NORWEGIAN NATIONAL ACCOUNTS

GNI INVENTORY FOR ESA95

June 2012 version

ABBREVIATIONS (ACRONYMS)

BCA	= Budgeting Committee for Agriculture
BERKAP	= BERegning av KAPital (System for PIM estimations)
BoP	= Balance of Payments
BR	= Business Register
CCRLE	= Central Co-ordinating Register of Legal Entities
CFC	= Consumption of Fixed Capital
C.I.F.	= Cost Insurance Freight
COE	= Compensation of Employees
COFOG	= Classification Of Functions Of Government
COICOP	= Classification Of Individual COnsumption by Purpose
CPA	= Classification of Products by Activity
CPI	= Consumer Price Index
CREE	= Central Register of Establishments and Enterprises
EEA	= European Economic Area
ESA	= European System of Accounts
FISIM	= Financial Intermediation Services Indirectly Measured
FNA	= Former Norwegian National Accounts
F.O.B.	= Free On Board
GAB	= Grunneiendom-Adresse-Bygning (Land property-Address-Building)
GDP	= Gross Domestic Product
GFCF	= Gross Fixed Capital Formation
GNI	= Gross National Income
HBS	= Household Budget Survey
HFCE	= Households' Final Consumption Expenditures
HORECA	= HOtels, REstaurants and CAtering
IC	= Intermediate Consumption
INTRASTAT	= Statistics relating to the trading of goods between EU Member States
I/O	= Input/Output
ITRS	= International TRansactions Statistics
KAU	= Kind of Activity Unit
KOSTRA	= KommuneStatRApportering (Municipality-State-Reporting)
LA	= Labour Accounts
LFS	= Labour Force Survey
LKAU	= Local Kind of Activity Unit
NA	= National Accounts
NACE	= Nomenclature statistique des Activités économiques dans la Communauté Européenne
NCS	= Norwegian Confederation of Sports
NLA	= Norsk LuftAmbulanse (Norwegian air ambulance foundation)
NA	= National Accounts
NNA	= Norwegian National Accounts
NO	= Nærings Oppgave
NOK	= NOrwegian Kroner
NORAD	= NORwegain Aid Department
NPI	= Non-Profit Institution
NPISHs	= Non-Profit Institutions Serving Households
NRK	= Norsk RikskringKasting (Norwegian Broadcasting)

NSB	= Norges StatsBaner (Norwegian State Railway)
PIM	= Perpetual Inventory Method
PRODCOM	= "PRODuction COMmunautaire" (Community Production)
RHE	= Regional Health Enterprise
RT	= Retail Trade
RWS	= Register of Wages and Salaries
SAD	= Single Administrative Document
SAS	= Scandinavian Airline System
SBS	= Structural Business Statistics
SN	= Statistics Norway
SNA	= System of National Accounts
SUT	= Supply and Use tables
TS	= Tilleggs Skjema
UCI	= Undertakings for Collective Investments
UNSTAT	= United Nations's Statistical Office
UT	= UtenriksTransaksjoner (External Transactions)
VAT	= Value Added Tax
W&S	= Wages and Salaries

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Preface

PREFACE

On 5 November 2011 Statistics Norway published the first results of the **2011 main revision** of the national accounts, including new time series back to 1970 for annual figures and back to 1978 for quarterly data. The main motivation behind the 2011 main revision was to introduce the new industry classification NACE Rev.2 in the Norwegian National Accounts (NNA). But also other elements were introduced, contributing to revision of the NNA figures.

This **new 2012 version of the Norwegian GNI Inventory** reflects all aspects of methodological issues and sources for the national accounts compilation in Norway and it takes on board the action points and other recommendations in the wake of the September 2009 and May 2010 Eurostat GNI information visits to Statistics Norway. The structure and chapters of the report follows the Eurostat recommendations. The **reference year** of the Inventory is **2009**.

The main part of the text in the inventory is the work of Erlig Joar Fløttum. Tore Halvorsen has been responsible for updating of the text, aided by several staff members at the Division for National Accounts. A special mention goes to Karin Snesrud who has updated the figures in many of the tables.

CHAPTER 1   OVERVIEW OF THE SYSTEM OF ACCOUNTS

GNI Inventory Guide on Chapter 1:
Chapter 1 is intended to be the "executive summary" of the Inventory and should be readable independently. It should be fully consistent with the other chapters. The subsections of chapter 1 follow the structure of the chapters of the Inventory.

1.1   Introduction

GNI Inventory Guide on Chapter 1.1:
Describe main approaches used. Geographical coverage. Organisation and responsibilities within the NSI (provide organization chart and indications of the number of staff working on national accounts).

Main approaches used and some history

1.1.1   Approaches used to calculate GDP in the Norwegian National Accounts (NNA) are multi-dimensional. Through the strong emphasis on industrial breakdown, **the production approach** is regarded as **the main approach**. **The expenditure approach** is also much used through the supporting use of **the commodity-flow method**. Until recently, **the income approach** has played a minor role, but has a more decisive role with the continuous development of complete institutional sector accounts in integrated accounting approaches. The recent and increased role on utilizing accounting data underlines this development. Most important, the **product dimension** is a very strong element in the Norwegian approach to national accounting, due to the long presence of annual Supply and Use Tables (SUT) being integrated in the NNA.

1.1.2   The **Norwegian** System of **National Accounts** has a long tradition compared with most other countries. In Norway - as in several other countries - the **first phase of the history of national accounts** was characterised 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 worldwide renowned.

1.1.3   In describing the **NNA of today,** it is easily recognised and striking to see how important the influence still is from Frisch's tradition. The early introduction of a "modern"

national accounts system in Statistics Norway led by **Odd Aukrust** in the years following World War II. The early 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 empirical work by Aukrust covered the periods 1930-1939 and 1946-1951. 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 of SNA later on, SNA68 in particular.

1.1.4   Generally speaking, the NA of Norway contains a **number of important characteristics**, among which the following ones have been considered particularly important:

-        **Emphasis on the real economy**
-        **Input-output framework and annual integration**
-        **Supply and use tables and commodity flows**
-        **Detailed breakdown**
-        **Full integration of Balance of Payments**
-        **NA important for integrating and co-ordinating economic statistics**
-        **NA extensively used in national budgeting and economic model analysis**

1.1.5   Already in the pioneering years of Frisch and Aukrust there was the standpoint that **"real phenomena"** was 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 approach was the clear choice of main approach for computing GDP.

1.1.6   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 SNA68. 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 bases necessary to draw up these tables, has traditionally existed. Most important, detailed annual statistics for manufacturing industries thus had existed since the 1920s.

1.1.7   **Supply and use tables** and commodity flows have played a basic role in the Norwegian National Accounts for several decades. It was welcomed that SNA93 and ESA95 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 **input-output tables** for purposes of economic analysis and projections. It goes without saying that **detailed breakdown** characterises the NNA along with supply and use and input-output tables.

1.1.8   In Norway, considerable emphasis has been attributed to 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 emphasised 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, integrated financial flows and institutional sector accounts have been explored and developed to a more advanced level. The reallocation of the statistical division of Norges Bank (the central bank of Norway) to Statistics Norway has further facilitated the full harmonisation and integration of the traditional national accounts with the financial accounts statistics. Thus, a long expressed aim of integrating institutional sector accounts has now become closer to the ideal framework expressed in the new systems SNA93 and ESA95.

1.1.9   Statistics Norway has been a strong follower of **international recommendations** in the area of national accounts. When SNA68 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, SNA68** was the international system basis for the Norwegian national accounts. The European Community version, ESA, was never adhered to in that period. The new situation with harmonised principles of SNA93 and ESA95 meant a first approach for Norway to follow **ESA from 1995 onwards**. In fact, by disseminating its first results in July 1995, Norway was the **first country in Europe to adopt ESA95** and the new international systems of national accounts.

1.1.10 In describing approaches used to calculate GDP, it may seem a bit simple to just refer to the three main approaches of production, expenditure and income approaches. A **more articulated scheme** of approaches had been presented by UNSTAT in 1994. According to that scheme, various options or combinations are 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

1.1.11 **Class 1 approaches** may be seen as direct approaches used to calculate GDP. **Class 2 approaches** bring in product detail as an additional dimension. **Class 3 approaches** bring in other dimensions, in particular flows of income, but also capital and financial flows and stocks. Class 1 and class 3 represent macro-oriented methods in which economic units (transactors) are in focus, while class 2 is more micro-oriented with products brought into focus. Countries using class 2 approaches (or class 3 approaches) in addition to class 1 are better off than without so. Countries using both class 2 and class 3 approaches in addition to class 1 are even better off. In class 3, types of income and outlays as well are brought into the balancing at detailed level. 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.

1.1.12 The situation of the GDP estimation **in Norway** is quite favourable. First, Norway applies several standard direct approaches to estimate GDP (class 1). Second, attached to them are also supporting approaches that bring in integration of a product dimension (class 2). Third, and more recently, other dimensions are introduced in the sphere of income flows, capital and finance flows and stocks (class 3). In the former Norwegian national accounts before the implementation of SNA93/ESA95 in 1995, approaches 1.3 and 2.4 in combination may be seen as a general characterisation of the main approach to calculate GDP. In the Norwegian national accounts after 1995, approaches **1.3 and 2.4 and 3.1 in combination** may be seen as a general characterisation of the main approach to calculate GDP.

1.1.13 In Norway, the data situation has been characterised 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. At the industry level, however, 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**. After the more elaborated use of accounting statistics in NNA, this situation seems to be more and more rare, however. Both the expenditure and income 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).

1.1.14 **The production approach** is used to compute value added for all industries technically speaking. This is done within the framework of detailed SUT on annual basis and by making use of the commodity-flow method.

1.1.15 **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.

1.1.16 **The income approach** is used in general to obtain estimates on components of GDP, inter alia compensation of employees, but not for operating surplus. Operating surplus rather is 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 non-market (government and NPISH) industries.

1.1.17 **Main changes introduced in the 1995 revision** meant a stronger use of the production approach (main approach) in construction, and more extensive use of the income approach through utilisation 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.

Geographical coverage

1.1.18 **The Norwegian territory** includes mainland Norway, the Norwegian part of the Continental Shelf, and the Arctic islands of Svalbard, Jan Mayen and Bjørnøya. It should be noted that **Svalbard** has a special jurisdiction, i.e. the Treaty of Svalbard states equal treatment with respect to access, residence and activity for all their treaty partners within the framework of local laws and regulations. In terms of territories, Norway has excluded Svalbard from being part of the international EEA treaty. However, Norwegians' activities on Svalbard are included in GDP of Norway, while for various practical reasons the Russian owned activities in Barentsburg has in the past not been included in the Norwegian statistics. The other extreme position, to leave out economic activities all together as a consequence of the exclusion from EEA, has recently been discussed, but not been taken into effect. The statistical situation on Svalbard is however about to change. One aspect is that the Norwegian Statistical law came into force on Svalbard as from 1st January 2007, initiating work to strengthen statistical description of activities on Svalbard in general. Another aspect is that Russian enterprises as from only last year are registered in the Norwegian National Register of Legal Units (Enhetsregisteret) and the Norwegian register of Company Accounts (Brønnøysundregisteret). For the future it is thus expected that the activities of the Russian units operating on Svalbard on a permanent basis are to be included in the population of Norwegian Statistics and subsequently part of Norwegian GDP.

1.1.19 Geographical coverage is expressed in three different contexts of the NNA at large. These are (i) **Rest-of-the World and Balance of Payments (BOP) Accounts,** (ii) **Regional Accounts** and (iii) the **Central Framework of National Accounts.** In the **BOP**, the concepts of resident and territory are vital, cf. the cited definition of the Norwegian territory given above in three parts: mainland Norway, oil activities in the North Sea, and the islands belonging to Norway in the Arctic. In the **Regional Accounts,** the main activities connected with the oil and gas extraction on the Norwegian Continental Shelf are allocated to the extra-region. The extra-region is a notional county, and activities outside the normal 19 counties are allocated here. In addition to the oil and gas activities, the extra-region also covers the activity on Svalbard, Jan Mayen and other economic activity abroad (such as embassies, military units etc.). In the **Central Framework of NNA,** a fundamental distinction is made between Mainland-Norway, and Petroleum activities and ocean transport (activities not considered part of Mainland-Norway economy). The former essentially represents the domestic economy, while the latter is mostly foreign- or export-generated activities of the Norwegian economy.

1.1.20 Some **illustrations** on the magnitudes involved in these **geographical distinctions** are given below using 2009 figures:

GDP and value added geographical distinctions. 2009.

| Value added	NOK billion	Percentages
GDP	2 356.6	100.0
Petroleum activities and ocean transport	480.7	20.4
Extra-region	461.9	19.6

1.1.21 Most of petroleum activities (except some land-based activities) is included in both sub-sets shown in the table - one used in annual NA, the other used in annual NA by county (regional accounts) - ocean transport has since 1990 been allocated to counties (extra-region before), while Svalbard and the other Arctic islands represent a fraction of the remaining part of extra-region. While the difference between petroleum activities and ocean transport and the extra-region was about 3 per cent in 1990, by coincidence they became almost same size in 2000.

Organisation and responsibilities within Statistics Norway

1.1.22 Official statistics in Norway is **centrally organised**. The **Statistical Act of 1989** stipulates that Statistics Norway is the independent statistical institution with centralised responsibilities in this field, while administrative subordinate to the Ministry of Finance. About 75 per cent of Statistics Norway's tasks are funded over the central government budget, while about 25 per cent are funded on revenue from assignments and sales of publications.

1.1.23 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. 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**. Also there is a trend towards more electronic-based reporting of forms rather than paper-based reporting.

1.1.24 **Statistics Norway** is divided into seven departments, has in 2012 a staff of approximately 970, of which 590 in Oslo and 480 at Kongsvinger. There are four statistical departments – Economic Energy and Enviromental Statistics, Social Statistics, Industry Statistics and National Accounts and Finance statistics - one department for Research, one department for Administrative Affairs, one department for Communication (dissemination etc.), one department for IT and Statistical methods and one for Data Collection.
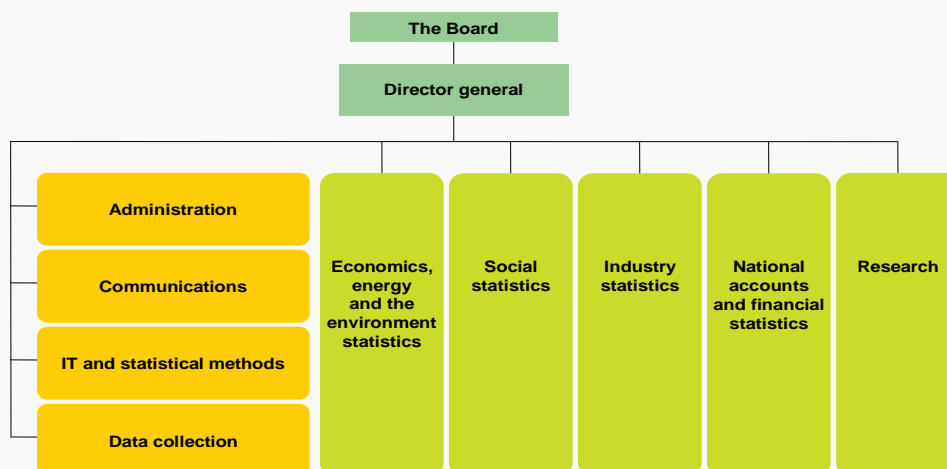
1.1.25 **The National Accounts and Financial statistical department** includes in 2012 the following units or divisions:

Department of national Accounts and Finance Statistics	
930	National accounts
940	Financial Markets Statistics
950	Public Finance
960	Financial corporations
970	Accounting statistics
980	External Trade

1.1.26 **National Accounts Division** belongs to the Department of Economic Statistics in Statistics Norway. Until 1991, the NA unit belonged to the Research Department. In 2009, the NA unit has employed 29 - 30 staff members, of which 22 - 24 are graduates, mainly economists. The allocation of the staff resources to the main fields of national accounts is indicated below:

NNA work in different areas. Man-years in 2009

Central annual accounts work	11
Institutional sector accounts	7
Quarterly accounts	3
General administration	2
Balance of payments	3
Labour accounts	1-2
Regional accounts	1
Satellite accounts	1

1.1.27 It should be noted that the division of labour is organised according to NA category in such a way that the same person will be responsible for a category in both quarterly and annual accounts. Also, the persons working on supporting and satellite accounts will all be responsible for various parts of the central NA system.

1.1.28 The NA unit is supported by other units, such as specialised divisions on administrative tasks and computer processing. The NA unit **collaborates closely** with the Divisions for Public Finance, Financial Markets statistics and Financial corporations on government data and institutional sector accounts, Balance of payments and Financial Accounts statistics.

1.2   The revisions policy and the timetable for revising and finalising the estimates

Timetable for revisions

1.2.1   National accounts are compiled in **different versions**. There are versions according to present status - **final or provisional** - detailed or less detailed, adjusted or unadjusted. Annual aggregated accounts are normally compiled in three consecutive provisional versions and a final one, and occasionally main revisions are undertaken later on. Following the establishing of modern national accounts some 50 years ago, there have been six **main revisions** of national accounts in Norway, revised estimates initially published in 1962, 1973, 1995, 2002, 2006 and 2011.

1.2.2   Referring to **versions compiled**, including the **periodicity**, the current situation is reflected in the box below as the various national accounts compilations are concerned. Time lag in number of months is indicated.

Versions compiled. Time lag in number of months

Aggregated annual accounts	
First provisional annual version, quarterly-based	+ 1 ¾
Second provisional annual version, quarterly-based	+ 4 ¾
Third provisional annual version	+ 10 ¾
Final annual version, detailed basis	+ 22 ¾

Aggregated quarterly accounts	
Provisional first version	+ 52-54 days
Final adjusted version	+ 22 ¾ after end of year (adjustment once a year)
Supply and use tables	
Provisional version	Simplified version in quarterly accounts (i.e. + 52-54 days first time)
Final detailed version	+ 22 ¾ after end of year
Input-output tables	
Final detailed version	+ 22 ¾
Institutional sector accounts	
Provisional aggregated quarterly version	+ 1 ¾ after end of quarter
Provisional aggregated annual version	+ 2 after end of year
Final detailed version	+ 23
Regional accounts	
Final detailed version	+ 28
Labor accounts	
Quarterly versions	like aggregated quarterly accounts
First provisional annual version	+ 1 ¾
Second provisional annual version	+ 4 ¾
Third provisional annual version	+ 10 ¾
Final annual version	+ 22 ¾
Balance of payments	
First quarterly version	+ 65-67 days
Final adjusted quarterly version	+ 23 after end of year
First provisional annual version	+ 2
Second provisional annual version	+ 5
Third provisional annual version	+ 11
Final annual version	+ 23
Satellite accounts	
Tourism, System of Health Accounts, Satellite for Non-profit institutions, NAMEA	Ad hoc versions

1.2.3   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. There is a clear distinction between the first three versions - which are based on accumulated quarterly compiled estimates - and the last which regularly are based on annual data sources. The third version, like the first two, is also using the quarterly accounting system as a frame but is incorporating some annual data sources. This kind of cycle of producing and publishing annual national accounts estimates has been established a fairly long time ago in Norway. Alterations have been made in reducing time lags of the third and fourth versions to meet ESA95 reporting obligations more timely, while the time lags of the first and second versions now meet regular quarterly dissemination cycle.

Revisions policy

1.2.4   Statistics Norway has had **no revision policy** in the past **on main revisions**. More than 20 years elapsed since Statistics Norway undertook its last main revision when SNA68 was implemented. **The 1995 revision - implementing ESA95 and SNA93 -** was the fourth

main revision of national accounts in Norway. This main revision might be regarded as a more comprehensive one than the previous ones, in particular because new sources and estimation methods - after having been delayed for a number of years - eventually were implemented directly into their right context.

1.2.5   **In 2002**, Statistics Norway undertook another main revision - the **fifth main revision** in order - this time without any major definitional changes to the system. Then again, in **2006**, the **sixth** and most recent main revision was published - when the allocation of FISIM was introduced for the first time. And finally **the 2011 main revision** introduced the new industry classification NACE rev.2

1.2.6   Looking back at the last five main revisions in Norwegian National Accounts, **GDP** was **strongly affected by approximately 10 per cent in each of the first two** of these revisions, while **more moderately affected in the 2002 main revision** - up 1.4 per cent for the latest year of final accounts (1997), **even more moderate in the 2006 revision** - up to 1.1 per cent as measured for the year 2003, and 1.5 per cent for the year 2007 in the last (2011) main revision. While the SNA68 revision decreased GDP level by 10 percent of which 9 per cent from definitional changes, the 1995 revision increased again the level of GDP by 10 per cent, but this time 9 per cent was due to non-definitional changes. This very fact is a clear warning that a **period of 20 years** is a **much too long** interval between revisions of this kind.

1.2.7   **In future**, main revisions in Norway most probably will be held **more frequent than every 10 years** as originally intended. It may be aimed at every 5 years. The next main revision will be published in November 2014. There is also a question whether this revision issue will lead to some kind of harmonisation among ESA95 countries in years to come. Statistics Norway welcomes in principle such a common timing of main revisions, although there are practical considerations that may prevent it from taking place. That was already a practical issue with respect to the timing of the FISIM allocation. Comparable results among countries are far more important today than in the past.

1.2.8   **Another issue** related to revision policy is that of **threshold value** to determine whether current revisions are made (provisional to final) or opposite: leaving amendments for a main revision later on. In Norway, a pragmatic approach has been followed, it may be right to say that single cases causing revisions above approximately 0.5 - 1 billion NOK have been left for future main revisions. This also depends on which items and whether GDP is affected or not.

1.2.9   **Backward revisions** are also part of the revision policy issue. This is a very important issue as well, particularly so in Statistics Norway as the Research Department staff emphasises the strong need for long time series in order to undertake economic analyses. The policy followed in Statistics Norway may be summarised in three principles:

(i)	Backward revisions made for a **limited number of years** providing **overlap years**
(ii)	Backward revisions made for a period of typically **15 - 25 years or so**
(iii)	Backward revisions made **in 2 or more steps** due to resource requirements.

1.2.10   In the implementation of **ESA95** that had its first estimates released in 1995, the backward revision was completed late 2000. At that juncture, revised ESA95 estimates had

been compiled for the period **back to 1970**. In 1995, the first revised estimates were made for years starting 1988, while almost 20 more years have been aligned backwards five years later. The work was done in a sequence way, i.e. year by year, and in a detailed way. **Institutional sector accounts** of the ESA95 implementation in the 1990s were revised **backwards to 1978**, i.e. the first step was taken, while the second step was omitted.

1.2.11 With respect to the 2002 main revision and backward estimations, revised final national accounts figures were made for the years 1991-1999, while new preliminary figures were made for 2000 and 2001. The 2002 revision had stronger effect for the years after 1995 due to the incorporation of structural business statistics being adapted for the national accounts, while the effect for years from 1991 to 1994 was rather small. Time series further back, i.e. before 1991 were not revised.

1.2.12 At the other end of the scale, the 2006 and 2011 main revisions were both published simultaneously for all years back to 1970, and even including revised quarterly figures.

1.3	**Outline of the production approach**

Classifications

1.3.1 **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.2 and the product classification based on CPA. **Number of activities** specified are 131 (altogether 155 when adding market and non-market etc.), and **number of products** are about 925 NNA-products, of which 450 are goods, 350 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 55 - 45 distribution between goods and services as concerns characteristic products of the activities of national accounts. Likewise, there is now a 50 - 50 distribution between goods-producing and services-producing activities.

1.3.2 The breakdown by categories of production - or types of producers, i.e. market, own final use and other non-market - is handled through the coding system (prefixes). It means 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 NPIs serving households.

Main sources of data

1.3.3 In general and typically, a **mixture of administrative records and statistical surveys** is used as sources for the NNA. The relative importance of the two kinds of sources is seen from the description by NACE industries below. During the last couple of decades there has been increased focus on exploiting administrative data for statistical purposes. The continued efforts on improving the business register are clear evidence in that respect. Another strong

development has been the use of **structural business statistics (SBS)** in the national accounts. In the 2002 main revision, routines were set up for converting and redefining individual variables in the SBS according to the national accounts industry divisions and concepts. Statistics Norway publishes annual structural statistics within 1.5 years after the end of the statistical year in most areas from NACE B through S.

Register data

1.3.4   Challenges are always faced regarding use of register data in the national accounts. Statistics Norway's **Business Register - the Central Register of Establishments and Enterprises** - is an important instrument of the Norwegian statistical system. It comprises in principle all production units.

1.3.5   In 2009, Statistics Norway introduced **NACE Rev.2** for classifying units into producing industries. Prior to that NACE rev1.1 was used.

1.3.6   The statistical units employed by Statistics Norway in its Business Register form the basis for the compilation and production of economic statistics. **The units** are legal units, enterprises, kind-of-activity units (KAUs) and local kind-of-activity units (local KAUs). Ancillary corporations are also identified with double sort of coding, one for the activity and the mother company, another for the actual activity of the ancillary company. Furthermore, all concern relations of the enterprises are recorded in the Register, including with rest-of-the world.

1.3.7   The statistical information contained in the Business Register relevant for NNA was essentially confined to **employment and turnover data**.

1.3.8   In recent years, more emphasis has been taken in utilising **accounting data**. With the **structural business statistics** - a main source for the NNA compilation according to the production approach - use is made of a complete set of statements from large enterprises to the tax authorities. For the other enterprises, sales figures and other essential accounting data have been obtained from annual accounts in the **Norwegian Register of Company Accounts in Brønnøysund**.

Main sources by industry

1.3.9   **Main sources used** by the various NACE sections used for the production approach **in the NNA annual accounts** have been summarised below.

Industries	*Main sources used*
NACE A	**Aggregate account of agriculture** compiled by the Budgeting Committee for Agriculture. **Aggregate account of forestry** is less comprehensive, compiled by Statistics Norway. **Catch statistics** from the Directorate of Fisheries and register-based **Annual Census data of fish farming** are used for output, while sources for intermediate consumption are annual **Cost surveys of fishing boats** and **Cost**

	surveys of fish farming.
NACE B	**Oil and gas activity statistics** are **census-type** sources collected from the operators involved at fields in production, terminals and pipeline activities, using different statistical forms. **Manufacturing statistics (SBS-based)** cover other mining and quarrying.
NACE C	. **Manufacturing statistics** have been available since the late 1920s, altered considerably in 1949 and 1972 and with the incorporation of **Structural business statistics** (**SBS**) from 1996.
NACE D	**Electricity statistics**, which is production statistics like manufacturing statistics
NACE E	**Local government accounts** and **Structural Business Statistics (SBS)**.
NACE F	**Construction statistics -** providing annual data **-** play a direct role in compiling this industry, and becoming **SBS-based** source from 1996.
NACE G	**Annual wholesale and retail statistics (SBS-based)** are now used. Also used are **Sample surveys on trade margins (periodic)**.
NACE H	**Structural business accounts (SBS), Oil and gas activity statistics (pipeline transport), Business Accounts SAS**
NACE I	**Structural business statistics (SBS)**
NACE J	**Structural business statistics (SBS)**
NACE K	**Credit market statistics** cover accounts of **all financial enterprises**, for banks, insurance companies and other financial institutions. **Interest Statistics (FISIM)**
NACE L	**Annual structural business statistics (SBS). Housing statistics of various kinds,** also **Household budget surveys (HBS)** and **Quarterly surveys on actual rents** for dwelling services.
NACE M	**Structural Business Statistics (SBS).** **Central government accounts** (e.g. R&D)
NACE N	**Structural business statistics (SBS)**
NACE O	**Central government accounts** and **Local government accounts and the reporting system KOSTRA**.
NACE P	**Central government accounts** and **Local government accounts.** **Accounting statistics for NPISHs.**
NACE Q	**Central government accounts** and **Local government accounts.** **Accounting statistics health institutions.** **Social statistics.**
NACE R	**Central government accounts** and **Local government accounts.** **Business register data.** **Cultural statistics.**
NACE S	**Central government accounts** and **Local government accounts.** **Structural Business Statistics (SBS)** **Statistics membership organisations, Data from trade unions.**
NACE T	Data from **Register of Wages (RWS)**

Reasons for main choices between data sources

1.3.10 Statistics Norway has had a long tradition and experience utilising **relevant and detailed production data based on the local KAU** (the establishment) as the statistical unit for compiling GDP estimates according to the production approach. Experience through

several decades with this kind of data together with the Business Register - **the Central Register of Establishments and Enterprises** - have provided good reasons for the data sources being selected. The Register definitely has an important role in the identification of population as well as in securing exhaustive data.

1.3.11   Despite the traditional line on providing basic production statistics for the production approach, a new development has taken place in recent years from the **Structural business statistics.** Unlike the production statistics based on data from local KAUs, these new data are enterprise-based. However, **more detailed data on enterprises** than previously have been obtained and now focused on **accounting data**. At the same time, it has been extremely important for Statistics Norway to **retain the local KAU dimension** in the basic data, and this is achieved through a **supplementary scheme (local KAU-based)**.

1.3.12 **Structural business statistics** were introduced in NNA in the 2002 main revision. First introduced in manufacturing (and mining and quarrying), the use of this source was extended to other industries as well - to construction and in particular to strengthen the NNA estimates in the **sphere of services**. This was one of the main aims of the 2002 main revision.

Independence from other approaches

1.3.13 It has been described elsewhere in the Inventory that the NNA compilation is made in the framework of **annual supply and use tables** applying all three approaches to GDP and with relatively **detailed commodity flows**.

Valuation

1.3.14 Valuation is **particularly relevant for transactions in goods and services**, but also to the general aspect of **time of recording**. In general, the accruals basis principle of recording is applied in the NNA. Thus, taxes on production and subsidies are **basically** recorded **in accruals values** and not as recorded in the government accounts (cash values).

1.3.15 **Output** is valued at **basic prices** in the cases of market production and production for own final use (i.e. basic prices for similar products in market production), while non-market output (per convention) is recorded by total costs of production in lack of prices.

1.3.16 Output at basic prices has **implications** such as:

-	Valued added of an industry is "valued" at basic prices (calculated as output at basic prices less intermediate consumption at purchasers' prices)
-	Taxes on products (including VAT) and subsidies on products are not distributed by industry
-	Total value added of the industries also is "valued" at basic prices

- GDP is "valued" at market prices, which means that taxes on products less subsidies on products are added to total value added of the industries at basic prices

- Accruals VAT (i.e. VAT on output less non-deductible VAT on intermediate consumption and other uses) is among the taxes on products to be added to arrive at GDP

- Taxes and subsidies on production that are not recorded as taxes and subsidies on products (i.e. other taxes on production, other subsidies on production) are distributed by industry and thus influence the magnitudes of operating surplus of the industries (but not value added of the industries).

Transition from private accounting data to national accounting concepts

1.3.17 The process of data captured through the questionnaire approach has been accompanied by **guidance on recording.** When statistical forms are sent to respondents (producers etc.), these forms are most often accompanied by quite detailed guidance on how to fill in the figures. The traditional way of approaching the respondents has been for them to adapt to the required NA concepts and definitions. With the tendency to explore the possibility for a wider use of administrative data in the NNA compilation, adapting to NA standards is more likely to be made by Statistics Norway itself. There is, however, also a right for Statistics Norway through the Statistical Act to influence the administrative data set-up in a way that suits the statistical system.

1.3.18 The detailed descriptions in this inventory - **in the sub-sections on methods of estimation** - contain information on possible transitions from private accounting data to national accounting concepts. These sub-sections are made as explicit and illustrative as possible. The objective is of course to describe how the basic sources have been utilised for the NNA compilation in a transparent way.

The roles of direct and indirect estimation methods

1.3.19 A 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**. Around 5 per cent of output and intermediate consumption in 2009 were estimated from sources that are not normally currently available. The estimation of GDP was thus soundly based on relevant and currently available sources for 95 per cent of its value. This share was in particular increased with the introduction of annual **SBS-based statistics** in the 2002 main revision.

1.3.20 Sources that are **not normally currently available** are almost exclusively found in production of services.

The roles of benchmarks and extrapolations

1.3.21 The role of benchmarks and extrapolations in the current NNA compilation according to the production approach is **quite limited**. As just mentioned, around 5 per cent of output is estimated from sources that are not normally currently available. In the Norwegian statistical system, economic statistics have been established with a high degree of regularity, on annual basis in most cases. (Short-term statistics for quarterly national accounts and balance of payments are outside the scope in this respect.) Typically, there has been no economic census since 1974, and not much use has been necessary to make from other censuses held every 10 years or so, like the population and housing census, and agricultural and fishery censuses. More recent censuses have been used, but are not really providing essential additional information for national accounts estimation in the general picture.

1.3.22 In one respect, **benchmark** has an important role to play, and that is when undertaking a **main revision.** It is usually both convenient and useful to establish revised levels for the NA estimates for a **benchmark year** in the first place, selecting a year that is "normal" (avoiding year of extraordinary events), and in particular, with the best scope for possible use of sources available. Given the annual sources available, the role of **extrapolations** - in this respect and in general - is restricted to the main revision process only, and not to sources. It means that new levels obtained initially for the benchmark year are extrapolated to other years in the sense that revised time series are being established, normally from the same quality of sources that have been introduced for the benchmark year.

The main approaches taken with respect to exhaustiveness

1.3.23 In 2009 **total adjustments made to ensure exhaustiveness from the production approach** added to NOK 16.7 billion, or **0.7 per cent of GDP** and GNI. What were recorded in that measure were identified adjustments to replace and make improvements to the ordinary utilisation of main sources available. One typical set of examples was use side information that in certain cases was assumed to serve as a basis for compilation of output. This was regarded as adjustment to the ordinary supply-side information to ensure exhaustiveness.

1.3.24 Adjustments were **highest in construction, agriculture and accommodation and food serving services.** Adjustment for **own-account construction** was related in particular to existing dwellings (major improvements and the like), but also to own-account construction of new dwellings and on cottages, summer houses etc. In **agriculture** production adjustment was done for own consumption in other households than farmers' households (fresh fruit in particular).

1.4	**Outline of the income approach**

Classifications

1.4.1   **Main classification schemes** used in the NNA for the estimation of GDP according to the **income approach** are again by **kind of activities** (NACE Rev.1.1), as well as by **categories** or **components**. In practice, they are cross - classified, i.e. each of the components is broken down by kind of activities or industries.

Main sources of data

1.4.2   In general and typically, a **mixture of administrative records and statistical surveys** is used as sources for the NNA. Like for the production approach, the relative importance of the two kinds of sources is seen from the description by main components. The estimates of **compensation of employees** are mainly compiled from an industry-related approach that means utilising the **SBS-based statistics** covering most industries. In some cases, an indicator-based approach including wages and employment data is used. The estimation of compensation of employees by industry is closely linked to the estimation of employment including hours worked. Use is also been made of the **Register of Wages and Salaries (RWS)** - first and foremost indirectly for control purposes and to disaggregate the totals into components. **Other taxes on production** and **other subsidies on production** are mostly estimated from the central government accounts, but local government accounts are also involved. **Mixed income** is estimated from the accounting statistics of self-employed, while the remaining main components - **operating surplus** and **consumption of fixed capital** - are indirectly measured, residually calculated and determined from the PIM approach, respectively. Despite residually estimated, operating surplus is being evaluated, thereby sometimes giving repercussions back on output and intermediate consumption and thus on value added in industries involved.

1.4.3   **Main sources used** for the various main components of the income approach have been summarised below.

Industries	*Main sources used*
Wages and salaries	**Central government accounts** and **Local government accounts** are used for non-market production. **Structural business statistics** are used in a majority of cases in market production**,** or in other cases - and for total considerations within the Labour Accounts - **Employment statistics, Wage statistics** and **Register of Wages and Salaries (RWS)**.
Employers' social contributions	Total value of employers' contributions to **National Insurance** is estimated on accruals basis from accounting data from the National Insurance Administration. **Central government accounts** and **Local government accounts** are used for other actual social contributions, complemented by different types of sources concerning contributions to other social security schemes. **RWS register data** on pensions paid directly from employers to employees have been utilised for employers' imputed social contributions.
Other taxes on production	**Central government accounts (the fiscal accounts)** and **Other central government accounts (government funds etc.)** are the main sources used. **Local government accounts** are used to estimate tax on real property and some concession taxes.
Other subsidies	**Central government accounts (the fiscal accounts)** and **Other central**

on production	**government accounts (government funds etc.)** are the main sources used. **Local government accounts** are used to estimate a limited number of subsidies, such as transport grants to scheduled transportation.
Mixed income	Gross mixed income is estimated from the **accounting statistics of self-employed**.
Consumption of fixed capital	PIM method is used.
Operating surplus	Balancing item.

Reasons for main choices between data sources

1.4.4   Statistics Norway has had a long tradition and experience utilising **relevant and detailed production data, which are based on the local KAU** (the establishment) as the statistical unit for compiling GDP. The industry-based sources used for the production approach - such as SBS-based statistics - provide useful data for **compensation of employees** as well, while these data sources are **less suitable for other taxes and subsidies on production.** In the latter cases, **central and local government accounts** provide the proper basis for the NNA compilation. The estimation of compensation of employees by industry is closely linked to the estimation of employment and hours worked, made in the **common framework of NNA and Labour Accounts**. The **Register of Wages and Salaries** is also a most useful source. Still, the main philosophy applied in the Labour Accounts is to review the sources available and make direct use of the ones most suitable for each item involved.

1.4.5   The residual nature of operating surplus recently has been less residual, as the **mixed income** part has been estimated directly from improved accounting data related to self-employed. Balancing item is therefore confined to operating surplus of the sectors outside households. Operating surplus of the household sector - owner-occupied dwelling services - is also compiled in a non-residual manner (basically other sources originated from output).

Independence from other approaches

1.4.6   It has been described elsewhere in the Inventory that the NNA compilation is made in the framework of **annual supply and use tables** applying all three approaches to GDP. From the point of view of integration, and validating the outcome of the balancing item estimation procedure for operating surplus, work has been made on utilising the sector-based accounting data sources to provide a **direct expression** for operating surplus as well. With an improved source basis as described elsewhere in the Inventory, approaching a full integration in this respect between industry-based and sector-based approaches was improved in the 2002 main revision. Referring again to the UNSTAT scheme in section 1.1, this may lead to an **integrated accounting approach** as data check (3.2) rather than for data reconciliation (3.1).

Valuation

1.4.7   In this context, valuation is particularly relevant for **other taxes on production** and **other subsidies on production** in the sense of **time of recording**. In general, the accruals basis principle of recording is applied in the NNA. Taxes on production and subsidies thus are **basically** to be recorded **in accruals values** and not as recorded in the government accounts (cash values). Pragmatically however, in a number of cases cash values are resorted to when applying the government accounts as sources. In particular, this is typical for other taxes and subsidies on production. Accruals basis is more commonly used for taxes and subsidies on products.

1.4.8   Valuation is also relevant in the case of **consumption of fixed capital** applying the PIM method and making use of investment data and coherent price indices for investment in inflating constant-price figures in that respect.

Transition from private accounting data to national accounting concepts

1.4.9   This is an issue faced with the use of **SBS-based data** for the compilation of compensation of employees, and the use of **accounting statistics of the self-employed** for compiling mixed income and **RWS register data** for breakdown into compensation of employees components. The former sources are administrative data obtained from the Tax authorities etc. that need to be reviewed and coded for the purpose of the NNA application. The latter source - and all kinds of accounting data reviewed for possible integrated use in the NNA - needs to be examined minutely in order to arrive at a sound conceptual basis for comparison and possible application.

The roles of direct and indirect estimation methods

1.4.10 **Direct methods** are mostly used, except that consumption of fixed capital is arrived at using the PIM method and operating surplus as a residual. **Indirect estimation methods** are also used partly for compensation of employees, when indicators of wage rates and employment are combined to form wages and salaries estimates.

The roles of benchmarks and extrapolations

1.4.11 Like in the production approach, the role of benchmarks and extrapolations in the current NNA compilation is **quite limited** in the income approach also. The sources referred to are all annual sources, and sources for the indicator approach of compensation of employees are available on quarterly basis (LFS data, wage statistics). As already mentioned, the notion of **benchmark and extrapolations** has an important role to play when undertaking a **main revision,** but restricted to this context and meaning**.**

The main approaches taken with respect to exhaustiveness

1.4.12 Two issues related to exhaustiveness should be mentioned at this point and with a reference to the income approach. One is confined to **wages and salaries in kind (or income in kind);** the other is known as the confrontation between **theoretical and actual VAT** receipts. **Wages and salaries in kind** have been significantly extended in coverage when ESA95 was implemented in the 1995 revision. It includes inter alia services of company cars, reduced rates of interest, food and accommodation on business trips and free travel for air and rail employees. Main source is the Register of Wages and Salaries (RWS), a source of information under the responsibility of tax authorities.

1.4.13 Until the 2002 main revision, there was no explicit allowance for **tips** in the national accounts, thought to be not widespread in Norway. Studies in the restaurants industry led to the conclusion that tipping could not be very extensive. In the 2002 revision, some more investigation confirmed that no significant underestimation exists. In hotels and restaurants and in taxi transportation, however, output has been increased by 3 per cent to take tips into account.

1.4.14 The comparison of theoretical and actual VAT receipts gives a strong indication of exhaustiveness. A check between theoretical VAT calculated in the national accounts and actual VAT recorded in the government accounts can be referred to. Main results of this kind of check are a difference of 3.9 per cent on average for the period 2000 - 2009 when using time lag adjusted government accounts figures. The small and positive differences show that more activity is covered than is evidenced by the taxation authority. Statistics Norway believes that the size of these differences is reasonably well in their context as checks to ensure exhaustiveness.

1.5	Outline of the expenditure approach

Classifications

1.5.1 The **main classification schemes** used in the NNA for the estimation of GDP according to the **expenditure approach** are the purpose-like classifications of COFOG and COICOP used for final consumption expenditure of general government and households, respectively. Furthermore, they include the classifications of fixed assets and activities used for GFCF, and breakdowns on categories of inventories, and on exports and imports. In the 2002 main revision, the new international **COFOG** was implemented in the Norwegian national accounts, as well as in the government accounts. **COICOP** for household consumption expenditure is relatively detailed, and structured at three different levels of aggregation. The new international COICOP was implemented in the national accounts in the 2002 main revision. The classification **by type of fixed assets** is also relatively detailed. GFCF is also broken down by kind of activities, in fact to have full accordance with the activity classification in production. On the other hand, there are few **categories of**

inventories specified; for changes in inventories the main breakdown in NNA is by products. Also for **exports of goods and services** and **import of goods and services** the main breakdown is by products. At an aggregated product level, exports and imports are also broken down by **partner country**.

Main sources of data

1.5.2   In general and typically, a **mixture of administrative records and statistical surveys** is used as sources for the NNA. The relative importance of the two kinds of sources is seen from the description by main categories. Three classes of sources are utilised in the estimation of **household final consumption expenditure**; these are household consumer surveys (or household budget surveys HBS), retail trade statistics and the third group consisting of output figures, selected indicators and the commodity flow method. The method is an interplay between these three source elements. It must be admitted however, that a decline in the response rate to, and thus the quality of, the HBS in recent years, has made it more difficult over time to keep a uniform design of the method used in estimating households' final consumption expenditures. For 2009 the HBS was not directly used, but was an indirect source when extrapolation methods were used. While estimations of **NPISH final consumption expenditure** are indirectly based to large extent, most often government accounting data have been utilised. Central government accounts and local government accounts are the sources used for the calculation of central and local **government final consumption expenditure.** Fees from households and/or other sectors are deducted from output in this calculation, and expenditures on consumption of goods and services purchased from market producers and supplied directly to households are added. For **gross fixed capital formation,** the estimation is first directed at the use of industry-related sources, such as the SBS-based statistics, and the expenditure approach, while the commodity flow approach takes a substantive role in the next phases. The main approach to estimating **changes in inventories** is through balancing of supply and use for each NNA-product by using the commodity flow method. **Exports of goods** and **imports of goods** are based on external trade statistics, containing detailed specifications and distributed on detailed NNA products. **Exports of services** and **imports of services** are estimated with basis in the new direct source of data collection for residents engaged in economic transactions with non-residents (so-called UT project).

1.5.3   **Main sources used** for the various categories of final use of the expenditure approach have been summarised in the box below.

Categories of final use	Main sources used
Household final consumption expenditure	
COICOP 01	Annual household budget surveys (2009 indirectly onsly), Annual retail trade statistics, Consumer Price Index material, and Quantity information on beverages
COICOP 02	Annual retail trade statistics, Consumer Price Index material, and Quantity information on beverages and tobacco
COICOP 03	Annual household budget surveys (2009 indirectly only), Annual retail

	trade statistics, and Annual surveys of repair activities (SBS-based)
COICOP 04	Housing statistics of various kinds, including surveys of actual rents, Annual electricity statistics, and Annual energy statistics
COICOP 05	Annual household budget surveys (2009 indirectly only), Annual retail trade statistics, and Annual surveys of repair activities (SBS-based)
COICOP 06	Annual household budget surveys (2009 indirectly only), Annual retail trade statistics, Central government accounts (including National Insurance), Local government accounts, and Income sample surveys for private practitioners, dentists etc.
COICOP 07	Annual household budget surveys (2009 indirectly only), Annual retail trade statistics, Statistics on new registrations of motor vehicles, Energy statistics, Consumer Price Index material
COICOP 08	Annual household budget surveys, Annual retail trade statistics
COICOP 09	Annual household budget surveys, Annual retail trade statistics, and Sources used for output of various NACE (partly SBS-based)
COICOP 10	Output statistics of NACE 85
COICOP 11	Annual household budget surveys (2009 indirectly only), Output statistics, i.e. structural business statistics, and Accommodation statistics of guest-nights
COICOP 12	Annual household budget surveys (2009 indirectly only), Annual retail trade statistics, Local government accounts, and Social statistics and health statistics
NPISH final consumption expenditure	Central government accounts and local government accounts are used as for output, while supplemented by household budget surveys in particular for deducting fees from households
Government final consumption expenditure	Central government accounts and local government accounts are used as for output, also for fees
Gross fixed capital formation	
NACE A	Aggregate account of agriculture, Forestry statistics and aggregate account of forestry and Annual manufacturing statistics (SBS) and Annual census data of fish farming
NACE B	Oil and gas activity statistics (quarterly) and Annual manufacturing statistics (SBS)
NACE C	Annual manufacturing statistics (SBS)
NACE D	Annual electricity statistics
NACE E	Structural Business Statistics SBS) and Local government accounts
NACE F	Annual construction statistics (SBS)
NACE G	Annual wholesale and retail trade statistics (SBS), Buildings statistics and Register of vehicles
NACE H	Annual accounting statistics (SBS), Annual and Quarterly accounting data of SAS, Oil and gas statistics
NACE I	Annual accounting statistics (SBS)
NACE J	Annual accounting statistics (SBS)
NACE K	Credit market statistics, accounting data for banks, insurance companies and other financial institutions

NACE L	Annual accounting statistics (SBS), Annual construction statistics, Building statistics, Index of building costs and price index of new dwellings, and Central and local government accounts
NACE M	Structural Business Statistics (SBS)
NACE N	Structural Business Statistics (SBS)
NACE O	Central government accounts and Local government accounts
NACE P	Central government accounts and Local government accounts
NACE Q	Central government accounts and Local government accounts
NACE R	Structural Business Statistics, Central government accounts and Local government accounts
NACE S	Structural Business Statistics (SBS)
NACE T	(not estimated)
Changes in inventories	(no reliable source, scattered information)
Exports of goods	External trade statistics
Exports of services	S sample survey (cf. UT project) from 2005, Maritime transport statistics, Oil and gas activity statistics and Tourist/travel statistics
Imports of goods	External trade statistics
Imports of services	Sample survey (cf. UT project) from 2005, Maritime transport statistics, Oil and gas activity statistics and Tourist/travel statistics

Reasons for main choices between data sources

1.5.4   Statistics Norway has had a long tradition and experience utilising **relevant and detailed production data, which are based on the local KAU** (the establishment) as the statistical unit for compiling GDP. The industry-based sources used for the production approach - such as SBS-based statistics - provide useful data for **gross fixed capital formation** as well, while these data sources so far have been **less suitable for changes in inventories,** and **exports and imports of services.** In the latter cases, **direct reporting of foreign transactions from resident enterprises** are used instead, while still useful in industries that are almost entirely export-oriented, i.e. oil and gas activity statistics and maritime transport statistics for ocean transport. For changes in inventories, several attempts have been made to explore direct data sources, and will be continued. Basic choice until now has been to rely on detailed product balances rather than direct industry- or sector-based data that have been considered relatively uncertain in terms of quality.

1.5.5   **Household consumption expenditure** estimation is based on several main sources as described above. Before 1995 revision, basically retail trade statistics were chosen for the current estimations of consumption goods, while household budget surveys were limited in use to benchmark estimation in main revisions and to some extent for consumption services. Later, it was possible to utilise annual household budget surveys also systematically in the current estimations, both for consumption goods and services. For 2009 HBS has not been use due to low quality. At the same time, HBS data have retained an important role in the main revisions as well. While still relying much on the annual changes resulting from retail trade statistics, the results from household budget surveys are assessed and found useful to variable degree throughout the COICOP groups. In Norway, the tabular approach designed by Eurostat

for the estimation of household consumption expenditure has not been followed, although there are some kind of similarities in the way estimations are organised.

1.5.6   **NPISH consumption expenditure** has been explicitly estimated in the Norwegian national accounts for a relatively short time only (since 1995 main revision). The estimates are uncertain as indirect methods are applied. Efforts are now made to replace the indirect use of information from the government accounts by more direct sources. It is too early to say whether this effort will be successful. The avenues to be exploited are accounting data and developments in relation to the Business Register.

