,5
25	Manufacture of rubber and plastic products	3,8	3,6	- 0,2	- 0,2
26	Manufacture of other non-metallic mineral products	5,2	5,7	0,5	0,5
27	Manufacture of basic metals	23,6	22,5	- 1,1	- 1,1
28	Manufacture of fabricated metal products, except machinery and equipment	8,9	7,3	- 1,6	- 1,6
29	Manufacture of machinery and equipment n.e.c.	10,7	11,4	0,7	0,7
30	Manufacture of office machinery and computers	..	1,6	1,6	
31	Manufacture of electrical machinery and apparatus n.e.c.	9,1	6,3	- 2,8	- 2,8
32	Manufacture of radio,				

	television and communication equipment and apparatus	..	2,2	2,2	
33	Manufacture of medical, precision and optical instruments, watches and clocks	..	1,9	1,9	
34	Manufacture of motor vehicles, trailers and semi-trailers	..	1,8	1,8	
35	Manufacture of other transport equipment	37,7	19,8	- 17,9	- 17,9
36	Manufacture of furniture, manufacturing n.e.c.	4,6	4,6		
37	Recycling		
	Total	231,6	216,7	- 14,9	- 14,9

2.133 The changes in definitions referred to in the output section are mostly valid in the case of intermediate consumption as well, cf. the case of oil platforms, new treatment of brokerage and reclassification of units. While the revision effect is the same on output and intermediate consumption in the cases of oil platforms and brokerage, the revision of intermediate consumption in the case of reclassification of units has been lower than the corresponding output revision:

Revision 1990. Billion kroner	
Units reclassified and leaving manufacturing:	
- Casting of foundations in concrete for oil platforms (construction in NNA)	- 0,9
- Disabled workers producing manufacturing goods (social work services in NNA)	- 0,7
- Catering establishments (restaurants in NNA)	- 0,4
- Repair of computers (computer and related activities in NNA)	- 0,2
Units reclassified and entering manufacturing	
- Prefabricated dwellings (construction in FNA)	0,4
Units reclassified - net effect for manufacturing	- 1,8

2.134 Three other changes in definitions are relevant for intermediate consumption. A small change has been recorded in the dairy industry - 0,2 billion kroner downward revision in 1990 - from revised treatment of subsidies (see also agriculture). Another change is connected with the new treatment of own-account repair work - i.e. eliminating the recording of wages and

confining this item to material costs. Finally, a new borderline between intermediate consumption and compensation of employees has been introduced as regards travelling expenses.

Sources

2.135 Main source is:

- Manufacturing statistics

2.136 Annual manufacturing statistics are one of the most important statistical sources for national accounting and therefore described already in the introductory section I C 4. In total manufacturing, intermediate consumption of large establishments was 229,1 billion kroner in 1990, while 235,2 billion kroner in total. The share of intermediate consumption in large establishments in 1990, thus was as high as 97,4 per cent.

2.137 The quality and degree of details of the input data became more and more a problem during the period for which revised estimates have been compiled. For 1988, input data were collected in a regular way as for the preceding years. At that time, Statistics Norway felt constrained to reduce its resources, one of the areas hit was data on manufacturing inputs. A new plan for collecting manufacturing statistics input data was decided upon, in such a way that the manufacturing industries were to be rolled over by covering one fourth each year for the four-year period 1989 through 1992. Consequently, input data by products were collected from approximately one fourth of the units in the population of manufacturing establishments for 1989, another one fourth for 1991 and for 1991, while input data specified by products were altogether cut out in 1992. In return, full coverage of input data details are available for 1993. This description needs to be modified, to the extent that data on energy use by products have been collected for all years.

Methods of estimation

2.138 Intermediate consumption in manufacturing industries is estimated on the basis of data provided by the manufacturing statistics on intermediate consumption. For national accounting purposes, data sets of manufacturing statistics are readily available, either with complete, or in part or without product details (see sources above).

2.139 When compiling the input estimates, the data set available from the manufacturing statistics was utilized as far as possible. In FNA, under this transmission procedure the product details covered by the respective fourths of the unit population providing such data were secured. In all other cases - when product details were not provided - the method used was to apply value indices by activity group (i.e. for each NNA-industry in manufacturing). That means, the same distribution by product in current prices was kept as in the preceding year. This targeted use of methodology became problematic when changing to NACE in NNA. In

fact, it was not possible to utilize the information on ISIC terms which was provided in part in the transmission to NACE Rev.1, meaning that we had to resort to the value indices strategy all over. Intermediate consumption of energy products was treated in a direct way, however.

2.140 Total intermediate consumption in manufacturing is compared by source below, all in purchasers' prices:

Intermediate consumption 1990. Billion kroner	
Manufacturing statistics, all establishments	235,2
National accounts in former system (FNA)	231,6
National accounts in new system (NNA)	216,7

Like for output, a relatively small difference - here 3,6 billion kroner or 1,5 per cent - is observed between the estimate of intermediate consumption in manufacturing statistics and national accounts recorded in the former system. Two items help to explain this difference, a minor addition in national accounts for one-man establishments, while more important a downward adjustment for insurance when applying the more narrow national account concept on insurance. A comparison between the two data sets in the new system is not possible to conduct yet.

F. ELECTRICITY, GAS AND WATER SUPPLY - NACE E CONTENTS, DEFINITIONS, SOURCES AND METHODS OF ESTIMATION

- 40 ELECTRICITY, GAS, STEAM AND HOT WATER SUPPLY**
- 41 COLLECTION, PURIFICATION AND DISTRIBUTION OF WATER**

Value added of NACE E - Electricity, gas and water supply - amounts to 3,1 per cent of GDP in 1990. The 1990 revision from FNA to NNA has reduced the GDP share from 3,5 per cent. Output and intermediate consumption have both been strongly reduced from definitional changes, by 20,7 billion kroner in both cases, particularly because deliveries between producers of electric power have been deleted. Value added of NACE E contributes by 0,8 billion to the 61,5 billion increase in 1990 GDP, and no net effect from definitional changes. Electricity supply has far largest GDP share - 3,0 per cent in 1990 - from these activities. Its estimation is based on electricity statistics, which is production statistics like manufacturing statistics. A more differentiated activity treatment is introduced to reflect the new market structure following a new Energy Act. NACE E is covered by detailed specifications, in 6 industries and output by 10 characteristic products and some non-characteristic products. Producers of water supply is treated as institutional units of local government performing market production, though constituting a small part of total output of NACE E (1,8 out of 30,1 billion).

Contents

2.141 In NNA, the activities of NACE E are distinguished in 6 industries:

- | | |
|-----|---|
| 401 | Production of electricity |
| 402 | Distribution of electricity, renting |
| 403 | Distribution of electricity, sales |
| 404 | Manufacture and distribution of gaseous fuels through mains |
| 405 | Steam and hot water supply |
| 410 | Collection, purification and distribution of water |

2.142 In FNA, there were 4 industries - all grouped as market activities. In NNA, two kind of changes have been made, by distinguishing three separate industries of electricity, and by treating producers of water supply as institutional units of local government performing market production (see also treatment of units of sewage refuse disposal). Electricity production is important in Norway, and as such made more differentiated than before. In order to reflect market conditions better, and also responding to requirements in economic models, it has been distinguished between three industries, i.e. production of electricity, distribution of electricity through renting of network for transportation of electricity, and distribution of electricity through sales (trade margin treatment). Gas supply, and steam and hot water supply, are rather insignificant industries in Norway, the former in fact non-existent for a number of years.

2.143 Most electricity plants own regional and local transmission lines and distribution network. This fact means different transactors and should call for differentiated activity treatment for electricity supply. A further incentive for introducing separate industries of electricity in the national accounts is the requirement set in the new Energy Act of preparing separate accounts for these different activities.

1. VALUE ADDED

2.144 Electricity, gas and water supply make a contribution of 3,1 per cent to GDP in 1990. In NNA, value added in million kroner - in basic prices - and their shares of total value added and GDP are estimated as follows:

		1990	
		Million kroner	Percentage of: Total GDP value added
401	Production of electricity	8 833	1,32 1,22
402	Distribution of electricity, renting	11 132	1,66 1,54
403	Distribution of electricity, sales	1 315	0,20 0,18
404	Manufacture and distribution of gaseous fuels through mains	-	
405	Steam and hot water supply	101	0,02 0,01
410	Collection, purification and distribution of water	1 141	0,17 0,16
	Total	22 522	3,36 3,12

2.145 The 1990 revision from FNA to NNA has reduced the GDP share of these industries from 3,5 to 3,1 per cent.

		Billion kroner		Percentage of GDP	
		FNA	NNA	FNA	NNA
40	Electricity, gas, steam and hot water supply	22,5	21,4	3,4	3,0
41	Collection, purification and distribution of water	0,9	1,1	0,1	0,2
	Total	23,4	22,5	3,5	3,1

2. OUTPUT

Introduction

2.146 In NNA, output of electricity, gas and water supply - valued in basic prices - is estimated at 30,1 billion kroner in 1990. Although most output is characteristic, some 5 per cent is non-characteristic, in particular own-account construction, and some renting services as well. Non-characteristic output is concentrated in the electricity industries.

		Output 1990. Billion kroner		
		Characteristic	Non-characteristic	Total
401	Production of electricity	11,2	0,8	12,0
402	Distribution of electricity, renting	14,2	0,5	14,7
403	Distribution of electricity, sales	1,1	0,4	1,5
404	Manufacture and distribution of gaseous fuels through mains	-	-	-
405	Steam and hot water supply	0,2	0,0	0,2
410	Collection, purification and distribution of water	1,8	-	1,8
	Total	28,5	1,7	30,1

2.147 The 1990 revision from FNA to NNA has dramatically reduced output of electricity, gas and water supply from 47,8 to 30,1 billion kroner. The magnitude of changes in definition are even higher than this, as new methods of estimation have a positive effect on output as well.

		Billion kroner		Revision	
		FNA	NNA	Total	Definitional
40	Electricity, gas, steam and hot water supply	46,2	28,3	-17,9	- 20,7
41	Collection, purification and distribution of water	1,6	1,8	0,2	-
	Total	47,8	30,1	-17,7	- 20,7

2.148 The predominant change in definition is the introduction of net treatment of recording output, by deleting deliveries between producers of electric power. In 1990, this means 20,0 billion lower output in electricity production. Purchases and sales of electricity between producers of electric power do not involve any processing or physical transportation of electricity, these are just monetary transactions from wholesale trade of electricity. Another change in definition concerns own repair work, which no longer is recorded by full value, while instead recording the use of materials directly as intermediate consumption. In 1990, this contributes to 0,7 billion lower output.

Sources

2.149 Main sources are:

-	Electricity statistics
-	Local government accounts

2.150 Annual electricity statistics are described in the introductory section I C.5 belonging to the main sources used to calculate GDP. The annual electricity statistics are production statistics like manufacturing statistics. Water supply is an activity of the municipality authorities, for which data are provided for in local government accounts, also among the main statistical sources described above (see I C.11).

Methods of estimation

Electricity production

2.151 The electricity statistics are used to estimated output of electricity production. Output is estimated on a net basis, i.e. electricity output is estimated as output of each producer of electrical energy less electrical energy which these producers have purchased in the wholesale electricity market. Values are consistent with quantity data in the energy accounts of Statistics Norway. Output of NNA-industry 401 includes electricity production for sale on spot contracts, weekly or future contracts, bilateral agreements, deliveries to energy intensive

manufacturing units and exports on short-term or long-term agreements. Output of NNA-industry 402 mostly includes incomes from renting of distribution network. Output of NNA-industry 403 is estimated by multiplying energy accounting quantities by margin rates, i.e. purchasers' prices less producers' prices (internal prices in the market) in connection with tariffs for general deliveries, spot price or futures contracts plus commission, brokers' commission etc. In total, output is specified by 10 characteristic and 6 non-characteristic NNA-products.

2.152 Illustration by 1990 figures and summarized references to sources and methods follows by products:

		1990. Billion kroner
Characteristic output		
401 011	Loss of energy in the network Items of main source; total supply minus exports and domestic uses	0,7
401 012	Electricity for energy intensive manufacturing units Items of main source	1,7
401 013	Electricity for exports	0,4
401 015	Electricity for household consumption Items of main source	3,8
401 016	Electricity for other producers Items of main source	3,7
401 035	Retail sale of electricity to households Trade margin of electricity estimated	0,6
401 036	Retail sale of electricity to other producers Trade margin of electricity estimated	0,5
401 040	Distribution network renting Trade margin of electricity estimated, item incomes from renting	13,2
401 051	Own-account construction, machinery Items of main source	0,8
401 052	Own-account construction, structures Items of main source	1,1
Non-characteristic output		1,6
Includes unspecified repair work (0,6 billion), installation work in manufacturing etc. (0,3 billion), installation work in electrical wiring and fittings (0,3 billion), rental services of non-residential property (0,2 billion) and small amount on renting services of other machinery and equipment, all estimated from main source		
Total output		28,1

2.153 In the NNA, supply and use of each product has to be in balance. Thus, loss of energy in the network is introduced as a separate product item in order to balance supply and use and to achieve consistency in physical terms. Technically, this output flow becomes intermediate consumption in NNA industry 402.

2.154 The product specification adopted in NNA has been constructed mostly from demands seen from the user side, distinguishing between deliveries to energy intensive manufacturing units, to households, to exports and to other producers. Electricity for exports is distinguished because export prices can fluctuate independently of prices registered for domestic deliveries. The allocation to NNA products is based on the accounting items of the basic statistics.

2.155 As a parallel to the ordinary estimation of wholesale and retail trade services, trade margins on the four electricity output flows (i.e. 401 012, 401 013, 401 015 and 401 016) are estimated from differences between sales and purchases (in NA valuation terms as purchasers' price less producer's price). In the case of vertically integrated plants, an internal price for purchases is to be used. On the supply side, the total of these trade margins is balanced against another total of trade services of electricity distribution, which is distributed by two industries of distribution (NNA industries 402 and 403 on renting and sale, respectively) and by three NNA-products (i.e. 401 035, 401 036 and 401 040, the latter being the dominating item of incomes from renting).

2.156 Some minor items of the main source are seen as contributing to more than one of the industries of electricity production. Thus, non-characteristic outputs of unspecified repair work and installation work in manufacturing are distributed by equal amounts to NNA industries 401 and 402, the other two products of installation work are distributed by equal amounts to NNA industries 401 and 403, while renting services are distributed by equal amounts to all three NNA industries.

Steam and hot water supply

2.157 The annual electricity statistics are also used for the estimation of output of steam and hot water supply. Output is specified by one characteristic and 2 minor non-characteristic NNA-products.

2.158 Illustration by 1990 figures and summarized references to sources and methods follows by products:

		1990. Billion kroner
Characteristic output		
403 000	Steam and hot water supply services	0,2
	Items of electricity statistics	
Non-characteristic output		0,0
	Includes minor amounts of installation work and electricity for other producers	
Total output		0,2

Water supply

2.159 Local government accounts are utilized for the estimation of output in this industry. In NNA, the waterworks have been provisionally treated as market producers (i.e. secondary local KAU's) of local government. This has been motivated by a streamlined treatment of waterworks as institutional units of local government throughout the national accounts from production to balance sheets. Alternatively, one might consider later to treat the waterworks as market producers of non-financial corporations (public enterprises of local government). The provisional solution is coupled by a market price estimation of output from government fees alone.

2.160 Illustration by 1990 figures and summarized references to sources and methods follows for the only characteristic NNA-product:

		1990. Billion kroner
410 090	Collected, and purified water, distribution services of water	1,8
	6 items of local government accounts, one of which is item of government fees; the latter is used as amount of the market price (thus, coding of 410 090 instead of 410 080)	

3. INTERMEDIATE CONSUMPTION

Introduction

2.161 In NNA, intermediate consumption in electricity, gas and water supply - valued in purchasers' prices - is estimated at 7,6 billion kroner in 1990.

		Intermediate consumption 1990	
		Billion kroner	No. NNA-products
401	Production of electricity	3,1	25
402	Distribution of electricity, renting	3,6	19
403	Distribution of electricity, sales	0,1	11
404	Manufacture and distribution of gaseous fuels through mains	-	-
405	Steam and hot water supply	0,1	14
410	Collection, purification and distribution of water	0,7	14
	Total	7,6	

2.162 The 1990 revision from FNA to NNA has reduced intermediate consumption of electricity, gas and water supply dramatically from 24,4 to 7,6 billion kroner. The two changes in definition affecting output - deletion of internal deliveries of electricity and own repair work - are identically relevant for intermediate consumption as well.

		Billion kroner		Revision	
		FNA	NNA	Total	Definitional
40	Electricity, gas, steam and hot water supply	23,8	6,9	-16,9	- 20,7
41	Collection, purification and distribution of water	0,7	0,7	0,0	-
	Total	24,4	7,6	-16,9	- 20,7

Sources

2.163 Main sources are:

-	Electricity statistics
-	Local government accounts

2.164 Annual electricity statistics and local government accounts are both described in the introductory section, in I C.5 and I C.11 respectively.

Methods of estimation

Electricity production

2.165 The annual electricity statistics are utilized to estimate intermediate consumption of the electricity production and distribution industries. For the three NNA-industries, various cost items of the main source are applicable. The input share of the three industries combined is slightly lower than 25 per cent (1990 values of intermediate consumption at 3,1 and 3,6 and 0,1 billion kroner, respectively). When applying the trade margin method, output flows are not traced through other industries of electricity production as intermediate consumption as would be the case following from a gross treatment. The only special item of intermediate consumption to be recognized is loss of energy in the network flowing from NNA-industry 401 as output to intermediate consumption in NNA-industry 402.

Steam and hot water supply

2.166 The annual electricity statistics are utilized to estimate intermediate consumption of this industry (0,1 billion kroner in 1990).

Water supply

2.167 The local government accounts are utilized to estimate intermediate consumption of the water supply industry. Three cost items are identified with the relevant chapter (162 Water supply) of local government accounts.

G. CONSTRUCTION - NACE F

CONTENTS, DEFINITIONS, SOURCES AND METHODS OF ESTIMATION

45 CONSTRUCTION

Value added of NACE F - Construction - amounts to 4,3 per cent of GDP in 1990. The 1990 revision from FNA to NNA has increased the GDP share from 4,2 per cent. Output and intermediate consumption have both been increased from definitional changes, by 9,4 and 9,8 billion kroner respectively, particularly by including deliveries between construction industries. Value added of NACE F contributes by 3,5 billion to the 61,5 billion increase in 1990 GDP, while contributing negatively by 0,4 billion from definitional changes. Its estimation is based on construction statistics, i.e. production statistics, changing the approach from the user-side based estimation in FNA. NACE F is covered by detailed specifications in NNA, in 5 industries and output by 28 characteristic products, plus some non-characteristic products. Output for own final use (own-account construction of dwellings) constitutes 8,3 billion out of total output of NACE F at 89,9 billion, estimated on basis of supplementary surveys. Non-market output of local government constitutes 4,9 billion of total construction output.

Contents

2.168 In NNA, the activities of NACE F are distinguished in 5 industries:

451	Site preparation
452	General construction of buildings etc.
453	Construction of civil engineering works
454	Building insulation and completion
455	Renting of construction or demolition equipment with operator

2.169 In FNA, there were 2 industries - both grouped as market activities - one for construction as such and one for oil and gas exploration and drilling (when separate activity on a contract basis). The latter is now part of the oil and gas extraction activity. It may also be mentioned that three sub-industries - for dwellings, other buildings, construction excl. building

construction - were introduced in the 1980s, but only serving supplementary or auxiliary purposes.

2.170 For both institutional and data reasons, one part of the construction activity has been treated as non-market production of local government in NNA. This part accounts for approximately 5 per cent of total construction, irrespective measured by output or by value added. This implies that about 30 per cent of construction of civil engineering works (measured by value added) is treated as non-market activity (maintenance of public roads).

1. VALUE ADDED

2.171 Construction makes a contribution of 4,3 per cent to GDP in 1990. In NNA, value added in million kroner - in basic prices - and their shares of total value added and GDP are estimated as follows:

		1990	
		Million kroner	Percentage of: Total GDP value added
451	Site preparation	3 845	0,57 0,53
452	General construction of buildings	12 304	1,83 1,70
453	Construction of civil engineering works	5 591	0,83 0,77
454	Building insulation and completion	9 405	1,40 1,30
455	Renting of construction or demolition equipment with operator	-	
Total		31 145	4,64 4,31

2.172 The 1990 revision from FNA to NNA has slightly increased the GDP share of construction from 4,2 to 4,3 per cent.

		Billion kroner		Percentage of GDP	
		FNA	NNA	FNA	NNA
45	Construction	27,6	31,1	4,2	4,3

2. OUTPUT

Introduction

2.173 In NNA, output of construction - valued in basic prices - is estimated at 89,9 billion kroner. In distinguishing between characteristic and non-characteristic output, characteristic output encompasses all that is connected to construction regardless characteristic of each sub-industry in construction. In this sense, characteristic output of construction is estimated at 88,8 billion kroner. Non-characteristic output consists of some trade margins from sales, contract work, and fees for certain services. It should be observed that while there are no production in the renting of construction equipment industry (455), such renting is produced in the general construction of buildings industry (452) as "non-characteristic" output, in 1990 at 0,5 billion kroner. When construction statistics have adopted NACE Rev.1, it should be possible to record characteristic output as of industry 455.

		Output 1990. Billion kroner		
		Characteristic	Non-characteristic	Total
451	Site preparation	8,9	0,0	8,9
452	General construction of buildings	38,6	0,8	39,4
453	Construction of civil engineering works	17,7	0,2	17,9
454	Building insulation and completion	23,5	0,2	23,7
455	Renting of construction or demolition equipment with operator	-	-	-
Total		88,8	1,1	89,9

2.174 The 1990 revision from FNA to NNA has significantly increased output of construction from 79,6 (excluding oil and gas exploration and drilling) to 89,9 billion kroner, mostly due to changes in definition.

		Billion kroner		Revision	
		FNA	NNA	Total	Definitional
45	Construction	79,6	89,9	10,3	9,4

2.175 In NNA, several new definitions have been introduced. Two are substantive changes to principles, while others are regroupings. Deliveries between construction industries have been included - the effect of which is 11,3 billion kroner higher output (and intermediate consumption) in 1990 - and thus introducing common principles in the construction statistics and the national accounts. Another substantive change in principle is own-account construction in the various industries in NNA recorded as non-characteristic output with the respective

industries, while included as output in construction in FNA. In 1990, this change in definition has resulted in 2,8 billion kroner lower output in the construction industry. Two changes in nomenclatures are worth mentioning, the new treatment of oil platforms - casting of foundations in concrete for oil platforms as output in construction - that has increased construction output by 1,3 million kroner in 1990 (corresponding decrease in manufacturing), and the new treatment of prefabricated wooden buildings that has decreased construction output by 0,4 million kroner (reversal effect in manufacturing).

Sources

2.176 Main source is:

-	Construction statistics
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2.177 Annual construction statistics are described in the introductory section I.C on the main sources used to estimate GDP.

Methods of estimation

2.178 The construction statistics are now used in a direct way to estimate output in construction, although some adjustments are necessary to apply to the NNA definitions. In FNA, this was not the approach adopted, as the output estimates were instead estimated from the user side (the expenditure approach). The new approach opens up for an orientation towards CPA in product terms, since sub-contracting work could be taken into account. In total, output is specified by 28 characteristic and 7 non-characteristic NNA-products.

2.179 Illustration by 1990 figures and summarized references to sources and methods follows by products:

		1990. Billion kroner
Market output		
Characteristic output		
451 100	Site preparation work	8,9
	Items in main source, of which the item of own-account repair and maintenance is halved, output of one-man establishments included	
452 110	General construction work for buildings	28,2
	Items in main source	
452 121	General construction work for civil engineering work	4,1
	Items in main source, having deducted output of casting of oil platforms from 452 120 industry output of main source	

452 122	Casting of foundations in concrete for oil platforms	1,1
	Items in main source, extracted from the statistical forms of the few units involved	
452 210	Tinsmith work	2,2
	Items in main source	
452 290	Other erection work of roof covering and frames	0,5
	Items in main source	
452 300	General construction work for highways, roads, airfields and sports facilities	4,0
	Items in main source	
452 400	General construction work for water projects	2,9
	Items in main source, output of both NNA-industries 452 and 453 (amended from 1993, output of 453 exclusively)	
452 500	Other construction work involving special trades	2,9
	Items in main source	
453 100	Installation work of electrical wiring and fittings	9,2
	Items in main source	
453 200	Insulation work	0,5
	Items in main source	
453 300	Plumbing work	5,8
	Items in main source	
453 400	Other building installation work	0,5
	Items in main source	
454 100	Plastering work	0,5
	Items in main source	
454 200	Joinery installation work	0,5
	Items in main source	
454 300	Floor and wall covering work	1,1
	Items in main source	
454 410	Painting work	1,1
	Items in main source	
454 420	Glazing work	1,1
	Items in main source	
454 500	Other building completion work	0,6
	Items in main source	
455 000	Renting services of construction or demolition equipment with operator	0,5
	Items in main source from 1993 adjusted for, output of NNA-industry 452 before 1993 estimated from the user side (within construction industries)	
	Non-characteristic output	0,6
	Includes contract work, trade services (trade margins) from sale of goods and fees for various services; not included here non-characteristic output of sub-industries within construction (such as renting services of construction equipment before 1993)	

Total market output		76,7
Production for own final use		
452 900	Own-account construction of dwellings Special calculations based on information from the Survey on Housing Conditions 1988 and a survey on rehabilitation of buildings published in a report from Statistics Norway in 1989	8,3
Non-market output of local government		
452 110	General construction work for buildings 25 per cent of item in main source	0,9
452 300	General construction work for highways, roads, airfields and sports facilities 5 per cent of item in main source	0,3
452 500	Other construction work involving special trades 70 per cent of item in main source	3,6
Total non-market output		4,9
Total output		89,9

2.180 The use of construction statistics in a direct way, means that industry-based data in construction statistics define the contents of output of the respective characteristic NNA-products. In general, 7 items (9 items in NNA-industry 453) in the statistical forms used are identified as relevant for the output estimation in construction. These items comprise:

- amount invoiced during the year directly to builder for construction work completed
- expenses incurred during the year for construction carried out on own-account
- amount invoiced during the year to sub-contractors for construction completed
- gross income of other operations
- value of own-account repair work done by the employees of the establishments (adjusted to half amount to apply to the national accounts definition of new ESA).

2.181 Output data for one-man establishments are included without further details. Such units are probably existent in all construction activities, except casting of foundations in concrete for oil platforms.

2.182 Own-account construction of buildings for own final use is introduced specifically in NNA. Output is calculated from the cost side, i.e. by estimated components for intermediate consumption and imputed income (mixed income) of households engaged in such construction work. Separate estimates are made for new dwellings, for major improvements and the like on existing dwellings, and for cottages, summer houses etc. The second item on major improvements to existing dwellings is most important (see below). The 1988 surveys of housing conditions and rehabilitation of existing buildings provide basic data on building costs and hours worked (owner-occupied dwellings) that have been utilized in these calculations. Average hourly earnings in construction were used with the estimated hours worked. Material costs were estimated at 150 per cent of the mixed income estimate just described, based on data in construction statistics and the survey of rehabilitation of existing buildings. Own-account construction on existing dwellings is estimated in two parts - one for major improvements etc. (the major part) and one for extended dwelling area, the latter by also utilizing data from building and construction statistics.

	1990. Billion kroner
Own-account construction of new dwellings	1,4
Own-account construction on existing dwellings (major improvements etc. and extended dwelling area)	6,9
Own-account construction on cottages, summer houses etc.	0,0
Total own-account construction of buildings for own final use	8,3

2.183 Non-market output of local government in construction activities is also included in the annual construction statistics, but without details for a distribution on products. Information is collected for the construction statistics directly from the municipalities, while not from the smaller share of the counties. In fact, these data from the municipalities are related to local government accounts data in such a way that the construction statistics data in this field could be treated as a separate item of non-market construction output of local government. The alternative treatment as market output of construction is not appropriate as this is own-account construction in local government. Another alternative treatment would have been as non-characteristic output throughout the whole range of government industries, but data are not specific enough for such a treatment.

3. INTERMEDIATE CONSUMPTION

Introduction

2.184 In NNA, intermediate consumption in construction - valued in purchasers' prices - is estimated at 58,8 billion kroner in 1990.

		Intermediate consumption 1990	
		Billion kroner	No. NNA-products
451	Site preparation	5,1	42
452	General construction of buildings	27,1	26 - 91
453	Construction of civil engineering works	12,3	13 - 83
454	Building insulation and completion	14,3	100
455	Renting of construction or demolition equipment with operator	-	
	Total	58,8	

2.185 The 1990 revision from FNA to NNA has increased intermediate consumption of construction from 52,0 to 58,8 billion kroner.

		Billion kroner		Revision	
		FNA	NNA	Total	Definitional
45	Construction	52,0	58,8	6,8	9,8

2.186 Changes in definitions are the same ones as for output. While the cross deliveries have identical values in output and intermediate consumption (11,3 billion kroner increased value in 1990), the other three changes referred to above are somewhat lower for intermediate consumption than for output. The 1990 effect on own-account construction has been assumed to be about 2 billion kroner (lower value), while the changes in nomenclatures lead to 0,9 billion kroner higher value from the new oil platform treatment and 0,4 billion lower value from the new treatment of prefabricated wooden buildings.

Sources

2.187 Main source is:

-	Construction statistics
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2.188 Construction statistics contain data on intermediate consumption - specified on six different items - for each 5-digit industry within construction. For one-man establishments, data are lacking.

Methods of estimation

2.189 The construction statistics are now used directly to estimate intermediate consumption in construction. For one-man establishments, the same proportion as registered between output of one-man establishments and output of other units in construction have been used.

2.190 For the further distribution of intermediate consumption by NNA-products, two of the specified items of the construction statistics - those of renting services - are adequately treated although some further splitting up is needed. The item of fuels, electricity etc. is allocated on NNA-products from utilizing data from the energy accounts and supplemented assumptions on splitting. The remaining three items are mostly allocated as in the previous year in lack of more structural data. The distribution of the previous year is also applied to intermediate consumption in local government construction activity. For own-account construction for own final use, the assumption used for material costs is described in the output section above.

<p>H. WHOLESALE AND RETAIL TRADE; REPAIR OF MOTOR VEHICLES, MOTORCYCLES AND PERSONAL AND HOUSEHOLD GOODS - NACE G CONTENTS, DEFINITIONS, SOURCES AND METHODS OF ESTIMATION</p>

- 50 SALE, MAINTENANCE AND REPAIR OF MOTOR VEHICLES, MOTORCYCLES; RETAIL SALE OF AUTOMOTIVE FUEL
- 51 WHOLESALE TRADE AND COMMISSION TRADE, EXCEPT OF MOTOR VEHICLES AND MOTORCYCLES
- 52 RETAIL TRADE, EXCEPT OF MOTOR VEHICLES AND MOTORCYCLES; REPAIR OF PERSONAL AND HOUSEHOLD GOODS

Value added of NACE G - Wholesale and retail trade; Repair of motor vehicles, motorcycles and personal and household goods - amounts to 10,4 per cent of GDP in 1990. The 1990 revision from FNA to NNA has increased the GDP share from 8,9 per cent. However, output has been reduced by 1,9 billion kroner from definitional changes, as trade services (margins) now also may be non-characteristic output in other industries than wholesale and retail trade. Value added of NACE G contributes by 16,5 billion to the 61,5 billion increase in 1990 GDP, of which the 1,9 billion negative contribution from definitional changes. Wholesale and retail trade has far largest GDP share - 9,9 per cent in 1990 - from these activities. Its estimation is based on annual turnover and annual accounting statistics of wholesale and retail trade, with benchmark data based on sample surveys on trade margins of wholesale and retail trade for 1985 and 1986 respectively. By their very nature, estimates are more uncertain than for most other industries. NACE G is covered by detailed specifications, in 6 industries and output by 12 characteristic products as services, of which 7 products are trade services and with link to the set of value components of wholesale and retail trade margins in the commodity flows of 700 goods in NNA. Some non-characteristic products also occur in NACE G.

Contents

2.191 In NNA, the activities of NACE G are distinguished in 6 industries:

501	Sale of motor vehicles
502	Maintenance and repair of motor vehicles and motorcycles, sale of parts and accessories
505	Retail sale of automotive fuel
510	Wholesale trade and commission trade
521	Retail trade
527	Repair of personal and household goods

2.192 In FNA, there were one industry specified only for wholesale and retail trade, and one industry for repair of motor vehicles, household appliances and goods for personal use. The more detailed treatment in NNA is primarily a result from estimating output from the supply side, instead of - as before - estimating from the demand side through trade margins of commodity flows. The new treatment means that output is estimated independently of the margins. Likewise, the detailed industry breakdown for output is not accompanied by a similar detailed breakdown for the trade margins. As before, the margins are global margins by product and thus not divided into wholesale and retail components.

1. VALUE ADDED

2.193 Wholesale and retail trade, including repairs, i.e. NACE G all together, makes a contribution of 10,4 per cent to GDP in 1990. In NNA, value added in million kroner - in basic prices - and their shares of total value added and GDP are estimated as follows:

		1990	
		Million kroner	Percentage of: Total GDP value added
501	Sale of motor vehicles	6 619	0,99 0,92
502	Maintenance and repair of motor vehicles and motorcycles, sale of parts and accessories	3 665	0,55 0,51
505	Retail sale of automotive fuel	1 890	0,28 0,26
510	Wholesale trade and commission trade	42 150	6,29 5,84
521	Retail trade	20 535	3,06 2,84
527	Repair of personal and household goods	362	0,05 0,05
Total		75 221	11,22 10,42

2.194 The 1990 revision from FNA to NNA has increased the GDP share of these industries considerably from 8,9 to 10,4 per cent:

		Billion kroner		Percentage of GDP	
		FNA	NNA	FNA	NNA
50-52	Wholesale and retail trade	52,7	71,2	8,0	9,9
50/52	Repairs of vehicles etc.	6,2	4,0	0,9	0,6
Total		58,9	75,2	8,9	10,4

2. OUTPUT

Introduction

2.195 In NNA, output of these industries - valued in basic prices - is estimated at 126,4 billion kroner in 1990. For the trade services, the margin concept is applied. More than 95 per cent of output is characteristic output of these industries. Non-characteristic output in wholesale trade consist of letting and renting services, and services of business and management consultancy. Non-characteristic output in retail trade consist of same type of services, plus canteen services, commissions and some repairs. Some of these services - although partly insignificantly - are also provided as non-characteristic output of the other industries in the group.

		Output 1990. Billion kroner		
		Characteristic	Non-characteristic	Total
501	Sale of motor vehicles	9,3	0,6	9,9
502	Maintenance and repair of motor vehicles and motorcycles, sale of parts and accessories	8,1	0,1	8,2
505	Retail sale of automotive fuel	2,6	0,1	2,8
510	Wholesale trade and commission trade	69,8	2,4	72,2
521	Retail trade	29,7	2,7	32,4
527	Repair of personal and household goods	0,8	0,0	0,9
Total		120,5	5,9	126,4

2.196 The 1990 revision from FNA to NNA - like for value added - has increased output of these industries considerably from 101,2 to 126,4 billion kroner, which is a 25 per cent increase.

		Billion kroner		Revision	
		FNA	NNA	Total	Definitional
50-52	Wholesale and retail trade	92,0	117,4	25,4	- 1,9
50/52	Repairs of vehicles etc.	9,2	9,1	- 0,1	
Total		101,2	126,4	25,4	- 1,9

2.197 A principal change in definition is introduced in NNA when output of trade margins also is produced in industries other than wholesale and retail trade - such as hotels and restaurants - as non-characteristic production. Previously, trade margins were output of wholesale and retail trade exclusively. The revised estimates suggest that this change in definition - trade margins from sales outside the trade industry - amounts to 1,9 billion kroner in 1990, i.e. 1,7 per cent of total trade margins or 4,5 per cent when excluding trade margins of wholesale traders. Most significant producers are in air transport, restaurants and in building insulation and completion.

2.198 More indirectly, a change in treatment has been introduced as concerns transport margins, but is hardly to be characterized as change in definition in this context since the approach itself has been altered. In FNA, transport margins were treated on a gross basis - in output as well as in intermediate consumption - in wholesale and retail trade, but are treated directly on a "net" basis in NNA (see description on commodity flows later on).

Sources

2.199 Main sources are:

- | |
|--|
| <ul style="list-style-type: none">- Annual wholesale and retail trade statistics- Sample surveys on trade margins of wholesale trade 1985- Sample surveys on trade margins of retail trade 1986- Annual accounting statistics of wholesale and retail trade- Accounting statistics of non-financial enterprises for 1992 and 1993- Accounting statistics of self-employed for 1992 and 1993- Annual surveys of car repair shops etc. |
|--|

2.200 Annual wholesale and retail trade statistics are considered among the most important basic statistical sources within economic statistics. Data of primary interest in these statistics are sales data by industry groups. They are compiled from information on establishments in Statistics Norway's Register of Establishments and Enterprises. Both sources are listed and described in the introductory section (see I C.1 - Statistics Norway's Business Register - and I.C.7 - Wholesale and retail trade statistics).

2.201 Sample surveys on trade margins of wholesale trade in 1985 and of retail trade in 1986 are ad hoc surveys that were carried out for the very first time (published in Statistics weekly no.21 / 1989 and no.26 / 1990, respectively). These statistics provide data on trade margins by branch groups and margin rates by products (commodity groups). Gross margins and commodity flows - including data on suppliers, distribution channels and recipients - of wholesale trade were examined in 1985. In most branches, gross margins in per cent of total sales were estimated between 15 and 25 per cent, or 20 per cent for wholesale trade altogether. A sample of about 1600 kind-of activity units was drawn from a population of nearly 13 300 KAU's in wholesale trade in 1985. The KAU's were stratified by branch groups in wholesale trade and three different size groups (large, semi-large and small). All branch groups except wholesaling of crude petroleum and natural gas were included in the survey. All large units were covered as well as a sample of semi-large units, while small units were not covered. Data were collected for some 1300 units representing 68 per cent of total sales in wholesale trade in 1985. In grossing up, the small units were taken to represent the semi-large units. By the method of estimation used, the distortion from such a representation has been corrected for. Gross margins are defined as the difference between sales and consumption (purchases adjusted for changes in inventories), less taxes on products plus subsidies on products. Sales are excluding VAT while including taxes on products. Purchases are excluding VAT and taxes on products. Units within an enterprise are covered in the data on sales and purchases.

2.202 The sample survey on trade margins of retail trade in 1986 was carried out in a similar way to the survey on wholesale trade. For retail trade as a whole, gross margins were estimated at 22 per cent of total sales. The highest and lowest percentages of any retail group were 48 and 14 per cent, respectively. The sample size was more than 4000 units, of which information for some 2800 units was accounted for, representing 37 per cent of total sales in retail trade in 1986. The stratification and estimation methods were the same as in the wholesale trade survey.

2.203 Accounting statistics of wholesale and retail trade are subsets of Statistics of Accounts for large enterprises in oil and gas activity, mining and manufacturing, wholesale and retail trade. Enterprises with at least 30 persons man-years worked are covered for wholesale trade, while joint-stock companies and co-operative societies with at least 20 persons man-years worked constitute the coverage for retail trade. The information on income statement (and balance sheet) corresponds generally to the figures given in the annual financial statements from the enterprises. Appropriate items for output are operating income and sub-items of income from sales and other operating income.

2.204 Accounting statistics of private non-financial enterprises and accounting statistics of self-employed are both listed among the main sources used (see introductory section I C.19 and I C.20, respectively). They are transversal statistical sources, but contain aggregate industry breakdowns also including wholesale and retail trade.

2.205 Annual surveys of car repair shops etc. contain data which are based on Statistics Norway's Business Register. Covered is industry group 951 of ISIC Rev.2, i.e. repair of vehicles, household apparatus and commodities for personal use. Establishments with five or more persons engaged have provided complete data for these statistics, while for all other establishments data have been estimated based on information on persons engaged and on sales from the Business Register of Statistics Norway. In recent years, output data for car repair shops have been published in Statistics weekly.