1.5.7   From beginning of 2005, the **foreign exchange statistics (ITRS) ceased** and thereby a main challenge had to be faced by Statistics Norway and Norges Bank in introducing new reliable statistics in the services sphere (cf. UT project). The new data collection system is used as basis for BOP statistics from 1st quarter 2005. The new elements are: (i) monthly foreign trade statistics (as before); (ii) a quarterly/annual reporting from enterprises covering services, income and financial stocks and flows. The reports are based on business accounting data and the reporting is fully electronic; (iii) quarterly travel surveys debit – including one for day-tourism (border trade) – and one covering travels for more than one day. Credit, monthly statistics for guest-nights, hotels, camping, cottages - combined with periodic consumption surveys among foreign visitors; (iv) various administrative sources for various BOP items.

Independence from other approaches

1.5.8   It has been described elsewhere in the Inventory that the NNA compilation is made in the framework of **annual supply and use tables** applying all three approaches to GDP and with relatively **detailed commodity flows**.

Valuation

1.5.9   Valuation is **particularly relevant for transactions in goods and services**, but also to the general aspect of **time of recording**. In general, the accruals basis principle of recording is applied in the NNA.

1.5.10 The use categories - both intermediate consumption and final uses **-** are valued at **purchasers' prices,** including **exports at fob. Imports** are valued at **cif.** According to the ESA95 principles, a global cif/fob correction is to be made to arrive at imports in fob prices. This is in a way complemented in NNA, and in the balance of payments such an alternative estimation of imports fob has been made for reporting to Eurostat, OECD and the IMF. In NNA, **household consumption expenditure** is recorded in **purchasers' prices. Gross fixed capital formation** is also valued at **purchasers' prices**, including installation charges and other costs. Products used for **intermediate consumption** are also valued at **purchasers' prices**.

Transition from private accounting data to national accounting concepts

1.5.11 This is generally an issue faced with the use of **annual accounting statistics (SBS)** and **inventory data** for the compilation of changes in inventories, but not using the latter in Norway as yet. This may change in the future, however, as ways for improvements are being explored on the research agenda.

The roles of direct and indirect estimation methods

1.5.12 **Direct methods** are used, except that changes in inventories basically are arrived at as a residual at product level, and subsequently, by adding up, at global level. **Indirect estimation methods** are used partly for intermediate consumption when annual sources are lacking (quite limited after SBS data have been introduced).

The roles of benchmarks and extrapolations

1.5.13 The role of benchmarks and extrapolations is of **some importance** in the NNA compilation within the scope of the expenditure approach, in particular in estimating household's final consumption expenditures. It means that new levels obtained initially for the benchmark year are extrapolated to subsequent years in the sense that revised time series are being established, normally from the same quality of sources that was initially introduced for the benchmark year.

1.5.14 **Benchmark** has an important role to play when undertaking a **main revision.** It is usually both convenient and useful to establish revised levels for the NA estimates for a **benchmark year** in the first place. Given the annual sources available, the role of **extrapolations** - in this respect and in general - is restricted to the main revision process only, and not to sources. It means that new levels obtained initially for the benchmark year are extrapolated to other years in the sense that revised time series are being established, normally from the same quality of sources that have been introduced for the benchmark year.

The main approaches taken with respect to exhaustiveness

1.5.15 Adjustments to the expenditure approach have been made to ensure exhaustiveness, e.g. **Household consumption expenditure** explicitly as part of the **NNA main revisions.** As the Norwegian approach to estimating household consumption expenditures for years between the main revisions is more based on extrapolation and the commodity flow method in place of the tabular approach, the adjustments can be explicitly articulated for the bench mark year only. **Illegal services** have been estimated and **included**, meaning for instance that there are estimates made for household consumption expenditure for items such as narcotics, prostitution and smuggling included through the 2011 main revision.

1.6 The balancing or integration procedure, and main approaches to validation

1.6.1   National accounts work in Norway has since beginning been based on **the commodity flow method**. It has served as a basis for a **complete integration between national accounts and input-output tables**. Supply and use tables have been in use for more than 50 years in the Norwegian National Accounts. Information in **four main dimensions** - by products, by industries, by categories of final use and by different valuation - is taken on board in designing the system. The system has a **supply side** and a **use side**, the two sides been balanced in basic prices (originally in producers' prices) and forming a basis for the national accounts and input-output tables. In NNA, the balanced commodity flow system contains a **supply table** and **use tables for the various segments of purchasers' prices**, i.e. basic prices, non-deductible VAT, other taxes on products, subsidies on products and trade margins and other margins. By adding the segments, the use table in purchasers' prices is arrived at.

1.6.2   The commodity flow system could be seen as a **main system** and a **number of sub-systems** attached to the main system. These commodity flows (supply and uses for the products and split into various value components) amount to **200 000 elements**, of which 70-80 000 are non-zero elements and consequently have to be estimated. The work is **highly computerised** in order to cope with data at this level of detail.

1.6.3   The basic philosophy behind the **design of such a detailed system** is to create a framework that could utilise all kinds of specific information - by products, by industries, by categories of final use and by different valuation. And the system should be robust to changes in definitions and classifications and allow users of data a maximum of flexibility. To provide a good basis for deflation is another important concern, with positive impact on the quality of the constant-price estimates.

1.6.4   As regards **product-related information**, the important consideration behind the choice to handle relatively detailed specifications is the wealth of product data available from external trade statistics and manufacturing statistics in particular. Around 925 NNA-products are nonetheless far below the product numbers in those two main sources. As regards **industry-related information**, the NNA level of detail is reasonably well matched with the availability of production statistics and similar industry-related sources. As regards **categories of final uses**, the NNA level of detail has a reasonably good matching between detailed products (services) and detailed breakdown of government final consumption expenditure with basis in government accounts linked to common database with the national accounts. With annual household budget surveys available, the same considerations could be made around a detailed breakdown of household final consumption expenditure. Also for gross fixed capital formation, the number of categories have been fairly high. In this area - more than is the case for the consumption flows - the estimation benefits from the detailed product breakdown and the nature of the known product supplies, in addition to the information on the user industry. For changes in inventories - apart from a few special items - the Norwegian situation calls for no sub-categories at all, while utilising the detailed product breakdown to monitor and estimate change in inventories for each product. For exports and imports, the product-category cross-classification has a similar position as for changes in inventories, in the sense that product details are far more important than sub-categories in NNA. As regards

valuation-related information, the most important value components are contained in the difference between purchaser's price and basic price of each commodity flow. They are specified for proper treatment, i.e. the trade margins and other kinds of margin combined, non-deductible VAT, other taxes on products and subsidies on products.

1.6.5 **The supply side** of the NNA system is contained in a **matrix for domestic output (make matrix)**, the size of which is approximately 925 products by 131 industries (around 155 industries in practice when distinguishing the different type of producers). **Imports** are added at the level of the 925 NNA-products as well. Customs duties are considered taxes on products. **Supply in basic prices** thus consists of output in basic prices and imports in c.i.f. prices. **Imports c.i.f. of goods** are fed directly into the national accounts system from the files containing external trade statistics. **Imports of services** are coordinated with the integrated balance of payments statistics. **Output** is calculated in several parts and ways. For **manufacturing** and mining and quarrying, a master file has been established and updated annually to transform the data from manufacturing statistics to NNA-products. For **non-manufacturing industries**, a great number of different sources and methods of estimation are used. For some industries, such as government services, only few adjustments are required, while there is a varying degree of closeness to source data in other industries, and in some industries a great number of adjustments are needed. The process has been more uniform in later years with the use of SBS-based statistics in most industries.

1.6.6 **Total use of each of the NNA-products** - also in basic prices - is to be **confronted with the supply** in the balancing process. This involves **several steps**. First, each category of use in purchasers' prices must be estimated. The product composition of each category of use is determined as well at this step. Second - in one operation including the product breakdown - the corresponding values in basic prices is calculated. Third, a first phase of the balancing of each product is carried out including the estimation of changes in inventories of each product. Total **exports** and the breakdown on products are known from external trade statistics and balance of payments statistics. Total **intermediate consumption** in each industry is based on much the same sources as for output, but in general the estimation problem is more complicated. For manufacturing industries, intermediate consumption data have been readily available along with the data on output. In recent years, however, the situation has deteriorated although manufacturing input data regularly are presented on tape for use in the NNA estimation. For industries outside manufacturing industries, the data situation earlier varied quite a lot from - at best - sound accounting information to - at worst - estimating total intermediate consumption as a rather unfounded fixed percentage of output. With the SBS-based data, the situation improved quite substantially. In general, most often input data for the non-manufacturing industries are fed into the system by means of growth rates in current prices and subsequently being multiplied by the latest figures of the preceding year. The initial estimates for each of the items of **household consumption expenditure** are either made directly in current values or - more often and eventually for all COICOP groups - as estimates of growth rates at current prices to be multiplied by the latest figures of the preceding year. The growth rates are the results of several transformation processes that translate the classifications of the retail trade turnover index and SBS-based annual statistics for retail trade into the COICOP being used in NNA. In this way, and also taking into account annual changes of the household budget survey data (using the COICOP classification), several different growth rates can be obtained for each particular consumption group. Furthermore, the price index for each group is taken into consideration. It is a matter for experienced national accountants to choose the most likely growth rate for each group. Data

needed for the estimation of **central and local government consumption expenditure** are received from the specialised division on government finance statistics. Included is also a detailed breakdown of government sales (fees from households and other sectors). The breakdown of government consumption is applied in the commodity flow system of NNA as well. For **gross fixed capital formation**, transactions in connection with buildings and structures, and breeding stocks, are determined from the estimates of output for the construction industry and agriculture, respectively. The initial estimates for the groups of machinery and equipment, including transport equipment, have traditionally had a weaker quality, as basic statistics from the use side in many cases have been scarce or rather uncertain. In the balancing process, the commodity flow system for investment goods has therefore been allowed to overrule the initial estimates more than in any other category of final demand. Nonetheless, the basic statistics are mostly industry-based. **Changes in inventories** are a weak point in the compilation of national accounts in Norway, since reliable data have not been available for the particular product-oriented compilation context used. The commodity flow method has therefore a direct application for this item.

1.6.7　The **initial use table** is a use table **in purchasers' prices**. First, **set of balances for the value components** lying between purchaser's price and basic price, i.e. non-deductible VAT, other taxes on products, subsidies on products, and trade and other types of margin, respectively, is calculated. These are components that are determined initially on the use side following the commodity flow approach and the explicit use of catalogues specifying which flows are involved. Once having determined their use, the corresponding notional item on the supply side is arrived at. Determining the flows of margins are somewhat more complicated, as use side information by products is reconciled with supply side information by industries. While the balancing leaves the initial use side estimates unaffected for the other value components, this is normally not the case for the margins. Trade margins in particular - as well as other margins to some extent - are sometimes corrected on the use side by products when the totals of wholesale and retail trade margins calculated for all uses are compared to the total supply of each of these kinds of trade margins. If there are big differences, the matter is looked into. This may result in adjustments of trade margins for certain categories of final demand, and thereby affecting other flows, most typically the initial estimate of changes in inventories. The balancing of the margins thus constitutes a particular and complicated process.

1.6.8　Having determined the balances for the value components between purchaser's price and basic price, a **basis for the confrontation between supply in basic prices and uses in basic prices** (in producers' prices even first) has been obtained. It should be emphasised that the balancing process is **not just a computerized operation**. It is a manual operation or balancing process, in which even going back to the most detailed primary statistics is necessary from time to time. The art of national accounting takes over from the techniques of national accounting, in a work that usually is shared between a few people. It should be stressed, however, that the manual balancing process indeed is computerised in the sense that each person engaged in the balancing works on-line from a PC.

1.6.9   The **balanced commodity flow system** described above might be seen as consisting of:

-   Supply matrix in basic prices
-   User matrices, separately in
Basic prices
Non-deductible VAT
Other taxes on products
Subsidies on products
Trade margins and other margins

1.6.10   When these user matrices are added, the **use matrix at purchasers' prices** is arrived at. The Norwegian national accounts have **articulated flows of the various value components** embodied in their supply and use tables. In NNA, the most important value components between purchaser's price and basic price of each product flow are specified, technically by 2-digit codes connected to each pair of transaction by product identification:

10	Basic price
11	Taxes on product
12	Subsidies on product
14	Wholesale and retail trade margins
15	Net taxes on trade margins
17	Non-deductible VAT

1.6.11   **Value component items for aggregates** can also be derived:

13	Producer's price	(defined as: 10 + 11 - 12)
16	Trade margins in producer's price	(defined as: 14 + 15)
19	Purchaser's price	(defined as: 13 + 16 + 17)

It is worthwhile to note that this first value component aggregate - item 13 for producers' prices - is taken as a first departure in the balancing process, before subsequently the balancing in basic prices takes place.

1.6.12   The actual supply and use tables in Norway - compiled on annual basis - are **not published in all details, but are obtainable for users** of the national accounts. The level of details is indicated in the classification chapter, in particular concerning products, industries and categories of uses.

1.6.13   From the supply and use tables, **symmetric input-output tables** are constructed **on an annual basis**.

1.6.14   **Other approaches** are also used to validate the estimates of GDP and GNI. It should be emphasised that **integration** has been a strong motivation to broaden and harmonize the estimates of the "satellites" of **labour accounts** and **balance of payments** with those of the central national accounts. The finalization and publishing of labour accounts, balance of

payments and national accounts is made by the same unit (the NA unit) in Statistics Norway, and by use of the same data and coding structures (systems).

1.7   Overview of the allowances for exhaustiveness

1.7.1   The approach taken by Eurostat for checking exhaustiveness of GNP estimates has been set out in **four titles of the Commission Decision on exhaustiveness**:

Title III	Description of the **existing calculations and adjustments** made to ensure the exhaustiveness of Member States' GNP estimates
Title IV	Validation of the estimates of **employment** underlying the present GNP estimates
Title V	Description of the regulations and statistical adjustments pertaining to **income in kind** and tips or gratuities
Title VI	Investigation into the feasibility of the use of information from **fiscal audits** for improving the exhaustiveness of the GNP estimates

1.7.2   The follow-up to the Commission Decision on exhaustiveness was targeted on four specific topics: **construction, distribution, use of household budget surveys,** and **use of Intrastat data.** This work addressed best methodologies to be used for construction, distribution, on the use of household budget surveys and on estimating imports and exports under the Intrastat system.

1.7.3   In Norway, a main effort to improve exhaustiveness in the context of national accounts was made during the **main revision in 1995** when the ESA95 was implemented. Titles III, IV and V were addressed, as well as the special topics of construction, distribution and use of household budget surveys. As part of the **2011 main revisio**n the exhaustiveness adjustments were reassessed for the taxi industry, hotels- and restaurants and beauty treatment and hairdressers. The results were that the adjustments were kept unchanged (relatively) for hotels and restaurants and hairdressers, while the adjustment for taxies was changed. Here a new adjustment for underreporting (tax fraud) from the registered companies was added to the former adjustments for tips and pirate taxies. In addition adjustments due to exhaustiveness were introduced for the construction industry. This new adjustment was based on analyses of information from various sources related to the industry including data on employment and occupational groups or categories. Title VI has not been explored during the main revision, as conditions for fruitful results were considered less promising at that time. It must be mentioned however that a special project recently was launched, aiming at estimating the "tax gap", should bring forward new information to be taken into account when assessing the exhaustiveness. The last special topic - use of Intrastat data - was not applicable to Norway as a non-EU member.

Production approach

1.7.4 **Title III** refers to a number of explicit and implicit adjustments made to the source data on the production approach to improve exhaustiveness. In summing up on these adjustments, it is observed that in 2009 **total adjustments made to ensure exhaustiveness from the production approach** added to NOK 16.7 billion, or **0.7 per cent of GDP** and GNI. Adjustments for 2009 were highest in NACE F Construction.

1.7.5 As mentioned in chapter 1.7.3 however new assessments of adjustments for exhaustiveness have been done as part of the 2011 main revision and the results will revise the total adjustments somewhat upwards compared to the current 2005 figures referred to above.

Expenditure approach

1.7.6 As regards the **expenditure approach** and methods used to ensure exhaustiveness, the allocation of adjustments identified relates to household final consumption expenditure, gross fixed capital formation (and intermediate consumption) in particular, and to a lesser degree final consumption expenditure of NPISHs and exports. Indirectly, imports and changes in inventories are affected as well.

1.7.7 Adjustments to the expenditure approach have been made to ensure exhaustiveness, e.g. **Household consumption expenditure** explicitly as part of the **NNA main revisions.** As the Norwegian approach to estimating household consumption expenditures for years between the main revisions is more based on extrapolation and the commodity flow method in place of the tabular approach, the adjustments can be explicitly articulated for the bench mark year only. **Illegal services** have been estimated and **included**, meaning for instance that there are estimates made for household consumption expenditure for items such as narcotics, prostitution and smuggling.

1.7.8 Adjustments made when **searching for best choice of sources and methods** involve the review of the sources that are available, and steps are taken accordingly to improve the estimation. For instance, household budget survey data are not utilised when evident loss of coverage is existent, such as for alcoholic beverages, tobacco and for some other consumption goods. Exhaustiveness has also been influenced from the revised estimates of trade margins and use of wholesale and retail trade statistics. Thus, improvement in exhaustiveness has been achieved through the revised estimates of both household consumption and output of wholesale and retail trade.

1.7.9 **Final consumption of the NPISHs** is affected from three items initiated from NACE N and NACE O which might be looked upon as adjustments of exhaustiveness: services of catastrophic and aid institutions estimated from the use side; part of ambulance services; and communal work for/and sporting services.

1.7.10 Final consumption expenditure of NPISHs has had a **weak source basis** and is still mainly estimated from indirect use of government accounts, such as distributive flows of

grants etc., due account taken to fees from households and others. In the effort of broadening the accounts of the NPISH sector, the possibilities have been explored for estimating final consumption expenditure of NPISHs in a more direct way in years to come, based on the Johns Hopkins project involvement in the late 1990s and also through the development of SBS for relevant industries. Also new information from a recent study on voluntary work to be utilized for the newly established satellite account will in the future be of importance. In this process, adjustments of improving exhaustiveness play a key role.

1.7.11 **Government final consumption expenditure** has not been affected by considerations of improved exhaustiveness, since government accounts are used as sources without taking into account adjustments of this kind.

1.7.12 **Gross fixed capital formation** has been affected by the adjustments made on including own-account construction of dwellings (new and existing dwellings).

1.7.13 Gross fixed capital formation most often has an **industry-related source basis**, which means there are some resemblance with the estimation process of the different industries with respect to other items such as output and intermediate consumption. In the next phase, the **commodity flow approach** takes a substantive role. All together, therefore, adjustments of improving exhaustiveness play a key role here as well. In particular, the service industries have lacked adequate sources for the estimation of gross fixed capital formation and thus necessitate adjustments for exhaustiveness. Situation has recently been improved as SBS-based investment data were introduced in the 2002 revision, but still have to be further refined in being used. Also to be mentioned is that as part of the 2011 main revision, especially estimations were made aimed at new items of GFCF like originals.

1.7.14 **Changes in inventories** have no reliable source as a basis for estimation, which means that adjustments are made to the estimates in the balancing process and thereby serve to ensure better exhaustiveness, especially by applying a detailed balancing process. Here there is work for future main revisions.

1.7.15 **Exports** has been affected through foreign ownership adjustment to oil and gas fields in the North Sea, which has raised output, value added and exports.

1.7.16 Exports and imports are estimated from the external trade statistics, foreign exchange statistics (ITRS) (until 2004), and in combination with maritime transport statistics, oil and gas activity statistics and some other sources. The **close integration between national accounts and balance of payments** is important and serve to ensure exhaustiveness. In particular, this is important in the area of **ocean transport** where the two competing sources – sample survey of trade in services and maritime transport statistics - have resulted in adjustments. Also for the travel item, adjustments are made, survey data with tourist statistics.

Income approach

1.7.17 Treatment of **income in kind** is listed by Eurostat as a main issue in the context of income approach and exhaustiveness.

1.7.18 A **Norwegian tax reform** was set into effect 1 January 1992. The basic theme was to reduce tax-induced distortions to a minimum by lowering the statutory tax rates and to broaden the tax bases, i.e. in a direction of more accurate measurement of income. The reform implied changes for wage earners, self-employed and corporations, and it was far-reaching because it entailed changes for most taxpayers.

1.7.19 Article 13 of the Community Decision on exhaustiveness lists a number of items of income in kind and asks about the **tax rules in force**. The treatment in Norwegian taxation for these cases is summarised later in the Inventory.

1.7.20 **Wider coverage on wages and salaries in kind** was achieved with the extensive introduction of **Structural Business Statistics (SBS)** since the latter part of 1990s and introduced mostly in the 2002 main revision, while utilising data from the new Register of Wages and Salaries (RWS) to achieve a breakdown into components mainly. In the **2009** wages and salaries in kind was estimated at NOK 33.6 billion, which is 1.4 per cent of GDP

1.7.21 **The source of RWS** was originally developed for administrative purposes by the Norwegian Directorate of Taxation. It comprises all types of payments from employers to employees that are recorded by the tax authorities. The RWS figures are available from 1991 onwards, and played initially a more important role in estimating compensation of employees, while now mostly used for disaggregation into components.

1.7.22 It is not possible to separate some types of payments in kind from payments in cash (daily allowances in travel, deductible expenses on use of company cars, etc.). The **borderline problem** for wages and salaries in kind is basically against recording as **intermediate consumption**. In order to determine which of the two transaction flows to follow in each case, the principles of SNA/ESA have been used as criteria. But until more specific information is obtained as to the composition of each of these items, the convention adopted in the Norwegian national accounts is to **allocate 25 per cent to wages and salaries in kind** and 7**5 per cent to intermediate consumption**. This method is used for all deductible items related to food and accommodation, use of cars and other deductible expenditures.

1.7.23 In effect, the national accounts estimation of **wages and salaries in kind** is organised as an integrated part of the Labor accounts. Wages and salaries in total by industry are for all practical purposes fixed by the industry sources, e.g. SBS and government accounts. Wage statistics based on information from the RWS is then utilized for the estimation of the breakdown of wages and salaries into its components including income in kind.

1.7.24 A second issue relating to the income approach is **treatment of tips**. Two areas often mentioned are **restaurants and taxis**. An estimate on tips in restaurants is based on the tax authorities' estimate of 3 per cent addition to registered wages for waiters and waitresses who do not report tips. **For taxi operation**, based on of survey results from mid-1990s. That would mean a similar small amount as for tips in restaurants.

1.7.25 Although some experts tend to take the view that tips are low and even decreasing in importance in recent years, we should watch out for cyclical fluctuations, i.e. people tend to tip more in good times. A reassessment of these adjustments was however carried out as part of the 2011 main revision.

Checks to ensure exhaustiveness

1.7.26 **Balancing** at both current prices and constant prices **at a detailed level** has been an important check to ensure exhaustiveness. The balancing process at current prices is described rather detailed in the Inventory, as are also the approaches used to calculate GDP.

1.7.27 **Balancing at constant prices** - a topic not described in the Inventory - uses the same framework of integrated supply and use tables, by deflating current values by price indices at detailed product level. The **deflation approach** has in fact **two dimensions**. First, it is differentiated by main categories of supply and use (deflating output, imports, exports and implicitly domestic use). Second, differentiation is made through valuation (deflating current values at basic prices by price indices and implicitly determining the other value components, including adjustments against values at purchasers' prices). Constant-price estimates for aggregates of supply, uses and value added follow through adding up and balancing constant-price estimates of products. They include aggregates such as output by industry, categories of exports and imports, categories of other final uses, intermediate consumption by industry, value added by industry and GDP. This entails that the principle of double deflation is used through a detailed input-output framework (supply and use tables). The condition of great details is linked to the condition that the individual products are as price homogeneous as possible, with a possibility for adapting to basic statistics available for values as well as prices.

1.7.28 It should also be added that Statistics Norway adopted the principle of **annual chaining** already around 1990, and the chaining is carried out separately for all items (with few exceptions). Thus, constant-prise estimates are calculated at prices of the previous year and changing base year every year.

1.7.29 In describing **value added tax (VAT),** a most interesting check between theoretical VAT calculated in the national accounts and actual VAT recorded in the government accounts is referred to. Main results of this kind of check are a difference of 3.9 per cent on average for the period 2000-2009 when using time lag adjusted government accounts figures. The small and positive differences show that more activity is covered than is evidenced by the taxation authority. Statistics Norway believes that the size of these differences is reasonably well in their context as checks to ensure exhaustiveness. Studies and comparisons made in both the 1995, 2002 and 2006 revisions have confirmed the picture given above.

Employment

1.7.30 Another important check on the level of GDP is that provided by the comparisons of the national accounts estimates of **employment and compensation of employees** with the same estimates in the **labour accounts (LA)**. This is to a certain extent dealt with in the Inventory on compensation of employees by kind of activities when reviewing former and revised figures on wages and salaries per full-time equivalent employee. Norway is in a favourable position by having labour accounts compilation integrated with the national accounts.

1.7.31 **Consistency considerations** play an important role in estimating employment in the Norwegian national accounts. Since the framework generally applied to the compilation of national accounts is the annual supply and use tables, detailed employment data by branch (industries) are considered adjacent information of the same format as that of compensation of employees. Furthermore, employment data for employees should be fully consistent with the data on compensation of employees for internal consistency reasons. In Norway, therefore, the estimation of employment has been **closely linked to the estimation of compensation of employees and to production** (output and value added). These are all estimations carried out in the NA unit, and are thus reviewed and discussed with a view to a best possible consistency.

1.7.32 **Labour Accounts were established in Norway** in the last part of the 1980s. Three basic employment measures were introduced: employed persons, full-time equivalent persons and total hours worked. The three types of employment concepts are linked by a set of relationships to a consistent system and are specified according to industry, status (employees or self-employed) and sex. The 2006 main revision added another variable, jobs, to the list. Part-time workers, conscripts and persons temporarily absent from work are included in the employment concepts, in line with definitions in LFS and ESA95.

1.7.33 Viewed against a **general Labour Accounts structure**, the Norwegian approach up to recently focused on employed persons, and excluded the concepts jobs and filled posts. There was no explicit treatment of persons with more than one job, due to shortcomings in the primary statistics. There was, however, work in progress on estimating number of jobs in the Norwegian Labour Accounts, estimates released in December 2006. Unemployed persons and persons outside the labour force have not been covered in the estimations. However, LFS data provide consistent estimates for these concepts, and which have been linked and utilised in labour market analyses. Vacancies constitute another area not utilised in the Norwegian Labour Accounts, although primary statistics on the number of vacancies are compiled by agencies outside Statistics Norway. Finally, it should be mentioned that the distinction between hours worked - an essential element in the Norwegian system - and hours paid for has not been clearly developed.

1.7.34 **Several sources and methods** are used in the estimation. Basically, there are direct methods or approaches using either **industry-based data** of the same kind as used for production etc. or data from the **Labour Force Surveys (LFS)**. Of general importance is the expansion of the LFS as from 2004 also to include data on non-resident employees on short-term stay (less than 6 months) previously not covered. Which source to use has been determined by the particular circumstances of each industry, considering the advantages and weaknesses in each case. Implicit methods are also possible, when taken into account wage sums and wage (rate) statistics when considered to have better quality than by using employment data directly. The picture of sources and methods throughout the various industries is quite composite and reflects that quality of the data varies considerably from industry to industry.

1.7.35 There has been a special feature in the Norwegian system that **LFS determines the total** number of employed persons in the national accounts. This restriction was introduced from the fact that LFS is more reliable the more aggregated are the measures, but also from an attempt to eliminate gaps for certain industries that have not been resolved from using direct information.

1.7.36 The **procedure used for the estimation of employment** categories and the utilisation of information from the LFS may be outlined as follows:

(i)	Basic statistics of different kinds are compiled by branch at detailed industry levels. Inconsistencies between the data sources are revealed either directly or indirectly through the use of the conceptual relationships and consequently adjusted.
(ii)	The first-step estimates are aggregated to totals and to a specified intermediate level of aggregation. The total number of persons employed according to the LFS is then compared with these aggregates.
(iii)	Discrepancies lead to feedback adjustments in the detailed estimates, but not implemented as an automatic procedure. Relevant adjustments are indicated by use of aggregated results at intermediate level, i.e. at 1-digit NACE level. The feedback adjustment is mostly directed to branches with weak statistical information on employment. The process of adjustment on details is repeated until the result is considered to be acceptable.

1.7.37 This **process of harmonisation** between LFS and other data sources is conducted **separately for employees and self-employed**. Some of the conceptual relationships are relevant for employees only, and the data availability at detailed industry level certainly is weaker for self-employed. The data for self-employed and unpaid family workers in the national accounts are however more directly based on the Labour Force Surveys.

1.8   The transmission from GDP to GNI

1.8.1   **Transmission from GDP to GNI** involves just a handful of items. GNI has historically been lower than GDP in Norway. Since 2002, however, GNI has become higher than GDP in Norway. In 2009 the difference is NOK 13.5 billion or 0.6 per cent.

	NOK billion in 2009	Percentages of GDP
GDP	2 356.6	100.0
Compensation of employees from abroad	4.0	0.2
Compensation of employees to abroad	26.1	1.1
Interest income from abroad	102.0	4.3
Interest expenditure to abroad	71.6	3.0
Dividends from abroad	74.2	3.1
Dividends to abroad	78.8	3.3
Reinvested earnings from abroad	-7.9	-0.3
Reinvested earnings to abroad	-17.8	-0.8
GNI	2 370.1	100.6

1.8.2   **Compensation of employees to abroad** and **compensation of employees from abroad** are two items of minor importance both compared to total compensation of employees and to other items involved in the transitions from GDP to GNI. Total compensation of employees **on a national basis** amounts to **98.0 per cent** of total compensation of employees on a domestic basis.

1.8.3   **Compensation of employees to abroad** is defined according to ESA95 and BPM5 (BOP expenditure item: compensation of employees). In Norway, previously this item mainly consisted of compensation to non-resident seamen and compensation to non-resident pilots (and other air transport personnel). **Compensation to non-resident seamen** was and still is one of the main sub-items. It is estimated from maritime transport statistics compiled by Statistics Norway, and tax authorities' data. In 2005 a Eurostat-co-financed project led to a re-estimation of the item compensation of employees to and from abroad, and the main finding of this exercise is that compensation of employees to abroad, in 2004 is raised 100 per cent, from NOK 6 to 12 billion (0.75 billion Euro to 1.5 billion Euro).

1.8.4   **Compensation of employees from abroad** (BOP income item: compensation of employees) relates to Norwegians working abroad. This item has for a long time been estimated as a group as a whole, based on information from the tax authorities and from the register of wages and salaries (RWS). It is recognised that this information is rather uncertain, and further improvements of the data were required. Thus the Eurostat financed project mentioned in 1.8.3 also included estimation of compensation of employees from abroad. One should note however, that compensation of employees from abroad was hardly revised at all, estimated at NOK 3.1 billion in 2004. Hence the ratio between compensation of employees debit and credit has been raised from 2:1 to 4:1.

1.8.5   **Taxes on production and imports** are not applicable in Norway. Or, it may be that a small part of taxes included under current transfers (income side as well as expenditure side) could refer to taxes on production and imports. In any circumstances, the amount would be quite negligible.

1.8.6   **Subsidies** are not applicable in this context. It may, however, be that a small part of subsidies included under current transfers refer to subsidies on production.

1.8.7   **Investment income** includes interest, dividends, remittance of branch profits and reinvested earnings. **Interest** is the largest item contributing to investment income and investment expenditure (see table above). The source used are direct reporting from non-financial enterprises (UT-reporting), financial enterprises and government. The BPM5 recommends that interest should be recorded on an accrual basis and the new sources are all based on business accounts and not payments data and therefore should be more in line with the recommended principle of recording.

1.8.8   The item **dividends** tend to fluctuate in Norway. This to large extent is related to dividends to abroad in connection with fluctuating prices in the oil extraction industry. Also for this item new direct sources based on business accounts are used as from 2005.

1.8.9   The treatment of the income of **Undertakings for Collective Investment (UCIs)** has been discussed during the 1990s, especially relating to ESA79 as to clarify that such income is to be recorded as property and entrepreneurial income, both when income is distributed and

when it is not. In the latter case, it should be treated as an income paid out by the UCI to its shareholders, which the latter reinvest immediately in the UCI. This treatment is also applied in ESA95 (cf. also reinvested earnings). Two observations should be made in the Norwegian case: **UCIs are not many and important** in Norway, and the treatment is likely followed; after all, a similar treatment has been introduced for reinvested earnings.

1.8.10 **Reinvested earnings** are the difference between the total operating surplus in direct investment enterprises (income for the investor) and distributed dividends. Reinvested earnings are estimated based on information collected as part of the surveys on **direct investment.** From 2005 direct investment data are based on the **new survey reporting system** of Statistics Norway for balance of payments purposes **(UT)**. For direct investment abroad from 2007 a separate survey by Statistics Norway is another important data source. In addition, information from annual accounts submitted to the Register of Company Accounts is used as a source to detect and collect data on Norwegian direct investment abroad. The statistics on foreign direct investment in Norway is based on the new BOP-reporting for non-financial enterprises (UT), which has 2004 as the first reference year, and annual accounts submitted to the Register of Company Accounts. Information from newspapers and the Internet is used as a supplement to detect and collect data on new investment abroad and in Norway.

1.9   The transition from GDP to GNP (ESA79 definition)

1.9.1   Statistics Norway **never applied ESA79** in compiling national accounts. Norwegian National Accounts before 1995 was based on SNA68 and not ESA79.

1.9.2   The transition from ESA95 to ESA79 is dealt with in the Commission Decision 97/178 on the definition of a methodology for this transition. A list of **23 changes of concept (later extended to 27)** was identified and agreed upon in that respect. Statistics Norway has no obligation to work out the link.

1.9.3   The project on allocation of FISIM has been finished, and results were published with the 2006 main revision (revised estimates in December 2006).

CHAPTER 2   THE REVISION POLICY AND THE TIMETABLE FOR REVISING AND FINALISING THE ESTIMATES

2.0   Supervisory and control systems

2.0.1   Producing and publishing the national accounts (NA) is a risky business, the national accounts data being the result of multiple *processes*, each involving varying degrees of *risk*. The important question then is how risk is met, how can it be controlled?

2.0.2   Various measures can be taken to meet risk in national accounting. In this chapter the following elements of a system for dealing with risk are described:

- monitoring statistical sources,
- control and validation of source data,
- management quality assurance and
- internal audit.

This is in line with the recommendations from Eurostat on the description of the *national accounts supervisory and control systems*.

2.0.3   Our focus is on risk related to the current running operations of national accounts systems, while risk related to development programmes are less emphasized. Before we elaborate in more detail on which risk factors we are faced with in compiling the Norwegian national accounts, an introduction is given to the institutional setting of Statistics Norway and the institution's general policy and efforts in the field of quality work.

2.0.4   The Statistics Act was approved by the Norwegian National Assembly (Stortinget) in 1989 and stipulates that Statistics Norway is the central body for preparation and dissemination of official statistics. Statistics Norway is subject to supervisory guidelines and financial frameworks set for its business at any time by the Government and Stortinget, but the Statistics Act stipulates that Statistics Norway is an *independent institution in its field* which includes a comprehensive research activity. This means that Statistics Norway is responsible for the total statistical product within the guidelines and budgets set by superior bodies. Statistics Norway determines the statistical methods which are to form the basis for preparation of given statistics and is responsible for how and when statistics are published.

2.0.5   Of high importance is also the privilege given to Statistics Norway to use administrative data-processing systems in the state administration and in nationwide municipal organisations as the basis for official statistics[1]. This fact and the policy of user orientation have led to the establishment of *advisory bodies* where the external members represent both user segments and data suppliers. Here

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[1] See Stortinget (1989), § 3-2

broad discussions take place on reporting, statistical methods and the dissemination of statistics. The final word lies however, in all subject matters, with Statistics Norway.

2.0.6   Within Statistics Norway there has been a clear development the last decade, inspired by the international trends, to improve the quality of the statistics by focusing more sharply on controlling the processes behind the production and dissemination of statistics, see Sæbø (2009). Several initiatives can be mentioned to illustrate this, among them training of statistical guides, introduction of FOSS (Enhancement and Standardisation of Statistical Production) and the introduction of risk analysis (see also chapter 7).

2.0.7   The strengthening of quality work is perhaps best manifested through the establishment of a separate *Department of Management Support* given the responsibility of developing and supporting the work on quality across all statistical fields. One system that has been adopted and put into use is the above mentioned FOSS. Activities within this system includes the coordination of samples, checklists for data collections (including registers), projects linked to micro data and metadata and quality indicators and development of systems for user management.

2.0.8   Dealing with risk implies thinking along two dimensions. First, the *probability* of some particular events to occur, for example a computer breaking down or a staff member being taken ill. Secondly, the *consequence* of a particular event taking place. For example when NA tables are not placed on the web site at the announced date, or incorrect NA data are published. A risk analysis on NA thus will have as its starting point a description of the *processes* involved in producing and publishing NA. Secondly, we must indentify *risk factors* connected with each sub activity, ranking them according to both probability of some incident to happen and the consequence of that incident happening.

2.0.9   The NA production and publishing process can be broken down into the following sub activities shown in figure 1:

The production of NA – short and long term processes/activities

Time horizon	Process/activity				
Short term	Production of source statistics	Transmission and translation of source data	Operation of NA compilation systems	Control and approval of NA data	Publishing and reporting
Long term	Development of source statistics	Designing the NA model and methodology	Constructing NA technical (IT) systems	Building analytical capacity	Constructing dissemination platform

2.0.10   The shaded areas represent processes and activities controlled by the Division for national accounts within Statistics Norway, while the non-shaded areas represent activities outside the direct control of the NA division. When risk factors are identified it is of utmost importance that the ownership to the corresponding process or activity is identified. Otherwise the responsibility for taking the correct measures to meet the risk can not be placed.

2.0.11   It must be noted however that the NA production or compilation process does not follow a strict chronologic order as indicated by figure 1. Many activities are interwoven and take place simultaneously. Also to some degree the compilation of NA is an iterative process, meaning that it may be necessary to repeat earlier steps. It is also important to keep in mind that each step includes various degrees of both methodology aspects and more technical aspects. For example will

Transmission and translation of source data depend on both pure technical solutions in the transmission of source data into the NA model, and decisions and choices of a more theoretical and methodological nature in translating source data into the NA definitions and concepts.

2.0.12   In addition to the identification of various steps or processes in the production of NA, risk analysis can be related to the various NA products, i.e. quarterly NA, annual NA, institutional sector accounts, BoP, satellite accounts. Most probably however many of the same risk factors will be identified across the different products. In the following examples of risk factors related to NA work are given. We start in the left hand side of table 1:

i. Production of source statistics
In a short term perspective of the current compilation of NA there is a risk that source data are not supplied from the statistics divisions within the agreed time frame. Whatever the reason, this will be outside the direct control of the Division of national accounts. The utmost consequence will be a delay, or even worse, a failure in the publishing and international reporting of NA.

ii. Transmission and translation of source data
In the current compilation of NA there is always the risk that source data are not received in a correct format or structure. The reason may be that changes to the source data in terms of structure or coding has been done and that Division of national accounts has not been informed about or not apprehended this change. The consequence may be for the best part a delay in the compilation process, or more seriously that source data are not correctly translated which subsequently affects the NA results.

2.0.13   As an example of a more long term risk factor we can point to the *design of the operational NA model* itself. The operational model can be said to be an approximation of the theoretical NA model as outlined in the SNA or ESA. There will always be a risk that some theoretical concepts, definitions or accounting rules have been *misunderstood* and thus be the source of miscalculation in the operational model, in turn resulting in NA figures not in accordance with the definitions of international recommendations. Even if the operational model is correctly formulated there exist a risk that *source data are misunderstood*, disturbing the translation into NA concepts and ultimately leading to incorrect NA figures.

iii. Operation of the NA compilation system
The current operation of the NA compilation system comprises many different activities. Some of them are

- correcting and adjusting initial input data,
- doing estimations with basis in source data for detailed industries or other parts of the economy,
- balancing the detailed supply and use tables,
- conducting consistency checks along various dimensions on institutional sector accounts and
- deriving aggregates and balancing items of the NA.

2.0.14   Given a correct defined NA operational model, the most important risk factor is the possibility of *incorrect estimations of NA input figures*. This is an apparent risk as long as the detailed estimations based on the input figures for the various parts of the economy, for example the estimation of the production account for each detailed industry, are carried out by different responsible persons using individual algorithms for each industry formulated locally on personal computers.

iv. Control and approval of NA data
It is the responsibility of the NA management to control and final approve the NA data before publication. How can it be assured that the *correct decisions are taken in the approval process?* There

are many examples of NA figures being changed in the last minute through a final management control. The challenge is to conduct such a control in a systematic and documented manner.

v. Publishing and reporting

What can go wrong in presenting final NA data on the web site of Statistics Norway according to the planned time schedule? The final steps in placing the NA data on the web site of Statistics Norway is the responsibility of the Division for Web and Publishing within the Department of Human Resources and Communication. They are responsible for the lay out and the actual placing of the press releases and tables on the web site. The text and data or tables are transferred from the Division of national accounts to the Division of Web and Publishing according to a fixed layout and a fixed time table. It has happened that a *wrong set of tables have been transferred to and placed on the web site*.

2.0.15   Before discussing measures taken by Statistics Norway in general and the Division of national account in particular to meet the risk factors given as examples above, an important final question to reflect upon is whether some risks are absolutely non-acceptable? Here several issues can be mentioned, all falling within a broader concept of the *reputation of Statistics Norway and ultimately the reputation of the statistics itself*: confidentiality, objectivity and independency, equality in serving customers etc. These are issues however, not confined only to the subject of NA, but are just as relevant for the statistical institution (Statistics Norway) as a whole, and on which the consensus probably is that Statistics Norway in these areas should act with absolute *risk aversion*. The following deals with various measures to be taken to meet the different risks in producing and publishing NA.

2.0.16   The risk of failure in supplying source data within agreed time schedule can be met with *services delivery agreements* between the statistical divisions and the Division for national accounts[2]. Without any sanctions to meet any failure of keeping such agreements, it will probably be of little practical implications[3]. Therefore, it has been argued that a more effective solution is to make an agreement between the statistical divisions, or rather Statistics Norway as a whole and the *rest of the society*. This is done through the *Advance release calendar* which states both date and hour of release of all statistics from Statistics Norway. The Division for national accounts relates to this calendar for the time of supply of input data when fixing its work plan for compiling the NA.

2.0.17   It is correct that exceeding the release dates stated in the Advance release calendar does not release any sanctions put on Statistics Norway from the rest of society. It will however harm the general reputation of the institution which in turn more likely will trigger off the right measures within the institution compared to the failure to fulfil an internal agreement between divisions.

2.0.18   To be able to understand the content of source data and to avoid misunderstanding regarding the structure and coding of source data files submitted to the Division of national accounts, *meetings* are held on a regular basis between the Division of national accounts and the statistics divisions. There will also be close contact on a more current ad hoc basis. One important fact in this regard is that nearly one hundred per cent of all input data to the NA are supplied from within Statistics Norway. This facilitates free and open flow of information between involved parties. In addition automatic controls have been set up to give warning on changes in the coding of many of the source data.

2.0.19   One of the more striking attributes of the national accounts is its ability to detect inconsistencies in the statistical source material. This is achieved for example by balancing supply and use of detailed products. When major inconsistencies are discovered, specific *quality projects* involving both the Division of national accounts and the relevant statistical departments are initiated, seeking information on the reason for inconsistencies and practical measures to improve the situation.

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[2] Services delivery agreements are currently set up between the departement for IT support and all statistics divsisons within Statistics Norway.dapertment

[3] In the early 1990s agreements were set up between the statistics divsions in Statistics Norway and all external government bodies supplying source data.

The last years has seen several such projects. One is within the fields of oil and gas, where one problem was balancing output with exports of petroleum products and another has been the allocation of supply of oil rigs and structures against exports and domestic capital formation. Another project has dealt with institutional sector allocation of specific units owned by government. Here one problem has been the danger of double counting due to inconsistencies between the business register and the source information used to compile government sector accounts. A third example deals with inconsistencies in the treatment of sub contracting within construction and the property development activities.

2.0.20   To meet the risk of carrying out miscalculations of NA figures a project has been launched to *standardise* the estimations across industries. This policy is facilitated by the standardisation of the input data that has taken place the last decade in terms of accounting based structural business statistics (SBS) for almost all industries. A part of this standardisation process involves transforming estimation procedures from individual designed Excel routines to joint SAS routines. *To reduce the risk of miscalculations of input data to NA standardisation of such estimations across industries or other NA areas is sought.*

2.0.21   The conclusive responsibility of the NA figures is of course with the director general of Statistics Norway, and indeed he is in practise involved in analysing and finalising the NA data. Statistics Norway has a large research department doing quarterly projections and forecasts of the Norwegian economy based on the latest available NA data. Every quarter before the publication of quarterly NA, and once a year before publication of revised annual data, a meeting is held with the director general and representatives from the research department to discuss, analyse and making proposals for adjustments to the NA data. It must be understated that the participation of the director general at these meetings is in his capacity as an experienced economist, model builder and forecaster and not in his capacity as director general as such. The feedback from the research department in this meeting and indeed also earlier in the process of making NA data, are of great importance to the final assessment and approval of the NA data by the management of the Division of NA.

2.0.22   The analysing and final approval of the NA data is done both in terms of consistency checks within the NA framework, using accounting identities in various directions, and *plausibility checks* based on the *management collective knowledge* of the Norwegian economy and its business cycles. Examples of subjects covered in plausibility checks are productivity in industries, the ratio between theoretical value added tax and paid value added tax and returns on foreign investments. Also, at an earlier stage in the compilation process meetings are held with the various statistical divisions to get their comments and feedback on the results of the quarterly NA data. Detailed minutes are made and circulated from these meetings.

2.0.23   What potential risk factors exits to damage the management control and approval of the NA data? Most apparently would be the lack of analytical capacity within the fields of national accounting and business cycle analysis among the management personnel on the various levels. This must be regarded a more long term risk factor to be met through the active recruitment and education policy of Statistics Norway in general and for the Division of National Accounts and research Department in particular. *The responsibility the final approval of NA data must be clearly placed and a system for retrospective insight into the decisions made at this stage should be easily available.* Minutes from the approval meeting will serve this need.

2.0.24   It is the responsibility of the management of NA to make sure that correct tables and data are transferred for final publication and dissemination. *A check point should be established to secure that the correct set of tables are transferred from the Division of National Accounts to the Division of Web and Publishing.* Such a control must be designed by the two involved parties in cooperation. Likewise a set of controls should be constructed to check the data reported to international organisations. Here the automatic controls on incoming data established by Eurostat could serve as a standard. In a more long term perspective a risk of failure in publishing data occurs when major changes is done to the publishing and reporting platform. A the present such a project is taking place in Statistics Norway

and it will be of vital importance that the actual change over to a new platform is not effectuated until the new system has been tested in full scale.

2.0.25   The last decades Statistics Norway has been subject to several *reviews or assessments from external bodies*. In 2002 an IMF mission[4] (ROSK) undertook an evaluation of national accounts, balance of payments and other vital short-term statistics. Under the umbrella of the European Statistics Code Practice a peer review mission[5] to Statistics Norway took place in 2007. This assessment covered in principle all activities and all aspects of Statistics Norway.
Finally, it can be mentioned that the most recent Eurostat GNI mission to Statistics Norway took place in 2009, as part of the European Commission's supervision of the estimation of Gross National Income in all member states[6]. All these assessments, covering different part of the total statistical product, gave rather favourable reviews.

2.0.26   When it comes to initiatives on *internal audits*, the following elements can be mentioned. In 2009 Statistics Norway appointed a director for internal audit in its effort to ensure that work on quality improvements is in accordance with plans and objectives for all parts of the institution. The mandate for this position states that the director for internal audit twice a year will submit a report to the director general on the ongoing work in this field, see Statistisk sentralbyrå (2009). An important component in the new initiative within quality improvements is the introduction of risk analysis at the institutional level[7] (see also annex 2). As an integral part of the Work plan for 2009, Statistics Norway 2009 published a risk assessment covering eight different fields, of which five within the production of statistics, see Statistisk sentralbyrå (2009).

2.0.27   In 2008 a quality review, based on Eurostat's *self-evaluation form (DESAP)*, resulted in proposals for changes that have already been implemented or are about to be implemented.
Finally could be mentioned that as far back as 1990s *statistical guides* were introduced, in which selected staff members with some experience are further educated in the skills of guiding development projects in the various statistical fields. This has contributed to the improvement of both the efficiency in and documentation of development projects in Statistics Norway.

2.0.28   Producing and publishing NA statistics implies taking risks, so does developing and improving the statistics. The challenge is to control the risk factors. This chapter has described the organisational arrangements and practical routines to be seen as part of the supervisory and control system of the Norwegian national accounts. It gives a bird's eye view of the situation in 2009/2010, but gives also some hints in which areas improvements should be reached in the years to come. This indicates that the systems will be further developed and with this in mind two final aspects are of importance:

- Eurostat will in the near future give closer recommendations on the construction of a supervisory and control system for national accounts. This will most certainly lead to necessary changes and improvements to the Norwegian system.

- At the same time, when elements of such a system are found imperfect or even non-existing, the decision on improving or building new elements should be taken on the basis of a cost-benefit analysis taking into account the limited resources available to the NA compilation activities.

2.0.29   Risk analysis of Quarterly National Accounts 2009

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[4] See IMF (2002)

[5] See Eurostat (2007)

[6] Norway is covered on basis of the Economic Area Agreement.