Methods of estimation

Wholesale and retail trade

2.206 The wholesale and retail trade industry has always had a special position in the output compilation of the national accounts, due to the output concept used and the indirect approach applied. Treating gross trade margins as trade industry output affects most recordings of the supply and use tables through the commodity approach. Direct use of production statistics on a current basis has never been a compilation scenario in this industry. Traditionally, output figures of trade and transport margins have been compiled from the use side by applying margin rates to the commodity flows (i.e. products by uses) involved. For each commodity flow, the margin rate of previous year has been taken as the point of departure, but is - when balancing supply and uses of each commodity - often indirectly adjusted later in the correction procedure. For the flows of private consumption expenditure, margin rates were reestimated when examined and evaluated during last main revision of the national accounts back in the

early 1970s. At that time, information on margin rates was collected from trade organizations and most important traders of the various branches. For other flows than private consumption expenditure, no such systematic information was collected.

2.207 The statistical basis for the output compilation of the trade industries has been significantly improved since last main revision, the reason for which is in particular due to the two ad hoc sample surveys on trade margins and, secondly, the development of accounting statistics for wholesale and retail trade over the period. Survey data on trade margins in fact mean an approximation to production statistics as such and provide a good basis for the estimation of output. As survey data are distinguished between wholesale trade and retail trade, the new direct approach to output estimation in NNA could involve estimating separate outputs for the two main trade industries, or more precisely, for the four NNA industries specified in wholesale and retail trade (see above).

2.208 The method used means that trade margin rates - taken from the two sample surveys - are first compiled in the framework of commodity flows, i.e. a product by uses cross classification. This first step enables a upper limit estimation, before adjustments downward are made for commodities being distributed outside wholesale or retail channels of distribution (or both). The compilation is carried out at the 4-digit industry level, and later aggregated to the four NNA industries. While product details are given in the sample surveys, the annual accounting statistics of wholesale and retail trade provide data at the 4-digit industry level for estimating annual changes in trade margins. Sales data from the annual wholesale and retail trade statistics serve as basis for grossing-up.

2.209 Sales of commodities in wholesale and retail trade contribute to 96 and 99 per cent of total sales in wholesale and retail trade, respectively. In the first place, the figures of the sample surveys were compared with figures in the annual accounting statistics for wholesale and retail trade. Some deviations in definitions - such as different coverage of sales and different units employed (enterprises vs. KAU's) - hampered this comparison, both of level and development over the period. On the basis of the procedure described above - by utilizing annual accounting statistics of wholesale and retail trade and annual wholesale and retail trade statistics - total trade margins (in basic prices) have been estimated for the period under calculation. It is observed that the final estimate for 1988 came out very close to the this first 1988 benchmark estimate.

	1985	1986	Billion kroner		
			1988	1990	1992
Wholesale trade, ad hoc sample survey					
Sales of commodities	246,0				
Trade margins - 20 %	49,2				
Retail trade, ad hoc sample survey					
Sales of commodities		161,4			
Trade margins - 22 %		35,5			
Total domestic trade					
Trade margins, first benchmark			104,5		
Trade margins, final estimates			103,9	108,6	117,7
Trade margins, FNA			82,6	87,6	

2.210 The revised trade margin estimates were much higher than before the revision, in 1988 and 1990 approximately 20 billion kroner or 25 per cent higher than in FNA. Such a formidable increase, thus, had to be confronted with the new accounting statistics of non-financial enterprises and of self-employed undertaken for 1992, specifying wholesale and retail trade within its industry breakdown. In fact, these accounting statistics were aligned with the annual accounting statistics for wholesale and retail trade - which have a cut-off - and supplemented by a sample of small and semi-large enterprises in wholesale and retail trade. The accounting data of this new source confirmed the impression that the FNA trade margins were much underestimated. The source as such could not be directly utilized as weak points were revealed. In particular, data on output were considerably higher than estimated in NNA, while compensation of employees was found 25 per cent higher than in the ordinary way of compilation, which again are closely related to other sources as well (see section on compensation of employees). This is illustrated below:

	Billion kroner. 1992
Trade margins (in basic prices), 1992 accounting statistics	137,1
- same, but adjusted for difference in sales	135,1
Compensation of employees, 1992 accounting statistics	62,9
Compensation of employees, NNA	50,3
Trade margins, adjusted in accordance with compensation of employees overestimation	108,0

Thus, controlling the trade margin estimate by using the 1992 accounting statistics of non-financial enterprises and self-employed is regarded as a rather uncertain procedure. Most likely, the 1992 source indicate an estimate between 108 and 135 billion kroner, definitely well above the FNA estimate around 90 billion kroner. At least, this confrontation shows that the NNA estimate for 1992 at 117,7 billion kroner should not be regarded as unlikely high or low.

2.211 Output in wholesale and retail trade - in the context as trade services - is specified by 7 characteristic and 19 non-characteristic NNA-products (or 10 non-characteristic products if consolidated at the level of wholesale and retail trade combined). The latter products are recorded as belonging to non-characteristic output in the annual accounting statistics of the two main branches of domestic trade. The allocation of this output to specific NNA-products had no firm basis, apart from being allocated to appropriate products as seen from the balancing of supply against uses.

2.212 Illustration by 1990 figures by products (services) follows for the consolidated version:

1990. Billion kroner

Characteristic output

501 000	Trade services of motor vehicles	8,4
501 002	Registration tax on existing motor vehicles	0,9
505 000	Retail trade services of automotive fuel	2,6
510 000	Wholesale trade services	67,8
510 090	Commission trade services	2,6
521 000	Retail trade services n.e.c.	29,7

Total characteristic output 112,2

Non-characteristic output 5,1

Includes car-washing and similar services, repair services of shoes, repair services of bicycles, textiles etc., canteen and catering services, renting services of non-residential property, renting services of agricultural machinery, renting services of office equipment, renting services of other equipment, renting services of personal and household goods n.e.c., and business and management consultancy services

Total output 117,3

2.213 Apart from trade margins (wholesale and retail trade services aligned to goods), there are two minor items - technically speaking - which belong to characteristic production of their respective industries. They are commission services and registration tax on existing motor vehicles, in 1990 amounting to some 3 billion kroner or 3 per cent of total output of wholesale and retail trade. The sources in these cases are the accounting statistics and the central government accounts, respectively.

Repair of vehicles etc.

2.214 The annual production statistics - i.e. annual surveys of car repair shops etc. - are used to estimate output in the two industries of repair activities (NNA-activity 502 on motor vehicles and motorcycles and - of much less importance - NNA-activity 527 on personal and household goods). Output is specified by 5 characteristic NNA-products and one non-characteristic product.

2.215 Illustration by 1990 figures follows by products:

		1990. Billion kroner
Characteristic output		
502 010	Maintenance and repair services of motor vehicles and motorcycles, etc.	8,1
527 100	Repair services of boots, shoes and other articles of leather	0,1
527 200	Repair services of electrical household goods	0,5
527 300	Repair services of watches, clocks and jewellery	0,2
527 400	Repair services of bicycles, garments etc.	0,1
Non-characteristic output		0,1
Includes trade services (trade margins) from sale of goods		
Total output		9,1

2.216 In this case, data for one-man establishments are published in a separate table of the basic statistics, their share of output amounting to 0,5 billion kroner or 5,2 per cent of total output of these repair activities. The basic statistics are published in terms of ISIC-based activities, but are without great difficulties reclassified into NACE-based activities of NNA. The more detailed specification of activities in the former nomenclature (four versus two 4-digit industries) has been utilized to construct several characteristic products of NACE-industry 527.

3. INTERMEDIATE CONSUMPTION

Introduction

2.217 In NNA, intermediate consumption in these industries - valued in purchasers' prices - is estimated at 51,2 billion kroner in 1990.

		Intermediate consumption 1990	
		Billion kroner	No. of NNA-products
501	Sale of motor vehicles	3,3	30
502	Maintenance and repair of motor vehicles and motorcycles, sale of parts and accessories	4,6	25
505	Retail sale of automotive fuel	0,9	27
510	Wholesale trade and commission trade	30,1	40
521	Retail trade	11,9	39
527	Repair of personal and household goods	0,5	15
Total		51,2	

2.218 The 1990 revision from FNA to NNA has increased intermediate consumption of these industries from 42,3 to 51,2 billion kroner, i.e. by 21 per cent or almost as much as for output. No major changes in definitions are to be notified (cf. treatment of transport margins).

		Billion kroner		Revision	
		FNA	NNA	Total	Definitional
50-52	Wholesale and retail trade	39,3	46,2	6,9	-
50/52	Repair of vehicles etc.	3,0	5,0	2,0	
Total		42,3	51,2	8,9	-

Sources

2.219 Main sources are:

-	Accounting statistics of wholesale and retail trade
-	Ad hoc survey of costs for retail trade 1979
-	Annual surveys of car repair shops etc.

2.220 Accounting statistics of wholesale and retail trade are subsets of Statistics of Accounts for large enterprises in oil and gas activity, mining and manufacturing, wholesale and retail trade. Enterprises with at least 30 persons man-years worked are covered for wholesale trade, while joint-stock companies and co-operative societies with at least 20 persons man-years worked constitute the coverage for retail trade. The information on income statement (and

balance sheet) corresponds generally to the figures given in the annual financial statements from the enterprises. Appropriate item for intermediate consumption is operating costs.

2.221 In the late 1970's, there were ad hoc cost surveys conducted for the two main branches of domestic trade. In particular, a survey of costs for retail trade in 1979 was utilized for the 1981 benchmark estimate of intermediate consumption. The census of establishments 1974 - predecessor of the Business Register - was utilized for commission trade in the benchmark estimation.

2.222 Accounting statistics of private non-financial enterprises and accounting statistics of self-employed are both listed among the main sources used (see introductory section I C.19 and I C.20, respectively). They are transversal statistical sources, but contain aggregate industry breakdowns also including wholesale and retail trade. For the estimation of intermediate consumption, these sources have served a comparison purpose only.

2.223 Annual surveys of car repair shops etc. contain data which are based on Statistics Norway's Business Register. Covered is industry group 951 of ISIC Rev.2, i.e. repair of vehicles, household apparatus and commodities for personal use. Establishments with five or more persons engaged have provided complete data for these statistics, while for all other establishments data have been estimated based on information on persons engaged and on sales from the Business Register of Statistics Norway.

Methods of estimation

Wholesale and retail trade

2.224 Benchmark estimate for intermediate consumption in wholesale and retail trade was made for 1981 on the basis of a cost survey for retail trade 1979, the accounting statistics for large wholesale enterprises 1981 and the Census of establishments 1974 for commission trade. Certain types of costs (insurance premiums, costs of patents and licences) were adjusted for in accordance with national accounts definitions. This benchmark estimation for 1981 specified a number of items and distributed on the two industries of wholesale and commission trade and retail trade. For the purpose of NNA, wholesaling and retailing of motor vehicles and retailing of gasoline etc. had to be distinguished. This was made on the basis of the annual accounting statistics for wholesale trade, grossed-up by utilizing sales data from the statistics of wholesale and retail trade, while the corresponding adjustments on new nomenclature had to take into account 1982 data for retail trade (i.e. 1981 input ratio equal to 1982 ratio of intermediate consumption to sales).

2.225 The NNA estimates of intermediate consumption for 1988 and later years - for the industry breakdown of NACE Rev.1 - were compiled from the 1981 benchmark and yearly changes (i.e. constructing a value index) according to data from the annual accounting statistics, grossed-up by using the sales data from the annual statistics of wholesale and retail trade.

2.226 The product specification is also based on the 1981 benchmark, regrouped according to NNA-products and used for the input structure of the respective NNA-industries. Using the 1981 distribution on products for 1988 and later years is of course a weak assumption, thus scrutinized and adjusted for in the balancing process of each NNA-product. In other words, the final product distribution of the current year is arrived at by using the product distribution of the previous year, but amended as a result of the balancing process of the current year estimation.

2.227 Total intermediate consumption has been revised upwards significantly (see above). For 1992, the accounting statistics of non-financial enterprises and self-employed are looked at for control purposes. There are problems attached to the introduction of this new source (both output and intermediate consumption seem clearly overestimated, while figuring reasonably well for value added). A negative difference between the final NNA estimate and the 1992 accounting statistics figure follows from what is already described in the case of output. It should also be observed that the input share in wholesale and retail trade has been reduced significantly, from around 43 per cent to 38 - 39 per cent in NNA, one main reason being that transport margins are not produced (and consumed accordingly) in this industry any longer (although purchased transport costs remain).

	Billion kroner. 1992
Total intermediate consumption, FNA	41,0
Total intermediate consumption, NNA	47,8
Intermediate consumption, 1992 accounting statistics	49,9
Intermediate consumption, 1992 accounting statistics adjusted	49,2

Repair of vehicles etc.

2.228 The annual production statistics - i.e. annual surveys of car repair shops etc. - are used to estimate intermediate consumption in the two industries of repair activities. Illustration for 1988 shows a good correspondence. However, in this case, one-man establishments are not included in the basic statistics. Same input share as in basic statistics - approximately 50 per cent of output - has been used and added for intermediate consumption in one-man establishments.

	Intermediate consumption. Billion kroner. 1988	
	Basic statistics	NNA
Repair of motor vehicles and motorcycles	4,3	4,4
Repair of personal and household goods	0,3	0,5
Total	4,7	4,9

I. HOTELS AND RESTAURANTS - NACE H CONTENTS, DEFINITIONS, SOURCES AND METHODS OF ESTIMATION

55 HOTELS AND RESTAURANTS

Value added of NACE H - Hotels and restaurants - amounts to 1,3 per cent of GDP in 1990. The 1990 revision from FNA to NNA has slightly increased the GDP share from 1,2 per cent. Output and intermediate consumption have both been slightly increased from definitional changes, by 0,6 and 0,2 billion kroner respectively. Value added of NACE H contributes by 3,6 billion to the 61,5 billion increase in 1990 GDP, of which 0,4 billion from definitional changes. Its estimation is mainly based on annual data of turnover from the Business Register of Statistics Norway and annual statistics of business accounts for hotels and restaurants. NACE H is covered by detailed specifications in NNA, in 2 industries and output by 5 characteristic products, plus some non-characteristic products.

Contents

2.229 In NNA, the activities of NACE H are distinguished in 2 industries:

551	Hotels and other accommodation
553	Restaurants, canteens and catering

2.230 In FNA, there was just one combined industry for hotels and restaurants. In NNA, the industry coverage has changed to include: (1) part of catering services transferred from manufacturing, (2) non-characteristic product of trade services (exclusively in wholesale and retail trade before), and (3) non-characteristic product of non-residential renting services transferred from industry of commercial buildings.

2.231 The coverage of NNA industry 551 is defined to include hotels and motels irrespective of accompanied restaurants or not. Other accommodation includes camping sites and youth hostels and mountain refuges, while for most part, activities of other provision of lodgings have not been covered for lack of information. The coverage of NNA industry 553 is defined

to include the total of NACE Rev.1 items of restaurants, bars, and canteens and catering. In principle, food serving services of all kinds are included, although in practice meals serving services in railway dining cars and on ships are included in transportation services if integrated in the incomes of the transporting unit (although not specified as a separate product item). Beverage serving services have a better statistical basis than is the case for food serving services. Canteen and catering services are relatively poorly covered. It is unclear how much of the activity of the independently operated canteens is covered, while the scope for catering services is confined to deliveries to private households, air transport and oil companies.

1. VALUE ADDED

2.232 Hotels and restaurants make a contribution of 1,3 per cent to GDP in 1990. In NNA, value added in million kroner - in basic prices - and their shares of total value added and GDP are estimated as follows:

		1990	
		Million kroner	Percentage of: Total GDP value added
551	Hotels and other accommodation	3 800	0,57 0,53
553	Restaurants, canteens and catering	5 884	0,88 0,81
Total		9 684	1,44 1,34

2.233 The 1990 revision from FNA to NNA has slightly increased the GDP share of the hotels and restaurants industry from 1,2 to 1,3 per cent.

		Billion kroner		Percentage of GDP	
		FNA	NNA	FNA	NNA
55	Hotels and restaurants	8,2	9,7	1,2	1,3

2. OUTPUT

Introduction

2.234 In NNA, output of hotels and restaurants - valued in basic prices - is estimated at 21,1 billion kroner in 1990. Non-characteristic output is rather insignificant, including non-

residential renting services, commission services, trade services (trade margins) from sale of souvenirs, maps, books, newspapers etc., plus own-account construction (quite small). There are some missing (characteristic) items in other accommodation, i.e. children's holiday camp services (CPA 55.23.11), holiday centre and holiday home services (55.23.12), most letting services of short-stay furnished accommodation (55.23.13, although some boarding houses might be included in hotel services), while sleeping car services and sleeping services in other transport media (55.23.14) are integrated with transport activities of same producing units (e.g. Norwegian railways, "Hurtigruta"- coastal shipping service). Accommodation services on oil fields in the North Sea are not covered here, but included in one of the four products on renting services of other machinery and equipment (small part that could be specified in terms of accommodation), which is a non-characteristic product of activity group 112 Services incidental to oil and gas extraction. Other short-stay accommodation services n.e.c. (55.23.15) are not identified.

		Output 1990. Billion kroner		
		Characteristic	Non-characteristic	Total
551	Hotels and other accommodation	7,8	0,1	8,0
552	Restaurants, canteens and catering	12,6	0,5	13,1
	Total	20,4	0,6	21,1

2.235 The 1990 revision from FNA to NNA has increased output of hotels and restaurants considerably from 17,5 to 21,1 billion kroner, which is a 20 per cent increase.

		Billion kroner		Revision	
		FNA	NNA	Total	Definitional
55	Hotels and restaurants	17,5	21,1	3,6	0,6

2.236 In NNA, there are catering units that have been regrouped from manufacture of food products to the restaurants, canteens and catering industry. In 1990, this means 0,6 billion kroner increased output in the latter industry.

Sources

2.237 Main sources for the hotels and restaurants industry are:

-	Statistics from Statistics Norway's Business Register
-	Statistics of business accounts for hotels and restaurants.

These statistics are also available in annual publication Statistics on Travel issued by Statistics Norway.

2.238 Additional sources are:

- Accommodation statistics of guest-nights for hotels and similar establishments. (indicators for provisional data in quarterly accounts)
- Manufacturing statistics on catering services. (i.e. part of annual manufacturing statistics)

2.239 Statistics Norway's Business Register is considered a main source (see section I.C.1 for general information). For the hotels industry, the register provides annual data on number of establishments, employment and sales for hotels and for camping sites. For the restaurants industry, the register provides annual data on number of establishments, employment and sales for restaurants and cafes, and for snack-bars, salad bars and hot dog bars. The register covers units which have employed persons or units bound to pay value added tax from their sales. These two criteria imply that many camping sites fall outside the register statistics (estimated from other sources to be about one half of them, however small in size). Register data are partly less reliable for some units, in which cases revised data have been calculated based on the VAT census data. The Business Register data are in fact twofold: (i) according to NACE Rev.1 industries 55.1 through 55.5 for 1992 and later years, while (ii) according to Norwegian activity classification based on ISIC Rev.2 for years before 1992.

2.240 Statistics of business accounts for hotels and restaurants are available from 1986 onwards on annual basis. Enterprises with at least 10 employees (man-years) are covered for hotels, restaurants and cafes, 4 employees and above for snack-bars, salad bars and hot dog bars, and 3 employees and above for camping sites. Operating receipts are specified on items such as income from lodging and income from sale of food and beverages (combined), the latter including income from meals served (including beverages), from meals included in lodging price, from beverages served in bars, pubs etc. and from vending machines. Other items are other income from sale and other operating income. These are items relevant for units of both the hotels industry and the restaurants industry. Altogether, the units in statistics of business accounts for hotels and restaurants have a coverage of about 65 per cent of their population (Business Register data for these industries) when measured by sales.

2.241 Accommodation statistics are based on monthly reports from each hotel giving the number of guests arrived, guest-nights by nationality of the guests, and by purpose of the hotel accommodation and the number of rooms occupied. All hotels and similar establishments with 20 beds or more are covered, classified into the categories of tourist and mountain hotels, town hotels and rural hotels. For non-respondents, Statistics Norway has calculated the number of guest-nights on the assumption that non-respondents have had the same utilization of capacity of beds as respondents in the same hotel group and county. For camping sites, the monthly reports on unit nights (tent-/camping caravan/ camping cabin) cover units with at least 8 rooms in cottages and houses. In this case, the calculation of number of guest-nights for non-respondents is based on a register of camping sites established in 1988 giving information of capacity for all sites. A sample of about 100 camping sites supply key figures for estimating the number of guest-nights.

2.242 For catering - until basic statistics based on NACE Rev.1 have been made available - relevant data have been extracted from the annual manufacturing statistics (for general information, see section I.C.4).

Methods of estimation

Hotels and other accommodation

2.243 Total sales according to the Business Register annual data are regarded as the best basis for estimating output in hotels and camping sites. It was necessary to adjust sales data reflecting the changeover from ISIC-based to NACE-based nomenclature from 1992 (overlapping in 1992). Time series are constructed for 1988 - 1992 by assuming same rate of change for total NACE 55.1 + 55.2 as for total ISIC 6321 + 6322, and by assuming same distribution among those units not coded to NACE for 1992 by Spring 1995 (small share) as for those been coded. Business Register sales data are:

	1992. Million kroner
Hotels, ISIC 6311	7 649
Camping sites, ISIC 6322	354
Total	8 003
Hotels, NACE 55.1	7 928
Other accommodation, NACE 55.2	653
of which: Camping sites, NACE 55.22	354
Total	8 581

2.244 By using the above mentioned assumption, 1990 estimates are established as follows:

Hotels, NACE 55.1	7 354
Other accommodation, NACE 55.2	605
of which: Camping sites, NACE 55.22	241
Total	7 959

2.245 Statistics of business accounts are used to specify output of hotels and other accommodation (excluding camping sites) on products. It is, however, not possible to split between food serving and beverage serving services. Items income from lodging and income from sale of food and beverages are distributed on NNA products in accordance with sales by NACE. Item other income from sale relates to income from snack-bars, salad bars and hot dog bars, and presumably to trade activities. By assumption, this item has been divided into two halves, one for the food serving services and one for trade services, of which only a trade margin (40 per cent) is relevant. Item other operating income is also only partly relevant for this estimation, i.e. sub-items suggest that amounts could be included for rental income, commission services and own-account construction, while most of the item seems not relevant

(financial incomes, capital gains etc.). It may seem questionable, however, whether the mentioned deductions should imply a corresponding deduction in the Business Register data (been implemented). The retail trade part - from turnover to trade margin - may be subject to correction, however. Full examination of such matters could better be made when Business Register sales data are scrutinized as part of the register programme under development in Norway.

2.246 It has been suggested to improve on the registered sales figure for camping sites, by adding an estimated 50 per cent for this particular item. A more detailed distribution by products for camping sites seems not worthwhile.

2.247 Illustration by 1990 figures follows by products. Output of hotels and other accommodation is specified by 2 characteristic, 2 "semi-characteristic" and 4 non-characteristic NNA-products.

		1990. Billion kroner
Characteristic output		
551 000	Hotel services	3,1
552 000	Other accommodation services	0,7
"Semi-characteristic" output		
553 000	Food serving services	3,8
554 000	Beverage serving services	0,2
Non-characteristic output		0,2
Includes rental services of non-residential property, commission services, trade services (trade margins) from sale of goods, and a minor amount of own-account construction		
Total output		8,0

Restaurants, canteens and catering

2.248 Total sales according to Business Register annual data are regarded as the best basis for estimating output of the restaurant industry. Like for hotels etc., sales data are adjusted to reflect the changeover from ISIC-based to NACE-based nomenclature in the CR from 1992 (overlapping year). Time series are constructed for 1988-1992 by assuming same rate of change for total NACE 55.3 + 55.4 + 55.5 as for total ISIC 6311 + 6312, and by assuming same distribution among those units not coded to NACE for 1992 (small share) as for those been coded. Business Register sales data are:

	1992. Million kroner
Restaurants and cafes, ISIC 6311	13 340
Snack-bars, salad bars and hot dog bars, ISIC 6312	1 299
Total	14 639
Restaurants, NACE 55.3	11 862
Bars, NACE 55.4	512
Canteens and catering, NACE 55.5	1 672
Total	14 046

2.249 By using the above mentioned assumption, 1990 estimates are established as follows:

Restaurants, NACE 55.3	10 781
Bars, NACE 55.4	465
Canteens and catering, NACE 55.5	1 520
Total	12 766

2.250 Statistics of business accounts are used to distribute output of restaurants (NACE 55.3) on products. Output of bars and output of canteens and catering, respectively, are allocated exclusively to their characteristic products. Output of restaurants, on the other hand, is distributed on the given four main items in statistics of business accounts. This procedure implies that items in the statistics of business accounts for restaurants are grossed up from 68,5 per cent to 100 per cent coverage, illustrated by 1990 figures:

Income from lodging	1 727
Income from sale of food and beverages	7 775
Other income from sale	691
Other operating income	588
Total	10 781

2.251 Item income from lodging is allocated exclusively to NNA product hotel services, while item income from sale of food and beverages is allocated to food serving services. For the other two items in the statistics of business accounts, the same assumptions are taken as described above for the hotel industry.

2.252 Certain catering services - now to be included in this industry while in manufacturing when ISIC-based - are added to the Business Register data since they have still not been included in the NACE 55.5 item of the Business Register for 1992. Manufacturing statistics are used as source for this adjustment.

2.253 Tips have not been estimated and added to output due to lack of information as yet. See chapter 7 on exhaustiveness for more information on this issue.

2.254 Illustration by 1990 figures follows by products. Output of restaurants, canteens and catering is specified by 3 characteristic, one "semi-characteristic" and 6 non-characteristic NNA-products.

		1990. Billion kroner
Characteristic output		
553 000	Food serving services	8,1
554 000	Beverage serving services	0,5
555 000	Canteen and catering services	2,1
"Semi-characteristic" output		
551 000	Hotel services	1,7
Non-characteristic output		0,6
Includes rental services of non-residential property, commission services, trade services (trade margins) from sale of goods, contract work, fees for various services and of own-account construction		
Total output		13,1

3. INTERMEDIATE CONSUMPTION

Introduction

2.255 In NNA, intermediate consumption in hotels and restaurants - valued in purchasers' prices - is estimated at 11,4 billion kroner in 1990.

		Intermediate consumption. 1990 Billion kroner No. of NNA-products	
551	Hotels and other accommodation	4,2	41
553	Restaurants, canteens and catering	7,2	41
Total		11,4	

2.256 The 1990 revision from FNA to NNA has increased intermediate consumption in hotels and restaurants from 9,3 to 11,4 billion kroner. A minor part of the increase is change in definition. The definitional change refers to the regrouping of certain catering units from manufacture of food products.

	Billion kroner		Revision	
	FNA	NNA	Total	Definitional
55 Hotels and restaurants	9,3	11,4	2,1	0,2

Sources

2.257 Main source is:

- Statistics of business accounts for hotels and restaurants
--

2.258 Statistics of business accounts contain information on operating expenditure, specified on items like consumption of goods, compensation of employees, ordinary depreciation costs and other expenditures. The first and last item are those which are relevant for intermediate consumption, but have to be grossed up.

2.259 Other sources used for parts of intermediate consumption are:

- Statistical information from the State Wine Monopoly
- Statistical information from the Brewers' Association
- Beverage serving statistics
- Energy accounting statistics of Statistics Norway

2.260 Statistical information from the State Wine Monopoly includes its income from sale of wine and spirits to beverage serving units. Consumers' expenditure on wines and spirits at these units is also available. Statistical information from the Brewers' Association includes prices of beer sold for each of the tax classes of beer when delivered from brewery to restaurant as of 1 January and 1 June each year. Beverage serving statistics include data on prices as well as number of litres of beer by tax classes of beer at beverage serving units (restaurants).

Methods of estimation

Hotels and other accommodation

2.261 The share of total operating expenditure to total operating income in the statistics of business accounts of this industry (97,2 per cent in 1990) is utilized with output to gross up these statistics from covering just about 65 per cent of the industry population. When grossed up, next question is what relates more accurately and conceptually to intermediate consumption. Item consumption of goods is fully included, while item other expenditures is

taken at 97,5 per cent coverage, assuming for the rest some capital losses to be included. Furthermore, a corresponding correction as made for output (same amount) is made for replacing retail trade turnover by trade margin.

2.262 Product details for intermediate consumption are available just for some scattered groups, such as detergents, toilet articles etc. (in relative terms). Expenditures on beverages are known from sources described above. The same applies to energy products, although some adjustment was deemed necessary. Product details for item other expenditures are not available, however. Eventually, commodity-flow method, spreadsheets and analysis on detailed products are used to arrive at intermediate consumption of the industry broken down by some 40 NNA products. The procedure of estimation described is basically the same each year. In 1990, the estimated parts are the following:

Part 1: Products known from State Wine Monopoly	185
Part 2: Products known from other beverage statistics sources	224
Part 2: Products known from energy accounts	477
Part 3: Remaining products	3 288
Total intermediate consumption	4 174

While parts 1, 2 and 3 (mostly - as figures for petrol and gas oils were somewhat adjusted upwards) are determined from statistics available, part 4 is basically estimated from using industry information en bloc (value index) and keeping the same distribution by remaining products for other years as in 1988.

Restaurants, canteens and catering

2.263 The same procedures are used here as described in the hotel and other accommodation industry on grossing up the figures obtained from statistics of business accounts. In addition, intermediate consumption on catering for the manufacturing part has been estimated from manufacturing statistics.

2.264 Product details for intermediate consumption are available just for some scattered groups, such as alcoholic beverages and energy products. The latter products, though, have been somewhat adjusted. The procedure used for the estimation of details for intermediate consumption (approximately 40 NNA products) is basically the same as described for the hotel industry, here estimated in five parts:

Part 1: Products known from State Wine Monopoly	416
Part 2: Products known from beverage statistics sources	575
Part 2: Products known from energy accounts	481
Part 4: Products known from manufacturing statistics	237
Part 3: Remaining products	5 526
Total intermediate consumption	7 235

**J. TRANSPORT, STORAGE AND COMMUNICATION
- NACE I
CONTENTS, DEFINITIONS, SOURCES AND
METHODS OF ESTIMATION**

- 60 LAND TRANSPORT; TRANSPORT VIA PIPELINES
- 61 WATER TRANSPORT
- 62 AIR TRANSPORT
- 63 SUPPORTING AND AUXILIARY TRANSPORT ACTIVITIES;
ACTIVITIES OF TRAVEL AGENCIES
- 64 POST AND TELECOMMUNICATIONS

Value added of NACE I - Transport, storage and communication - amounts to 10,0 per cent of GDP in 1990. The 1990 revision has slightly increased the GDP share from 9,9 per cent. Output and intermediate consumption have both been increased from definitional changes, by 5,7 and 5,2 billion kroner respectively. Most significant changes of definitions come from switching from net to gross treatment for activities of tour operators and for rental services of sea-going vessels. Value added of NACE I contributes by 6,2 billion of the 61,5 billion increase in 1990 GDP, of which 0,5 billion from definitional changes. As much as 17 different statistical sources have been listed as main sources used in the transport, storage and communication area. Output of land transport, in particular, has been considerably increased through better utilization of the sources available. NACE I is covered by detailed specifications, in 14 industries and output by 66 characteristic products and some non-characteristic products. Non-market share is moderately at 1,5 per cent of total value added of NACE I.

Contents

2.265 In NNA, the activities of NACE I are distinguished in 14 industries:

601	Transport via railways
602	Scheduled motor bus transport
603	Taxi operation
604	Other land transport
605	Tramway and suburban transport
608	Transport via pipelines
611	Ocean transport and coastal water transport abroad
613	Inland water transport
620	Air transport
631	Supporting activities of cargo handling and storage, other supporting land and air transport activities
632	Other supporting water transport activities
633	Activities of travel agencies etc.
641	Post and courier activities
642	Telecommunications

2.266 These industries contain both market and non-market activities. While all include market activities, the following three industries include non-market activities of central government in addition:

601	Transport via railways
631	Supporting activities of cargo handling and storage, other supporting land and air transport activities
632	Other supporting water transport activities

In terms of 1990 value added, the non-market share is moderately at 1,5 per cent.

2.267 In FNA, there were 13 industries in the transport, storage and communication industry. Thus, there has been a tradition in Norwegian national accounts for detailed industry specifications in the transport area. The main difference between FNA and NNA in terms of specifications concerns supporting and auxiliary transport activities and activities of travel agencies, following the switch over from ISIC Rev.2 to NACE Rev.1.

2.268 Several of the industries are characterized by the presence of State monopolies or few producers:

- 601 Transport via railways
- 605 Tramway and suburban transport
- 608 Transport via pipelines

- 620 Air transport
- 641 Post and courier activities
- 642 Telecommunications

2.269 Transport via railways is dominated by the State monopoly corporation NSB. This corporation is, however, also a producer of other transport services such as scheduled motor bus transport and suburban transport, and repair activities that belong to manufacturing. The scope of the transport via railways industry is the same as in FNA. However, there is an institutional change from 1990 when the infrastructure part - the roadway - was distinguished from the traffic part. The former part has been separated as a non-market producer belonging to central government, while the latter part is treated as a market producer belonging institutionally to the non-financial corporate sector. In the context of industries, both are included with transport via railways.

2.270 Tramway and suburban transport constitutes - as before - a separate industry with just a few units among which Oslo Sporveier is the dominating corporation. The railway corporation NSB performs a substantial part of suburban transport, but has not been split to cover this activity explicitly (other than specifying by proper product).

2.271 Transport via pipelines has become an important industry in Norway (more than 1 per cent of GDP). Pipelines from the Norwegian continental shelf to other countries are included in Norwegian statistics if a Norwegian-registered unit owns the pipeline, even if most of the pipeline is laid outside Norwegian territory. There are at present 10 pipeline transportation systems, of which three systems - Norpipe, Frigg Transport, Statpipe - were in operation in 1990. Since then three more systems - Frostpipe, Zeepipe, Sleipner Øst - are also in operation, while the remaining four systems will come into operation in 1995 or 1996. There are four different operators involved as producers of the present pipeline transportation systems.

2.272 In air transport, scheduled as well as non-scheduled air transport are included, the latter also including air transport on charters, to Mediterranean destinations in particular. SAS (Scandinavian Airline System) is the most important company operating in Norwegian air transport. In national accounts, it means applying common rules for SAS in the three Scandinavian countries Denmark, Norway and Sweden. Over the years, at least from the implementation of SNA 1968, such a common treatment has been in force. Still, divergencies in treatment have occurred, and recently another Nordic working group has been investigating possibilities for improved implementation of the SNA principles. Eventually, the revised rules may have some impact on the air transport output estimation in Norway. The essence of the SAS problem is to determine the residence of this company. It consists of a corporation established by special legislation by three governments acting jointly, registered in each of the countries concerned. The preferred method in this case, both in the former and the new system, and followed by Norway as well as Denmark and Sweden, is to allocate transactions to each of the countries concerned in proportion to their shares in the equity of the corporation, the shares being 3/7 for Sweden, 2/7 for Denmark and 2/7 for Norway.

2.273 Some clarification might be needed on the presence of units in air transport. DNL (Det Norske Luftfartsselskap) is the Norwegian parent company of the SAS Consortium, Scanair and SAS Commuter, the three Nordic companies involved in air transportation. SAS Consortium consists of SAS (referred to as SAS airline and SAS Finance) and SAS Trading. It

implies that certain activities of SAS Consortium fall outside the scope of air transportation services. These might be treated either as non-characteristic production of same unit, or by defining a separate unit to be transferred to its proper NACE location. The practice in FNA has been to relocate the workshop activity, i.e. adjusting the SAS Consortium figures as this activity is not considered closely connected to air transport. On the other hand, services provided by SAS Finance and SAS Trading have so far been considered non-characteristic services produced by air transport. In NNA, this treatment will continue. Furthermore, Scanair has been renamed SAS Leisure, whose activities from 1989 consist of air transport, tour operation and hotel accommodation. From 1993, however, this part of SAS has been reorganized and constitutes now a Danish company solely.

2.274 Post and telecommunications have - in both FNA and NNA - been distinguished in two industries. The scope has been about the same in the two versions, except that part of courier activities of the post industry was included in supporting services to land transport previously. Two State monopolies - the Postal Service and Norwegian Telecom - are the dominating units of these two industries.

2.275 Scheduled motor bus transport has been defined somewhat narrower than in FNA, as all rental services of buses and coaches with operator now are transferred to 604 Other land transport.

2.276 In water transport, NNA industry 611 is more narrowly defined than in NACE 61.1 Sea and coastal transport. Correspondingly, NNA industry 612 is wider than in NACE 61.2 Inland water transport, a deviation that reflects topographic conditions in Norway. NACE 61.2 refers to inland water transport on rivers and lakes. Furthermore, units that operate ships in form of management have been included in industry 611. Restaurants in vessels are included as well, but not specified as food serving services on the product side.

2.277 The problem of defining units and residence are quite formidable in ocean transport. In the Norwegian computations, transportation activity is attributed to the country in which the operator, i.e. principal organizer, of the vessel is resident. For the allocation of the ships per se, i.e. in the capacity as factors of production, the ownership criterion is employed. The flag of register is not used as a criterion any longer. In Norway, the disadvantage of employing the register principle became apparent by the mid 1980's. When a considerable part of the Norwegian-owned fleet chose to register under foreign flags, this was earlier recorded as exports of ships although no change of ownership took place. In 1987, the Norwegian International Ship Register (NIS) was established to prevent further registration abroad. However, in NIS the problem was turned around, i.e. it was the possibility of an unanticipated growth in the imports figures due to changes in registration only which led to have the register principle abandoned.

2.278 Supporting and auxiliary transport activities and activities of travel agencies are distinguished in three NNA-industries. The first and second divide supporting and auxiliary transport services to specify separately supporting water transport activities, primarily for the national interest in constructing a wider industry area for water transport activities (NNA-industries 611, 613 and 632). NNA 631 corresponds to the FNA industry of supporting services to land transport plus services allied to transport and storage less activities of travel

agencies and tour operators etc. NNA 632 is wider defined than in FNA, since ship-broker services were included in the FNA industry of services allied to transport and storage.

1. VALUE ADDED

2.279 Transport, storage and communication makes a contribution of 10,0 per cent to GDP in 1990. In NNA, value added in million kroner - in basic prices - and their shares of total value added and GDP are estimated as follows:

		1990	
		Million kroner	Percentage of: Total GDP value added
601	Transport via railways	1 856	0,28 0,26
602	Scheduled motor bus transport	2 484	0,37 0,34
603	Taxi operation	2 076	0,31 0,29
604	Other land transport	8 788	1,31 1,22
605	Tramway and suburban transport	150	0,02 0,02
608	Transport via pipelines	7 924	1,18 1,10
611	Ocean transport and coastal water transport abroad	16 718	2,49 2,32
613	Inland water transport	1 849	0,28 0,26
620	Air transport	4 662	0,70 0,65
631	Supporting activities of cargo handling and storage, other supporting land and air transport activities	4 099	0,61 0,57
632	Other supporting water transport activities	3 749	0,57 0,53
633	Activities of travel agencies etc.	917	0,14 0,13
641	Post and courier activities	5 015	0,75 0,69
642	Telecommunications	11 578	1,73 1,60
	Total	71 910	10,72 9,96

2.280 The 1990 revision from FNA to NNA has slightly increased the GDP share of transport, storage and communication from 9,9 to 10,0 per cent:

		Billion kroner		Percentage of GDP	
		FNA	NNA	FNA	NNA
60	Land transport; transport via pipelines	19,1	23,3	2,9	3,2
61	Water transport	18,2	18,6	2,8	2,6
62	Air transport	5,1	4,7	0,8	0,7
63	Supporting and auxiliary transport activities; activities of travel agencies	6,9	8,8	1,0	1,2
64	Post and telecommunications	16,4	16,6	2,5	2,3
	Total	65,7	71,9	9,9	10,0

2. OUTPUT

Introduction

2.281 In NNA, output of transport, storage and communication - valued in basic prices - is estimated at 152,8 billion kroner in 1990. Non-characteristic output is rather insignificant, less than 2 per cent in total. It includes non-residential renting services, commission services, fees for various services, trade services (trade margins) and advertising services.

		Output 1990. Billion kroner		
		Characteristic	Non-characteristic	Total
601	Transport via railways	5,5	0,1	5,6
602	Scheduled motor bus transport	4,8	0,1	4,9
603	Taxi operation	2,7	0,0	2,7
604	Other land transport	15,0	-	15,0
605	Tramway and suburban transport	0,4	0,0	0,5
608	Transport via pipelines	9,0	0,1	9,1
611	Ocean transport and coastal water transport abroad	52,9	0,8	53,8

613	Inland water transport	4,2	-	4,2
620	Air transport	11,9	1,3	13,2
631	Supporting activities of cargo handling and storage, other supporting land and air transport activities	10,4	-	10,4
632	Other supporting water transport activities	5,5	-	5,5
633	Activities of travel agencies etc.	4,8	-	4,8
641	Post and courier activities	6,8	0,0	6,8
642	Telecommunications	16,2	-	16,2
	Total	150,2	2,6	152,8

2.282 The 1990 revision from FNA to NNA has increased output of transport, storage and communication considerably from 136,3 to 152,8 billion kroner. About one third of the increase is due to changes in definition.

		Billion kroner		Revision	
		FNA	NNA	Total	Definitional
60	Land transport; transport via pipelines	27,0	37,8	10,8	2,2
61	Water transport	51,6	58,0	6,4	6,4
62	Air transport	13,2	13,2	0,0	-
63	Supporting and auxiliary transport activities; activities of travel agencies	19,6	20,7	1,1	-2,9
64	Post and telecommunications	24,9	23,0	-1,9	-
	Total	136,3	152,8	16,5	5,7

2.283 Definitional changes to output in land transport and transport via pipelines are at least two: the institutional splitting of transport via railways into the roadway part and the traffic part, and the new valuation principle of crude petroleum and natural gas affecting transport via pipelines. Increased output in 1990 is estimated at 1,6 and 0,6 billion kroner, respectively. In FNA, rental services of sea-going vessels with crew were recorded on a net basis, while changed to a gross recording in NNA. Renting services of this kind are of utmost importance in Norway, in 1990 recorded in NNA at 6,3 billion as intermediate consumption and 17,3 billion kroner as output, the definitional change reflecting this. A change from net to gross treatment has also been introduced in the activity of tour operators following the new principle in ESA 1995. In FNA, output of travel agencies and tour operators combined was estimated at 1,6 billion kroner, while in NNA output of travel agencies - still on a net basis - is recorded at 0,9 billion kroner and output of tour operators on a gross basis at 3,9 billion kroner. From this, therefore, the effect from change in definition for tour operators is a 3,1 billion increase. Finally, as described under public administration, the regrouping of maintenance work on

roads in 1990 contributes to 6,0 billion lower output in supporting and auxiliary transport activities.

Sources

2.284 Main sources used to estimate output in transport, storage and communication are listed below. They include 17 different sources. In parentheses are indicated for which industries the sources have been applied.

-	Annual accounts of the State railway corporation NSB	(601)
-	Central government accounts	(601, 631, 632)
-	Annual scheduled motor bus transport statistics	(602)
-	Statistics Norway's Business Register	(603, 604, 631, 632, 633)
-	Periodic surveys of the taxi operation industry for 1980 and 1990	(603)
-	Annual reports of tramway and suburban transport companies	(605)
-	Annual statistics of oil activities	(608)
-	Annual maritime transport statistics	(611)
-	Foreign exchange statistics	(611)
-	Annual maritime statistics on regular coastal trade	(613)
-	Annual maritime statistics on domestic non-scheduled transport of goods	(613)
-	Annual and quarterly accounting data of SAS	(620)
-	Annual accounting statistics of air transport companies	(620)
-	Economic survey for supporting services to land transport for 1987	(631)
-	Report on travel agencies and tour operators for 1982-87	(633)
-	Annual accounts of the Postal Service	(641)
-	Annual accounts and statistics of Norwegian Telecom	(642)

2.285 Annual accounts of the State railway corporation NSB are obtained from the central administration unit of NSB. They include very detailed accounting data on passenger traffic as well as freight traffic.

2.286 Central government accounts are used for the estimation of non-market output of central government, i.e. for the roadway part of transport via railways and for several activities of supporting and auxiliary transport activities. Central government accounts are described in section I.C above as one of the main sources used for national accounting.

2.287 Annual scheduled motor bus transport statistics contain detailed information for this industry, particularly for the years before 1986 when a new Transportation Act came into force. Since then the scheduled motor bus transport statistics no longer cover freight transportation that are not subsidized from government nor freight transportation other than combined with passenger transportation. These are minor limitations, however.

2.288 Statistic Norway's Business Register is one of the fundamental sources in the statistical system, already described in a general way in section I C. In the transport area, sales data of the Business Register play a role for some of the industries - either directly or indirectly - and in particular for taxi operation, other land transport, and supporting and auxiliary transport activities and activities of travel agencies etc.

2.289 Periodic surveys of the taxi operation industry have been carried out, the results of which are available in two project reports, the first one provided by the Institute of Transport Economics for 1980 and the second by the Norwegian Taxi Association for 1990. The latter survey report is considered best in quality.

2.290 Annual reports of tramway and suburban transport companies cover the existing rail companies in Oslo, Bergen and Trondheim, among which Oslo Sporveier A/S is far most important. Accounting figures from the annual reports from 1989 onwards are considered more reliable than for preceding years.

2.291 Annual statistics of oil activities also cover the pipeline transport industry. These statistics are collected in statistical forms, in the R-form set dealing with transport of crude petroleum and natural gas via pipelines, but also the A-form set is relevant including information on supporting activity onshore for the pipeline transport industry.

2.292 Annual maritime statistics are also described in section I.C as one of the main statistical sources used for national accounting. This source include statistics for Norwegian vessels in foreign-going trades and statistics for foreign vessels in Norwegian foreign-going trades, based on reports from the ship owners for each ship over 250 gross tons. Four different types of forms are used, for Norwegian-registered vessels (excl. supply ships), for foreign-registered vessels (excl. supply ships), for supply ships, and for foreign vessels registered in NIS (under paragraph 1.3). It should be observed that the statistical unit of these statistics is the ship, not the ship owner or producer.

2.293 Foreign exchange statistics, compiled by the Bank of Norway on a monthly basis, are described in general in section I.C as well. This source is less detailed than the maritime transport statistics, but available at an earlier point of time and hence suitable for provisional national accounts and balance of payments statistics anyway. Transactions recorded in the banks and with shipping companies serve as the basis for these statistics covering receipts and expenses in transactions with rest-of-the-world. Among the elements assumed to be covered here - while not in the maritime transport statistics - are expenses connected with management of ships and with the operation of vessels through so-called pools arrangements, and transactions connected with vessels in which Norwegian ownership share is below 50 per cent (but still operated by resident unit). Transactions connected with Norwegian cruise ships - now operating from the United States while administered from Norway - are not covered by either of the two main statistical sources for this industry. However, these cruise ships were exported in 1988 and are not contributing to Norwegian output any longer (non-resident activity).

2.294 Annual maritime statistics on regular coastal trade used to cover all licensed regular services until 1987, whether passenger or freight transportation services and with no tonnage limitations. From 1987, licensed passenger transportation services are covered only, although

freight transportation services are still included when freight transportation is accompanied and combined with passenger transportation services. It also implies that freight transportation services on ships of more than 100 gross tons have been transferred to and included in maritime statistics on domestic non-scheduled transport of goods.

2.295 Annual maritime statistics on domestic non-scheduled transport of goods have been available since 1981. These statistics cover Norwegian vessels of 100-3000 gross tons in coastal transport of goods for hire or reward and on own-account. More detailed information is given every five years (1985, 1990), also covering smaller vessels (down to 50 gross tons). Vessels above upper limit of 3000 gross tons are not covered in the statistics. Vessels providing supply, towing and pushing services for the oil activity in the North Sea are included as from 1988.

2.296 Accounting data from SAS are processed by Statistics Sweden in Stockholm and subsequently communicated to the other Scandinavian capitals on a quarterly basis. Some procedures were altered in 1990, in particular those involving exports and imports, alterations that can not be traced beyond 1990.

2.297 The annual accounting statistics of air transport companies published by Statistics Norway (in co-operation with Civil Aviation Administration) cover all companies that have a licence to operate and to provide air transportation services in Norway. Scanair and SAS Commuter do not have such a licence, hence data for these two companies presently have to be obtained separately, i.e. from annual reports of DNL / SAS. The accounting data also comprise the aviation workshops' activities, which are part of manufacturing and thus must be adjusted for. The accounting statistics of Norwegian air transport companies - excluding SAS and the like - are obtained from statistical forms involving a few scheduled air transport companies, a few other large air transport companies (including a main provider of transportation services by helicopter to the oil fields in the North Sea), plus some 35 small air transport companies.

2.298 The economic survey for 1987 on supporting services to land transport covered activities which are now parts of supporting services for road transport. Some information was provided for renting services of automobiles and other land transport equipment and for courier services, activities which have been transferred to other areas of NACE. The 1987 economic survey results were obtained from combining statistics based on the Business Register with a separate working accounts survey for all establishments of the industry.

2.299 Reports on travel agencies and tour operators, covering the period 1982-1987, have been worked out by a consulting firm and made available by Ministry of Industry and Energy. They contain sales data for travel agencies and tour operators prepared on a gross basis for both categories. All together, 427 travel agencies, 141 tour operators and 19 cottage hire intermediaries are covered. It is assumed to be of full coverage, since until 1992 a license was required for entering this kind of business. For travel agencies, it is observed that the commission ratio of sales is quite stable from year to year, around 10 per cent.

2.300 The annual accounts of the Postal Service contain detailed specifications. Postal settlements with rest-of-the-world (both directions) are also specified. Data on services from

the Postal Service to the Postal Giro and to the Post Office Savings Bank are also available from these two units separately.

2.301 Annual accounts and statistics from Norwegian Telecom are basically two versions of the same source, i.e. economic statistical information obtained from the State corporation Norwegian Telecom. The annual accounts provide data on total income receipts and costs by type of incomes and costs and by groups of services. Such information is as well obtained from the second version of statistical information from Norwegian Telecom, usually the most accessible of the two.

2.302 Supplementary sources are also used throughout the estimation of output in transport, storage and communication. They are not systematically described here, but are later referred to when the respective methods of estimation are described. A list of the supplementary sources include:

-	Turnover data from Nor-Way Bussekspressen	(602)
-	Census of Establishments 1974	(603, 604, 631, 632)
-	Register of vehicles and the publication "Car and road statistics" from the Directorate of Roads	(603, 604, 631)
-	Provisional annual data on lorries	(604)
-	Accounting statistics 1983 from a sample survey of transport enterprises	(604)
-	Annual accounts of the Road Administration	(631)
-	Annual accounts of the Civil Aviation Administration	(631)
-	Reports from the Institute of Transport Economics	(631)
-	Local government accounts	(633)
-	Accounts of radio and television cable companies	(642)

Methods of estimation

Transport via railways

2.303 The annual accounts from the State railway corporation NSB are utilized for the output estimation of this industry. For the implementation of the new feature of roadway maintenance work from 1990, items of central government accounts have been used. The accounts of the Postal Service are also utilized. Output is specified by 5 characteristic NNA-products, including urban and suburban passenger railway transportation which might be regarded as characteristic of the tramways and suburban industry. In addition, there are as many as 8 non-characteristic NNA-products specified.

2.304 Illustration by 1990 figures and summarized references to sources and methods used follows by products:

1990. Billion kroner

Characteristic output		
601 010	Interurban passenger transportation services by railways 9 items of receipts are added, deducting some minor items (25 mill.), while adding an estimate of free transport (113 mill.)	1,2
601 021	Freight transportation services by railways Total freight traffic item, plus minor items from miscellaneous incomes, while deducting mail transportation (separate product)	1,2
601 025	Mail transportation by railways Item identified in the accounts of the Postal Service	0,1
601 045	Railroad maintenance work Item identified in the central government accounts. Before 1990, own-account construction of railway was recorded (see investment section below)	1,3
"Semi-characteristic" output		
602 110	Urban and suburban passenger railway transportation services Items of passenger transport receipts, adding estimate of free transport (113 mill.)	0,4
Non-characteristic output		0,1
Includes renting services of non-residential buildings, renting services of dwellings, rental services of other machinery and equipment, payments of contract work, fees for various services, plus quite small values for trade services (trade margins), advertising services, and services of museums, libraries and archives; all estimated from items of the main source.		
Total market output		4,3

2.305 Non-market output of central government - concerning the roadway part - is added to the market output described above. Railroad maintenance work is treated as output of market production for intermediate consumption in the non-market production and thus contributing to central government consumption expenditure. No value added is created in non-market central government production from this. The treatment aims at including the traffic part only in costs of production for the market production. However, output is recorded twice by this treatment.

	1990. Billion kroner
Market output	4,3
Non-market output	1,3
Total output, transport via railways	5,6

2.306 Pushing or towing services are not included in output of transport via railways, as these are mainly intra-establishment flows within NSB (minor part for other units, recorded in freight transportation services). Sleeping car services are not provided by separate units in Norway, but performed by NSB and recorded in interurban passenger transportation services. Dining car services are excluded, apart from small amount of payments to NSB for contract work while performed by a catering company.

2.307 Free transport is estimated outside available sources, based on experts' view and considerations related to the estimation of compensation of employees as well as total use of railway transportation services. The estimated item is then equally divided between interurban passenger transportation and urban and suburban passenger transportation services.

Scheduled motor bus transport

2.308 The annual scheduled motor bus transport statistics are utilized for the output estimation of this industry. Used as a supplementary source is information on turnover from Nor-Way Bussekspressen A/S (a union of bus companies founded as an express bus alternative which covers about 90 per cent of long distance passenger transportation by bus in Norway). Output is specified by 6 characteristic and 2 non-characteristic NNA-products.

2.309 Illustration by 1990 figures and summarized references to sources and methods follows by products:

	1990. Billion kroner
Characteristic output	
602 123 Urban and suburban passenger transportation services	3,3
80 per cent of total passenger traffic receipts (item of main source), 45 per cent subsidies (item of main source, for school bus transportation), and estimate for free transport (61 mill.)	
602 130 Interurban passenger transportation services	0,4
10 per cent of total passenger traffic receipts item, turnover from Nor-Way Bussekspressen	

	and extra 10 per cent for grossing up	
602 310	Rental services of buses with operator 10 per cent of total passenger traffic receipts item, plus another item of main source	0,3
602 320	Rental services of buses on contract Item of main source	0,5
602 410	Freight transportation services by road Special calculation by method of calibration, deducting mail transportation (separate product)	0,2
602 421	Mail transportation by road Item identified in the accounts of the Postal Service (VAT-adjusted)	0,0
	Non-characteristic output Includes fees for various services and advertising services, estimated from items of main source	0,1
	Total output	4,9

2.310 Included in bus transportation services are scheduled transportation by school buses, and bus transportation to and from airports. On the other hand, cable-operated passenger transportation - including ski-lifts - is not included here, rather treated as a product from sporting activities and other recreational services.

2.311 Free transport is estimated on the same basis and considerations as described for transport via railways.

Taxi operation

2.312 The periodic survey results for 1990 are utilized for making a benchmark estimate for 1990. This source leads to a 35 to 40 per cent higher value of output than basing the estimation on sales data from the Business Register. The reason for this is that the register data are not considered very reliable, due to lack of coverage and corresponding problem of grossing up, and problems of updating the register data. Adjusting the register data for lacking units by assuming same average sale as for those reporting to the register, would have increased output value somewhat:

	1990. Billion kroner
Business register, unadjusted	1,9
Business register, adjusted	2,1
Survey of the taxi operation industry	2,7

2.313 Two considerations of exhaustiveness, and branch experts view that the survey results - against the number of taxis registered - were most reasonable, helped determine a choice for the survey alternative. With this alternative, exhaustiveness would improve towards covering non-registered taxis (not widespread, but of some importance) and rental services with operator otherwise not estimated. Output is specified by 2 NNA-products, one characteristic and one non-characteristic.

2.314 Illustration by 1990 figures and summarized references to sources and methods follows by products:

		1990. Billion kroner
Characteristic output		
602 210	Taxi services and rental services of passenger cars with operator Item of main source	2,7
Non-characteristic output		0,0
	Includes advertising services, 1,5 per cent of total incomes (item of main source)	
Total output		2,7

2.315 For 1988, 1989 and years after 1990, a value index (1990=100) has been constructed based on number of taxis, number of kilometres driven per taxi and the Consumer Price Index for taxi services. This method might also be used for earlier years, although Business Register sales data (preferably the adjusted version) could be used backwards to 1984 in an interpolation effort to take into account as well the results from the periodic survey of 1980, and even further back, by taking into account the Census of Establishments 1974.

Other land transport

2.316 Statistics Norway's Business Register are utilized as the main source for the estimation of output in other land transport. For rental services of buses with operator - i.e. on non-scheduled basis - the supplementary source of number of buses from the publication "Cars and road" has been used as a volume indicator. Output is specified by 4 characteristic NNA-products.

2.317 Illustration by 1990 figures and summarized references to sources and methods follows by products:

		1990. Billion kroner
Characteristic output		
602 310	Rental services of buses with operator 1988 benchmark (number of buses in group for hired vehicles, coaches etc. and estimated average turnover per bus), and volume and price indicators used (number of buses as above and total Consumer Price Index)	0,6
602 410	Freight transportation services by road 75 per cent of sales in the Business Register, deducting item for mail transportation	10,7
602 421	Mail transportation by road Item identified in the annual accounts of the Postal Service	0,1
602 430	Rental services of commercial freight vehicles with operator 25 per cent of sales in the Business register	3,6
Total output		15,0

2.318 The supplementary source of 1983 accounting statistics from a sample survey of transport enterprises may be used as a benchmark source when carrying the estimation backwards. The same applies to the 1974 Census of Establishments. The 1983 accounting statistics were not used in FNA. Since the sales data of the Business Register have improved in quality for recent years, the direct use of these data has been preferred to the alternative approach of taking 1983 as a benchmark, combined with the use of price and volume indicators for later years.

Tramway and suburban transport

2.319 The annual reports of tramway and suburban transport companies are utilized for the output estimation of this industry. Output is specified by one characteristic NNA-product and two minor non-characteristic products. It should be recalled that tramway and suburban transportation services performed by NSB - the State railway company - are treated as produced in the transport via railways industry.

2.320 Illustration by 1990 figures and summarized references to sources and methods follows by products:

		1990. Billion kroner
Characteristic output		
602 124	Tramway and suburban transportation services Items of traffic receipts for the three rail transport companies in Oslo, Bergen and Trondheim, and estimate for free transport (30 mill., mostly constant)	0,4
Non-characteristic output		0,0
Includes advertising services and own-account construction on railroads, estimated from information given by Oslo Sporveier and part of investment calculations, respectively		
Total output		0,4

Transport via pipelines

2.321 The annual statistics of oil statistics are utilized for the estimation of output in transport via pipelines industry. Since NNA specifies two pipeline transport products, one for crude petroleum and one for natural gas, it is necessary to identify which pipelines are used for each of the products. Pipelines for crude petroleum are three (referring to 1990): Ekofisk-Teeside, Oseberg-Sture and Ula-Ekofisk (also some transport of natural gas). Pipelines for natural gas are three as well: Frigg-St.Fergus, Ekofisk-Emden and Statpipe pipeline system. Transportation via pipeline for other goods is assumed non-existent in Norway. Besides 2 characteristic NNA-products, one non-characteristic product also contributes to industry output.

2.322 Illustration by 1990 figures and summarized references to sources and methods follows by products:

		1990. Billion kroner
Characteristic output		
603 011	Transportation services via pipelines for crude petroleum Item in R-form for total income from production, crude petroleum part	3,6
603 012	Transportation services via pipelines for natural gas Item in R-form for total income from production, natural gas part	5,4

Non-characteristic output	0,1
Includes payments for contract work, estimated from two items (one in R-form, one in A-form) of main source	
Total output	9,1

Ocean transport and coastal water transport abroad

2.323 The annual maritime transport statistics are the basic source for the estimation of output in this industry. However, the foreign exchange statistics play an important role in the estimation as well. Output is specified by 4 characteristic and 3 non-characteristic NNA-products. Before 1988, a fifth characteristic product should be added - passenger transportation by cruise ships.

2.324 Illustration by 1990 figures and summarized references to sources and methods follows by products:

		1990. Billion kroner
Characteristic output		
611 014	Sea passenger transportation services, excl. cruise ships	1,6
	Item passenger transportation receipts for Norwegian-registered vessels, item (minor) for foreign vessels registered in NIS, and estimated addition from foreign exchange statistics	
611 022	Sea freight transportation services	32,5
	Items of voyage freights, liner freights, freights from contract of affreightment, part of item time-charter for oil activity from foreign exchange statistics, and estimated addition from foreign exchange statistics	
611 029	Supply transportation services for oil activity	1,0
	Item from supply ship's part of main source, from which is deducted an inland water transport industry part (corrected somewhat for 1990)	
611 033	Rental services of sea-going vessels with crew	17,3
	Items of time-charter from Norwegians	

	and time-charter hire from foreigners, and estimated addition from foreign exchange statistics	
Non-characteristic output		1,3
	Includes freight transportation services of inland water transport (0,5 billion), rental services concerning vessels without operators (0,7), both identified by items of main source, and other technical consultancy services - i.e. management services - (0,1), estimated addition from foreign exchange statistics	
Total output		53,8

2.325 From 1988, passenger transportation by cruise ships has been non-existent in Norwegian output, following the flagging out of Norwegian shipping companies. Passenger transportation services by ferries between Norwegian ports and Denmark and England (or other countries) are recorded as characteristic of this industry when performed by Norwegian units of production.

2.326 Sea freight transportation services are the main product of the industry. Further illustration by sources is as follows:

	1990. Billion kroner
Norwegian-registered vessels	15,9
- voyage freights	9,7
- liner freights	3,4
- freights from contracts of affreightment	1,9
- time-charter for oil activity	0,9
Foreign-registered vessels	12,1
- voyage freights	7,0
- liner freights	1,5
- freights from contracts of affreightment	3,5
Foreign vessels registered in NIS	1,7
- voyage freights	1,2
- liner freights	0,0
- freights from contracts of affreightment	0,5
Total before adjustment	29,7

Item freight by hire/purchase is recorded as non-existent.

2.327 Rental services of sea-going vessels with crew are the other main product of the industry. Illustration similar to above follows:

Norwegian-registered vessels	12,9
- time-charter hire from foreigners	8,3
- time-charter from Norwegians	4,6
Foreign-registered vessels	2,8
- time-charter hire from foreigners	1,7
- time-charter from Norwegians	1,1
Foreign vessels registered in NIS	1,1
- time-charter hire from foreigners	0,4
- time-charter from Norwegians	0,6
Total before adjustment	16,7

2.328 Management services are estimated on a weaker basis in lack of current statistics. The most significant units operating in this kind of activity have been contacted (7 companies, two of which with 50 employees or more), on which basis output has been estimated. Although part of their output is of a different nature, all has been considered as output of management services. A benchmark estimate of 100 million kroner seems reasonable for 1988, for subsequent years increased a little.

2.329 As already indicated, the two main sources provide different results for output. Substantive differences have been observed, particularly for recent years. Maritime transport statistics risk an under-representation from not covering all units of vessels in the statistics. On the other hand, examination shows that certain transactions not relevant for the output estimation have been included in the foreign exchange statistics. The method used as a basis for the output estimate is to reduce the foreign exchange statistics by a fixed amount of 1 billion kroner for exports, and adjusting imports for intermediate consumption of 1 billion kroner as well, the main reason for which is that the two main sources do show almost identical value on net basis for all years studied (with one exception only).

2.330 The overall source-conflicting adjustment is further allocated to products, here illustrated by 1990 figures. The exports' share of products is taken as a departure for this allocation.

		1990. Billion kroner
611 014	Sea passenger transportation services	
-	output, unadjusted	1,2
-	adjustment to exports	0,4
-	output, adjusted	1,6
611 022	Sea freight transportation services	
-	output, unadjusted	29,7
-	adjustment to exports	2,8
-	output, adjusted	32,5
611 033	Rental services of sea-going vessels with crew	
-	output, unadjusted	16,7
-	adjustment to exports	0,6
-	output, adjusted	17,3

The total adjustment to exports - and output - for 1990 amounts to 3,9 billion kroner (including estimate for management services of 0,1 billion kroner).

Inland water transport

2.331 The annual maritime statistics on regular coastal and the annual maritime statistics on domestic non-scheduled transport of goods are utilized in the estimation of output in the inland water transport industry. Output is specified by 7 characteristic NNA-products and one non-characteristic product.

2.332 Illustration by 1990 figures and summarized references to sources and methods follows by products:

		1990. Billion kroner
Characteristic output		
611 011	Passenger transportation services in local inland water transport	0,6
	Items of local service and car ferry service (passenger part) and two minor items, plus part of other incomes	
611 012	Passenger transportation services in distance inland water transport	0,2
	Item passenger transport by Hurtigruta, plus part of other incomes (see above)	

611 021	Freight transportation services in inland water transport	1,4
	Items of both main sources	
611 025	Mail transportation services by ships	0,0
	Item identified in the accounts of Postal Service	
611 028	Transportation services by car ferries	0,8
	Item freight of cars and goods	
611 031	Rental services of non-sea-going vessels with crew	0,1
	Items of both main sources, i.e. rentals of vessels used in regular coastal trade, and part of receipts other than transportation of goods	
611 032	Towing and pushing services	0,2
	Item towing vessels 25-3000 gross tons	
	Non-characteristic output	0,8
	Includes supply transportation services for the oil industry, estimated from main source (special adjustment for 1990)	
	Total output	4,2

2.333 Freight transportation services in inland water transport are estimated from both main sources, although the maritime statistics on regular coastal trade contribute with a small part only, since freight of cars and goods has been allocated to NNA-product transportation services of car ferries. No adjustment is made to include vessels above 3000 gross tons, not covered in maritime statistics on domestic non-scheduled transport of goods.

2.334 Transportation on rivers and lakes is not covered by statistics on a current basis. This activity is quite small in Norway, however.

Air transport

2.335 In the NNA compilation for the SAS part, the basis is the accounting data of SAS, to which totals the Norwegian share of 2/7 has been applied. In the SAS accounts material, data are allocated among the three countries following the accruals principle. Differences between output figures based on the ownership rule and output figures based on the accruals principle are treated as exports / imports and recorded outside foreign trade statistics. The accounting data from SAS are in Swedish kroner, which have to be converted to Norwegian kroner by applying an average quarterly exchange rate. Furthermore, the annual accounting statistics of air transport companies have been utilized for estimating output of other Norwegian air transport companies. Statistics on oil activity are also used concerning the helicopter transportation services to and from oil installations in the North Sea. Output is specified by 6 characteristic and 2 non-characteristic NNA-products.

2.336 Illustration by 1990 figures and summarized references to sources and methods follows by products:

		1990. Billion kroner
Characteristic output		
621 010	Scheduled passenger transportation services by air	8,9
	Items of main sources	
621 021	Scheduled mail transportation by air	0,1
	Item identified in the accounts of Postal Service	
621 022	Scheduled freight (excl. mail) transportation services by air	0,7
	Items of main sources	
622 011	Passenger transportation services by helicopter for oil activity	1,0
	Item identified in the statistics of oil activity (item of costs)	
622 012	Non-scheduled passenger transportation services by air	0,7
	Items of main source	
622 030	Rental services of aircrafts with crew	0,4
	Item of main source	
Non-characteristic output		1,3
Includes payments of fees for various services (1,0 billion) and trade services, i.e. trade margins (0,3), also estimated from main sources		
Total output		13,2

2.337 Output of the SAS group - consisting of SAS Consortium, Scanair and SAS Commuter is estimated from operating receipts of their accounts (2/7 share). From total operating receipts consisting of 8 items for SAS Consortium (passenger incomes contributing by more than 75 per cent in 1991 and freight incomes by 8 per cent), 6 items for Scanair (charter incomes with close to a 75 per cent share) and a total for SAS Commuter, some items have to be deducted in order to arrive at an estimate of output. Deducted are incomes from repair shops and purchases of goods for sale (as trade margins only counts as output).

2.338 Output of other air transport companies is obtained from similar items of their accounts. Here again passenger incomes contribute by almost 75 per cent of total operating receipts. Incomes from repair shops are deducted as they belong to manufacturing.

2.339 Total output is arrived at by adding together estimated output of the contributing groups of air transport companies, and adding an estimate of free transport:

	1991. Billion kroner
SAS Group	7,2
Other scheduled transportation units	3,6
Non-scheduled transportation units	1,9
Total output, unadjusted	12,7
Free transport	0,3
Total transport	13,0

2.340 In certain respects, 1991 is a benchmark. Costs of purchased goods, for instance, are not available before 1991, for those years estimated by using the 1991 share of receipts from sales of goods.

2.341 Free transport is estimated as a 10 per cent share of wages and salaries.

Supporting activities of cargo handling and storage, other supporting land and air transport activities

2.342 Business register data, the 1987 economic survey for supporting services to land transport, reports from the Road Administration and central government accounts have been utilized in the estimation of output in this industry. Output is specified by 7 characteristic NNA-products in market production and one more characteristic NNA-product in non-market production of central government. Consumption of fixed capital constitutes additional non-market output.

2.343 Illustration by 1990 figures and summarized references to sources and methods follows by products:

	1990. Billion kroner	
Market characteristic output		
631 110	Cargo handling services	0,4
	Indirectly estimated from the user side	
631 210	Storage and warehousing services	0,5
	Sales data of Business Register used for later years, earlier years based on FNA	

	changes and 1974 Census of Establishments benchmark	
632 122	Highway, bridges and tunnel operation services Items of annual reports from the Road Administration	0,9
632 124	Parking services Information in the publication "Car and road statistics" is utilized, grossed up	0,3
632 126	Bus station services Indirectly estimated from the user side	0,1
634 012	Freight transport agency services Sales data from Business Register are used	5,9
634 020	Other supporting and auxiliary transport services Sales data from Business Register are used, while adjusted for new contents	1,0
	Total market characteristic output	9,2
	Non-market characteristic output of central government	
632 360	Other supporting services for air transport 36 items of central government accounts, of which 11 government fees items; all from fiscal accounts	1,0
	Addition:	
631 061	Consumption of fixed capital Estimated share of central government consumption of fixed capital, considered additional output	0,2
	Total non-market output	1,2
	Total output	10,4

2.344 Cargo handling services in land and air transport are not estimated from direct methods since such information is lacking. Instead, output is estimated indirectly from the user side by intermediate consumption delivered from NNA-industry 604 Other land transport. Cargo handling services in air transport are not identified here (included in other forward agents services or in storage and warehousing services).

2.345 Highway operation services, bridges and tunnel operation services are estimated on the basis of annual reports from the Road Administration, output taken as turnpike money collected in Norway. In the period 1977-1987, these data were not available, in which case output value was calculated from price and volume (daily traffic crossings) data available in the reports of the Road Administration.

2.346 For parking services, there is a problem of coverage. The publication "Car and road statistics" provides information on gross receipts from parking facilities in Oslo (parking meters and dutiable parking lots). Total output is estimated by assuming that receipts in Oslo count one half of the nation total of such services.

2.347 Bus station services are estimated from the user side, since direct method information is lacking. Output is estimated from adding up intermediate consumption flows from NNA-industries 602 Scheduled motor bus transport, and 603 Taxi operation (minor item). Output of other supporting services for road transport is non-existent as it is unclear what contents are relevant in that case.

2.348 Freight transport agency services are the most significant product of this industry. Among others, freight brokerage services and aircraft space brokerage services are included. Sales data from the Business Register are available from 1989 onwards. A former benchmark is the 1974 Census of Establishments, to be utilized for interpolation. Transition from net sales treatment in FNA to gross treatment in NNA - also gross sales recorded in the Business Register - caused quite considerable revision to output. It is observed that the ratio between gross and net sales turns out to be almost equal in 1974 and 1989.

2.349 Other supporting and auxiliary transport services are also approached from sales data of the Business Register, in this case for other services allied to transport. Adjustment using FNA figures has to be made as parts are transferred to other NACE items, and for which register data cannot be identified at present.

2.350 Non-market output of this industry is supporting services for air transport, consisting of airport operation services, air traffic control services and other supporting services for air transport such as aircraft fire fighting, maintenance and upkeep services for aircraft and hangar services. All these activities are operated by the Civil Aviation Administration, which is part of central government. Fees paid to central government - landing fees, fees for parking, rental fees etc. - are included.

Other supporting water transport activities

2.351 Sales data from the Business Register and the central government accounts have been used to estimate output of this industry. Annual accounts of local government enterprises - for harbours - are also utilized. Output is specified by 4 market characteristic and 4 non-market characteristic NNA-products. Consumption of fixed capital constitutes additional output.

2.352 Illustration by 1990 figures and summarized references to sources and methods follows by products:

		1990. Billion kroner
Market characteristic output		
631 110	Cargo handling services	1,0
	Sales data from Business Register used directly	
632 211	Port and waterway operation services	0,5
	Items of annual accounts for local government enterprise statistics (for harbours)	
632 215	Other supporting services for water transport n.e.c.	1,8
	Sales data from Business Register used directly	
634 011	Ship-broker services	1,8
	Sales data from Business Register used directly from 1991, backward adjusting FNA changes towards 1974 Census of Establishments benchmark	
Total market output		5,1
Non-market characteristic output of central government		
632 261	Port and waterway operation services	0,0
	9 items of main source, one of which government fee item	
632 262	Pilotage services	0,2
	14 items, of which 2 government fees items	
632 264	Navigation aid services	0,2
	12 items of main source	
632 265	Other supporting services for water transport n.e.c.	0,0
	14 items of main source	
Addition:		
632 061	Consumption of fixed capital	0,1
	Estimated share of central government consumption of fixed capital, considered additional output	
Total non-market output		0,4
Total output		5,5

2.353 As for the contents, it is unclear whether or in which products berthing services, vessel salvage and refloating services are included. Important elements in other supporting services for water transport in Norway are ice breaking and vessel registration services.

2.354 For port and water operation services and for pilotage services of central government, there are problems of small negative values of central government services for own consumption from misrepresentation or lacking consumption of fixed capital.

Activities of travel agencies etc.

2.355 Statistics Norway's Business Register is used as a main source for the estimation of output of this industry. The government report on travel agencies and tour operators - representing 1982-1987 data - has also been utilized. A small part of the activity is non-market production of tourist information services, for which the local government accounts provide some data (included in administration). Output is specified by 2 characteristic NNA-products.

2.356 Illustration by 1990 figures and summarized references to sources and methods follows by products:

		1990. Billion kroner
Characteristic output		
633 011	Tour operator services Recorded on a gross basis, estimated from the 1987 report and Business Register data	3,9
633 012	Travel agency services Recorded on a net basis, estimated from the 1987 report and Business Register data	0,9
Total output		4,8

2.357 The sales data of the 1987 report from the Ministry of Industry and Energy have been used as a basis for output estimation, from which 1987 benchmark is first derived and later utilized with Business Register sales data for other years:

		1987. Billion kroner
Sales of tour operators		3,6
Sales of travel agencies, full value		7,4
Sales of travel agencies, net commission		0,8

2.358 Tourist information services may include accommodation reservation services, also cottage hire arrangements. In Norway, tourist information services are mostly provided by local government. The market services in this context mainly consist of hire of cottages which in NNA is recorded as part of travel agency services, but might be separately specified. Tourist guide services (a minor item) may also be partly market and partly non-market, the treatment of which should be the same as for tourist offices.

Post and courier activities

2.359 The annual accounts of the Postal Service are used to estimate output of post and courier activities. Output is specified by 7 characteristic and 3 minor non-characteristic NNA-products.

2.360 Illustration by 1990 figures and summarized references to sources and methods follows by products:

		1990. Billion kroner
Characteristic output		
641 111	Postal services related to newspapers and periodicals 4 items of main source	0,5
641 112	Postal services related to letters and parcels 6 items of main source	5,3
641 114	Other postal services 27 items of main source	0,1
641 115	Postal settlements with abroad Item of main source	0,1
641 200	Other courier services Item of main source, plus reclassified item from supporting services to land transport	0,3
641 911	Services to Post Office Savings Bank Item of main source	0,4
641 912	Services to Postal Giro Item of main source	0,0
Non-characteristic output		0,0
Includes commissions, freight transportation services by road, mail transportation by road, advertising services and works of art, estimated from items of main source		
Total output		6,8

2.361 Accounting items of the Postal Service deal with incomes from postage, from the details of which it is possible to allocate these data to NNA products. Other items of the accounts provide additional information relevant for the output estimation of this industry, these are mostly related to other postal services. Information from the Post Office Savings Bank on services from the Postal Service is close to corresponding item of the Postal Services' accounts, thus no adjustment is needed.

2.362 In general, courier activities of the Postal Service are not shown separately by product, except one minor item. A larger component item estimated indirectly from FNA industry of supporting services to land transport has to be included in other courier services.

Telecommunications

2.363 The accounting data provided by Norwegian Telecom are used directly in NNA. This approach was not used in FNA, where an indirect approach by establishing an output value indicator was followed. In NNA, output estimate is provided from detailed conversion of approximately 50 accounting items to 9 characteristic NNA-products. The second version of the Norwegian Telecom data contains considerably fewer items, and similar results are obtained more easily. Supplementary accounting data from radio and television cable companies are also utilized. Estimates for satellite transmission services are relevant and available from 1990 onwards.

2.364 Illustration by 1990 figures and summarized references to sources and methods follows by products:

Characteristic output		1990. Billion kroner
642 011	Public telephone services	11,2
	Item of main source	
642 013	Mobil telephone services	1,2
	Item of main source	
642 014	Telex and telegraph	0,2
	Items of main source	
642 016	Data network services	1,0
	Items of main source	
642 021	Broadcast transmission services	0,2
	Item of refund from NRK (the national broadcasting company)	
642 023	Satellite transmission services	0,3
	Items of main source	
642 025	Other telecommunication services	0,5
	Items of main source	
642 030	Radio and television cable services	0,5

	Items of additional source on cable companies	
642 040	Own-account capital formation, telecommunication equipment	1,1
	Data from Norwegian Telecom and from the cable companies	
	Total output	16,2

2.364 Radio and television cable services are provided by several units, among which 4 companies count for more than 75 per cent of the subscribers. The cable companies also contribute to own-account capital formation of telecommunication equipment, estimated at 25 per cent of total estimated investment in cables.

3. INTERMEDIATE CONSUMPTION

Introduction

2.365 In NNA, intermediate consumption in transport, storage and communication - valued in purchasers' prices - is estimated at 80,9 billion kroner in 1990.

		Intermediate consumption. 1990 Billion kroner	No.NNA-products
601	Transport via railways	3,8	42
602	Scheduled motor bus transport	2,4	22
603	Taxi operation	0,7	14
604	Other land transport	6,2	25
605	Tramway and suburban transport	0,3	12
608	Transport via pipelines	1,2	14
611	Ocean transport and coastal water transport abroad	37,0	36
613	Inland water transport	2,3	30
620	Air transport	8,6	24
631	Supporting activities of cargo handling and storage, other supporting land and air transport activities	6,3	12-23
632	Other supporting water transport activities	1,8	9-16

633	Activities of travel agencies etc.	3,8	23
641	Post and courier activities	1,8	46
642	Telecommunications	4,6	44
	Total	80,9	

2.366 The 1990 revision from FNA to NNA has increased intermediate consumption in transport, storage and communication from 72,4 to 80,9 billion kroner. More than half of this increase is due to changes in definition.

		Billion kroner		Revision	
		FNA	NNA	Total	Definitional
60	Land transport; transport via pipelines	11,3	14,6	3,3	0,8
61	Water transport	33,4	39,3	5,9	5,9
62	Air transport	8,7	8,6	-0,1	-
63	Supporting and auxiliary transport activities; activities of travel agencies	10,5	11,9	1,4	-1,5
64	Post and telecommunications	8,4	6,4	-2,0	-
	Total	72,4	80,9	8,5	5,2

2.367 Definitional changes are mostly the same as for output. In land transport, the institutional splitting and specification of the roadway is the main point (1,3 billion), but there is also a regrouping for part of the railways industry costs (0,5 billion) that are related to workshops in manufacturing. Like for output, the whole revision in water transport is considered definitional changes related to rental services of sea-going vessels with crew (from net to gross treatment). For tour operators, gross treatment contributes to higher intermediate consumption (3,2 billion), while the regrouping of maintenance work on roads means lower intermediate consumption in supporting and auxiliary transport activities (4,8 billion, versus 6,0 billion lower output).