[7] See Statistics Norway (2009)

Ambition: Maintenance or improvement of the quality on the current QNA

	Risk	Rank	Measures
1	**Input data** • Risk of deterioration of quality on industry based short term statistics based on NACE 2002 (as from 2009 new units will not be given old industry code – the problem will increase in 2010 and 2011) • Risk connected to the ability and capacity of the statistics divisions to supply source data according to old NACE (2002)	Critical	• Cooperation between NA division and the statistics divisions to uncover problematic areas • The statistics divisions must be supplied with sufficient resources to be able to decode new units from NACE 2007 to NACE 2002 • The statistics divisions must give priority to the NACE 2002 coding even if this implies double work
2	**Resources og competence** • 20 per cent of the work staff have less than 1 year experience in national accounting • Heavy work load - due to the main revision and budgetary cutbacks - in particular on the most experienced staff members	High	• Standardisation of QNA-applications (already in place) • Introduction programme and training course for all new staff members • Continuous monitoring of the work load on particular the most experienced staff members • All projects and activities not connected to the running production and publication system or the 2011 main revision kept to a minimum
3	**IT-systems** • Risk of break down of IT-systems • QNA IT-system dependent on base year data from annual NA – centralisation of IT resources give rise to new challenges	Critical	• Knowledge of QNA applications (TROLL/FAME) and competence related to those systems only within the NA division • Vulnerability reduced through back-up of two persons (FAME) • Cooperation with research department on FAME • Clarify divison 740's (IT support) role and responsibility related to the current operations and development of NA IT-systems (including BoP)

Risk chart for quarterly NA

Probability					
Very high					
High					**1**
Moderate			**2**		
Low					**3**
Very low					
	Insignificant	**Small**	**Moderate**	**Serious**	**Very serious**

Consequence

Conclusion

We have detected three risk factors related to the quality on the current running quarterly national accounts.

1) Risk no 1 is labelled with high probability due to the resource situation and work pressure in the statistical departments in general and based on the fact that no fixed plan has been submitted from their part on how to reclassify new units back to NACE 2002. Manufacturing statistics is here an exception. The consequence of low quality on the reclassified statistics is regarded as very serious for the QNA.

2) Risk no 2 is labelled with moderate probability. The NA division has many new staff members and it is important to keep both those and the more experienced staff. The consequence of high turn-over is considered as moderate.

3) The probability of a break down of the QNA IT systems is regarded as low. The consequence of such a event is however regarded as very serious.

2.0.30   Statistics Norway risk assessments 2009

Risk assessments at an overarching level are presented in a separate publication. Risk assessment areas with critical success factors have been prepared for the areas listed below. For statistics production as a whole, the picture is generally similar to last year. The risk in relation to levels of competency is assessed to be lower than for 2008. There is a risk linked to individual IT systems which Statistics Norway took over as part of the statistics from Norges Bank.

Risk assessment areas with critical success factors

1 *Statistics production*
1.1 *Statistics production in general*
Risk of insufficient competence, deficiencies in financing/user-financed assignments, problems with IT systems, organisation/cooperation and data access
Sub-areas
1.2 *Securities statistics*

Risk of operational stoppages on old systems, data-entry omissions, lack of back-ups.

1.3. *Input data system for banks and financial institutions*
Risk associated with the fact that the system uses software that Statistics Norway is not qualified in.

1.4 *Population and Housing Census 2011*
Risk that the quality of data on dwelling addresses, housing and employment will be sub-standard

2 *ICT*
Risk of loss of critical IT services, failures following maintenance and changes, dependency on individuals, loss of external expertise

3 *Financial management*
Risk of insufficient competence and staffing, accounting errors, inadequate routines, missing information and failure to meet deadlines to

4 *Procurements - purchasing*
Risk of breach of regulations, malpractice, bad contracts and a lack of purchasing expertise

5 *Security*
Risk of deficient information security, data security, crises, fire, burglary and lack of security expertise.

2.1   The revision policy

2.1.1   Statistics Norway has had **no revision policy** in the past **on main revisions**. The history of national accounts in Norway has so far included main revisions in 1962, 1973, 1995, 2002 and 2006 after having established the first comprehensive national accounts in early 1950s. Thus, more than 20 years elapsed since Statistics Norway undertook its next main revision after SNA68 was implemented in 1973. **The 1995 revision - implementing ESA95 and SNA93** - was considered the fourth main revision of national accounts in Norway. This main revision might be regarded as a more comprehensive one than the previous ones, in particular because new sources and estimation methods - after having been delayed for a number of years - eventually were implemented directly into their right context.
But also because of a total restructuring of the technical infrastructure (IT-systems, chart of accounts, coding systems) employed in the computation of the Norwegian national accounts. Finally should be mention the efforts of having the Balance of Payments fully integrated with the national account compilation system, not only in a conceptual meaning but also in a technical sense, as part of the 1995 main revision.

2.1.2   **In 2002**, Statistics Norway undertook another main revision - the **fifth main revision** in order - this time without any major definitional changes to the system. See below for the rationale behind this next to last main revision. This event, however, made it necessary to update the GDP/GNI Inventory of the new format, first submitted to Eurostat 1 March 2001, revised with the 2004 version three years later. In **2006**, the **sixth** revision was published - when allocation of **FISIM** was introduced, together with some other changes. See below for more on this last revision.

2.1.3   Then again, in 2001 the **seventh**, and most recent, revision took place, this time mainly to introduce the new industry classification **NACE Rev.2.**

2.1.4   Looking back at the last four main revisions in Norwegian National Accounts (NNA), **GDP** was **strongly affected by approximately 10 per cent in each of the first two** of these revisions,

while **more moderately affected in the 2002 main revision** - up 1.4 per cent for the latest year of final accounts (1997), even more moderate in **the 2006 revision** - up to 1.1 per cent as measured for the year 2003, and 1.5 per cent for the year 2007 in the last (2011) main revision. While the SNA1968 revision decreased GDP level by 10 per cent of which 9 per cent from definitional changes, the 1995 revision increased again the level of GDP by 10 per cent, but this time 9 per cent was due to non-definitional changes. This very fact is a clear warning that a **period of 20 years** is a **much too long** interval between revisions of this kind.

2.1.5   **In future**, main revisions in Norway most probably will be held **more frequent than every 10 years** as originally intended. It may even be aimed at every 5 years. The next main revision will be published in November 2014, and will as its main feature introduce the updated **ESA** with other changes. There is also a question whether this issue of main revision will lead to some kind of **harmonization among ESA95 countries** in years to come. Such an occasion is the revision involving the FISIM allocation that called for a main revision in 2006 and thereby reduced the interval again to 4 years this time. Statistics Norway welcomes in principle a common timing of main revisions, although there are practical considerations that may prevent it from taking place. Comparable results among countries are far more important today than in the past. With the early implementation of ESA95, when revised data were released in Norway in 1995 several years before most others (1999 or 2000 in a majority of European countries), main domestic users questioned the revised estimates in terms of comparability with the other countries on several occasions. The **paradoxical reaction** was that this early timing in relation to other countries provoked these users perhaps more than if coming too late.

2.1.6   **Another issue** related to revision policy is that of **threshold value** for determining whether current routine revisions are made (provisional to final) or to leave amendments for a main revision later on. In Norway, although such a threshold value has been undeclared, a pragmatic approach has been followed; perhaps it may be right to say that in single cases revisions above approximately NOK 0.5 - 1 billion have been left for future main revisions, but this has not been absolute practice (subject to circumstances).

2.1.7   **Backward revisions** are definitely also part of the revision policy issue. This has always been considered a very important issue, particularly so in Statistics Norway as the Research Department staff here emphasizes the strong need for long time series to undertake economic analyses. The **policy followed** in Statistics Norway may be summarized in three principles:

(i)	Backward revisions made for a **limited number of years** providing **overlap years**
(ii)	Backward revisions made for a period of typically **15 - 25 years or so**
(iii)	Backward revisions made **in 2 or more steps** due to resource requirements.

2.1.8   After the implementation of **ESA95** in 1995, the accompanying backward revision was completed late 2000. At that juncture, revised ESA95 estimates had been compiled for the period **back to 1970**. In 1995, the first revised estimates were made for years starting 1988, while almost 20 more years have been aligned backwards five years later. The work was done in a sequence way, i.e. year by year, and in a detailed way. The work included two steps: back to 1978 in 1997, and then the remaining period 1970-1978 completed in 2000. For the whole period, new definitions were implemented, series re-coded to NACE Rev.1 and the statistical sources on services adapted to proper level. It might be added that the backward SNA68 revision also was implemented in 2 steps, first back to 1962 in a detailed way, then later back to 1949 in a more summarized way. **Institutional sector accounts** of the ESA95 implementation in the 1990s were revised **backwards to 1978**, i.e. the first step was taken, while the second step was omitted, simply due to lack of input data for the years prior to 1978.

2.1.9   At the other end of the scale, in the 2006 and 2011 main revisions new figures were published simultaneously for all years back to 1970, and even including revised quarterly figures.

2.2   Timetable for revising and finalizing the accounts

2.2.1   National accounts are compiled in **different versions**. There are versions according to present status - **final or provisional** - detailed or less detailed, adjusted or unadjusted. Annual aggregated accounts are normally compiled in three consecutive provisional versions and a final one, and occasionally main revisions later on (see 2.1 above).

2.2.2   Referring to **versions compiled**, including the **periodicity**, the Norwegian situation is indicated in the box below. Time lag in number of months or days is indicated.

Versions compiled. Time lag in number of months or days

Aggregated annual accounts	
First provisional annual version, quarterly-based	+ 1 ¾
Second provisional annual version, quarterly-based	+ 4 ¾
Third provisional annual version	+ 10 ¾
Final annual version, detailed basis	+ 22 ¾
Aggregated quarterly accounts	
Provisional first version	+ 52-54 days
Final adjusted version	+ 22 ¾ after end of year (adjustment once a year)
Supply and use tables	
Provisional version	Simplified version in quarterly accounts (i.e. + 52-54 days first time)
Final detailed version	+ 22 ¾ after end of year
Input-output tables	
Final detailed version	+ 22 ¾
Institutional sector accounts	
Provisional aggregated quarterly version	+ 1 ¾ after end of quarter
Provisional aggregated annual version	+ 2 after end of year
Final detailed version	+ 23
Regional accounts	
Final detailed version	+ 28
Labor accounts	
Quarterly versions	like aggregated quarterly accounts
First provisional annual version	+ 1 ¾
Second provisional annual version	4 ¾
Third provisional annual version	+ 10 ¾
Final annual version	+ 22 ¾
Balance of payments	
First quarterly version	+ 65-67 days
Final adjusted quarterly version	+ 23 after end of year
First provisional annual version	+ 2
Second provisional annual version	+ 5
Third provisional annual version	+ 11
Final annual version	+ 23
Satellite accounts	
Tourism, System of Health Accounts, Satellite for NPISHs, NAMEA	Ad hoc versions

2.2.3   In summary, it is seen that **integrated annual accounts** have been compiled in **four successive versions**, of which the first three are provisional and the fourth being a final version. There is a clear distinction between the first three versions - which are based on accumulated quarterly compiled estimates - and the last - which regularly are based on annual data sources. The third version, like the first two, is also using the quarterly accounting system as a frame, but incorporates some annual information. This kind of cycle of producing and publishing annual national accounts estimates was established fairly long time ago in Norway. Alterations have however been made in reducing time lags of the third and fourth versions to meet ESA95 reporting obligations more timely, while the time lags of the first and second versions now meet regular Norwegian quarterly dissemination cycle.

2.2.4   Both the **quarterly accounts** and the **balance of payments** quarterly accounts are published with a time lag of approximately **one and a half to two months**, which again appear in a revised and final version as time passes (see the box). Once a year, these short-term accounts data are adjusted and harmonized with the corresponding annual data. This is done for the final version in the cycle of annual accounts.

2.2.5   First provisional annual version is made for the **Economic Survey**, published by Statistics Norway in **mid February** and is a main event in Statistics Norway.

2.2.6   **Second provisional annual version** in the new cycle is made when the first quarter of the next year following the quarterly accounts approach is made, with a broader foundation with extended data set - such as data for central and local government.

2.2.7   **Third provisional annual version** is published in November same year, now supporting short-term indicators with provisional annual data.

2.2.8   **Fourth annual accounts version** is the **final one**, published in November another year later. Main differences between the other versions are which sources of information are available at the time when the accounts are compiled and replacing the format of quarterly accounts for a detailed basis instead.

2.2.9   From the publication cycle box above, it is seen that provisional annual versions of **labour accounts** and provisional annual versions of **balance of payments** are published **at about the same time** as the provisional annual versions of aggregated annual accounts.

2.2.10   At the same time as **final annual version** of aggregated annual accounts is published, final annual version of labour accounts, final annual version of balance of payments, final detailed version of institutional sector accounts, final detailed version of supply and use tables and final detailed version of input-output tables are all published. Satellite accounts are normally published some months later.

2.2.11   The release of the regular quarterly national accounts estimates is accompanied by a revision table revealing revisions to previous quarters and accumulated annual accounts figures. Finally, it should be added that systematic analysis of routine revisions, i.e. between provisional and final estimates, are occasionally made. In fact, this was intensified as a particular project in responding to recommendations made by the IMF (ROSC mission report of 2003). Revision analysis on annual NA estimates is being followed by a similar analysis on quarterly NA estimates.

CHAPTER 3   THE PRODUCTION APPROACH

3.0   GDP according to the production approach

3.0.1   The production approach is the main method used to estimate GDP in Norway. For 2009 the estimation of GDP according to the production approach can be summarized in the following table.

GROSS DOMESTIC PRODUCT according to production approach. 2009

	NOK million	Per cent of GDP
Output, basic values	4 021 098	170.6
- Intermediate consumption	- 1 925 782	81.7
+ Taxes on products	+ 265 362	11.3
- Subsidies on products	- 4 079	0.2
= GDP	2 356 599	100

3.0.2   For the purpose of providing a structural overview by kind of economic activity at the start of chapter 3, GDP by production approach is specified by the NACE 64 classification in this overview table for 2009. In Norway, most important among the 64 activities are NACE 05-09 (18.7 per cent of GDP), NACE 84 (5.1 per cent) and NACE 86 (4.0 per cent).

GROSS DOMESTIC PRODUCT by NACE 64 classification. NOK billion/Percent. 2009.

	NACE A	Output	Intermediate consumption	Value added (VA)	Per cent of total VA	Per cent of GDP
01	Crop and animal production, hunting and related service activities	27.4	16.8	10.6	0.5	0.4
02	Forestry and logging	5.9	1.8	4.1	0.2	0.2
03	Fishing and aquaculture	38.7	24.3	14.4	0.7	0.6
	Total NACE A	72.0	42.9	29.1	1.4	1.2
	NACE B	Output	Intermediate consumption	Value added (VA)	Per cent of total VA	Per cent of GDP
05-09	Mining and extraction	589.1	147.7	441.4	21.1	18.7
	Total NACE B	589.1	147.7	441.4	21.1	18.7
	NACE C	Output	Intermediate consumption	Value added (VA)	Per cent of total VA	Per cent of GDP
10-12	Manufacture of food products, beverages and tobacco	150.1	119.1	31.2		
13-15	Manufacture of textiles, wearing apparel and leather products	24.2	16.8	7.4		

	NACE A	Output	Intermediate consumption	Value added (VA)	Per cent of total VA	Per cent of GDP
16	Manufacture of wood and of products of wood and cork, except furniture, manufacture of articles of straw and plaiting materials, except furniture	14.5	12.1	2.4	0.1	0.1
17	Manufacture of paper and paper products	10.9	6.8	4.1	0.2	0.2
18	Printing and reproduction of recorded media	52.9	48.0	5.0	0.2	0.2
19	Manufacture of coke and refined petroleum products	136.6	110.4	26.2	1.3	1.1
20	Manufacture of chemicals and chemical products	44.6	33.6	11.0	0.5	0.5
21	Manufacture of basic pharmaceutical products and pharma-ceutical preparations	7.8	4.0	3.8	0.2	0.2
22	Manufacture of rubber and plastics products	9.5	6.3	3.2	0.2	0.1
23	Manufacture of other non-metallic mineral products	24.3	16.9	7.4	0.4	0.3
24	Manufacture of basic metals	50.8	44.5	6.3	0.3	0.3
25	Manufacture of fabricated metal products, except machinery and equipment	44.2	28.8	15.4	0.7	0.7
26	Manufacture of computer, electronic and optical products	20.7	13.3	7.4	0.4	0.3
27	Manufacture of electrical equipment	18.0	11.7	6.2	0.3	0.3
28	Manufacture of machinery and equipment n.e.c.	78.5	54.9	23.6	1.1	1.0
29	Manufacture of motor vehicles, trailers and semi-trailers	5.1	3.6	1.5	0.1	0.1
30	Manufacture of other transport equipment	67.6	49.8	17.7	0.8	0.8
31-32	Manufacture of furniture and other manufacturing	13.6	8.1	5.5		
33	Repair and installation	33.9	22.0	11.9	0.6	0.5

	NACE A	Output	Intermediate consumption	Value added (VA)	Per cent of total VA	Per cent of GDP
	of machinery and equipment					
	Total NACE C	671.2	500.2	171.0	8.2	7.3
	NACE D	Output	Intermediate consumption	Value added (VA)	Per cent of total VA	Per cent of GDP
35	Electricity, gas , steam and air conditioning supply	67.6	17.3	50.3	2.4	2.1
	Total NACE D	67.6	17.3	50.3	2.4	2.1
	NACE E	Output	Intermediate consumption	Value added (VA)	Per cent total VA	Per cent of GDP
36	Water collection, treatment and supply	5.6	2.6	2.9	0.1	0.1
37-39	Sewerage; Waste collection, treatment and disposal activities, materials recovery; Remediation activities and other waste management services	28.6	19.0	9.6		
	Total NACE E	34.2	21.7	12.5	0.6	0.5
	NACE F	Output	Intermediate consumption	Value added (VA)	Per cent of total VA	Per cent of GDP
41-43	Construction	441.9	281.8	160.1	7.6	6.8
	Total NACE F	441.9	281.8	160.1	7.6	6.8
	NACE G	Output	Intermediate consumption	Value added (VA)	Per cent of total VA	Per cent of GDP
45	Wholesale and retail trade and repair of motor vehicles and motorcycles	55.0	27.5	27.5	1.3	1.2
46	Wholesale trade, except of motor vehicles and motorcycles	168.4	82.6	85.8	4.1	3.6
47	Retail trade, except of motor vehicles and motorcycles	112.8	55.0	57.8	2.8	2.5
	Total NACE G	336.2	165.1	171.1	8.2	7.3
	NACE H	Output	Intermediate consumption	Value added (VA)	Per cent of total VA	Per cent of GDP
49	Land transport and transport via pipelines	86.8	38.9	48.0	2.3	2.0
50	Water transport	111.7	81.7	29.9	1.4	1.3
51	Air transport	28.3	21.9	6.4	0.3	0.3
52	Warehousing and support activities for transportation	71.1	49.2	21.9	1.0	0.9
53	Postal and courier activities	16.5	5.6	10.8	0.5	0.5
	Total NACE H	314.4	197.4	117.0	5.6	5.0

	NACE A	Output	Intermediate consumption	Value added (VA)	Per cent of total VA	Per cent of GDP
	NACE I	Output	Intermediate consumption	Value added (VA)	Per cent of total VA	Per cent of GDP
55-56	Accommodation and food service	60.5	31.7	28.8	1.4	1.2
	Total NACE I	60.5	31.7	28.8	1.4	1.2
	NACE J	Output	Intermediate consumption	Value added (VA)	Per cent of total VA	Per cent of GDP
58	Publishing activities	41.6	21.6	20.0	1.0	0.8
59-60	Motion pictures, video and television programme production, sound recording and music publishing activities; Programming and broadcasting activities	16.4	9.2	7.3		
61	Telecommunications	65.7	43.6	22.1	1.1	0.9
62-63	Computer programming, consultancy and related activities; Information service activities	55.6	23.2	32.4		
	Total NACE J	179.3	97.4	81.9	3.9	3.5
	NACE K	Output	Intermediate consumption	Value added (VA)	Per cent of total VA	Per cent of GDP
64	Financial service activities, except insurance and pension funding	103.8	33.8	70.0	3.3	3.0
65	Insurance, reinsurance and pension funding, except compulsory social security	28.7	8.8	19.9	1.0	0.8
66	Activities auxiliary to financial services and insurance activities	21.0	13.8	7.2	0.3	0.3
	Total NACE K	153.5	56.3	97.2	4.6	4.1
	NACE L	Output	Intermediate consumption	Value added (VA)	Per cent of total VA	Per cent of GDP
68	Real estate activities	243.7	86.7	156.9	7.5	6.7
	Total NACE L	243.7	86.7	156.9	7.5	6.7
	NACE M	Output	Intermediate consumption	Value added (VA)	Per cent of total VA	Per cent of GDP
69-70	Legal and accounting activities; Activities of head offices, management consultancy activities	44.7	13.5	31.2		
71	Architecture and engineering activities, Technical testing and	97.8	53.6	44.2	2.1	1.9

	NACE A	Output	Intermediate consumption	Value added (VA)	Per cent of total VA	Per cent of GDP
	analysis					
72	Scientific research and development	10.7	4.6	6.1	0.3	0.3
73	Advertising and market research	17.5	12.7	4.8	0.2	0.2
74-75	Other professional, scientific and technical activities; Veterinary activities	11.6	5.8	5.9		
	Total NACE M	182.2	90.2	92.1	4.4	3.9
	NACE N	Output	Intermediate consumption	Value added (VA)	Per cent of total VA	Per cent of GDP
77	Rental and leasing activities	26.1	13.8	12.3	0.6	0.5
78	Employment activities	23.2	5.9	17.3	0.8	0.7
79	Travel agency, tour operators and other reservation service and related activities	14.7	11.9	2.8	0.1	0.1
80-82	Security and investigation activities; Services to buildings and landscape activities; Office administrative, office support and other business support activities	45.0	20.7	24.3		
	Total NACE N	109.1	52.4	56.8	2.7	2.4
	NACE O	Output	Intermediate consumption	Value added (VA)	Per cent of total VA	Per cent of GDP
84	Public administration and defence, compulsory social security	205.9	86.8	119.1	5.7	5.1
	Total NACE O	205.9	86.8	119.1	5.7	5.1
	NACE P	Output	Intermediate consumption	Value added (VA)	Per cent of total VA	Per cent of GDP
85	Education	128.0	29.9	98.1	4.7	4.2
	Market production	7.2	1.8	5.4	0.3	0.2
	Non-market production	120.8	28.1	92.7	4.4	3.9
	Total NACE P	128.0	29.9	98.1	4.7	4.2
	NACE Q	Output	Intermediate consumption	Value added (VA)	Per cent of total VA	Per cent of GDP
86-88	Human health and social work activities	270.2	60.6	209.6	10.0	8.9
	Market production	49.8	15.0	34.8	1.7	1.5
	Non-market production	220.4	45.6	174.8	8.3	7.4
86	Human health activities	128.0	34.8	93.2	4.4	4.0
87-88	Residential care activities; Social work	142.2	25.9	116.4		

	NACE A	Output	Intermediate consumption	Value added (VA)	Per cent of total VA	Per cent of GDP
	activities without accommodation					
	Total NACE Q	270.2	60.6	209.6	10.0	8.9
	NACE R	Output	Intermediate consumption	Value added (VA)	Per cent of total VA	Per cent of GDP
90-93	Arts, entertainment and recreation	42.1	21.8	20.4	1.0	0.9
	Market production	20.7	10.6	10.1	0.5	0.4
	Non-market production	21.4	11.1	10.3	0.5	0.4
90-92	Creative, arts and entertainment; Libraries, archives, museums and other cultural activities; Gambling and betting activities	26.3	12.1	14.4		
93	Sports activities and amusement and recreation activities	15.7	9.7	6.0	0.3	0.3
	Total NACE R	42.1	21.8	20.4	1.0	0.9
	NACE S	Output	Intermediate consumption	Value added (VA)	Per cent of total VA	Per cent of GDP
94-96	Other service activities	37.6	17.2	20.4	1.0	0.9
	Market production	21.1	8.5	12.6	0.6	0.5
	Non-market production	16.6	8.7	7.8	0.4	0.3
94	Activities of member-ship organisations	22.3	12.2	10.2	0.5	0.4
95	Repair of computers and personal and household goods	2.1	0.9	1.2	0.1	0.0
96	Other personal service activities	13.2	4.1	9.1	0.4	0.4
	Total NACE S	37.6	17.2	20.4	1.0	0.9
	NACE T	Output	Intermediate consumption	Value added (VA)	Per cent of total VA	Per cent of GDP
97	Activities of house-holds as employers, undifferentiated goods and service producing activities of house-holds for own account	0.4	0.0	0.4	0.0	0.0
	Total NACE T	0.4	0.0	0.4	0.0	0.0

3.1 The reference framework

General aspects

3.1.1   Introducing the production approach, it would be a good idea first to clarify some **general aspects**. They should relate to **production as economic activity.** The basic elements are output and intermediate consumption and value added as the balancing item, recorded in the production account of the System. Production is defined by reference to the **production boundary.** A satisfactory solution to applying the production approach for the GDP compilation depends on conceptual framework as well as measurement issues. The latter issues are described in detail in Chapter 3 from 3.7 onwards, while conceptual and general aspects are dealt with in sections 3.1 - 3.6.

3.1.2   In NNA, **the production approach is the main approach** to estimate GDP. In Norway, **production accounts** have traditionally been compiled in a detailed way from establishment or local KAUs production data. Since the 1995 main revision, production accounts have been established from production with basis in institutional units also.

3.1.3   **Production boundary** in NNA is defined according to the international standards. To clarify this and the **borderline issues** in this respect, the production boundary includes production of individual and collective services by government, own-account production of housing services by owner-occupiers and production of goods for own final consumption. It includes as well the production of services by paid domestic staff, and in principle production forbidden by law, and production from which the revenues are not declared to the fiscal authorities.

3.1.4   **Production for own final use** includes production, storage and processing of agricultural products for own-account by households, also from forestry and fishing. Likewise, own-account production of capital goods includes construction of dwellings by households and software, literary and artistic originals, and mineral exploration under the heading of production. It includes also production of services by paid domestic staff. Most important item produced for own final use is no doubt production of dwelling services. Also of importance is construction. Other production for own use, such as mineral exploration and software is covered through separate products, but not distinguished as separate type of producer (rather with market producers, see NACE breakdown below). Breeding of fish in fish farms should also be mentioned here, quite important in Norway. In private households with employed persons (industry P) output is estimated from a benchmark figure and extrapolated by use of data from the Households' budget surveys.

3.1.5 **Volunteer activities** are also related to this kind of discussion; included in NNA are part of abovementioned construction of dwellings, also in some structures of sports, but hardly more goods. The estimates comprise the own account GFCF in the industry sporting activities and other recreational activites of NPISH. These investments reflect volunteering work. Traditionally, support for construction of sport arenas require a substantial contribution from own resources of the receivers, which could include an estimated value of volunteering work. The actual estimate has been extrapolated as a percentage of the value of production. A new satellite account for volunteer activities and NPISH has recently been established, and the plan is to reconsider the estimate in this context. One new source to be explored will be a special survey on voluntary work carried out by the Institute for Social research. Products created in social work activities by disabled workers (part of social work production, earlier classified as manufactured goods and output) belong to another category.

3.1.6   Reference to framework of production means also clarifying some issues of **intermediate consumption**. Principles applied to sort out borderline problems follow the international rules of ESA95, at least conceptually. Examples could be costs of production for non-life insurance according to service charge, and operating leasing having a split between operating and financial leasing. Less articulated but still covered are costs from use of patented entities and trademarks, but this area should be better explored.

3.1.7   **Borderline issues** between intermediate consumption and other categories of use, i.e. intermediate use versus final use, are discussed elsewhere in the inventory (see section 5.3). Due to basic data available, it may not always be easy to apply the distinct ESA95 criterion of 500 Euro in 1995 prices, below which payments on capital goods (small tools and devices) are to be recorded as intermediate consumption, and above which as gross fixed capital formation. Bias towards too much intermediate consumption is more likely than not.

3.1.8   Goods and services received **from another local KAU within the same enterprise** are in general included and comply with the definition of intermediate consumption. At least, this applies in the manufacturing area. The opposite treatment goes for intermediate flows within same local KAU.

3.1.9   Domestic and personal services produced and consumed within the same household fall outside the production boundary. Statistics Norway has on several occasions, however, made estimates in the context of **household satellite accounts**.

The Central Register of Establishments and Enterprises (CREE)

3.1.10   Statistics Norway's **Business Register - the Central Register of Establishments and Enterprises (CREE)** - is an important instrument of the Norwegian statistical system. It is most closely linked to the **Central Coordinating Register of Legal Entities (CCRLE)** which in its turn is made up by all units obliged to register in any of several associated administrative registers, see figure 3.1.

The Central Register of Establishments and Enterprises and its environment
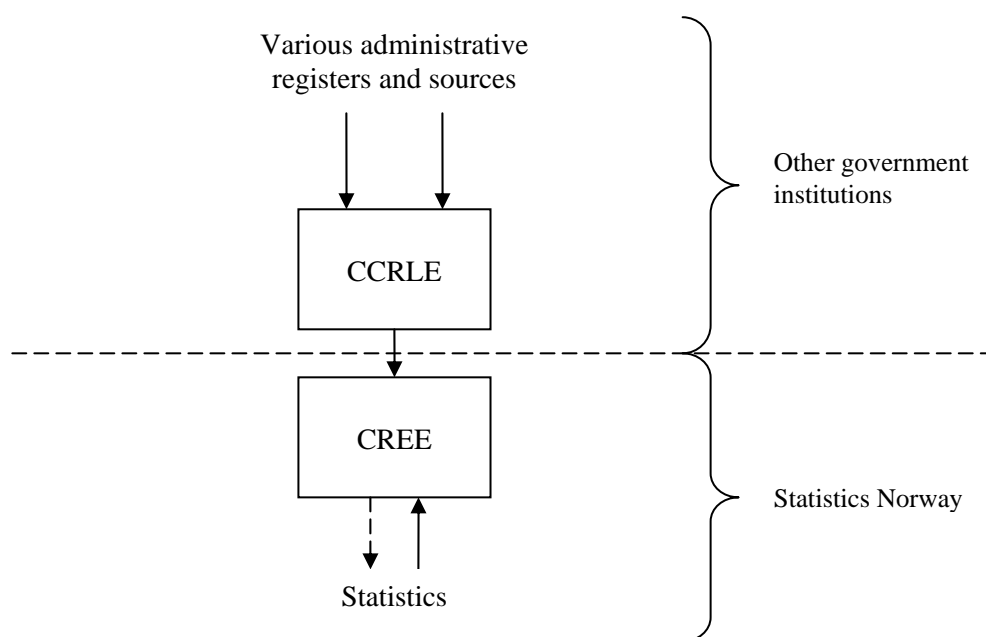
3.1.11 The main purpose of CREE is to serve as a tool for Statistics Norway in its production of statistics on economic activities. More precisely the register shall supply
- Definitions and construction of statistical units
- Industry and sector classification of units
- Link to corresponding units in other administrative registers
- Tool for planning, running and coordinating statistical sample surveys
- Tool in production of industry based statistics
- Source of information for analyses on enterprises and establishments

3.1.12 All information used for updating and maintaining the register is collected under the Statistical law. The main sources for updating CCRLE and thus CREE are the
- VAT Register
- Register of Employers
- Corporate Taxation Data Register
- County Governors' Register of Foundations
- Register of Stockholders
- Register of Business Enterprises

In addition the CREE is updated with information obtained from the direct contact with the units, studying annual accounts and reports from the Norwegian Register of Company Accounts and the integrated monitor system for CREE itself. The frequency for updating varies from daily (CCRLE) through weekly (VAT-register) and monthly (Register of employees), to annual (Register on Stockholders).

3.1.13 The information on enterprises and establishments contained in the register can be classified into the following categories:
- Unique identification codes (enterprise number, establishment number, organisation number)
- Descriptive characteristics (name, address, activity and sector codes, status, type of organisation, telephone/telefax number, e-mail address)
- Statistical variables on size (turn-over, employment, number of employees)

This information is used both for sampling purposes, dispatch of survey forms and the estimation of total values for the whole population.

3.1.14 The statistical variables are defined as follows. The number of **employees** comprises all persons that work for the employer more than 4 hours a week. In the existing stock of enterprises, numbers of employees refers to the time of counting. For new enterprises, the number of employees refers to 1st January and 1st September the following year. For enterprise dropouts, number of employees refers to 1st January of the year of drop out. Persons with more than one job may have been counted as employed in several industries. All employees and owners make up the **employment**. The figures show an average number of employees at the end of 5 selected months in the year, and may deviate from what is published in the Labour Force Survey (AKU) and the National Accounts because sources and calculations of averages may differ. **Turnover** is defined as the sum of remuneration of sale to customers, sale of commercial goods and gross income from other industry activities. The turnover includes rental income and commissions receivable, but not government transfers or holding gains (or losses) through sales of fixed assets. VAT is not included in the figures. For units in industries that are included in the SBS the turnover is collected from these statistics. In other industries the turnover is collected from administrative sources (VAT or annual accounts).

3.1.15 The statistical units defined and covered in the CREE are
- legal unit,
- enterprise group (concern),
- enterprise,
- local unit,
- kind-of-activity unit (KAU) and
- local kind-of activity unit (LKAU)
- auxiliary unit

The basis for creating the statistical units is legal the unit. Examples of legal units are limited companies, sole proprietorship and general partnership. In most cases, an **enterprise** will be identical with a sole legal unit, e.g. a limited company. In addition to genuine legal units the CREE comprises other types of organization that are treated as enterprise units. Among those we find other legal person and securities fund. The local KAU is equivalent to the definition of **establishment** in NACE. The establishment unit in CREE is defined as a LKAU. The main rule is that minimum one establishment is recorded for each enterprise unit. If an enterprise conducts activities on different locations an establishment is constructed for each separate geographical address, on the condition that at least one person has its permanent work place at the address. If an enterprise conducts different activities on one and the same address, an establishment is constructed for each separate type of activity on the condition that 5 or more persons are employed. Within manufacturing activities the condition is 10 or more persons employed. A special mention should be made of establishments within oil and gas extraction, where each single petroleum field is pointed out as one establishment. Finally, among some special **technical support units** we can mention that each single vessel operated by domestic shipping companies is identified, but not defined as establishment. The same is the case for unmanned gas stations and tourist accommodations.

3.1.16 **Enterprise groups** will per definition consist of a mother enterprise unit and minimum one daughter company, where the mother has ownership to at least 50 per cent of the daughter company. The enterprise groups are registered in a separate database in CREE. In addition to resident enterprise units also non-resident enterprises (daughter companies, mother companies) that are part of an inter- or multinational enterprise group involving Norwegian units are registered. This information is of high importance in particular for the design of sample surveys on cross-border economic relations.

3.1.17 **Activity coding** is done according to the Norwegian Standard Industrial Classification (SIC 2007), in turn based on the European industrial classification NACE rev.2. Of importance to NNA is that both the enterprise type of units and the establishment units are given unique activity codes. A special mention should go to the double activity codes given to **auxiliary units**, reflecting both their own genuine activity and the activity of the mother unit. Also units within some specific industries are for various reasons given a double set of activity codes (primary industries, ocean transport, trade, health, education).

3.1.18 The following table shows the number of enterprises and establishments within each main industry in 2009.

Number of enterprises and establishments within each main industry. 2009.

SIC 2007	Activity	Number of enterprises	Number of establishments
A	Agriculture, forestry and fishing		67 972
B	Mining and quarrying	559	1 271
C	Manufacturing	9 519	20 296
D	Electricity, gas, steam and hot water supply	425	1 441
E	Water supply, sewerage, waste management and remediation	543	1 645
F	Construction	17 869	52 669
G	Wholesale and retail trade, repair of motor vehicles and motorcycles	31 704	67 973
H	Transport and storage	9 811	24 575
I	Accommodation and food service activities	6 387	12 222
J	Information and communication	5 186	16 734
K	Financial and insurance activities	1 463	4 517
L	Real estate activities	7 200	43 888
M	Professional, scientific and technical services	14 324	42 071
N	Administrative and support service activities	5 547	19 367
O	Public administration and defence, compulsory social security		5 776
P	Education	1 854	12 420
Q	Health and social work	8 905	41 000
R	Arts, entertainment and recreation	2 829	15 231
S	Other services	5 642	15 773
T	Private households with employed persons	16	69
U	Extra-territorial organizations and bodies	24	11
	Unknown	6	409
	Total	129 813	467 330

3.1.19 Units are given **institutional sector codes** according to their organisational form, activity code and ownership. The sector classification is based upon the principles and definitions of the European System of Accounts (ESA), although the codes itself are of national origin.

3.1.20 A new enterprise will normally be registered in CREE through its own application for registering in the CCRLE (or another connected register), motivated by the need of an **organisational number** widely used in the Norwegian society for identification of legal entities, for example obligatory when opening bank accounts. When a new enterprise is registered, normally a corresponding establishment is automatically registered, which subsequently is made subject to a closer investigation based on a set of specific rules (decision tree).

3.1.21 All establishment and enterprise units are given a set of dates reflecting actual start-up, close-down or reactivating. To keep time track of changes and corrections all characteristics of a unit is given both a date of validity and a date of registration. A discontinuance of an activity is counted as a **dropout**. This may happen if for example the establishment linked to the enterprise is sold or close down. Dropouts in year t are counted as dropouts among enterprises active by 1st January in year t. All enterprises that close down or sell their establishment are considered an enterprise dropout. If all of the establishment is closed down, and is not taken over by another enterprise, the dropout is also classified as a **closure**.

3.1.22 CREE is presently a comprehensive register and quality is ensured in relation to population and basic characteristics like addresses, legal form and industry codes.

The quality of the population of active enterprises, including the quality regarding the industry code for establishments and enterprises, is secured by directly contacting units in connection with the data capture for the SBS, through links towards administrative registers in the monitoring system for establishments in the CREE and by using company statements on the purpose of their activity.

3.1.23 Since 2002 Statistics Norway has published enterprise and establishment statistics (enterprise and establishment demography) based on the information contained in CREE. See http://www.ssb.no/english/subjects/10/01/naeringsliv_en/.

3.2	Valuation

3.2.1 Valuation is primarily a topic on how to **measure product flows**, i.e. prices to be applied in the various circumstances. Different kinds of transactors face different prices, most notably producers, importers, exporters, and purchasers including consumers and investors. Transactions and concepts of the national accounts correspond to these various transactors, i.e. output, imports, exports, other uses including consumption and capital formation.

3.2.2 According to ESA95, **output** is to be valued **in basic prices**, with specific conventions for the valuation of other **non-market output** at **total costs of production** (minus sales if market production involved as well). In NNA - following the ESA principles - output is valued or measured, or more precisely **presented** in basic prices. In NNA, **flexible valuation** is built into the operating systems and enabling publication of either output values, i.e. in basic prices and in producers' prices. Once output valuation is determined, the valuation of value added follows accordingly. In NNA, therefore, value added of an industry is in basic prices when output is in basic prices. Other non-market is valued at total costs of production as the sum of intermediate consumption, compensation of employees and consumption of fixed capital (the two additional items of other taxes on production less other subsidies on production are involved with insignificant values only).

3.2.3 **Clarifications on** applying **output** valued in basic prices in NNA might be given. **Output for own final use** valued in basic prices (of similar products sold in market) may be difficult to apply. Own account GFCF are calculated on basis of cost, while household production for own consumption is valued at basic prices based on prices of similar products sold in the market. Procedures for valuing **work-in-progress** - mostly relevant for quarterly national accounts - are difficult to apply in the recommended detailed way considering the overall residual type of estimating changes in inventories in NNA. However, additions to work-in-progress are valued in proportion to the estimated current basic price of the finished product, with the exceptions of work in progress in fish farming and cultivated forests, where a substantial part to the production comes when the ripe product is withdrawn from storate and processed to be sold. These costs are costs for slaughtering and packaging in the case of farmed fish and the cutting of timber in case of cultivated forests. Similarly, the residual character of **trade margins** may find adjustments to exclude gains and losses from trade margins quite redundant in context of output being accumulated from product flows. Another problematic area is to sort out market production from predominantly non-market production, an area that may need some more refined treatment in future.

3.2.4 **Treatment of taxes and subsidies on production** is important in the context of valuation. Taxes and subsidies on production are both subdivided into two categories, one related to product flows and termed taxes on products and subsidies on products, and the remaining part not related to products flows termed other taxes on production respectively other subsidies on production. Naturally, it is the part related to product flows that is relevant for the valuation of specific product flows.

3.2.5   **VAT treatment** is an important part of the treatment of taxes on products. Following the **net treatment** of VAT in national accounts, implies only non-deductible VAT flows are recorded. As far as output valuation is concerned, net VAT treatment means no VAT in output whatever valuation alternative is at stake, basic price or producer's price. As long as gross treatment of VAT was practiced (until mid-1980s), VAT was included in output in producers' prices. Later, when net treatment of VAT was introduced, output in producers' prices is measured without any VAT.

3.2.6   **Clarifications on** applying **intermediate consumption** valued in purchasers' prices in NNA might be given as well. Intermediate consumption is recorded and valued when the goods and services enter the production process (when used rather than purchased) according to principles asked for when submitting primary data. Again - like for output - the NNA treatment of changes in inventories does not meet the ESA95 recommendation for detailed and consistent valuation in that respect.

3.3   Transition from private accounting and administrative concepts to ESA95 national accounting concepts

3.3.1   Compiling the NA production accounts - and other parts of NA as well - involve **extensive use of accounting data in the production statistics**. This is evidenced by a strong move towards structural business statistics adapting to the EU regulations on Structural Business Statistics **(SBS)**. The annual accounts of multinational enterprises separate activity in Norway from activity abroad. Nationally, the statistics are based on Directorate of Taxes' General Trading Statements - for short **NO** (In Norwegian: NæringsOppgave) - the items from which have conceptually been selected for direct use in compiling the various NA items. The NO items used for the NA compilation of output and intermediate consumption are indicated by codes and text below. There is also a supplementary scheme - for short: **TS and local KAU-based** - that **supports** the NA compilation by industry based on **enterprise-based NO**. For more details on the TS part, see chapter 11.

3.3.2   Data according to the EU regulation on SBS, based on enterprise accounting data and supplementary local KAUs data, are collected through two different questionnaires. For NA compilation in Norway supplementary data based on local KAUs are vitally needed for the detailed SUT and are actually provided.

3.3.3   **Output** at basic prices is defined by the total of the NO items that are listed below, and subsequently distributed by NNA-products. That definition is applied for all industry output for which this SBS-based source is used. For NNA, a distinction is furthermore made between characteristic and non-characteristic production, while not used in NO. In most industries and in particular services industries for which this kind of data is used, the **products specified** are generated from TS and finest level of NACE. Characteristic output is allocated to relevant characteristic products, while non-characteristic output is allocated as described in the table below.

Definition of output in basic prices from NO and TS items

Codes	Item description	Comments
	Characteristic output	
NO 3000	Sales of goods and services, liable to VAT	
NO 3100	Sales of goods and services, free of VAT	
NO 3200	Sales of goods and services, not subject to VAT	
NO 3500	Own-account investments, capitalized	New item from 1999
NO 4295	Changes in stocks, finished goods and work in progress	Item for subtraction

TS	Sales of goods for resale	Item for subtraction
NO 3300	Taxes on sales	Item for subtraction
	Non-characteristic output	
NO 3600	Income from rent, own property	Less 5 per cent for land; Product: 682 020
NO 3695	Other income from rent	Products vary by industry
NO 3700	Income from commissions	Products vary by industry
NO 3900	Other operating income	Products vary by industry
NO 4995	Changes in stocks, own-account fixed assets	Item for subtraction; Products by type: 000 382 and 000 383
TS	Trade margins (sales less purchase of goods for resale)	Trade margin, not sales
TS	Own-account software	

3.3.4 Some special remarks on changes in stocks: SBS data have not been used in this context so far - a project financed by Eurostat grants has however tried this out, but failed to draw a final conclusion (see ch. 5.13). Furthermore, discrepancy problem occurs as information on intermediate consumption inventories is not received from SBS. Presently, no adjustments are made, but should be incorporated in a project. Kind of valuation principle in SBS (accounting law) should also be clarified. There is guidance to SBS providers, however. It should be noted that SBS provides information on consumption rather than on purchases for intermediate consumption.

3.3.5 Key item "Other operating income" includes royalties, license income etc. also. Nothing in the guidance suggests holding gains or losses to be included. Furthermore, income from contract work should be included in NO 3000 or NO 3900 depending whether this is part of ordinary sale or outside ordinary sale.

3.3.6 It might be added that sources here include deliveries to - but not deliveries from - other local KAUs within the enterprise. In order to avoid a distortion, these deliveries to other KAUs have been excluded all together. That applies to intermediate consumption as well. If the opposite kind of adjustment is requested (adherence to ESA95) some implementation time would be needed.

3.3.7 **Intermediate consumption** at purchasers' prices is defined by adding all the NO items that follow below, and subsequently distributed by NNA-products (see the various NACE sections below). Definition below is applied for all industry intermediate consumption for which this SBS-based source is used. NO items of intermediate consumption actually report consumption rather than purchases. Thus, no further adjustment for ESA is needed at this point, contrary to the needed adjustment from sales to output.

Definition of intermediate consumption in purchasers' prices from NO and TS items

Codes	Item description	Comments
NO 4005	Cost of purchased goods	
NO 4500	Sub-contracting costs etc.	
NO 4995	Change in stocks of own produced goods	If positive only
NO 5300	Other obligated allowances	Share applied: 50 per cent; manufacturing, mining only
NO 5900	Other personal costs	Share applied: 10 per cent
NO 6100	Outgoing freight and forwarding costs	
NO 6200	Energy, fuel etc. related to production	
NO 6300	Expenses of rented property	Less 5 per cent for land
NO 6340	Lighting and heating	
NO 6395	Renovation, water etc.	
NO 6400	Rented fixed durable assets other than property	
NO 6500	Tools, equipment etc., not capitalized	Share applied: 98 per cent
NO 6600	Maintenance and repairs, buildings	Share applied: 95 per cent
NO 6695	Maintenance and repairs, other	
NO 6700	Miscellaneous external services (accounting etc.)	
NO 6995	Office accessories, telephone and postage	
NO 7000	Operation of transport equipment	
NO 7020	Maintenance and repairs, transport equipment	
NO 7040	Insurance and charges on transport equipment	NA concept applied; 50/50 shares insur/charges
NO 7080	Car expenses, use of private car in business	
NO 7098	Electronic communication, private use	Item for subtraction
NO 7099	Private use of business cars	
NO 7155	Traveling, subsistence and car allowances, obligated	Share applied: 75 per cent
NO 7165	Traveling, subsistence, car allowances, not obligated	Share applied: 75 per cent
NO 7295	Commission charges	
NO 7330	Selling, advertising and representative costs	
NO 7350	Representation costs, refundable	
NO 7370	Representation costs, other	
NO 7490	Subscription and gifts	Share applied: 50 per cent
NO 7495	Subscription and gifts, refundable	Share applied: 50 per cent
NO 7500	Insurance costs, net	NA concept applied; not insurance premiums
NO 7565	Guarantee- and service costs	
NO 7600	Patent and license costs and royalties	
NO 7700	Other operating expenses	
TS	Purchases of goods for resale	Item for subtraction

3.3.8   It is noted that **some NO items** have been **split for more than one category of use**. Share applied for intermediate consumption has been indicated in the table. The shares are continuously evaluated and some are updated for NA calculation. There are obligated allowances in the case of NO 5300, NO 7155 (taxable part) and NO 7165 (non-taxable part).

Borderline versus **investment** is relevant and estimated for NO 6500 (98 per cent) and NO 6600 (5 per cent for renovation, i.e. renovating old buildings). Major repairs and renovations are treated as GFCF, and not as intermediate consumption. The tax and accounting rules are that major repairs and renovations are to be included along with GFCF, not with operating costs. In order to be exhaustive, we further reclassify 5 percent of NO6600 as mentioned from operating costs to GFCF. Borderline versus **compensation of employees** is relevant and

estimated for NO 5900 (90 per cent), besides NO 7155 and NO 7165. Other splits have been made for the two items of subscription and gifts (versus other current transfers).

3.3.9   NO item 6500 is balanced against TS items on purchases of IT hardware and purchases of IT software.

3.3.10   It should be noted that FISIM is added to the SBS based estimated figures for intermediate consumption of each industry (see ch 9).

3.3.11   According to Norwegian accounting standards, each leasing agreement has to be classified by the firm into financial or operational leasing. Items under a financial lease should be entered on the balance sheet together with the associated debt, and all payments are financial transactions. If the guidance of the accounting standard is carried through, leasing should obey the ESA rules. All sorts of items should be included, but they are not specified by kind of asset or by industry of the owner. Items under a financial lease should be mentioned in the notes to the balance sheet.

3.3.12 Small tools and devices are not normally included in capital formation, and we try to correct the source figures, counting part of operating costs as GFCF. According to well known text book on Norwegian accounting practice (Huneide et al: Årsregnskapet i teori og praksis, 2003), the limit found in the tax law for 2003 was 15000 NOK (around 1700 – 1800 euro) for new objects.

3.3.13 Average service charges for two types of insurance (cars, and other) are estimated as a percentage of gross premiums for the non-life insurers. These average percentages are applied to the gross premiums for the users as stated in the SBS.