Sources

2.368 Main sources used for intermediate consumption are mostly the same main sources as used for the estimation of output. In general, therefore, the list of sources provided above for output should be referred to. Sources are referred more specifically to when methods of estimation is described for each industry, though in a much more summarized way than for output.

Methods of estimation

Transport via railways

2.369 The estimation is based on totals of the annual accounts of the State corporation NSB, plus separate information obtained on main expenditure items. In general, expenditure items are less detailed than are the items of receipts. And following the reorganization into a roadway section and a traffic section, it has not been possible to identify total intermediate consumption from annual accounts of NSB since 1988. Direct requests have involved items such as repairs and maintenance, special items like electricity, diesel oil and petrol, advertising costs, telephone expenses, rental of special vehicles, material costs in operating expenses of the workshops etc.

2.370 After having allocated main items, the residual is distributed roughly throughout the range of all relevant items, the effects from which being more or less the same as in FNA. For 1989 and later years, extrapolating methods have been used for total expenditure on materials from 1988 level and taking into account data obtained through direct requests to NSB.

2.371 The use of the sources might be illustrated by 1990 figures:

1990. Billion kroner	
Total intermediate consumption	3,8
of which from:	
Main source of annual accounts of NSB	1,1
Adjustment for workshops' net incomes	0,3
Adjustment for roadway expenses	1,0
Output of railway maintenance work = Intermediate consumption in non-market activity of the roadway	1,3

2.372 The adjustment for workshops is estimated on the basis of statistical forms for NSB workshops in manufacturing statistics. It is assumed that total incomes of these workshops - those related to repairs of railway equipment - are equal to the costs on such repairs for NSB (which is a separate NNA-product of intermediate consumption of the railway industry).

2.373 The adjustment for roadway expenses is based on items of the central government accounts defining central government expenditures on the roadway, from which are deducted an estimate on compensation of employees (annual information from NSB) and an estimate on construction (construction statistics). Eventually, output of railway maintenance work is treated as intermediate consumption in the non-market activity of the roadway (see also the output section of transport via railways).

Scheduled motor bus transport

2.374 Scheduled motor bus transport statistics are the basic statistical source used, while adding to it supplementary estimates for freight transportation by bus and long distance bus transportation not covered by the main source. These supplements are estimated as a constant input share (40 per cent) of the corresponding additional output, distributed by NNA products by using the same distribution as in the main source (with some few exceptions). However, in terms of total intermediate consumption these supplements count for less than 4 per cent. For some of the items of the main source, distribution keys are established to fit into the NNA-product details. Some of the current costs recorded in the main source are not considered intermediate consumption.

Taxi operation

2.375 Total intermediate consumption is estimated from using the periodic survey reports. These reports are utilized also for the distribution of intermediate consumption by products, supplemented by information on costs of motor vehicle operation and on car insurance (on net basis) estimated separately. Figures from the energy accounts are taken into accounts, in particular for petrol. Distribution of cost items in the 1990 survey and cost items in the other source of motor vehicle operation have been compared and for most part fit reasonably well together. For earlier years, the 1980 survey report and the 1974 Census of Establishments might be used for estimating total intermediate consumption, taking into account interpolation methods and introducing gradually constant cost shares within intervening periods. Cost indices for lorries compiled by the Institute of Transport Economics have also been utilized (for repairs, in particular).

Other land transport

2.376 Benchmark estimates for total intermediate consumption in 1983 and 1974 are made from 1983 accounting statistics and 1974 Census of Establishments. Total operating costs from the 1983 statistics are grossed up, from which total items of compensation of employees, taxes on production and ordinary depreciation are deducted to arrive at intermediate consumption. Several main items of cost are specified, from which a further distribution on some 20 products are arrived at in NNA.

Tramway and suburban transport

2.377 The annual reports of the companies involved are used to estimate intermediate consumption, in particular items such as materials, energy costs, administration costs etc. Statistical forms from manufacturing statistics constitute the basis from which repairs and maintenance are estimated, i.e. deliveries from workshops in manufacturing.

Transport via pipelines

2.378 The statistics of oil activities are utilized for estimating intermediate consumption in transport via pipelines. Product items such as lubricating oil, catering services, helicopter transportation services, supply transportation services, engineering design services, and rental services of machinery and equipment are identified from R-forms as Norwegian share is concerned. Same applies to repairs of pipelines, but adjusted for compensation of employees. Item for other production costs is distributed on remaining NNA-products, except NNA-product for operating costs abroad (the latter covers the import share of intermediate consumption in NNA).

2.379 Imported intermediate consumption for the pipeline transport industry is not identified, i.e. import shares are not specified in the R-forms like in other forms of statistics of oil activities. Direct import deliveries for intermediate consumption in this industry are estimated while making certain assumptions about import shares for the pipelines (for Frigg-St.Fergus pipeline assumed imports altogether, as British operators do not tend to buy Norwegian products for such purpose).

Ocean transport and coastal water transport abroad

2.380 The sources used for estimating intermediate consumption are the same as for the output estimation. The difference on coverage between the two main sources constitutes an even more serious problem for the estimation of imports than for exports.

2.381 In maritime transport statistics, some 25 items record operating expenses which are utilized for the estimation of intermediate consumption. The recordings distinguish between domestic and foreign (which identifies transaction of imports), and also between the categories of vessels involved, i.e. Norwegian-registered, foreign-registered, foreign ships registered in NIS and supply ships. Same kind of adjustment for difference between foreign exchange statistics and maritime transport statistics is made in the case of imports for intermediate consumption as well. Total intermediate consumption is estimated by also including additions for repairs from domestic producers otherwise not recorded, and for internal deliveries related to estimation of output of rental services of sea-going vessels with crew and renting services of water transport equipment (ships).

2.382 Maritime transport statistics data in particular are utilized for distributing total intermediate consumption by the relevant products of NNA. Other considerations - energy accounts information and commodity-flow analysis etc. - are also taken into account in this respect.

Inland water transport

2.383 Total intermediate consumption of the inland water transport industry is estimated from the annual maritime statistics on regular coastal trade and the annual maritime statistics on domestic non-scheduled transport of goods. From the former source, items of total costs are adjusted for compensation of employees and accompanying social costs. From the latter source, item labour costs is deducted from item total operating costs.

2.384 The same two sources are used when distributing intermediate consumption by NNA-products. This is done in part directly item by item (for repairs and maintenance, insurance of ships, rental services, fees for port and quay services, cargo handling services and board), and in part by using distribution keys (for a similar number of cost items).

Air transport

2.385 The accounts and accounting statistics of the SAS Consortium, Scanair, SAS Commuter and the other air transport companies are utilized for the estimation of intermediate consumption of air transport. Repairs delivered from aircraft workshops on own aircraft are treated as repair services bought from manufacturing.

2.386 In FNA, the procedure for intermediate consumption estimation was more indirectly and based on benchmark estimate. The product composition in FNA has been kept more or less the same. The most important product items are repairs of aircraft, fuel expenditures and operating expenditures abroad. Fuel purchased abroad has been included in the latter item, but may be extracted and treated as a separate item. Repairs are estimated from total costs of the workshops, while deducting incomes from repairs of aircraft other than their own in order to approximate costs related to repairs of own aircraft.

2.387 In estimating intermediate consumption from the SAS accounts, financial costs, costs of workshops, depreciation costs and personnel costs are all deducted from total costs. The Norwegian part is again arrived at by using the share of 2/7 and by converting values from Swedish to Norwegian kroner. Intermediate consumption of Norwegian air transport companies other than those of SAS Consortium, Scanair and SAS Commuter include items for scheduled air transport, other large air transport companies and small air transport companies. As for output, the 1991 estimation serves as a benchmark.

Supporting activities of cargo handling and storage, other supporting land and air transport activities

2.388 No main sources are available for estimating intermediate consumption of this industry, although the 1987 economic survey for supporting services to land transport has been used to some extent. The 1987 survey provide data for cost items which are utilized and adapted to new specifications. The main method used is therefore to apply constant input ratios over the years, although these input ratios are allowed to vary between different activities within the industry, actually for the production of different characteristic products. Input ratios for different activities are:

-	Storage and warehousing	55 per cent
-	Other supporting and auxiliary transport services	35
-	Bus station services	30
-	Cargo handling in land transport and air transport	30
-	Parking services	20
-	Highway operation services	10

2.389 For other forwarding agents services, the change-over from net to gross treatment means a more data demanding situation than before. Two of the major transport agency companies provide information on operating costs that are useful for the new calculations. The share of transport costs is between 60 and 70 per cent of total costs of production, also confirming estimates made by the Institute of Transport Economics. These are distributed on land, water and air transport by 80, 10 and 10 per cent respectively.

Other supporting water transport activities

2.390 For non-market production, the estimation of intermediate consumption is integrated with the estimation of output and use of central government accounts as the proper statistical source. For port and water operation services, the local government enterprise statistics specify relevant items for intermediate consumption estimates.

2.391 For other market production, constant input ratios have been applied, determined partly from the 1974 Census of Establishments and partly with a view to input ratios in FNA. Again, input ratios are allowed to vary among different activities:

-	Ship-broker services	35 per cent
-	Cargo handling services to water transport	30
-	Other supporting services to water transport	30

Activities of travel agencies etc.

2.392 The 1987 reported figures on travel agencies and tour operators are utilized for the estimation of intermediate consumption of this industry. A table on cost-structure in per cent of income, provides average ratios by four main cost items calculated from data representing three different categories of travel agencies. Item of other operating costs is adjusted for financial costs etc., assuming a 50 per cent share for this.

2.393 The same 1987 report is used for tour operators, providing "internal" costs - by same items as for travel agencies - as well as "external" costs. The latter comprises costs for operation of aircrafts and buses and costs for food and board, which are distributed on cost items with a view to the kind of tour operators in each case. For large tour operators operating by aircraft abroad, the composition is estimated at 60 per cent for operation of aircrafts, 20 per cent for board, 10 per cent for sales commission, 5 per cent for destination costs and 5 per cent for operation of buses. The corresponding composition for smaller units

operating by bus in the domestic market is estimated at 25, 30, 10, 5 and 30 per cent, respectively.

2.394 Intermediate consumption on cottage hire intermediation is estimated from same source, and net concept method seems most relevant.

2.395 The four items of "internal costs" - marketing costs, EDP and telephone and postage, gross rents and power and fuel, and other costs - are broken down into NNA products by establishing sets of distribution keys. As regards "external" costs, item of operation of aircraft is partly imports and partly delivered from air transport industry, item of food and board is partly imports and partly delivered from hotels and restaurants, item of sales commission is intra-industry flow from tour operators to travel agencies, item of operation of buses is domestically delivered rental services of buses, while destination costs are partly imports and partly delivered from the hotel industry.

2.396 For later years, the benchmark 1987 estimates are used as constant input ratios. An exception is provided for the small part of non-market activities, for which information in local government accounts has been utilized.

Post and courier activities

2.397 The annual accounts of the Postal Service are utilized for the estimation of intermediate consumption of this industry. Item by item are reviewed and linked to appropriate NNA products, in the end to some 45 products for intermediate consumption, and postage expenditure from imports also identified in the accounts. Also to be added is intermediate consumption in courier activities outside the Postal Office, estimated by using a constant input ratio of 20 per cent (small value, however).

Telecommunications

2.398 The annual accounts of Norwegian Telecom is most suitable for obtaining as much details as possible for the estimation of intermediate consumption by NNA products. By comparing item by item in the two data sources (see above) some deviations could be observed, but these are just few cases with relatively small differences. The conversion from accounting items to NNA products are either directly (straightforward or by aggregation) or has to be broken down for allocation by using distribution keys in a few cases, such as for operating costs of and maintenance of vehicles. In most other cases, the most detailed source version brings out data for distribution keys which are necessary for adapting to the NNA specifications.

2.399 As for output, intermediate consumption of the other producers is added to that of Norwegian Telecom, increasing another third to total intermediate consumption.

K. FINANCIAL INTERMEDIATION - NACE J CONTENTS, DEFINITIONS, SOURCES AND METHODS OF ESTIMATION

- 65 FINANCIAL INTERMEDIATION,
EXCEPT INSURANCE AND PENSION FUNDING
- 66 INSURANCE AND PENSION FUNDING
- 67 ACTIVITIES AUXILIARY TO FINANCIAL INTERMEDIATION

Value added of NACE J - Financial intermediation - amounts to 5,0 per cent of GDP in 1990. The 1990 revision from FNA to NNA has increased the GDP share from 4,2 per cent. Output has been considerably increased from definitional changes - by 7,1 billion kroner - due to new treatment of grants for interest relief and extended output measure in non-life insurance. Value added of NACE J contributes by 8,1 billion to the 61,5 billion increase in 1990 GDP, of which 7,1 billion from definitional changes. Accounting data from credit market statistics are the source basis for these estimates. NACE J is covered by detailed specifications in NNA, in 9 industries and output by 13 characteristic products, plus some non-characteristic products. An insignificant part is non-market output, in activities auxiliary to financial intermediation.

Contents

2.400 In NNA, the activities of NACE J are distinguished in 9 industries:

651	Central banking
652	Other monetary intermediation
654	Monetary intermediation indirectly measured
655	Other financial intermediation
659	Financial intermediation indirectly measured
661	Life insurance
662	Pension funding
663	Non-life insurance
669	Adjustment item
670	Activities auxiliary to financial intermediation

added of financial intermediation). Two industries are concerned with financial intermediation indirectly measured (FISIM), i.e. NNA-activities 654 and 659 (plus 669 as a matter of provisional arrangement due to special circumstances). FISIM is described separately below. Compared with FNA, and excluding FISIM, two more items have been added. Pension funding adds to life and non-life insurance, while activities auxiliary to financial intermediation now is distinguished from other financial intermediation.

2.402 With respect to coverage of credit institutions - both NACE 65 Financial intermediation excluding insurance and pension funding and NACE 67 Activities auxiliary to financial intermediation - the following comments address the Eurostat questionnaire on financial institutions, item 1 on credit institutions. Most institutions are subject to government supervision and hence covered in the basic statistics (see below). These also cover consumer credit institutions and credit card companies. Unit trusts - part of NNA-industry 655 - and part of activities auxiliary to financial intermediation are covered through separate estimates (see also methods of estimation below). Financial leasing is treated as loan from financial institutions, and the new Accounting Act emphasizes that the leased assets are to be recorded and shown explicitly in the balance sheets of borrowers. Inconsistencies could however occur for small enterprises which might record leasing expenses as intermediate consumption (amount involved is quite small, however). As to the problems on coverage of foreign credit institutions, the activity on the domestic territory is subject to government supervision (this is not the case for corresponding Norwegian units abroad, included in foreign exchange statistics).

2.403 With respect to coverage of insurance companies - in NACE 66 Insurance and pension funding - the situation is quite similar to that of credit institutions described in the preceding paragraph. The borderline between insurance enterprises and social security funds conforms to ESA and SNA rules.

1. VALUE ADDED

2.404 Financial intermediation makes a contribution of 5,0 per cent to GDP in 1990. This is before deducting the FISIM (financial intermediation services indirectly measured) part. (In fact, this share should have been 4,8 per cent, eliminating the adjustment item.) In NNA, value added in million kroner - in basic prices - and their shares of total value added and GDP are estimated as follows:

		1990	
		Million kroner	Percentage of: Total GDP value added
651	Central banking	5 689	0,85 0,79
652	Other monetary intermediation	18 254	2,72 2,53
655	Other financial intermediation	5 356	0,80 0,74
661	Life insurance	1 471	0,21 0,20
662	Pension funding	28	0,00 0,00
663	Non-life insurance	4 681	0,70 0,65
670	Activities auxiliary to financial intermediation	612	0,09 0,08
Total		36 091	5,38 5,00

2.405 The 1990 revision from FNA to NNA has increased the GDP share of financial intermediation from 4,2 to 5,0 per cent.

		Billion kroner		Percentage of GDP	
		FNA	NNA	FNA	NNA
65	Financial intermediation, except insurance and pension funding	24,0	29,2	3,6	4,1
66	Insurance and pension funding	4,0	6,2	0,6	0,9
67	Activities auxiliary to financial intermediation	-	0,6	-	0,1
Total		28,0	36,1	4,2	5,0

2. OUTPUT

Introduction

2.406 In NNA, output in financial intermediation - valued in basic prices - is estimated at 51,6 billion kroner. Except renting services at 1,4 billion kroner, remaining output of 50,2

billion kroner is characteristic output (including minor items of financial services from the insurance industry).

		Output 1990. Billion kroner		
		Characteristic	Non-characteristic	Total
651	Central banking	6,0	-	6,0
652	Other monetary intermediation	27,4	0,2	27,6
655	Other financial intermediation	7,2	0,1	7,3
661	Life insurance	2,4	0,5	2,9
662	Pension funding	0,0	0,2	0,2
663	Non-life insurance	6,6	0,3	6,9
670	Activities auxiliary to financial intermediation	0,8	-	0,8
Total		50,2	1,4	51,6

2.407 The 1990 revision from FNA to NNA has increased output in financial intermediation from 43,0 to 51,6 billion kroner. The increase is mostly due to changes in definition.

		Billion kroner		Revision	
		FNA	NNA	Total	Definitional
65	Financial intermediation, except insurance and pension funding	34,8	40,8	6,0	4,7
66	Insurance and pension funding	8,2	10,0	1,8	2,4
67	Activities auxiliary to financial intermediation	-	0,8	0,8	-
Total		43,0	51,6	8,6	7,1

2.408 Two changes in definition have been implemented with the new system, one concerning treatment of grants for interest relief, the other on including premium supplements in output of non-life insurance. In FNA, with the old treatment of grants for interest relief paid to the financial institutions involved (State banks etc.), value added and even output in the operation of other financial institutions industry was estimated at negative amounts. In NNA - by following the principle of ESA 1995 treating these grants as subsidies to the producers benefiting from them, even when paid to the credit institution making the loan - output of other financial intermediation has been increased by 4,7 billion kroner in 1990 (but not affecting GDP since it is recorded in FISIM as well). The extended output measure in non-life insurance - by including income from the investment of the insurance technical reserves - has increased output of this industry by 2,4 billion kroner in 1990.

Sources

2.409 Main sources used to estimate output of financial intermediation are:

- | |
|--|
| <ul style="list-style-type: none">- Credit market statistics, accounting data organized in data base OBS-86 for banks- Credit market statistics, accounts of insurance companies- Credit market statistics, accounts of other financial institutions |
|--|

2.410 Credit market statistics cover accounts of all financial enterprises. These units comprise Bank of Norway, commercial banks, savings banks, Post Giro and the Post Office Bank, state banks, credit enterprises, financial companies, life insurance companies, non-life insurance companies, private pension schemes, municipal pension schemes, joint pension under Collective Agreements etc., and unit trust and mutual investment fund. Credit market statistics are described in section I.C among the main statistical sources of the statistical system.

2.411 The credit market statistics are processed through several stages before becoming NNA estimates. Credit market statistics are first organised in a data base for financial enterprises. From this data base, data are extracted by using catalogues for recoding, creating input files to the intermediate accounting data base of FIIN-RG, then data are transferred or recalculated before entering the ORACLE data base of FIIN, from which NNA estimates are taken. This streamlined data process procedure was first implemented with the revised 1992 data.

Methods of estimation

Financial intermediation, except insurance and pension funding

2.412 The credit market statistics processed into data base of FIIN (see preceding paragraph) have been utilized to estimate output of financial intermediation. The catalogues for recoding link items of credit market statistics to items of national accounts through established converting keys. These are general in the sense that they are used for all years, until specifications in the credit market statistics are altered. The recalculation between FIIN-RG and FIIN is necessary in those cases a direct transfer of data from the credit market statistics to NNA through recoding is not possible. Output is specified by 6 characteristic NNA-products and one non-characteristic product (rental services of non-residential property, produced by the two NNA-industries 652 and 655).

2.413 Illustration by 1990 figures and summarized references to sources and methods follows by products:

		1990. Billion kroner
Characteristic output		
651 111	Central banking services, FISIM Items from the accounts of Bank of Norway	5,9
651 112	Central banking services, direct charges Items from the accounts of Bank of Norway	0,1
651 211	Other monetary intermediation services, FISIM Items from the accounts of Post Giro, the Post Office Bank, the commercial banks and the savings banks	20,8
651 212	Other monetary intermediation services, direct charges Items from the accounts of Post Giro, the Post Office Bank, the commercial banks and the savings banks	6,6
652 211	Other credit granting services, FISIM Items from the accounts of state banks, credit enterprises and financial companies	5,7
652 212	Other credit granting services, direct charges Items from the accounts of state banks, credit enterprises and financial companies	1,4
Non-characteristic output		0,4
Includes rental services of non-residential property		
Total output		40,9

2.414 From the accounting data there are no special problems of identifying the FISIM part and the part of direct charges, respectively, in the three blocks of financial intermediation services.

2.415 In reference to item 1 of the Eurostat questionnaire, unit trusts are estimated separately on the basis of annual reports (and total balance sheet). Referring to item 2 of the Eurostat questionnaire for credit institutions, commissions that are charged as a function of time - to the extent these are considered reasonable - are treated as adjustments to interest over the loan term or until regulation of interest occur. In NNA, the margin between the buying and selling rates of foreign currency and securities offered by credit institutions when changing foreign currency and dealing in securities is regarded as a paid service, estimated from items of fees in the credit market statistics for banks.

Insurance

2.416 The credit market statistics are utilized in a similar way as for financial intermediation services (described above) to estimate output of insurance and pension funding services. Output is specified by 4 characteristic and 4 non-characteristic NNA-products.

2.417 Illustration by 1990 figures and summarized references to sources and methods follows by products:

		1990. Billion kroner
Characteristic output		
660 110	Life insurance services Items from the accounts of life insurance companies	2,3
660 210	Pension funding services Items from the accounts of the pension schemes	-0,0
660 312	Car insurance services Items from the accounts of non-life insurance companies	2,1
660 319	Other non-life insurance services Items from the accounts of non-life insurance companies	4,3
Non-characteristic output		1,3
Includes rental services of non-residential property (1,1 billion kroner), other credit granting services, other services auxiliary to financial intermediation, and a minor amount of services auxiliary to insurance and pension funding, which is not separable from life insurance services		
Total output		10,0

2.418 In order to comply with the ESA and SNA principles for estimating output of insurance services (service charge), certain deviations occur between the treatment in the basic financial statistics for insurance companies and the treatment in NNA in the areas of life insurance and pension funding. For output of life insurance - the premiums supplements part - the deviation (less than 2 per cent, however) relates to depreciation of fixed assets, deducted in output estimate of the financial statistics, while not deducted in output estimate of NNA. For output of pension funding, the deviation is more significant - NNA output at 0,3 billion kroner in 1993 versus 0,7 billion in the financial statistics, the reasons for which are two-fold (in NNA, equities are included in the reserves, and a correction is made to changes in the reserves reflecting the share of insurance technical reserves to total financial assets).

2.419 The compilation of item imputed interest accruing to life insurance policy holders is illustrated by 1993 figures (cf. item 2 of the Eurostat questionnaire) follows. A similar illustration might have been given for non-life insurance.

		1993. Billion kroner
	Income from interest etc.	15,7
	- Payments of interest etc.	0,4
	Dividends	0,3
	Real estate income	0,6
	Other financial income	0,4
	- Other financial expenses	0,3
=	Imputed interest accruing to life insurance policy holders	
	- before correction	16,4
	Correction is made by the ratio of insurance liabilities to total liabilities (93 per cent in 1993)	
	- after correction	15,2

Activities auxiliary to financial intermediation

2.420 The estimation of output of activities auxiliary to financial intermediation is approached by utilizing information on costs from credit market statistics used for the respective financial intermediation industries. In principle, this is a possible approach, following from the fact that output of activities auxiliary to financial intermediation is all used as intermediate consumption by the regular financial intermediation industries. In practice, however, the required information on these auxiliary services is not always available from the credit market statistics or other sources, as relevant specific data are rather scanty represented there. One supplementary source that has been utilized is the Register of Wages and Salaries (cf. item 1 of the Eurostat questionnaire). The non-market production of central government is however estimated from central government accounts. Output is specified by 3 characteristic NNA-products.

2.421 Illustration by 1990 figures and summarized references to sources and methods follows by products:

		1990. Billion kroner
	Market output	
671 110	Financial markets administration services Indirectly estimated from items of credit market statistics	0,1
671 210	Security broking and fund management services Indirectly estimated from items of credit market statistics	0,5

671 310	Other services auxiliary to financial intermediation Indirectly estimated from items of credit market statistics	0,1
	Total market output	0,7
	Non-market output of central government	
671 360	Other services auxiliary to financial intermediation 18 items of central government accounts, of which 3 government fees items	0,0
	Total output	0,7

2.422 Non-market output is related to the activity of GIEK (Guarantee Institute for Export Credit), an activity which probably is more appropriately grouped with public administration. Furthermore, since this is a non-market activity of central government, a treatment as activities auxiliary to financial intermediation counteracts their characteristic type of producers being market producers.

3. INTERMEDIATE CONSUMPTION

Introduction

2.423 In NNA, intermediate consumption in financial intermediation - valued in purchasers' prices - is estimated at 15,6 billion kroner in 1990. FISIM is treated separately, its 1990 value is 34,0 billion kroner.

Intermediate consumption. 1990			
		Billion kroner	No. of NNA-products
651	Central banking	0,3	17
652	Other monetary intermediation	9,3	31
655	Other financial intermediation	1,9	18
661	Life insurance	1,5	18
662	Pension funding	0,2	17
663	Non-life insurance	2,3	22
670	Activities auxiliary to financial intermediation	0,2	4 - 14
	Total	15,6	

2.424 The 1990 revision from FNA to NNA has increased intermediate consumption in financial intermediation from 15,0 to 15,6 billion kroner. No changes in definition seem to exist here.

		Billion kroner		Revision	
		FNA	NNA	Total	Definitional
65	Financial intermediation, except insurance and pension funding	10,8	11,5	0,7	-
66	Insurance and pension funding	4,2	3,9	-0,3	-
67	Activities auxiliary to financial intermediation	-	0,2	0,2	-
	Total	15,0	15,6	0,6	-

Sources

2.425 Main sources used to estimate output of financial intermediation are:

-	Credit market statistics, accounting data organized in data base OBS-86 for banks
-	Credit market statistics, accounts of insurance companies
-	Credit market statistics, accounts of other financial institutions

Methods of estimation

Financial intermediation, except insurance and pension funding

2.426 Intermediate consumption is estimated from the accounting data of credit market statistics and thus treated in a quite detailed way in the national accounts (cf. item 3 of the Eurostat questionnaire). Certain deviations appear when comparing NNA estimates and corresponding data of financial statistics. In NNA, expenses of travelling on business have been recorded 50 per cent as intermediate consumption and 50 per cent as compensation of employees. For credit enterprises and financing companies, this means that 5 per cent of item other operating costs is treated as compensation of employees, while exclusively treated as intermediate consumption in the financial statistics. More significantly, intermediate consumption in commercial and savings banks is adjusted downwards in NNA, by excluding writing-off bad debts from current costs as intermediate consumption.

2.427 For banks- and also for credit enterprises and financial companies from 1996 - data are collected in a very detailed way. Commission and fees are explicitly shown (apart from commissions referred to above in para. 2.415), also including credit commissions that are treated as paid services. Data are not as detailed for non-financial enterprises as for financial enterprises and might create some asymmetrical treatment between the two sectors. For instance, margins on change of currency are most likely treated as current or other costs and not as interest payments in the accounts of non-financial enterprises. This paragraph is response to item 4 of the Eurostat questionnaire.

Insurance

2.428 Intermediate consumption is estimated from the accounting data of credit market statistics and thereby treated in a quite detailed way in the national accounts (cf. item 3 of the Eurostat questionnaire). The form by which information on costs is collected is well designed by type of costs, and not by functions mainly as in the Accounting directive used by EU Member States. Referring again to the treatment of expenses of travelling on business, 2 per cent of item other operating costs is treated as compensation of employees in NNA, while exclusively treated as intermediate consumption in the financial statistics of insurance companies. There are no adjustments made to compensate for the direct settlements of claims by insurance companies with repairers of damaged goods or assets (cf. item 4 of the Eurostat questionnaire).

Activities auxiliary to financial intermediation

2.429 Intermediate consumption is estimated at 20 per cent of output for the market activities. No specific information is available for these activities, while specific information is identified (for GIEK) in central government accounts for the non-market part.

**L. REAL ESTATE, RENTING AND BUSINESS ACTIVITIES -
NACE K
CONTENTS, DEFINITIONS, SOURCES AND
METHODS OF ESTIMATION**

- 70 REAL ESTATE ACTIVITIES**
- 71 RENTING OF MACHINERY AND EQUIPMENT WITHOUT OPERATOR
AND OF PERSONAL AND HOUSEHOLD GOODS**
- 72 COMPUTER AND RELATED ACTIVITIES**
- 73 RESEARCH AND DEVELOPMENT**
- 74 OTHER BUSINESS ACTIVITIES**

Value added of NACE K - Real estate, renting and business activities - amounts to 12,2 per cent of GDP in 1990. The 1990 revision from FNA to NNA has strongly increased the GDP share from 9,6 per cent. For dwelling service production alone, the GDP share has been increased from 4,9 to 7,0 per cent, now becoming close to corresponding GDP shares in many other European countries. The net effect on output from definitional changes is small, while there is a considerable revision downwards from the new treatment of renting activity of non-residential property partly spread out as non-characteristic production in industries outside real estate, and a revision upwards from changes in the activity nomenclature. Value added of NACE K contributes by 24,0 billion of the 61,5 billion increase in 1990 GDP, of which 2,1 billion from definitional changes. Apart from dwelling services, the direct use of the production statistics on business activities has caused a strong revision upwards for these activities, in particular for output and to a minor degree for value added. NACE K is covered by detailed specifications, in 12 industries and output by 37 characteristic products and some non-characteristic products. Non-market share is moderately at 1,7 per cent, while value added of dwelling service production for own final use amounts to as much as 57,8 per cent of total value added of NACE K.

Contents

2.430 In NNA, the activities of NACE K are distinguished in 12 activities:

700	Real estate activities
704	Dwelling service production, owner-occupiers
711	Renting of transport equipment
713	Renting of machinery and equipment and household goods etc.
720	Computer and related services
730	Research and development
741	Legal, accounting, book-keeping and audit activities; tax consultancy; market research and public opinion polling; business and management consultancy; holdings
742	Architectural and engineering activities and related technical consultancy
744	Advertising
745	Labour recruitment and provision of personnel; investigation and security activities
747	Industrial cleaning
748	Miscellaneous business activities n.e.c.

2.431 These industries contain market activities and a few non-market activities of central government. The non-market activities - just 1,7 per cent of 1990 value added in NACE K - are in the following industries:

730	Research and development
742	Architectural and engineering activities and related technical consultancy
745	Labour recruitment and provision of personnel; investigation and security activities

2.432 FNA contained 5 (in practice: 4) industries only, one of which all business activities (former ISIC 832) for both market and non-market production. In NNA, more detailed specification is particularly made for these business activities, now comprising 7 NNA-industries (or 8 industries when including R & D which were grouped with education in FNA). The two renting industries in NNA were combined in FNA.

2.433 For real estate, there are two substantial changes in terms of contents. In FNA, dwelling services by owner-occupiers were not specified, neither in production nor consumption, only an estimate on total dwelling services was recorded in the accounts. Given the fact that great international emphasis has been put on the owner-occupier share - and underlining the fact that the owner-occupier share is particularly high in Norway (at least 80

per cent or close to 90 per cent depending upon which definition to use) - a major NNA-industry on dwelling service production of households for own final consumption has been specified in NNA. The owner-occupier share of dwelling service production is identified in household consumption expenditure as a separate item of the COICOP-based consumption classification. At the industry level, another industry covers the remaining real estate activities. This industry is considered market activity and comprises renting services of residential as well as non-residential property. It implies that total dwelling services are still identified at the product level. The other substantive change relates to the non-residential part of the latter industry. While in FNA all renting services of non-residential property were recorded in a global notional industry, the recordings in NNA directly reflect the renting services provided by the various participating industries. This means a smaller share than before recorded with NACE industry of real estate, since a number of industries typically do have non-characteristic production of renting services of non-residential property.

2.434 The activities of research and development (R&D) are specified in a separate industry according to NACE Rev.1. In FNA, these activities were not separated from education, while services of research and scientific institutes were distinguished as a FNA-product. Research activities in manufacturing and other market activities - in a number of cases - are not possible to identify with separate units; only institutes identified as separate units in the Business Register is captured and included in NACE industry 730. Most R&D activities are regarded as market activities, involving substantial amounts of subsidies which are treated as subsidies on products in NNA (other subsidies on production in FNA).

2.435 Other changes in the activity classification - apart from R&D - include in NACE K photographers (from other services), renting of motor vehicles (from transport), more non-market production of central government, while excluding news agency activities (to other services).

1. VALUE ADDED

2.436 Real estate, renting and business activities make a contribution of 12,2 per cent to GDP in 1990. In NNA, value added in million kroner - in basic prices - and their shares of total value added and GDP are estimated as follows:

		1990	
		Million kroner	Percentage of: Total GDP value added
700	Real estate activities	7 011	1,05 0,97
704	Dwelling service production, for own final use	50 668	7,56 7,02
711	Renting of transport equipment	360	0,05 0,05
713	Renting of machinery and equipment and household goods etc.	1 355	0,20 0,19
720	Computer and related services	4 455	0,66 0,62
730	Research and development	2 119	0,32 0,29
741	Legal, accounting, book-keeping and audit activities; tax consultancy; market research and public opinion polling; business and management consultancy; holdings	5 597	0,83 0,78
742	Architectural and engineering activities and related technical consultancy	9 072	1,35 1,26
744	Advertising	1 700	0,25 0,24
745	Labour recruitment and provision of personnel; investigation and security activities	2 130	0,32 0,29
747	Industrial cleaning	1 737	0,26 0,24
748	Miscellaneous business activities n.e.c.	1 525	0,23 0,21
Total		87 719	13,08 12,15

2.437 The 1990 revision from FNA to NNA has increased the GDP share of real estate, renting and business activities substantially from 9,6 to 12,2 per cent. For dwelling service production alone, the GDP share has been increased from 4,9 to 7,0 per cent, now becoming close to corresponding GDP shares in many other European countries (e.g. Germany and Netherlands).

		Billion kroner		Percentage of GDP	
		FNA	NNA	FNA	NNA
70	Real estate	39,8	57,7	6,0	8,0
71	Renting	2,4	1,7	0,4	0,2
72-74	Business activities	21,5	28,3	3,3	3,9
Total		63,7	87,7	9,6	12,2

2. OUTPUT

Introduction

2.438 In NNA, output of real estate, renting and business activities - valued in basic prices - is estimated at 130,1 billion kroner in 1990. Non-characteristic output is just about 2 per cent in total, mostly renting services, but also to minor extent trade margins from sale.

		Output 1990. Billion kroner		
		Characteristic	Non-characteristic	Total
700	Real estate activities	10,3	-	10,3
704	Dwelling service production, for own final use	60,2	1,5	61,7
711	Renting of transport equipment	0,5	-	0,5
713	Renting of machinery and equipment and household goods etc.	2,5	0,0	2,5
720	Computer and related services	9,2	0,3	9,5
730	Research and development	3,4	0,0	3,4
741	Legal, accounting, book-keeping and audit activities; tax consultancy; market research and public opinion polling; business and management consultancy; holdings	9,1	0,2	9,3
742	Architectural and engineering activities and related technical consultancy	16,8	0,4	17,2
744	Advertising	6,6	0,0	6,6
745	Labour recruitment and provision of personnel; investigation and security activities	2,8	0,0	2,8
747	Industrial cleaning	2,3	-	2,3
748	Miscellaneous business activities n.e.c.	3,9	0,0	3,9
Total		127,7	2,4	130,1

2.439 The 1990 revision from FNA to NNA has substantially increased output of real estate, renting and business activities from 94,2 to 130,1 billion kroner. However, only a small part of the increase is due to changes in definition.

		Billion kroner		Revision	
		FNA	NNA	Total	Definitional
70	Real estate	56,9	72,0	15,1	- 4,8
71	Renting	2,5	3,0	0,5	0,5
72-74	Business activities	34,8	55,1	20,3	5,6
Total		94,2	130,1	35,9	1,3

2.440 Definitional changes to output in real estate, renting and business activities are confined to 3 per cent of the total increase in output of NACE K. This is due to nomenclature changes adding to the contents of business and renting activities, i.e. research and development (3,4 billion from education), photographers (0,8 billion from other services), renting of motor vehicles (0,5 billion from transport), non-market output of central government (1,6 billion from other activities within central government), less regrouping of news agency activities (0,2 billion to other services). On the other hand, the new treatment of renting services of non-residential property has reduced output by 4,8 billion kroner in real estate activities, which was the revised difference on non-characteristic production of renting services of non-residential property in other industries.

Sources

2.441 Main sources to estimate output in real estate, renting and business activities are:

-	Housing statistics of various kinds
-	Quarterly surveys on actual rents
-	R&D statistics every other year
-	Annual production statistics of business services

2.442 Housing statistics - in particular the Survey of Housing Conditions 1988 - are among the main sources used for the estimation of dwelling services (see section I.C for more details). Other sources utilized are the population and housing censuses for 1980 and 1990, building statistics on building work started and completed by industry (utility floor space data), quarterly rent surveys connected to CPI, annual household consumer surveys and Survey of Level of Living 1991. The quarterly surveys on actual rents of dwellings include relatively few observations due to the narrowly defined rent market in Norway. Some 2 500 observations have been utilized and stratified by number of rooms, building year, location and type of dwelling.

2.443 R&D statistics are published every other year in a separate publication of the research organizations. These statistics provide data on operational and capital expenditures with a breakdown on research institutes, other market producers and universities and high schools.

2.444 Annual production statistics of business services have been published since 1979. Full statistical data have been collected from all establishments employing 3 or more persons, while total figures have been estimated for other establishments, based on annual statistics on employment and sales as reported to Statistics Norway's Business Register. See also section I.C on main sources used for the national accounts compilation.

Methods of estimation

Real estate activities

2.445 The most important part of the output of real estate activities - almost 85 per cent of the total - concerns dwelling services of households. Dwelling services have been of special concern to Eurostat due to divergent practices among member states and with great impact on their respective GDP compilation. Hence, this issue was chosen for transversal investigation in order to obtain more common practice and for contributing significantly to better comparability between the countries. It was agreed that the so-called stratification method should be used to estimate imputed dwelling services - i.e. to impute for the production and consumption of services which is implicit in the owner-occupation of dwellings - and that this method had to be used progressively in all EEA countries. In 1995, a Commission Decision was duly adopted specifying the methodology to be used by the countries. The new common methodology for dwelling services should be implemented for the years 1988 onwards when data were to be transmitted in September 1996 for the first time. However, to the question of basic method, it was stated that other objective methods - such as the user-cost method - might be employed in the case of missing or unreliable actual rents for certain strata.

2.446 In Norway, the alternative user-cost method had been used in FNA and was again up for serious consideration in the implementation of the new system. Two variants of the user-cost method, and the method advocated in the Commission Decision on the stratified use of actual rents data, were all investigated for the NNA estimation. One serious assumption working against the use of the actual rents method is the narrow rent market in Norway, in fact the share of owner-occupiers is probably highest in all Europe. On the other hand, calculations based on the user-cost method showed strong vulnerability for the estimates to the choice of assumptions made, e.g. choice of interest rate including which period of reference for the interest rate (actual year, 3- or 5-years average). Thus, a decision on which approach to follow was difficult to take, given possible violation to basic national accounts principles, unreasonably high volatility in the time series data, and the vulnerability faced for the estimated level of GDP and other main aggregates, such as household consumption expenditure. In view of the latter, international PPP data comparisons were studied, and it was foreseen a considerable increased level as the outcome of the revision in this area.

2.447 The common methodology of the Commission Decision was finally chosen as the basic method. The NNA estimation involve two main stages, one of estimating fixed assets of dwellings, and secondly, the estimation of actual rents and subsequently the output (and consumption) of dwelling services.

2.448 In first stage, stock on dwellings grouped by number of rooms, type of dwelling, building year and 5 different price zones were calculated from the 1980 and 1990 population and housing censuses, plus statistics on buildings started and completed for intervening and later years. Adjustments for dwellings not longer in use were also made. Dwelling space area has been calculated by utilizing data from the 1988 Survey of Housing Conditions. The various sources use two different space measures (cf. utility floor space data in building statistics) to which adjustments also had to be made. Prices applied to the quantity measures are based on price data from surveys undertaken for existing dwellings and average prices from dwellings sold through NBBL (the Norwegian Confederation of Dwelling Co-operatives). Regression analysis has been used for adapting prices to some of the strata. In calculating values to the dwellings by the various strata, 1990 was considered a benchmark, and values for other years are calculated on the basis of price indices for existing dwellings. Price data are of better quality for years after 1990 than before, since such price indices are published from 1991 onwards. Weights obtained from the population and housing census in 1990 were used for weighting purposes.

2.449 In second stage, data from the quarterly surveys on actual rents (4th quarter 1988 through 4th quarter 1992) are utilized with data from the Survey of Housing Conditions 1988, the 1991 Survey of Level of Living, the household consumer surveys for 1987-1992 and some tax data for 1992. Since data refer to different periods, 1990 benchmark data have been calculated initially by using the CPI on actual rents. Actual rent observations are all excluding electricity and fuel. They are stratified in 15 strata, i.e. 5 locations and 3 sizes (in terms of number of rooms). Average actual rents per square metre in the 15 strata in 1990 are as follows (it is observed that the rents have a remarkable normal pattern despite scarce data in some strata) :

		Location				
		1	2	3	4	5
Size	1	504	420	465	433	388
	2	401	352	375	324	301
	3	340	319	340	271	236

2.450 Actual rents then were recalculated in terms of percentages of dwelling values in 1990. Output of dwelling services thus was obtained by multiplying these rent percentages for rented dwellings by dwelling value for the whole stock of dwellings. An alternative method of grossing up produced similar results (2 per cent lower output). Dwelling services from secondary dwellings (summer houses, huts etc.) have also been calculated. In this case, the 1991 Survey of Level of Living has been utilized to calculate the value of secondary dwellings (about 5 per cent of total dwelling value), and using the same output ratio as for ordinary dwellings. Other adjustments are also made (see table that follows). For garages, no specific additions have been made, in some cases garage rents are included in the actual rents, in other cases they are not included (smaller share of accompanied garages among tenants than among owner-occupiers). Moreover, tenants maintenance costs that are not included in actual rents have been added for equivalent treatment to owner-occupiers' costs. These are estimated from data in the household consumer surveys.

	1990. Billion kroner
Total output of dwelling services (ordinary dwellings)	
- chosen grossing up method	57,3
- alternative grossing up method by square metres	56,2
Additions and subtractions:	
Total output of secondary dwelling services (summer houses etc.)	2,9
Dwelling services outside households	-1,2
Non-residential use of dwellings (office area etc.)	-1,5
Tenants maintenance costs not included in actual rents	2,7
Dwelling services, for own final use	60,2

2.451 Output of owner-occupiers is not directly shown in the output or supply table, but indirectly through items of the household consumption expenditure in the use table. The shares of owner-occupiers and tenants are estimated on the basis of their respective shares of the 1990 census stock of dwellings. Owner-occupiers share of secondary dwellings is not specified (not called for in the COICOP version applied).

	1990. Billion kroner
Output of dwelling services, for own final use	60,2
of which:	
- owner-occupiers	49,0
- tenants	8,4
- secondary dwellings	2,9

2.452 The estimation of output of dwelling services for own final use in other years than 1990 benchmark is based on time series for stock of dwellings in square metres and their values. Updated actual rents percentages - obtained from CPI rents data and dwelling prices of each strata - are multiplied by the stock value of dwellings. CPI rents data reflect a wider population than necessary for this context, though in future there might be possible to obtain a price index just for ordinary actual rents. For secondary dwellings, the 5 per cent assumption referred to above is used for all years. The addition for tenants' maintenance costs is extrapolated by a volume index as for output and price index as of CPI maintenance costs. Non-residential use of dwellings is estimated with same amount each year. For the allocation to the respective consumption items, the 1990 distribution has been kept constant for later years, while the tenants' share for 1988 is set somewhat lower than for 1990, reflecting a lower share in the 1988 Survey of Housing Conditions than in the 1990 Population and Housing Census. The 1989 shares are estimated through interpolation.

2.453 Output of real estate activities other than dwelling services for own final use is estimated from combining the output and expenditure approaches. The latter information on total rent expenditures in the industries - compiled from the whole range of source information available - has provided a higher total than from information available on output of such renting services. While taking into account non-characteristic output of renting services involving own non-residential property, a benchmark of such characteristic output from real estate activities was obtained from adjusting upwards from basically following the expenditure approach. In extrapolating this benchmark for other years, new NACE-based statistics of the Business Register has been utilized. Information from real estate agents was also utilized in the output estimation of real estate agent services.

2.454 Illustration by 1990 figures and summarized references to sources and methods follows by products:

		1990. Billion kroner
701 000	Real estate services with own property Calculation based on information from real estate agencies	0,5
702 011	Renting services involving own residential property (excl. owner-occupiers) Special calculations connected to dwelling service production (not produced for own final use)	0,5
702 012	Renting services involving own non-residential property Calculations described above	9,8
703 000	Real estate agency services on a fee or contract basis Calculation based on information from real estate agencies	1,0
704 000	Dwelling services, for own final use Calculations described above	60,2
Total output		72,0

Renting services

2.455 Output of renting services is in two main parts, one for transport equipment and one for machinery and other equipment. Output of renting services of transport equipment is estimated from a benchmark and extrapolation of indicators approach. First, 1988 benchmark is estimated from multiplying numbers and average prices of registered rented vehicles (per 31/12) of automobiles, buses and vans. For other years, the 1988 benchmark is multiplied (extrapolated) by a volume indicator represented by the ratio between number of rented automobiles in the year and number of rented automobiles in 1988, and a price indicator. The price indicator (until 1992) has been a weighted cost index, a wage index component of 20 per cent, and the remaining weight of 80 per cent being Consumer Price Index components of car purchases (50 per cent), spare parts for cars (15 per cent) and repair shop services (15 per cent). From 1992, this indicator has been replaced by a genuine price index. For machinery

and other equipment, data from the annual production statistics of machinery and equipment rental and leasing - published until 1989 - have been utilized, tentatively adjusted from a ISIC to NACE-basis, and which continue to be included as statistics of NACE 713 based on the Business Register.

2.456 Illustration by 1990 figures and summarized references to sources and methods follows by products:

		1990. Billion kroner
Characteristic output		
711 010	Renting services of automobiles 1988 benchmark, extrapolated by price and volume indicators	0,4
712 110	Renting services of other land transport equipment 1988 benchmark, extrapolated by price and volume indicators	0,1
713 110	Renting services concerning agricultural machinery and equipment without operators Former and new annual production statistics of machinery and equipment rental have been utilized, inclusive interpolation	0,0
713 210	Renting services concerning construction and civil engineering machinery and equipment without operators Former and new annual production statistics of machinery and equipment rental have been utilized, inclusive interpolation	0,4
713 310	Renting services of office machinery and equipment including computers Former and new annual production statistics of machinery and equipment rental have been utilized, inclusive interpolation	0,7
713 411	Renting services of other machinery and equipment n.e.c. Former and new annual production statistics of machinery and equipment rental have been utilized, inclusive interpolation	1,3
714 010	Renting services of personal and household goods n.e.c. Former and new annual production statistics of machinery and equipment rental have been utilized, inclusive interpolation	0,0
Non-characteristic output		0,0
Includes trade services (trade margins)		
Total output		3,0

Computer and related services

2.457 The annual production statistics of business activities are utilized for the output estimation of computer and related services. The data available are more detailed than those published in NOS Service production, particularly utilizing a survey undertaken in 1990. Output is specified by 6 characteristic and 4 non-characteristic NNA-products.

2.458 Illustration by 1990 figures and summarized references to sources and methods follows by products:

		1990. Billion kroner
Characteristic output		
721 010	Hardware consultancy services Item of main source	0,2
722 020	Programming services of packaged software products Item of main source	4,3
723 000	Data processing services Item of main source	3,1
724 010	Data base services Item of main source	0,8
725 000	Maintenance and repair services of office, accounting and computing machinery Item of main source	0,6
726 010	Other computer related services Item of main source	0,3
Non-characteristic output		0,3
Includes rental services of non-residential property, renting services of computers and other office machinery, renting services of other machinery and equipment, and trade services (trade margins), the first three of which are estimated by item other incomes and distributed on shares of 50, 48 and 2 per cent, respectively, while the fourth product is estimated by netting sale and purchases of goods traded.		
Total output		9,5

2.459 The two relevant items of the main source are fees etc. from clients - both for taxed and non-taxed services provided - and other incomes (excluding financial incomes). The latter item constitutes non-characteristic output in the industry. Added to this total is sale in one-employed establishments which is not covered by the statistics. There is usually a one-to-one

correspondence for NNA-industry 720 between each 5-digit NACE-industry and the 6 characteristic NNA-products, which means that NACE-related information of the main source provide for output data at the NNA-product level.

Research and development

2.460 Output in research and development is estimated from production costs on the basis of the R&D statistics referred to under sources used. Interpolations are made to utilize the basic statistics which are available every other year. Capital costs are adjusted for, while consumption of fixed capital is estimated on the basis of GFCF data. Subsidies and taxes on production are estimated from central government accounts data. Operating surplus is however assumed at zero value. Output is specified by 2 characteristic NNA-products.

2.461 Illustration by 1990 figures and summarized references to sources and methods follows by products:

		1990. Billion kroner
Market output		
731 000	Research and experimental development services on natural sciences and engineering Calculated from costs, based on main source and central government accounts	2,3
732 000	Research and experimental development services on social sciences and humanities Calculated from costs, based on main source and central government accounts	0,2
Total market output		2,5
Non-market output of central government		
Characteristic output		
730 060	Research and development services of central government Some 310 items of central government accounts, 42 of which are government fees items	0,9
Non-characteristic output		0,0
Includes an insignificant value of rental services of residential property		
Addition:		

730 061	Consumption of fixed capital Estimated share of central government consumption of fixed capital, considered additional output	0,0
	Total non-market	0,9
	Total output	3,4

Other business activities

2.462 The annual production statistics of business activities are used to estimate output of other business activities. These statistics could only be utilized indirectly in FNA by implementing the year-to-year changes, while not applying the right level at current basis. Implementing the level of the production statistics directly in NNA, caused quite substantial revisions for output and other aggregates of these industries. Output of the 7 NNA-industries is specified by 17 characteristic and 2 non-characteristic NNA-products.

2.463 Illustration by 1990 figures and summarized references to sources and methods follows by products:

		1990. Billion kroner
Market output		
Characteristic output		
741 110	Legal services Main source is utilized (see description below)	2,2
741 200	Accounting, book-keeping and auditing services; tax consultancy services Main source utilized	4,3
741 300	Market research and public opinion polling services Main source utilized	0,4
741 400	Business and management consultancy services Main source utilized	2,2
742 012	Architectural services Main source utilized	1,5
742 020	Engineering services Main source utilized	3,8
742 030	Geological and similar services Main source utilized	1,4
742 040	Other technical consultancy services Main source utilized	8,0
743 010	Technical testing and analysis services Main source utilized	1,3

744 010	Advertising services	6,6
	Main source utilized	
745 000	Labour recruitment and provision of personnel services	1,2
	Main source utilized	
746 010	Investigation and security services	0,8
	Main source utilized	
747 010	Industrial cleaning services	2,3
	Main source utilized	
748 120	Photographic services	1,1
	Main source utilized	
748 200	Packaging services	0,1
	Main source utilized	
748 300	Secretarial and translation services	0,4
	Main source utilized	
748 400	Other business services	2,3
	Main source utilized	
	Non-characteristic output	0,6
	Includes rental services of non-residential property (0,5 billion) and small amounts of trade margins from sale of goods	
	Total market output	40,5
	Non-market output of central government	
742 060	Geological and similar services	0,5
	79 items of central government accounts, of which 20 government fees items	
743 060	Technical testing and analysis services	0,3
	49 items of central government accounts, of which 13 government fees items	
745 060	Labour recruitment and provision of personnel services	0,8
	25 items of central government accounts, of which 6 government fees items	
	Addition:	
742 061	Consumption of fixed capital	0,0
745 061	Consumption of fixed capital	0,0
	Estimated shares of central government consumption of fixed capital, considered additional outputs	
	Total non-market output	1,6
	Total output	42,1

2.464 The two relevant items of the main source are fees from clients and other incomes, the first an item for characteristic output and the other item for non-characteristic output. This applies to all industries of other business activities. When total characteristic output is arrived at as total output less non-characteristic output (=other incomes), next stage is to distribute among characteristic products - done at the unit responsible for the basic statistics - most often from a one-to-one correspondence between 5-digit NACE and NNA-products. For industrial cleaning services, data are less abundant, meaning that total output is assumed all for characteristic output.

2.465 Data for one-man establishments are available for output only. The output ratio between one-man establishments and ordinary establishments are utilized for the estimation of intermediate consumption and gross fixed capital formation, in lack of data for one-man establishments for these two concepts.

3. INTERMEDIATE CONSUMPTION

Introduction

2.466 In NNA, intermediate consumption in real estate, renting and business activities - valued in purchasers' prices - is estimated at 42,4 billion kroner in 1990.

		Intermediate consumption. 1990	
		Billion kroner	No.NNA-products
700	Real estate activities	3,3	23
704	Dwelling service production, for own final use	11,0	36
711	Renting of transport equipment	0,1	13
713	Renting of machinery and equipment and household goods etc.	1,2	17
720	Computer and related activities	5,1	27
730	Research and development	1,3	14 - 15
741	Legal, accounting, book-keeping and audit activities; tax consultancy; market research and public opinion polling; business and management consultancy; holdings	3,7	19
742	Architectural and engineering activities and related technical consultancy	8,1	16 - 25
744	Advertising	4,9	20
745	Labour recruitment and provision of personnel; investigation and security activities	0,7	8 - 17
747	Industrial cleaning	0,5	16
748	Miscellaneous business activities n.e.c.	2,4	22
	Total	42,4	

2.467 The 1990 revision from FNA to NNA has increased intermediate consumption in real estate, renting and business activities from 30,5 to 42,4 billion kroner.

		Billion kroner		Revision	
		FNA	NNA	Total	Definitional
70	Real estate	17,1	14,3	-2,8	- 3,5
71	Renting	0,1	1,3	1,2	0,1
72-74	Business activities	13,3	26,8	13,5	2,6
	Total	30,5	42,4	11,9	- 0,8

2.468 Similar definitional changes as for output occur, but their amounts are smaller. It even contribute negatively in total as the new treatment of renting services of non-residential property has reduced output by 3,5 billion kroner in real estate activities, more than the nomenclature changes adding to the contents of business and renting activities. The latter type of changes concern research and development (1,3 billion from education), photographers (0,5

billion from other services), renting of motor vehicles (0,1 billion from transport), non-market output of central government (0,7 billion from other activities within central government), less regrouping of news agency activities (0,0 billion to other services).

Sources

2.469 Main sources used are:

- | |
|--|
| <ul style="list-style-type: none">- Housing statistics of various kinds, also including household consumer surveys- R&D statistics every other year- Annual production statistics of business services |
|--|

Methods of estimation

2.470 In real estate activities, intermediate consumption has been considerably revised from utilizing information available (mostly as for output). The input ratio for real estate activities (NNA-industry 700) has been revised considerably (down from approximately 0,5 in FNA to about 0,3 in NNA), while the information available suggests that intermediate consumption is revised upwards in dwelling service production for own final use. Input ratio in the case of dwelling service production has been reduced from 22 per cent of output to 18 per cent as a result of the revision.

2.471 Intermediate consumption in dwelling service production consists of one part referring to housing co-operatives and one part covering maintenance costs of work paid for and to material costs of the owner-occupiers. Data on repairs to dwellings and purchases of materials for maintenance work are available from the household consumer surveys - from six different items altogether, items that are averaged over three years. One item is adjusted for a part that belong to NNA-industry 700. For the housing co-operatives, 1990 benchmark source is published data on administrative costs etc. per square meter area, and which is extrapolated by a square meter volume indicator for the housing co-operatives dwelling stock, and the price indicator of CPI on maintenance work. Insurance costs are not covered, as all insurance costs connected to the dwellings have been recorded as household consumption expenditure due to data problems.

2.472 In R&D, intermediate consumption is estimated from the same basic R&D statistics as for output. Their allocation on NNA-products is based on the previous FNA distribution.

2.473 Intermediate consumption for NNA-industry 711 Renting of transport equipment is not known from basic statistics. It has been set at 20 per cent of output for all years, i.e. same value index is applied to output and intermediate consumption for this relatively small industry (value added 0,05 per cent of GDP).

2.474 The annual production statistics of business services and machinery and equipment rental are utilized to estimate intermediate consumption in the remaining areas (NACE 72 and 74, and for 711 also). For the constituent 7 NNA-industries belonging to NACE 72 and 74 -

except scarce information for NNA-industry 747 Industrial cleaning - the main source specifies 6 cost items that are relevant for intermediate consumption:

- material costs
- office expenses on postage, telephone, stationary etc.
- fees for various services purchased
- rents, electricity and fuel
- machinery rented
- other operating expenses.

In order to arrive at intermediate consumption of the respective NNA-industries, an amount for one man establishments not covered by the statistics has been added, estimated by using same ration to output as for the establishments covered by the statistics.

2.475 Some of the cost items are more easily allocated to the NNA-product flows than others. For instance, item of rents, electricity and fuel is allocated to renting services involving own non-residential property and to electricity by assuming different distributions of the two in the various industries. In this case, the percentage of rents is set at 80 per cent in NNA-industries 741 and 745, at 85 per cent in 742, and at 90 per cent in 744 and 748, and finally at 92 per cent in 720. The item fees for various services purchased refers mainly to circumstances where the establishment might have produced the services itself, while decided to purchase the services from other producers instead. Hence, the allocation is involving characteristic products mainly. In the computer and related activities as an example, 60 per cent of this cost item is allocated to programming services and 40 per cent to data processing services. Similar allocations to characteristic products are made for the other industries.

2.476 For the other four cost items, the allocation to NNA-products in intermediate consumption has to be made within the framework of the commodity flow method system and using same indices for all NNA-products involved, determined from the four cost items of the main source.

M. PUBLIC ADMINISTRATION AND DEFENCE - NACE L CONTENTS, DEFINITIONS, SOURCES AND METHODS OF ESTIMATION

75 PUBLIC ADMINISTRATION AND DEFENCE; COMPULSORY SOCIAL SECURITY

Value added of NACE L - Public administration and defence - amounts to 5,3 per cent of GDP in 1990. The revision from FNA to NNA has increased the GDP share from 4,9 per cent. Output and intermediate consumption have both been increased exclusively from definitional changes, by 7,1 and 1,3 billion kroner respectively. Significant changes in definitions come from regrouping within general government, most notably maintenance work on roads now considered a public administration activity. The opposite effect comes from redefining part of military purchases from consumption to investment. Value added of NACE L contributes by 5,8 billion of the 61,5 billion increase in 1990 GDP. The sources - central government accounts and local government accounts - are classified according to national economic categories with breakdown by types, functions of COFOG, government industries of NACE Rev.1 and even by NNA-products. Thus, NACE L is covered by detailed specifications, in 2 industries and output by 28 characteristic products in central government and 11 such products in local government, plus some non-characteristic products. All output is non-market output. In Norway, social security activities are well integrated in public administration despite the existence of a social security fund, thus kept together in one NNA-industry.

Contents

2.477 In NNA, the activities of NACE L are distinguished in 2 industries:

751	Public administration and compulsory social security activities
752	Defence activities

2.478 In Norway, social security activities are well integrated in public administration despite the existence of a social security fund. In NNA - like in FNA - therefore, public administration (central) and compulsory social security activities are kept together, in terms of activities as well as institutional sector breakdown. Defence activities are however distinguished as they were in FNA.

2.479 The activities of public administration are defined wider in NNA than before, since a number of activities in central and local government have been regrouped in terms of their activity connection. Most important, maintenance work on roads - which in FNA was recorded among supporting services to land transport as non-market activities of central and local government - has now been regrouped and considered "infrastructural" activities of public administration instead. In addition, there are regroupings within the two government sectors both to and from activities outside public administration - and even from defence activities to public administration - related to administration matters.

1. VALUE ADDED

2.480 Public administration and defence make a contribution of 5,3 per cent to GDP in 1990. In NNA, value added in million kroner - in basic prices - and their shares of total value added and GDP are estimated as follows:

		1990	
		Million kroner	Percentage of: Total GDP value added
751	Public administration and compulsory social security activities	27 383	4,08 3,79
752	Defence activities	10 507	1,57 1,46
	Total	37 890	5,65 5,25

2.481 The 1990 revision from FNA to NNA has increased the GDP share of public administration and defence from 4,9 to 5,3 per cent:

		Billion kroner		Percentage of GDP	
		FNA	NNA	FNA	NNA
75	Public administration and defence	32,1	37,9	4,9	5,3

2. OUTPUT

Introduction

2.482 In NNA, output in public administration and defence - valued in basic prices - is estimated at 67,2 billion kroner. Except minor items of renting services, output of 66,9 billion kroner is characteristic output, consisting of some 30 products as defined in CPA.

		Output 1990. Billion kroner		
		Characteristic	Non-characteristic	Total
751	Public administration and compulsory social security activities	45,2	0,1	45,3
752	Defence activities	21,8	0,2	22,0
	Total	66,9	0,3	67,2

2.483 The 1990 revision from FNA to NNA has increased output in public administration and defence from 60,1 to 67,2 billion kroner. This increase is due to changes in definition.

		Billion kroner		Revision	
		FNA	NNA	Total	Definitional
75	Public administration and defence	60,1	67,2	7,1	7,1

2.484 In NNA, several new definitions have been introduced that affect output of public administration and defence. The regrouping of maintenance work on roads has increased output in public administration by 6,0 billion kroner - 3,1 billion in central government and 2,9 billion in local government. The introduction of consumption of fixed capital on roads etc. has increased consumption of fixed capital - and thus output - of public administration from 0,9 billion to 4,2 billion kroner. The opposite effect - reducing output of defence

activities by 0,8 billion kroner in 1990 - comes from redefining military purchases of 2,9 billion kroner from consumption to investment, in the latter case being produced in activities outside national defence, except 2,1 billion kroner in consumption of fixed capital. Finally, the remaining block - reducing output in public administration and defence by some 1,5 billion kroner - is the result of regrouping activities of public administration and defence to other general government activities.

Sources

2.485 Main sources used are:

- | |
|---|
| <ul style="list-style-type: none">- Central government accounts- Local government accounts |
|---|

2.486 Central government accounts and local government accounts are both principal sources of the statistical system, described in section I.C on main sources used to calculate GDP. The items of the government accounts are tabled with a whole set of information, more detailed for central government than for local government:

- | |
|---|
| <p>Central government tabled information:</p> <ul style="list-style-type: none">- chapter, item and sub-item- type and type according to FIIN-system- NNA-product- COFOG- NACE Rev.1- Institutional sector <p>Local government tabled information:</p> <ul style="list-style-type: none">- chapter- type and type according to FIIN-system- COFOG- NNA-product- NACE Rev.1 |
|---|

2.487 The item identifications in terms of chapters and corresponding items and sub-items are the ones given in the government accounts themselves. Each of these most detailed specifications are given a set of connected information, i.e. the nature of the flows in types of account, the purpose or function of the flows in COFOG groups, and the product specification of the flows in NNA-products. In addition, there are activity and sector identifications, in this area confined to public administration and compulsory social security activities and central government, public administration and compulsory social security activities and local government, and defence activities and central government.

2.488 Information by types are in two versions for central government, in an ordinary specification by types and - directly related to the NNA estimation - to so-called FIIN types. The structure of the latter identifies which type of account in NNA the respective flows are destined for.

2.489 As an illustration of the information available, let us look at the very first flow of the central government accounts:

Item identification (chapter, item and sub-item)	0001 - 01 - 100
Appenage for His Majesty the King	
Type identification (ordinary and FIIN-type)	101020 - 3010102
Compensation of employees in central government, organised posts	
Product identification (NNA-product)	751 161
General public services of central authorities, central government consumption	
Activity identification (NNA-industry)	751
Public administration and compulsory social security activities	
Purpose or functional identification (COFOG)	01110
General public services of executive and legislative organs, financial and fiscal affairs, external affairs other than foreign aid	
Sector identification (NNA institutional sector)	1100
Central government appropriations	

Methods of estimation

Central government

2.490 The annual central government accounts are utilized for the estimation of output in the public administration and defence industries. For each item area, outlays and incomes are recorded in the main source. Flows are presented in two components for each item area, outlays coded for component of consumption expenditure and incomes coded for government fees (paid by other sectors than government). When transferred to the NNA context of output, the government fees part has to be deducted from the former, to arrive at the true NNA component of consumption expenditure, to which the component of government fees should be added (separate NNA-output code) to arrive at the total output of the item area. In the presentation below, an output area is defined as the total of the two outputs (government consumption and fees). Output - in this sense - is specified by 26 characteristic and 2 non-characteristic NNA-products. Consumption of fixed capital constitutes additional output.

2.491 In allocating the flows of outlays and incomes of central government accounts to NNA-products, the text attached to the central government accounts was considered useful in a number of instances, while the main guidance for the allocation work was explanations to the CPA. The CPA description for this area was quite helpful when establishing some rules of guidance for this work. Problematic cases had to be solved by taking into account these rules or other kinds of convention. The COFOG classification work was undertaken independently of the product classification work.

2.492 Illustration by 1990 figures and summarized references to sources and methods follows by products:

		1990. Billion kroner
Characteristic output		
751 161	Executive and legislative services 170 items of main source, of which 20 items concerning fees paid for government services; 110 items from central government fiscal accounts, 55 items from other central government accounts, less minor adjustments related to sickness benefits (for all products throughout, not repeated)	0,9
751 162	Financial and fiscal services 107 items of main source, of which 23 items on government fees; 8 items of other government accounts, otherwise from fiscal accounts	2,7
751 163	Over-all economic and social planning and statistical services 37 items, of which 7 government fees items; all from fiscal accounts; main part concerns services of Statistics Norway	0,3
751 164	Government services to fundamental research 10 items, one of which from other government accounts, no fees paid to government	0,0
751 165	Other administrative services of the government n.e.c. 151 items, of which 7 government fees items; 4 items of latter part from other government accounts, otherwise items of fiscal accounts	1,0
751 261	Administrative educational services 141 items, of which 13 government fees items; all from fiscal accounts	0,3
751 262	Administrative health care services 197 items, of which 15 government fees items; all from fiscal accounts	0,4
751 263	Administrative housing and community amenity services 134 items, of which 16 government fees items; all from fiscal accounts	0,5
751 264	Administrative recreational, cultural and religious services 132 items, of which 7 government fees items; 25 items from other government accounts	0,7

751 361	Administrative agriculture, forestry, fishing and hunting related services	1,2
	230 items, of which 39 government fees items; 32 items from other government accounts	
751 362	Administrative fuel and energy related services	0,4
	93 items, of which 20 government fees items; all from fiscal accounts, some further regrouping has been made in this case	
751 363	Administrative mining and mineral resources, manufacturing and construction related services	0,0
	12 items, of which one government fee item; all from fiscal accounts	
751 364	Administrative transport and communication related services	4,3
	110 items, of which 20 government fees items; 4 items from other government accounts	
751 365	Administrative services related to the distributive and catering trades, hotels and restaurants	0,1
	23 items, no government fees; one item from other government accounts	
751 366	Administrative services related to tourism affairs	0,0
	One item from fiscal accounts only	
751 368	General administrative economic, commercial and labour affairs related services	1,2
	209 items, of which 62 government fees items; 3 items from other government accounts, some further adjustments are made here	
751 461	General personnel services for the government	0,3
	35 items, of which 8 government fees items; all from fiscal accounts	
751 462	Other general services for the government n.e.c.	1,0
	67 items, of which 12 government fees items; 6 items from other government accounts, some adjustment to government fees	
752 161	Administrative external affairs related services, diplomatic and consular services abroad	0,3
	26 items, of which 3 government fees items; all from fiscal accounts	
752 162	Foreign economic aid related services	0,2
	44 items, no government fees, items of fiscal accounts only	
752 361	Law courts related administrative services	0,8
	90 items, of which 18 government fees items; all from fiscal accounts, problem of matching fees has created negative consumption value	

752 362	Administrative services related to detention or rehabilitation of criminals 35 items, of which 7 government fees items; all from fiscal accounts	0,8
752 461	Police services 108 items, of which 25 government fees items; all from fiscal accounts	3,7
752 560	Fire brigade services 16 items, no government fees, all from fiscal accounts	0,0
753 060	Compulsory social security services 62 items of integrated accounts of social insurance accounts, of which 4 items of incomes	1,8
	Non-characteristic output Includes renting services involving residential property and renting services involving non-residential property	0,1
Addition:		
751 061	Consumption of fixed capital Estimated share of central government consumption of fixed capital for this industry, considered additional output	2,4
Total non-market output of central government, excluding defence		25,5

2.493 Illustration by 1990 figures and summarized references to sources and methods follows by products for defence activities as well. Output is specified by 2 characteristic and one non-characteristic NNA-products (output areas), adding to it one output to represent consumption of fixed capital in defence.

		1990. Billion kroner
Characteristic output		
752 261	Military defence services 93 items, of which 19 government fees items; 4 items from other government accounts, some adjustment to government fees	19,4
752 262	Civil defence services 56 items, of which 4 government fees items; all from fiscal accounts	0,3
Non-characteristic output		0,2
Includes rental services of residential property		
Addition:		
752 061	Consumption of fixed capital Estimated share of central government consumption of fixed capital for defence, considered additional output	2,1
Total non-market output in defence		22,0
Total non-market output of central government		47,4

Local government

2.494 The annual local government accounts are utilized for the estimation of output of public administration. In local government, government accounting data are less detailed than in central government. The presentation that follows is a parallel to the one given for central government. Output is specified by many similar kinds of products as for public administration in central government, here 11 characteristic NNA-products (here as well presented as pairs of government consumption and fees). Consumption of fixed capital constitutes additional output.

2.495 Illustration by 1990 figures and references by products follows below:

1990. Billion kroner

Characteristic output

751 181	Executive and legislative services 43 items of main source, of which 8 items concerning fees paid for government services	5,8
751 182	Financial and fiscal services 5 items, of which one government fees item	0,5
751 185	Other administrative services of the government n.e.c. 12 items, of which 2 government fees items	0,5
751 281	Administrative educational services 5 items, of which one government fee item	0,9
751 282	Administrative health care services 15 items, of which 3 government fees items	1,8
751 283	Administrative housing and community amenity services 22 items, of which 4 government fees items	2,5
751 284	Administrative recreational, cultural and religious services 25 items, of which 5 government fees items	1,4
751 381	Administrative agriculture, forestry, fishing and hunting related services 9 items, of which 2 government fees items	0,2
751 384	Administrative transport and communication related services 11 items, of which 2 government fees items	2,9
751 388	General administrative economic, commercial and labour affairs related services 6 items, of which one government fee item	0,6
752 580	Fire brigade services 6 items, of which one government fee item	1,1
Addition:		
751 061	Consumption of fixed capital Estimated share of local government consumption of fixed capital for this industry, considered additional output	1,8

Total non-market output of local government

19,8

3. INTERMEDIATE CONSUMPTION

Introduction

2.496 In NNA, intermediate consumption in public administration and defence - valued in purchasers' prices - is estimated at 29,3 billion kroner in 1990.

		Intermediate consumption. 1990	
		Billion kroner	No. of NNA-products
751	Public administration and compulsory social security activities	17,9	41
752	Defence activities	11,4	135
	Total	29,3	

2.497 The 1990 revision from FNA to NNA has increased intermediate consumption in public administration and defence from 28,0 to 29,3 billion kroner. This is again due to changes in definition.

		Billion kroner		Revision	
		FNA	NNA	Total	Definitional
75	Public administration and defence	28,0	29,3	1,3	1,3

2.498 Similar changes in definition as for output occur for intermediate consumption as well. The increase for the maintenance work component is 5,2 billion kroner - 2,7 and 2,4 billion in central government and local government respectively. The military purchases regrouped for investment result in 2,9 billion lower intermediate consumption. Accompanied with output regrouped to other general government activities, intermediate consumption is reduced by some 1 billion kroner.

Sources

2.499 Main sources used are:

- | |
|---|
| <ul style="list-style-type: none"> - Central government accounts - Local government accounts - Annual cost survey data for defence activities - Ad hoc cost survey data for education and health activities in local government |
|---|

2.500 As stated above, the items of government accounts are tabled with a whole set of information, more detailed for central government than for local government. The type component (types according to the FIIN-system) is the key for identifying flows that are destined for treatment as intermediate consumption. A large problem, however, is that government accounts do not provide detailed information by products on intermediate consumption. Information available in central government is confined to total purchases of goods and services for each item identified (if appropriate). Thus, the detailed information by items in the central government accounts cannot be utilized in the same way for compiling intermediate consumption as for output.

2.501 For defence activities, annual cost survey data are available from the Ministry of Defence in connection with Statistics Norway compiling a total cost or price index for defence activities in return. Cost survey data are submitted to Statistics Norway broken down by approximately 200 FNA-products for intermediate consumption and 60 FNA-products for gross fixed capital formation. These data by products of the former system are subsequently converted into NNA-products..

2.502 Cost survey data are also available for education and health activities in local government. For education, the Ministry of Education has conducted an accounting survey of schools of primary and secondary education for the years 1986 and 1990. A similar source is available for certain health activities - somatic and mental hospitals in local government - from annual statistics on health institutions.

Methods of estimation

2.503 The annual central government accounts and local government accounts are utilized to the extent possible to estimate intermediate consumption of the public administration and defence industry. For its distribution on detailed NNA-products, the annual cost survey data on defence activities have been used for the NNA-industry 752 Defence activities. The product distribution of intermediate consumption for the NNA-industry 751 Public administration - both in central government and local government - is based on the product structure estimated from the two ad hoc surveys for education and health activities. Further adjustments - which could be quite substantial - occur for each NNA-product involved, from the process of balancing flows of supply and uses of the respective products.

2.504 In order to use the cost survey data, they have been coupled with local government accounts data for a sample of municipalities and counties, while information by types has been converted to NNA-products as best as possible. The analysis on local government accounts is made for 7 municipalities (cities) and 2 counties as education is concerned, by which details

have been improved and a wider range of educational purposes have been covered. The data are thus broken down by 33 types in the first place. The corresponding number of types in the case of health activities is 44, and accounts being analysed for two counties and one main hospital in Oslo. Sub-distributions for somatic hospitals, mental hospitals and other health activities have been weighted together by using the local government accounts.

2.505 A benchmark distribution of intermediate consumption was first established for 1988. This composition of goods and services in intermediate consumption - comprising between 40 and 50 NNA-products - was used for intermediate consumption of the public administration industry, both in central government and local government. Secondly, this composition in relative terms was assumed to be constant over the years. Repair work on buildings and structures is treated separately. And eventually, the distribution would be considerably altered from the balancing of supply and uses of the NNA-products.

2.506 The distribution by NNA-products for intermediate consumption just described has been introduced as a basis for the estimation of intermediate consumption for all important non-market activities of central and local government - and even in a few cases of market activities (see below).

<p>N. EDUCATION - NACE M CONTENTS, DEFINITIONS, SOURCES AND METHODS OF ESTIMATION</p>
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80 EDUCATION

Value added of NACE M - Education - amounts to 4,4 per cent of GDP in 1990. The 1990 revision from FNA to NNA has slightly reduced the GDP share from 4,6 per cent. Output and intermediate consumption have both been reduced from definitional changes, by 2,2 and 1,2 billion kroner respectively. Definitional changes concern new treatment of subsidies to education and the regrouping of R&D. Value added of NACE M contributes by 0,5 billion of the 61,5 billion increase in 1990 GDP, of which negatively 1,0 billion from definitional changes. NNA specifications for NACE M are in one industry divided into four different types of producers - market producers and non-market producers of central government, local government and NPISHs, and output by 5 characteristic products and one non-characteristic product. Most output of education is non-market - nearly 92 per cent - and non-market output of local government counts for 70 per cent of total output in education.

Contents

2.507 In NNA, the activities of NACE M are all included in one industry:

800 Education

2.508 In FNA, there was one industry as well. However, research and development were included with education, while now distinguished as a separate industry among business activities.

2.509 Four different types of producers are involved as units of production of the education industry, three types of non-market producers and market producers. They are:

- Non-market producers of local government
- Non-market producers of central government
- Non-market producers of NPISH
- Market producers

Market producers of education services in FNA have partly been treated as non-market producers of NPISH. Furthermore - from FNA to NNA - some units have been regrouped from non-market to become market or within non-market from government to NPISH units. The latter regrouping is in some cases provisional until further refined co-ordination with government accounts are taken (schools that are financed more than 50 per cent by government).

1. VALUE ADDED

2.510 Education makes a contribution of 4,4 per cent to GDP in 1990. In NNA, value added in million kroner - in basic prices - and their shares of total value added and GDP are estimated as follows:

		1990	
		Million kroner	Percentage of: Total GDP value added
800	Education	31 678	4,72 4,39

2.511 The 1990 revision from FNA to NNA has slightly reduced the GDP share of education from 4,6 to 4,4 per cent:

		Billion kroner		Percentage of GDP	
		FNA	NNA	FNA	NNA
80	Education	30,2	31,7	4,6	4,4

2. OUTPUT

Introduction

2.512 In NNA, output in education - valued in basic prices - is estimated at 38,9 billion kroner. Output is almost entirely characteristic output.

		Output 1990. Billion kroner		
		Characteristic	Non-characteristic	Total
800	Education	38,9	0,0	38,9

2.513 The 1990 revision from FNA to NNA has reduced output in education from 39,6 to 38,9 billion kroner. This reduction is due to changes in definition.

		Billion kroner		Revision	
		FNA	NNA	Total	Definitional
80	Education	39,6	38,9	-0,7	-2,2

2.514 Definitional changes concern new treatment of subsidies to education and regrouping of research and development. Output of education in basic prices is increased by 0,7 billion kroner in 1990 from treating subsidies to education as subsidies on products rather than - as before - other subsidies on production. Output of non-governmental research and development - recorded at 1,5 billion kroner in 1990 - was grouped with education in FNA, while now constituting part of business activities. There are also some regrouping of units between categories of market and non-market activities within education.

Sources

2.515 Main sources used are:

-	Central government accounts
-	Local government accounts

2.516 Supplementary sources used are ad hoc price surveys, underlying price data from the Consumer Price Index (covering at least five items), statistics on the number of students (for several categories of students) and number of drivers' licenses, information from Driving Teachers' Association, and information on rules for government grants. Data from household sample surveys are also utilized, primarily for comparison purposes.

Methods of estimation

2.517 The annual central government accounts and local government accounts are used to estimate main parts of output in the education industry, in particular non-market output of central and local government, but also for the estimation of non-market output of the NPISHs by utilizing information (values and rules) on payments of grants from central and local government to these institutions. Output is specified by 5 characteristic NNA-products and one non-characteristic product.

2.518 Illustration by 1990 figures and summarized references to sources and methods follows by products, structured in sections by the various types of producer. Consumption of fixed capital constitutes additional output for the non-market activities of government.