3.3.14   Research and development costs are are part of the item NO 7700 'Other operating expenses'.

3.4   The roles of direct and indirect estimation methods

3.4.1   The estimation in NNA of output and intermediate consumption are based on **relevant statistics** that are almost exclusively **available on a current basis**, i.e. annually available data. The Structural business statistics (SBS) is the most important source for direct estimation methods in compiling the NA according to the production approach, see also summary table in chapter 1.3 and chapter 11. In addition to the SBS other important sources for direct estimation methods include government accounts, credit market statistics based on accounts from financial enterprises and oil- and gas statistics. For indirect estimation methods, meaning estimations not counted for as benchmarking and extrapolation methods, the most important sources are Aggregate account of agriculture and Catch statistics and Census data of fish farming and Cost surveys for fishing boats and farms.

3.4.2   The following tables illustrated the situation for output, intermediate consumption and value added in 2009. The figures are based on the categorization of the Process table 2009 and Benchmarks and extrapolation where taken from the columns "Total Extrapolation + models" and "Explicit exhaustiveness". Direct and indirect estimations thus represent all other columns of the Process table.

Output 2009

Method	NOK billion	Per cent
Direct and indirect estimations	3 817 005	94.9
Benchmarks and extrapolations	204 093	5.1
Total	4 021 098	100

Intermediate consumption 2009

Method	NOK billion	Per cent
Direct and indirect estimations	1 845 358	95.8
Benchmarks and extrapolations	80 424	4.2
Total	1 925 782	100

Value added 2009

Method	NOK billion	Per cent
Direct and indirect estimations	1 971 647	94,1
Benchmarks and extrapolations	123 669	5,9
Total	2 095 316	100

3.5 The roles of benchmarks and extrapolations

3.5.1 The **role of benchmarks and extrapolations** within the scope of **the production approach** in the current NNA compilation is **quite limited**. As seen from the tables above in paragraph 3.4.2, about **5 per cent of total output** was estimated from sources that are not normally available on a current basis. In the Norwegian statistical system, economic statistics have been established with a high degree of annual regularity, and based on the continuously updated Central register of Establishments and Enterprises. Benchmark figures and extrapolation are used in some industries not covered by SBS or SBS-like statistics. Such estimates are found in the areas of household own account production for own use. Probably we should count estimation of dwellings services also in here and in industry group L Real estate, renting and business activity about 15 per cent of output are based on models, mainly due to the inclusion of services from owner-occupied dwellings. Then also production in NPISH, but with the exception of health and education institutions must be mentioned. Some smaller parts of market health and education (for instance driving schools) are, however, compiled using benchmarks/extrapolation. Further, there are areas of market production in NACE R and S, where some part now is covered by SBS and other activities uses benchmark extrapolation. In addition to this, some minor items are compiled using benchmark extrapolation as part of exhaustiveness adjustments. This is the case for instance for production for own final use in market production within primary industries and accommodation services in market agriculture. The assumptions underlying extrapolations are reviewed at least in the occasional revisions. These revisions have been held about every 5th year. Short-term statistics for quarterly national accounts and balance of payments are outside the scope in this respect. Typically, there has been no economic census since 1974, and not much use has been necessary to make from other censuses held every 10 years or so (like the population and housing census, and agricultural and fishery censuses). The following table summarizes the use of extrapolation:

Extrapolation methods for industries

Industry section	Type of output	Bench mark	Indicators
A	Potatoes, vegetables, fruit for own consumption	1995 main revision	Volume: no change Price: CPI
	Accommodation services	1998 census of agriculture	Price and volume indicators from section H
A	Fish for own consumption	1971	Volume: – 5% per year, Price: fresh fish
F	Own construction on dwellings	Time use survey 2000	Volume: no change Price: CFCF dwellings
L	Services from owner occupied dwellings	See chapter 3.18	See chapter 3.18
M	Veterinarian services pets	1995 main revision	Volume: number of veterinaries Price: CPI veterinarian services
P	Driving school services	1995 main revision	Volume: number of licenses Price: CPI education
R	Sport services (part of)	2002 main revision	Volume: various (number of members, passengers ski-lifts etc.) Value: HBS
S	Organizations services (part of)	2002 main revision (John Hopkins project)	Volume: number of members Price: membership fees

3.5.2   In one respect, **benchmark** has an important role to play, and that is when undertaking a **main revision.** It is usually both convenient and useful to establish revised levels for the NA estimates for a **benchmark year** in the first place, selecting a year that is "normal" (avoiding year of extraordinary events), and in particular, with the best scope for possible use of sources available. Given the annual sources available, the role of **extrapolations** - in this respect and in general - is restricted to the main revision process only, and not to sources. It means that new levels obtained initially for the benchmark year are extrapolated to other years in the sense that revised time series are being established, normally from the same quality of sources that have been introduced for the benchmark year.

3.6   The main approaches taken with respect to exhaustiveness

3.6.1   The single most important aspect of exhaustiveness in relation to production in the NA is the question of defining population of producers in the statistical sources. Here the **Central Register of Establishments and Enterprises (CREE)** is of vital importance, in particular the procedures related to coverage and up-dating. The main source of information for CREE is the Central Register of Legal Entities covering all legal entities whose turn-over exceeds NOK 50.000 (= EURO 6.000), i.e. a relative low threshold. Information from this administrative register is fed into CREE on a **daily basis**. At the other end of the time scale we find the Register of Stock-holders, supplying CREE with annual information. The combination of rapid updating and low thresholds makes CREE a solid basis for defining the populations for statistical surveys on economic activities. See more on CREE in chapters 3.1.10 to 3.1.22.

3.6.2   In some cases adjustments and improvements are made to the ordinary utilization of the main sources available. More specifically this applies to production for own account, hotels and restaurants, transport and real estate (dwelling services). See more in chapter 7.

3.6.3 Also should be mentioned that Statistics Norway in 2009 published the results from a project on **illegal activities,** including estimates on value added in prostitution, drugs trafficking and smuggling of alcohol and cigarettes. This new information were introduced in the NNA in the main revision of 2011.

3.7   Agriculture, forestry and fishing (NACE Rev.2: A)

Contents

3.7.1   In NNA, the activities of NACE A are **distinguished in 6 industries** within the three A64 headings:

01	Crop and animal production, hunting and related service activities			
	010	Agriculture		M	O
	016	Agricultural and animal husbandry service activities	M	
02	Forestry, logging and related service activities			
	020	Forestry and logging		M	
	024	Forestry and logging related service activities	M	
03	Fishing and aquaculture			
	031	Fishing		M	O
	032	Aquaculture		M	

3.7.2   Apart from **market producers** (see M indications), **producers for own final use** add to the market part of agricultural production, and also specify the hunting industry. There are no professional hunters in Norway, i.e. no employed persons, although hunters need to register for free-time activities in this field (for own final use). Products for own final consumption are however produced in both agricultural industries (M and O), i.e. among products of the market producers, and products of garden production outside farms etc. Picking of mushrooms and wild berries are included here. Agriculture NACE 3-digit industries are not approached, neither into crops and animals nor an additional mixed farming industry.

3.7.3   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. Fish hatcheries and fish farms therefore constitute a separate industry distinguished from traditional fishing. For the latter - like in agriculture - production for own final consumption (note O) has been separated from the rest (note M). Fishing in inland water - such as salmon fishing in rivers - is included here (part O) since own-account fishing of this kind is quantitatively important in relation to total supply of salmon, trout and the like in Norway.

3.7.4   Agriculture, hunting, forestry and fishing make a **contribution of 1.2 per cent to GDP** in 2009. Value added share of output is 40 per cent in 2009, well below the share of total value added to total output (52.1 per cent).

NACE A - NOK billion and value added percentages in 2009

		Output	Intermediate consumption	Value added	Per cent of total value added	Per cent of GDP
01	Crop and animal production, hunting and related service activities	27.4	16.8	10.6	0.5	0.4
010	Crop and animal production and hunting	26.9	16.4	10.5	0.5	0.4
016	Agricultural services	0.5	0.4	0.1	0.0	0.0
02	Forestry and logging	5.9	1.8	4.1	0.2	0.2
020	Forestry and logging	4.9	1.4	3.5	0.2	0.1
024	Forestry services	1.0	0.4	0.6	0.0	0.0
03	Fishing and aquaculture	38.7	24.3	14.4	0.7	0.6
031	Fishing	11.6	4.1	7.6	0.4	0.3
032	Aquaculture	27.1	20.2	6.8	0.3	0.3
	Total NACE A	72.0	42.9	29.1	1.4	1.2

3.7.5   Agriculture is defined according to the **national farm principle**, implying that internal deliveries between crop and livestock production are consolidated in the NNA. The ESA95 rules on the national farm principle and other EU guidelines are followed in the main source which is the Budgeting Committee for Agriculture (BCA), a Norwegian equivalent to EEA (Economic Accounts for Agriculture).

3.7.6   The principle of recording output continuously as **"work-in-progress"** from a process of production that takes a long time to complete, seems relevant in fish farming **when breeding smolt (young salmons) for later slaughtering**. In NNA, therefore, included in output is an estimate of change in inventory, i.e. "work-in-progress", of smolt - in practice estimated as changes in inventory of smolt, salmons and trouts in fish farming units. The fish farming industry has fish living in their production sites from the young smolt until they are grown ready to slaughter. The data for changes in this type of inventories is collected in the Directorate of fishing from every production site. The data show the number of fish by age class and their weight. The price per kg is taken from the sales prices for the live fish according to fishery statistics, but reduced by 15 per cent. This reduction is supposed to express costs borne at the end of the production process, when the fish is slaughtered and packaged (and some are frozen as well). Changes in inventories might turn out to be either positive or negative.

3.7.7   **Main sources used** are:
- Aggregate account of agriculture, compiled by the Budgeting Committee for Agriculture (BCA)
- Aggregate account of forestry, compiled by Statistics Norway
- Catch statistics from the Directorate of fishing
- Annual census data of fish farming

Output - NACE 01

3.7.8   **Aggregate account of agriculture (BCA)** is close to be 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 ad hoc calculations. The BCA Aggregate account of agriculture contains a number of tables,

the headings of which are referred to as incomes - of relevance for the NNA output estimation. These tables are product-related. Through such an aggregate account for agriculture on annual basis - and a similar aggregate account for forestry (see below) - means that all economic activities in these industries should be covered by **complete and up-to-date statistical sources**, also non-characteristic activities have been covered. Both sources providing **prices x quantities = values** information, means that accrual principle is generally followed. It also means all agricultural products have been covered with the approach followed in Norway, and efforts have been made to cover allied services of these areas as well. The agricultural activities are much regulated by the authorities, thus contributing to very good data coverage in this area. Data sources behind the BCA aggregate account of agriculture are crop statistics from Statistics Norway combined with prices collected from farmers' organizations, annual surveys from Statistics Norway, semi-annual statistics from the register of the Ministry of Agriculture (a lot of data to supervise and calculate subsidies), census of agriculture and forestry (latest 1999) and own data collection from organizations.

3.7.9   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. It is seen from the illustration tables below that output of non-farming activities of farmers is included, as well as agricultural output of non-farms (garden production in particular). By distinguishing NNA-products, steps are taken to avoid double counting when secondary activity occurs. Another issue of principle - **when recording output** - is time of recording, mostly a problem in quarterly accounts, not in annual NA described here. In the Norwegian quarterly accounts, agricultural output is recorded in quarters when harvested (mostly third quarter) and inputs when used throughout the accounting periods.

3.7.10 **Agricultural output** is specified by 33 characteristic NNA-products, including 6 products of own-account construction and 2 special products recorded with changes in inventories. These are illustrated by 2009 figures:

Output in agriculture. NOK billion in 2009 - Sources and methods

Market output		
011 110 Grain	2.1	Tab.5.1 of BCA basic source, sub-total for sale, plus own final consumption, by various grains; adjustment made for water quality, distributed among NNA-products based on tons of grains
011 190 Oiled seeds, straw and forage	0.2	Tab.5.1 and 5.4 item
011 300 Fresh vegetables	1.6	Tab.5.3 item
011 350 Potatoes	0.6	Tab.5.2 item
012 400 Fruit and berries	0.5	Tab.5.3 item
013 010 Flowers and live plants	1.4	Tab.5.3 items
013 690 Seeds of forage plants	0.0	Tab.5.4 item
014 120 Raw milk from bovine cattle	6.8	Tab.5.5 items
014 129 Milk for own consumption	0.0	Tab.5.5 items
014 210 Bovine cattle	3.6	Tab.5.6 items for deliveries to dairies
014 510 Sheep	1.0	Tab.5.6 item
014 520 Raw milk from sheep and goats	0.1	Tab.5.5 item
014 530 Wool and animal hair	0.1	Tab.5.8 (sale and hire spinning)
014 590 Reindeer, goats, horses and rabbit	0.2	Tab.5.6 items

Market output		
011 110 Grain	2.1	Tab.5.1 of BCA basic source, sub-total for sale, plus own final consumption, by various grains; adjustment made for water quality, distributed among NNA-products based on tons of grains
014 600 Swine	3.1	Tab.5.6 item
014 710 Poultry	1.4	Tab.5.6 item
014 720 Eggs	0.8	Tab.5.7 item
014 729 Eggs for own consumption	0.0	Tab.5.7 item
014 910 Other live animals	0.0	Tab.5.10 items (export other animal, foxes and minks) and tab.5.7. (domestic sale of horses)
014 920 Natural honey etc.	0.1	Tab.5.10 item
014 930 Raw fur skins	0.2	Tab.5.9 items
014 980 Meat and pork for own consumption, big game	0.5	Hunting statistics
014 990 Meat and pork for own consumption, small game	0.1	Hunting statistics
016 220 Income from transport, capital formation	0.1	Tab.5.11 item
016 230 Stabling of horses	0.1	Tab.5.11 item
016 240 Other income from transport	0.3	Tab.5.11 items
019 019 Changes in breeding livestock	0.0	Tab.5.13items; distributed on cattle types, sheep, goats, swine, fur animals and reindeer; calculated as changes in livestock valued at current year prices
019 039 Changes in livestock for slaughter	0.0	Tab.5.13 items; distributed on cattle types, swine and hens; calculated as changes in livestock valued at current year prices
019 048 Changes in stocks, fruit trees	0.0	Special estimation based on BCA information, i.e. number of fruit trees and prices (in model reference holdings), also area figures in market production
019 118 Investment in agriculture, land improvement (ditching)	0.0	Tab.5.12 items
019 138 Investment in agriculture, non-residential buildings and constructions	0.2	Tab.5.12 item
211 050 Cannabis	0.0	Separate estimations
Production for own use		
011 309 Fresh vegetables for own consumption	0.2	Special estimation based on relevant CPI and assuming no volume growth
011 359 Potatoes for own consumption	0.0	Special estimation based on relevant CPI and assuming no volume growth
012 409 Fresh fruit for own consumption	0.7	Special estimation based on relevant CPI and assuming no volume growth
014 910 Other live animals	0.5	Special estimation based on relevant CPI (pets) and assuming no volume growth
Total output	**26.3**	

3.7.11 Horticultural and landscaping services are included in output, for the latter only when reported as delivered to agriculture (or forestry).

3.7.12 **Hunting statistics** of Statistics Norway provide a basis for estimating output of hunting. Data are collected from the municipalities - on the yield of big game and small game felled. Statistics on hunters are based on the hunter register (felling licenses), which is updated when the hunting tax is paid to the Directorate of Nature Management.

3.7.13 The two products covered from the **hunting industry** are both **meat for own final use** as none professional hunters are identified in Norway. Output is estimated from information on carcass weight of big game, and felling figures of small game, with the first hand value of the total caught of big game and small game. As price data on big game is used the price on reindeer both for reindeer, moose, red deer and roe deer. For small game, prices for grouse and hare are used.

3.7.14 A relatively small fraction of total agricultural output is treated as output from **agricultural production for own final use**. A benchmark assessment was done with the introduction of ESA95. Two sources were used. The BCA reported this kind of production by farmers in the Aggregate account for agriculture. These are in the table above shown under the heading Market output (output of market producers). The source for the products under the heading Production for own use was the Household Budget survey. In this survey, the respondents were asked for quantity information of the consumption of agricultural products produced by the households themselves and current values was reached by combining the quantity information with price information using relevant CPI components. Production of other live animals is production of pets (other than horses) estimated from the purchases reported in the Household Budget survey. In updating the estimate, no volume change has been assumed.

3.7.15 The output estimates of NNA are very close to those given in the main source of BCA Aggregate account. **Minor corrections** occur only, i.e. total adjustment to the basic source has been insignificant and different coverage of subsidies on products also quite small.

3.7.16 Output of **agricultural and animal husbandry service activities** is estimated for 3 characteristic NNA-products and two non-characteristic product. Illustration by 2005 figures follows by products:

Output in agricultural services. NOK billion in 2009 - Sources and methods

Characteristic output		
016 010 Other agricultural and animal husbandry services	0.1	Covered are cow-house accounting services and services from kennel activities based on tab.5.20 of BCA Aggregate account.
016 210 Insemination	0.2	Calculated in combination with item bovine semen, as a residual on basis of farmers' costs to insemination (including semen) from tab.5.20 (Other costs) of BCA Aggregate agriculture account
016 230 Stabling of horses	0.0	Minor part of the product also in the ordinary agriculture industry, tab.5.20
Non-characteristic output		
	0.1	Includes bovine semen and personal services related to pets, based on tab5.20
Total output	0.5	

Output - NACE 02

3.7.17 The NNA **forestry and logging** output estimation is directly based on items of the Aggregate account of forestry, supplemented by more round wood cut details when split on several CPA-based products. **Aggregate account of forestry** is published in the **Forestry statistics** annual publication by Statistics Norway (separate table). A database (VSOP) owned by Ministry of Agriculture is behind the

Aggregate account. Quantities cut for sale and industrial production from private forests and local government forests are reported here by the District Forestry Boards. The same applies to 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. Output in nurseries is included estimated from data from Det Norske Skogselskap (The Norwegian Forestry Society) on volume and average prices reported from nurseries.

3.7.18. While the Forestry statistics is the main source for the national accounts estimates, some definitional adjustments is made, particularly by also including natural growth of cultivated forests. The basic assumptions in the estimations are that 50 per cent of the forest in Norway is cultivated and that about 90 per cent of the total growth of timber is in the cultivated part of the forest, and that there is annually a 10 per cent reduction of the cultivated forest due to natural waste. Using data from the Forestry statistics (NOS Skogstatistikk, table 2.5) and combining with "stumpage-price"-equivalent, figures for the value of changes in inventories are estimated. For more details on the deduction of the basic assumptions, see Documents 2001/2 (Statistics Norway, 2001), documenting work on environmental satellite accounts. **Supplementary sources** are manufacturing statistics, external trade statistics and the annual sample survey of agriculture and forestry.

3.7.19 **Forestry output** is specified by 9 characteristic and 2 non-characteristic NNA-products. These are illustrated by 2009 figures:

Output in forestry and logging. NOK billion in 2009 - Sources and methods

Characteristic output		
012 920 Christmas trees	0.2	Item 1e of main source
021 020 Own-account construction, silviculture	0.1	Item 2a of main source
022 010	2.0	12 items in Forestry statistics (prices and quantities)
022 020 Logs of non-coniferous wood and logs consumed on farms, fence wood	0.0	2 items in Forestry statistics (prices and quantities)
022 040 Fuel wood for sale	0.5	2 items in Forestry statistics, partly adjusted due to changes in legislation for reporting
022 049 Fuel wood for own use	0.1	Item 1d of main source, adjusted vs. fuel wood for sale
023 000 Parts of plants, moss and cones	0.1	Minor item, partly estimated from external trade statistics
024 010 Timber scaling etc.	0.1	
024 020 Entrepreneur services related to forestry	0.8	
029 118 Own-account construction on forest roads	0.0	
161 030 Other wood in the rough	0.0	2 items in Forestry statistics (prices and quantities)
Non-characteristic output		
	2.0	Includes changes in inventories of timber (special calculations are made mainly from Forestry statistics information), own account investment in silviculture (treated as output delivered from the forest and logging industry used for intermediate consumption in the construction industry), and also services allied to hunting
Total output	5.9	

3.7.20 **Services incidental to forestry and logging** are produced within a separate industry covering activities of timber scaling, spraying of trees and forestry management planning (7 NNA-products specified). 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.

Output - NACE 03

3.7.21 **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 sale organizations deliver this information to the Directorate of Fisheries for producing statistics. In addition, aggregated information is obtained from organizations that do not deliver information electronically, 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 that 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.

3.7.22 **Annual census data of fish farming** are based on a register subject to licenses 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
1 200 units) are covered.

3.7.23 **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**. This aggregate account is compiled by Statistics Norway, from which the data required for NNA have been extracted. No allowances are made for unregistered catch due to minor importance. The reason for ignoring unregistered catch is strongly regulated fisheries in which quotas apply. This is argued by the Budgeting Committee for the fishing industry which is held responsible for the aggregate account. For fish farming, **annual census data** have been used for the estimation of output.

3.7.24 Cost surveys of fishing boats and cost surveys of fish farming (described below under intermediate consumption) are also relevant for output to have other income (than from fishing) included as well.

3.7.25 In the two industries totally, **output is specified** by 16 characteristic and 1 non-characteristic NNA-products. Six 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. Illustration by 2009 figures follows by products:

Output in fishing. NOK billion in 2009 - Sources and methods

Characteristic output		
031 110 Salmon and trout, fresh or chilled	0.0	Items of catch statistics
031 120 Herring, sprat and capelin, fresh or chilled	3.1	Items of catch statistics
031 130 Cod, fresh or chilled	2.8	Items of catch statistics
031 140 Coalfish, pollack and haddock	2.1	
031 150 Mackerel, fresh or chilled	1.0	Items of catch statistics
031 160 Other fishes, fresh or chilled	0.9	Items of catch statistics. Includes also fish for own consumption. Benchmark from the 1971 Fishery census, initially extrapolated by 5 per cent annual decrease in volume multiplied by price index for fresh fish. In 2009 extrapolated using the value of other fish products.
031 310 Crustaceans, shrimps, oysters	0.8	Items of catch statistics
031 380 Other aquatic products	0.0	Items of catch statistics
031 690 Sealing and whaling	0.0	Items of catch statistics
031 700 Services related to aquaculture	0.5	NO (General Trading Statement)
032 199 Changes in inventories, fish farming	1.7	Calculation made from annual census data of fish farming
032 310 Salmon and trout, fish farming	21.9	Items of annual census of fish farming
032 320 Cod fresh or chilled, fish farming	0.4	Items of annual census of fish farming
032 330 Other fish fresh or chilled, fish farming	0.2	Items of annual census of fish farming
032 350 Fry, young fish, aquarium fish	2.4	Items of annual census of fish farming
Non-characteristic output		
	0.7	Include minor items of own-account construction and freight transportation
Total output	38.5	

3.7.26 The product "Fish for own consumption" have two different sources. One component is based on a large fishing survey from 1971. This element covers the value of the catch for professional fishers that they use for own consumption, and is not significant. There have been no surveys similar to this one since then. The basis for the 5 per cent decline is number of fishermen and number of vessels (as both have been declining). The dominating part of this product however, is the value of the catch by other households than households of fishermen. The estimate of this part of the own account production was benchmarked at the introduction of ESA95 and has since then been updated with changes in basic prices of fish from market production. The benchmark value was the result of reconciliation of supply and use for fish. Consumption of fish from the households' own catch is

included in the HBS consumption estimates. In the HBS, there was a separate questionnaire reminding the respondents of gifts and own account production of food. Also, examples for filling out the diaries of expenditures included how to enter consumption of own account food production.

3.7.27   **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 2009, output of sealing and whaling was 0.0 billion (insignificant), partly produced by the fishing industry, partly by the research and development industry. In Norway, there is virtually no production of pearls (only small amount of imports).

Intermediate consumption

3.7.28   In NNA, **intermediate consumption** in these industries (NACE A) is estimated at NOK 42.9 billion in 2009. There are 181 NNA-products, of which 91 in agriculture.

3.7.29   **Main sources used** are same as for output:
-        Aggregate account of agriculture, compiled by the Budgeting Committee for Agriculture
-        Aggregate account of forestry, compiled by Statistics Norway
-        Cost surveys of fishing boats
-        Cost surveys of fish farms

3.7.30   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 5.16 through 5.21 of the BCA source. In some cases, a BCA item had to be split for several NNA-products, in other cases BCA items have been combined to form one NNA-product.

3.7.31   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. Most important downward correction relates to part of social security contribution item.

3.7.32   A small fraction of total intermediate consumption in agriculture is recorded as intermediate consumption in agricultural **production for own final use**. Specified are 9 NNA-products. The estimation is conservatively assessed and partly based on data from 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.

3.7.33   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 cow-house accounting activities. In total, intermediate consumption of the agricultural and animal husbandry service activities is specified on some 18 different NNA products.

3.7.34   Intermediate consumption in **hunting** was estimated for the **first time in the main 2002 revision**. Data on ammunition and data on forest owners' income from selling felling licenses, hiring out terrain for hunting activities etc. are used in this estimation.

3.7.35   The items of the Aggregate account of forestry are used to estimate most of some 15 NNA-products included in intermediate consumption of **forestry and logging**. In some cases, an item had to be split for several NNA-products.

3.7.36   Finally for **forestry services**, intermediate consumption excluding use of electricity is extrapolated using same nominal change as in output.

3.7.37   **Annual cost surveys of fishing boats** are managed by the Budgeting Committee of Fishing, while from 2004 taken over by the Directorate of Fisheries. In order to utilize these data (averages by boat), 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 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).

3.7.38   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. It is calculated from profitability analysis based on operating surplus for the fleet on a whole year basis. To estimate intermediate consumption of part-time fishermen, adjustment factor is calculated, based on the relation between value of catch and inflated values of the sales income from fishing in the analysis. Unregistered fishing boats are a minor problem in Norway, however. Most significant revisions have been made for repairs and maintenance of fishing boats and of machinery and equipment, insurance costs and fuels. 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.

3.7.39   The **annual cost surveys of fish farming** have 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).

3.8   Mining and quarrying (B)

Contents

3.8.1   In NNA, the activities of NACE B are **distinguished in 6 industries** within one headings:

05-09	Mining and extraction		
	050	Mining of coal and lignite; extraction of peat	M	
	060	Extraction of crude petroleum and natural gas	M	
	070	Mining of metal ores		M
	080	Other mining and quarrying		M
	091	Service activities incidental to oil and gas extraction	M	
	099	Service activities incidental to other mining activities	M	

3.8.2   **Oil and gas extraction activity** (NACE 06) is of **utmost importance to Norway**. Value added share of GDP has been higher than for manufacturing (in most years since 1990) and also higher than wholesale and retail trade during the 1990s and later. Oil and gas extraction is therefore presented as a main industry item in aggregated tables by industry in Norway. It is also important to distinguish the extraction part from the services part at 3-digit NACE level.

3.8.3   Outside the oil and gas extraction activity there is no significant production for own final use, nor any non-market production. In oil and gas extraction own account construction accounts for a minor share of total output in industry B.

3.8.4   Mining and quarrying, including extraction of crude petroleum and natural gas, make a **high contribution of 18.7 per cent of GDP** in 2009. Value added share of NACE B output is 80 per cent in 2009, which is very high and even above the level of most service industries.

NACE B - NOK billion and value added percentages in 2009

		Output	Intermediate Consumption	Value added	Per cent of total value added	Per cent of GDP
050	Mining of coal and lignite	2.2	1.0	1.1	0.1	0.0
060	Extraction, crude oil, natural gas	485.3	87.1	398.1	19.0	16.9
070	Mining of metal ores	0.8	0.5	0.3	0.0	0.0
080	Other mining and quarrying	8.4	5.8	2.6	0.1	0.1
09	Mining support service activities	92.4	53.2	39.2	1.9	1.7
091	Service activities incidental to oil extraction	92.4	53.2	39.2	1.9	1.7
099	Mining support service activities	0.1	0.0	0.0	0.0	0.0
	Total NACE B	589.1	147.7	441.4	21.1	18.7

Output

3.8.5   Output in extraction of the crude petroleum and natural gas industry is measured at the production sites in the North Sea,with only a small fraction of total output produced on-shore, mainly in a few processing plants. Pipeline transportation is recorded as output of the pipeline transport industry, partly regarded as a kind of transport margin.

3.8.6   More than 10 per cent of industry output is **non-characteristic**, most of which is oil-related services produced in the extraction of crude petroleum and natural gas industry. Non-characteristic items are mainland supporting activities, refined products and adjustment for foreign ownership share of oil and gas fields on the continental shelf. Renting of oilrigs is non-characteristic output of the industry service activities incidental to oil and gas extraction.

3.8.7   **Main sources used** are:
    (1)   Oil and gas activity statistics - NACE 06
    (2)   Structural Business Statistics (SBS) – NACE 05/07/08/09
    (3)   Energy statistics - NACE 06

3.8.8   **Oil and gas activity statistics** are considered one of the main sources for national accounts estimation. These basic statistics include data on output collected annually in **different statistical forms**, distinguishing separate oil and gas activities:

Form	Activity-related area	NACE and NNA-activity
A	Supporting activities, pipeline transport	NACE 49.5 - 495
B	On-shore activities	NACE 06 - 060
D	Oil and gas fields in operation offshore	NACE 06 - 060
F	Management of oil and gas – contrivance	NACE 06 - 060
H	Supporting activities, oil and gas extraction	NACE 06 - 060
K	Licensee activity	NACE 06 - 060
O	Terminals in operation	NACE 06 - 060
R	Pipeline transportation	NACE 49.5 - 495

3.8.9   **Annual manufacturing statistics** cover mining and quarrying industries in the same manner - based on SBS - as for manufacturing industries. In coal mining and metal ore mining (NACE 05 and 07), all units are considered large establishments, while units of NACE 08 consist of both large and small establishments.

3.8.10   **Other sources used** for output estimation of NACE 06 include quantity data of crude oil from **energy statistics**.

3.8.11   **Oil and gas activity statistics** are mainly used to estimate output of the oil and gas extraction industry. Data are collected on forms listed above as far as extraction (NACE 06) is concerned. Output of the corresponding service activities (NACE 091) is estimated from SBS and supplementary form H. Various adjustments and supplements to these data sources are necessary, however. These are part of the reconciliation/balancing of supply and demand, for instance there can be some inconsistencies between the activity statistics and the foreign trade data.

3.8.12   **Output is specified** by 5 characteristic and 6 non-characteristic NNA-products. These are illustrated by 2009 figures:

Output in oil and gas extraction. NOK billion in 2009 - Sources and methods

Characteristic output		
060 010 Crude petroleum	274.3	Estimated on p x q terms, i.e. output in tons from Energy accounts and using export price (adjusted for pipeline transport) per ton, as item in form D of main source does not contain value information
060 020 Natural gas	134.5	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
060 030 Natural gas liquidated (NGL)	5.2	Estimated on p x q terms, i.e. output in tons from Energy accounts and using export price (adjusted for pipeline transport) per ton, as item in form D of main source does not contain value information
060 058 Own-account construction	7.1	Item in form H of main source, estimated share of 60 per cent of this item
Non-characteristic output		
	64.1	Included are in particular contract work (27.2 billion), estimated from items of forms O, B and K of main source, and foreign ownership adjustment to oil and gas fields (0.6 billion), gasoline, naphtha (13.4 billion) and propane and butanes (22.9 billion), all estimated from items in form D of main source.
Total output	485.2	

3.8.13 Output of crude oil is estimated from quantity data in tons from energy statistics and export price per ton. Adjustment is made for pipeline transport costs on Norwegian shelf to border before export price is determined.

3.8.14 Output of natural gas is estimated from the use side, as exports plus domestic uses adjusted for pipeline transport. There are also some deliveries of natural gas to mainland manufacturing and other uses, but just small amounts until now, while increasing.

3.8.15 Output from mainland production in this activity refers to services from offices, supply bases and terminals. These are services delivered to other units in NACE 060 industry, either for intermediate consumption or gross fixed capital formation (for own final use). Output is estimated from total production costs in this case. The part related to gross fixed capital formation is estimated from items in statistical forms K and T (investments form), in particular.

3.8.16 Output of industry NACE 091 is estimated from SBS, comprising standard NO and supplementary statistical form L (Technical services incidental to petroleum activities). Main activities are drilling of exploration and production wells from movable oil rigs and other offshore activities, such as draining and drilling services from non-movable installations and other specialized technical consultancy activities.

3.8.17 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 oil and gas extraction industry is not affected by this treatment, as this item appears as intermediate consumption as well.

3.8.18 **Foreign ownership adjustment to oil and gas fields** refers to estimated income (deducting amounts of cost) from border fields with the U.K. of the Norwegian continental shelf. A few fields are located directly on the border between Norway and United Kingdom, and the revenue and costs are shared proportionally. The UK's share of the costs of the Norwegian operated Statfjord (earlier also Frigg) are recorded as exports to the UK, and Norway's share of the costs of the UK-operated Murchinson field as imports from the UK. 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 oilrigs are recorded as rental on bare boat basis.

3.8.19 For **mining and quarrying** (except oil and gas extraction), output data in **manufacturing statistics** are used as the basis for the NNA output estimates. Direct calculation of output is carried out according to definition of output from SBS, given in section 3.3 above.

Intermediate consumption

3.8.20 In NNA, **intermediate consumption** in these industries is estimated at 147.7 billion NOK in 2009. There are about 150 NNA-products, typically 30 - 40 products in each industry.

3.8.21 **Main sources used** are the same as for output:
    (1)   Oil and gas activity statistics
    (2)   Structural Business Statistics

3.8.22 **Oil and gas activity statistics** include data on intermediate consumption collected annually in the different statistical forms, listed in the output section above.

3.8.23 For other mining and quarrying and services incidental to oil and gas extraction - as for output - the main source is the **SBS**.

3.8.24 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 40 NNA-products are specified, most of them compiled from these forms. Items in main source deviate from product items of NNA, which mean ratios have to be introduced for relatively many products.

3.8.25 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 border fields with UK. Item of electricity includes electricity purchased, while 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. FISIM (two NNA-products) has to be added, not covered in main source (see chapter 9).

3.8.26 **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:

3.8.27 For the **oil drilling services**, intermediate consumption involves direct imports either estimated from **SBS** and supplementary form L or from balance of payments data. Information from these two sources is judged before estimation eventually is made. In 2009, intermediate consumption of the services incidental to oil and gas extraction industry is 57 per cent of its corresponding output, while about 18 per cent in the oil and gas extraction industry.

3.8.28 Data on intermediate consumption in **manufacturing statistics** are used as the basis for the NNA estimation, calculated according to definition of intermediate consumption from SBS, given in section 3.3 above.

3.9 Manufacturing (C)

Contents

3.9.1 In NNA, the activities of NACE C are **distinguished in 44 industries** within 19 A64 headings:

10-12	Manufacture of food products, beverages and tobacco		
	101	Production, processing and preserving of meat and	meat products	M
	102	Processing and preserving of fish and fish products		M
	103	Processing and preserving of fruit and vegetables		M
	104	Manufacture of vegetable and animal oils and fats		M

105	Manufacture of dairy products	M	
106	Manufacture of grain mill products, starches and starch products		M
107	Manufacture of pastry and paste products		M
108	Manufacture of other food products		M
109	Manufacture of prepared animal feeds	M	110
	Manufacture of beverages	M	
120	Manufacture of tobacco products		M
13-15	Manufacture of textiles, wearing apparel and leather products		
130	Manufacture of textiles	M	
140	Manufacture of wearing apparel	M	
150	Manufacture of leather and related products		M
16	Manufacture of wood and of products of wood and cork, except furniture; manufacture of articles of straw and plaiting materials		
160	Manufacture of wood and of products of wood and cork, except furniture; manufacture of articles of straw and plaiting materials	M	
17	Manufacture of pulp, paper and paper products		
170	Manufacture of pulp, paper and paper products	M	
18	Printing		
180	Printing and reproduction of recorded media	M	
19	Manufacture of coke and refined petroleum products		
190	Manufacture of coke and refined petroleum products	M	
20	Manufacture of chemicals and chemical products		
201	Manufacture of basic chemicals	M	
207	Manufacture of plastics and man-made fibres	M	
208	Manufacture of other chemical products	M	
21	Manufacture of basic pharmaceutical products and pharmaceutical preparations		
210	Manufacture of basic pharmaceutical products and pharmaceutical preparations		M
22	Manufacture of rubber and plastic products		
220	Manufacture of rubber and plastic products		M
23	Manufacture of other non-metallic mineral products		
231	Manufacture of glass and glass products	M	
232	Manufacture of ceramic products, bricks, tiles etc.		M
235	Manufacture of cement, lime and plaster		M
236	Manufacture of articles of non-metallic mineral products		M
24	Manufacture of basic metals		
241	Manufacture of iron, steel and ferro-alloys		M
243	Aluminum production	M	
244	Manufacture of other non-ferrous metals		M
245	Casting of metals		M
25	Manufacture of fabricated metal products, except machinery and equipment		
251	Manufacture of structural metal products		M
259	Manufacture of other fabricated metal products	M	
26	Manufacture of electronic, computer and optical products		
260	Manufacture of electronic, computer and optical products		M
27	Manufacture of electrical equipment		
270	Manufacture of electrical equipment	M	
28	Manufacture of other machinery and equipment		
280	Manufacture of other machinery and equipment	M	
29	Manufacture of motor vehicles, trailers and semi-trailers		
290	Manufacture of motor vehicles, trailers and semi-trailers		M
30	Manufacture of other transport equipment		
301	Building of ships and boats		M

3.9.2   All manufacturing industries consist of **market producers**.

3.9.3   Manufacturing makes a **contribution of 7.3 per cent of GDP** in 2009. Value added share of output is 25 per cent in 2009 for total manufacturing, which is of course much lower than the national ratio (52.1 per cent). This also explains the more detailed industry breakdown of manufacturing. The gross flows of products in manufacturing are much higher than its share of total GDP indicates. To accommodate for production and productivity analysis, energy analysis and environmental analysis based on homogenous production units, the large number of detailed industries are justified.

NACE D - NOK billion and value added percentages in 2009

		Output	Intermediate consumption	Value added	Per cent of total value added	Per cent of GDP
10	Manufacture of food products	136.6	110.4	26.2	1.3	1.1
101	Meat and meat products	37.1	31.0	6.0	0.3	0.3
102	Fish and fish products	35.7	30.3	5.4	0.3	0.2
103	Fruit and vegetables	5.1	3.8	1.3	0.1	0.1
104	Vegetable and animal oils and fats	4.0	3.3	0.6	0.0	0.0
105	Dairy products	17.7	14.1	3.6	0.2	0.2
106	Grain mill products, starches, starch products	3.0	2.4	0.6	0.0	0.0
107	Manufacture of bakery and farinaceous products	9.2	5.8	3.4	0.2	0.1
108	Other food products	9.2	5.9	3.3	0.2	0.1
109	Prepared animal feeds	15.7	13.8	1.9	0.1	0.1
11	Manufacture of beverages	10.0	6.5	3.6	0.2	0.2
12	Manufacture of tobacco products	3.5	2.2	1.4	0.1	0.1
13	Manufacture of textiles	2.3	1.5	0.8	0.0	0.0
14	Manufacture of wearing apparel	0.3	0.2	0.1	0.0	0.0
15	Manufacture of leather and related products	21.6	15.1	6.5	0.3	0.3
16	Manufacture of wood and of products of wood and cork, except furniture, manufacture of articles of straw and plaiting materials, except furniture	14.5	12.1	2.4	0.1	0.1
17	Manufacture of paper and paper products	10.9	6.8	4.1	0.2	0.2
18	Printing and reproduction of recorded media	52.9	48.0	5.0	0.2	0.2
19	Manufacture of coke and refined petroleum products	136.6	110.4	26.2	1.3	1.1
20	Manufacture of chemicals and chemical products	44.6	33.6	11.0	0.5	0.5
201	Manufacture of basic chemicals	30.1	22.7	7.4	0.4	0.3
207	Manufacture of plastics and synthetic rubber in primary forms	9.2	6.2	3.0	0.1	0.1

		Output	Intermediate consumption	Value added	Per cent of total value added	Per cent of GDP
208	Manufacture of pesticides and other agrochemical products	5.2	4.6	0.5	0.0	0.0
21	Manufacture of basic pharmaceutical products and pharmaceutical preparations	7.8	4.0	3.8	0.2	0.2
22	Manufacture of rubber and plastics products	9.5	6.3	3.2	0.2	0.1
23	Manufacture of other non-metallic mineral products	24.3	16.9	7.4	0.4	0.3
231	Manufacture of glass and glass products	2.9	1.8	1.1	0.1	0.0
232	Manufacture of refractory products	0.6	0.4	0.2	0.0	0.0
235	Manufacture of cement, lime and plaster	1.6	0.9	0.7	0.0	0.0
236	Manufacture of articles of concrete, cement and plaster	19.1	13.7	5.4	0.3	0.2
24	Manufacture of basic metals	50.8	44.5	6.3	0.3	0.3
241	Manufacture of basic iron and steel and of ferro-alloys	10.4	8.7	1.7	0.1	0.1
243	Aluminium production	24.7	21.8	2.8	0.1	0.1
244	Other non-ferrous metal production	13.6	12.8	0.8	0.0	0.0
245	Casting of metals	2.1	1.2	0.9	0.0	0.0
25	Manufacture of fabricated metal products, except machinery and equipment	44.2	28.8	15.4	0.7	0.7
251	Manufacture of structural metal products, tanks, reservoirs and containers of metal	13.1	8.3	4.7	0.2	0.2
259	Manufacture of other fabricated metal products	31.1	20.4	10.7	0.5	0.5
26	Manufacture of computer, electronic and optical products	20.7	13.3	7.4	0.4	0.3
27	Manufacture of electrical equipment	18.0	11.7	6.2	0.3	0.3
28	Manufacture of machinery and equipment n.e.c.	78.5	54.9	23.6	1.1	1.0
29	Manufacture of motor vehicles, trailers and semi-trailers	5.1	3.6	1.5	0.1	0.1
30	Manufacture of other transport equipment	67.6	49.8	17.7	0.8	0.8
301	Building of ships and boats	37.2	30.4	6.8	0.3	0.3
302	Building of oil platforms and modules	29.0	18.7	10.3	0.5	0.4
309	Manufacture of transport equipment n.e.c.	1.4	0.8	0.6	0.0	0.0
31	Manufacture of furniture	9.2	5.8	3.4	0.2	0.1
32	Other manufacturing	4.4	2.3	2.1	0.1	0.1
33	Repair and installation of machinery and equipment	33.9	22.0	11.9	0.6	0.5
331	Repair of fabricated metal products, machinery and equipment	26.0	16.6	9.4	0.5	0.4
332	Installation of industrial machinery and equipment	7.9	5.4	2.4	0.1	0.1
	Total NACE C	671.2	500.2	171.0	8.2	7.3

Output

3.9.4   A substantial part of the **non-characteristic output** in manufacturing is output that is 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. The CPA method and the Prodcom statistics (see below) are utilized in order to control industry code of units in manufacturing statistics.

3.9.5 **Main sources used** are:
- Manufacturing statistics, SBS-based
- Prodcom

3.9.6 **Annual manufacturing statistics**, based on the approach of the **Structural business statistics,** are one of the most important statistical sources for national accounting. **Annual statistics by products based on Prodcom** is important for distribution of output in manufacturing on products and thus for the whole balancing process in the commodity flow system. Definition of output from these structural business statistics is already provided in section 3.3 above. The supplementary questionnaire (TS items) is much more comprehensive in manufacturing than in services industries in that respect. In particular in defining output of characteristic products, the TS supplies data on sale of own produced goods separately, while for other industries sales of own produced goods and services are mixed together with sales of goods for resale.

	NO-items		TS-items manufacturing
NO3000	Sales of goods and services, liable to VAT	IS 210	Sales of own produced goods
+ NO3100	Sales of goods and services, free of VAT	IS210	Sales of own produced goods
+ NO3200	Sales of goods and services, not subject to VAT	IS210	Sales of own produced goods
+ NO3500	Own accoun investments, capitalized		
- NO4295	Changes in stocks, finished goods and work in progress	IS420 IS430	Changes in stocks of goods under construction and running projects, and changes in stocks of owned produced finished goods
- TS post	Sales of goods for resale	IS 220	Sales of goods for resale

Publication versions	Output. NOK billion in 2009
Manufacturing statistics, SBS based in basic prices	603.7
National accounts in basic prices	671.2

3.9.7 In the 2006 main revision large parts of the recycling industry were reclassified as services activities within the renovation services industry, reducing the value added in the recycling manufacturing industry by about 2/3. The transformation to NACE rev.2 in the 2011 main revision made further reduction to the manufacturing industry.

Intermediate consumption

3.9.8 In NNA, **intermediate consumption in manufacturing** is estimated at NOK 500.2 billion in 2009. The number of inputs specified is quite high (more than 70 NNA-products in some cases), while also including a good number of insignificant values.

3.9.9 **Main sources used** are:
- Manufacturing statistics, SBS-based
- Periodic statistical survey on manufacturing inputs

3.9.10 **Annual manufacturing statistics** based on the approach of the **Structural business statistics** are one of the most important statistical sources for national accounting. Definition of intermediate consumption from these structural business statistics is already provided in section 3.3 above.

3.9.11 As for the **details of the input data** full set of details are available on an annual basis as from 2008 with specifications covering about 90 per cent of intermediate consumption in each industry. Also **data on energy use by products** have continued to be available on annual basis. This has contributed to improved quality on energy input data in manufacturing.

3.9.12 When product details are not provided (about 10 per cent), the method used is 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.

Publication versions	Intermediate consumption. NOK billion in 2009
Manufacturing statistics, SBS based	473.0
National accounts	500.2

3.9.13 Like for output the difference is explained by various definitional and other adjustments to the source data. Two obvious items helped explain this difference, first FISIM as an addition, while also a downward adjustment for insurance when applying the more narrow national account concept on insurance.

3.10   Electricity, gas, steam and hot water supply (D)

Contents

3.10.1   In NNA, the activities of NACE D are **distinguished in 4 industries** within one A64 heading:

35		Electricity, gas, steam and hot water supply	
	350	Production of electricity	M
	351	Distribution of electricity	M
	352	Manufacture and distribution of gaseous fuels through mains	M
	353	Steam and hot water supply	M

<u>3.10.2</u> Electricity production, mostly based on hydro power, is important in Norway, and in order to reflect market conditions, and also responding to requirements in economic models, it has been distinguished between **two separate industries of electricity**, i.e. production of electricity and distribution of electricity. The latter comprises both 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, gas supply in fact non-existent for a number of years.

<u>3.10.3</u> Electricity, gas, steam and hot water supply make a **contribution of 2.1 per cent to GDP** in 2009. Value added share of output was 74 per cent.

NACE D - NOK billion and value added percentages in 2009

		Output	Intermediate Consumption	Value added	Per cent of total value added	Per cent of GDP
35	Electricity, gas , steam and hot water supply	67.6	17.3	50.3	2.4	2.1
350	Electricity production	41.2	6.3	34.8	1.7	1.5
351	Electricity distribution	24.3	9.7	14.6	0.7	0.6
352	Gaseous fuels through mains	0.4	0.3	0.1	0.0	0.0
353	Steam and hot water supply	1.8	1.0	0.8	0.0	0.0
	Total NACE D	67.6	17.3	50.3	2.4	2.1

Output

<u>3.10.4</u> Most output is characteristic, while **non-characteristic output**, in particular own-account construction, and some renting services as well are concentrated in the electricity industries.

<u>3.10.5</u> **Main source used** is:
-        Electricity statistics (eRapp)

<u>3.10.6</u> **Annual electricity statistics** belong to the main sources used to calculate GDP. The annual electricity statistics are production statistics like manufacturing statistics, based on the approach of the **Structural Business Statistics**.

<u>3.10.7</u> **Electricity statistics** are used to estimate output of electricity production. Electricity output is estimated net, i.e. output of each producer of electrical energy less electrical energy that 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 350 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 351 includes income from renting of distribution network and output 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. Totals are consistent with SBS totals.

<u>3.10.8</u> **Output is specified** by 5 characteristic and 11 non-characteristic NNA-products. These are illustrated by 2009 figures:

Output in electricity etc. NOK billion in 2009 - Sources and methods

Characteristic output		
351 107 Electricity transmission and distribution services	21.3	Item of main source
351 110 Electricity	34.9	Items of main source
351 120 Loss of energy in network	2.6	Items of main source; total less exports and domestic uses
352 000 Manufactured gas; distribution services of gaseous fuels through mains	0.4	Items of main source
352 300 Steam and hot water supply services	1.8	Items of main source
Non-characteristic output		
	6.6	Includes repair work, installation work, rental services, trade margin goods for resale, all estimated from main source
Total output	67.6	

3.10.9 Electricity transmission and distribution services are recorded as transport and trade margins. In Norway, six different levels of distribution networks exist, while for this purpose two kinds are essential: central network and regional network. For calculating output transport margins, transport prices are multiplied by electricity quantities used in the respective industries, extracted from Electricity statistics, thereby calculating transport costs for this part. To complete this calculation, electricity quantities for the other user groups are multiplied by the estimated tariff on transport through the central network, and added to the first part.

3.10.10 **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 351.

3.10.11 As a parallel to the ordinary estimation of wholesale and retail trade services, **trade margins on electricity output flows** are estimated from differences between sales and purchases (in NA valuation terms as purchaser's 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 the two industries of distribution on renting and sale and by three NNA-products.

3.10.12 Annual electricity statistics are also used for the estimation of output of **steam and hot water supply**. Two NNA-products are specified, one characteristic and one non-characteristic (minor).

Intermediate consumption

3.10.13 In NNA, **intermediate consumption** in these industries is estimated at NOK 17.3 billion in 2009. The number of inputs specified is typically 30 NNA-products in the first two, and somewhat less in the third industry of electricity.