		1990. Billion kroner
Non-market output of local government		
801 080	Primary education services 12 items of main source, of which 2 government fees items	16,8
802 080	Secondary education services 10 items, of which 2 government fees items	8,3
804 280	Adult and other education services n.e.c. 12 items, of which 2 government fees items	1,1
Addition:		
800 081	Consumption of fixed capital Estimated share of local government consumption of fixed capital, considered additional output	1,1
Total non-market output of local government		27,3
Non-market output of central government		
Characteristic output		
801 160	Primary education services 47 items, of which 5 government fees items; all from fiscal accounts	0,4
802 060	Secondary education services 119 items, of which 30 government fees items; all from fiscal accounts	0,5
803 060	Higher education services 423 items, of which 93 government fees items; all from fiscal accounts	6,4
804 260	Adult and other education services n.e.c. 46 items, of which 2 government fees items; all from fiscal accounts	0,1

Non-characteristic output		0,0
	Includes a small amount on renting services of residential property	
Addition:		
800 061	Consumption of fixed capital Estimated share of central government consumption of fixed capital, considered additional output	0,4
Total non-market output of central government		7,9
Non-market output of NPISH		
801 010	Primary education services Item grants to private schools from central government accounts and from local government as well, plus fees paid (see below)	0,3
802 000	Secondary education services Item grants to private schools from central government accounts and from local government, plus fees paid	0,5
Total non-market output of NPISH		0,8
Total non-market output		36,0
Market output		
803 010	Higher education services Item grant to private high schools and universities from central government accounts, plus fees paid	0,8
804 110	Driving school services 1990 estimate based on education costs per student and number of students, price and volume indicators used for other years	0,9
804 200	Adult and other education services n.e.c. Items grants to adult services and to folk high-schools from central government accounts and from local government, plus fees paid	1,3
Total market output		3,0
Total output		38,9

2.519 Output of education services performed by the NPISHs is estimated from grants paid by government to private schools and supplementary information on the relative coverage from government. These grants - around 0,3 billion kroner in 1990 - are meant to cover 85 per cent of normal costs per student. A special price survey for private primary schools in Oslo indicated fees paid at 6000 kroner per student as an average, or 34 million kroner when multiplied by the number of students. For private secondary schools, fees paid vary between 10000 and 20000 kroner per student according to CPI data, the method used taken as a weighted average of 12500 kroner grossed up by the number of students. For years other than 1990, fees paid are estimated on the basis of consumer price index for primary schools services and corresponding number of students. A similar calculation is made for private secondary schools. It should be observed that according to ESA criteria on costs, the recording of these private schools should rather be in the government sector than in the NPISH sector.

2.520 For private high schools and universities, fees paid are well above 50 per cent of the costs and should therefore contribute to market production. The method used is similar to the one used for non-market production by the NPISHs. The fees in this case are set at 25000 kroner per student.

2.521 For driving schools, the Driving Teachers' Association was contacted for an output estimate and average costs for driving lessons per student. A benchmark output for 1990 was based on an average cost of 11000 kroner per student and the number of drivers' licenses issued. For other years, the licenses issued in the year were used as a volume indicator, while the CPI for education services was used as a price indicator. A comparison between output estimate made and expenditures for driving schools according to the household sample survey did not deviate much, when taking into account driving school services for business and schools as well:

Driving school services	1990. Billion kroner
- NNA output estimate	0,9
- Household sample survey expenditure	0,8

2.522 Most important among the activities of adult and other education are the activities of adult education associations. AOF - one of the main units in the field - has provided price information on courses held. Fees paid are estimated by multiplying the number of participants by adjusted average price per participant, adjustment taken with a view to the level of government grants for these activities, which are added to arrive at output.

2.523 Government grants for education are usually stipulated at normal rates per student. They are therefore treated as subsidies on products, affecting the estimation of output. An exception to this - and treatment as other subsidies on production - are payments as subsidies out of governmental funds (other central government accounts). -

3. INTERMEDIATE CONSUMPTION

Introduction

2.524 In NNA, intermediate consumption in education - valued in purchasers' prices - is estimated at 7,2 billion kroner in 1990.

		Intermediate consumption. 1990	
		Billion kroner	No. of NNA-products
800	Education	7,2	16 - 42

2.525 The 1990 revision from FNA to NNA has reduced intermediate consumption in education from 9,4 to 7,2 billion kroner. Output of non-governmental research and development in FNA was recorded at 1,5 billion kroner. Assuming same input share as for non-governmental education altogether, intermediate consumption of non-governmental research and development was 1,2 billion kroner in FNA, and thus explains more than half of the reduction in intermediate consumption of the new education industry.

		Billion kroner		Revision	
		FNA	NNA	Total	Definitional
80	Education	9,4	7,2	- 2,2	- 1,2

Sources

2.526 Main sources used are:

-	Central government accounts
-	Local government accounts
-	Ad hoc cost survey data for education in local government

Methods of estimation

2.527 The annual central government accounts and local government accounts are used to determine total intermediate consumption in these areas, while the ad hoc cost survey data for education in local government are utilized for its composition by products. In general, the method of estimation followed is described in the section of intermediate consumption of public administration above.

2.528 For private schools including NPISH units, intermediate consumption is based on the proper share of total costs of production as observed from local government schools. For secondary education schools in local government approximately 20 per cent of total costs are current expenditures etc., while compensation of employees at nearly 80 per cent. Thus, intermediate consumption has been fixed constant over the years at 28,5 per cent of output both for market education and non-market education of NPISH's.

0. HEALTH AND SOCIAL WORK - NACE N CONTENTS, DEFINITIONS, SOURCES AND METHODS OF ESTIMATION

85 HEALTH AND SOCIAL WORK

Value added of NACE N - Health and social work - amounts to 6,9 per cent of GDP in 1990. The 1990 revision from FNA to NNA has slightly reduced the GDP share from 7,2 per cent. Output and intermediate consumption have both been increased from definitional changes, by 1,6 and 0,7 billion kroner respectively, due to regroupings. Value added of NACE N contributes by 2,3 billion of the 61,5 billion increase in 1990 GDP, of which negatively 0,9 billion from definitional changes. NACE N is covered by detailed specifications, in 5 industries divided into four different types of producers - market producers and non-market producers of central government, local government and NPISHs, and output by 16 characteristic products and one non-characteristic product. Most output of health and social work is non-market - more than 83 per cent - and non-market output of local government counts for 66 per cent of total output in health and social work.

Contents

2.529 In NNA, the activities of NACE N are distinguished in 5 industries:

851	Human health activities
852	Veterinary activities
853	Social work activities
854	Combined nursing activities
859	Social work activities by disabled workers

2.530 In FNA, two industries were specified, one for health and veterinary activities and another for social work activities, both broken down on the three categories of private, central government and local government items.

2.531 Like for education, four different types of producers are involved as units of production:

- Non-market producers of local government
- Non-market producers of central government
- Non-market producers of NPISH
- Market producers

Most important are non-market producers of local government with an output share of two-thirds of these activities, while non-market producers of central government are least important with only 3 per cent output share. Referring to the NNA industries, the first four record both market and non-market activities, while the fifth is considered market from criteria set in ESA 1995. NNA 854 is a special construct of combined nursing activities, since a considerable part of health and social work in local government - at least until further notice - cannot be split between these two main activities.

1. VALUE ADDED

2.532 Health and social work makes a contribution of 6,9 per cent to GDP in 1990. In NNA, value added in million kroner - in basic prices - and their shares of total value added and GDP are estimated as follows:

		1990	
		Million kroner	Percentage of: Total GDP value added
851	Human health activities	25 067	3,73 3,47
852	Veterinary activities	229	0,03 0,03
853	Social work activities	7 783	1,16 1,08
854	Combined nursing activities	16 531	2,47 2,29
859	Social work activities by disabled workers	308	0,05 0,04
	Total	49 918	7,44 6,91

2.533 The 1990 revision from FNA to NNA has reduced the GDP share of health and social work from 7,2 to 6,9 per cent:

		Billion kroner		Percentage of GDP	
		FNA	NNA	FNA	NNA
85	Health and social work	47,6	49,9	7,2	6,9

2. OUTPUT

Introduction

2.534 In NNA, output of these industries - valued in basic prices - is estimated at 66,8 billion kroner. With one notable exception, nearly all output - 65,7 billion kroner - is characteristic output. In contrast, all output of social work activities by disabled workers is non-characteristic, mostly output of manufacturing goods.

		Output 1990. Billion kroner		
		Characteristic	Non-characteristic	Total
851	Human health activities	34,1	0,0	34,1
852	Veterinary activities	0,4	-	0,4
853	Social work activities	11,5	-	11,5
854	Combined nursing activities	19,8	-	19,8
859	Social work activities by disabled workers	-	1,1	1,1
Total		65,7	1,1	66,8

2.535 The 1990 revision from FNA to NNA has increased output of these industries substantially from 59,3 to 66,8 billion kroner. Changes in definition from regrouping explain part of the increase.

		Billion kroner		Revision	
		FNA	NNA	Total	Definitional
85	Health and social work	59,3	66,8	7,5	1,6

2.536 In NNA, units of social work activities by disabled workers - output at 1,1 billion kroner in 1990 - have been regrouped from manufacturing to social work in accordance with NACE. Regrouping from non-market to market, and vice versa, within health and social work, accompanied by change in valuation principle, makes a net contribution of about 0,5 billion kroner to increase output in this industry.

Sources

2.537 Main sources used are:

- | |
|--|
| <ul style="list-style-type: none"> - Central government accounts (including National Insurance) - Local government accounts - Annual statistics of health institutions - Annual social statistics - Ad hoc income sample surveys of private medical practitioners, dentists, physiotherapists and psychologists |
|--|

2.538 Central and local government accounts are described in the general section on main sources and in the public administration chapter. In this context, it is important to note that relevant items of National Insurance are incorporated in central government accounts. The annual statistics of health institutions contain inter alia data on expenditures of health institutions that are covered by the county health plans. The annual social statistics contain various kinds of information related to social work and nursing activities. The income sample surveys for the various occupation groups - private medical practitioners (veterinarians also specified), dentists, physiotherapists and psychologists - are mostly ad hoc surveys for years around 1985 (in most cases for 1983-1985, psychologists for 1987) and contain data on output, intermediate consumption, compensation of employees and subsidies. Supplementary sources used for extrapolation purposes are the Consumer Price Index material and data on numbers employed by occupation groups.

Methods of estimation

2.539 The annual central government accounts and local government accounts are used to estimate main parts of output in the health and social work industry, in particular non-market output of central and local government, but also for the estimation of non-market output of the NPISHs by utilizing information on payments from central and local government to these institutions. Supplementary sources are utilized in a manner as indicated in next paragraph. Output of social work activities for disabled workers is specified by some 120 NNA products, almost entirely manufacturing goods. Output of other health and social work activities is specified by 16 characteristic NNA-products and one non-characteristic product. In two cases, more aggregate NNA-products are introduced for some types of producers than for others (for hospital services, split between somatic and psychiatric hospital services for non-market producers of central and local government; for veterinary services, split in two parts for market producers).

2.540 Illustration by 1990 figures and summarized references to sources and methods follows by products, structured in sections by the various types of producer. Consumption of fixed capital constitutes additional output for the non-market activities of government.

1990. Billion kroner

Non-market output of local government

851 111	Somatic hospital services	14,0
	6 items of main source, of which one government fee item	
851 112	Psychiatric hospital services	2,7
	5 items, of which one government fee item	
851 210	Medical practice services	1,0
	10 items, of which 2 government fees items	
851 310	Dental practice services	0,9
	5 items, of which one government fee item	
851 419	Other human health services	2,2
	27 items, of which 5 government fees items	
853 110	Social work services with accommodation	0,3
	5 items, of which one government fee item	
853 211	Child day-care services	3,7
	5 items, of which one government fee item	
853 213	Other social work services	1,8
	24 items, of which 5 government fees items	
854 010	Combined nursing services for old people and for the handicapped	15,8
	49 items, of which 10 government fees items	

Addition:

851 081+	Consumption of fixed capital	1,7
	Estimated share of local government consumption of fixed capital, considered additional output (distributed on 3 items, one for each industry)	

Total non-market output of local government 44,0

Non-market output of NPISH

851 110	Hospital services	3,1
	Items of grants from National Insurance (90 per cent), identified in central and local government accounts, and from NPISHs (10 per cent)	
851 414	Ambulance services	0,1
	Part of ambulance services covered here, based on household membership fees data	
853 110	Social work services with accommodation	0,7
	Items of cost expenditure data in annual	

	social statistics	
853 213	Other social work services	2,4
	Consist of services of catastrophic and aid institutions, estimated on a weak basis	
854 010	Combined nursing services for old people and for the handicapped	3,2
	Items of cost expenditure data in annual social statistics and special publication on such institutions	
Total non-market output of NPISHs		9,6
Non-market output of central government		
Characteristic output		
851 111	Somatic hospital services	1,8
	117 items of main source, of which 20 government fees items	
851 112	Psychiatric hospital services	0,1
	33 items, of which 6 government fees items	
851 210	Medical practice services	0,0
	8 items of main source, no government fees	
852 010	Veterinary services	0,1
	53 items, of which 7 government fees items	
853 110	Social work services with accommodation	0,0
	17 items, of which 2 government fees items	
853 213	Other social work services	0,0
	21 items, of which 2 government fees items	
Non-characteristic output		0,0
	Includes a minor amount of rental services of residential property	
Addition:		
851 061+	Consumption of fixed capital	0,1
	Estimated share of central government consumption of fixed capital, considered additional output (distributed on 2 items)	
Total non-market output of central government		2,1
Total non-market output		55,6
Market output		

851 110	Hospital services Non-government hospitals and clinics outside county health plans for which no current data exist, estimate fixed at 100 million kroner	0,1
851 210	Medical practice services Items of reimbursement data from National Insurance, fees paid and other incomes of medical practitioners are used	3,2
851 310	Dental practice services 1985 benchmark based on income sample survey data, extrapolated by CPI prices and number of practitioners, adjusted upwards for underestimation	2,9
851 413	Services provided by physiotherapists and other para-medical persons Items of reimbursement data from National Insurance, fees paid and other incomes of these practitioners are used	1,0
851 419	Other human health services 1985 benchmark based on income sample survey data, extrapolated by CPI prices and number of practitioners	0,3
852 011	Veterinary services for pet animals Indicators are used, number of veterinary practitioners for pet animals	0,1
852 012	Other veterinary services Cost item in Aggregate account for agriculture, adjusted to include number of veterinary practitioners in agriculture and fishing	0,2
853 211	Child-day care services Income items of annual social statistics	1,8
853 212	Day-care services for young people Indicator approach based on wage level of domestic services and numbers employed	0,4
	Total market output, excluding social work activities by disabled persons	10,1
	Total output in social work activities by disabled persons Data available from annual manufacturing statistics, including product details for subsequent distribution on NNA-products	1,1
	Total market output	11,2
	Total output	66,8

2.541 Output of hospital services is produced in all four types of units, of which non-market production of central and local government should need no further explanation. Market output of hospital services is quite insignificant in Norway, confined to a few health institutions outside the county health plans not supported by National Insurance. For lack of current data, the market output estimate has been fixed at 100 million kroner. Hospital services from private hospitals, which are placed under the county health plans and thereby supported by National Insurance, are estimated from identified items in central and local government accounts, while treated as non-market output of NPISHs. In principle, this means that output is valued by production costs, but in practice valued directly by incomes from government and other grants, plus fees paid (implying that incomes are equal to costs). Fees paid by households - recorded as household consumption expenditure - are estimated at approximately 100 million kroner on polyclinic services and for stays at sanatoriums. The remainder output is recorded as final consumption expenditure of NPISHs, financed by National Insurance apart from 100 million by the non-profit institutions behind the producer units.

2.542 Medical practice services are mostly market (approximately 80 per cent). These are estimated from fees paid, reimbursements from National Insurance and other incomes. Included in the latter component is current grants from local government to physicians as contributors to the government health plans. These grants (0,6 billion in 1990) are not recorded as subsidies, but as local government consumption expenditure from purchases of medical practice services produced by market producers that are supplied to households as social benefits in kind according to ESA 95 principles. The income sample surveys by occupation groups are used as a supplementary source for structural type information. For utilizing that source, a grossing up method based on the number of practitioners in the health statistics was used (although deviating significantly from the man-years data in the employment statistics - which most likely explains part of the negative difference to the first method). The use of the income sample surveys for structural information only - and not for absolute level estimation - was supported from utilizing the household sample surveys data on consumer expenditures directly for the fees paid component. A similar estimation was also made for the occupation group of psychologists.

2.543 Dental services are also mostly market (share also around 80 per cent). For estimating output, the income sample surveys for the years 1983-85 have been utilized, grossed-up by number of dentist practitioners according to data from the Norwegian Dentists Association. The 1985 benchmark estimate was then extrapolated by use of indicators, i.e. by a price indicator of CPI for dental services and a volume indicator of the number of dentist practitioners. Using this method creates however a rather large deviation to consumer expenditure data of the household sample surveys, as illustrated by 1988 figures:

	1988. Billion kroner
Output based on grossed-up data of the income sample surveys and extrapolated	1,7
Household consumption expenditure based on the household sample survey	3,1

From this discrepancy, the NNA estimate on market output of dental services has been arrived at by adjusting the above mentioned output method upwards by some 25 per cent. It is reason to believe that the results of the income sample surveys underestimate incomes of the dentists,

not the least when compared by similar surveys of physicians' incomes. Dentist services are not subject to wide support from National Insurance in Norway (except from special parts of the services provided).

2.544 Other human health services - excluding physiotherapists etc. and ambulance services, which are two separate NNA-products, and the non-market production of local government - have been lacking production data, but there are data on reimbursements from National Insurance which indicate that the FNA output estimate was underestimated. There are reimbursements from local government and fees paid for these services as well. Indications reveal that the National Insurance share is some 70 per cent, local government some 20 per cent, and fees paid directly somewhat less than 10 per cent.

2.545 Physiotherapists' services - also including chiropractors and homeopathists - are estimated in a somewhat similar way as for medical practitioners, as reimbursement data from National Insurance are available. In fact, an unweighted average of this method, and the alternative method based on the income sample-based survey of physiotherapists and extrapolated by CPI and employment indicators, has been used for the output estimation of this NNA-product. This estimation fits well with the consumer expenditure data of the household sample surveys (when adjusting for the share of chiropractors).

2.546 Ambulance services belong to other human health services. Ambulance services by air are both performed by the military service (non-market defence activity), by market producers in air transport as non-characteristic output, while one particular unit (NLA) - considered a NPISH unit - seems to fit in for characteristic non-market production of ambulance services. Households' membership fees to NLA are thus recorded as transfer payments to NPISH as a contribution to this producer. Ordinary ambulance services on land and water are not recorded as ambulance services, as they are already included in hospital services.

2.547 More than 50 per cent of social work services (plus some 80 per cent of combined nursing services) are non-market output of central and local government which is covered by the central and local government accounts. The remainder deserves some further comments. The market versus non-market distinction criteria comes into play here. Day-care services for children are such a problem case. An income survey of private child day-care activities held in 1991 suggests that these are market activities according to the ESA 95 criteria. This applies to the first two NNA-products specified under social work activities without accommodation, which accordingly are treated as produced by market producers. Output is subsequently estimated as the total of fees paid and other incomes. The same criteria seem to suggest that child day-care activities performed by local government units ought to have been treated as market activities (treatment similar to what has been introduced for water supply and refuse disposal), but at least provisionally treated in a normal institutional way as non-market activities of local government. The share of costs from fees paid seems lower for the local government child day-care services than for the private ones, but applying the ESA 95 definition of sales to production costs, there are likely more than 50 per cent sales in both categories. However, in terms of valuation, these are not two differently treated cases, as both are recorded as local government consumption expenditure, i.e. the private part is not valued by deducting subsidies on products, instead local government pays for the purchase of these services for the direct benefit of households as transfers in kind.

2.548 A third NNA-product of social work services without accommodation is a group of social services which for the non-government part is dominated by social assistance services to disaster victims, refugees and the like, i.e. services provided by catastrophic and aid institutions. No current data are available from these institutions, while the consumer expenditure data of the household sample surveys suggest a quite considerable size for this item. It should also be recalled that Norway has a good reputation as a donor country in this field, also shown in the international payment flows of the balance of payments.

2.549 Output of social services of the NPISHs also include welfare services to children and young people in private institutions. These services appear in two NNA-products, the first containing social services only and comprise welfare services to children and young people and other clients, except for old people and the physically or mentally handicapped which are included in the other combined nursing services product item. The latter NNA-product thus contain both health and social services, so far not separable. The annual social statistics are the source for these estimations. Cost expenditure data for 1990 amount to 0,6 billion kroner in institutions for children and youth, and 0,5 billion in institutions for alcoholics and drug addicts, from which totals the private shares have been extracted for NPISH output. To some extent, adjustments are made due to unit cost differences (per bed) in the various types of institutions. About 10 per cent of output are fees paid by households, the remainder 90 per cent final consumption expenditure by the NPISHs. For the combined nursing services, more detailed information is available from a special publication issued by Statistics Norway on institutions for elderly people (Reports 90/22). From this information, total costs in private institutions are estimated as number of units (beds) by types of institution multiplied by costs per bed. About 20 per cent of output are fees paid by households, the remainder 80 per cent final consumption expenditure by the NPISHs. For HVPU-institutions of the handicapped, however, fees paid by households are insignificant. Output of combined nursing services from these institutions (0,7 billion in 1990) is based on grants from local government.

3. INTERMEDIATE CONSUMPTION

Introduction

2.550 In NNA, intermediate consumption in health and social work - valued in purchasers' prices - is estimated at 16,8 billion kroner in 1990.

		Intermediate consumption. 1990	
		Billion kroner	No. of NNA-products
851	Human health activities	9,0	24 - 53
852	Veterinary activities	0,1	9 - 21
853	Social work activities	3,7	6 - 32
854	Combined nursing activities	3,2	17 - 38
859	Social work activities by disabled workers	0,7	93
Total		16,8	

2.551 The 1990 revision from FNA to NNA has increased intermediate consumption in health and social work substantially from 11,7 to 16,8 billion kroner. As for output, regrouping of units of social work activities by disabled workers explains part of this increase.

		Billion kroner		Revision	
		FNA	NNA	Total	Definitional
85	Health and social work	11,7	16,8	5,1	0,7

Sources

2.552 Main sources used are:

-	Central government accounts (including National Insurance)
-	Local government accounts
-	Ad hoc cost survey data for local government
-	Annual statistics of health institutions
-	Annual social statistics
-	Ad hoc income sample surveys of private medical practitioners, dentists, physiotherapists and psychologists

Methods of estimation

2.553 For intermediate consumption in central and local government, see general description above (aggregate data from central and local government accounts, further details from ad hoc cost survey data for local government). The input share in non-market production of health and social services by central and local government is slightly above 20 per cent, as seen from the 1990 data below:

1990. Billion kroner	
Non-market production of health and social services by local government	
Intermediate consumption	8,9
Output	44,0
Input share	20 per cent
Non-market production of health and social services by central government	
Intermediate consumption	0,6
Output	2,1
Input share	26 per cent

2.554 For intermediate consumption in NPISH units, the estimation is based on the utilization of central and local government accounts and the annual statistics on health institutions. Special calculations are made for energy costs, while keeping total intermediate consumption unaffected. Intermediate consumption in ambulance service activities is known from the accounts of NLA. The input share in non-market production of health and social services by NPISHs does not deviate much from the corresponding input share in government, when services of catastrophic and aid institutions are excluded. The latter possess a much higher input share, however.

1990. Billion kroner	
Non-market production of health and social services by NPISHs, excluding catastrophic and aid institutions	
Intermediate consumption	1,3
Output	6,4
Input share	20 per cent
Non-market production of services of catastrophic and aid institutions by NPISHs	
Intermediate consumption	2,5
Output	3,2
Input share	80 per cent

2.555 For intermediate consumption in units of market producers, the ad hoc income sample surveys of private medical practitioners, dentists etc. have been utilized, as they also contain information on intermediate consumption. For the minor items of hospital services and other

human health services, an input share of 25 per cent has been assumed. For social work activities, information from the annual social statistics and the 1991 income survey of child day-care activities referred to above have been utilized. Local government accounting data have been utilized in the product distribution. Furthermore, same distribution on products is assumed for combined nursing activities of NPISHs as for their human health activities. The resulting input share is estimated somewhat higher in market production of health and social services than in the corresponding production in government, when excluding social work activities by disabled workers. For the latter, however - primarily goods-producing activities - a much higher input share of 70 per cent is taken place.

1990. Billion kroner	
Market production of health and social services, excluding social work activities by disabled workers	
Intermediate consumption	2,9
Output	10,2
Input share	28 per cent

**P. OTHER COMMUNITY, SOCIAL AND PERSONAL SERVICE
ACTIVITIES - NACE O
CONTENTS, DEFINITIONS, SOURCES AND
METHODS OF ESTIMATION**

- 90 SEWAGE AND REFUSAL DISPOSAL, SANITATION
AND SIMILAR ACTIVITIES**
- 91 ACTIVITIES OF MEMBERSHIP ORGANIZATIONS N.E.C.**
- 92 RECREATIONAL, CULTURAL AND SPORTING ACTIVITIES**
- 93 OTHER SERVICE ACTIVITIES**

Value added of NACE O - Other community, social and personal service activities - amounts to 2,5 per cent of GDP in 1990. The 1990 revision from FNA to NNA has increased the GDP share from 2,1 per cent. Output and intermediate consumption have both been increased from definitional changes, by 3,3 and 2,2 billion kroner respectively. For sewage and refuse disposal services, market production has been introduced in local government. Value added of NACE O contributes by 4,5 billion of the 61,5 billion increase in 1990 GDP, of which 1,1 billion from definitional changes. For activities of membership organizations and recreational, cultural and sporting activities there are substantial increase in output from better utilization of sources available. NACE O is covered by detailed specifications, in 7 industries and output by 26 characteristic products, plus a few non-characteristic products. Within the industry specifications there are substantial non-market production in NPISHs, with government producers the non-market share of total output of NACE O is 43 per cent.

2.556 In NNA, the activities of NACE O are distinguished in 7 industries:

- | | |
|-----|---|
| 900 | Sewage and refuse disposal, sanitation and similar activities |
| 910 | Activities of membership organizations |
| 921 | Motion picture and other entertainment, news agency and cultural activities |
| 922 | Radio and television activities |
| 926 | Sporting activities and other recreational activities |
| 927 | Gambling and betting activities |
| 930 | Other service activities |

2.557 In FNA, there were 6 industries to cover these activities. Recreational, cultural and sporting activities were all in one industry, while laundry and cleaning services was specified separately from other service activities. Another difference - more in form than substance - concerns treatment of membership organizations; business, professional and labour associations respectively other social and related community services were both distinguished in FNA, while now instead distinguished along the market and non-market dividing line (latter organizations considered NPISH's). News agency activities - now part of NNA-industry 921 - were included with business activities in FNA, while the activity of photographers has been regrouped from other service activities in FNA to other business activities in NNA.

2.558 All 7 industries contribute to market production. In addition, there are various industry specifications on non-market production:

Non-market production of central government:	921
Non-market production of local government:	921
Non-market production of NPISH's:	910, 921 and 926.

In other words, all four types of producers participate in cultural activities etc., while two types of producers - one market and one non-market - are involved in activities of membership organizations and in sporting and other recreational services. One further complication: Local government production of sanitation services etc. distinguishes one market part from the usual non-market part.

2.559 NACE O might be regarded as one the most problematic sections of NACE as exhaustiveness is concerned, due to poor coverage of production statistics in this area. Various activities of membership organizations, video activities, artistic and literary creation and interpretation, other entertainment activities, news agency activities, certain sporting activities, other recreational activities, physical well-being activities and other service activities are NACE Rev.1 activities that are particularly exposed to less satisfactory statistical sources.

1. VALUE ADDED

2.560 Other community, social and personal service activities make a contribution of 2,5 per cent to GDP in 1990. In NNA, value added in million kroner - in basic prices - and their shares of total value added and GDP are estimated as follows:

		1990	
		Million kroner	Percentage of: Total GDP value added
900	Sewage and refuse disposal, sanitation and similar activities	3 209	0,48 0,44
910	Activities of membership organizations	3 269	0,49 0,45
921	Motion picture and other entertainment, news agencies and cultural activities	5 770	0,86 0,80
922	Radio and television activities	1 133	0,17 0,16
926	Sporting activities and other recreational activities	1 173	0,17 0,16
927	Gambling and betting activities	526	0,08 0,07
930	Other service activities	3 025	0,45 0,42
Total		18 105	2,70 2,51

2.561 The 1990 revision from FNA to NNA has increased the GDP share of other services activities from 2,1 to 2,5 per cent:

		Billion kroner		Percentage of GDP	
		FNA	NNA	FNA	NNA
90	Sewage and refuse disposal, sanitation and similar activities	2,1	3,2	0,3	0,4
91	Activities of membership organizations n.e.c.	1,8	3,3	0,3	0,5
92	Recreational, cultural and sporting activities	5,2	8,6	0,8	1,2
93	Other service activities	4,4	3,0	0,7	0,4
Total		13,6	18,1	2,1	2,5

2. OUTPUT

Introduction

2.562 In NNA, output of these industries - valued in basic prices - is estimated at 31,9 billion kroner. Except for some minor business services, all output is characteristic output.

		Output 1990. Billion kroner		
		Characteristic	Non-characteristic	Total
900	Sewage and refuse disposal, sanitation and similar activities	5,4	-	5,4
910	Activities of membership organizations	6,5	-	6,5
921	Motion picture and other entertainment, news agencies and cultural activities	8,9	-	8,9
922	Radio and television activities	2,1	0,0	2,1
926	Sporting activities and other recreational activities	3,2	0,1	3,3
927	Gambling and betting activities	1,3	0,0	1,3
930	Other service activities	4,5	-	4,5
Total		31,8	0,1	31,9

2.563 The 1990 revision from FNA to NNA has increased output of these industries substantially from 20,5 to 31,9 billion kroner, or more than 50 per cent. Less than one-third of this increase is due to change in definitions.

		Billion kroner		Revision	
		FNA	NNA	Total	Definitional
90	Sewage and refuse disposal, sanitation and similar activities	3,8	5,4	1,6	1,6
91	Activities of membership organizations n.e.c.	2,9	6,5	3,6	1,3
92	Recreational, cultural and sporting activities	8,6	15,5	6,9	1,2
93	Other service activities	5,1	4,5	-0,6	-0,8
Total		20,5	31,9	11,4	3,3

2.564 In NNA, several new definitions have been introduced. In NNA-industry 900, total revision is explained by a new recording principle for the local government part. While treated as non-market activity in FNA, it was recorded with a negative local government consumption expenditure of 1,6 billion kroner after fees to local government had been deducted. Introducing instead - as exception to the rule - market activity unit within a local government institutional unit, output of this unit is recorded at this correspondingly higher value. An alternative solution - still according to market values - would be to regard this unit as a local government enterprise of the non-financial corporate sector and not belonging to local government. A similar exception to the rule is the treatment of local government waterworks.

2.565 Both for activities of membership organizations and recreational, cultural and sporting activities, there is a substantial increase in output. In creating units of NPI's and estimating output from total costs of production, we consider change in treatment from subsidies in FNA to current transfers to NPI's in NNA a change in definition. In the two NNA-industries 910 and 921, this amounted in 1990 to 1,3 billion and 1,0 billion kroner, respectively.

2.566 In other service activities, the activity of photographers has been regrouped to business activities, i.e. 0,8 billion lower output in NNA-industry 930. News agency activities, on the other hand, add 0,2 billion by being regrouped from business activities in FNA.

Sources

2.567 Main sources used are:

- Central government accounts
- Local government accounts
- Other services production statistics
- Cultural statistics
- Annual reports from theatres, the opera house and museums
- Annual report on Film and Cinema
- Accounting data of the State Broadcasting Company NRK
- Annual accounts of the nation-wide betting institutions
- Household sample surveys on consumers' expenditures

2.568 Central and local government accounts are described in general in section I.C as parts of main sources used for the estimation of national accounts. One particular point might be worth mentioning: Snow and ice breaking services of local government are recorded in item 751 384 - one of the characteristic products of public administration related to transportation - and are thus not included in NACE 90.

2.569 Other services production statistics - here comprising activities of NACE 90 and 93 - are similar kind of statistics used and described for business services (see above). Statistics Norway has published cultural statistics issues of 1985, 1988 and 1992, in which information is available on various cultural activities and on activities of various institutions and bodies within the cultural sector, the production of some cultural benefits and figures on private and public expenditure for cultural purposes. Annual reports from theatres (also including concert houses), the opera house and museums represent other useful sources for the output estimation in NACE 92 activities. Annual reports on Film and Cinema provide useful information on the motion picture activity. Annual accounting data of the State Broadcasting Company NRK provide useful information for radio and television activities. They are available in annual reports to the Parliament on the activities of NRK. Annual accounts of nation-wide betting institutions provide relevant information on most important gambling and betting services. Other supplementary sources may also play a significant role. In particular, the household sample surveys on consumers' expenditures have been taken into account in several instances when information from the producers is lacking or found less reliable.

Methods of estimation

Sewage and refuse disposal, sanitation and similar activities

2.570 The local government accounts are used to estimate output of local government (market output in this case). The private market output is estimated from output data available in other services production statistics, which are based on sales data of Statistics Norway's Business Register. Output of sewage and refusal, sanitation and similar activities is specified by 2 characteristic products.

2.571 Illustration by 1990 figures and summarized references to sources and methods follows by products, for each of the two types of producer.

		1990. Billion kroner
Market output of local government		
900 091	Sewage services 7 items of main source, of which 2 government fees items which are considered the output base	2,2
900 092	Refuse disposal services 7 items of main source, of which 2 government fees items which are considered the output base	1,6
Market output, private		
900 091	Sewage services Item of other services production statistics	0,0
900 092	Refuse disposal services Item of other services production statistics	1,5
Total output		5,4

Activities of membership organizations n.e.c.

2.572 Membership organizations are divided into two categories, i.e. services furnished by business employers and professional organizations which are treated as market output, and the remaining membership organizations services which are treated as non-market output of NPISHs. The latter is the larger category, consisting of services furnished by trade unions (separate NNA-product), religious services and services furnished by political organizations, by environment-protecting organizations, by automobile clubs, etc., while athletic clubs and federations are included with sporting activities (see below). The non-market part is estimated partly on the basis of central government accounts which provide data on grants to such organizations, and partly from special calculations (see below). Special calculations are also

necessary for the market part. Output of the member organizations is specified by 3 characteristic NNA-products.

2.573 Illustrations by 1990 figures and summarized references to sources and methods follows by products, for each of the two types of producer.

		1990. Billion kroner
Non-market output of NPISHs		
912 010	Services furnished by trade unions Special calculation based on number of members and estimated average membership fees	1,5
913 000	Other membership organizations services Special calculations and utilizing information on grants to NPISH from central government	4,3
Total non-market output		5,8
Market output		
911 000	Services furnished by business employers and professional organizations Special calculation based on number of members and estimated average membership fees	0,7
Total output		6,5

2.574 Current economic information is not available for the membership organizations. In FNA, the method of estimation used was the indicators' approach multiplying wages and employment data. In NNA, special calculations are made in a similar way of indicators' approach. For market output, numbers employed in NHO establishments and information on membership fees in the annual reports of NHO (Confederation of Norwegian Business and Industry) are the indicators used, while business and professional organizations outside NHO are covered in a similar way assuming membership fees at about 75 per cent of the NHO level of fees. For extrapolation, the method is simplified to use as indicators numbers employed in these organizations and membership fees information from the annual reports of NHO. Correspondingly, non-market output furnished by trade unions is calculated by multiplying number of members as published in Statistical Yearbook (source: 1991 Survey on living conditions) and estimated average membership fees. For non-market output of other membership organizations, the calculation to some extent is based on the FNA estimate. However, information on grants to NPISHs - as recorded in central government accounts - is a major indication of the costs to determine output estimate. Other information available is mostly confined to automobile clubs, from the annual reports of the Norwegian Automobile

Association. An upward adjustment by 0,2 billion kroner was deemed necessary, not the least from revised estimation of compensation of employees in this area.

Motion picture and other entertainment, news agencies and cultural activities

2.575 The annual central government and local government accounts are used to estimate most of non-market output, in particular non-market output of central and local government, but also utilized for the estimation of non-market output of the NPISHs through transfers (grants) to these institutions. Other sources are also used, in particular information in cultural statistics issues of 1988 and 1992, annual reports from theatres, the opera house and museums, and other supplementary sources. Output is specified by 11 characteristic NNA-products.

2.576 Illustration by 1990 figures and summarized references to sources and methods follows by products, structured in sections by the various types of producer. Consumption of fixed capital constitutes additional output for the non-market activities of government.

		1990. Billion kroner
Market output		
921 130	Motion picture and video tape production and related services Items from annual reports on Film and Cinema	0,2
921 210	Motion picture or video tape distribution services Minor amount identified	0,0
921 310	Motion picture projection services Income receipts item from annual reports on Film and Cinema (also published in cultural statistics)	0,4
923 110	Works of art Commodity flow approach, mostly determined from user side	1,7
923 121	Services provided by individual artists Determined from user side, item in manufacturing statistics (publishing) on fees for services provided by authors, from 1992 extrapolated by value index based on book sales data obtained from the Publishers' Association	0,7
923 300	Fair and amusement park services and other entertainment services Indicators approach, based on employment and visits data and relevant CPI components	0,6
924 010	News agency services Estimated at 5 per cent of former	0,2

(ISIC-based) business activity 83299
 Business services n.e.c., from 1992
 extrapolated by output of the largest
 news agency unit (NTB)

Total market output		3,7
Non-market output of local government		
923 180	Artistic creation and interpretation services 5 items of main source, of which one government fee item	0,1
925 180	Library and archive services 5 items of main source, of which one government fee item	0,5
925 280	Museums services and preservation services of historical sites and buildings 5 items of main source, of which one government fee item	0,1
927 280	Other recreational services 22 items of main source, of which 4 government fees items	1,6
Addition:		
921 081	Consumption of fixed capital Estimated share of local government consumption of fixed capital, considered additional output	0,4
Total non-market output of local government		2,7
Non-market output of NPISH's		
923 122	Artistic creation and interpretation services Information from cultural statistics and annual reports of theatres and the opera house are utilized as benchmark, extrapolated by data from the household consumer surveys on fees from households and data on current government transfers to NPISHs	1,6
925 000	Library, archives, museums and other cultural services Information from cultural statistics and annual reports of museums including R&D statistics on museum purposes	0,4
Total non-market output of NPISH's		2,1

Non-market output of central government		
921 160	Motion picture and video tape production and related services 17 items of main source, of which 2 government fees items; all from fiscal accounts	0,0
923 161	Artistic creation and interpretation services 19 items of main source, of which one government fee item; all from fiscal accounts	0,1
925 160	Library and archive services 72 items of main source, of which 9 government fees items; all from fiscal accounts	0,1
925 260	Museums services and preservation services of historical sites and buildings 19 items of main source, of which 2 government fees items; all from fiscal accounts	0,0
Addition:		
921 061	Consumption of fixed capital Estimated share of central government consumption of fixed capital, considered additional output	0,0
Total non-market output of central government		0,3
Total output		8,9

2.577 Most market output of these activities - with the exception of motion picture activities - has a weak basis and often resorted to calculations from the user side. This is the case for services furnished by individual artists and works of art. For the latter product, output is determined when taken into account information from household surveys (adjusted upwards somewhat), from the external trade statistics (both exports and imports) and a less clearly estimate for intermediate consumption (lumped into a category of unspecified intermediate consumption for distribution to market industries in general). For news agency activities and other entertainment activities, relevant information is lacking, and most likely these two output areas might be considered underestimated.

2.578 From cost data considerations, it has been determined that most private artistic creation and interpretation services (for exceptions, see market output above), as well as private library, archives, museums and other cultural services, in NNA are treated as non-market output of NPISHs instead of the FNA treatment as market output. It is observed that central and local government accounts also contain information considered non-market output of central

government and of local government of the same kind of services. These services - according to the NNA estimates - are distributed among the types of producer as follows:

	1990. Billion kroner	
	Artistic creation and interpretation services	Library, archives, museums and other cultural services
Market producers	-	-
Non-market producers of NPISHs	1,6	0,4
Non-market producers of central government	0,1	0,2
Non-market producers of local government	0,1	0,6

2.579 Non-market output of NPISHs is estimated as the sum of transfers from central and local government - items identified in central government and local government accounts - and incomes from fees calculated from cultural statistics information. The latter is slightly adjusted to include free theatre groups. Although NPISH output should be based on costs of production, the moderately based estimate arrived at might take relevant income measures as a departure for this estimation. Number of artists and people employed are available from cultural statistics, while the annual reports from theatres and the opera house contain data that are utilized for estimating compensation of employees and intermediate consumption. More specifically, compensation of employees and intermediate consumption figures have been calculated per artist for Oslo Philharmonic Orchestra, two theatres and the Norwegian Opera House, adding also activities of amateur performing groups with a lower compensation of employees being assumed. Values of compensation of employees and intermediate consumption components are arrived at by grossing up these unit values by artist numbers taken from the cultural statistics. A similar procedure is taken for private library, archives, museums and other cultural services. Museums and galleries that receive no government grants are also covered by the estimates.

Radio and television activities

2.580 Annual accounts of NRK (the State Broadcasting Company, which has a non-advertising foundation) are used to estimate the NRK output part of radio and television services. Information on the other units - the ones dependent on advertising (separate NNA-product) - is much less available. In the latter units, television activities contribute more to output than radio activities. Output of radio and television activities thus is specified by 2 characteristic NNA-products, and a minor non-characteristic product.

2.581 Illustration by 1990 figures and summarized references to sources and methods follows by products:

		1990. Billion kroner
Characteristic output		
922 001	Radio and television services, licenses Item income of licenses from the accounts of NRK	1,6
922 002	Radio and television services, advertising 1991 benchmark income data on local radio stations and private television companies are available from government white paper, data on televised advertising from the Advertising Association used for extrapolation, while assuming a 15 per cent increase for local radio stations in this period	0,5
Non-characteristic output		0,0
Includes a minor item of motion picture or video tape distribution services		
Total output		2,1

Sporting activities and other recreational activities

2.582 Information from the Norwegian Confederation of Sport has been utilized with items of the central and local government accounts in estimating output of sporting activities and other recreational activities. Other considerations also paid a role, such as making an estimate for communal work projects in this field. Output is specified by 2 characteristic and one non-characteristic NNA-products.

2.583 Illustration by 1990 figures and summarized references to sources and methods follows by product, structured in sections by various types of producer.

		1990. Billion kroner
Non-market output of NPISH's		
926 000	Sporting services Information from the Norwegian Confederation of Sport is utilized, items of grants from central and local government accounts, some further adjustments and addition for communal work projects etc.	2,5
926 010	Own-account construction in sporting and other recreational activities Information from the Norwegian Confederation of Sport utilized	0,3
Total non-market output of NPISH's		2,8
Market output		
Characteristic output		
926 000	Sporting services Information from the Norwegian Confederation of Sport is utilized, estimate on operation of ski-lifts in addition	0,4
Non-characteristic output Includes advertising services		0,1
Total market output		0,5
Total output		3,3

2.584 In NNA, sporting activities and other recreational activities have been split into one market and one non-market part. The market part consists of the "professional" part of the sporting activities, such as providing sports facilities operation services and the professional parts of sports event promotion and organization services. The non-market part is concerned with mass sporting activities and other services related to sports. The estimation of each of these two parts is based on information from the Norwegian Confederation of Sport in particular, but also from items of grants in the central and local government accounts, and other supplementary sources. Information from NCS indicates the level of sponsor support to sports and also provide survey data on incomes from ticket sales and membership fees. Surplus of Norwegian Pools (betting) is allocated partly to sports, tentatively related and distributed by 20 per cent to market output and 80 per cent to non-market output. Particularly for the latter part, there are also items of grants from central and local government that are taken into account for this output estimation. Income generated from communal work projects is also tentatively estimated (1,0 billion), while in addition making output estimates for the operation

of marinas, riding clubs and ski-lifts. Data from the household consumer surveys are utilized for extrapolating purposes. In this area, there are definitely certain problems of exhaustiveness in the field of other services related to sports events.

Gambling and betting activities

2.585 The annual reports of the nation-wide institutions of gambling and betting activities (Norwegian Pools Ltd., Norsk Rikstoto) are used in the output estimation of gambling and betting activities. Information from central government accounts and household consumer surveys are also utilized for parts of these services (lotteries in particular). Output is specified by 4 characteristic and one non-characteristic NNA-products.

		1990. Billion kroner
Characteristic output		
927 111	Pools betting services Information from annual reports of Norwegian Pools Limited	0,3
927 112	Lotto Information from annual reports of Norwegian Pools Ltd., containing separate data on Lotto	0,2
927 113	Toto gambling services Information from annual reports of Norsk Rikstoto and the Norwegian Trotting Association	0,4
927 114	Other gambling services and lotteries Information from central government accounts and household sample surveys on consumer expenditure are utilized	0,4
Non-characteristic output Includes a minor item of advertising services		0,0
Total output		1,3

2.586 Output of gambling and betting activities is measured as receipts from sales less winnings paid. Most of these services are covered by annual reports of the respective institutions behind these services, and by items of central government accounts as some of the main betting arrangements are taxed. Thus, apart from administrative expenses as output in basic prices, taxes on products are added when output is needed in producers' prices. Taxes on products apply to all four NNA-products, i.e. tax on Lotto, excise on race-tracks, tax on lotteries (the Money Lottery as part of NNA product other betting services and lotteries), and surplus of Norwegian Pools Ltd. The latter is considered a tax recorded as income in other central government accounts, since public lotteries are treated as fiscal monopolies in Norway.

2.587 For other lotteries - part of the fourth NNA product listed above - direct information from units behind these lotteries are lacking. Instead from the user side, the annual household surveys on consumer expenditure (item on lotteries) have been utilized, in particular in establishing a value indicator for extrapolation, but also to some extent when establishing a benchmark, after data corrections have been made from gross to net treatment and leaving out account of components that are identified from sources described in the preceding paragraph.

Other service activities

2.588 The annual production statistics of other services based on Statistic Norway's Business Register are used in estimating output of other service activities in combination with supplementary sources, the most important of which are the household sample surveys on consumers' expenditures. Output is specified by 4 characteristic NNA-products. For these products - with the exception of washing and dry-cleaning services - their estimation has in fact been more influenced from use side information than from the producers' side. Washing and dry-cleaning services were included in other services' production statistics, and thus the register data were well maintained for that part while not for the remaining miscellaneous services.

2.589 Illustration by 1990 figures and summarized references to sources and methods follows by products:

		1990. Billion kroner
Characteristic output		
930 110	Washing and dry-cleaning services Item of other services production statistics	0,9
930 220	Hairdressing and other beauty treatment services Benchmark from combined use of the sales data of Business Register and data from the household sample surveys on consumers' expenditures, the former mostly used for the purpose of extrapolation	2,9
930 310	Funeral and related services Mostly based on data from the household sample surveys on consumers' expenditures, adjusted during commodity flows balancing	0,4
930 400	Other services n.e.c. (incl. physical well-being services) Mostly based on data from the household sample surveys on consumers' expenditures, adjusted during commodity flows balancing	0,3
Total output		4,5

2.590 The information on sales and numbers employed in the Statistics Norway's Business Register generally has not been well maintained for these miscellaneous service activities. Basing the estimation of output on these register-based information from the supply side would have ignored a significant problem of exhaustiveness. Therefore, it was deemed necessary to introduce information from the use side in order to arrive at a more reasonable and exhaustive level for these services.

3. INTERMEDIATE CONSUMPTION

Introduction

2.591 In NNA, intermediate consumption in other services activities - valued in purchasers' prices - is estimated at 13,8 billion kroner in 1990.

		Intermediate consumption. 1990	
		Billion kroner	No. of NNA-products
900	Sewage and refuse disposal, sanitation and similar activities	2,2	16
910	Activities of membership organizations	3,2	17 - 35
921	Motion picture and other entertainment, news agencies and cultural activities	3,1	11 - 52
922	Radio and television activities	1,0	23
926	Sporting activities and other recreational activities	2,1	16 - 45
927	Gambling and betting activities	0,8	21
930	Other service activities	1,4	19
	Total	13,8	

2.592 The 1990 revision from FNA to NNA has substantially increased intermediate consumption in other services activities from 6,9 to 13,8 billion kroner, in fact doubled. This increase is partly due to changes in definition.

		Billion kroner		Revision	
		FNA	NNA	Total	Definitional
90	Sewage and refuse disposal, sanitation and similar activities	1,7	2,2	0,5	-
91	Activities of membership organizations n.e.c.	1,1	3,2	2,1	1,3
92	Recreational, cultural and sporting activities	3,4	7,0	3,6	1,0
93	Other service activities	0,8	1,4	0,6	- 0,1
	Total	6,9	13,8	6,9	2,2

2.593 Definitional changes are the same as described for output, i.e. related to subsidies in FNA now treated as current transfers to NPISHs, plus some minor effects from regrouping (news agencies, photographers).

Sources

2.594 Main sources used are the same as for output:

-	Central government accounts
-	Local government accounts
-	Other services production statistics
-	Cultural statistics
-	Annual reports from theatres, the opera house and museums
-	Annual report on Film and Cinema
-	Accounting data of the State Broadcasting Company NRK
-	Annual accounts of the nation-wide betting institutions

Methods of estimation

2.595 For intermediate consumption in central and local government, see general description above.

2.596 For intermediate consumption in NPISH units, the estimation is based on the utilization of central and local government accounts and items of the specific sources referred to in the output description. For services furnished by trade unions and other membership organizations services (NNA-industry 910), intermediate consumption is estimated from the NHO data referred to above for the estimation of output, as well as some information provided by the Association of the Municipalities for 1988-1991, and in addition taking into account the input

ratios arrived at in corresponding market production (both in NNA and FNA). For the cultural activities (NNA-industry 921), the cost-based estimation of output from the annual reports of various cultural institutions would also provide for a corresponding estimate for intermediate consumption. Finally, for sporting activities and other recreational activities (NNA-industry 926), the intermediate consumption estimate has been determined on a weak basis, with a relatively high input ratio (almost 70 per cent) since assuming a very low share of compensation of employees in this non-profit activity.

2.597 In general, intermediate consumption in market production is estimated from the same sources referred to in the output description. Other services production statistics provide data on total intermediate consumption for sewage services and refuse disposal services (NNA-industry 900), and for washing and dry-cleaning services (part of NNA-industry 930). For services furnished by business employers and professional organizations (NNA-industry 910), intermediate consumption is estimated from NHO data referred to above, as well as the information provided by the Association of the Municipalities. For motion picture and other entertainment, news agencies and cultural activities (NNA-industry 921), intermediate consumption has been determined at 40 per cent of total output less works of art. For radio and television activities (NNA-industry 922), intermediate consumption is estimated from the accounting data of NRK, while using same input ratio for the other units. While intermediate consumption for sporting activities and other recreational activities (NNA-industry 926) has been determined at approximately 0,2 billion kroner on a most uncertain basis, the intermediate consumption estimate for gambling and betting activities (NNA-industry 927) has a more certain basis in the accounts of the main betting institutions. For other service activities (NNA-industry 930), the estimation of intermediate consumption - except what described for washing and dry-cleaning activities above - also seem to have a most uncertain basis. The total input ratio for this industry was slightly less than 33 per cent in 1990.

**Q. PRIVATE HOUSEHOLDS WITH EMPLOYED PERSONS
- NACE P
CONTENTS, DEFINITIONS, SOURCES AND
METHODS OF ESTIMATION**

95 PRIVATE HOUSEHOLDS WITH EMPLOYED PERSONS

Value added of NACE P - Private households with employed persons - amounts to just 0,1 per cent of GDP in 1990. The 1990 revision from FNA to NNA has reduced the GDP share from 0,3 per cent. The revision downwards is due to a direct use of household consumer survey data, no definitional changes occur. Value added of NACE P contributes negatively by 1,4 billion of the 61,5 billion increase in 1990 GDP. By convention, value added equals output that again equals compensation of employees. NACE P is just specified in one industry and one product in NNA, and categorically treated as production for own final use.

Contents

2.598 In NNA, the activities of NACE P is included in one industry:

950 Private households with employed persons
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2.599 This industry is categorized as production for own final use (consumption). In FNA, there was one similar industry as part of (non-government) industries, i.e. not categorized as other producers as indicated in the SNA 1968 structure. The contents of this industry in NNA have been diminished - compared to FNA - indirectly, as some employees have been regrouped with social work and treated as self-employed. This has been based on information contained in the Labour Force Surveys, while the contents of private households with employed persons will align with that of the household sample survey of consumer expenditure.

1. VALUE ADDED

2.600 Private households with employed persons make a small contribution of 0,1 per cent to GDP in 1990. In NNA, value added in million kroner - in fact, conventionally estimated as compensation of employees - and their shares of total value added and GDP are estimated as follows:

		1990	
		Million kroner	Percentage of: Total GDP value added
950	Private households with employed persons	780	0,12 0,11

2.601 The 1990 revision from FNA to NNA has reduced the GDP share of this industry from 0,3 to 0,1 per cent:

		Billion kroner		Percentage of GDP	
		FNA	NNA	FNA	NNA
95	Private households with employed persons	2,2	0,8	0,3	0,1

2. OUTPUT

Introduction

2.602 In NNA, output of this industry is estimated at 0,8 billion kroner in 1990. According to the conventions adopted in the SNA and ESA, output is equal to compensation of employees, and therefore equal to value added of this industry (see above). Change of definition referred to above is directed at employment only, while the output revision should be regarded as a pure estimation change adapting to a new statistical source.

Sources

2.603 Source for this industry is (see section I.C.13 for general information of this source):

- Household surveys of consumer expenditure

Methods of estimation

2.604 In NNA, it has been decided to apply directly the results of the annual household surveys of consumer expenditure. In FNA, the estimates were based on wages data until 1961, and from then on developed by a value index based on employment and CPI data for domestic services. Output is specified by one characteristic NNA-product.

3. INTERMEDIATE CONSUMPTION

2.605 By convention, intermediate consumption of this industry is zero.

R. VALUE ADDED TAX

Value added tax (VAT) amounts to 8,1 per cent of GDP in 1990. The 1990 revision from FNA to NNA reduced the GDP share from 8,4 per cent. Both in FNA and NNA, VAT on products are recorded according to theoretical VAT, i.e. non-deductible VAT is calculated from all relevant product flows of the use table as a base, involving a multi-step procedure combining detailed catalogue VAT-rate information etc. with detailed commodity flows of the national accounts. VAT on nearly 450 NNA-products are thus estimated, the 1990 total of which is connected 62 per cent to household consumption expenditure, 25 per cent to intermediate consumption (non-deductible) and 13 per cent to gross fixed capital formation. The estimated theoretical VAT exceeded actual VAT by 2,9 per cent as an average for 1988 -1994 (2,8 per cent in 1990) or by 2,7 per cent (3,3 per cent) when adjusted for time lag permitted. These comparisons are made for VAT including investment levy, since the latter is included with VAT in actual VAT figures of the central government accounts.

2.606 The treatment of value added tax in the national accounts has been an issue since its introduction in Norway in 1970. Before then, Norway had a general purchase tax. The choice whether to record VAT gross or net was an issue of considerable uncertainty as this was not guided explicitly from SNA 1968. Statistics Norway decided at that time to go for the gross treatment (showing, inter alia, intermediate consumption including deductible VAT), while most other countries eventually introduced the net system, which therefore became international standard. In FNA (Former Norwegian National Accounts, i.e. before the 1995 implementation of ESA 1995 / SNA 1993), Norway switched from the gross to the net system in the mid 1980's.

2.607 The net system of VAT means that value added tax is recorded in terms of non-deductible VAT, thus excluding deductible VAT from purchasers' prices of intermediate consumption and gross fixed capital formation. Users of national accounts data should also observe that different solutions to VAT and value added data have occurred over time:

- (i) In FNA with gross VAT treatment and output recorded in producers' prices, i.e.: Value added by branches to include VAT
- (ii) In FNA or NNA (New Norwegian National Accounts implemented in 1995) with net VAT treatment and output recorded in producers' prices, i.e.: Value added by branches to exclude VAT
- (iii) In NNA or FNA with net VAT treatment and output recorded in basic prices, i.e.: Value added by branches to exclude VAT and other taxes on products, net.

Behind the double notation of FNA and NNA lies a long-established flexibility or readiness in Norway of recording industry data - for output in particular - in either basic prices or producers' prices.

2.608 The VAT system applied in Norway is centred around one single tax rate, i.e. no differentiated rates occur as are common in other countries. It also means that a degressive tax system does not exist in Norway (cf. item 5 of Eurostat VAT questionnaire). Neither does a flat-rate VAT system for agriculture - in many countries referred to as a special institutional arrangement - exist in Norway, as no special rules are faced by farmers as far as VAT is concerned (cf. item 6 of the VAT questionnaire). A special case in Norway, however, is an investment levy which is grouped together with VAT in recording government tax receipts. More information about the investment levy is given in the next section on other taxes on products.

2.609 In NNA, as well as in FNA, VAT on products are recorded according to theoretical VAT (cf. item 1 of the VAT questionnaire). That means non-deductible VAT is calculated from all relevant product flows of the use table as a base. Information on tax evasion has not been brought into this context (cf. items 7 and 10 of the VAT questionnaire); such information may be seen as only implicitly included in the calculation of theoretical VAT. Values of the transactions in the use table subject to VAT include intermediate consumption and gross fixed capital formation of the exempt activities and a large part of household final consumption expenditure, and they are accordingly multiplied by the product VAT rate. The calculation of theoretical VAT is maintained as the actual method applicable to the input-output framework, as always inspired through the national accounts compilation approach in Norway in general (cf. item 12 of the VAT questionnaire).

2.610 The supply table lists total theoretical VAT by NNA products. VAT totals by product are obtained from the calculation just cited in the use table.

2.611 At the category level of GDP components, just one recording of VAT is involved:

D 211	Value added type taxes
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It means that no split is made between VAT related to domestic output and VAT related to imports. Some clarification on the contents of D 211 is needed, as there has been some discussion whether to include investment levies. A provisional decision was made to include investment levies in D 214 Taxes on products, except VAT and import taxes instead. This treatment implies that:

- item D 211 is not aligned with VAT as recorded in the central government accounts; the latter includes investment levies, while item D 211 does not.

2.612 More specifically, the theoretical VAT calculation and analysis involves a five-step procedure in the regular compilation of national accounts. The steps are:

- | | |
|-----|--|
| (1) | establishing a VAT catalogue on VAT rate per product flow |
| (2) | calculating non-deductible VAT by products and uses in the use table |
| (3) | recording total non-deductible VAT by products in the supply table |
| (4) | recording total non-deductible VAT as component of GDP in the use table |
| (5) | analysing the theoretical VAT data and comparing them with actual VAT etc. |

2.613. The VAT catalogue identifies one VAT rate of each NNA-product and cross-classified with use of product. Products subject to regular non-deductible VAT constitute the normal case. The catalogue - actually organized in three sub-catalogues - is a means to complement this (cf. item 9 of the VAT questionnaire), by listing:

- | | |
|-------|---|
| (i) | products not subject to regular VAT rate |
| (ii) | uses for which VAT is not calculated, inter alia, intermediate uses and categories of gross capital formation for which VAT is deductible |
| (iii) | products subject to VAT regardless their uses. |

The regular VAT rate was 20 per cent in period 1970-1992, then increased to 22 per cent in 1993 and 1994, and from 1995 further increased to 23 per cent. Under sub-catalogue (i), there are listed the zero VAT rates to products - predominantly services, but also books, newspapers etc. VAT rates are not differentiated otherwise in Norway, except for some quite limited cases. A handful products are listed with a calculated VAT rate between the regular rate and zero, e.g. periodicals (which may be partly subject to regular VAT rate and partly exempted). Uses of exports and changes in inventories are further examples under sub-catalogue (ii), which also contain uses that are partly exempted (e.g. intermediate consumption in air transport, for which is calculated a coverage of 93 per cent for the application of VAT). Sub-catalogue (iii) contains a short list of six products, exceptional cases for various reasons where VAT rate applies regardless their uses (examples are representation expenditures and motor vehicles - the latter in replacing investment levy rules).

2.614 At step (2), transactions in the use table (products x uses) serve the basis and are used with the VAT catalogue to calculate the VAT theoretical values of the NNA. They are recorded as non-deductible VAT value component (coded 17) of each product flow in the use table. It should be observed that the value component system of NNA makes it possible to adapt to various value transaction concepts, whether the estimates of uses based on statistical sources are less of deductible VAT or less of all VAT (cf. item 8 of the VAT questionnaire).

2.615 At step (3), by summing over all uses of each product in the use table, total non-deductible VAT of each product is transferred to become a separate column by NNA products in the supply table to enable the balancing of products in the supply and use tables. By way of 1990 illustration, non-deductible VAT is distributed on nearly 450 NNA products from a minimal value to quite substantial values, such as:

1990. Million kroner	
VAT on petrol	2 367
VAT on electricity for household consumption	2 143
VAT on food serving services	1 780
VAT on other dwellings	1 649
VAT on tobacco products	1 280
VAT on other prepared and preserved meat	1 174
VAT on public telephone services	1 120
VAT on passenger cars	1 095
Sub-total: VAT on largest (1 billion) VAT items	12 608
Total non-deductible VAT	58 227

2.616 At step (4) - from the VAT sum over the products - total theoretical VAT as GDP component of D 211 Value added type taxes is arrived at. For 1990, it amounts to:

Total theoretical VAT =	
Total non-deductible VAT	58 227
Percentage of GDP	8,1

2.617 When analysing the result of the VAT calculation at step (5), several kinds of analysis would be of interest. First, it should be observed that the resulting average VAT rate to total value added as measured by GDP is approximately half of the regular VAT rate (VAT inclusive), i.e. 8,1 versus 16,7 per cent in 1990.

2.618 Distribution of non-deductible VAT by main categories of uses can be extracted from the details of the use table. In current and relative values, total non-deductible VAT distributed on main uses shows the following picture for 1990:

	Million kroner	Percentages
Household consumption expenditure	35 952	61,7
Gross fixed capital formation	7 784	13,4
Intermediate consumption	14 491	24,9
Total non-deductible VAT	58 227	100,0

It is observed that household final consumption expenditure counted for 61,7 per cent of non-deductible VAT in 1990, gross fixed capital formation for 13,4 per cent, while the remaining 24,9 per cent was non-deductible VAT on intermediate consumption into industries in which VAT could not be deducted for various reasons (of which a small part is recorded directly with government final consumption expenditure reflecting purchases from market producers not processed further).

2.619 A considerable share of non-deductible VAT on intermediate consumption and gross fixed capital formation is related to non-market activities, units for which are not usually subject to VAT. This is illustrated by 1990 data, in total comprising nearly 16 per cent of total non-deductible VAT:

	Non-deductible VAT 1990	
	Million kroner	Percentages
Non-market activities of central government services	3 641	6,2
Intermediate consumption	2 512	4,3
Gross fixed capital formation	1 129	1,9
Non-market activities of local government services	3 879	6,6
Intermediate consumption	2 355	4,0
Gross fixed capital formation	1 524	2,6
Non-market activities of NPISH services	1 550	2,7
Intermediate consumption	1 290	2,2
Gross fixed capital formation	260	0,5
Total non-market activities	9 070	15,6
Intermediate consumption	6 157	10,6
Gross fixed capital formation	2 913	5,0

2.620 A further look into the VAT share of intermediate consumption reveals that approximately 39 per cent are generated from market production (5 677 mill.), 18 per cent from production for own final use (2 657 mill.) and 43 per cent from other non-market production (6 157 mill., see above). Above all, this reflects units engaged in production of services while exempted from VAT registration. Under such circumstances, VAT already paid for in their intermediate consumption cannot be deducted (e.g. VAT on inputs and repairs to owner-occupiers in item for own final use above). Among market producers, those belonging to NACE Rev.1 sections I (Transport, storage and communication), J (Financial intermediation) and K (Real estate, renting and business activities) generated more than half of their share (3 497 mill. or 24 per cent).

	Non-deductible VAT 1990	
	Million kroner	Percentages
Non-deductible VAT on intermediate consumption in market activities	5 677	9,8
of which:		
Transport, storage and communication	1 219	2,1
Financial intermediation	1 407	2,4
Real estate, renting and business activities	871	1,5

2.621 In the supply table, the distribution of non-deductible VAT by categories of supply, i.e. between domestic output and imports, is not shown in the NNA. The reason for this is the recording of total non-deductible VAT in item D 211, while item D 212 records taxes and duties on imports excluding VAT on imports.

2.622 A most interesting control or confrontation should be the one between theoretical VAT calculated in the national accounts and actual VAT recorded in the government accounts as VAT receipts or actually received by government (cf. item 2 of the VAT questionnaire). However, this confrontation is not without difficulty since government accounts mingle the investment levy with VAT in the appropriate item of the central government accounts. Comparisons between theoretical and actual amounts thus are made at the level of VAT and investment levy combined.

2.623 This comparison is shown below for the whole period of 1988 to 1994 (cf. item 13 of the VAT questionnaire). In this first version, actual VAT and investment levies of government accounts are taken to be the unadjusted amounts, i.e. what is paid and recorded in the year. Please note that government accounts recorded for 1993 - a year of VAT rate increase from 20 to 22 per cent - partly actual VAT at the lower rate, thus contributing to a more significant increase in the difference for that particular year.

	Non-deductible VAT + Investment levies		
	NNA	Government accounts	Difference in per cent
1988	64 169	63 718	+ 0,7
1989	62 591	60 063	+ 4,2
1990	62 804	61 110	+ 2,8
1991	64 305	61 383	+ 4,8
1992	66 929	65 403	+ 2,3
1993	74 712	71 931	+ 3,9
1994	80 787	79 324	+ 1,8
1988-1994 average			2,9

As an average for the seven years 1988 through 1994, this first confrontation states that theoretical VAT (investment levy inclusive) as calculated in the national accounts was 2,9 per cent above the government receipts termed as actual VAT or VAT receipts (investment levy inclusive). This result is quite encouraging, reasonably close and a difference that is positive. It has been argued - also at international meetings - that the difference ought to be positive for various reasons. A negative difference signals an exhaustiveness problem in the national accounts.

2.624 There was an indication that such an exhaustiveness problem was present before the latest main revision, when looking at the comparison in FNA. Although the theoretical and actual tax values were closer in FNA than in NNA - 1,1 per cent on average regardless sign - a negative difference in 4 out of 6 years did not actually indicate an overall confident compilation picture using the FNA input-output framework.

Non-deductible VAT + Investment levies			
	FNA	Government accounts	Difference in per cent
1988	62 776	63 718	- 1,5
1989	60 228	60 063	+ 0,3
1990	60 980	61 110	- 0,2
1991	61 859	61 383	+ 0,8
1992	63 926	65 403	- 2,3
1993	70 981	71 931	- 1,3
1988-1993 average			1,1

2.625 Returning to the comparison in NNA to look further into the difference between theoretical and actual VAT (cf. item 11 of the VAT questionnaire), it is possible to make adjustments to the amount recorded in the central government accounts on VAT and investment levy receipts, in order to correct for time lags between invoicing and payment to the State and reimbursements by the State (cf. item 3.1 of the VAT questionnaire). Payment of VAT is due by 18th of the second month after the period, with six regular payments a year. Monthly recordings are available, however. By making an adjustment of 2 months time lag - e.g. for 1988 recording actual VAT and investment levies from March 1988 through February 1989 - an adjusted version of the comparison on non-deductible VAT plus investment levy could be made. Actual VAT may be altered for various reasons, among these, cyclical movements of the economy.

Non-deductible VAT + Investment levies			
Time-lag adjusted figures			
	NNA	Government accounts	Difference in per cent
1988	64 169	62 496	+ 2,7
1989	62 591	60 515	+ 3,4
1990	62 804	60 796	+ 3,3
1991	64 305	62 396	+ 3,1
1992	66 929	65 869	+ 1,6
1993	74 712	75 673	- 1,3
1994	80 787	77 972	+ 3,6
1988-1994 average			2,7

The time-lag adjusted results show - on average - almost the same comparison result as when unadjusted actual VAT and investment levies were used (see above). For 1993 and 1994, the estimates are still provisional and we should wait for more significant findings later on. At least for 1993, from a high provisional estimate on changes in inventories - not subject to VAT (or investment levy) - it may be reason to believe that other uses are somewhat underestimated in the provisional (quarterly-based) annual accounts.

2.626 In NNA, no special treatment is made for VAT owed to the State which remains outstanding. This information is not easily accessible (cf. item 3.2 of the VAT questionnaire).

2.627 The recorded actual amounts in the government accounts seem to include fines and interest for late payment (cf. item 4 of the VAT questionnaire).

S. OTHER TAXES ON PRODUCTS

Other taxes on products amounts to 35,0 billion kroner or 4,8 per cent of GDP in 1990, with 0,6 per cent GDP share of investment levy inclusive. The 1990 revision from FNA to NNA was quite insignificant in absolute value, from 34,0 billion while reducing the GDP share from 5,2 per cent. Some 30 different taxes on production and imports are treated as other taxes on products in NNA, of which the largest two-thirds have been described by source, valuation, NNA-products, scope and other attributes. The difference between the theoretical values - i.e. accruals values of NNA - and actual tax receipts in government accounts is quite small, 1,5 per cent in 1990 when time lag is adjusted for.

Introduction

2.628 In NNA, other taxes on products consist of all taxes on products except value added type taxes. In terms of ESA 1995, they include:

D 212	Taxes and duties on imports excluding VAT
D 214	Taxes on products, except VAT and import taxes.

2.629 Items of other taxes on products are normally not easily categorized into these two main classes, although several of the items seem relevant for one of the two classes only. One clear exception is of course customs duties which exclusively belong to the first main class and sub-category D 2121 Import duties. In general, taxes on products are usually linked to both domestic production and imports. Goods domestically produced are taxed when leaving storehouse for sale or for own final use. Goods produced abroad are taxed when being imported. Treating these taxes as commodity flows, they all become parts of product flows in purchasers' prices in the use table and subsequently in the supply table when balancing the goods and services accounts involved.

2.630 Technically - in the central framework of commodity flows - taxes on products for D 214 appear as value components of each product flow, i.e. as part of producer's price, most often coded as 11, except that any trade margin component part is coded separately as 15 (indicated by positive sign). This treatment is a consequence of the system flexibility implemented in Norway. For taxes on products, totals by product are first estimated in the use table. Next, a special calculation is carried out to distribute totals on domestic production flows and imports. This calculation first establishes the D 212 part from import cif. shares of

total supply for each product. Finally, the D 214 part is distributed by industries of domestic production for each product, in proportion to their output values. Thus, separate estimates on D 212 and D 214 are arrived at, and they are in principle values at accruals basis.

2.631 Producers and importers are normally obliged to register and submit underlying information for this kind of taxation by 18th of the following month, with the estimated tax amount paid to the district tax authorities. In the central government accounts, taxes are usually recorded on cash basis (actual receipts), while NNA applies the accruals principle. Accruals values are often estimated from the following standard rule:

$$\text{accruals value in period } t = \text{value of receipts in period } t \text{ from February to January } t+1 \text{ (time lag of 1 month).}$$

It presupposes that actual receipts are known on a monthly basis and that taxes are paid when due. In some cases, accruals values are known from direct sources. In other cases - lacking the necessary information - accruals value is set equal to actual receipts, by convention.

2.632 The recent clarification in the ESA definition on taxes linked to imports to include the amounts of such taxes even when they were levied on households - entered into the measures under Article 6 of the GNP Directive - does not bring about any particular revision of the Norwegian figures. In normal cases, the Government receipts are assumed to include the taxes levied on households in addition to the amounts paid by professional importers.

Borderline cases

2.633 In distinguishing between taxes on products and other taxes on production, borderline cases do occur. In NNA, taxes on production and imports are normally treated as taxes on products only when there is a clear link to goods and services. When such a link is hard to define, they are thus treated as other taxes on production (D 29 in ESA 95). Among the borderline items are:

- registration duty on motor vehicles
- duties on documents
- kilometre tax
- tax on concentrated feeds
- tax on charter flights

In NNA, the first four of these items are treated as other taxes on production, while the last is treated as taxes on products (see below). In FNA, the same treatment was followed, except that the tax on concentrated feeds and one part of the kilometre tax were considered tax on products (the latter split is hard to maintain). However, the kilometre tax is now in transition to become a regular tax on products (i.e. on diesel). The registration duty on motor vehicles is not to be associated with acquisitions of vehicles, in Norway it is a tax on change of ownership of vehicles. Duties on documents are of a similar kind; in both cases there are major obstacles when relating the tax flows to particular transaction in products. The tax on concentrated feeds

is hard to reconcile in terms of products and pricing, and is therefore treated as other taxes on production.

2.634 Another kind of borderline problem is related to a special investment levy introduced along with VAT from 1970. The problem is whether to group this investment levy with VAT in D 211 or with other taxes on products in D 214, i.e. a problem of classification within taxes on products. Technically, the investment levy is identified by a separate value component (code 18) of each relevant product flow and thereby clearly identified in the national accounts. This tax on products is both related to intermediate consumption elements and to gross fixed capital formation. Historically, this levy was embodied in the rules of the former general purchases tax, and when entered into the value added tax system, the revenue of this levy has been recorded along with the VAT amount in official documents etc. Given a decision that the investment levy should be considered a tax on products, there seems to be three alternative solutions in categorizing:

- | | |
|-------|--|
| (i) | Total investment levy in D 211 as VAT- type tax |
| (ii) | Total investment levy in D 214 as other tax on products |
| (iii) | Investment levy on intermediate consumption in D 211, while investment levy on gross fixed capital formation in D 214. |

Provisionally, solution (ii) has been taken. This is not consistent with the present reporting to Eurostat, however, but should be altered to a consistent solution when Eurostat revises its questionnaire to take this into account (at present, irrespective of reporting output in producers' price or in basic price, the investment levy and all taxes on products linked to domestic production, respectively, are forced to be grouped with VAT on products).

Other taxes on products by item

2.635 In Norway, some 30 different taxes on production and imports are treated as other taxes on products. These are described below, by reference to source, valuation, products (flows that are not tax-exempt), scope, paying industry (applied in FNA only with output in producers' prices) and ESA / NNA category. This sums up the most important aspects of NNA treatment in this respect. The description of the tax items - limited to 20 items above a selected threshold value of 100 million - is in order of size according to 1990 figures.

Petrol tax

This is a tax on production and imports of petrol and other fluid fuels for motor engines (except diesel oil and kerosene type jet fuel), differentiated between lead-free and leaded petrol, while also including a special CO₂-tax from 1991 (introduced for environmental purposes), all specified as tax per litre.

<i>1990 value:</i>	6 896 million kroner
<i>Source:</i>	Item 5536, sub-item 76 of central government accounts (7 057 mill.)
<i>Valuation:</i>	Accruals value, calculated by standard rule of 1 month time lag
<i>Products:</i>	Distributed proportionally on two NNA products:
	232 001 Petrol for cars
	232 002 Petrol for aircraft, boats and tractors; jet fuel (insignificant)
<i>Scope:</i>	All uses, except exports and some special circumstances and needs
<i>Paying industry:</i>	510 Wholesale trade (and commissions)
<i>ESA/NNA category:</i>	D 214 / 31 211

Investment levy

This is a tax introduced with the VAT system in 1970 on investment goods and on goods used in production, including repairs and maintenance and auxiliary materials etc., corresponding to the relevant part of the general purchase tax before 1970. The regular tax rate was stipulated to 13 per cent of purchaser's price (tax itself exclusive), lowered to 7 per cent through 1994 (10, later 9 and then 7 per cent during years of main revision). There is also a zero rate, initially for investments in manufacturing and mining industries, later extended to other areas as well.

<i>1990 value:</i>	4 577 million
<i>Source:</i>	Included with VAT in item 5521, sub-item 70 of central government accounts
<i>Valuation:</i>	Accruals value, calculated from same kind of procedure as for VAT
<i>Products:</i>	Approximately 300 NNA-products, of which 22 products as types of fixed asset, are involved in this calculation
<i>Scope:</i>	Parts of intermediate consumption and gross fixed capital formation, defined in tax legislation etc.
<i>Paying industry:</i>	Various industries
<i>ESA/NNA category:</i>	D 214 / 31 211

Import duty on motor vehicles

This is a tax on imports (and on domestic production in principle, although non-existent) of motor vehicles, in seven tax groups with differentiated tax rates (also within same tax group).

<i>1990 value:</i>	3 752 million
<i>Source:</i>	Item 5536, sub-item 71 of central government accounts (3 615 mill.)
<i>Valuation:</i>	Accruals value, calculated by standard rule of 1 month time lag
<i>Products:</i>	The various parts are allocated to relevant flows of four NNA products:
	341 020 Passenger cars
	341 040 Motor vehicles for the transport of goods
	341 050 Special purpose motor vehicles (insignificant)
	354 110 Motorcycles and side-cars
<i>Scope:</i>	All uses, except exports and changes in inventories. For 341 050 (snow scooters), relevant for private consumption expenditure only.
<i>Paying industry:</i>	Importers (not industry-allocated)
<i>ESA/NNA category:</i>	D 212 / 31 212

Excise on tobacco

This is a tax on all tobacco products domestically produced or imported, with differentiated tax rates by quantity of each product.

<i>1990 value:</i>	3 733 million
<i>Source:</i>	Item 5531, sub-item 70 in central government accounts (3 750 mill.)
<i>Valuation:</i>	Accruals value, calculated by standard rule of 1 month time lag
<i>Products:</i>	Tax on cigarette paper estimated first, the balance allocated to relevant flows of tobacco products:
	160 010 Tobacco products
	212 515 Cigarette paper
<i>Scope:</i>	All uses, except exports and changes in inventories, while exclusively allocated to private consumption expenditure for cigarette paper
<i>Paying industry:</i>	160 Manufacture of tobacco products and importers (not industry-allocated)
<i>ESA/NNA category:</i>	D 212 and D 214 / 31 211 and 31 212

Tax on electric energy

Two separate forms of tax has been applied on electric energy: (i) a tax on the use of electric energy (also for own final use), whether domestically produced or imported, and then (ii) from 1.1.93 another tax - motivated by the new energy market - on the production of electric energy. Tax rates are set per kWh, while certain industries and regions are exempted or paying reduced rates.

<i>1990 value:</i>	3 507 million
<i>Source:</i>	Item 5541, sub-item 70 in central government accounts (3 414 mill.)
<i>Valuation:</i>	Accruals value, calculated for each relevant product flow as tax rate by quantity. From 1993, value of receipts is used (since tax rate is stipulated on basis of 15 year average of production).
<i>multiplied</i>	
<i>Products:</i>	In FNA, i.e. tax on use of electric energy, distributed proportionally on relevant flows of the following products:
	401 012 Electric energy to power-based manufacturing producers
	401 015 Electric energy to households
	401 016 Electric energy to other industries
	In NNA, distributed on all products of the electricity industry on the basis of respective shares of quantities produced for these products, and presupposing equal shifts to users involved:
	401 011 Loss of electricity in the network
	401 012 (as above)
	401 013 Exports of electricity on short-term contracts
	401 014 Exports of electricity on long-term contracts
	401 015 (as above)
	401 016 (as above)
<i>Scope:</i>	For relevant uses, see above
<i>Paying industry:</i>	In FNA/ old tax: 401 Production of electric energy and importers (not industry-allocated)
	In NNA/ new tax. 401 Production of electric energy
<i>ESA/NNA category:</i>	In FNA/ old tax: D 212 and D 214 / 31 211 and 31 212
	In NNA/ new tax: D 214 / 31 211.

Excise on spirits and wines etc.

This is a tax on the sale of spirits and wines etc. from the Norwegian Wine and Spirit Monopoly, one part related to quantities sold by alcoholic grades, another part related to sales values also by alcoholic grades, and a third part to their packing (from 1989).

<i>1990 value:</i>	3 505 million
<i>Source:</i>	Item 5526, sub-items 71 and 73 in central government accounts (3 454 mill.)
<i>Valuation:</i>	Accruals value, provided by the Wine and Spirit Monopoly
<i>Products:</i>	Distributed on three NNA products, following special calculations for each of the three parts:
	159 110 Spirits, liqueurs and other spirituous beverages
	159 310 Wines
	159 510 Vermouth and other flavoured wine
<i>Scope:</i>	All uses, except exports and changes in inventories.
<i>Paying industry:</i>	521 Retail trade
<i>ESA/NNA category:</i>	D 214 / 31 211

Excise on beer

This is a tax on beer (and other beverages with similar contents of alcohol) domestically produced or imported, with differentiated tax rates related to quantity (per litre) by 4 classes of alcoholic grades, recently also including tax on the packing (beer cans).