3.10.14 **Main source used** is the same as for output:
- Electricity statistics

3.10.15 **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. 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 a gross treatment. The only special item of intermediate consumption to be recognized is loss of energy in the network flowing from NNA-industry 350 as output to intermediate consumption in NNA-industry 351. Annual electricity statistics are also utilized to estimate intermediate consumption of **steam and hot water supply**.

3.11 Water supply, sewerage, waste management and remediation activities (E)

Contents

3.11.1 The activities of NACE E are distinguished in 4 industries within two A64 headings:

36	Collection, purification and distribution of water		
	360 Collection, purification and distribution of water	M	(N)
37-39	Sewerage, waste management and remediation activities		
	370 Sewerage	M	N
	380 Waste management	M	N
	390 Remediation activities	M	

3.11.2 The activities within the NACE industries 36 – 38 involve both non-market producers and market producers. The non-market producers are mainly local government units. Producers of **water supply** are mostly treated as **institutional units of local government performing market production**. Recording local government consumption expenditure with a negative sign after fees to local government had been deducted has been avoided by introducing instead - as exception to the rule - market activity unit within a local government institutional unit. Output of this unit is the payments received and a minor operating surplus is generated. 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.

3.11.3 NACE E **contributes 0.5 per cent to GDP** in 2009. Value added share of output was 37 per cent.

NACE E - NOK billion and value added percentages in 2009

		Output	Intermediate consumption	Value added	Per cent total value added	Per cent of GDP
36	Water collection, treatment and supply	5.6	2.6	2.9	0.1	0.1
37	Sewerage	7.1	3.7	3.4	0.2	0.1
38	Waste collection, treatment and disposal activities, materials recovery	21.4	15.2	6.2	0.3	0.3
39	Remediation activities and other waste management services	0.1	0.1	0.0	0.0	0.0
	Total NACE E	34.2	21.7	12.5	0.6	0.5

3.11.4 **Main sources used** are:
- Structural Business Statistics for NACE 36 – 39
- Local government accounts

3.11.5 **Local government accounts** are utilized for the estimation of **water supply output**. In NNA, most of the waterworks have been treated as market producers (i.e. secondary local KAUs) 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. Only a few waterworks are treated 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.

3.11.6 Market producers are covered by the SBS-based annual statistics and the transformation to NA concepts follows the rules explained in chapter 3.3.

3.11.7 Output in NACE E is specified by 17 characteristic products and 11 non-characteristic.

Output in NACE E. NOK billion in 2009 - Sources and methods

Market - Characteristic output		
360 000 Water supply	0.7	SBS-based data.
370 000 Sewerage	1.0	SBS-based data.
381 000 Waste collection	7.0	SBS-based data.
382 000 Waste treatment and disposal services	2.4	SBS-based data
383 100 Dismantling services of wrecks	0	SBS-based data
383 200 Sorted metal materials recovery services	1.4	SBS-based data
383 210 Sorted glass materials recovery services	0.2	SBS-based data
383 220 Sorted paper and cardboard materials recovery services	3.6	SBS-based data
383 230 Sorted plastic materials recovery services	0.6	SBS-based data
383 290 Other sorted materials recovery services	1.1	SBS-based data
390 000 Remediation services and other waste management services	0.1	SBS-based data
Non-market - Characteristic output		
6 products (fees, final consumption products)	26.5	Local government accounts
Non-characteristic output		
Various (Rent, margins on goods for resale)	0.7	Local government accounts - SBS-based data
Total output	34.2	

Intermediate consumption

3.11.8 In NNA, **intermediate consumption** in these industries is estimated at NOK 21.7 billion in 2009. The number of inputs specified is typically 30 NNA-products in the first two, more than 50 in the third and about 25 in the fourth industry.

3.11.9 **Main sources used** are the same as for output:
- Structural Business statistics for NACE 36 - 39
- Local government accounts

3.11.10 For **sewage and refuse disposal, sanitation and similar activities, 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 **annual accounting statistics (SBS-based)**.

3.11.11 **Local government accounts** are also 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.

3.12   Construction (F)

Contents

3.12.1 In NNA, the activities of NACE F are **distinguished in 4 industries** within one A64 heading:

41-43	Construction		
	411	Development of building projects	M
	412	Construction of buildings etc.	M O
	420	Construction of civil engineering works	M
	430	Specialized construction activities	M

3.12.2 In 2003, due to institutional changes construction units in central government were reclassified as market producing units. At the same time construction activities of construction units in local government were reclassified as non-characteristic activities of other local government units.

3.12.3 **Own-account construction of buildings for own final use** account for 2.1 per cent of total construction output in 2009.

3.12.4 Construction makes a **contribution of 6.8 per cent to GDP** in 2009. Value added share of output is 36 per cent, somewhat above the level in manufacturing (25 per cent).

NACE F - NOK billion and value added percentages in 2009

		Output	Intermediate consumption	Value added	Per cent of total value added	Per cent of GDP
41	Construction of buildings	261.7	177.4	84.4	4.0	3.6
411	Development of building projects	25.7	18.6	7.0	0.3	0.3
412	Construction of residential and non-residential buildings	118.0	79.4	38.7	1.8	1.6
42	Civil engineering	36.0	25.0	11.0	0.5	0.5
43	Specialised construction activities	144.1	79.5	64.7	3.1	2.7
	Total NACE F	441.9	281.8	160.1	7.6	6.8

Output

3.12.5 The issue of work-in-progress was very much discussed when the oil and gas activity statistics were fully established in the 1980s (see NACE B above). Before this happened, work in progress did actually apply in Norway as far as oil platforms were concerned. Now it is not (accrued principle is applied, GFCF directly on modules as production proceeds), and work-in-progress is not applicable to construction in general as ESA95 principles are followed and based on the assumption that all construction activity is done according to advance sales contracts (i.e finding also contract criteria being met). Small figures for work-in-progress may be extracted from construction statistics and used for special calculations, however.

3.12.6 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, non-characteristic output consists only of some trade margins from sales, contract work, and fees for certain services.

3.12.7 **Main sources used** are:
- Annual construction statistics, SBS-based

3.12.8 The **structural business statistics with detailed module in construction** are divided into three parts: Private construction activities, State and state-owned enterprises, and municipality business undertakings and independent council enterprises. Excluded are construction activities performed for own account by enterprises that belong to other industry divisions. For more details, see chapter 11.

3.12.9 Construction statistics is **used in a direct way** to estimate output in construction, and opens up for an orientation towards CPA in product terms, since **sub-contracting work** is taken into account. It should also be mentioned that from building statistics we receive data on building work that has started (monthly) and buildings that are finished. These data are used for estimating GFCF in buildings, especially in the quarterly accounts but also for some investments in the annual accounts. There is each year a reconciliation process, where GFCF and other uses of construction services (for maintenance etc) are compared to production in the NACE F industry**.**

3.12.10 **Output is specified** by 17 characteristic (construction consolidated) and substantially fewer non-characteristic NNA-products. These are illustrated by 2009 figures:

Output in construction. NOK billion in 2009 - Sources and methods

Market - Characteristic output		
410 010 General construction work for residential buildings	44.2	SBS-based data.
410 020 General construction work for other buildings	63.0	SBS-based data.
411 010 Activities of housing cooperatives	1.7	SBS-based data.
411 090 Development and sale of property for own account	19.5	SBS-based data.
420 000 General civil engineering construction work	35.6	SBS-based data.
431 000 Demolition and site preparation works	30.4	SBS-based data.
432 100 Electrical installation works	37.4	SBS-based data.
432.200 Plumbing, heat and air-conditioning installation works	27.6	SBS-based data.
432 900 Other construction installation works	1.2	SBS-based data.
433 100 Plastering works	0.0	SBS-based data.
433 200 Joinery installation works	7.0	SBS-based data.

Market - Characteristic output		
433 300 Floor and wall covering works	2.1	SBS-based data.
433 410 Painting works	6.7	SBS-based data.
433 420 Glazing works	1.5	SBS-based data.
433 900 Other building completion and finishing works	19.7	SBS-based data.
439 100 Other specialised construction works	5.2	SBS-based data.
Non-characteristic output		
	130.2	SBA-based data. Includes trade services (trade margins) from sale of goods, fees for various renting services, repair and installation services, own account investments
Production for own final use		
410 008 Own-account construction of dwellings	9.1	Extrapolation from bench-mark leveles based on the Surveys on Housing Conditions and rehabilitation of buildings 1988/ 1989, and later reassessment based on balancing and data from time-use survey 2000.
Total output	441.9	

3.12.11 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. Definition of output from this structural business statistics is already provided in section 3.3 above.

3.12.12 **Own-account construction of buildings for own final use** 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 were made for **new dwellings**, for **major improvements and the like on existing dwellings**, and for **cottages, summerhouses etc**. The second item on major improvements to existing dwellings was most important. The survey of housing conditions, which was the source of the estimate, has been stopped as a separate survey, but the subject is carried on in the general standard of living surveys, which contains questions of housing conditions every second year. The questions about households own building activities have not been repeated. The 1988 surveys of housing conditions and rehabilitation of existing buildings provided 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 was 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. The first years the estimate was extrapolated using volume indicators (growth in finished new houses, growth in new holiday houses). Price increases were then applied separately for building materials and for wages (the estimated value of own time use). In view of the lack of updated sources, the extrapolation has been simplified. Previous year's estimate is now extrapolated using the price index gross fixed capital formation for dwellings, assuming no volume growth. The estimate is generally subject to smaller changes during the reconciliation process for the construction industry. **In the 2002 revision**, the same benchmark method was retained, as no economic information was available from more recent surveys in this area. Indicators for extrapolation were updated, however. The **2006 main revision** brought a 10 per cent downward adjustment on the

level of own account construction of buildings for own final use. The reason being a reassessment based on general **balancing** of construction services, data from the most **recent survey of time-use** in households, and to the reflection over the fact that more restrictions from government has been put on own construction work. The downward adjustment in the 2006 revision was done as a result of several considerations: no updated data sources were found, so the estimate is quite uncertain; new building regulations for dwellings has made own account work more difficult; the general growth in incomes and wealth makes it probable that a larger part of rehabilitation and renewals now are done by professionals; the estimates for the regular construction industry indicated some mismatch of supply relative to uses, which would have to be reconciled. In light of these considerations, it was assumed that a suitable part of what we had considered to be household own construction work actually had been delivered by professional suppliers belonging to Nace F industries. The extent of the revision was (part of) the outcome of the reconciliation of supply and uses of building services from Nace F.

3.12.13 The volume of own-account construction of new dwellings is extrapolated by use of building work started, by the number of new detached houses. Own account construction of existing dwellings is extrapolated by building work started on extensions of dwellings, by utility floor space. Value added, intermediate consumption and output is extrapolated by the same volume index. The price index on value added is based on the index of average monthly earnings in construction. The price indices on the intermediate consumption products are provided by the deflation system of the NNA, i.e. price indices on domestic use are calculated as residuals. Thus, value (and price index of output) of own-account construction work for own final use is calculated implicitly.

3.12.14 **Non-market output of local government** in construction activities is treated as non-characteristic output throughout the whole range of government industries

Intermediate consumption

3.12.15 In NNA, **intermediate consumption** in construction is estimated at NOK 281.8 billion in 2009. Number of NNA-products involved varies from about 30 up to 100 (in the NACE 454 industry).

3.12.16 **Main sources used** are:
- Annual construction statistics, SBS-based

3.12. 17 The SBS-based **Annual construction statistics** data are quite detailed and useful for NA compilation, and are **used directly** to estimate intermediate consumption in construction. Definition of intermediate consumption from this structural business statistics is already provided in section 3.3 above.

3.13   Wholesale and retail trade; repair of motor vehicles and motorcycles (G)

Contents

3.13.1 In NNA, the activities of NACE G are **distinguished in 3 industries** within the three A64 headings:

45	Wholesale, retail trade and repair of motor vehicles, motorcycles		
	450	Wholesale, retail trade and repair of motor vehicles, motorcycles	M
46	Wholesale trade, except of motor vehicles and motorcycles		
	460	Wholesale trade, except of motor vehicles and motorcycles	M
47	Retail trade, except of motor vehicles and motorcycles		
	470	Retail trade, except of motor vehicles and motorcycles	M

3.13.2   The **detailed treatment in NNA** is primarily a result from estimating output from the supply side, implying **that output is estimated independently of the margins**. The detailed industry breakdown for output is however not accompanied by a similar detailed breakdown for the trade margins. The **margins are global margins** by product and thus not divided into wholesale and retail trade components, and transport margins.

3.13.3 Separate **trade margin surveys** for wholesale trade and retail trade (information by products being provided) make a good contribution and basis for splitting distributive trades into two; this is made on the supply side. Explicit treatment of the two types of margins by product flows on the use side in national accounts is regarded as an unnecessary comprehensive format in this respect. Specific information for wholesale and retail trade is instead utilized outside this format, and then added. **Transport margins,** that were introduced in 2001 are no longer identified.

3.13.4   Wholesale and retail trade, including repairs, i.e. NACE G all together, makes a **contribution of 8.2 per cent to GDP** in 2009. Value added share of output is 50.9 per cent in 2009, slightly below the national ratio (52.1 per cent), and lower than in most service activities.

NACE G - NOK billion and value added percentages in 2009

		Output	Intermediate consumption	Value added	Per cent of total value added	Per cent of GDP
45	Wholesale and retail trade and repair of motor vehicles and motorcycles	55.0	27.5	27.5	1.3	1.2
46	Wholesale trade, except of motor vehicles and motorcycles	168.4	82.6	85.8	4.1	3.6
47	Retail trade, except of motor vehicles and motocycles	112.8	55.0	57.8	2.8	2.5
	Total NACE G	336.2	165.1	171.1	8.2	7.3

Output

3.13.5   Output of trade margins are treated as produced in industries other than wholesale and retail trade also - such as manufacturing and hotels and restaurants - as non-characteristic output.

3.13.6   For the trade services, **the margin concept has been applied**. About 90 per cent of output is **characteristic output** of these industries. **Non-characteristic output** in wholesale trade consists of letting and renting services, and services of business and management consultancy. Non-characteristic output in retail trade consists of same type of services, plus canteen services, commissions and some repairs. Some of these services - although partly insignificant - are also provided as non-characteristic output of the other industries in the group.

3.13.7 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. 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 been a compilation scenario in this industry since SBS-based data were utilized in the 2002 revision.

3.13.8 **Transport margins** are treated directly on a "net" basis in NNA as a margin on each detailed product flow, but are not identified as separate items.

3.13.9 **Main sources used** are:
- Annual accounting statistics, SBS-based
- Sample surveys on trade margins of retail and wholesale trade (2008)

3.13.10 The **statistical basis for the output compilation** of the trade industries comprising the ad hoc **sample surveys on trade margins** and the SBS based **accounting statistics** for wholesale and retail trade are regarded a sound basis for the estimation of output in each of the NNA industries specified in wholesale and retail trade

3.13.11 **Annual accounting statistics for NACE G, SBS-based is** the main source for the production estimates in NNA. Data are obtained from the General Trading Statements and a supplementary form (see chapter 11 for more details). Definition of output from these structural business statistics is already provided in section 3.3 above. The SBS data are available **also by version of local KAUs** (for turnover, compensation of employees, investments and employment), in addition to the enterprise-based version.

3.13.12 **Annual surveys of car repair shops etc.** are also covered by annual SBS-based accounting statistics (main source above).

3.13.13 Trade margins are estimated from the supply side as well as from use side. The **total supply of trade margins are taken from the SBS**. Trade margins are produced not only in NACE G, but also as secondary output in most other industries. Also, transport industries supply trade margins. On the other side, we have **margin coefficients** related to the use of **every relevant product differentiated by product and user**. So, products generally have higher trade margins when used for household consumption than as intermediate consumption. Trade margin coefficients related to uses of products are estimated from the **surveys of trade margins** in retail and wholesale industries. In addition to the periodic surveys, data from CPI is used to update the trade margins for products for household consumption. The trade margin rates are corrected in case of important imbalances between (aggregate) supply and use of trade margins.

3.13.14 A **new periodic survey of trade margins** was conducted by Statistics Norway for the year 2008 and was used in the revised NNA for benchmarking the trade margins for the year 2009. The survey covered wholesale and retail trade margins for 2008 and data collection took place from December 2009 to early 2010. The survey was modelled after other surveys of trade, like SBS and turnover by product. It was a sample survey, with enterprise as reporting unit, who was asked about turnover and costs for sales of about 100 product groups. Processing and revision of the results were delayed due to lack of resources, caused by problems with other statistics with higher priority, with the consequence that National Accounts was not able to fully make use of the information supplied The basic assumptions for use of survey results in the SUT were: households buy from retailers - wholesale and retail margins apply, while business and government instituions buy from wholesalers - wholesale margins apply. Finally, adjustments were made to the rates or margins in the SUT balancing process.

3.13.15 When piecing the various sources together, **target on value added for the SBS-based data** has been considered most practical approach. Especially so, when the product balances of the SUT format should be adapted to. The relationship between SBS and NNA needs to be elaborated and put

on **the research agenda**. A promising approach could be the Eurostat approach to **satellite accounts for distributive trade**. Wholesale and retail trade industry has always been a big issue in the main revisions, and although progress is made from one such occasion to the next, there should still be more room for improvements when next time taking total overhaul of the SUT format compilations involving increase in inventories, trade and transport margins and other structural assumptions built into the many product balances involved.

3.13.16 Output in wholesale and retail trade is - in the context as **trade services** - specified by 6 characteristic and some 20 non-characteristic NNA-products (or 10 non-characteristic products if consolidated at the level of wholesale and retail trade combined). Illustration by 2005 figures by these trade services follows for the consolidated version.

Output in wholesale and retail trade. NOK billion in 2009

Characteristic output	
451 007 Trade services of motor vehicles	27.3
451 009 Registration tax on existing motor vehicles	2.3
452 010 Repairs on motor vehicles	23.3
452 030 Car washing	0.4
454 050 Repairs on motor cycles	0.0
460 007 Wholesale trade services	157.6
470 000 Sales provisions and commissions	2.1
470 007 Retail sale services	106.7
Non-characteristic output	
Includes own account investment work, repair services of goods for personal use, renting services of buildings, cars and machinery and food serving services	16.5
Total output	336.2

3.13.17 Apart from trade margins (wholesale and retail trade services aligned to goods), there are **two minor items** - technically speaking - that belong to characteristic production of their respective industries. They are **commission services** and **registration tax on existing motor vehicles**, in 2009 amounting to some NOK 4.4 billion or 1.3 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.

Intermediate consumption

3.13.18 In NNA, **intermediate consumption** in these industries is estimated at NOK 165.1 billion in 2009. Number of NNA-products is typically around 40.

3.13.19 **Main sources used** are:
-        Annual accounting statistics, SBS-based

3.13.20 SBS data are available **also by version of local KAUs** (for turnover, compensation of employees, investments and employment), in addition to the enterprise-based version. Data are obtained from the General Trading Statements and a supplementary form (see chapter 11 for more details). Definition of intermediate consumption from these structural business statistics is already provided in section 3.3 above. As already indicated, special problems are experienced in IT-related sales etc. in distinguishing between output and intermediate consumption (installation costs etc.).

3.13.21 **Annual surveys of car repair shops etc**. are now covered by annual SBS-based data that are used for intermediate consumption also.

3.14   Transportation and storage (H)

Contents

3.14.1 In NNA, the activities of NACE H are **distinguished in 13 industries** within the five A64 headings:

49	Land transport; transport via pipelines		
	491	Transport via railways	M	
	492	Taxi operation		M
	493	Other passenger land transport	M	
	494	Freight road transport		M
	495	Transportation via pipelines		M
50	Water transport		
	501	Ocean transport and coastal water transport abroad, freight transportation		M
	502	Ocean transport and coastal water transport abroad, passenger transportation		M
	503	Inland water transport		M
51	Air transport		
	510	Air transport		M
52	Warehousing and support activities for transportation		
	521	Services incidental to water transportation		M
	522	Services incidental to other transport activities	M	
	523	Services incidental to air transportation	M	
53	Post and courier activities		
	530	Post and courier activities		M

3.14.2 In some of the industries (491, 495, 510 and 530), the structural situation is characterized by the presence of **State monopolies or few producers** (although not always as few as before).

3.14.3 **Transport via railways** is dominated by NSB, the State monopoly corporation. This corporation is, however, also a producer of other transport services such as scheduled motorbus transport and short-distance transportation by rail, and repair activities. The infrastructure part (the roadway) is distinguished from the traffic part, the former being separated as a non-market producer (central government) and the latter treated as a market producer (public non-financial corporate sector).

3.14.4 **Transport via pipelines** from the Norwegian continental shelf to other countries are included in Norwegian statistics if a Norwegian-registered unit owns (and operates) the pipeline, even if most of the pipeline is laid outside Norwegian territory. Gassco AS became operator for all transport of natural gas from the Norwegian continental shelf from 1 January 2002. The pipelines are owned by Gassled, in which 10 different corporations are participating (Norwegian owned Petoro, Statoil and Hydro and otherwise foreign-owned oil corporations). A new reporting system for pipeline gas

transport, distinguishing five areas and transport tariffs in and between these areas was behind this reorganization.

3.14.5   In **water transport** three detailed NA-industries are identified. They are Ocean transport and coastal water transport abroad, freight transportation (501), Ocean transport and coastal water transport abroad, passenger transportation (502) and Inland water transport (503). NA- industry 503 is wider than NACE 50.3 and 504 (Inland water transport), a deviation that reflects topographic national conditions (transport on lakes and rivers is quite small in Norway, as opposed to transport along coastline and fjords). Units that operate ships in form of management have been included in industry 501. Restaurants in vessels are included as well (in 612), but not specified as food serving services on the product side. Offshore supply and support activities are included in the NNA industry 501. The activities of supply vessels were until a few years ago mainly directed towards installations on the Norwegian continental shelf, while they today constitute a substantial export industry.

3.14.6   The problem of **defining units and residence** is 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, as there are problems in using the flag register criterion. Ships owned directly by foreign companies can be registered in NIS - one of the two ship registers in Norway - as long as being operated by Norwegian shipping companies with head office located in Norway. The operation criterion in general works in the Norwegian situation, while the registration criterion does not. The flag of register is not used as a criterion since the 1980s. For the allocation of the ships, i.e. in the capacity as factors of production, the ownership criterion is employed.

3.14.7 In **air transport,** scheduled as well as non-scheduled transport is included, the latter also including air transport on charters. Today the industry is dominated by two large companies, Norwegian and **SAS**. SAS has historically been the most important company operating in Norwegian air transport. The last ten years SAS has reorganized several times, last time during 2009. A joint Scandinavian corporation owned 50 per cent by the three Scandinavian governments, operates the traffic and the activities of this unit is treated in a common way in the NA of the three countries. The method used is to allocate transactions of the jointly operated unit to each of the countries concerned. This is done in proportion to their shares in the equity of the corporation (relative weights: 3/7 for Sweden, 2/7 for Denmark and 2/7 for Norway). Norwegian is a domestic unit and is together with all other (smaller) domestic air companies covered by standard SBS.

3.14.8 **Supporting and auxiliary transport activities** are distinguished in three NNA-industries. Supporting water transport activities are specified separately, primarily for the national interest in constructing a wider industry area for water transport activities. Also support services for air transport is specified as separate industry.

3.14.9 **Post and courier activities** are dominated by the State monopoly – the Postal Service.
3.14.10 Transport, storage and communication make a **contribution of 5.0 per cent to GDP** in 2009. Value added share of output is 37 per cent.

NACE H - NOK billion and value added percentages in 2009

		Output	Inter-mediate consumption	Value added	Per cent of total value added	Per cent of GDP
49	Land transport and transport via pipelines	86.8	38.9	48.0	2.3	2.0
491	Transport via railways	5.3	3.4	1.9	0.1	0.1
492	Taxi operation	9.1	2.3	6.8	0.3	0.3
493	Other passenger land transport	11.9	6.7	5.2	0.2	0.2
494	Freight road transport	39.5	23.7	15.7	0.7	0.7
495	Transportation via pipelines	21.0	2.7	18.3	0.9	0.8
50	Water transport	111.7	81.7	29.9	1.4	1.3
501	Sea and coastal passenger water transport	95.1	71.3	23.8	1.1	1.0
502	Sea and coastal freight water transport	5.1	3.8	1.3	0.1	0.1
503	Inland water transport	11.5	6.6	4.8	0.2	0.2
51	Air transport	28.3	21.9	6.4	0.3	0.3
52	Warehousing and support activities for transportation	71.1	49.2	21.9	1.0	0.9
521	Services incidental to water transport	9.7	5.2	4.4	0.2	0.2
522	Services incidental to other transport activities	51.1	40.3	10.9	0.5	0.5
523	Services incidental to air transportation	10.3	3.7	6.6	0.3	0.3
53	Postal and courier activities	16.5	5.6	10.8	0.5	0.5
	Total NACE H	314.4	197.4	117.0	5.6	5.0

3.14.11 **Non-characteristic output** is less than 6 per cent in total. Often it includes non-residential renting services, commission services, fees for various services, trade services (trade margins) and own account investment work.

Output

3.14.12 **Main sources used** are:

NNA-industries	Main sources
491	Annual accounting statistics (SBS-based)
492	Annual accounting statistics (SBS-based)
493	Annual accounting statistics (SBS-based)
494	Annual accounting statistics (SBS-based)
495	Oil and gas activity statistics
501	Annual accounting statistics (SBS-based) Statistics on external trade in services, non-finacial enterprises (UT)
502	Annual accounting statistics (SBS-based) Statistics on external trade in services, non-financial enterprises (UT).
503	Annual accounting statistics (SBS-based)
510	Annual accounting statistics (SBS-based) Quarterly accounting data of SAS
521	Annual accounting statistics (SBS-based)
522	Annual accounting statistics (SBS-based)
523	Annual accounting statistics (SBS-based)
530	Annual accounting statistics (SBS-based)

3.14.13 **Annual accounting statistics (SBS-based)** were introduced in NNA in the 2002 main revision. Definition of output from this structural business statistics is provided in section 3.3 above. From 1999, the SBS data are available **also by version of local KAUs**, in addition to the enterprise-based version. Enterprise-based SBS data are available and utilized in NNA from 1998 onwards.

3.14.14 Some comments on other main source than SBS are given in the following. **Oil and gas activity statistics** 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.

3.14.15 The statistical unit of the statistics covering **Ocean transport** until 2001 was the ship, not the ship owner or producer. From 2002 however, the statistical unit is the shipping company. The standard **SBS based reports** are supported by additional information collected to cover operational income and costs in more detail. Income (and costs) from all ships operated by domestic shipping companies are included. The SBS as the main source for estimating output and intermediate consumption is supported by statistics on exports and imports of services. As between 80 and 90 per cent of output and intermediate consumption (operating costs) of the Norwegian shipping companies are exported and imported respectively, information on those cross border transactions are important in assessing the totals on the production account of this industry. Through 2004 the information on exports and imports were given by the **Foreign exchange statistics (ITRS)**, compiled by the Bank of Norway on a monthly basis. As from 2005 onwards the additional source has been the **Statistics on external trade in services, non-financial enterprises (UT)**.

3.14.16 **Accounting data from SAS** are processed by Statistics Sweden and subsequently communicated to the other Scandinavian capitals on a quarterly basis. A new round of discussions between the three involved countries on the treatment of SAS in the Scandinavian NA took place in 2004 concluded with an agreement to prolong the use of the ownership principle. **Annual accounting based SBS statistics of air transport companies** published by Statistics Norway cover all companies that have a license to operate and to provide air transportation services in Norway. The accounting data also comprised the aviation workshops' activities (manufacturing).

Railways

3.14.17 **In transport via railways**, the SBS data are the basis for the total output value supplemented by estimates for free travel. **Output is specified** by 2 characteristic NNA-products. In addition, there are 3 non-characteristic NNA-products specified. These are illustrated by 2009 figures:

Output in transport via railways. NOK billion in 2009 - Sources and methods

Characteristic output		
491 000 Passenger transportation services by railways	3.6	SBS-based data providing a basis,
492 000 Freight transportation services by railways	1.2	See above for present method.
Non-characteristic output		
	0.5	Includes fees for various services, advertising services, and own account investment work; all estimated from items of the main source
Total output	5.3	

3.14.18 Some clarifications on railways: **Free transport** is added from exhaustiveness considerations and estimated on the basis of experts' view and considerations related to compensation of employees as well as total use of railway transportation services. Free travel is estimated by using a percentage of wages (NO 5000) in SBS; it varies between industries, known as 8 per cent in railways (NACE 491), while it also varies over time.

Taxi

3.14.19 **In taxi operation**, SBS-based data are used, supplemented by adjustments for unregistered activity (pirate taxes) and tips. Adjustments are made for unregistered activity based on information from experts of the taxi industry, the police and from the press, plus estimate for tips (3 per cent added, based on survey results from mid-1990s). **Output is specified** by one characteristic and one small non-characteristic product. See illustration below by 2009 figures.

Output in taxi operation. NOK billion in 2009 - Sources and methods

Characteristic output		
493 200 Taxi services and rental services of passenger cars with operator	9.1	SBS-based data providing a basis, plus adjustment for unregistered activity (200 million) plus estimate for tips (3 per cent or 223 million)
Non-characteristic output		
	0.0	Include advertising services (item of main source)
Total output	9.1	

Other passenger land transport

3.14.20 **Other passenger land transport** is estimated **using SBS-based data**. **Output is specified** by 3 characteristic NNA-products. These are illustrated by 2009 figures:

Output in other passenger land transport. NOK billion in 2009 - Sources and methods

Characteristic output		
493 110 Tramway and suburban transportation services	1.6	SBS-based data for industry total, distributed on NNA-products based on previous estimates.
493 900 Scheduled motorbus transport	7.8	See above for present method.
493 930 Unscheduled other passenger land transport	2.1	See above for present method.
Non-characteristic output		
	0.4	Own account investment work, rental income, advertising services
Total output	11.9	

3.14.21 Included in bus transportation services is scheduled transportation by school buses, and bus transportation to and from airports. On the other hand, cable-operated passenger transportation - including ski lifts - is treated as sporting activities and other recreational services. Free transport is estimated on the same basis and considerations as described for transport via railways. Greater Oslo-Local traffic (SL) is included in this industry, while in NACE 63 in SBS.

Freight road transport

3.14.22 **In freight road transport**, SBS- based statistics are used as source. **Output is specified** by 3 characteristic and 2 non-characteristic NNA-products.

Output in freight road transport. NOK billion in 2009 - Sources and methods

Characteristic output		
494 000 Freight transportation services by road	20.8	SBS-based data providing a basis.
494 120 Rental services of commercial freight vehicles with operator	3.1	See above for present method.
494 337 Freight transportation services by road, transport margin	15.4	
Non-characteristic output		
	0.2	Includes fees for various services and advertising services, estimated from items of main source
Total output	39.5	

Pipelines

3.14.23 **In transport via pipelines**, annual oil and gas activity statistics are utilized for the estimation of output. Since NNA specifies two pipeline transport products, one for crude petroleum and one for natural gas, it has been necessary to identify which pipelines are used for each of the products. Furthermore, the part of output that is used as transport margin refers to pipelines on Norwegian territory - products 495 037 and 495 137. Products 495 010 and 495 020, however, are the pipelines from the Norwegian border to the terminals on foreign shores.

3.14.24 **Output is specified** in 4 characteristic NNA-products and one non-characteristic product. See illustration below by 2009 figures.

Output in transport via pipelines. NOK billion in 2009 - Sources and methods

Characteristic output		
495 010 Transportation services via pipelines for crude petroleum	0.3	Item in R-form for total income from production, crude petroleum part; transport margin part is separated out
495 020 Transportation services via pipelines for natural gas	12.6	Item in R-form for total income from production, natural gas part; transport margin part is separated out
495 037 Transportation services via pipelines for crude petroleum, transport margin	2.5	See 495 010 above
495 137 Transportation services via pipelines for natural gas, transport margin	5.3	See 495 020 above
Non-characteristic output		
	0.4	Payments for contract work and own investment in oil activity
Total output	21.0	

Water transport

3.14.25 **In ocean water transport and coastal water transport abroad**, SBS-based statistics was developed relatively late, published for the first time in 2003 (for the reporting year 2001). The reporting unit in the SBS it is the enterprise, reporting all income and costs related to all ships (either owned or contracted) operated by resident enterprises This should give a better coverage than before of e.g. non-characteristic output and administration costs than when the ship was the reporting unit. Also the use of the operation criterion means that the registration of the ships is of no relevance. From

1988, passenger transportation by cruise ships has been of minimal importance in Norwegian output, following the flagging out of Norwegian shipping companies. Those shipping owners that specialised in operating cruise closed down their Norwegian offices, and are now operating their business from abroad. Occasionally, cruises are organised by Norwegian units that predominantly operate ferries and scheduled coastal passenger transport. Also some smaller firms mainly taking tourists on small boat trips are covered. The large cruise companies are, however, no longer operating from Norway. 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. **Sea freight transportation services** are the main product of the industry. **Rental services of sea-going vessels with crew** is the other main product of the industry.

3.14.26 As from 2005 three closely related surveys are conducted to serve as basis for NA and BoP estimations on ocean transport. The first is a standard register based annual **SBS** with basis in NO for units classified in NACE 50 Water transport. The second named **Survey of operating income and costs** for vessels in foreign going trade is an extension of the standard annual SBS with more information on type of income (type on transportation products), cost elements and also ratios for exports and imports respectively. This can be seen as representing TS (supplementary form) for this industry. The third is a quarterly sample survey covering the industry's exports and imports of services with detailed services products to serve both NA and BoP purposes **(UT)**. As income from abroad (exports) constitute between 80 and 90 percent it is important to assess the total output estimated from SBS in the light of the exports from UT. In total these three surveys supplies data sufficient to estimate total output by product, intermediate consumption by product and exports from and imports to the industry by product. See also section 5.16 on exports of services.

3.14.27 **Supply water transport** covers activities of ships supplying and supporting offshore oil installations, earlier classified in a separate industry, but now part of Ocean water transport. **Output in ocean transport is specified** by 9 characteristic and 3 non-characteristic NNA-products. These are illustrated by 2009 figures below.

Output in ocean transport (2 industries). NOK billion in 2009 - Sources and methods

Characteristic output		
501 010 Sea passenger transportation services	4.1	Item of main source (Survey of operating income and costs)
501 210 Sea other freight transportation	13.9	Item of main source
501 220 Sea freight oil products transportation services	9.2	Item of main source
501 230 Sea freight chemical and gas products transportation services	7.0	Item of main source
501 240 Sea dry bulk freight transportation services	14.7	Item of main source
501 900 Rental services of sea-going vessels with crew	23.6	Items of time-charter from Norwegians and time-charter hire from foreigners
502 030 Sea and coastal water towing and pushing services	0.0	Item from towing and pushing ship's part of the main source
502 040 Supply transportation services for oil activity	20.7	Item from supply ship's part of main source
Non-characteristic output		
	7.0	Include rental services concerning vessels without operators, identified by items of main source, and other technical consultancy services - i.e. management services
Total output	100.2	

3.14.28 **In inland water transport**, SBS-based statistics is the prime source. Total output is estimated from SBS while other sources are use in addition for the product breakdown.

3.14.29 **Output in inland water transport is specified** by 10 characteristic NNA-products (characteristic in the sense of water transport as a whole). These are illustrated by 2009 figures:

Output in inland water transport. NOK billion in 2009 - Sources and methods

Characteristic output		
501 210 Sea other freight transportation	0.1	See ocean transport (secondary production here)
501 220 Sea freight oil products transportation services	0.0	See ocean transport (secondary production here)
501 230 Sea freight chemical and gas products transportation services	0.0	See ocean transport (secondary production here)
501 240 Sea dry bulk freight transportation services	0.1	See ocean transport (secondary production here)
502 030 Sea and coastal water towing and pushing services	1.7	Based on SBS for towing and pushing industry
503 010 Passenger and car transportation services in local inland water transport	5.5	Based on income Hurtigruta and fixed share of total output
503 020 Rental services of non-sea-going vessels with crew	0.3	Based on cost estimates
504 010 Freight transportation in inland water transport	2.0	Extrapolated value of item in Postal Service accounts and fixed share of total output
505 007 Water transportation, transport margins	1.7	Separated and treated explicitly
Total output	11.5	

Air

3.14.30 For **air transport**, the basis for the compilation of the SAS part is the **accounting data of the SAS consortium (Scandinavian Airline International)**, to which totals the Norwegian share of 2/7 has been applied. In the SAS accounts material, collected through a special quarterly survey, 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. In 2004 SAS was re-organized when 3 national operating companies (including SAS Norway) were separated from the joint SAS consortium. SAS Norway is covered by the SBS. The re-organization did not however change the principles of the recording of the joint SAS consortium unit in the NA, only the size of the unit to be distributed between the three countries through ownership is affected. In 2009 the **organization process was reversed** by merging the 3 national SAS companies into the SAS consortium. The accounting data from SAS are in SEK, which have to be converted to NOK by applying an average quarterly exchange rate.

3.14.31 Furthermore, the **annual accounting based SBS statistics of air transport companies** are the source for air transport companies excluding the joint SAS corporation. The statistics also covers the helicopter transportation services to and from oil installations in the North Sea. **Total output** is arrived at by adding the main categories – SAS and other air companies, including an estimate of free transport. Free transport is estimated as a 10 per cent share of wages and salaries and thus representing income in kind.

3.14.32 **Output in air transport is specified** by 4 characteristic and 8 non-characteristic NNA-products. These are illustrated by 2009 figures:

Output in air transport. NOK billion in 2009 - Sources and methods

Characteristic output		
511 010 Passenger transportation services by air	20.1	Items of main sources; for SBS-based data: 90 per cent of TS 6.01-1
511 020 Rental services of aircraft with crew	0.6	Item identified in the accounts of Postal Service
511 030 Passenger transportation services by helicopter for oil activity	3.3	Items of main sources; for SBS-based data: TS 6.01-3
512 110 Freight transportation services by air	0.6	Item identified in oil and gas activity statistics; for SBS-based data: 5 per cent of TS 6.01-1
Non-characteristic output		
	3.7	Include payments of fees for various services and trade services, i.e. trade margins, also estimated from main sources
Total output	28.3	

Support activities water

3.15.33 **SBS-based statistics** replaced most former sources in 2002. Product identification is given by turn over data at the most detailed NACE level.

3.15.34 **Output in supporting water transport activities is specified** by 3 characteristic, all identified directly from the SBS, and 1 non-market characteristic NNA-products. These are illustrated by 2009 figures.

Output in supporting water transport activities. NOK billion in 2009 - Sources and methods

Market characteristic output		
522 210 Port and waterway operation services	1.7	SBS-based data providing a basis.
522 220 Other supporting services for water transport n.e.c.	4.3	SBS-based data providing a basis.
522 910 Ship-broker services	3.4	SBS-based data providing a basis.
Non- characteristic output		
	0.0	
Total output	9.7	

Support activities other than water

3.14.35 For **supporting activities of cargo handling and storage, other supporting land and air transport activities, SBS-based data** are utilized

3.14.36 **Freight transport agency services is** the most significant product of this industry. **Output is specified** by 9 characteristic and 10 non-characteristic NNA-products, all in market production, as well as some non-market output. Allocation of SBS-data to NNA-products is more or less made directly from 5-digit NACE activity level. These are illustrated by 2009 figures:

Output in supporting activities of cargo handling and storage etc. NOK billion in 2009 - Sources and methods

Characteristic output		
521 000 Storage and warehousing services	2.8	SBS-based data providing a basis
522 130 Toll roads, bridges and tunnel operation services	4.2	SBS-based data providing a basis.
522 140 Car parking services	3.0	SBS-based data providing a basis.
522 300 Supporting services for air transport	6.1	SBS-based data providing a basis.
522 400 Cargo handling services	0.7	SBS-based data providing a basis.
522 917 Freight transport agency services, transport margins	20.5	SBS-based data providing a basis.
522 920 Freight transport agency services	3.8	SBS-based data providing a basis.
522 990 Other supporting and auxiliary transport services	5.7	SBS-based data providing a basis.
522 997 Other supporting and auxiliary transport services, transport margins	10.4	Separated and treated explicitly
Non-characteristic output		
	4.2	Includes fees for various services and advertising services, estimated from source items
Total output	61.4	

Post and courier activities

3.14.37 **SBS-based statistics** has been utilized as source since main revision in 2002.

3.14.38 **Output in postal and courier activities is specified** by 4 characteristic and 3 minor non-characteristic NNA-products. See illustration below by 2009 figures.

Output in postal and courier activities. NOK billion in 2009 - Sources and methods

Characteristic output		
530 000 Postal and courier services	12.9	SBS-based data providing a basis.
531 010 Newspaper distribution	1.5	SBS-based data providing a basis.
531 030 Postal settlements with abroad	0.8	SBS-based data providing a basis.
531 040 Services to Post Office Savings Bank	0.2	SBS-based data providing a basis.
Non-characteristic output		
	1.0	Include commissions, freight transportation services by road, mail transportation by road, advertising services and works of art, estimated from items of main source
Total output	16.5	

Intermediate consumption

3.14.39 In NNA, **intermediate consumption in transportation and storage** is estimated at NOK 197.4 billion in 2009. Inputs specified vary between 17 and 52 NNA-products, on average 32 in the 13 NACE industries.

3.14.40 **Main sources** used for intermediate consumption are mostly the same main sources as used for the estimation of output, i.e. SBS-based data. In general, therefore, the list of sources provided above for output should be referred to. One global adjustment is carried out for all industries in terms of FISIM added to the source data.

3.14.41 **For transport via railways**, **SBS-based data** are utilized for intermediate consumption (see section 3.3 for items covered), but the former main source is still providing details to the estimation, in particular for the distribution on NNA-products.

3.14. 42 Total intermediate consumption for **taxi operation** was estimated from using the **SBS-based data.** For product specifications special estimations are made from energy accounts on relevant NNA-products.

3.14.43 For **other land transport**, **SBS-based data** are used. For product specifications, price and quantity information for energy products has been made use of. Statistics Norway keeps an **energy account** recording energy use by industry. This is an elaboration of energy balances, but energy for transportation purposes is distributed by industry of the user (and use for household consumption). These energy accounts are used for analyses of energy use and environmental statistics and use. They are kept in physical units, so estimates of value can be done multiplying the quantity data by unit prices. Suitable unit prices are available in the energy statistics, ref chapter 11.

3.15.44 The **oil and gas activity statistics** 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. The 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). 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.

3.14.45 For **ocean transport and coastal water transport abroad**, the sources used for estimating intermediate consumption were the same as for the output estimation. See also section 5.18 on imports of services.

3.14.46 The supplementary form (TS) of the SBS is utilized for distributing total intermediate consumption in this industry by the relevant products of NNA. Other considerations - energy accounts information and commodity-flow analysis etc. - are also taken into account in this respect. The recordings distinguish between domestic and foreign (which identifies transaction of imports). As 80 – 90 per cent of the operating expenses occurs abroad, the total intermediate consumption estimated based on SBS is balanced against data from the statistics on imports of services (UT).

3.14.47 Total intermediate consumption of the **inland water transport industry** was estimated from **SBS-based data** and used for specific items, while combined with distribution keys obtained from the 1995 revision for non-specified part of the products (products that might be adjusted further in the balancing procedure).

3.14.48 The accounts and **accounting statistics** of the SAS Consortium were utilized for the estimation of intermediate consumption of the SAS part of **air transport,** while **SBS-based data** were brought in as well and used similarly to what has been described above for output (SBS and SAS data in combination etc.). 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. 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 SEK to NOK. Intermediate consumption of Norwegian air transport companies other than those of SAS Consortium include items for scheduled air transport, other large air transport companies and small air transport companies.

3.14.49 For **other supporting water transport activities**, the estimation of intermediate consumption was made by **utilizing SBS-based data**. In NNA-industry 632, total intermediate consumption was estimated equal to SBS total, while distributed on NNA-products by using keys obtained previously (in the 1995 revision or later).

3.14.50 For **supporting activities of cargo handling and storage, other supporting land and air transport activities SBS-based data** are used.

3.14.51 **SBS-based data** were utilized for the estimation of intermediate consumption of **post and courier activities**, also at the detailed product level of intermediate consumption. However, energy accounts and the annual accounts of the Postal Service are also utilized to support SBS-based data.

3.15   Accommodation and food serving activities (I)

Contents

3.15.1 In NNA, the activities of NACE I are **distinguished in 2 industries** within the one A64 heading:

55-56	Accommodation and food serving activities	
	550 Accommodation services	M
	560 Food serving activities	M

3.15.2 **Coverage of NNA industry 550** is defined to include hotels and motels irrespective of accompanied restaurants or not. **Coverage of NNA industry 560** is defined to include the total of NACE items of restaurants, bars, and canteens and catering. In principle, food serving services of all kinds are included. Canteen and catering services were relatively poorly covered earlier, but improved with the new SBS-based statistics.

3.15.3 Hotels and restaurants services make a **contribution of 1.2 per cent to GDP** in 2009. Value added share of output is 48 per cent in 2009, which is lower than the national ratio.

NACE I - NOK billion and value added percentages in 2009

		Output	Intermediate consumption	Value added	Per cent of total value added	Per cent of GDP
55	Accommodation	21.3	11.7	9.6	0.5	0.4
56	Food and beverage service activities	39.2	20.0	19.2	0.9	0.8
	Total NACE I	60.5	31.7	28.8	1.4	1.2

3.15.4 Characteristic items in **accommodation** include sleeping car services and sleeping services in other transport media operated by individual enterprises and covered by the SBS statistics. Accommodation services on oil fields in the North Sea - a non-characteristic product of activity group 091 Services incidental to oil and gas extraction - are 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).

3.15.5 **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).

Output

3.15.6 **Main source used** is:
- Annual accounting statistics (SBS-based)

3.15.7 **Annual accounting statistics (SBS-based)** were introduced in NNA in the 2002 main revision. Definition of output from this structural business statistics is already provided in section 3.3 above. From 1999, the SBS data are available **also by version of local KAUs**, in addition to the enterprise-based version.

3.15.8 Guest-nights statistics are being used as supplementary source to SBS - in order to allocate output to products (since products are not NACE-based in this case), and to allocate to relevant consumption items by COICOP.

3.15.9 Added to the SBS-based source are **adjustments** made **for unregistered activities**, **wages and salaries in kind** and estimate for **tips** (exhaustiveness considerations). All adjustments included raise SBS-level by 6 per cent to arrive at NNA. It should be reminded that the SBS-based statistics have been adjusted to NA definitions (see section 3.3) before adding in the adjustments mentioned illustrated below.

Adjustments for exhaustiveness made NACE I. 2009

	NOK million	Per cent of total output
Unregistered activities	2 811	4.6
Wages and salaries in kind	687	1.1
Tips	166	0.3
Total	3 664	6.1

3.15.10 **Unregistered activities** are accounted for in the NA estimations, since such activities and turnover are known to take place in this industry (in restaurants particularly), while not registered in the SBS-based statistics. Basis for making this kind of estimate is not readily available. According to Directorate of Taxes some survey data indicate substantial spread of such activities, particularly in the big cities. The assumption made in NNA - in lack of more explicit information - is to add 10 per cent to SBS-based output on food serving services and beverage serving services. It is assumed that unregistered output in accommodation activities is relatively unimportant.

3.15.11 **Wages and salaries in kind** are estimated as additional income for employed people in hotels and restaurants, adjusting to ESA95 definition. Valuation is made on cost of production principle to reflect meals in canteens or kitchens rather than restaurants. Thus, average cost is calculated per employed per day (differentiated amounts for employees and self-employed) and grossed up accordingly.

3.15.12 Tax authorities estimate a 3 per cent addition **for tips** to registered wages for those waiters and waitresses who do not report tips, and this percentage is used in the NA estimations as well, calculated on half of employed people in restaurants and cafes (explicit information on numbers of waiters/waitresses is not available) and all employees in bars.

3.15.13 **Output of hotels and other accommodation is specified** by 5 characteristic and 4 non-characteristic NNA-products. These are illustrated by 2009 figures:

Output in hotels and other accommodation. NOK billion in 2009 - Sources and methods

Characteristic output		
551 000 Hotel and similar accommodation services	10.2	Items of main source, distributed on NNA-product
553 000 Camping and cabin services	0.9	Items of main source, distributed on NNA-product
559 090 Other accommodation services	0.6	Items of main source, distributed on NNA-product
561 010 Restaurant food serving services	7.8	Items of main source, distributed on NNA-product, partly produced in hotels besides in restaurants. Additional sources (VAT-statistics) are utilized for this distribution.
563 000 Beverage serving services	0.6	Items of main source, distributed on NNA-product
Non-characteristic output		
	1.2	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	21.3	

3.14.14 **Output of restaurants, canteens and catering** is specified by 3 characteristic and 3 non-characteristic NNA-products. These are as well illustrated by 2009 figures:

Output in restaurants etc. NOK billion in 2009 - Sources and methods

Characteristic output		
561 010 Restaurant food serving services	25.7	Items of main source, distributed on NNA-product, partly produced in hotels besides in restaurants. Additional sources are utilized for this distribution.
561 020 Mobile food serving services	2.3	
562 000 Canteen and catering services	8.1	Items of main source, distributed on NNA-product
563 000 Beverage serving services	2.1	Items of main source, distributed on NNA-product
Non-characteristic output		
	1.0	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	39.2	

3.15.15 In NNA, **intermediate consumption** in accommodation and food services is estimated at NOK 31.7 billion in 2009. Value added share of total output is 48 per cent. There are approximately 45 NNA products specified in each of the two industries.