<i>1990 value:</i>	2 201 million
<i>Source:</i>	Item 5526, sub-items 72 and 74 in central government accounts (2 195 mill.)
<i>Valuation:</i>	Accruals value, calculated by standard rule of 1 month time lag
<i>Products:</i>	Tax on non-beer estimated first, the balance allocated to relevant flows of beer:
	159 410 Cider and other fruit wines
	159 610 Beer
<i>Scope:</i>	All uses, except exports and changes in inventories and intermediate consumption in breweries.
<i>Paying industry:</i>	159 Manufacture of beverages and importers (not industry-allocated)
<i>ESA/NNA category:</i>	D 212 and D 214 / 31 211 and 31 212

Customs duties

This is a tax concerning duties levied on external transactions, here on imports of goods.

<i>1990 value:</i>	1 451 million
<i>Source:</i>	Item 5511, sub-item 70 in central government accounts (1 305 mill.)
<i>Valuation:</i>	Accruals value, calculated by multiplying duty rates by underlying flows of imports of goods
<i>Products:</i>	A great number of products (goods) apply
<i>Scope:</i>	Certain customs tariffs regulate the scope of imports involved.
<i>Paying industry:</i>	Importers (not industry-allocated)
<i>ESA/NNA category:</i>	D 212 / 31 250

Tax on mineral oil

This is a tax on various refined petroleum products domestically produced or imported, in three parts (base tax, CO₂-tax and additional tax) and stipulated by quantity (per litre).

<i>1990 value:</i>	1 066 million
<i>Source:</i>	Item 5542, sub-item 70 in central government accounts (1 064 mill.)
<i>Valuation:</i>	Accruals value, calculated by standard rule of 1 month time lag
<i>Products:</i>	Tax is distributed on relevant flows of the following five products:
	232005 Light petroleum oils
	232008 Fuel oils, heavy
	232011 Gas oils
	232013 Diesel oils
	232014 Heavy preparations
<i>Scope:</i>	All uses, except exports, changes in inventories, and intermediate consumption in certain industries (manufacturing industries when used as raw materials, also ocean transport and coastal water transport abroad, pipeline transport, extraction of crude petroleum and natural gas, and service activities incidental to oil and gas extraction), while special treatment applies for fishing (from 1988) and for inland water transport (from 1991).
<i>Paying industry:</i>	232 Manufacture of refined petroleum products and importers (not industry-allocated)
<i>ESA/NNA category:</i>	D 212 and D 214 / 31 211 and 31 212

Excise on Lotto game

This is a tax from the surplus of the Lotto game, from 1993 merged with the surplus of the Norwegian Pools (football betting) as well (notional tax on products).

<i>1990 value:</i>	705 million
<i>Source:</i>	Item 5572, sub-item 70 in central government accounts (606 mill.)
<i>Valuation:</i>	Accruals value, by convention applying 1 year time lag
<i>Products:</i>	Just one product is relevant:
	927 112 Lotto game
<i>Scope:</i>	Final use of private consumption expenditure exclusively
<i>Paying industry:</i>	926 Sporting and other recreational activities
<i>ESA/NNA category:</i>	D 214 / 31 211

Surplus of the Norwegian Pools limited

This is a notional tax from the surplus of the Norwegian Pools Limited (football betting), from 1993 merged with surplus of the Lotto game as well.

<i>1990 value:</i>	705 million
<i>Source:</i>	Item 5984, sub-item 70 in other central government accounts
<i>Valuation:</i>	Accruals value, by convention applying 1 year time lag
<i>Products:</i>	Just one product is relevant before and two products after the merge, the annual report of the Norwegian Pools serving as source in the latter case:
	927 111 Betting
	(927 112 Lotto game)
<i>Scope:</i>	Final use of private consumption expenditure exclusively
<i>Paying industry:</i>	926 Sporting and other recreational activities
<i>ESA/NNA category:</i>	D 214 / 31 211

Excise on chocolate and sugar confectionery

This is a tax on chocolate and sugar confectionery etc. domestically produced or imported, tax rate set by quantity.

<i>1990 value:</i>	556 million
<i>Source:</i>	Item 5555, sub-item 70 in central government accounts (551 mill.)
<i>Valuation:</i>	Accruals value, calculated by standard rule of 1 month time lag
<i>Products:</i>	Three products are selected, sweet biscuits estimated first, the balance distributed proportionally on relevant flows for the other two products.
	158 212 Sweet biscuits etc.
	158 410 Cocoa
	158 420 Chocolate and sugar confectionery

<i>Scope:</i>	All uses, except exports, changes in inventories and intermediate consumption in manufacture of food products for the latter product (158 420)
<i>Paying industry:</i>	158 Manufacture of other food products and importers (not industry-allocated)
<i>ESA/NNA category:</i>	D 212 and D 214 / 31 211 and 31 212

Excise on carbonated non-alcoholic beverages

This is a tax on carbonated non-alcoholic beverages domestically produced or imported, tax rate set by quantity (per litre), and in addition a tax on packing (cans).

<i>1990 value:</i>	481 million
<i>Source:</i>	Item 5556, sub-items 70 and 71 in central government accounts (406 mill.)
<i>Valuation:</i>	Accruals value, calculated by standard rule of 1 month time lag
<i>Products:</i>	Just one product is relevant: 159 812 Other non-alcoholic beverages
<i>Scope:</i>	All uses, except exports, changes in inventories and intermediate consumption to manufacturing industries (as raw materials)
<i>Paying industry:</i>	159 Manufacture of beverages and importers (not industry-allocated)
<i>ESA/NNA category:</i>	D 212 and D 214 / 31 211 and 31 212

Tax on lotteries

This is a tax from the surplus of the State Lottery.

<i>1990 value:</i>	462 million
<i>Source:</i>	Item 5570, sub-item 70 in central government accounts (462 mill.)
<i>Valuation:</i>	Value of receipts is used
<i>Products:</i>	Just one product is relevant: 927 114 Other gambling and betting services
<i>Scope:</i>	Final use of private consumption expenditure exclusively
<i>Paying industry:</i>	926 Sporting and other recreational activities
<i>ESA/NNA category:</i>	D 214 / 31 211

Tax on cosmetics

This is a tax on cosmetics domestically produced or imported, levied on wholesale price when sold to retailers, but terminated by end of 1993.

<i>1990 value:</i>	392 million
<i>Source:</i>	Item 5559, sub-item 70 in central government accounts (394 mill.)
<i>Valuation:</i>	Accruals value, calculated by standard rule of 1 month time lag
<i>Products:</i>	Just one product seems relevant: 245 210 Perfumes and toilet preparations
<i>Scope:</i>	All uses, except exports, changes in inventories and intermediate consumption in air transport and intermediate consumption in ocean transport and coastal water transport abroad
<i>Paying industry:</i>	245 Manufacture of soap and detergents, cleaning and polishing preparations, perfumes and toilet preparations and importers (not industry-allocated)
<i>ESA/NNA category:</i>	D 212 and D 214 / 31 211 and 31 212

Tax on radio and television receivers and equipment for recording or reproducing of sound and picture

This is a notional tax to Norwegian Broadcasting Company on radio and television sets, plus equipment for recording or reproducing of sound and picture (although tax-exempted products occur), domestically produced or imported.

<i>1990 value:</i>	249 million
<i>Source:</i>	Item 5982, sub-item 70 of other central government accounts and item 5581, sub-item 71 in central government accounts
<i>Valuation:</i>	Value of receipts is used
<i>Products:</i>	Tax is distributed proportionally on relevant flows of these five products: 323 010 Radio broadcast receivers 323 020 Television receivers 323 032 Magnetic tape recorders and other sound recording apparatus 323 040 Microphones, loudspeakers etc. 323 052 Aerials and reflectors
<i>Scope:</i>	All uses, except exports, changes in inventories and intermediate consumption in ocean transport and coastal water transport abroad
<i>Paying industry:</i>	323 Manufacture of television receivers, sound or video recording or reproducing apparatus etc and importers (not industry-allocated).
<i>ESA/NNA category:</i>	D 212 and D 214 / 31 211 and 31 212

Excise on sugar

This is a tax on sugar domestically produced or imported, tax rate set by quantity.

<i>1990 value:</i>	213 million
<i>Source:</i>	Item 5557, sub-item 70 in central government accounts (217 mill.)
<i>Valuation:</i>	Accruals value, calculated by standard rule of 1 month time lag
<i>Products:</i>	Just one product applies: 158 310 Sugar
<i>Scope:</i>	All uses, except exports, changes in inventories and intermediate consumption in manufacturing industries
<i>Paying industry:</i>	158 Manufacture of other food products and importers (not industry-allocated)
<i>ESA/NNA category:</i>	D 212 and D 214 / 31 211 and 31 212

Tax on charter flights

This is a tax on charter flights of passengers from Norwegian airport to abroad, tax rate stipulated per passenger flight.

<i>1990 value:</i>	136 million
<i>Source:</i>	Item 5580, sub-item 70 in central government accounts (133 mill.)
<i>Valuation:</i>	Accruals value, calculated by standard rule of 1 month time lag
<i>Products:</i>	Just one product applies in this case: 622 012 Other non-scheduled passenger transportation services by air
<i>Scope:</i>	Relevant flow is intermediate consumption to activities of travel agencies etc, the appropriate industry for tour operators (charter flights included)
<i>Paying industry:</i>	620 Air transport
<i>ESA/NNA category:</i>	D 214 / 31 211

2.636 Taxes on products below threshold include the following minor items (about 1 per cent of total other taxes on products): export duties on fish and fish products, export duties collected to regulation fund on cod fisheries, export duties on salmons collected to government fishery fund, surplus of the Norwegian Wine and Spirit Monopoly, tax on boat engines, tax on lubricating oil, tax on non-carbonated non-alcoholic beverages, tax on pharmaceutical preparations, tax on batteries for environmental reasons, tax on magnetic tapes and other media for sound recording and excise on race-tracks.

2.637 From the commodity flows on other taxes on products, information on which products are the most tax-burdened could be extracted:

		1990. Billion kroner Other taxes on products
232 001	Petrol for cars	6,9
160 010	Tobacco products	3,7
341 020	Passenger cars	3,5
159 110	Spirits, liqueurs and other spirituous beverages	2,5
159 610	Beer	2,2
401 012	Electric energy to power-based manufacturing producers	1,3
401 015	Electric energy to households	1,1
401 016	Electric energy to other industries	1,1

2.638 The investment levy applies to both intermediate consumption and gross fixed capital formation. A summary analysis follows on which flows of the use table are levied by this particular tax. It shows for 1990 that 43 per cent of estimated value of investment levy relates to gross fixed capital formation, while 57 per cent relates to intermediate consumption.

		1990. Billion kroner Investment levy
Gross fixed capital formation		2,0
Non-residential buildings		0,5
Other structures		0,2
Transport equipment		0,2
Other machinery and equipment		1,0
Intangible fixed assets		0,0
Intermediate consumption		2,6
of which:		
Repair work		1,4
Tools, clothing at work etc.		0,4
Petrol for cars		0,2
Total investment levy		4,6

2.639 In NNA, other taxes on products count for 31,5 per cent of total taxes on production and imports in 1990. This is up from 30,6 per cent in FNA. Other taxes on products contribute by 4,8 per cent to GDP, slightly down from 5,2 per cent in FNA.

	FNA	NNA
Other taxes on products	34 021	34 972
Other taxes on products, excluding investment levy	31 793	30 395
Other taxes on products as percentage of:		
Total taxes on production and imports	30,6	31,5
GDP	5,2	4,8

2.640 Finally, a comparison between the NNA accruals values and corresponding amounts of receipts from government accounts is made for the main items portrayed above (which cover 98,8 per cent of total other taxes on products excluding investment levy).

	Other taxes on products, excl. investment levy		
	Main items. 1990. Million kroner		
	NNA	Government accounts	Difference in per cent
Petrol tax	6 896	7 057	-2
Import duty on motor vehicles	3 752	3 615	4
Excise on tobacco	3 733	3 750	-0
Tax on electric energy	3 507	3 414	3
Excise on spirits and wines etc.	3 505	3 454	1
Excise on beer	2 201	2 195	0
Customs duties	1 451	1 305	11
Tax on mineral oil	1 066	1 064	0
Excise on Lotto game	705	606	16
Surplus of the Norwegian Pools Ltd.	705	(705)	-
Excise on chocolate and confectionery	556	551	1
Excise on carbonated non-alcoholic beverages	481	406	18
Tax on lotteries	462	462	-
Tax on cosmetics	392	394	-1
Tax on radio and TV receivers and equipment	249	249	-
Excise on sugar	213	217	-2
Tax on charter flights	136	133	2
Total main items	30 010	29 577	1,5
Total main items following accruals principle	28 594	28 161	1,5

The difference between NNA accruals values and tax receipts of government is quite small, i.e. 1,5 per cent in 1990, from the time lag-adjusting method being applied. In FNA - at least in the earlier phase after implementing SNA 1968 - the estimation of accruals values were made according to similar procedures to those still used for VAT and the investment levy to-day. The differences could become much larger than those experienced with the present time-lag

adjustment method. An even more important reason for giving up that method was its complicated or detailed tax legislation which had to be transformed into national accounts concepts. That was a time-consuming process as well.

T. SUBSIDIES ON PRODUCTS

Subsidies on products amounts to 7,7 billion kroner or - in negative terms - 1,1 per cent of GDP in 1990. The 1990 revision from FNA to NNA has increased absolute value as well as the GDP share from 0,8 billion kroner and 0,1 per cent. Product subsidies to agriculture, to research and development, to manufacture of dairy products and to education are most important among the items and are described by source, valuation, NNA-products, scope and other attributes. Subsidies on products in NNA are recorded at values of actual payments, except product subsidies to agriculture which are at accruals basis.

Introduction

2.641 In NNA, subsidies on products consist of item D 319 Other subsidies on products exclusively. They are mainly paid by central government but to a minor degree also by local government. Import subsidies - ESA item D 311 - are non-existent in Norway.

2.642 In FNA, subsidies on products mostly consisted of price subsidies on milk and milk products. Other price subsidies linked to products have been almost negligible since early 1980s. Over the years during the FNA regime, and as a result of revisions held, the share of product subsidies to total subsidies has decreased considerably, down to just 2 per cent in 1990. A major explanation for this has been methodological, i.e. difficulties in connecting the respective subsidies to relevant product flows.

2.643 In NNA, the share of subsidies on products has turned higher again - approaching 25 per cent in 1990 - behind which the new treatment of recording support from government to agriculture seems to be of particular importance. Also in other areas, like education, subsidies on products are essential to the estimation of output in basic prices. While there has been a shift between the two categories of subsidies, it should be recalled that total subsidies in per cent of GDP - from various changes in definitions - have decreased from 6,1 per cent in FNA to 4,5 per cent in NNA (1990 figures). The GDP share of subsidies on products is 1,1 per cent in 1990, while quite insignificant (0,1 per cent) before the revision.

	1990. Million kroner	
	FNA	NNA
Subsidies on products	824	7 696
Total subsidies	39 992	32 565
Subsidies on products as percentage of:		
Total subsidies	2,1	23,6
GDP	0,1	1,1

2.644 Subsidies on products are recorded at values of actual payments, with the exception of subsidies on agricultural products which are valued at accruals basis. This practice is very much influenced by problems of following the theoretical estimation approach (as for VAT and investment levy) or the time-lag adjustment approach for lack of data recordings.

Borderline problems

2.645 The borderline between subsidies on products and other subsidies on production has often been difficult to draw. In reviewing the agricultural subsidies, several amendments in this respect were taken in NNA replacing the FNA treatment. Payments from central government concerning the Agricultural settlements are recorded in the central government accounts. Subsidies on milk and milk products are a main ingredient here, the treatment of which has been changed considerably. While most of these payments in FNA were recorded as other subsidies on production (partly to agriculture and partly to manufacture of dairy products following a distribution key), the revised treatment in NNA - taking into account an examination of the flows involved, prices and valuation, sources and corrections needed to the sources - means that one part (the base grant) is to be recorded as other subsidies on production to manufacture of dairy products, while the remaining part is to be recorded as subsidies on agricultural products, i.e. subsidies to agriculture.

2.646 Another borderline problem is the one against government final consumption. Especially in the area of health and social work, there have been alternative treatment options open for government payments to producers in respect of their production, either as subsidies in general, or as individual government consumption expenditure (an eventually actual individual consumption of households) when goods and services are delivered directly to households according to a legally established right. In this respect, a third possibility has been the treatment as social benefits to households. In NNA, there has been a shift towards more such payments being recorded as government consumption expenditure and eventually as household actual consumption.

2.647 Government payment to public corporations (and quasi-corporations) to compensate for persistent loss is another problem area, whether to treat such cases as subsidies or not. Treatment of persistent loss on the State railway corporation - as an example of a problematic case - has been amended from being recorded as a negative withdrawal from the income of the

State corporation in FNA to treating this as a subsidy in NNA. However, these payments have been recorded as other subsidies on production paid to the railway industry, and therefore not part of subsidies on products described here.

2.648 The basic distinction between current and capital transfers has been another case of borderline problem, since in FNA investment grants were all recorded as subsidies, while being recorded as part of capital transfers in NNA, following ESA 95 principles. As far as subsidies on products are concerned, however, no definitional change has occurred, since all investment grants were treated as other subsidies on production in FNA.

Subsidies on products by item

2.649 In Norway, it is possible - in addition to a breakdown by products - to itemize subsidies on products by type or by industry (of receipts) due to the flexibility approach to valuation. For a summarized presentation, subsidies on products might be best described in terms of industry-related categories, and by similar references as noted for other taxes on products. By industry-related categories, it means industries of receipts, i.e. to which belonging industries producers are paid subsidies from government, for those subsidies related to production of specific products.

2.650 In NNA, the most important among these categories of industries are agriculture, manufacture of dairy products, wholesale trade, research and development, and education. Illustration by 1990 figures, the industry breakdown of subsidies on products is as follows

		1990. Billion kroner
30310 010	Product subsidies to agriculture	3,9
30310 155	Product subsidies to manufacture of dairy products	0,8
30310 156	Product subsidies to manufacture of grain products	0,0
30310 510	Product subsidies to wholesale trade	0,2
30310 730	Product subsidies to research and development	2,0
30310 800	Product subsidies to education	0,8
30 310	Total subsidies on products	7,7

Product subsidies to agriculture

These are subsidies paid by central government under the label of Agricultural settlements. They cover a number of sub-items that are considered for subsidies of this kind. Most important are price subsidies (5,9 billion kroner in 1990), and cost-reducing and other direct transfers (3,9 billion), but these items are not allocated to agriculture in total, neither linked to products altogether.

<i>1990 value:</i>	3 895 million
<i>Source:</i>	Item 1150, 7 sub-items, of central government accounts, plus item of other central government accounts (total: 3 730 mill.)
<i>Valuation:</i>	Accruals value, calculated by Agricultural Budgeting Board and NML
<i>Products:</i>	Altogether 22 different NNA products are involved, most crops, while most important magnitudes among animal products, in particular the following three products counting for 90 per cent of total:
	012 121 Raw milk from bovine cattle
	012 110 Bovine cattle
	012 211 Sheep, live
<i>Scope:</i>	Relevant flows of intermediate consumption to manufacturing.
<i>Receiving industry:</i>	010 Agriculture
<i>ESA/NNA category:</i>	D 319 / 31 310

Product subsidies to manufacture of dairy products

These are price subsidies to consumers on milk and cream and on cheese.

<i>1990 value:</i>	784 million
<i>Source:</i>	Item 1580, 2 sub-items, of central government accounts
<i>Valuation:</i>	Cash value is used
<i>Products:</i>	Two NNA products are relevant:
	155111 Milk and cream
	155140 Cheese
<i>Scope:</i>	Subject to all uses except changes in inventories
<i>Receiving industry:</i>	155 Manufacture of dairy products
<i>ESA/NNA category:</i>	D 319 / 31 310

Product subsidies to research and development

These are various subsidies related to research and development services.

<i>1990 value:</i>	2 046 million
<i>Source:</i>	24 items, some 60 sub-items of central government accounts
<i>Valuation:</i>	Cash value is used
<i>Products:</i>	Two NNA products are relevant:
	731000 Research and development services on natural sciences and engineering
	732000 Research and development services on social sciences and humanities

<i>Scope:</i>	Subject to relevant flows of intermediate consumption
<i>Receiving industry:</i>	730 Research and development
<i>ESA/NNA category:</i>	D 319 / 31 310

Product subsidies to education

These are various subsidies on education services, mostly paid by central government, but partly also from local government (196 mill.).

<i>1990 value:</i>	804 million
<i>Source:</i>	10 items, some 40 sub-items, of central government accounts, and Certain items of local government accounts (under items 1.20, 1.24, 1.29 and 1.549)
<i>Valuation:</i>	Cash value is used
<i>Products:</i>	Two NNA products are relevant:
	803010 Higher education services
	804200 Adult and other education services etc.
<i>Scope:</i>	Subject to all uses
<i>Receiving industry:</i>	800 Education
<i>ESA/NNA category:</i>	D 319 / 31 310

Product subsidies to wholesale trade

These are subsidies on different fruits and on eggs which are paid to wholesale trade and thus related to trade margins of the products concerned. The amounts involved are relatively small.

Product subsidies to grain mills

These are just minor amounts.

U. ADJUSTMENT FOR FISIM (= FINANCIAL INTERMEDIATION SERVICES INDIRECTLY MEASURED)

Allocation of FISIM according to new principles (still not ESA-adopted) has not been carried out. Adjustment for FISIM makes a negative global contribution to GDP by 4,7 per cent in 1990 and amounts to 34,0 billion kroner. The 1990 revision from FNA to NNA has increased the GDP share from 3,8 per cent (in negative terms). Adjustment for FISIM contributes negatively by 8,8 billion of the 61,5 billion increase in 1990 GDP, of which 5,8 from definitional changes. Most important among these is the new interest relief subsidy treatment. Two industries and three products are specified in NNA.

2.651 Financial intermediation services indirectly measured - FISIM - is estimated as part of financial intermediation services, distinguished by separate NNA-products (see section K on NACE J above).

2.652 Allocation of FISIM according to new - but still not ESA-adopted - principles is not carried out.

2.653 Instead, NNA continues the treatment of FNA as of SNA 68 to record total FISIM (imputed bank service charge) as intermediate consumption of a nominal industry. This recording makes an equivalent negative value added of the nominal industry, to be regarded as a correction item to GDP. In NNA, this correction item is termed adjustment for FISIM.

2.654 The estimation of adjustment for FISIM is straightforward from the estimation of financial intermediation by introducing nominal sub-industries related to NNA-products, then adding these together for the item of adjustment for FISIM.

		Intermediate consumption 1990. Billion kroner
654	Monetary intermediation indirectly measured Two NNA-products are transferred from output of financial intermediation, i.e. central banking services, FISIM (5,9 billion) and other monetary intermediation services,	26,6

FISIM (20,8 billion)		
659	Financial intermediation indirectly measured NNA-product other credit granting services, FISIM is transferred	5,7
669	Adjustment item Recording an ad hoc discrepancy (to be amended)	1,6
Total FISIM		34,0

2.655 In terms of value added, adjustment for FISIM makes a negative contribution of 4,7 per cent to GDP in 1990. Recalling that financial intermediation makes a contribution of 5,0 per cent to GDP, it is illustrated how dominating the FISIM part of financial intermediation really is. Value added of adjustment for FISIM and its nominal sub-industries and their shares of GDP are as follows:

		1990	
		Million kroner	Percentage of GDP
654	Monetary intermediation indirectly measured	- 26 646	-3,69
659	Financial intermediation indirectly measured	- 5 725	-0,79
669	Adjustment item	- 1 593	-0,22
Total FISIM		- 33 964	-4,70

2.656 The 1990 revision from FNA to NNA has increased FISIM from 25,2 to 34,0 billion kroner. A major part of the increase is due to changes in definition. Thus, GDP share of adjustment for FISIM has been revised from -3,8 per cent in FNA to -4,7 (or rather -4,5) per cent in NNA.

	Billion kroner		Revision	
	FNA	NNA	Total	Definitional
Adjustment for FISIM	-25,2	-34,0	-8,8	-5,8

2.657 Despite no changes in definition when recording intermediate consumption in financial intermediation, in fact, new treatment of financial leasing and treatment of grants for interest relief do affect the flows of FISIM. By 1990 illustration, output of FISIM is increased by 1,1 billion kroner counterbalanced by a corresponding decrease in output of financial intermediation directly paid by customers. In the section on output above, the two categories of financial intermediation - directly paid and indirectly measured - are combined and therefore giving a zero effect, while here in the section on intermediate consumption presenting FISIM as a dummy item, the switch over effect could be notified. The 1990 effect on revising interest relief subsidy treatment is estimated at 4,7 billion kroner (see section K).

V. GDP FROM THE OUTPUT APPROACH - SUMMARY ON INDUSTRY STRUCTURE, TYPE OF REVISION AND TYPE OF SOURCES USED

Industry structure, type of revision and type of sources used are aspects that have been analysed in chapter II on GDP from the output approach. In terms of NACE Rev. 1 sections, NACE C with the oil and gas extraction industry is the most important industry in Norway, both before and after the revision. NACE C and NACE D with manufacturing in FNA were the only two NACE section exceeding 10 per cent of GDP, but are also the two sections with a marked reduction in their GDP shares from FNA to NNA, from 13,7 to 12,6 per cent for the oil and gas industry, and from 12,9 to 11,7 per cent for total manufacturing in 1990. With the increased importance of the service-producing industries in NNA, two more NACE sections in the services area reached above 10 per cent of GDP, i.e. NACE K with real estate, renting and business activities (12,2 per cent) and NACE G with wholesale and retail trade and repair activities belonging to this section (10,4 per cent). The revision from FNA to NNA has been decomposed into definitional changes and other changes. In 1990, definitional changes contributed to the 9,3 per cent GDP increase by just around 1 per cent, the remaining 8 per cent being other changes due to better utilization of sources and improved methods of estimation. It should be underlined however, that definitional changes made a significant negative contribution on the revision of both output and intermediate consumption. The positive effect on GDP is due to larger negative impact on intermediate consumption than on output. The summary analysis on types of sources used, shows that the estimation of output and intermediate consumption are based on relevant statistics that are available on a current basis. Only 4,6 per cent of output and 6,7 per cent of intermediate consumption are estimated from sources that are not normally currently available and assumed for direct estimation through the use of indicators etc. The estimation of GDP is thus soundly based on relevant and currently available sources for 95 per cent of its value.

Industry structure

2.658 NACE C, NACE K, NACE D and NACE G are the four most important industries in Norway according to the revised value added estimates in NNA, the four NACE industry groups which exceeded 10 per cent of GDP in 1990. On the contrary, NACE P, NACE B and NACE H are the three industries of least importance in NNA, three NACE industry groups which counted less than 2 per cent of GDP in 1990. The top and bottom industry rankings are:

		1990. Percentage of GDP
C	Mining and quarrying , including extraction of crude petroleum and natural gas	12,6
K	Real estate, renting and business activities	12,2
D	Manufacturing	11,7
G	Wholesale and retail trade; repair of motor vehicles, motor cycles and personal and household goods	10,4

H	Hotels and restaurants	1,3
B	Fishing	0,6
P	Private households with employed persons	0,1

2.659 In FNA, the top and bottom rankings - keeping the same threshold values of 10 and 1,5 per cent of GDP - were approximately the same, but with NACE K and NACE G out of the list and below 10 per cent.

		1990. Percentage of GDP in FNA
C	Mining and quarrying , including extraction of crude petroleum and natural gas	13,7
D	Manufacturing	12,9

H	Hotels and restaurants	1,2
B	Fishing	0,7
P	Private households with employed persons	0,3

2.660 NACE K and NACE G, in particular, are the NACE industry groups that have attained much more importance in the industry structure after the revision. NACE J has also gained more than 0,5 percentage points. On the contrary, reduced importance is particularly pronounced for the two FNA top ranking industries, i.e. NACE C and NACE D. No other industry group lost 0,5 percentage points or more.

		1990. Changes in percentage of GDP from FNA to NNA
K	Real estate, renting and business activities	2,6
G	Wholesale and retail trade; repair of motor vehicles, motor cycles and personal and household goods	1,5
J	Financial intermediation	0,8

C	Mining and quarrying , including extraction of crude petroleum and natural gas	- 1,1
D	Manufacturing	- 1,2

2.661 The industry structure of all NACE industry groups at 1-digit letter level before and after the revision is shown in the table below. The 1990 structure presented is in terms of GDP breakdown from the output approach.

		1990. Billion kroner		1990 GDP share	
		FNA	NNA	FNA	NNA
Value added in basic prices:					
A	Agriculture, hunting and forestry	15,7	18,3	2,4	2,5
B	Fishing	4,6	4,5	0,7	0,6
C	Mining and quarrying , extraction of crude petroleum and natural gas	90,3	90,8	13,7	12,6
D	Manufacturing	85,2	84,2	12,9	11,7
E	Electricity, gas and water supply	23,4	22,5	3,5	3,1
F	Construction	27,6	31,1	4,2	4,3
G	Wholesale and retail trade; repair of motor vehicles, motor cycles and personal and household goods	58,9	75,2	8,9	10,4
H	Hotels and restaurants	8,2	9,7	1,2	1,3
I	Transport, storage and communication	65,7	71,9	9,9	10,0
J	Financial intermediation	28,0	36,1	4,2	5,0
K	Real estate, renting and business activities	63,7	87,7	9,6	12,2
L	Public administration and defence	32,1	37,9	4,9	5,3
M	Education	30,2	31,7	4,6	4,4
N	Health and social work	47,6	49,9	7,2	6,9
O	Other community, social and personal service activities	13,6	18,1	2,1	2,5
P	Private households with employed persons	2,2	0,8	0,3	0,1
	Total industries	597,0	670,5	90,4	92,9
GDP adjustment items:					
	Value added tax	55,8	58,2	8,4	8,1
	Other taxes on products	33,8	35,0	5,1	4,8
	Subsidies on products	- 0,8	- 7,7	- 0,1	- 1,1
	Adjustment for FISIM	-25,2	- 34,0	- 3,8	- 4,7
Gross domestic product - GDP		660,6	722,1	100,0	100,0

Type of revision

2.662 In describing the revision from FNA to NNA, a distinction between definitional changes and other changes is aimed at. For the chapter II area, the following tables should illustrate and summarize the revision by these two types of revision. The first illustration deals with output in basic prices.

		Output in basic prices Revision 1990. Billion kroner		
		Total	Definitional	Other
A	Agriculture, hunting and forestry	- 0,4	- 1,1	0,7
B	Fishing	- 0,6	- 0,6	0,0
C	Mining and quarrying , extraction of crude petroleum and natural gas	- 7,8	- 7,6	- 0,2
D	Manufacturing	-15,9	-15,9	0,0
E	Electricity, gas and water supply	-17,7	-20,7	3,0
F	Construction	10,3	9,4	0,9
G	Wholesale and retail trade; repair of motor vehicles, motor cycles and personal and household goods	25,4	- 1,9	27,3
H	Hotels and restaurants	3,6	0,6	3,0
I	Transport, storage and communication	16,5	5,7	10,8
J	Financial intermediation	8,6	7,1	1,5
K	Real estate, renting and business activities	35,9	1,3	34,6
L	Public administration and defence	7,1	7,1	0,0
M	Education	- 0,7	- 2,2	1,5
N	Health and social work	7,5	1,6	5,9
O	Other community, social and personal service activities	11,4	3,3	8,1
P	Private households with employed persons	- 1,4	0,0	- 1,4
Output, total industries		81,8	-13,9	95,7

2.663 Total output in basic prices increased by 81,8 billion kroner from 1 183 billion kroner in FNA to almost 1 265 billion kroner in NNA. This means a 6,9 per cent revision increase. The picture is quite divergent; industries producing mainly services (conventionally referred to as NACE G through Q) show a 20 per cent increase in their total output, while industries producing mainly goods (NACE A through F) show a 5,4 per cent decrease from the revision in their total output. For the industries producing mainly services, about 20 per cent of the 1990 output increase is due to definitional changes, the remaining 80 per cent reflecting other changes from new sources and new methods of estimation in the services field. For the industries producing mainly goods - on the contrary - the situation is characterized by quite insignificant changes on basis of improved sources and methods, while definitional changes have been dominated by some netting procedures in the oil extraction, manufacturing and

electricity industries, which in sum for the goods-producing industries has contributed to 36,5 billion lower output than before the revision.

2.664 For intermediate consumption, the effect of the revision has been much smaller, although there are some similar features involved. In this case, there is a moderate 2,7 per cent increase, again 20 per cent increase in industries mainly producing services, but a strong 10 per cent decrease in industries mainly producing goods. For the service-producing industries there is close to a 20 - 80 per cent distribution between definitional and other changes, as was the case also for output. For the goods-producing industries, the same negative effect as for output occur through the switch over from gross to net treatment in several areas, while virtually no overall effect from other changes.

		Intermediate consumption		
		Revision 1990. Billion kroner		
		Total	Definitional	Other
A	Agriculture, hunting and forestry	- 3,1	- 3,3	0,2
B	Fishing	- 0,5	0,0	- 0,5
C	Mining and quarrying , extraction of crude petroleum and natural gas	- 8,4	- 7,6	- 0,8
D	Manufacturing	-14,9	-14,9	0,0
E	Electricity, gas and water supply	-16,9	-20,7	3,8
F	Construction	6,8	9,8	- 3,0
G	Wholesale and retail trade; repair of motor vehicles, motor cycles and personal and household goods	8,9	0,0	8,9
H	Hotels and restaurants	2,1	0,2	1,9
I	Transport, storage and communication	8,5	5,2	3,3
J	Financial intermediation	0,6	0,0	0,6
K	Real estate, renting and business activities	11,9	- 0,8	12,7
L	Public administration and defence	1,3	1,3	0,0
M	Education	- 2,2	- 1,2	- 1,0
N	Health and social work	5,1	0,7	4,4
O	Other community, social and personal service activities	6,9	2,2	4,7
P	Private households with employed persons	-	-	-
	Total industries	6,9	-29,1	36,0
	Adjustment for FISIM	8,8	5,8	3,0
	Total intermediate consumption	14,9	-23,3	38,2

2.665 For total value added in basic prices, the 1990 revision was slightly over 75 billion kroner, of which the definitional changes are estimated at 13,4 billion kroner. This implies that close to 18 per cent is due to definitional changes and the remaining 82 per cent related to

better utilization of sources and methods etc. However, the four global adjustment items for GDP change this pattern somewhat. VAT is increased by 2,4 billion, which might be allocated to other changes reflecting a higher base for theoretical VAT from the commodity flows. Other taxes on products have been increased by 1,2 billion. In FNA, one part of the investment levy was treated as other taxes on production, while in NNA treated as other taxes on products. This change has been allocated to definitional changes, while the remaining is considered other changes. Subsidies on products have increased by 6,9 billion, mostly from new treatment of subsidies, i.e. from other subsidies on production in FNA to subsidies on products in NNA. Two-thirds have been estimated as definitional changes (as they have been taken into account above for agriculture and education and R&D). Adjustment to FISIM is also distributed as above.

		GDP and value added in basic prices Revision 1990. Billion kroner		
		Total	Definitional	Other
A	Agriculture, hunting and forestry	2,6	2,2	0,4
B	Fishing	- 0,1	- 0,6	0,5
C	Mining and quarrying , extraction of crude petroleum and natural gas	0,6	0,0	0,6
D	Manufacturing	-1,0	-1,0	0,0
E	Electricity, gas and water supply	-0,8	0,0	-0,8
F	Construction	3,5	- 0,4	3,9
G	Wholesale and retail trade; repair of motor vehicles, motor cycles and personal and household goods	16,5	-1,9	18,4
H	Hotels and restaurants	1,5	0,4	1,1
I	Transport, storage and communication	6,2	0,5	5,7
J	Financial intermediation	8,1	7,1	1,0
K	Real estate, renting and business activities	24,0	2,1	21,9
L	Public administration and defence	5,8	5,8	0,0
M	Education	1,5	- 1,0	2,5
N	Health and social work	2,3	- 0,9	3,2
O	Other community, social and personal service activities	4,5	1,1	3,4
P	Private households with employed persons	-1,4	0,0	- 1,4
	Total industries	73,6	13,4	60,2
	Value added tax	2,4	0,0	2,4
	Other taxes on products	1,2	3,2	- 2,0
	Subsidies on products	- 6,9	- 4,6	- 2,3
	Adjustment for FISIM	- 8,8	- 5,8	- 3,0
	GDP	61,5	6,2	55,3

2.666 Thus, the basic composition of the GDP increase of 61,5 billion kroner in 1990 is about 10 per cent from definitional changes (some 6 billion) and 90 per cent from other changes (about 55 billion). One message from the revision is that change of system and definitions from SNA 1968 to SNA 1993 and ESA 1995 had a minor effect on the GDP. Only 1 per cent higher level of GDP could be explained from new definitions in NNA compared to FNA.

Type of sources used

2.667 A review of the main sources used for the estimation of output and intermediate consumption states that in most cases the estimations are based on relevant statistics available on a current (mainly annual) basis. The following tables summarize the situation for output and for intermediate consumption. The sources used are distinguished in two main groups, also indicating a sub-group on the particular measures involving indirectly estimated margins (in wholesale and retail trade, electricity etc.). The two main groups are constituted as such:

Group A	Sources that are currently available and relevant for direct estimation
Group B	Sources that are not normally currently available and assumed for direct estimation through indicators etc.

2.668 The main finding from the review of sources used show that approximately 95 per cent of output and intermediate consumption are favourably founded in sources of category A. The share of group A share is somewhat lower for intermediate consumption than for output.

	Output	Intermediate consumption
Group A sources	95,4	93,3
Group B sources	4,6	6,7

2.669 For output, it is observed that activities estimated either from group B sources or in terms of margins, counted for 16,4 per cent or one sixth of total output.

		Output		
		1990. Billion kroner. Type of sources used		
		Group A	Of which: Group B	Total
		margins		
A	Agriculture, hunting and forestry	31	2	33
B	Fishing	10	0	10
C	Mining and quarrying , extraction of crude petroleum and natural gas	113	0	113
D	Manufacturing	301	1	301
E	Electricity, gas and water supply	28	14	28
F	Construction	81	0	90
G	Wholesale and retail trade; repair of motor vehicles, motor cycles and personal and household goods	126	109	126
H	Hotels and restaurants	21	0	21
I	Transport, storage and communication	149	24	153
J	Financial intermediation	52	0	52
K	Real estate, renting and business activities	120	0	130
L	Public administration and defence	67	0	67
M	Education	35	4	39
N	Health and social work	54	13	67
O	Other community, social and personal service activities	16	16	32
P	Private households with employed persons	1	0	1
	Total industries	1 207	149	1 265

2.670 It is seen from the tables that group B sources are almost exclusively found in production of services, in particular within NACE O, NACE N and NACE K for output, and within NACE I and NACE O for intermediate consumption.

		Intermediate consumption		
		1990. Billion kroner. Type of sources used		
		Group A	Group B	Total
A	Agriculture, hunting and forestry	13	1	14
B	Fishing	6	0	6
C	Mining and quarrying , extraction of crude petroleum and natural gas	22	0	22
D	Manufacturing	217	0	217
E	Electricity, gas and water supply	8	0	8
F	Construction	54	5	59
G	Wholesale and retail trade; repair of motor vehicles, motor cycles and personal and household goods	51	0	51
H	Hotels and restaurants	11	0	11
I	Transport, storage and communication	62	19	81
J	Financial intermediation	16	0	16
K	Real estate, renting and business activities	38	4	42
L	Public administration and defence	29	0	29
M	Education	6	1	7
N	Health and social work	14	3	17
O	Other community, social and personal service activities	7	7	14
P	Private households with employed persons	-	-	-
	Total industries	554	40	594

2.671 The source ratios for output and intermediate consumption as above, and a reasonable assumption of allocating the four adjustment items to the group A category, imply that GDP is NNA - in terms of sources - is close to 95 per cent based on group A sources, i.e. sources that are currently available and relevant for direct estimation.

	GDP
Group A sources	94,9
Group B sources	5,1

2.672 The further analysis on the sources used, i.e. on their specific types of sources, such as accounting data, production data, survey data etc., and with a view to the degree of exhaustiveness aspect, is taken up in the last chapter devoted to the four projects on exhaustiveness. Surely, we face borderline cases when trying to categorize the sources used into the two A and B categories. Nonetheless, the results above should picture out the main situation for sources and their reliability in the estimation of GDP in NNA, following the output approach.

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