3.15.16 **Main source used** is:
- Annual accounting statistics (SBS-based)

3.15.17 **Structural business statistics** being used follow procedures described by definitions given in section 3.3 above.

3.15.18 **Product details** (in relative terms) are available just **for some scattered groups**, such as detergents, toilet articles etc. Expenditures on beverages are known from **other sources**: statistical information from **the State Wine Monopoly** includes 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 liters of beer by tax classes of beer at beverage serving units (restaurants). 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 the 45 NNA products. The procedure of estimation described is basically the same each year.

3.16   Information and communication (J)

Contents

3.16.1   In NNA the activities of NACE J are **distinguished in 6 industries** within 4 A64 headings:

58	Publishing	
	580 Publishing	M
59-60	Motion pictures, sound recordings and broadcasting	
	590 Motion pictures, video, sound recording and music publishing	M
	600 Programming and broadcasting	M
61	Telecommunications	
	610 Telecommunications	M
62-63	Computer programming and services, information service activities	
	620 Computer programming, consultancy and related activities	M
	630 Information service activities	M

3.16.2   These are all **market activities.**

3.16.3 It should be noted that section J is one of the major new inventions of NACE rev.2. The units within this section were in the former classification classified in different sections. For example were

units involved in publishing part of the manufacturing section. Also units part of the former sections K Business services and O Other social and personal services now are part of the new section J.

3.16.4   NACE J makes a contribution to total GDP of 3.5 per cent in 2009. The share of value added to output was 46 per cent, below the total national average.

NACE J - NOK billion and value added percentages in 2009

		Output	Intermediate Consumption	Value added	Per cent of total value added	Per cent of GDP
58	Publishing activities	41.6	21.6	20.0	1.0	0.8
59	Motion pictures, video and television programme production, sound recording and music publishing activities	7.4	4.7	2.8	0.1	0.1
60	Programming and broadcasting activities	9.0	4.5	4.5	0.2	0.2
61	Telecommunications	65.7	43.6	22.1	1.1	0.9
62	Computer programming, consultancy and related activities	48.8	20.2	28.6	1.4	1.2
63	Information service activities	6.8	3.0	3.8	0.2	0.2
	Total NACE J	179.3	97.4	81.9	3.9	3.5

Output

3.16.5   Most output is characteristic products. In publishing, printing services are recognized as non-characteristic output. Otherwise, non-characteristic products typically are rental services, commission services, trade margins and own account investment work.

3.16.6   **Main source** used is:
-        Annual accounts Statistics (SBS-based)

3.16.7   According to principle of industry classification the producing units are classified according to the largest contribution to the value added generated by the unit. It is worth mentioning that in industry section J it seem more common that units are involved in several activities and thus secondary output is quite common. For example in publishing when units also are producing printing services.

Publishing

3.16.8 In publishing **output is specified** by 6 characteristic products. These are illustrated by 2009 figures:

Output in publishing. NOK billion in 2009 - Sources and methods

Characteristic output		
581 100 Books	3.6	Items of main source, distributed on NNA-product
581 310 Newspapers	5.4	Items of main source, distributed on NNA-product
581 330 Advertisements	8.8	Items of main source, distributed on NNA-product
581 400 Weeklies and magazines	6.8	Items of main source, distributed on NNA-product
581 900 Other publishing services	2.3	Items of main source, distributed on NNA-product
582 000 Software publishing	12.3	Items of main source, distributed on NNA-product
Non-characteristic output		
	2.3	Includes printing services, rental services of non-residential property, commission services, and a minor amount of own-account investment work
Total output	41.6	

Motion pictures and sound recording etc.

3.16.9 In Motion pictures, video and television programme production, sound recording and music publishing activities **output is specified** by 4 characteristic products, here shown with 2009 figures:

Output in motion pictures, sound recordings and broadcasting. NOK billion in 2009 - Sources and methods

Characteristic output		
591 010 Motion pictures and TV programmes, originals	4.1	Items of main source, distributed on NNA-product
591 020 Motion pictures and TV programmes, reproductions	1.6	Items of main source, distributed on NNA-product
592 010 Music and sound recordings, originals	0.4	Items of main source, distributed on NNA-product
592 020 Music and sound recordings, reproductions	0.5	Items of main source, distributed on NNA-product
Non-characteristic output		
	0.8	Includes rental services of non-residential property, commission services, trade services (trade margins) from sale of goods, and a minor amount of own-account investment work
Total output	7.4	

Radio and TV broadcasting

3.16.10 **Output is here specified** by 2 characteristic products. The 2009 values are:

Output in radio and TV broadcasting. NOK billion in 2009 - Sources and methods

Characteristic output		
600 010 Broadcasting, license	4.6	Items of main source, distributed on NNA-product
600 020 Broadcasting, advertisements	4.2	Items of main source, distributed on NNA-product
Non-characteristic output		
	0.2	Includes rental services and minor amounts of own-account investment work
Total output	9.0	

Telecommunication

<u>3.16.11</u> **Output in telecommunications is specified** by 4 characteristic NNA-products. These are illustrated by 2009 figures:

Output in telecommunications. NOK billion in 2009 - Sources and methods

Characteristic output		
611 000 Cable based telecommunication services	30.3	Items of main source, distributed on NNA-product
612 000 Wireless telecommunication services	27.0	Items of main source, distributed on NNA-product
613 000 Satellite transmission services	5.9	Items of main source, distributed on NNA-product
619 000 Other telecommunication services	1.3	Items of main source, distributed on NNA-product
Non-characteristic output		
	1.2	Include payments of fees for various services and own investment work
Total output	65.7	

<u>3.16.12</u> Telecommunications is the largest NNA industry within section J, contributing almost 37 per cent of total output value of this industry section. Measured by value added however, computer services is the larger industry.

Computer services

<u>3.16.13</u> **Output is specified** by 4 characteristic NNA-products. These are illustrated by 2009 figures:

Output in computer and related services. NOK billion in 2009 - Sources and methods

Characteristic output		
620 100 Programming services	20.2	Items of main source, distributed on NNA-product
620 200 Computer technology consultancy services	14.0	Items of main source, distributed on NNA-product
620 300 Management and operation of IT-systems	11.0	Items of main source, distributed on NNA-product
620 900 Other computer related services	0.2	Items of main source, distributed on NNA-product
Non-characteristic output		
	3.4	Includes rental services of non-residential property, renting services of computers and other office machinery, renting services of other machinery and equipment, trade services (trade margins) and own account investment work
Total output	48.8	

Information services

3.16.14 In information services **output is specified** with 4 characteristic products, shown here with 2009 figures:

Output in information services activities. NOK billion in 2009 - Sources and methods

Characteristic output		
631 100 Data processing, data storing and related services	2.7	Items of main source, distributed on NNA-product
631 200 Operation of web portals	2.5	Items of main source, distributed on NNA-product
639 200 News agencies services	0.7	Items of main source, distributed on NNA-product
639 900 Other information services	0.4	Items of main source, distributed on NNA-product
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 investment work
Total output	6.6	

Intermediate consumption

3.16.15 **Intermediate consumption** in industry section J is estimated at NOK 97.4 billion in 2009. The number of products specified varies between 35 and 75, the largest number within publishing.

3.16.16 **Main source used** is the same as for output:
- Annual Accounting Statistics (SBS based)

3.16.17 **SBS-based data** are used for the estimation of intermediate consumption by NNA products in all NNA industries of section J, while also data from energy accounts and estimated FISIM data have been used to supplement the main source.

3.17 Financial intermediation (K)

Contents

<u>3.17.1</u> In NNA, the activities of NACE J are **distinguished in 7 industries** within the three A64 headings:

64	Financial intermediation services, except insurance and pension funding		
	641	Central banking	M
	642	Other monetary intermediation	M
	649	Other financial intermediation	M
65	Insurance and pension funding services, except compulsory social security services		
	651	Life insurance	M
	652	Non-life insurance	M
	653	Pension funding	M
66	Services auxiliary to financial intermediation		
	660	Activities auxiliary to financial intermediation	M

<u>3.17.2</u> These are all **market activities**. **Pension funding** adds to life and non-life insurance, while **activities auxiliary to financial intermediation** is distinguished from other financial intermediation.

<u>3.17.3</u> With respect to coverage of **credit institutions** - both NACE 64 Financial intermediation excluding insurance and pension funding and NACE 66 Activities auxiliary to financial intermediation - most institutions are subject to government supervision and hence covered in the basic statistics. They also cover consumer credit institutions and credit card companies. **Unit trusts** - part of NNA-industry 649 - and part of activities auxiliary to financial intermediation - are covered through separate estimates. **Financial leasing** is treated as loan from financial institutions, and the 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 that 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).

<u>3.17.4</u> With respect to coverage of **insurance companies,** the situation is quite similar to that of credit institutions described above. The borderline between insurance enterprises and social security funds conforms to ESA and SNA rules.

<u>3.17.5</u> Financial intermediation services make a **contribution of 4.1 per cent to GDP** in 2009. Value added share of output is 63 per cent in 2009, which is a typical high ratio found among services industries.

NACE K - NOK billion and value added percentages in 2009

		Output	Inter-mediate consumption	Value added	Per cent of total value added	Per cent of GDP
64	Financial service activities, except insurance and pension funding	103.8	33.8	70.0	3.3	3.0
641	Central banking	4.1	3.1	1.0	0.0	0.0
642	Other monetary intermediation	69.0	19.3	49.7	2.4	2.1
649	Other financial service activities	30.7	11.3	19.4	0.9	0.8
65	Insurance, reinsurance and pension funding, except compulsory social security	28.7	8.8	19.9	1.0	0.8
651	Life insurance	11.3	4.0	7.3	0.3	0.3
652	Reinsurance	14.9	4.2	10.7	0.5	0.5
653	Pension funding	2.5	0.5	2.0	0.1	0.1
66	Activities auxiliary to financial services and insurance activities	21.0	13.8	7.2	0.3	0.3
	Total NACE K	153.5	56.3	97.2	4.6	4.1

Output

3.17.6 The adoption of the EU regulation on the allocation of FISIM in the 2006 main revision, also introduced a new method in estimating **FISIM output**. The new method makes use of additional types of data compared to before and more refined estimation procedures. This is explained more in detail in chapter 9.

3.17.7 **Main sources used** are:
- Credit market statistics, accounting data organized in database ORBOF for banks
- Credit market statistics, accounts of insurance companies and pension funds in database FORT
- Credit market statistics, accounts of other financial institutions
- Accounting statistics for auxiliary services to financial intermediation
- Domestic interest rates, Norges Bank's web site
- International interest rates, ECB's web site

3.17.8 **Credit market statistics** cover accounts of **all financial enterprises**. These units comprise Norges Bank (i.e. the central bank of Norway), commercial banks, savings banks, 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.

3.17.9 The credit market statistics are **processed through several stages** before becoming NNA estimates. The **credit market statistics** processed into the database of **FIIN** 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. **Holding gains and losses are excluded** from the measurement of output of financial intermediation. **FISIM** is calculated for the financial intermediation enterprises (excluding Norges Bank, the central bank) based on information on the stocks of loans and deposits and interest margins between actual interest rates received/paid on those stocks and a chosen reference rate. The sectors producing FISIM comprise private banks, state lending institutions (excluding the central bank), mortgage companies and finance companies.

3.17.10 **Accounting statistics for auxiliary services to financial intermediation** are used for NACE 66. Specific data other than for security and insurance brokers are collected from published company accounts that are less detailed. **Unit trusts** are treated separately on the basis of annual reports (and total balance sheet), while production here is not estimated any longer (financial data apply only). **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. In the very last years this type of income has increased considerably, causing a balancing problem, as the customers apparently do not record these transactions as part of their operating costs, but directly as an offsetting (negative) item on their balance sheet.

3.17.11 **Output in financial intermediation, except insurance and pension funding, is specified** by 13 characteristic and 2 non-characteristic NNA-products. These are illustrated by 2009 figures:

Output in financial intermediation, except insurance and pension funding.
NOK billion in 2009 - Sources and methods

Characteristic output		
641 100 Central banking services	4.1	Items from the accounts of Norges Bank
641 900 Other monetary intermediation services, direct charges	21.0	Items from the accounts the commercial banks and the savings banks
641 936 FISIM from banks to households and NPISHs	24.5	Estimated from banking statistics and credit market statistics (interests)
641 946 FISIM from banks to non-financial enterprises	23.2	Estimated from banking statistics and credit market statistics (interests)
641 956 FISIM from banks to central government institutions	0.1	Estimated from banking statistics and credit market statistics (interests)
641 966 FISIM from banks to local government institutions	0.1	Estimated from banking statistics and credit market statistics (interests)
642 000 Services from financial holding companies	0.1	Estimated from accounts of financial holding companies
643 000 Services from securities funds	0.7	Estimated from accounts of securities funds
649 200 Other credit granting services, direct charges	5.7	Items from the accounts of state banks, credit enterprises and financial companies
649 936 FISIM from other credit institutions to households og NPISHs	13.8	Estimated from the accounts of state banks, credit enterprises and financial companies and credit market statistics (interests)
649 946 FISIM from other credit institutions to non-financial enterprises	5.7	Estimated from the accounts of state banks, credit enterprises and financial companies and credit market statistics (interests)
649 956 FISIM from other credit institutions to central government institutions	0.0	Estimated from the accounts of state banks, credit enterprises and financial companies and credit market statistics (interests)
649 966 FISIM from other credit institutions to local government institutions	1.4	Estimated from the accounts of state banks, credit enterprises and financial companies and credit market statistics (interests)
Non-characteristic output		
	3.5	Include rental services of non-residential property and renting of automobiles
Total output	103.8	

3.17.12 **Insurance and pension fund outputs** have **earlier been measured indirectly** as kind of margins (premiums less claims), in accordance with ESA95 principles. Output of life insurance services were earlier derived the following way:

Life insurance output. Former method.

A: Actual premiums earned
B: Claims due
C: Net surplus on reinsurance
D: Premium supplements
E: Increases in technical provisions etc.
Increase in insurance technical reserves
-Revaluations (adjustments for capital gains/losses, both realized and non-realized)
+ Other technical provisions
+ Correction made by ratio of insurance liabilities to total liabilities
Output of life insurance services according to formula (A-B+C+D -E)

3.17.13 As from 2008 however, this **method of estimating life insurance output in NNA has been changed**. The change in estimating output in life insurance in the NNA is a result of the life insurance reform in Norway in 2008, changing the reporting system for insurance companies to the authorities. The most important aspects of the reform were:

- to separate more explicitly the resources belonging to the insurance companies from the resources belonging to its customers
- to make the dispersion of risk between the companies and its customers more clear cut, and
- to present a more exact picture of the prices on insurances services products.

3.17.14 The reform and the change in reports have made it possible to estimate life insurance output, i.e. insurance services rendered to the customers, more directly compared to earlier method (margin). This is achieved by extracting from the new report the following elements of the premiums payable directly from individual customers. The sum of those two elements will represent the value of the life insurance service in all contracts:

Life insurance services. 2009. New method.

Reporting code	Item	NOK million
111111	Compensation for administrative costs, management and interest guarantee	8 090
111112	Profit element to cover risk	1 747
SUM	Output of life insurance services	9 837

3.17.15 As it is only cost elements of direct premiums that are identified, **production of reinsurance** is not recorded as output.

3.17.16 The compilation of item **imputed interest accruing to life insurance policy holders (premium supplements)** was also changed. The former method was according to the following table:

Imputed interest accruing to life insurance policy holders. Former method.

Income from interest etc.
- Payments of interest etc.
+ Dividends
+ Real estate income
- Other financial expenses
= Imputed income accruing to life insurance policy holders before correction
- Correction made by the ratio of insurance liabilities to total liabilities
= Imputed income accruing to life insurance policy holders after correction

3.17.17 As seen above the former method was to estimate total income and then derive the customers' share using the ratios from the balance sheet. In the new reporting system however the income attributed to the customers can be derived directly from the reports via sub-items in the profit and loss statements. **Each income item** in the report is given a code that stipulates whether the income is attributed to the company or its customers:

Imputed interest accruing to life insurance policy holders. New method.

Reporting code	*Distribution*
100+200	Income attributed to customers
300	Income attributed to the insurance company

3.17.18 The estimations of **output of pension funding services** and **output of non-life insurance services** have not changed (no change in reporting systems) and follows the general formula:

A: Actual premiums earned
B: Claims due
C: Net surplus on reinsurance
D: Premium supplements
E: Increases in technical provisions etc.
Increase in insurance technical reserves
-Revaluations (adjustments for capital gains/losses, both realized and non-realized)
+ Other technical provisions
+ Correction made by ratio of insurance liabilities to total liabilities
Output of pension funding services and output in non-life insurance according to formula (A-B+C+D -E)

3.17.19 **Output in insurance and pension funding is specified** by 4 characteristic and 3 non-characteristic NNA-products. These are illustrated by 2009 figures:

Output in insurance and pension funding. NOK billion in 2009 - Sources and methods

Characteristic output		
651 100 Life insurance services	9.8	Items from the accounts of life insurance companies
651 210 Other non-life insurance services	10.1	Items from the accounts of non-life insurance companies
651 220 Car insurance services	4.3	Items from the accounts of non-life insurance companies
653 000 Pension funding services	1.9	Items from the accounts of the pension schemes
Non-characteristic output		
	2.6	Includes rental services of non-residential property, other credit granting services, and other services auxiliary to financial intermediation
Total output	28.7	

3.17.20 In order to **allocate non-life insurance output**, information from both the insurance industry and the users is used. The reports from the insurance companies give data split on 29 various insurance segments of which 14 are related directly to households' final consumption expenditures. Using this information to estimate households' final consumption expenditures the remaining output is, together with imports of these services, to be allocated to other uses, i.e. intermediate consumption of industries and exports. Exports and imports are estimated using a percentage/general ratio of total output in non-life insurance divided by total premiums on the premiums paid to and received from the rest of the world as observed through the BoP reporting system (UT-statistics). Thus the total for non-life insurance used as part of intermediate consumption expenditures is given. For each industry intermediate consumption of non-life insurance services is estimated using the above mentioned percentage/general ratio on the figures on premiums paid reported by the individual industry in the SBS (NO-item7500). Subsequently total supply and total use of the non-life insurance services are balanced normally by adjusting the intermediate use of this service in some industries, through reallocation between products while the intermediate consumption in total for each industry is left unaffected.

3.17.21 **Output in services auxiliary to financial intermediation is specified** by 4 characteristic NNA-products. These are illustrated by 2009 figures:

Output in services auxiliary to financial intermediation. NOK billion in 2009 - Sources and methods

Characteristic output		
661 100 Services auxiliary to financial intermediation	3.0	Items of accounting statistics
661 200 Fund management services	8.2	Items of new accounting statistics
661 209 Security broking services, trade margins	7.0	Items of new accounting statistics
661 900 Other services auxiliary to financial intermediation	3.0	Items of new accounting statistics
Total output	21.0	

Intermediate consumption

3.17.22 In NNA, **intermediate consumption** in financial intermediation is estimated at NOK 56.3 billion in 2009. The number of products specified varies between 16 in Pension funding and 53 in Other monetary intermediation.

3.17.23 **Main sources used** are the same as for output:
- Credit market statistics, accounting data organized in data base ORBOF for banks
- Credit market statistics, accounts of insurance companies in database FORT
- Credit market statistics, accounts of other financial institutions
- Accounting statistics for auxiliary services to financial intermediation

3.17.24 For **financial intermediation**, except insurance and pension funding, intermediate consumption is estimated from the **accounting data of credit market statistics**. Certain deviations appear when comparing NNA estimates and corresponding data of financial statistics. In NNA, expenses of travel 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 was adjusted downwards in NNA, by excluding writing-off bad debts from current costs as intermediate consumption.

3.17.25 For **banks** - and also for **credit enterprises and financial companies** - data are collected in a **very detailed** way. Commission and fees are explicitly shown, 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.

3.17.26 For **insurance** and pension funding, intermediate consumption is estimated from the **accounting data of credit market statistics** and thereby treated in a quite detailed way in the national accounts. The form by which information on costs is collected is well designed by type of costs. Referring again to the treatment of expenses of travel 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.

3.17.27 For **activities auxiliary to financial intermediation**, intermediate consumption is based on the accounting statistics.

3.18   Real estate activities (L)

Contents

3.18.1 In NNA, the activities of NACE L are **distinguished in 2 industries** within one A64 heading:

68	Real estate activities		
	680 Real estate activities	M	
	688 Dwelling service production of households	M	O

3.18.2 Both industries are involved in **market activities,** while the main activity of dwelling services is non-market production, i.e. dwelling services for own use. All units registered in the business register are covered in the industry 680. Households that are not registered as legal units in the register are counted in the industry 688. These are mostly owner occupiers, but households can also let

dwellings to other households as market activity. It is mandatory to register a legal unit if you let five dwellings or more. For smaller units, registration is voluntary, but can give some tax advantages.

3.18.3 In Norwegian national accounts, households living in housing cooperatives are seen as owner occupiers. The main reason why this is so, is that the household could, on their own initiative, sell or buy these dwellings at market prices. The assets, debts and incomes of the co-operative are distributed to the inhabitants for tax reasons every year. The occupants of the co-operative dwellings are seen as the economic owners of their dwelling. The dwellings of the housing cooperatives are included along with other dwellings of owner occupiers when imputed rents are calculated. Intermediate consumption is estimated on basis of intermediate consumption paid by owner occupiers excluding those living in housing cooperatives.

3.18.4 The legal units in NACE 68.201 (housing cooperatives) are not covered by the SBS. This decision was taken in order to save resources for the SBS. The arguments for including this industry in the SBS was weakened by the fact that their turnover is not considered relevant neither for paid rents nor for imputed rents. However, they have costs of administration and wages that should be part of NACE 68. The missing SBS has made it necessary to add these activities to the industry 680. Compensation of employees is estimated from the register data as wages relating to NACE 68.201. Other relevant costs are assessed from accounting data for house building cooperatives (payments from housing cooperatives for managing accounts and payments), and from a private consulting firm (Holteprosjekt) assessing normative costs for letting of dwellings (administration costs only are used). The present benchmark is from the 2002 revision, but has later been adjusted by the results of the 2001 census

3.18.5 Dwelling services for the industry 688 are estimated as annual projections to the latest benchmark year (2007). Below we describe first the methods involved in the annual projections, then the estimate for the benchmark year.

3.18.6 Real estate activities make a **contribution of 6.7 per cent to GDP in 2009**. Value added share of output is 64 per cent in 2009, above the national ratio.

NACE L - NOK billion and value added percentages in 2009

		Output	Intermediate consumption	Value added	Per cent of total value added	Per cent of GDP
68	Real estate activities	243.7	86.7	156.9	7.5	6.7
680	Sale and management of real estate	105.9	42.9	63.0	3.0	2.7
688	Dwelling service production, owner occupiers and housing co-operatives	137.8	43.8	94.0	4.4	4.0
	Total NACE L	243.7	86.7	156.9	7.5	6.7

Output

3.18.7 **Main sources used** are:
- Statistics of rents of dwellings
- Annual accounting statistics, SBS-based
- Housing statistics of various kinds

3.18.8 **Output of real estate activities, including dwelling services from industry 680** is estimated by a direct method using SBS-data. The part of the rental income coming from letting of dwellings is assessed from the composition of the capital stock (dwellings as a proportion of the total building stock). There is an addition for some services produced by housing cooperatives as explained above (3.18.4).

3.18.9 Market **dwelling services produced in industry 688** is estimated as a projection of the benchmark figures for 2007, using growth in rented dwelling stock in square meters and growth in market rents according to the CPI. Projection of the dwelling stock is explained below. This projection is regarded as a measure of total market rentals except rentals paid to general government and employers of the household. Rentals paid to the industry 680, 411 and 940 (student lodgings) are deducted and the residual allocated to industry 688. Rentals from letting of holyday homes are projected by the growth in holyday houses.

3.18.10 **Imputed services** from household owner-occupiers are projected by the growth in the stock of dwellings. There is an explicit adjustment for quality improvement of the dwelling services (including services from holyday homes).The increase in prices is taken from the CPI. Services from holyday homes are projected by the increase in the stock of holyday homes, expressed at current prices by multiplying by the price increase according to the CPI. The same price index is used for dwellings and holyday homes. The size of the stock of holyday homes is published from building statistics. There is no explicit projection of services from garages etc. These services are assumed to have the same growth as other imputed services.

3.18.11 **The explicit quality adjustment** for dwelling services is estimated from internal estimates of investments as the ratio of GFCF of major improvements to other investments in new dwellings projected by growth in housing stock and price increase. The components are explained in the explanation of GFCF in dwellings.

3.18.12 A small amount received by households as compensation for organizing kindergartens in private homes (source: accounting statistics for kindergartens) is deducted from imputed rents and added to production of market rents of industry 688.

3.18.13 **The stock of dwellings** takes the dwellings stock of the Census 2001 as a benchmark, projecting the stock by adding completed dwellings according to building statistics. The number of finished dwellings is taken straight forward from the building statistics, their size in m2, however, must be estimated. From the building statistics we receive the total number of square meters built, and the number of dwellings by number of rooms for building types comparable to the ones from the 2001 Census (five groups) and for the geographical strata used for the 2007 benchmark (five groups), The total area in each of these 25 groups is distributed by the number of rooms in proportion to the number of dwellings multiplied by the average size of comparable dwellings in the 2001 census. The total number of dwellings is finally adjusted according to the number of households in SSBs household statistics. The same adjustment is done to the dwelling stock measured in square meters. The dwelling stock figures used for the annual calculations are the average of the estimated housing stock at the beginning and at the end of the year. The percentage of the dwellings that are owner occupied is estimated from the 2001 census in each of the 60 strata used for the 2007 benchmark calculations (described later together with the benchmark estimates).

3.18.14 **Output in real estate services is specified** by 7 characteristic NNA products. These are illustrated by 2009 figures:

Output in real estate services. NOK billion in 2009 - Sources and methods

Characteristic output		
681 000 Buying and selling own property	4.4	SBS-based data providing a basis.
682 010 Dwelling services, housing co-operatives	1.7	Calculations described above
682 020 Renting services involving own non-residential property	80.5	Calculations described above
682 090 Renting services involving own residential property (excluding owner-occupiers)	25.4	SBS-based data providing a basis.
683 100 Real estate brokerage services	6.5	SBS-based data providing a basis.
683 200 Real estate management services	5.4	Calculations described above (real estate agencies)
684 000 Dwelling services, for own final use, imputed	119.5	Calculations described above
Non-characteristic output		
	0.3	Mostly own account capital formation
Total output	243.7	

Intermediate consumption

3.18.15 In NNA, **intermediate consumption in real estate, renting and business activities** is estimated at NOK 86.7 billion in 2009.

3.18.16 **Main sources used** are:
-           For industry 680: Annual accounting statistics, SBS-based
-           For industry 688: Benchmark assessment for 2007: since then annual projections based on growth in production. The benchmark assessment is described separately below. There is separate compilation of intermediate consumption of FISIM based on financial statistics.

3.18.17 The main part of the **intermediate consumption in the production of dwelling services** consists of construction services and materials for maintenance. There is an important IC from FISIM, and some building insurance services. IC for the services produced by non-financial corporations in NACE 680 is assumed to be included in their IC in general.

3.18.18 The **FISIM services** included in IC for industry 688 are FISIM from loans for dwellings purposes. It is assumed that 15% of the loans granted against security in dwellings are used for other (consumption) purposes.

The benchmark estimates of production of industry 688 for 2007

3.18.19 The compilation of dwelling services uses a **stratification of dwellings** that is a combination of three factors: Type of building (two types), size (six categories defined by the number of rooms) and geographical region (five categories). The type of building specifies detached houses, farm houses and small houses as one type of building, blocks of flats and other buildings as the second type. The size categories correspond to number of rooms, with the exception of the largest dwellings, which have six or more rooms. The regional classification is a classification of Norwegian municipalities, and can be interpreted in terms of urbanization. The top class consists of Oslo together with the municipality of Bærum in the surrounding county of Akershus. Oslo is the capital of Norway and the largest city in the country. Region 2 consists of the remaining municipalities of Akershus county. Region 3 is a group of the largest cities in Norway (except Oslo). These cities are Bergen, Trondheim, Stavanger and Tromsø. The remaining Norwegian municipalities are split in two: group 4 is municipalities having a densely populated area of at least 20 000 inhabitants (this area may be part of

other municipalities as well). Other municipalities make up group 5. The groups were defined in this way in order to be as close as possible to the stratification underlying the rent statistics. In addition to these 60 strata for regular dwellings, holyday homes can be considered as a separate stratum. This is also the case for garages related to dwellings.

3.18.20 The data source for rents was the 2007 market rent survey. This survey is a sample of persons renting their dwelling. The design of the survey has been rather stable since the first test for 2005. There is much information about services included in the rents that can be used for the imputation for owner-occupiers. For 2007 a gross sample of 28000 persons were drawn from the population register. The net sample consisted of 13008 interviews, of which 7681 persons were renters.

3.18.21 Estimation of services from holyday homes is separate from services from regular dwellings and explained later. It is assumed that when renters of dwellings have access to a garage or other parking lots related to their dwellings, the payment for these facilities are included in their paid rent.

3.18.22 From the sample of renters, persons renting from the municipality or from their employer were disregarded, as the total rents for these categories in the national accounts are covered from the government accounts and from the SBS of the employers. For other renters the average paid rent per stratum was estimated from the rent survey.

3.18.23 Some of the cells of the average rents by stratum have few observations and must be regarded as rather uncertain. Some of the averages were adjusted so that rent per dwelling are increasing by the number of rooms at the same time as rent per square meter are decreasing by the number of rooms.

3.18.24 Totals for paid rents were found by multiplying the average rent by the stock of dwellings within each of the 60 strata defined above (3.18.19). This total is considered to comprise the rents produced in the industries 688, 680, 411 and 940, the last industry being mainly student accommodation. The final figure of paid rents for industry 688 was accordingly found as a residual as paid rents in the industries 680, 411 and 940 were deducted from the total. Paid rents for these three industries were found in the same way as documented for 2009.

3.18.25 Some paid rents include electricity. According to Eurostat regulations, expenditures for electricity should if possible be adjusted for and excluded from paid rents. In order to do this adjustment, we have used the results from the regression analyses for paid rents described below. These regressions include a dummy variable indicating whether electricity is included in the rent, with the exception of the regressions for dwellings of 3 rooms. The parameter used for these dwellings has been set to the average of the coefficients for dwellings of 2 and 4 rooms. The expenditure for electricity is estimated as the relevant coefficient multiplied by the proportion of renters with electricity included and the stock of rented dwellings. The total adjustment amounted to 190 million NOK, indicating that this adjustment was of minor importance.

3.18.26 In order to impute rents for owner-occupiers, paid rents from the rent survey were subject to a regression analyses. In these analyses, rent per square meter is regressed on parameters defining the relevant stratum, the logarithm of the size of the dwelling in square meters, and parameters defining correction items defined in the rent survey. Examples of these correction variables are dummy variables indicating whether the rent includes electricity, payment for TV signals, cleaning services etc. There were separate regressions for each number of rooms. The details of the regression can vary somewhat, the estimates are given below.

3.18.27 Some groups of renters were not included in the regressions, as their paid rent are regarded as unsuitable for imputation purposes if unadjusted, and attempts to include correction variables in the regression were deemed to be unsuccessful. This includes cases where the dwelling is rented from relatives and friends, cases where the rents include a garage (which is treated separately) and dwellings of three rooms where electricity is included in the rent.

3.18.28 According to the Eurostat regulation for dwelling services, such regressions should show a correlation between observed and estimated rents of at least 0.7, corresponding to an r2 of 0.49. As seen from the regression results below, this demand is met in all the regressions (although 3 room dwellings is on the limit). The overall correlation between estimated and paid rents was 0.8.

3.18.29 The regressions were used to **estimate dwelling services for owner-occupied dwellings** in two steps. In the first step, rents were simulated for each individual owner-occupied dwelling in the 2001 census, and the results used to compute average rents by square meter per stratum. This imputation takes into consideration the fact that the owner-occupied dwellings usually are larger that rented dwellings in the same stratum. In these simulations, the dummy variables defined to correct for services included in the rents were given the value zero, so as to estimate pure rent for an empty dwelling. Some of the resulting rents were modified so that rents per dwelling increase and rent per square meter decrease by the number of rooms, for each combination of strata for house type and regional group. This was done so that total rents in each group should be unchanged, given the weights of the 2001 census.

3.18.30 We have done an adjustment for fees covering charges for water and renovation. These fees are part of intermediate consumption for the letters of dwellings, and so indirectly covered by the rentals that they charge. In the Eurostat regulation it is stated that 'charges for heating, water, electricity etc should be excluded from the rentals, ..'. These expenditures should be part of household consumption for the owner-occupiers not as rentals but in other COICOP items. Using the assumptions of the national accounts about who is paying such fees, it was assumed that payments of these fees by owner-occupiers amounted to 8 per cent of their estimated unadjusted imputed rents. The same per cent adjustments were done in all strata.

3.18.31 The average rentals imputed for owner-occupiers were grossed up using the estimated stock of owner-occupied dwelling by the 60 strata defined for the benchmark.

Production of services from holyday homes.

3.18.32 Production of services from holyday homes and huts is estimated as the number of holyday homes according to the GAB register multiplied by an estimated value. The estimated value is found as room prices of hotels in the county where the holyday home is situated, multiplied with the average number of days of use. The regional prices are compared to the holyday homes situated in the same region (county), so that the average is less influenced by business hotels in the largest cities. The room price is taken from the hotels statistics and is income from accommodation only, net of any food or drinks served. From the room price, an estimate of expenditures for heating and municipal fees was deducted, which are included in the room price but must be paid separately for the holyday homes. These costs of heating etc. are not a part of imputed rents, but are included in household consumption directly. The average number of days in use (by the owners) was estimated from a survey of use of holyday homes 2008 by TØI (Institute for transportation economics). This production estimate includes services from holyday homes owned by foreign residents.

3.18.33 Production of paid rentals for letting of holyday homes in industry 688 is intended to cover holyday home rented directly from the owner, where the owner is not registered as a unit in other industries, such as NACE 55. The estimate is made separately for Norwegian and foreign renters, as the data available are different for the two groups.

3.18.34 For foreign renters, the point of departure is taken from the guest survey of TØI. From their estimate of tourists staying in rented holyday homes, we have deducted guest nights of non-residents staying in rented holyday homes according to accommodation statistics. Rentals per guest night is assumed to be equal to imputed rents per holyday home divided by four, as the tourists are assumed to share the rented holyday homes among four persons.

3.18.35 The source for the estimates for residents renting of holyday homes is the survey of tourism consumption conducted by TØI. These surveys (one for the summer and one for the winter season) are used to assess the number of overnight stays that Norwegians spend in a rented holyday home. The share of the stays in a rented holyday home relative to stays in own or borrowed holyday homes is estimated at 19.4 per cent. This figure is adjusted from data on residents' use of commercial holyday homes, as stated in the SSB holyday survey. It is estimated that staying in commercial holyday homes amount to 23 per cent of Norwegians overnight stays in rented holyday homes in total. From this we have estimated that Norwegians paid rentals should be 15 per cent of the value of the imputed services (less the consumption of services of holyday homes owned by non-residents).

Production of services from garages and car parking lots related to dwellings

3.18.36 Paid services from garages and car parking lots are considered to be included in paid rentals for the dwelling. We have done separate compilation of imputed services based on data from the market rent survey and the number of garages etc estimated from various sources.

3.18.37 From the market rent survey we have computed the difference between average rentals for dwellings were garages or parking lots are included in the rent and rentals that did not include such facilities. These differences were computed for each of the 60 strata used for the benchmark compilations. Cases where rentals including garages etc were smaller than rentals without such facilities were not considered. From the other observations, aggregates were made for 4 regional strata. Oslo and Akershus were merged, the other strata are as explained in the overall stratification for the benchmark analyses. The resulting averages show that 'other larger cities' had the highest rentals for garages etc, then Oslo/Akershus and other small towns, while the rentals implied for other municipalities were rather cheap. This pattern as well as the estimated rentals, were deemed to be reasonable estimates for garages proper.

3.18.38 It seems reasonable to think that the rentals charged for a garage proper must be much higher that rentals charged for a simple parking lot with no structures involved. We have assumed that rentals for a parking lot is 10 per cent of the rental for a garage proper, while rentals for a car-port (a garage with roof only, no walls) is 50 per cent of the rentals for a garage proper. We have discussed these estimates with experts from the building statistics division within Statistics Norway. There is, however, no relevant statistics on the issue.

3.18.39 The number of owner-occupiers having garage or parking lots is estimated from the survey of the level of living. Data from the Census 2001 were used to split this in the proportions that had only access to a car port or parking lot. To separate those that only had access to a parking lot among those who had car port and/or parking lot, we used data from the survey of housing conditions 1988.

3.18.40 The following shows the results of regression analyses of paid rents used for imputation purposes:

Definition of variables used in any of the regressions

Dependent variable: aar_leie_kvm Annual rental per square meter utility floor space
Independent variables:
Lnkvm:Logarithm of the square meter utility floor space
Dbo_1: equals one when the dwelling is situated in stratum 1, else zero
Dbo_2: equals one when the dwelling is situated in stratum 2, else zero
Dbo_3: equals one when the dwelling is situated in stratum 3, else zero
Dbo_4: equals one when the dwelling is situated in stratum 4, else zero
Dhust_1:   equals one when the type of building is a detached dwelling or small house, else zero
Dummy variable for correction purposes:
Deie_4:   equals one when the dwelling is rented from a municipality, else zero

Deie_5:	equals one when the dwelling is rented from the employer, else zero
Dmobl1:	equals one when the dwelling is rented fully furnished, else zero.
Dmobl2:	equals one when the dwelling is rented partly furnished, else zero
Dmobl:	equals one when the dwelling is rented fully or partly furnished, else zero
Dstrom:	equals one when the rental includes costs of electricity, else zero
Dtv:	equals one when the rental includes costs for cable tv or parabol antenna.
Dgvask:	equals one when the rental includes costs for cleaning stairs/staircase/entrance/ common areas done by external service providers
Dannet:	equals one when the rental includes access to washing equipment etc or snow cleaning and similar services done by external service providers

Regression results for dwellings of 1 room

```
The SAS System
The REG Procedure
Model: MODEL1
Dependent Variable: aar_leie_kvm


Number of Observations Read        377
Number of Observations Used        377
```

Analysis of Variance

Source	DF	Sum of Squares	Mean Square	F Value	Pr > F
Model	13	96926186	7455860	33.65	<.0001
Error	363	80435491	221585		
Corrected Total	376	177361677			

Root MSE	470.72856	R-Square	0.5465	
Dependent Mean	1797.78403	Adj R-Sq	0.5302	
Coeff Var	26.18382			

Parameter Estimates

Variable	DF	Parameter Estimate	Standard Error	t Value	Pr > |t|
Intercept	1	5108.00045	278.66235	18.33	<.0001
lnkvm	1	-1074.06592	68.41935	-15.70	<.0001
dbo_1	1	382.43036	116.92298	3.27	0.0012
dbo_2	1	144.07626	171.86254	0.84	0.4024
dbo_3	1	199.85946	125.29405	1.60	0.1116
dbo_4	1	83.60329	147.25010	0.57	0.5705
dhust_1	1	-47.81027	139.54924	-0.34	0.7321
deie_4	1	-320.81877	63.28147	-5.07	<.0001
deie_5	1	-205.98872	113.59676	-1.81	0.0706
dmobl	1	42.17193	57.67012	0.73	0.4651
dstrom	1	20.48327	65.35177	0.31	0.7541
dtv	1	50.58687	53.29972	0.95	0.3432
dgvask	1	142.44958	53.28681	2.67	0.0079
dannet	1	63.80998	99.47899	0.64	0.5216

Regression results for dwellings of 2 rooms

```
The SAS System
54


rom1=2


The REG Procedure
Model: MODEL1
Dependent Variable: aar_leie_kvm


Number of Observations Read        1090
Number of Observations Used        1090
```

Analysis of Variance

Source	DF	Sum of Squares	Mean Square	F Value	Pr > F
Model	14	120381580	8598684	81.72	<.0001
Error	1075	113116137	105224		
Corrected Total	1089	233497717			

Root MSE	324.38297	R-Square	0.5156	
Dependent Mean	1203.21525	Adj R-Sq	0.5092	
Coeff Var	26.95968			

Parameter Estimates

Variable	DF	Parameter Estimate	Standard Error	t Value	Pr > |t|
Intercept	1	3821.24423	175.04694	21.83	<.0001
lnkvm	1	-738.51883	42.89537	-17.22	<.0001
dbo_1	1	452.60032	33.63128	13.46	<.0001
dbo_2	1	332.29335	57.84281	5.74	<.0001
dbo_3	1	155.29951	35.05442	4.43	<.0001
dbo_4	1	49.28288	35.40817	1.39	0.1643
dhust_1	1	-22.76895	32.33354	-0.70	0.4815
deie_4	1	-164.17640	23.41547	-7.01	<.0001
deie_5	1	-239.51728	38.05098	-6.29	<.0001
dmobl1	1	23.61742	52.30204	0.45	0.6517
dmobl2	1	62.30269	28.48168	2.19	0.0289
dstrom	1	42.76050	28.91046	1.48	0.1394
dtv	1	59.73330	21.76104	2.74	0.0062
dgvask	1	118.09473	23.65073	4.99	<.0001
dannet	1	14.30153	39.98497	0.36	0.7207

Regression results for dwellings of 4 rooms

```
The SAS System
55


rom1=4
```

```
The REG Procedure
Model: MODEL1
Dependent Variable: aar_leie_kvm


Number of Observations Read        336
Number of Observations Used        336


                          Analysis of Variance

                                    Sum of           Mean
Source                     DF      Squares         Square    F Value    Pr
> F

Model                      14     37466418        2676173      32.33
<.0001
Error                     321     26572418          82780
Corrected Total           335     64038836


Root MSE              287.71535    R-Square     0.5851
Dependent Mean        891.66677    Adj R-Sq     0.5670
Coeff Var              32.26714


                          Parameter Estimates

                         Parameter       Standard
Variable         DF       Estimate          Error     t Value    Pr > |t|

Intercept         1     2989.89192      275.15335       10.87      <.0001
lnkvm             1     -525.93789       61.75115       -8.52      <.0001
dbo_1             1      573.95629       51.91757       11.06      <.0001
dbo_2             1      179.30021       85.99174        2.09      0.0379
dbo_3             1      258.05202       51.81744        4.98      <.0001
dbo_4             1       72.59660       46.87045        1.55      0.1224
dhust_1           1      -43.51235       40.34084       -1.08      0.2816
deie_4            1     -141.02682       48.10826       -2.93      0.0036
deie_5            1      -27.71493       59.15330       -0.47      0.6397
dmobl1            1      194.22201       74.56637        2.60      0.0096
dmobl2            1       75.04646       47.12705        1.59      0.1123
dstrom            1       85.25911       63.77301        1.34      0.1822
dtv               1       15.39885       39.69348        0.39      0.6983
dgvask            1      135.97667       48.34794        2.81      0.0052
dannet            1       20.30056       81.15055        0.25      0.8026
```

Regression results for dwellings of 6 rooms or more
```
The SAS System
56


rom1=6


The REG Procedure
Model: MODEL1
Dependent Variable: aar_leie_kvm


Number of Observations Read         97
Number of Observations Used         97
```

```
                        Analysis of Variance

                               Sum of           Mean
Source                 DF     Squares         Square    F Value      Pr
> F

Model                  14    13685001         977500       9.79
<.0001
Error                  82     8183825          99803
Corrected Total        96    21868826


Root MSE              315.91572   R-Square      0.6258
Dependent Mean        739.77032   Adj R-Sq      0.5619
Coeff Var              42.70457


                        Parameter Estimates

                        Parameter        Standard
Variable          DF     Estimate           Error    t Value    Pr > |t|

Intercept          1    2146.96109      533.02660       4.03      0.0001
lnkvm              1    -347.10361      114.75974      -3.02      0.0033
dbo_1              1     512.28223      132.36386       3.87      0.0002
dbo_2              1     -41.16207      241.44998      -0.17      0.8651
dbo_3              1     495.54369       99.62133       4.97      <.0001
dbo_4              1     160.41650       97.50467       1.65      0.1038
dhust_1            1    -111.02245       91.88968      -1.21      0.2304
deie_4             1      17.49509      119.88057       0.15      0.8843
deie_5             1    -108.68961      118.21383      -0.92      0.3606
dmobl1             1     430.78101      198.40320       2.17      0.0328
dmobl2             1     178.58796       93.36407       1.91      0.0593
dstrom             1      94.16033      103.97283       0.91      0.3678
dtv                1      56.36277      104.79654       0.54      0.5922
dgvask             1     209.93008      148.25375       1.42      0.1606
dannet             1     176.14929      156.85195       1.12      0.2647
```

Regression results for dwellings of 3 rooms

```
The SAS System
57


The REG Procedure
Model: MODEL1
Dependent Variable: aar_leie_kvm


Number of Observations Read        701
Number of Observations Used        701


                        Analysis of Variance

                               Sum of           Mean
Source                 DF     Squares         Square    F Value      Pr
> F

Model                  12    83146081        6928840      55.45
<.0001
```

```
Error                      688        85968232           124954
Corrected Total            700       169114313


Root MSE                 353.48808    R-Square       0.4917
Dependent Mean          1046.19612    Adj R-Sq       0.4828
Coeff Var                 33.78794


                        Parameter Estimates

                         Parameter        Standard
Variable         DF       Estimate           Error     t Value    Pr > |t|

Intercept         1      4373.47272       265.30690      16.48      <.0001
lnkvm             1      -846.76204        61.53569     -13.76      <.0001
dbo_1             1       454.99021        44.41703      10.24      <.0001
dbo_2             1       168.81758        79.51505       2.12      0.0341
dbo_3             1       239.48413        44.95363       5.33      <.0001
dbo_4             1        83.91363        42.06490       1.99      0.0465
dhust_1           1       -20.05320        36.14169      -0.55      0.5792
deie_4            1      -169.51129        37.53920      -4.52      <.0001
deie_5            1      -107.43680        53.72396      -2.00      0.0459
dmobl1            1       113.18956        78.36173       1.44      0.1491
dmobl2            1       159.35623        42.45282       3.75      0.0002
dtv               1        16.79165        29.71757       0.57      0.5722
dgvask            1       142.99135        36.25852       3.94      <.0001
```

Regression results for dwellings of 5 rooms

```
The SAS System
58


The REG Procedure
Model: MODEL1
Dependent Variable: aar_leie_kvm


Number of Observations Read          179
Number of Observations Used          179


                        Analysis of Variance

                               Sum of           Mean
Source                DF       Squares         Square    F Value    Pr
> F

Model                 12      14341819        1195152      19.81
<.0001
Error                166      10017033          60344
Corrected Total      178      24358852


Root MSE                 245.64929    R-Square       0.5888
Dependent Mean           771.40219    Adj R-Sq       0.5590
Coeff Var                 31.84451


                        Parameter Estimates
```

Variable	DF	Parameter Estimate	Standard Error	t Value	Pr > |t|
Intercept	1	2105.87723	283.21337	7.44	<.0001
lnkvm	1	-335.52608	61.61576	-5.45	<.0001
dbo_1	1	457.86212	66.59706	6.88	<.0001
dbo_2	1	229.12678	77.61398	2.95	0.0036
dbo_3	1	297.51556	56.16547	5.30	<.0001
dbo_4	1	81.49361	58.58574	1.39	0.1661
dhust_1	1	-29.49473	45.86402	-0.64	0.5211
deie_4	1	-109.59655	57.29409	-1.91	0.0575
deie_5	1	-54.53836	79.82533	-0.68	0.4954
dmobl1	1	18.20317	96.71510	0.19	0.8509
dmobl2	1	38.30759	55.12910	0.69	0.4881
dtv	1	94.34453	51.34799	1.84	0.0679
dgvask	1	219.24292	65.26935	3.36	0.0010

Benchmark assessment of intermediate consumption for dwelling services, 2007

3.18.41 For the **2011 main revision**, a new benchmark was established for IC of dwelling services. This new assessment uses the survey of the level of living of 2007 as its main source. In addition new information on IC for maintenance and repair of holyday houses was included. The data on IC for holyday houses was taken from a survey carried out by a research firm (TØI, Institute of Transport Economics). The benchmark assessment covers maintenance and repair only. Building insurance and FISIM estimates were taken from the regular annual compilations for the financial industries for 2007.

3.18.42 In the survey of level of living they ask for expenditures during the past 12 months for maintenance, repairs or decoration/renovation, excluding expenditures for new construction or enlargements. If the household answer 'yes', they are next asked for their expenditures for materials, freight and services for the past 12 months. Even though the guidance given mentions types of expenditures that are typical maintenance, it seems likely that some expenditures that increases the standard of the dwelling or prolongs its life is included. These are expenditures for investment in the national accounts. This assumption is strengthened from the fact that many of the amounts reported are very high, even approaching the costs of a new dwelling.

3.18.43 Elsewhere in the survey of level of living they ask if the household has undertaken one or more of a specified set of projects related to the dwelling during the past 12 months. These projects are:
- Replacement of windows or entrance doors
- New kitchen outfit
- Installation of or rebuilding of bathroom/w.c.
- Replacement of the electric wiring
- Improvements of heating equipment
- New materials in walls, floors or ceilings indoors
- New outdoor paneling/ covering
- Insulation or re-insulation of outer walls, ceiling or floors

The expenditures for these projects were not, however, requested. We have, however, decided to regard these projects as projects of investment for the household. In order to split the investment costs from regular maintenance and repair, we subjected the total expenditures for maintenance repairs etc to a regression analyses, adding dummy variables for each of the above project defined as one if the household had done this kind of project, else zero. Extreme cases reporting expenses above 1 mill NOK were deleted from the analyses. The constant term of this regression was taken to represent regular maintenance and repairs, including small maintenance and repairs of a kind that are done by renters as well as owner-occupiers.

3.18.44 Average expenditures for maintenance, repairs etc for renters (excluding cooperatively owned dwellings) was taken as an estimate for small maintenance and repairs of a kind likely to be paid by renters as well as owners. The same amount was deducted from the maintenance expenditures of the owner-occupiers and thus reclassified from intermediate consumption to household final consumptions expenditures. The survey of the level of living expressly asked renters not to include expenditures paid by or refunded by the landlord.

3.18.45 The survey of the level of living does not split maintenance expenditures between materials and services. This split was considered to be unchanged from the last benchmark year of 2003. The split was then based on the household budget survey. We further reconsidered the detailed product composition of materials for maintenance and repair.

3.18.46 The average maintenance and repair costs per owner-occupied dwelling are grossed up by the total stock of owner-occupied dwellings. Also rented dwellings are supposed to have the same average total intermediate costs. The part that is considered as IC for market rentals in industry 688 corresponds to this industry's share of total output of market dwelling services.

3.18.47 Expenditures for maintenance and repair of holyday homes are taken from the survey done by TØI on the use of holyday homes in 2008. The owners are asked to state maintenance costs for materials, services and 'other expenditures'. As expenditures for investments are given separately, we have assumed that the costs reported are all for intermediate consumption. The average amount per holyday home is grossed up by the total stock of holyday homes from the GAB register.

3.19 Professional, scientific and technical activities (M)

Contents

3.19.1 In NNA, the activities of NACE M are **distinguished in 7 industries** within 5 A64 headings:

69-70	Business services			
	690	Legal, accounting, bookkeeping and auditing activities	M	
	700	Activities of head offices and management consultancy activities	M	
71	Architecture and engineering activities; technical testing and analysis			
	710	Architecture and engineering activities; technical testing and analysis	M	N
72	Scientific research and development			
	720	Scientific research and development	M	N
73	Advertising and market research			
	730	Advertising and market research	M	
74-75	Other professional scientific, technical and veterinary activities	M		
	740	Other professional, scientific and technical activities	M	
	750	Veterinary activities	M	

3.19.2 The activities of **research and development (R&D)** are specified in a separate industry. 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 are captured and included in NACE industry 720. Most R&D activities are regarded as market activities, involving substantial amounts of subsidies. The latter are treated as subsidies on

products in NNA. Some non-market activities are performed within central government. The same is the case with some **geological and technical testing services**.

3.19.3 Professional, scientific and technical activities make a **contribution of 3.9 per cent to GDP in 2009**. Value added share of output is 50.5 per cent in 2009, slightly below the national ratio (52.1 per cent).

NACE M - NOK billion and value added percentages in 2009

		Output	Intermediate consumption	Value added	Per cent of total value added	Per cent of GDP
69	Legal and accounting activities	30.6	7.4	23.2	1.1	1.0
70	Activities of head offices, management consultancy activities	14.1	6.1	8.0	0.4	0.3
71	Architecture and engineering activities, Technical testing and analysis	97.8	53.6	44.2	2.1	1.9
72	Scientific research and development	10.7	4.6	6.1	0.3	0.3
73	Advertising and market research	17.5	12.7	4.8	0.2	0.2
74	Other professional, scientific and technical activities	9.9	5.0	4.9	0.2	0.2
75	Veterinary activities	1.7	0.8	1.0	0.0	0.0
	Total NACE M	182.2	90.2	92.1	4.4	3.9

Output

3.19.4 **Main sources used** are:
- Annual accounting statistics, SBS-based
- Central government accounts

3.19.5 **Annual accounting statistics (SBS-based)** were introduced in NNA in the 2002 main revision. Definition of output from this structural business statistics is provided in section 3.3 above. The SBS data are available **also by version of local KAUs**, in addition to the enterprise-based version.

Business services

3.19.6 In **business services activities** output is specified by 3 characteristic products which are referred to for 2009 below:

Output in business services. NOK billion in 2009 - Source and methods

Characteristic output		
691 000 Legal services	10.9	SBS-based data providing a basis.
692 000 Accounting, book-keeping and auditing services	19.4	As above
702 000 Business and management consultancy services	13.7	As above
Non-characteristic output		
	0.7	Own account investments, provisions, rental income
Total output	44.7	

Architecture, engineering and technical services

<u>3.19.7</u> Output in **architecture, engineering, technical testing and analysis activities** is specified by 5 characteristic products. These are illustrated below by 2009 figures:

Output in other business services. NOK billion in 2005 - Source and methods

Market output		
711 100 Architectural services	5.1	SBS-based data providing a basis.
711 210 Technical consultancy services buildings	15.4	As above
711 230 Geological and similar services	25.5	As above
711 290 Other engineering and technical consultancy services	39.1	As above
712 000 Technical testing and analysis services	11.3	As above
Non-characteristic output		
	1.4	Own account investments, provisions, rental income
Total output	97.8	

Research and development

<u>3.19.8</u> In **research and development (R&D),** since the **2002 revision**, estimates have been made using **SBS-data**. If R&D is organised as separate units local KAUs is set up for this activities.This is not always the case, however, as some research work are undertaken by the head office. The magnitude of this has not been quantified, but there is a separate survey on R&D activity (Frascati manual data) being conducted by private firms outside the research institutes.. This survey is conducted for corporations, but a breakdown by industry is asked for. Some units may be in the NACE 72. One cannot conclude that these units are missing, indeed they are all present in the business register. Some of the units may be misclassified by industry, but this is not generally believed to be the case. Most of the R&D work reported are for own use within the company. Specialised commercial research institutes are included in the Business register and covered by the SBS data. Information on the units are provided by the private firm that is responsible for the Norwegian R&D survey and from the unit within Statistics Norway that do the R&D survey for private firms except for the research institutes. R&D for use within the enterprise is only valued if carried out in a separate establishment in a multi-establishment setting. The valuation is then at cost (sum of wage costs and IC). R&D within General government units is valued at production costs and the output is classified as government consumption. Some government owned institutes and all non-profit institutions are classified as market units. Their production is valued in the SBS. R&D by specialised commercial research institutes is valued at revenues from sales, contracts, commissions, fees, etc.

<u>3.19.9</u> **Output is specified** by 3 characteristic and 9 minor non-characteristic NNA-products. These are illustrated by 2009 figures:

Output in research and development. NOK billion in 2009 - Sources and methods

Market output		
720 000 Research and development services	10.5	SBS-based data providing a basis.
Non-characteristic output		
	0.2	Includes an insignificant value of rental services of residential property
Total output	10.7	

Advertising and market research

3.19.10 **Annual accounting statistics (SBS-based)** were introduced in NNA in the 2002 main revision to estimate **output of advertising and market research activities**. When total characteristic output is arrived at, **next stage is to distribute among characteristic products** most often from a one-to-one correspondence between 5-digit NACE and NNA-products.

3.19.11 In advertising and market research activities **output is specified** by 2 characteristic and 6 non-characteristic NNA-products. These are illustrated by 2009 figures:

Output in advertising and market research services. NOK billion in 2009 - Source and methods

Market output		
731 000 Advertising services	15.8	SBS-based data providing a basis.
732 000 Market research and public opinion polling services	1.1	As above
Non-characteristic output		
	0.6	Own account investments, provisions, rental income

Other professional services

3.19.12 Output in other professional services are all market output and comprise other technical and scientific services and veterinary services. Output is specified by 6 characteristic products, illustrated below by 2009 figures:

Output in other professional services. NOK billion in 2009 - Source and methods

Market output		
741 000 Specialized design services	2.6	SBS-based data providing a basis.
742 000 Photographic services	1.3	As above
743 000 Secretarial and translation services	0.7	As above
749 000 Other professional, scientific and technical services	4.8	As above
750 010 Veterinary services for pet animals	0.4	As above
750 090 Other veterinary services	0.9	As above
Non-characteristic output		
	0.9	Includes rental services, own account investments and trade provisions
Total output	11.6	

Intermediate consumption

3.19.13 In NNA, intermediate consumption in **professional, scientific and technical services activities** is estimated at NOK 90.2 billion in 2009. Number of NNA-products specified varies from about 50 to 70 in the various NNA-industries.

3.19.14 **Main source used** is:
- Annual accounting statistics, SBS-based

3.19.15 In all relevant industries intermediate consumption is estimated from the SBS-based data (totals at least), following procedures described by definitions given in section 3.3 above.

3.20 Administrative and business support service activities (N)

Contents

3.20.1 In NNA the activities of NACE N are **distinguished in 7 industries** within 4 A64 headings:

77	Rental and leasing activities	
	770 Rental and leasing activities	M
78	Employment activities	
	780 Employment activities	M
79	Travel agencies, tour operators and other reservation services and related activities	
	791 Travel agencies, tourist offices and related activities	M
	792 Tour operators and related activities	M
80-82	Other administrative and support service activities	
	800 Security and investigation services	M
	810 Services to buildings and landscape activities	M
	820 Other business support service activities	M

3.20.2 All industries are **market activities**.

3.20.3 Administrative and support service activities make a **contribution of 2.4 per cent to GDP in 2009**. Value added share of output is 52.0 per cent in 2009, the same as the national ratio (52.1 per cent).

NACE N - NOK billion and value added percentages in 2009

		Output	Intermediate consumption	Value added	Per cent of total value added	Per cent of GDP
77	Rental and leasing activities	26.1	13.8	12.3	0.6	0.5
78	Employment activities	23.2	5.9	17.3	0.8	0.7
79	Travel agency, tour operators and other reservation service and related activities	14.7	11.9	2.8	0.1	0.1
791	Travel agency activities	4.4	2.6	1.8	0.1	0.1
792	Tour operator activities	10.3	9.3	1.0	0.0	0.0
80	Security and investigation activities	6.6	1.9	4.7	0.2	0.2
81	Services to buildings and landscape activities	16.0	5.6	10.4	0.5	0.4
82	Office administrative, office support and other business support activities	22.4	13.2	9.2	0.4	0.4
	Total NACE N	109.1	52.4	56.8	2.7	2.4

Output

3.20.4 **Main source used** is:
- Annual accounting statistics, SBS-based

3.20.5 Definition of output based on the **Annual accounting statistics (SBS-based)** is provided in section 3.3 above. The SBS data are available **also by version of local KAUs**, in addition to the enterprise-based version.

Rental and leasing services

3.20.6 In rental and leasing service activities **output is specified** by 11 characteristic products, illustrated below by 2009 figures:

Output in rental and leasing services. NOK billion in 2009 - Source and methods

Characteristic output		
771 100 Renting services of automobiles	4.0	SBS-based data providing a basis.
771 200 Renting services of other land transport equipment	0.4	As above
772 000 Renting services of personal and household goods n.e.c	0.9	As above
773 100 Renting services concerning agricultural machinery and equipment without operators	0.0	As above
773 200 Renting services concerning construction and civil engineering machinery and equipment without operators	3.9	As above
773 300 Renting of office machines and compurters	0.4	As above
773 400 Renting services of ships and boats	3.9	As above
773 500 Renting services of aircraft	1.1	As above
773 910 Renting services of other machinery and equipment n.e.c	4.2	As above
773 920 Renting services of oil rigs	2.6	As above
774 000 Renting services of licenses, patents and royalties etc.	3.8	As above
Non-characteristic output		
	0.9	Includes trade services (trade margins)
Total output	26.1	

Employment activities

3.20.7 In employment activities output is specified by one characteristic product, illustrated by 2009 figure below:

Output in employment services activities. NOK billion in 2009 - Source and methods

Characteristic output		
780 000 Employment services	23.1	SBS-based data providing a basis.
Non-characteristic output		
	0.2	
Total ouput	23.2	

Travel agencies etc.

3.20.8 **SBS-based statistics** has been used as source since 2002. Travel agency services are estimated on net basis while the other characteristic product, Tour operator services, is recorded on a gross basis. For travel agencies it is assumed a 10 per cent margin for output, while the remaining 90 per cent considered costs. This was the result of an analyses of a supplementary survey to the SBS. The

supplementary survey asked for the net margin figures. Several firms were asked about their data reporting and accounting practices. The conclusion of this special analysis was to use the coefficients mentioned.

3.20.9 **Output in travel agencies and tour operators etc. is specified** by 3 characteristic and 2 minor non-characteristic NNA-products. These are illustrated by 2009 figures:

Output in travel agencies and tour operators etc. NOK billion in 2009 - Sources and methods

Characteristic output		
791 100 Travel agency services	2.0	SBS-based data providing a basis.
791 200 Tour operator services	12.0	As above
799 000 Tourist office services etc.	0.7	As above
Non-characteristic output		
	0.1	Includes renting services and own account investments
Total output	14.7	

Security and other support services

3.20.10 In the NACE N industries security and investigation, services to buildings and landscapes, office administration and other support services activities, **output is specified** by 8 characteristic products, illustrated below by 2009 figures:

Output in security and support services. NOK billion in 2009 - Sources and methods

Market output		
801 100 Private security and investigation services	4.2	SBS-based data providing a basis.
802 300 Services incidental to security and investigation	2.3	As above
811 000 Combined facilities support services	4.1	As above
812 000 Cleaning services	11.8	As above
821 000 Office support services and convention organisation services	6.4	As above
829 100 Debt collection and credit information services	3.1	As above
829 200 Packaging services	0.5	As above
829 900 Other business support services	11.3	As above
Non-characteristic output		
	1.4	Includes rental services, trade commissions and small amounts of own account investments
Total output	45.1	

Intermediate consumption

3.20.11 In NNA, **intermediate consumption in administrative and business support services activities** is estimated at NOK 52.4 billion in 2009. Number of NNA-products specified varies from about 30 to 60 in the various NNA-industries.

3.20.12 **In activities of NACE N SBS-based data** - treated as described in section 3.3 to define intermediate consumption - was introduced **in the 2002 revision**. The estimation of intermediate consumption follows gross and net treatment for tour operators and travel agencies, respectively, as for output.

3.20.13 **Main source used** is:
-        Annual accounting statistics, SBS-based

3.21   Public administration and defence; compulsory social security (O)

Contents

3.21.1 In NNA, the activities of NACE O are **distinguished in 3 industries** within the A64 heading:

84	Public administration and defense services; compulsory social security services	
	841 Public administration and compulsory social security activities N	
	842 Defense activities	N
	843 Other public administration	N

3.21.2 In Norway, **social security activities are integrated with public administration** despite the existence of a national social security fund. In NNA therefore, public administration (central) and compulsory social security activities are kept together, in terms of activities as well as institutional sector breakdown. Defense activities are distinguished, however.

3.21.3 Public administration and defense make a **contribution of 5.1 per cent to GDP in 2009**. Value added share of output is 57 per cent, somewhat above the national value added share, but at the low end among the services activities.

NACE   O - NOK billion and value added percentages in 2009

		Output	Intermediate consumption	Value added	Per cent of total value added	Per cent of GDP
84	Public administration and defence, compulsory social security	205.9	86.8	119.1	5.7	5.1
841	Administration of the State and the economic and social policy of the community	154.1	63.3	90.8	4.3	3.9
842	Defence activities	35.1	16.2	18.9	0.9	0.8
844	Other public service activities	16.7	7.3	9.4	0.4	0.4
	Total NACE O	205.9	86.8	119.1	5.7	5.1

Output

<u>3.21.4</u> **Main sources used** are:
- Central government accounts
- Local government accounts

<u>3.21.5</u> The following table shows the estimation of output from adding costs for 2009 in Central and Local government (and NPISHs). Non-market output is estimated subtracting direct payments for services rendered by government units from total output. (Please note that the total output in the sectors are shown, not only output in industry O).

Estimation of total output. 2009. NOK million

Central government	
Intermediate consumption	92 984
Compensation of employees	144 367
Net Other taxes and subsidies	26
Consumption of fixed capital	24 891
Output	262 268
Local government	
Intermediate consumption	70 111
Operating surplus[8]	204
Compensation of employees	185 911
Net Other taxes and subsidies	82
Consumption of fixed capital	24 633
Output	280 941
NPISHs	
Intermediate consumption	26 335
Operating surplus	1
Compensation of employees	28 089
Net Other taxes and subsidies	14
Consumption of fixed capital	3 102
Output	57 541

<u>3.21.6</u> **Central government accounts** and **local government accounts** are both principal sources of the statistical system. The items of the government accounts are tabled with a **whole set of information**. By use of detailed decoding plans the required information is transformed into the structure used in both the SUT and the institutional sector accounts systems. In central government accounts the information is organized in **chapters, items and sub-items**. The chapters 1-2999 concerns expenditures, while the chapters 3000-5999 states income. Each chapter reflects one **function**. The items reflect various types of expenditures or income. For example:

---

[8] Operating surplus in two local government market activities: NACE 36 Water distribution and NACE 38 Sewage and refuse disposal.

Central government accounts

Item (cost/debit)	Item (income/credit)

01   Operating costs
      (Goods and services, and wages and
      salaries)
.
.
.
45   Investments in fixed capital
.
.
.
70-89   Transfers (to others than central
        and local government units)
.
.
.
90-99   Loans
	01-29 Sales of goods and services (fees)
	30-39 Sales of fixed capital
	.
	.
	.
	70-89 Transfers from others than central
	        and local government units
	90-99 Payments on loans

3.21.7 The sub-items give a more detailed description of the types of cost or income. For example:

Central government accounts

Cost item 01	Operating costs (goods and services)
Sub-item 21	Machinery, furniture, equipment
22	Consumer goods (forbruksmateriell)
23	Travel expenses
24	Office services
27	Operational costs machinery/transport equipment
28	Maintenance buildings and constructions
29	Operational costs buildings, rent

3.21.8 Information from the local government accounts is reported through the **KOSTRA** system (see later this chapter and chapter 11). Here the information is organized in **functions and types.** For example:

Local government accounts

Function	Type
1201 Pre-school/kindergardens 1202 Elementary schools . . . 1333 Roads newbuildings and maintenance 1334 Road safety . . . 1730 Transportation scheduled bus 1731 Transportation ferries	Wages and salaries Energy use Insurance costs

3.21.9 The information in the central and local government accounts described above is transformed into the data structure of the NNA, the so-called FIIN structure, to serve both SUT and the institutional sector accounts. The **item identifications** in terms of chapters and corresponding items and sub-items or functions and types 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**:

National accounts - FIIN-structure

Type	Product	COFOG	NACE	Sector	Sector	Amount
Type of NNA transaction, for example production, intermediate consumption, compensation of employees, income, transfers etc.	Detailed NNA product for use in SUT (when relevant, i.e. production, intermediate consumption)	Classi-fication of function	Classi-fication of industry	Reporting sector (government)	Partner sector (when known)	NOK

3.21.10 As **an illustration of the transformation of the information available** in central government accounts, let us look at the very first flow of the central government accounts Appanage for His Majesty the King:

Example: First item of the central government accounts

Accounts	Nature of information and contents	Codes
Central government accounts	**Item identification** Chapter: His Majesty the King/Queen Item: Appanage sub-item	0001 01 19
National accounts (FIIN- structure)	**Type identification** Compensation of employees in central government, organized posts	3010102
	Product identification (NNA-product): General public services of central authorities, central government consumption	841 002
	Activity identification (NNA-industry): Public administration and compulsory social security activities	841
	Purpose or functional identification (COFOG): General public services of executive and legislative organs, financial and fiscal affairs, external affairs other than foreign aid	01110
	Sector identification (NNA institutional sector): Central government appropriations	1100

3.21.11 **Annual central government accounts** are utilized for the estimation of output in the public administration and defense industries. For each item area, outlays and incomes are recorded in the

main source. Output is calculated as the value of total costs. In the presentation below, an output area is defined as the total of two outputs (government consumption and fees). In annual national accounts, government source data are not adjusted, apart from tax data that are not recorded in cash values like in government accounts until this day.

3.21.12 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.

3.21.13 **Output in public administration and social security for central government** - in the sense described above - **is specified** by 8 characteristic and 9 non-characteristic NNA-products. For technical purposes consumption of fixed capital and FISIM constitutes additional output. These are illustrated by 2009 figures:

Output in public administration and social security for central government. NOK billion in 2009 - Sources and methods

Non-market output of central government		
841 002/003 Administration services of the State and the economic and social policy of the community	58.7	Detailed items of main source: items concerning fees paid for government services; items from central government fiscal accounts, items from other central government accounts, less minor adjustments related to sickness benefits (for all products)
842 102/103 Administrative foreign affairs related services	2.8	Detailed items from fiscal accounts
842 302/303 Law courts and prison related administrative services	6.0	Detailed items from fiscal accounts
842 402/403 Police services	12.4	Detailed items from fiscal accounts
Non-characteristic output		
	0.6	Includes own account investment work, renting services and some minor items of health services
Addition: 841 021 Consumption of fixed capital	11.1	Estimated share of central government consumption of fixed capital for this industry
Addition: 841 026 FISIM	1.3	Estimations documented in chapter 9
Total output	93.0	

3.21.14 To arrive at total output on the industry level the intermediate consumption of FISIM is added.

3.21.15 **Collective services** in government are given some product details in the NNA. Also technical considerations play a role (specific codes for capital consumption and FISIM) and the split between the service as such and fees attached is motivated from possible separate component deflation procedure. Furthermore, it is considered an advantage to classify production to COFOG through production and consumption as far as the basic government accounts allow.

3.21.16 Illustration by 2009 figures follows by products for **defense activities** as well. **Output is specified** by 2 characteristic and one non-characteristic NNA-products, adding to it one technical product to represent consumption of fixed capital and one to represent FISIM in defense.

Output in defense activities. NOK billion in 2009- Sources and methods

Non-market output of central government		
842 202/203 Military defense services	30.1	Detailed items from central government fiscal accounts, including government fees items; items from other government accounts, some adjustment to government fees
Non-characteristic output		
	0.0	Own account investment work
Addition: 842 021 Consumption of fixed capital	4.5	Estimated share of central government consumption of fixed capital for defense
842 026 FISIM	0.5	Estimations documented in chapter 9
Total output	35.1	

3.21.17 Other public services activities include the Norwegian Railway Administration, the Norwegian Coastal Administration, the Norwegian Geological Survey and several research institutes.

3.21.18 Output in other public services activities is specified by 11 "semi-characteristic" products, i.e. they may be seen as characteristic of other industries. The products are illustrated in the following table by 2009 figures.

Output in other public services activities activities. NOK billion in 2009- Sources and methods

Non-market output of central government		
491 002/003 Railway line services	4.9	Detailed items from central government fiscal accounts and from other government accounts
520 002/003 Central government transport support services	1.6	As above
682 032/033 Real estate renting services of central government	1.6	As above
710 002/003 Geological and similar services	0.2	As above
712 002 Technical testing and analysis services	0.0	As above
720 002/003 Research and development services of central government	5.0	As above
Non-characteristic output		
	0.0	Own account investment work
Addition: 844 021 Consumption of fixed capital	3.1	Estimated share of central government consumption of fixed capital for defense
844 026 FISIM	0.3	Estimations documented in chapter 9
Total output	16.7	

3.21.19 **Annual local government accounts** reported through KOSTRA are utilized for the estimation of output of public administration in local government. Again, output is calculated as the value of total costs. Government accounting data was earlier less detailed in local government than in central government, but with the introduction of KOSTRA the opposite became the situation. The presentation that follows is a parallel to the one given above for central government.

3.21.20 **Output in public administration for local government is specified** by 2 characteristic and 4 "semi-characteristic" NNA-products (presented as pairs of government consumption and fees). 3 non-characteristic products and consumption of fixed capital and FISIM constitute additional value to the output. These products are illustrated below by 2009 figures.

Output in public administration for local government. NOK billion in 2009 - Sources and methods

Non-market output of local government		
841 004/005 General administrative services	42.4	Detailed items of main source, i.e local governments accounts
842 504/505 Fire brigade services	3.2	As above
931 004/005 Sports related services	2.1	As above
Non-characteristic output		
	5.5	Includes rental services of residential property and own account investment work
Addition: 841 041 Consumption of fixed capital	7.7	Estimated share of local government consumption of fixed capital for this industry
FISIM	0.3	See chapter 9
Total output	61.1	

3.21.21 Two annual census like surveys covering central and local government supplies from 2006 and onwards annual data for **own account software**. Also other ICT costs are covered. For local government the survey is part of the KOSTRA reporting (formula 25), while a separate formula is used for reporting from central government units. The survey covers all units in both sectors. For central government the effect of non-response has been estimated, while non-response has not been satisfactory dealt with for local government (response rate 79%). The following table shows results for the year 2007.

ICT costs in central and local government 2007. NOK million

	Central government	Local government
Total ICT costs	4 273	2 013
Hardware	2 207	1 364
Software, purchased	998	480
Own account software	393	9
Hire of hardware	674	160

3.21.22 Figures for hardware and purchased software have been identified in NNA from 2005, and purchased software from 2006, and it should be stressed that the costs had been **already been included but only now identified**. Own account software was introduced as part of the 2011 main revision. Also here the costs connected to own account software has always been included in government accounts, and hence been part of the estimated total output.

Intermediate consumption

3.21.23 In NNA, **intermediate consumption** in public administration and defense is estimated at NOK 86.6 billion in 2009 Number of NNA-products (2005 count) is about 30 and 40 in NACE 841 and 844 respectively, and as many as 150 in NACE 842.

3.21.24 **Main sources used** are:

- Central government accounts
- Local government accounts
- Annual cost survey data for defense activities
- Ad hoc cost survey data for education and health activities in local government

3.21.25 As stated above, the **items of government accounts are tabled with a whole set of information**. The type component (types according to the FIIN-system) is the key for identifying flows that are destined for treatment as intermediate consumption. **Annual central government accounts and local government accounts** are utilized to the extent possible to estimate intermediate consumption of the public administration and defense industry. A problem, however, has been that government accounts do not provide enough 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. The new source of **KOSTRA** has significantly improved the situation for local government.

3.21.26 **KOSTRA** was introduced in the national accounts just after the 2004 version of the GNI Inventory was submitted. It is an abbreviation for "Municipality-State-Reporting" and has been a large project that started as early as 1995, afterwards enlarged in scope to have its first full-scale reporting in March 2002 when entering its operational phase. KOSTRA focuses on two purposes: better information about the municipalities and more efficient reporting (electronic, use of electronic forms or file extracts, same source serving multiple-purpose situations). See also chapter 11. The introduction of KOSTRA has given a large increase in transfers in kind.

3.21.27 Even though the KOSTRA reporting supplies more details on the cost structure in local government than before, the information given still has to be broken down on more detailed NNA products for intermediate consumption. This breakdown was initially achieved through assessing the new information in light of the information from the previously used **cost survey data.** And eventually, the distribution can be altered from the balancing of supply and uses of the NNA-products.

3.21.28 For its distribution on detailed NNA-products, the structure from a previously performed **annual cost survey data on defense activities** is used for the NNA-industry 752 Defense activities. On the question of the treatment of "military equipment" and the allocation the value of military equipment between intermediate consumption and GFCF of the public administration industry, supplementary information about the nature of the expenditures is used to make a judgement as to whether the goods could be used for civilian purposes. Those expenditures that could have a civilian uses, are classified as GFCG. One example of the latter solution is the treatment of the purchase of new built **frigates** in the period 2005 – 2009 that according to official government budgeting documents could be used for both civilian and defence purposes. In fact one of them has been employed off the coast of Somalia to protect civilian vessels from pirate assaults, a task more in line with coast guard and police activities than traditional military activities. Otherwise it is mostly buildings (for offices and education) and some transportation equipment that are recorded as GFCG. Weapon and weapon systems are generally classified as government final consumption.

3.21.29 The product distribution of intermediate consumption for the NNA-industry 751 Public administration in central government was initially 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.

3.21.30 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.

3.22   Education (P)

Contents

3.22.1   In NNA, the activities of NACE M are **included in one industry** within the A64 heading:

85	Education services		
	850	Education	M	N

3.22.2   **Four different types of producers** are involved as units of production of the education industry in NNA, i.e. **three types of non-market producers** and **market producers**.

-	Non-market producers of local government
-	Non-market producers of central government
-	Non-market producers of NPISH
-	Market producers

These distinctions have been made according to ESA95 principles. In Norway, most institutions providing education (and health and social work) services will receive public grants that exceed the 50 per cent criterion, e.g. for private schools amounting to 85 per cent of average costs per student, subject to type of school. While often the finance criterion is met, the critical question is whether the control criterion is met as well. The latter seems not met in a number of cases, thus such institutions are grouped as non-market producers of NPISH in NNA, rather than non-market producers of local or central government.

3.22.3   Education makes a **contribution of 4.2 per cent to GDP in 2009**. The contribution from non-market education in 2009 is 3.9 per cent, leaving 0.3 per cent contribution to GDP from market education. Value added share of output is 77 per cent, one of the highest ratios among the services industries.

NACE P - NOK billion and value added percentages in 2009

		Output	Intermediate consumption	Value added	Per cent of total value added	Per cent of GDP
85	Education	128.0	29.9	98.1	4.7	4.2
	Market production	7.2	1.8	5.4	0.3	0.2
	Non-market production	120.8	28.1	92.7	4.4	3.9
	Total NACE P	128.0	29.9	98.1	4.7	4.2

Non-market education

Output

3.22.4   **Main sources used** are:
- Central government accounts
- Local government accounts
- Accounting statistics for educational institutions within NPISHs

3.22.5 The **annual central government accounts** and **local government accounts** are used to estimate main parts of output in the education industry. These sources are directly used for non-market output of central and local government, but have also been used 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.

3.22.6   Output of education services in **NPISHs** is estimated based on accounting statistics and cost survey. Not all units are covered and numbers of pupils per school is used to gross up the accounting figures. Output is estimated as sum of costs, i.e. compensation of employees and estimated intermediate consumption from the accounting statistics, adding estimated consumption of fixed capital and FISIM.

3.22.7 **Output of non-market education is specified** by 4 characteristic (further differentiated as seen below) and 1 non-characteristic NNA-products. These are illustrated by 2005 figures:

Output in non-market education. NOK billion in 2009 - Sources and methods

Non-market output of local government		
852 004/005 Primary education services	50.5	Detailed items of main source, i.e. local government accounts
853 004/005 Secondary education services	21.9	As above
854 104/105 Vocational training	0.4	As above
855 904/905 Adult education services	5.3	As above
Non-characteristics output, general government		
	0.4	Includes a small amount of renting services of residential property and own account investment work
Addition: 850 046 Consumption of fixed capital	6.5	Estimated share of local government consumption of fixed capital
850 046 FISIM	0.4	
Non-market output of central government		
720 002 Research and development services of central government	12.1	Specific items - central government fiscal accounts
852 002/003 Primary education services	0.4	47 items of main source, of which 5 government fees items, all from fiscal accounts
853 002/003 Secondary education services	0.6	119 items, of which 30 government fees items, all from fiscal accounts
854 202/203 Higher education services	15.2	423 items, of which 93 government fees items; all from fiscal accounts

Non-characteristics output, central
 government

	0.1	Includes a small amount of own account investment work
Addition: 850 021 Consumption of fixed capital	2.0	Estimated share of central government consumption of fixed capital
850 026 FISIM	0.5	See chapter 9
Non-market output of NPISH		
851 000 Primary education services	1.8	Cost data from accounting based statistics on schools in primary education (NPISHs)
853 000 Secondary education services	2.5	Cost data from accounting based statistics on private schools in secondary education
Total output	120.4	

3.22.8 Consumption of fixed capital is not specified as a separate product in the case of NPISH as is done in general government, but capital consumption is nevertheless estimated for NPISHs.

Intermediate consumption

3.22.9 In NNA, **intermediate consumption** in non-market education is estimated at NOK 28.1 billion in 2009. Number of NNA-products varies between the sub-categories, from more than 60 in central government to 17 in NPISH.

3.22.10 **Main sources used** are:
- Central government accounts
- Local government accounts
- Ad hoc cost survey data for education in local government
- Accounting statistics for education units within NPISHs

3.22.11 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 intermediate consumption section of public administration. In **NPISHs** from 2005, a new accounting based statistics is the source for estimating intermediate consumption.

Market education

Output

3.22.12 **In market education** sources and methods of estimations largely follow what is described below.

3.22.13 **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); **number of drivers' licenses**; information from Driving Teachers' Association, and information on rules for **government grants**. Data from household sample surveys were also utilized, primarily for comparison purposes.

3.22.14 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 source and method used is similar to the one used for non-market production by the NPISHs, i.e. based on a new accounting statistics for educational institutions outside general government.

3.22.15 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 11 000 NOK 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 for 1990 between output estimate made and expenditures

for driving schools according to the household sample survey did not deviate much (0.9 and 0.8 billion NOK, respectively), when taking into account driving school services for business and schools as well.

3.22.16 Most important among the **activities of adult and other education** are the activities of adult education associations. One of the main units in the field (AOF) - has provided price information on courses held. Fees paid were 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 were added to arrive at output. **Government grants for education** are usually stipulated at normal rates per student. They were therefore treated as subsidies on products, affecting the estimation of output. An exception was payments as subsidies out of governmental funds (other central government accounts) that were treated as other subsidies on production. No adjustment is being made for informal education activities, such as private music or language teachers. Public schools are widespread (also music schools) in Norway; thus, private music and language teachers are believed to be less significant. The data for local government give some rough indications as to types of expenditures, though. Private teachers are not common in Norway. There may be uncovered activities of music teaching, conductors for bands and choirs etc. Most likely these activities will be classified in NACE 90. Music lessons are offered through municipal music schools (and then included in education) and through organised activities as leisure activities.

3.22.17 **Output in market education is specified** by 4 characteristic NNA-products. These are illustrated by 2009 figures:

Output in market education. NOK billion in 2009 - Sources and methods

853 000 Secondary education services	0.3	Item grant to secondary schools
Higher education services	2.2	Item grant to private high schools and universities from central government accounts, plus fees paid
804 110 Driving school services	2.7	1990 estimate based on education costs per student and number of students, price and volume indicators used for other years
804 200 Other education services	2.0	Item grant to adult services and to folk high-schools from central government accounts and from local government, plus fees paid
Total output	7.2	

Intermediate consumption

3.22.18 In NNA, **intermediate consumption** in market education is estimated at NOK 1.8 billion in 2009. Number of NNA-products as inputs is around 25.

3.22.19 **Main source used** is one also listed for non-market education:
-        Accounting statistics education units within NPISHs

3.22.20 For **private schools** including NPISH units, intermediate consumption has been based on information from the new accounting statistics. Some market education, such as driving schools, are not covered by the cost survey, their IC is updated from the expert assessment in the general 95 revision, in proportion to output. Product composition of IC has generally not been revised since the ad hoc surveys mentioned, apart from the yearly reconciliation of supply and demand of the relevant cost elements.

3.23   Health and social work (Q)

Contents

3.23.1 In NNA, the activities of NACE Q are **distinguished in 4 industries** within the A64 heading:

86-88	Health and social work services			
	860	Human health activities	M	N
	870	Residental care activities	M	N
	882	Child day-care activities	M	N
	889	Social work activities by disabled workers	M	

3.23.2 The first three NNA industries record both **market and non-market activities**, while the remaining one is a rather special construct, in which **social work activities by disabled workers** have been recorded with output mostly consisting of a long list of manufacturing products.

3.23.3 Like for education, **four different types of producers** are involved as units of production of the health and social work industry, i.e. **three types of non-market producers** and **market producers**. Non-market output is valued at total costs minus sales. Most important are non-market producers of **local government** with an output share of just above 40 per cent of these activities, while non-market producers of central government are almost as important with about one third output share after taking over the responsibility of hospitals. These distinctions have been made according to ESA95 principles. In Norway, most institutions providing health and social work services will receive public grants that exceed the 50 per cent criterion. The allocation to sectors is more unclear here than for schools when it comes to the control criterion, and is therefore put on the research agenda.

3.23.4 Health and social work makes a **contribution of 8.9 per cent to GDP in 2009**. The contribution from non-market health and social work in 2009 is 7.4 per cent, leaving 1.5 per cent contribution to GDP from market health and social work. Value added share of output is 77 per cent in 2009, just the same as in education.

NACE Q - NOK billion and value added percentages in 2009

		Output	Intermediate consumption	Value added	Per cent of total value added	Per cent of GDP
86-88	Human health and social work activities	270.2	60.6	209.6	10.0	8.9
	Market production	49.8	15.0	34.8	1.7	1.5
	Non-market production	220.4	45.6	174.8	8.3	7.4
86	Human health activities	128.0	34.8	93.2	4.4	4.0
87	Residential care activities	99.5	18.2	81.3	3.9	3.4
88	Social work activities without accommodation	42.7	7.7	35.1	1.7	1.5
882	Child day-care activities	40.9	6.3	34.6	1.6	1.5
889	Social work activities by disabled workers	1.8	1.3	0.5	0.0	0.0
	Total NACE Q	270.2	60.6	209.6	10.0	8.9

Output

3.23.5 **Main sources used** are:
-         Central government accounts (including National Insurance)
-         Local government accounts
-         Annual detailed accounting statistics of health institutions
-         Annual social statistics

3.23.6 **Central and local government accounts** are described elsewhere 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 national health plans. The **annual social statistics** contain various kinds of information related to social work and nursing activities.

3.23.7 **Annual central government accounts** and **local government accounts** are used to estimate main parts of output in the health and social work industry. These sources are directly used for non-market output of central and local government, but are also used as supplementary sources for the estimation of non-market output of the NPISHs by utilizing information on payments of grants from central and local government to these institutions.

3.23.8 **Output of hospital services** is produced in three types of units, of which non-market production of central government is the most important. **In the 2002 revision**, new estimations had to take into account institutional changes made from 1 January 2002 (Hospital Reform Act), central government was given the responsibility for specialized health services. Five regional health enterprises were created - taking responsibilities over from local government - and these enterprises also made agreements with individual hospitals and institutions owned by foundations as well as local government institutions. For the NPISH units, **new accounting statistics** were made available for institutions related to treatment of patients within somatic hospitals and psychiatry (close to 50 institutions).

3.23.9 More than 85 per cent of **residential care services** are non-market output of central and local government that are **covered by the central and local government accounts**. In **child day-care services t**he market versus non-market distinction criteria comes into play. Day care services are supplied by Local Government institutions (kindergartens and organised care for school children) and by market producers (private kindergarten, day care outside institutions). For Local government activities, production is valued as sum of costs (wage costs, IC and CFC). Payments from the parents are treated as fees (market output). Private producers of day care are classified as market producers. The payments that Government makes to provide affordable day care is treated as direct purchases of day care services, (and not as subsidies to the private producers). Production of the private producers is therefore valued as payments from the parents plus the direct purchases from government.

3.23.10 **Catastrophic and aid services** 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. New statistical information became available in this area in 1997, although these accounting data had some deficiencies being non-standardized, however. In the NA estimation - for the annual changes - the cost data of six of the largest organizations were utilized. Further improvement has been achieved with the UT-project from 2005. Here, based on new information from NORAD (Norwegian Agency for Development Cooperation), exports of development aid services were estimated for the first time. The NORAD data give information on all

development aids services by NPISHs, including the non-government financed part (about 10 per cent).   The Norwegian Agency for Development Cooperation (NORAD) is a directorate under the Norwegian Ministry of Foreign Affairs (MFA) and is responsible for . NORAD is responsible for coordinating the Norwegian developing aid activities abroad and for distributing the governmental resources in this field. The orgainsation keep detailed records of the flow of resources managed by the organisation that has been utilized in the BoP and NA estimations for relevant items.

3.23.11 **Output of the NPISHs** also includes welfare services to old people and handicapped persons. The **annual social statistics** are the source for these estimations.

3.23.12 **Output in non-market health and social work is specified** by 19 characteristic NNA-products (further differentiated as seen below). These are illustrated by 2009 figures:

Output in non-market health and social work. NOK billion in 2009 - Sources and methods

Non-market output of local government		
862 314/315 Dental practice services	2.2	KOSTRA - reporting system local to central government - specific items
869 014/015 Nursing and assistance in homes	32.0	KOSTRA - reporting system local to central government - specific items
869 044/045 Health services, prevention, schools/health center serv.	2.7	KOSTRA - reporting system local to central government - specific items
869 094/095 Health services, diagnosis, treatment, rehab	4.9	KOSTRA - reporting system local to central government - specific items
870 024/025 Nursing and assistance in institutions	30.4	KOSTRA - reporting system local to central government - specific items
881 024/025 Nursing and welfare services to old persons and handicapped persons	3.5	KOSTRA - reporting system local to central government - specific items
889 114/115 Kindergarten	19.1	KOSTRA - reporting system local to central government - specific items
889 134/135 School leisure time-care services	4.0	KOSTRA - reporting system local to central government - specific items
889 914/915 Child care	10.2	KOSTRA - reporting system local to central government - specific items
Non-characteristics output, local government		
	0.6	Includes own account investment work and rent income
Addition: 861 -/870 -/882 041 Consumption of fixed capital	5.2	Estimated share of local government consumption of fixed capital (distributed on 3 items, one for each industry)
860 -/870 -/882 046 FISIM	0.6	See chapter 9
Non-market output of central government		
861 002/003 Somatic hospital services	48.5	Detailed items of main source
861 042/043 Psychiatric hospital services	14.6	Detailed items
861 062/063 Hospital services, treatment of drug addiction	1.7	Hospital accounts - specific items
861 072/073 Somatic services, rehabilitation	2.1	Hospital accounts - specific items
869 062/063 Somatic services, X-rays, laboratory work	6.6	Hospital accounts - specific items

Non-market output of local government		
869 072/073 Hospital services, ambulances	2.4	Hospital accounts - specific items
871 002 Social welfare in institution	0.6	Central government accounts - specific items
889 912/913 Child care	3.2	Central government accounts - specific items
Non-characteristics output, central government		
	0.3	Includes renting services of residential property and minor amount of own account investment work
Addition: 861, -/870 021 Consumption of fixed capital	4.1	Estimated share of central government consumption of fixed capital (distributed on 2 items)
861 026 FISIM	1.1	See chapter 9
Non-market output of NPISH		
861 010 Somatic hospital services	2.5	Hospital accounts - specific items
861 040 Psychiatric hospital services	1.8	Hospital accounts - specific items
861 070 Somatic services, rehabilitation	0.5	
869 040 Health services, prevention	0.0	
869 090 Other health services	0.2	
871 000 Nursing and assistance in institutions	3.9	
873 020 Nursing and welfare services to old persons and handicapped persons	7.1	
889 950 Services of catastrophic and aid institutions	3.8	Consist of services of catastrophic and aid institutions based on some accounting data (non-standardized) and BoP data.
Total output	220.4	

Intermediate consumption

3.23.13 In NNA, **intermediate consumption** in non-market health and social work is estimated at NOK 45.6 billion in 2009. Number of NNA-products varies a lot between the sub-categories, like described above for education.

3.23.14 **Main sources used** are:
- Central government accounts
- Local government accounts -
- Annual statistics of health institutions, incl. accounts of hospitals
- Annual social statistics

3.23.15 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**).

3.23.16 For intermediate consumption **in NPISH units**, the estimation has been based on the utilization of central and local government accounts and the annual statistics on health institutions. Special calculations have been made for energy costs, while keeping total intermediate consumption unaffected. From 2001, estimation of intermediate consumption is amended to be residually determined.

Market health and social work

Output

3.23.17 In NNA, **units of social work activities by disabled workers** are classified as social work in accordance with NACE. All output of social work activities by disabled workers is **non-characteristic**, mostly output in manufacturing goods.

3.23.18 **Sources** used are central and local government accounts, annual accounting statistics for private (non-government) health institutions, information from the household budget surveys and annual social statistics and ad hoc income sample surveys of private medical practitioners, dentists, physiotherapists and psychologists. Supplementary sources used for extrapolation purposes are the Consumer Price Index material and data on numbers employed by occupation groups. The accounting statistics for private hospitals states total income (BDI=BruttoDriftsInntekt=Gross Operating Income) and total costs (BDU=BruttoDriftsUtgift=Gross Operating Costs), in addition to compensation of employees and user fees.

3.23.19 Sources are utilized in a manner as indicated below. **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. Hospital services from private hospitals are estimated from identified items in the hospitals' accounts.

3.23.20 **Medical practice services** are mostly market. These are estimated from surveys of income and costs for medical practitioners run by Statistics Norway. Additional information includes current grants from local government to physicians as contributors to the government health plans. These grants 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 ESA95 principles. Also price data are used. A similar estimation is made for the occupation group of psychologists

3.23.21 **Dental services** are also mostly market. The market output is estimated from the demand side by using data from the household budget survey and the reimbursement from National Social Security Scheme. Dental services are not subject to wide support from National Social Security Scheme in Norway (except from special parts of the services provided).

3.23.22 **Physiotherapists' services** - also including chiropractors and homoeopathists - are estimated in a somewhat similar way as for medical practitioners, as reimbursement data from National Social Security Scheme are available. In fact, an un-weighted 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).

3.23.23 **Ambulance services** belong to other human health services. Ordinary ambulance services on land and water are not recorded as ambulance services, as they are already included in hospital services. These services are financed by the regional health administration, and the sources are the annual statistics of health institutions. Ambulance services by air are both performed by the military service (non-market defense activity), by market producers in air transport as non-characteristic output, while one particular unit (NLA) - considered a market unit - seems to fit in for characteristic market production of ambulance services. Households' membership fees to NLA are thus recorded as payments for the service supplied by this producer (relatively small item).

3.23.24 **Other human health services** - excluding physiotherapists etc. and ambulance services, are based on data on reimbursements from National Insurance. 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.

3.23.25 **Output in market health and social work is specified** by 11 characteristic NNA-products (plus the numerous products of social work performed by disabled persons). These are illustrated by 2009 figures:

Output in market health and social work. NOK billion in 2009 - Sources and methods

861 010 Hospital services, somatic	1.6	Hospital accounts - specific items
861 070 Somatic services, rehabilitation	1.6	Hospital accounts - specific items
862 110 Basic medical and diagnostic services	9.2	Income/costs survey of medical practitioners run by Statistics Norway, government reimbursements
862 210 Specialized medical services, specialized physicians	2.7	Income/costs survey of medical practitioners run by Statistics Norway, government reimbursements
862 220 Specialized medical services, psychiatrists and clinical psychologists	0.7	Income/costs survey of medical practitioners run by Statistics Norway, government reimbursements
862 300 Dental practice services	9.3	Estimated from the demand side using data from the household budget survey and reimbursement from National Social Security Scheme
869 020 Services provided by physiotherapists and other para-medical persons	3.9	Items of reimbursement data from National Insurance, fees paid and other incomes of these practitioners are used
869 070 Ambulance services	0.8	Hospital accounts
869 090 Other human health services	1.5	Estimated from the demand side using data from the household budget survey and reimbursement from National Social Security Scheme
889 109/110 Private kindergarten services	15.9	Accounts statistics (SBS-based)
889 120 Day-care services for young people	0.8	Indicator approach based on wage level of domestic services and numbers employed
Total output in social work activities by disabled persons (some 90 NNA-products)	1.8	Data available from annual manufacturing statistics, including product details for subsequent distribution on NNA-products
Total output	49.8	

Intermediate consumption

3.23.26 In NNA, **intermediate consumption** in market health and social work is estimated at NOK 15.0 billion in 2009. Number of NNA-products varies a lot, e.g. about 30 in human health activities and above 80 in social work activities by disabled workers.

3.23.27 **Sources used** include:
- Central government accounts (including National Insurance)
- Local government accounts
- Ad hoc cost survey data for local government
- Annual accounts statistics of health institutions
- Annual social statistics
- Ad hoc income sample surveys of private medical practitioners, dentists, physiotherapists and psychologists

3.23.28 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. Social work activities by disabled workers are excluded in that context. For the latter - primarily goods-producing activities - a much higher input share of 70 per cent is taken place.

3.24 Arts, entertainment and recreation (R)

Contents

3.24.1 In NNA, the activities of NACE R are **distinguished in 4 industries** within the two A64 headings:

90-92	Arts, entertainment, libraries, museums, other cultural and gambling activities			
	900	Creative, arts and entertainment activities	M	
	910	Libraries, archives, museums and other cultural activities	M	N.
	920	Gambling and betting activities	M	N
93	Sports, amusement and recreational activities			
	930	Sports, amusement and recreational activities	M	N

3.24.2 All 4 industries contribute to **market production**. In addition, there are various industry specifications on **non-market production**:

Non-market production of central government:	910		
Non-market production of local government:	910		
Non-market production of NPISHs:	900	910	930

In other words, all four types of producers participate in **library, museums and other cultural activities**, while two types of producers - one market and one non-market - are involved in activities of **arts and entertainment activities** and in **sports and recreational services**. Only market producers are involved in **gamling and betting activities.**

<u>3.24.3</u> NACE R have been regarded as one the most **problematic sections** of NACE as exhaustiveness is concerned, due to relatively poor coverage of production statistics in this area, especially before the days of SBS. It should however be said that the quality of the Business Register has improved over the years; it has captured units in this industry also, and so register based annual accounts data (NO) are available for all units in parts of the industries.

<u>3.24.4</u> Arts, entertainment and recreational activities make a **contribution of 0.9 per cent to GDP in 2009**. Value added share of output is 48 per cent in 2009, a relatively low ratio in services industries.

NACE R - NOK billion and value added percentages in 2009

		Output	Intermediate consumption	Value added	Per cent of total value added	Per cent of GDP
90-93	Arts. entertainment and recreation	42.1	21.8	20.4	1.0	0.9
	Market production	20.7	10.6	10.1	0.5	0.4
	Non-market production	21.4	11.1	10.3	0.5	0.4
90	Creative, arts and entertainment activities	12.8	5.3	7.5	0.4	0.3
91	Libraries, archives, museums and other cultural activities	7.9	3.0	5.0	0.2	0.2
92	Gambling and betting activities	5.6	3.8	1.9	0.1	0.1
93	Sports activities and amusement and recreation activities	15.7	9.7	6.0	0.3	0.3
	Total NACE R	42.1	21.8	20.4	1.0	0.9

<u>3.24.5</u> From cost data considerations, it was earlier determined that most **private artistic creation and interpretation services**, as well as private library, archives, museums and other cultural services, should to be treated as non-market output of NPISHs in NNA. It was observed that central and local government accounts also contained information to be considered non-market output of central government and of local government of the same kind of services. In the **2011 main revision** however, newly estimated figures for own account production within market producers was introduced. The current figures for these services - as illustrated by 2009 figures of NNA - are distributed among the types of producer as follows:

NOK billion in 2009	Artistic creation and interpretation services	Library, archives, museums and other cultural services
Market producers	5.2	0.2
Non-market producers of NPISHs	0.4	2.6
Non-market producers of central government	0.7	0.7
Non-market producers of local government	0.4	4.0

Non-market arts, entertainment and recreational services

Output

<u>3.24.6</u> In NNA, **sporting activities and other recreational activities** are 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

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and organization services. The non-market part is concerned with mass sporting activities and other services related to sports.

3.24.7 **Main sources used** are:
- Central government accounts
- Local government accounts
- Structural statistics related to project of Johns Hopkins
- Business register accounts data
- Cultural statistics
- Annual reports from theatres, the opera house and museums

3.24.8 The **annual central government and local government accounts** are used to estimate most of non-market output in **entertainment and other cultural activities**. In particular, these sources are used for the central and local government parts, but have also been 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**, **annual reports from theatres, the opera house and museums**, and other supplementary sources.

3.24.9 Non-market **output of NPISHs was estimated** as a benchmark in 1988 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 was 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 were available from cultural statistics, while the annual reports from theatres and the opera house contained data that were utilized for estimating compensation of employees and intermediate consumption. More specifically, compensation of employees and intermediate consumption figures were 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. Compensation of employees and intermediate consumption components were arrived at by grossing up these unit values by artist numbers taken from the cultural statistics. For the subsequent years output was estimated using growth in government transfers and in other income, the latter covered by the cultural statistics.

3.24.10 **Information from the Norwegian Confederation of Sport** (NCS) has been utilized with items of the **central and local government accounts** in estimating output of **sporting activities and other recreational activities**. Other considerations have also paid a role, such as making an estimate for communal work projects in this field. In the 1988 benchmarking study NCS information indicates the level of sponsor support to sports, and provides also 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 (and later KOSTRA) that are taken into account for this output estimation. Income generated from communal work projects is also tentatively estimated, while in addition making output estimates for the operation of marinas, riding clubs and ski lifts. Output (i.e. total production costs) was estimated at 82 per cent of total incomes in 1988, kept at that ratio for later years (supported by a 2001 study on sporting clubs at 86.7 per cent). Data from the **household budget 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. Other services related to sports events are difficult to estimate. From 2001, NCS membership numbers (adjusted) have been utilized also as indicator for this industry, in addition to the government transfers. The sporting activities are described in a separate NNA industry (26 930) and the **voluntary work** in own account investments is identified as a specified product (931 008 Own account investments in sporting activities). Based on information from NCS also the value of this voluntary work was estimated at NOK 500 million in 1988. For the subsequent years this product has been extrapolated using sources as described above and was for 2009 estimated at NOK 720 million.

3.24.11 **Output is specified** by 14 characteristic NNA-products (of which 3 are common, but given separate NNA-products in central and local government). These are illustrated by 2009 figures:

Output in arts, entertainment and recreational services. NOK billion in 2009 - Sources and methods

Non-market output of NPISHs		
900 100 Performing artists services	5.4	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
900 200 Services incidental to cultural/entertainment activities	1.0	Information from cultural statics on turn-over in cultural festivals used as indicator on the bench mark value
910 000 Library, archives, museums and other cultural services	2.6	Information from cultural statistics and annual reports of museums
931 008 Own-account construction in sporting and other recreational activities	0.7	Information from the Norwegian Confederation of Sport utilized in benchmarking share of own account work to total output (8 per cent)
931 200 Other sporting services	6.7	Information from the Norwegian Confederation of Sport is utilized (number of members) as indicator, items of grants from central and local government accounts, some further adjustments and addition for communal work projects etc.
Non-market output of local government		
900 104/105 Performing artists services	0.4	Detailed items of main source
910 104/105 Library and archive services	1.3	As above
910 204/205 Museums services and preservation services of historical sites and buildings	0.6	As above
Non-characteristic output, local government		
	0.0	Includes a small amounts of renting services of residential property and own account investment
Addition: 910 041 Consumption of fixed capital	1.3	Estimated share of local government consumption of fixed capital
910 046 FISIM	0.0	See chapter 9
Non-market output of central government		
900 102/103 Performing artists services	0.7	Detailed items of main source; all from fiscal accounts
910 102/103 Library and archive services	0.6	As above
Non-characteristic output. central government		
	0.0	Negligible amount of own account work
Addition: 910 021 Consumption of fixed capital	0.1	Estimated share of central government consumption of fixed capital
Total output	21.4	

Intermediate consumption

<u>3.24.12</u> **Main sources used** are:
- Central government accounts
- Local government accounts
- Structural statistics related to project of Johns Hopkins
- Annual reports from theatres, the opera house and museums

<u>3.24.13</u> For intermediate consumption in **NPISH units**, the cultural activities (NNA-industry 900), the cost-based estimation of output from the **annual reports** of various cultural institutions would also provide for a corresponding estimate for intermediate consumption (fixed at 60 per cent of output). For libraries and museums data from the accounts of relevant units are used. Finally, for sporting activities and other recreational activities (NNA-industry 930), the intermediate consumption estimate has been determined either direct accounts information (political parties) or output as growth indicator used on a bench mark level (1997).

Market arts, entertainment and recreational services

Output

<u>3.24.14</u> **Main sources used** are:
- Register based annual accounts data (NO)
- Cultural statistics
- Annual accounts of the nation-wide betting institutions
- Reports from Norwegian Performing Rights Society
- Reports from Norwegian Publishers' Association
- Central government statistics

<u>3.24.15</u> What has been described above for business activities also applies to NACE 91 and 93 as far as market production is concerned. **Annual register based accounts data** have been used for estimating output in private libraries, museums, sports, amusements and recreation activities. Statistics Norway has published **cultural statistics** issues every 3 or 4 years, 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 accounts of nation-wide betting institutions** provide relevant information on most important gambling and betting services.

<u>3.24.16</u> **Services furnished by individual artists and works of art** has a weaker basis and often resorted to calculations from the user side. Some bench mark values are extrapolated using information from government accounts (stipendiums) or sales of books. Output from the production of originals is estimated in an explicit way, based on data on compensation from Performing Rights Societies

<u>3.24.17</u> **Annual reports of the nation-wide institutions of gambling and betting activities** (Norwegian Pools Ltd., Norsk Rikstoto) are main sources used in the output estimation of **gambling and betting activities**. Output of gambling and betting activities is measured as receipts from sales minus winnings paid. Most of these services are covered by annual reports of the respective institutions behind these services. Thus, apart from administrative expenses as output in basic prices, taxes on products are added when output is needed in producers' prices.

3.24.18 **Output of market arts, entertainment and recreational services is specified** by more than 12 characteristic NNA-products. These are illustrated by 2009 figures:

Output in market arts, entertainment and recreational services. NOK billion in 2009. Sources and methods

Characteristic output		
900 100 Performing artists services	0.0	Register based accounts data (NO) for units in relevant sectors
900 200 Services incidental to cultural/entertainment activities	0.0	As above
900 310 Artistic creation	1.1	Bench mark 1991, extrapolated by value index based on book sales from Publishers' Association
900 390 Works of art	5.1	Bench mark 1988, extrapolated using data from Central Government accounts (stipendiums)
910 000 Library, archives and other cultural services	0.2	Register based accounts data (NO) for units in relevant sectors
920 000 Gambling and betting services	5.4	Annual accounts of Norwegian Pools Ltd., Norsk Rikstoto and annual publication from Norwegian Lottery Supervisory Authority
931 100 Sports facilities operation services	1.4	Register based accounts data (NO) for units in relevant sectors
931 200 Services of sports and athletics clubs	0.4	As above
931 300 Services of fitness facilities	2.5	As above
931 900 Other sporting services	1.1	As above
932 100 Fair and amusement park services	0.2	As above
932 900 Other recreational services	0.6	As above
Non-characteristic output	2.5	Includes own account investment work, trade margins, advertising services, rent income, food services and others
Total output	20.7	

Intermediate consumption

3.24.19 **Main sources used** are the same as for output.

3.24.20 In general, intermediate consumption in market production is estimated from the same sources referred to in the output description. **Annual register based accounts data (NO)** provide information on total intermediate consumption for private libraries, museums, sports, amusements and recreation activities. The intermediate consumption estimate for **gambling and betting activities** has a firm basis in the **accounts of the main betting institutions**. For **creative, arts and entertainment work** intermediate consumption is assumed being 22 per cent of output.

Contents

3.25.1   In NNA, the activities of NACE S are **distinguished in 3 industries** within the three A64 headings:

94	Activities of membership organizations		
	940 Activities of membership organizations	M	N
95	Repair of computers and personal and household goods		
	950 Repair of computers and personal and household goods	M	
96	Other personal service activities		
	960 Other personal service activities	M	

3.25.2 All three industries contribute to market production. One also to non-marked production represented by membership organizations.

3.25.3   Other service activities make a **contribution of 0.9 per cent to GDP in 2009**. Value added share of output is 54 per cent in 2009, a relatively low ratio in services industries.

NACE   S - NOK billion and value added percentages in 2009

		Output	Intermediate consumption	Value added	Per cent of total value added	Per cent of GDP
94-96	Other service activities	37.6	17.2	20.4	1.0	0.9
	Market production	21.1	8.5	12.6	0.6	0.5
	Non-market production	16.6	8.7	7.8	0.4	0.3
94	Activities of membership organisations	22.3	12.2	10.2	0.5	0.4
95	Repair of computers and personal and household goods	2.1	0.9	1.2	0.1	0.0
96	Other personal service activities	13.2	4.1	9.1	0.4	0.4
	Total NACE S	37.6	17.2	20.4	1.0	0.9

Membership organisations

Output

3.25.4 **Membership organisations** 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, 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. The **non-market part** is estimated partly on the basis of **central government accounts** that provide data on grants to such organizations, and partly from special calculations utilizing **structural data related to project of**

Johns Hopkins. These statistics covered census-type data for 1997 on compensation of employees, intermediate consumption and investments obtained from 3 500 enterprises. There are reports available on Norway's activities under this project study.

3.25.5 **Main sources used** are:
- Central government accounts
- Local government accounts
- Statistics on Membership in organisations, religious and life stanc communities
- Annual accounts of student co-operatives, trade Unions and political parties

3.25.6 Current economic information is not available for the **membership organizations**. In NNA, structural 1997 data of the Johns Hopkins project have been extrapolated by volume and price indicators. Non-market output furnished by trade unions is calculated by number of members and wage and salaries per full-time equivalent employee as indicators until 2000, while estimated average membership fees are used as price indicator after 2000. At this time, there are no annual accounts available for large unions and employers' or professional organizations. Data for 1997 have earlier been available from a special survey. 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. A late improvement should be mentioned: some aid organizations are now covered by the new large source on foreign transactions (UT project). This concerns however not the estimation of output per se, but rather the reallocation of part of development aid services from final consumption of NPISHs to the exports use category.

3.25.7 For market output of **activities of membership organizations**, special calculations are necessary. Numbers employed in NHO establishments and information on membership fees in the **annual reports of NHO** (Confederation of Norwegian Business and Industry) is used as indicator. 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 by using as indicator numbers employed in these organizations and membership fees information from the annual reports of NHO (See also description above on NPISHs.).

3.25.8 Output in activities of membership organisations is specified by 3 characteristic products. These are illustrated by 2009 figures below.

Output in activities of membership organisations. NOK billion in 2009 - Sources and methods

Non-market output of NPISHs		
942 000 Services furnished by trade unions	5.6	Special calculation based on number of members and estimated average membership fees
949 910 Other membership organizations services	10.1	Special calculations and utilizing information on grants to NPISH from central government
Market output		
941 000 Services furnished by business organizations, employers' association etc.	5.8	Bench mark 1988 extrapolated by number of members/employed and wage index
Non-characteristic output		
	0.9	Rent income student dwellings
Total output	22.3	

Intermediate consumption

3.25.9 In NNA, **intermediate consumption** in activities of membership organisations is estimated at NOK 12.2 billion in 2009. Number of NNA-products is about 30 in non-market and about the half as many in the market activbities.

3.25.10 Intermediate consumption in activities of membership organisations is estimated by utilizing annual reports from organizations. For services furnished by trade unions and other membership organizations services, intermediate consumption is estimated from the SBS-based data from the Johns Hopkins project and or extrapolation using value of output as indicator.

Repair of computers, personal and household goods

Output

3.25.11 **Annual surveys of repair shops etc.** are covered by annual SBS-based accounting statistics (main source). Only market activities are observed,

3.25.12 Output of **repair of computers and of household and personal goods** are specified by 2 characteristic NNA-products. These are illustrated by 2009 figures:

Output in repair of computers etc. NOK billion in 2009 Sources and methods

Characteristic output		
951 000 Repair services of computers and communication equipment	1.0	SBS-based data providing a basis
951 000 Repair services of personal and household goods	0.9	As above
Non-characteristic output		
	0.2	Includes trade services (trade margins) from sale of goods and income from rental services
Total output	2.1	

Intermediate consumption

3.25.13 **Intermediate consumption** in repair activities is estimated at NOK 12.2 billion in 2009. Number of NNA-products is about 30 in non-market and about the half as many in the market activities.

3.25.14 Intermediate consumption in activities of membership organisations is estimated by utilizing annual reports from organizations. For services furnished by trade unions and other membership organizations services, intermediate consumption is estimated from the SBS-based data from the Johns Hopkins project and or extrapolation using value of output as indicator.

Other personal services

3.25.15 Main sources

- Annual accounting data (SBS-based)
- Separate estimations for prostitution

3.25.16 Output of **other personal service activities** is market output and is specified by 6 characteristic NNA-products. These are illustrated by 2009 figures:

Output in other personal services. NOK billion in 2009 Sources and methods

960 100 Washing and dry-cleaning services	2.1	SBS-based data providing a basis.
960 200 Hairdressing and other beauty treatment services	8.5	SBS-based data providing a basis.
960 300 Funeral and related services	0.8	SBS-based data providing a basis, adjusted during commodity flows balancing
960 400 Physical well-being services	0.6	SBS-based data providing a basis, adjusted during commodity flows balancing
960 900 Other services n.e.c.	0.2	SBS-based data providing a basis., adjusted during commodity flows balancing
960 990 Prostitution	0.1	Separate estimations (see also chapter 7)

Intermediate consumption

3.25.17 **Intermediate consumption** in other personal service activities is estimated at NOK 4.1 billion in 2009. Number of NNA-products is about 40.

3.25.18 The sources for the estimation of intermediate consumption are the same as for output, i.e. mainly accounting data (SBS). n also.

3.26   Private households with employed persons (T)

Contents

3.26.1   In NNA, the activities of NACE T are **included in one industry** within the A64 heading:

97	Private households with employed persons	
	970 Private households with employed persons	O

3.26.2   This industry is categorized as **production for own final use (consumption),** see symbol O above. Private households with employed persons make a small **contribution of 0.0 per cent to GDP** in 2009. Value added share of output is 100 per cent, since by convention output = value added (= compensation of employees).

NACE T. NOK billion and value added percentages in 2009

		Output	Intermediate consumption	Value added	Per cent of total value added	Per cent of GDP
97	Activities of households as employers, undifferentiated goods - and serviceproducing activities of households for own account	0.4	0.0	0.4	0.0	0.0
	Total NACE T	0.4	0.0	0.4	0.0	0.0

Output

3.26.3 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.

3.26.4 **Source used** is:
- Register of Wages and Salaries (RWS)

3.26.5 In NNA, it has been decided to apply basically the results obtained from the main RWS Register on wages and salaries (administrative source of the Norwegian Directorate of Taxation) in estimating output and compensation of employees in this industry.

3.26.6 **Output is specified** by one characteristic NNA-product (970 000).

Intermediate consumption

3.26.7 **By convention**, intermediate consumption of this industry is zero.

3.27   Treatment of extra territorial organisations and bodies (U)

3.27.1 The issue here is related to concepts of **economic territory, residence** and **center of economic interest.** In the context of NA, these are activities not treated as industrial (no branch nor NACE U), rather treated in a more fundamental way in defining production boundary and residence. In the Business Register, NACE U mainly consists of foreign embassies and consulates located in Norway, units that are non-residents in terms of GDP and NA. There are just a few units recorded in the register under NACE U.

3.27.2 It may be mentioned that **activities of embassies and consulates** are recorded in the Balance of Payments, in the items of travel (at least for publication). In Norway, the value of imports in this respect is estimated from the government accounts, while the value of exports has been estimated on a weaker basis (smaller value).

3.28   Taxes on products, excluding VAT

3.28.1 In NNA, **taxes on products, excluding VAT** consist of all taxes on products except value added type taxes, including the ESA95 concepts:

D 212	Taxes and duties on imports excluding VAT
D 214	Taxes on products, except VAT and import taxes.

3.28.2   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 that 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.

3.28.3   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 (in NNA most often coded as 11, except that any trade margin component part is coded separately as 15 +). 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 D 212** from import CIF shares of total supply for each product. **Finally, D 214 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.

3.28.4   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 (time lag of 1 month)**:

accruals value in period t   =   value of receipts in period t from February to January t+1

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.

3.28.5   The 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.

3.28.6   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 or services. When such a link is hard to define, they are thus treated as other taxes on production (D 29 in ESA95).

3.28.7   In Norway, some **30 different taxes** on production and imports are **treated as taxes on products**. These are aggregated into YTART, i.e. categories, for use in the NA and subsequently in the macro-economic models operated by Statistics Norway. The taxes are described in the table below, by YTART and type (volume or value tax).

Taxes on products, excluding VAT. 2009. NOK billion.

YTART	Name	Type	Amount
312	Excise on sugar and chocolate and sugar confectionery	Volume	1.3
321	Excise on carbonated non-alcoholic beverages	Volume	1.7
322	Excise on beer	Volume	5.2
325	Excise on spirits and wine	Volume	6.1
331	Excise on tobacco	Volume	8.1
341	Excise on hydrofluorkarbon (HFK) and perfluorkarbon (PFK)	Volume	0.2
345	Excise on auto diesel	Volume	7.8
346	Tax on mineral oil	Volume	1.3
347	Excise on lubricating oil	Volume	0.1
348	Excise on NOx	Volume	0.1
349	Tax on electricity	Volume	6.8
352	Import duty on motor vehicles	Volume	16.4
361	Petrol tax	Volume	7.7
363	Tax on boat engines	Volume	0.2
364	Excise on CO2	Volume	4.4
365	Tax on sulphuric producty	Volume	0.1
367	Excise on packaging of wine	Volume	0.3
368	Excise on packaging of beer	Volume	0.4
369	Excise on packaging of non-alcoholic beverages	Volume	0.6
375	Tax on pharmaceutical preparations	Value	0.2
376	Tax on use of frequencies	Volume	0.2
381	Surplus of the Norwegian Pools limited	Value	2.8
382	Excise on race tracks (Totalizator tax)	Value	0.1
385	Duties on documents (stamp duties)	Value	5.1
397	Customs duties	Value	2.1
Total			79.2

3.28.8 **Petrol tax** is a tax on production and imports of petrol and other fluid fuels for motor engines (except diesel oil and kerosene type jet fuel). It is differentiated between lead-free and leaded petrol, while also including a special CO2-tax from 1991 (introduced for environmental purposes). The tax is in all respects specified as tax per liter.

3.28.9 **Import duty on motor vehicles** is a tax on imports (and on domestic production in principle, although almost non-existent) of motor vehicles, in seven tax groups with differentiated tax rates (also within same tax group).

3.28.10 **Excise on tobacco** is a tax on all tobacco products domestically produced or imported, with differentiated tax rates by quantity of each product.

3.28.11 **Excise on spirits and wines etc.** is a tax on the sale of spirits and wines etc. from the Norwegian Wine and Spirit Monopoly. One part is related to quantities sold by alcoholic grades, another part is sales values also by alcoholic grades, and a third part to their packing (from 1989).

3.28.12 **Excise on auto diesel** is a tax on use of diesel that has replaced part of the former kilometer tax.

3.28.13 **Tax on electric energy** refer to two separate forms: (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.

3.28.14 **Excise on beer** 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 liter) by 4 classes of alcoholic grades, recently also including tax on the packing (beer cans).

3.28.15 **Tax on CO2** is a tax on products causing pollution in the form of emission to air, i.e. from use of coal, coke and refined petroleum products.

3.28.16 **Duties on documents (stamp duties)** have been one of the "borderline" taxes, now treated as tax on products, while earlier treated as other tax on production as it has been problematic to relate the tax flows to particular transaction in products. Eurostat has decided that registration charges on the change of ownership of financial assets when these are paid in the form of stamp duties, is to be recorded within taxes on products.

3.28.17 **Excise on disposable packaging of beverages** is a tax on disposable packaging of beverages except on milk and cocoa products. The tax is levied per unit smaller than 4 litres.

3.28.18 **Surplus of the Norwegian pools limited** is a notional tax from the surplus of the Norwegian Pools Limited (football betting and Lotto).

3.28.19 **Excise on carbonated non-alcoholic beverages** is a tax on carbonated non-alcoholic beverages domestically produced or imported, tax rate set by quantity (per liter), and in addition a tax on packing (cans).

3.28.20 **Excise on chocolate and sugar confectionery** is a tax on chocolate and sugar confectionery etc. domestically produced or imported, tax rate set by quantity.

3.28.21 **Tax on mineral oil** 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 liter).

3.28.22 Taxes on products **not mentioned above** include the following minor items: tax on boat engines, tax on lubricating oil, tax on sulphuric products, tax on pharmaceutical preparations, , tax on use of frequencies, tax on lotteries (from the surplus of the State Lottery), tax on NOx and excise on race-tracks.

3.28.23 Finally, another issue related to valuation should be clarified. In this category taxes on products, excluding VAT, **no adjustments** are made in NNA to take account of **tax amounts unlikely to be collected** (except for VAT, see below).

3.29   Value added tax (VAT)

3.29.1   The treatment of value added tax (VAT) in the national accounts has been an issue since **VAT was introduced in Norway in 1970**. Before then, Norway had a general purchase tax. In the beginning, the choice whether to record VAT gross or net was an issue of considerable uncertainty as this was not guided explicitly from SNA68. 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 eventually became international standard. Norway switched from the gross to the net system in mid 1980's.

3.29.2   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.

3.29.3   The **VAT system in Norway** has until fairly recently applied 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. 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.

3.29.4   In NNA VAT on products is basically **recorded according to theoretical VAT**. That means non-deductible VAT is calculated from all relevant product flows of the use table as a base. Information on tax evasion was just recently brought into this context. **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 SUT framework, as always inspired through the national accounts compilation approach in Norway in general.

3.29.5   **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.

3.29.6   At the **category level** of GDP components, just one recording of VAT is involved, i.e. **D 211 Value added type taxes**.

3.29.7   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)	Analyzing the theoretical VAT data and comparing them with actual VAT etc.

3.29.8   The **VAT catalogue at step (1)** 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 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.

3.29.9   The **regular VAT rate** was 20 per cent in period 1970-1992, then increased to 22 per cent in 1993, in 1995 further increased to 23 per cent, and in 2001 increased to 24 per cent, now 25 per cent. Under sub-catalogue (i), there are listed the zero VAT rates to products - predominantly services, but also books, newspapers etc. Until 2001, VAT rates have not been differentiated, except for some quite

limited cases. However, a differentiation has been introduced by applying half VAT rate (12 per cent, now 14) for food. From 2001, the scope for VAT on services has been extended as well. A handful of 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. Sub-catalogue (iii) contains a short list of a few exceptional cases for various reasons where VAT rate applies regardless their uses.

3.29.10 **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 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.

3.29.11 **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.

3.29.12 **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. These are illustrated below by 1990, 2000 and 2009 figures - and corresponding percentages of GDP:

Theoretical VAT = Total non-deductible VAT	NOK billion	Per cent of GDP
1990	58.2	8.1
2000	121.7	8.3
2009	197.6	8.4

3.29.13 Distribution of **non-deductible VAT by main categories of uses** can be extracted from the details of the use table.

	NOK billion in 2009	Percentages
Household final consumption expenditure	116.6	59.0
Intermediate consumption	46.5	23.5
Gross fixed capital formation	34.6	17.5
Total non-deductible VAT	197.6	100.0

3.29.14 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. Main results of this kind of check are a difference of 3.9 per cent on average for the period 2000-2009 when using time lag adjusted government accounts figures. The small and positive differences show that more activity is covered than is evidenced by the taxation authority. Statistics Norway believes that the size of these differences is reasonably well in their context as checks to ensure exhaustiveness. Studies and comparisons made in both the 1995, 2002, 2006, and 2011 revisions have confirmed the picture given above.

3.29.15 In the 2006 main revision as an adaption to **Commission Regulation of 7 November 2002 GDP is adjusted by the difference between theoretical VAT and non-paid VAT**. For most of the years 1970 - 2005 this adjustment was negative, reflecting that theoretical VAT has been estimated

higher than actual paid VAT. For the year 2003 GDP was in the 2006 main revision revised down NOK 5.2 billion or 0.3 per cent due to the new VAT estimation method.

3.29.16 Finally as a small clarification, the recorded actual amounts in the government accounts seem to include fines and interest for late payment.

3.30   Subsidies on products

3.30.1   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.

3.30.2   S**ubsidies on products** have relevance in particular for products within agriculture. Also education and research and development services are subsidized in Norway in 2005. The **GDP share of subsidies on products** is **0.2 per cent in 2009.**

3.30.3   Subsidies on products are **recorded at values of actual payments**, with the exception of **subsidies on agricultural products** that are valued **at accruals basis**. This practice is very much influenced by problems of following the theoretical estimation approach (as for VAT) or the time-lag adjustment approach for lack of data recordings.

3.30.4   The **borderline between subsidies on products and other subsidies on production** has often been difficult to draw. 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, and one part (the base grant) is recorded as other subsidies on production to manufacture of dairy products, while the remaining part is recorded as **subsidies on agricultural products**.

3.30.5   Another borderline problem is the one **against government final consumption**. In the area of health and social work, in particular, there have been alternative treatment options open for government payments. One is to producers in respect of their production, either as subsidies in general, or as individual government consumption expenditure (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.

3.30.6   **Government payment to public corporations** (and quasi-corporations) **to compensate for persistent loss** is another problem area. The question is whether to treat such cases as subsidies or not. Treatment of persistent loss on the State railway corporation - example of a problematic case - is treated 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.

3.30.7   In Norway, some **12 different subsidies** on production are **treated as taxes on products**. These are aggregated into YTART, i.e. categories, for use in the NA and subsequently in the macro-economic models operated by Statistics Norway. The subsidies are described in the table below, by YTART and type (volume or value tax).

Subsidies on products. 2009. NOK billion.

YTART	Name	Type	Amount
632	Subsidies on raw milk from bovine cattle	Volume	0.5
633	Subsidies on raw milk from sheep and goats	Volume	0.1
671	Subsidies on education	Value	0.3
672	Subsidies on R&D	Value	2.5
693	Subsidies on potatoes	Volume	0.0
694	Subsidies on bovine cattle, sheep and pig	Volume	0.6
695	Subsidies on sheep	Volume	0.1
697	Subsidies on fruit and vegetables	Volume	0.1
698	Subsidies on eggs	Volume	0.0
Total			4.1

3.30.8   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.

3.30.9   In NNA, the industries are **agriculture, wholesale trade, research and development, and education**. Illustrated by 2009 figures, the industry breakdown of subsidies on products is as follows:

Subsidies on products

Most important categories	NOK billion in 2009
Product subsidies to agriculture	1.3
Product subsidies to research and development	2.5
Product subsidies to education	0.3
Total subsidies on products	**4.1**

3.30.10 **Product subsidies to agriculture** 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, and cost-reducing and other direct transfers, but these items are not allocated to agriculture in total, neither linked to products altogether.

3.30.11 **Product subsidies to research and development** are various subsidies related to research and development services.

3.30.12 **Product subsidies to education** are various subsidies on education services, mostly paid by central government, but partly also from local government. Close studies and reassessments reveal that only two or three of the government accounts items are payments from government to private education institutions in the non-financial corporate sector designed to affect directly the volume (number of pupils or students) or price on output of particular education services and thus subject to classification as subsidies on products in the NA according to ESA95. The remaining items are to be recorded as other subsidies on production or transfers within government. The misclassification was corrected in the 2011 main revision and reduced the figure by approximately more than 1/2. **C**

3.31 CONCLUSIONS

3.31.1 **A variety of methods are applied** in the production approach - reflecting different types of producers and different circumstances in the industries, such as whether statistical sources or administrative sources, or both, are used.

3.31.2 **Strength and suitability** of the methods applied is considered to be **on the positive side in general.** As mentioned several times in the Inventory, one important reason for a positive development has been **utilizing more accounting data in the NA estimations**, accounting data that also meet obligations in a number of industries in terms of Structural Business Statistics. See also description to the conclusions of chapter 4 below.

3.31.3 **Areas that need further investigation** include service industries for which SBS-based statistics have not yet been introduced, in particular in NACE M, N and O. Furthermore, in view of the new KOSTRA source, the transactions of local government should be further elaborated and also more detailed than before. And further investigation into using administrative accounting data for non-market production in NPISHs should be explored, although the 1995 and 2002 main revisions both brought considerable progress in treatment of this type of non-market producers in the NA.

3.31.4 It is not known of any non-compliance with ESA95 of considerable size, as far as the production approach is concerned.

3.31.5 **Areas where improvements of methods are needed** primarily involve long-term efforts such as valuation at accruals' basis in government transactions, and the full integration between the production and income generation accounts of the NA central framework and the institutional sector accounts.

CHAPTER 4   THE INCOME APPROACH

4.0   GDP according to the income approach

4.0.1   The income approach is illustrated below for 2009 in two overview tables, one table by main components and main institutional sectors, and another table in which main components are further broken down by NACE 64.

4.0.2   First, **illustration** is given below for 2009 of the **main components of the generation of income account for the total economy and for the five main institutional sectors**. Different valuation principles for total economy and the sectors create deviations in the table (see also footnotes).

Main components of GDP by main institutional sectors. NOK billion in 2009						
	Total economy	Non-financial enterprises	Financial enterprises	General government	Households	NPISH
D.1	1 113.6	698.5	39.1	330.3	17.5	28.1
D.21	265.4					
D.29	19.6	15.8	0.4	0.1	3.2	0.0
D.31	4.1					
D.39	42.9	24.3	2.6	-	16.0	-
K.1	350.2	228.0	7.9	49.5	61.6	3.1
B.2+B.3	655.0	490.3	52.3	0.2	112.1	-
B.1 inst.1)	2 095.3	1 408.4	97.2	380.1	178.4	31.2
B.1* 2)	2 356.6					

1)   Total Gross value added distributed by institutional sector at basic prices
2)   Gross domestic product at market prices

4.0.3   The overview table by NACE follows next: Main components of value added by industries. NOK billion in 2009.

NACE 64. Main components of value added. NOK billion. 2009

	NACE	D.1	D.29	D.39	K.1	B.2+B.3	B.1
01	Crop and animal production, hunting and related service activities	3.8	0.2	10.1	8.1	8.5	10.6
02	Forestry and logging	1.1	0.0	0.2	1.0	2.2	4.1
03	Fishing and aquaculture	2.9	0.9	0.5	2.8	8.4	14.4
05-09	Mining and extraction	53.5	4.0	0.3	94.1	292.9	441.4
10-12	Manufacture of food products, beverages and tobacco	22.1	0.2	0.6	5.2	2.8	29.8
13-15	Manufacture of textiles, wearing apparel and leather products	1.6	0.0	0.1	0.3	0.4	2.2
16	Manufacture of wood and of products of wood and cork, except furniture, manufacture of articles of straw and plaiting materials, except furniture	5.4	0.1	0.3	1.1	0.1	6.5
17	Manufacture of paper and paper products	3.0	0.3	0.1	1.5	- 2.3	2.4
18	Printing and reproduction of recorded media	3.4	0.0	0.1	0.7	0.1	4.1
19	Manufacture of coke and refined petroleum products	0.9	0.2	0.0	1.2	2.7	5.0
20	Manufacture of chemicals and chemical products	6.1	0.4	0.1	3.1	1.5	11.0
21	Manufacture of basic pharmaceutical products and pharma-ceutical preparations	2.0	0.0	0.0	0.4	1.4	3.8
22	Manufacture of rubber and plastics products	2.4	0.0	0.0	0.5	0.4	3.2
23	Manufacture of other non-metallic mineral products	5.4	0.0	0.0	1.7	0.3	7.4
24	Manufacture of basic metals	6.5	0.3	0.2	3.0	- 3.3	6.3
25	Manufacture of fabricated metal products, except machinery and equipment	12.2	0.0	0.1	1.1	2.2	15.4
26	Manufacture of computer, electronic and optical products	6.0	0.0	0.1	0.7	0.7	7.4

	NACE	D.1	D.29	D.39	K.1	B.2+B.3	B.1
27	Manufacture of electrical equipment	4.7	0.0	0.1	0.6	1.2	6.2
28	Manufacture of machinery and equipment n.e.c.	13.2	0.0	0.2	1.1	9.5	23.6
29	Manufacture of motor vehicles, trailers and semi-trailers	1.6	0.0	0.0	0.3	- 0.4	1.5
30	Manufacture of other transport equipment	15.2	0.0	0.0	1.6	0.9	17.7
31-32	Manufacture of furniture and other manufacturing	4.4	0.0	0.1	0.7	0.4	5.4
33	Repair and installation of machinery and equipment	9.7	0.0	0.0	0.9	1.3	11.9
35	Electricity, gas , steam and air conditioning supply	8.0	4.6	0.2	11.0	27.0	50.3
36	Water collection, treatment and supply	1.1	0.0	0.0	1.7	0.1	2.9
37-39	Sewerage; Waste collection, treatment and disposal activities, materials recovery; Remediation activities and other waste management services	5.5	0.5	0.1	1.6	- 0.2	9.6
41-43	Construction	80.1	0.8	2.1	8.7	33.9	121.4
45	Wholesale and retail trade and repair of motor vehicles and motorcycles	18.4	0.2	0.1	2.1	6.9	27.5
46	Wholesale trade, except of motor vehicles and motorcycles	60.7	0.3	1.2	7.1	18.8	85.8
47	Retail trade, except of motor vehicles and motorcycles	53.2	1.0	0.8	6.3	-1.9	57.8
49	Land transport and transport via pipelines	22.4	0.7	5.8	11.4	19.4	48.0
50	Water transport	22.3	0.0	4.9	15.2	2.7	29.9
51	Air transport	7.2	0.0	0.8	1.4	- 1.5	6.4
52	Warehousing and support activities for transportation	15.5	0.1	0.4	3.4	3.2	21.9
53	Postal and courier activities	7.9	0.0	0.5	0.4	3.0	10.8
55-56	Accommodation and food service	21.3	0.2	0.3	2.3	5.3	28.8
58	Publishing activities	15.5	0.0	0.4	2.2	2.8	20.0

	NACE	D.1	D.29	D.39	K.1	B.2+B.3	B.1
59-60	Motion pictures, video and television programme production, sound recording and music publishing activities; Programming and broadcasting activities	5.2	0.0	0.2	1.7	0.6	7.3
61	Telecommunications	9.8	0.1	0.0	7.5	4.9	22.1
62-63	Computer programming, consultancy and related activities; Information service activities	25.2	0.0	0.2	2.5	4.9	32.4
64	Financial service activities, except insurance and pension funding	23.2	0.4	1.3	4.9	42.8	70.0
65	Insurance, reinsurance and pension funding, except compulsory social security	7.8	0.0	1.4	2.9	10.6	19.9
66	Activities auxiliary to financial services and insurance activities	8.1	0.0	0.0	0.2	- 1.1	7.2
68	Real estate activities	10.6	2.7	1.0	58.0	86.6	156.9
69-70	Legal and accounting activities; Activities of head offices, management consultancy activities	19.8	0.0	0.2	0.7	10.9	31.2
71	Architecture and engineering activities, Technical testing and analysis	32.6	0.1	0.2	3.5	8.2	44.2
72	Scientific research and development	6.3	0.0	1.2	0.5	0.4	6.1
73	Advertising and market research	3.8	0.0	0.0	0.2	0.8	4.8
74-75	Other professional, scientific and technical activities; Veterinary activities	3.8	0.0	1.0	0.4	1.7	5.8
77	Rental and leasing activities	3.6	0.9	0.0	3.9	3.9	12.3
78	Employment activities	16.6	0.0	0.0	0.2	0.5	17.3
79	Travel agency, tour operators and other reservation service and related activities	2.2	0.0	0.1	0.1	0.5	2.8
80-82	Security and investigation activities;	19.2	0.0	0.0	1.5	3.6	24.4

	NACE	D.1	D.29	D.39	K.1	B.2+B.3	B.1
	Services to buildings and landscape activities; Office administrative, office support and other business support activities						
84	Public administration and defence, compulsory social security	92.6	0.0	0.0	26.4	0	119.1
85	Education	88.6	0.0	1.0	9.1	1.4	98.1
86-88	Human health and social work activities	184.2	0.0	3.3	11.1	17.2	209.6
86	Human health activities	74.4	0.0	0.5	5.5	13.9	93.2
87-88	Residential care activities; Social work activities without accommodation	109.8	0.0	2.9	6.1	3.3	116.4
90-93	Arts, entertainment and recreation	12.1	0.0	1.9	3.8	6.3	20.4
90-92	Creative, arts and entertainment; Libraries, archives, museums and other cultural activities; Gambling and betting 0.0activities	7.7	0.0	1.6	2.0	6.3	14.3
93	Sports activities and amusement and recreation activities	4.4	0.0	0.2	1.8	0.0	6.0
94-96	Other service activities	14.4	0.1	0.2	1.7	4.5	20.4
94	Activities of member-ship organisations	9.2	0.0	0.2	0.8	0.4	10.2
95	Repair of computers and personal and household goods	0.8	0.0	0.0	0.1	0.2	1.2
96	Other personal service activities	4.4	0.1	0.0	0.8	3.9	9.1
97	Activities of house-holds as employers, undifferentiated goods and service producing activities of house-holds for own account	0.4	0.0	0.0	0.0	0.0	0.4
	TOTAL	1 113.6	19.6	42.9	350.2	655.0	2 095.3

4.0.4 Please note that the distribution of B3 Mixed income by NACE - and thus also B2 Operating surplus proper by NACE - are available but are unpublished figures. Therefore the NACE figures are in the above table the combined figures of B2 and B3 together.

4.1   The reference framework

4.1.1   The reference framework is primarily the **Generation of income account** and context of **the income approach** to estimate GDP. The generation of income account also has a definitive role in the framework of **institutional sector accounts.** This means that the main items of the income approach all have a breakdown by institutional sectors, in addition to breakdowns described in the paragraphs below. When presenting the sources used for the various components, the overall picture would suggest that all or mostly all declared economic activities are covered by **complete and up-to date statistical sources**.

4.1.2   **Compensation of employees (D.1 in ESA95)** has **two breakdowns**, one by categories or **components** and one by **kind of activities**. In practice, they are cross-classified, i.e. each of the components is broken down by kind of activities (industries). Both dimensions are described below in section 4.7. Compensation of employees has **two main components**, each of them broken down on two items (sub-components):

Main components	Sub-components
D.11 Wages and salaries	Wages and salaries in cash
	Wages and salaries in kind
D.12 Employers' social contributions	D.121 Employers' actual social contributions
	D.122 Employers' imputed social contributions

4.1.3   **Other taxes on production (D.29)** consist of taxes - except taxes on products (which are described in chapter 3 above) - that resident producers incur, and that are payable to general government, as a result of engaging in production. These are taxes independent of the quantity or value of the goods and services produced or sold. There are **two breakdowns**, i.e. by **types** and by **kind of activities**. Some 100 detailed items of central government accounts (including nearly 20 items from other central government accounts) make up the types, treated and coded as other taxes on production. The breakdown by kind of activities is the one applied for all items from output down to operating surplus. **Borderline** between **taxes on products** and **other taxes on production** has been described in 3.28 above.

4.1.4   **Other subsidies on production (D.39)** consist of subsidies - except subsidies on products (which are described in chapter 3 above) - that resident producers may receive from general government, as a consequence of engaging in production. These are subsidies independent of the quantity or value of the goods and services produced or sold. There are **two breakdowns**, i.e. by **types** and by **kind of activities**. Several hundreds of detailed items of central government accounts make up the types, treated and coded as other subsidies on production. **Borderline** between **subsidies on products** and **other subsidies on production** have been described in 3.30 above.

4.1.5   **Consumption of fixed capital (K.1)** is defined as decline in the current value of the stock of fixed assets owned and used by a producer during the course of the accounting period, as a result of physical deterioration, normal obsolescence or normal accidental damage. There are **two breakdowns**, i.e. by **type of fixed assets** and by **kind of activities.** Calculation of consumption of fixed capital

applies to **net capital stock** - valued at written-down replacement cost, i.e. gross capital stock less cumulative consumption of fixed capital - and changes in this value.

4.1.6   Statistics Norway is also involved in estimating **gross capital stock** for the purpose of analyzing production functions and production capacity. This is beyond the scope of this inventory, however.

4.1.7   **Mixed income (B.3)** is a concept for the remuneration of labor and capital combined - related to production activities in the household sector, exclusively. The **balancing item** of the generation of income account in fact consists of two parts: operating surplus and mixed income. The **breakdown** is solely by **kind of activities**.

4.1.8   **Operating surplus (B.2)** is the balancing item of the generation of income account (of which for the household sector mixed income represents one segment of the former defined operating surplus, while income for owner-occupiers producing dwelling services still remains as operating surplus). It is the surplus accruing from processes of production before deducting any interest charges, rents or other property incomes payable on the financial assets, land or other tangible on-produced assets required to carry on the production. The **breakdown** is solely by **kind of activities.**

4.2   Valuation

4.2.1   In this context, valuation is particularly relevant for **other taxes on production** and **other subsidies on production** in the sense of **time of recording**. In general, the accruals basis principle of recording is applied in the NNA. Taxes on production and subsidies thus are **basically** recorded **in accruals values** and not as traditionally recorded in the government accounts, i.e. cash values. Pragmatically however, in a number of cases cash values are resorted to when applying the government accounts as sources. In particular, this is typical for other taxes and subsidies on production. Accruals basis is more commonly used for taxes and subsidies on products.

4.2.2   Valuation is also relevant in the case of **consumption of fixed capital** applying the PIM method and making use of investment data and coherent price indices for investment when inflating constant-price figures in that respect.

4.3   Transition from private accounting and administrative concepts to ESA95 national accounts concepts

4.3.1   Three areas should be referred to here: the potential use of **RWS register data** for wages and salaries, **accounting data of structural business statistics** used for compensation of employees, and **accounting data of self-employed** used for estimating mixed income. The detailed descriptions in sections 4.7 and 4.11 are referred to for more relevant information.

4.3.2   **RWS - the Register of wages and salaries** (or "Register for end of the year certificates") became a new statistical source in 1991, originally developed for administrative purposes by the Norwegian Directorate of Taxation. This register comprises all types of payments from employers to employees that are recorded by the tax authorities. Given the quality of the statistical information available from the register, Statistics Norway has 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. Apart from this, and in a situation by which more **Structural Business Statistics** became available for NNA estimation, the RWS is still regarded as a source for potential use rather than actual use, i.e. for **control purposes** mainly and for disaggregation of compensation of employees into its components. In one respect, RWS is given a direct strategic use in NNA in terms of year-to year changes for total wages and salaries.

4.3.3   When **the RWS data were analyzed with FNA estimates** for 1992, the difference on a net basis was 6 billion NOK or 1.9 per cent of total wages and salaries. After a period of increased difference, the present difference between **RWS and NNA estimates** has become quite small, as seen in the table below. The figures in 2009 on net basis were 913.8 billion (RWS) as against 909.2 billion (NNA), the difference almost negligible.

Difference between RWS and NA in 2009. NOK billion.

RWS	940.1
NA	909.2
Gross Difference	30.9
Allowance for sickness and parental leaves	26.3
Net difference	4.6

4.3.4   The **accounting statistics** based on Directorate of Taxes' General Trading Statements - for short **NO** (NæringsOppgave) - the items from which have been conceptually selected for direct use in compiling the various NA items (see also chapter 3.3). The importance of this source - actually known as **structural business statistics** - for this purpose has increased significantly in recent years.

NO-items used for estimation of compensation of employees

NO items:
5000   Wages and salaries
5300   Other taxable remuneration (50 per cent for manufacturing, mining and quarrying, 100 per cent for other industries)
5400   National insurance premium
5420   Pension payments
5900   Other indirect staff expenses (90 per cent)
7155   Travel, subsistence and car allowances (50 per cent)
7165   Travel allowances (free amount - 25 per cent)

4.3.5   **Compensation of employees** are defined from the NO items shown above. The percentages (except for item 5300) are applied to incorporate income in kind. NO-item 5300 Other taxable remuneration are recorded as compensation of employees, with the exception for manufacturing where only 50 % is recorded as compensation of employees, and the rest as intermediate consumption. NO-item 5900 Other personnel costs/Indirect staff expenses includes according to the tax authorities' instructions mostly expenditures related to pension schemes, free or subsidized canteens, holiday homes etc. to be recorded as compensation of employees. In addition expenditures on education of staff in for example external courses attended by employees are included, which are considered intermediate consumption in production. 90 % are assumed compensation of employees. NO-items 7155/7165 Travel, subsistence and car allowances are assumed to contain an element of compensation of employees. It is assumed that 50 % and 25 % respectively are compensation of employees.

4.3.6   For industries covered by SBS - and also where government accounts are used - these source data are used directly for the COE estimates in the NNA. Some redistribution between wages and salaries and employers' social contributions in the NO items is however made in order to comply with

reconciliation for the total amount of employers' social contributions. It may be added that employment figures in SBS serve as a control for the employment estimates in NNA.

4.3.7   **Accounting statistics of self-employed** as source was available for the first time in 1991 and 1992 as a means to evaluate a tax reform taken place in Norway from 1992. 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.

4.3.8   In the first phase, accounting items have been given **conversion codes to transaction categories** used in NNA. These are accounting data used in the second place after total COE has been estimated in the first place, thus when calculating the COE share for the household sector. The annual accounting data referred to cover some 97-98 per cent of the COE of household sector, while a small addition for house-porters in the dwelling services is taken into account for the indicator being applied in this case. Adjustments are made to self-employed data of the LFS to reflect changes in number of farms in agriculture, the register data on number of fishermen, and also to smooth out big fluctuations in the LFS figures. The adjustments mentioned here thus refer to the process of consolidating compensation of employees and employment data in the labour accounts system.

4.4   The roles of direct and indirect estimation methods

4.4.1   **Direct methods** are mostly used, except that consumption of fixed capital is arrived at using the PIM method and operating surplus as a residual. **Indirect estimation methods** are also used partly for compensation of employees, when indicators of wage rates and employment are combined to form wage and salaries estimates (see section 4.7 for details).

4.5   The roles of benchmarks and extrapolations

4.5.1   As in the production approach, the role of benchmarks and extrapolations in the current NNA compilation is **quite limited** also in the income approach. The sources referred to are all annual sources, and sources for the indicator approach of compensation of employees are available on quarterly basis (LFS data, wage statistics). As already mentioned, the notion of **benchmark and extrapolations** has an important role to play when undertaking a **main revision,** but restricted to this context and meaning**.**

4.6   The main approaches taken with respect to exhaustiveness

4.6.1   Two issues related to exhaustiveness should be mentioned at this point and with a reference to the income approach. One is related to **wages and salaries in kind (or income in kind)** - dealt with in chapter 7 in detail**;** the other is known as the confrontation between **theoretical and actual VAT** receipts - dealt with in chapter 3 (3.29) in more detail. **Wages and salaries in kind** include inter alia services of company cars (more than 50 per cent of total wages and salaries in kind), reduced rates of

interest, food and accommodation on business trips and free travel for air and rail employees. Main source is the **Register of Wages and Salaries (RWS)**, an information source under the responsibility of tax authorities.

4.6.2   Tips are not thought to be widespread in Norway. Studies in the restaurants industry led to the conclusion that tipping could not be very extensive and in the 2002 main revision, some more investigation confirmed that no significant underestimation exists. See also chapter 7 on exhaustiveness. Allowances for tips are however estimated for compensation of employees, but then for the restaurant industry only. For other industries tips as part of compensation of employees are assumed covered by structural business statistics used as source.

4.6.3   The comparison of **theoretical and actual VAT receipts** gives a strong indication of exhaustiveness. Main results of this kind of check are a difference of 3.9 per cent on average for the period 2000-2009 when using time lag adjusted government accounts figures. The small and positive differences show that more activity is covered than is evidenced by the taxation authority. Statistics Norway believes that the size of these differences is reasonably well in their context as checks to ensure exhaustiveness. This result is quite encouraging, reasonably close and a difference that is positive.

4.7   Compensation of employees

4.7.1   **Compensation of employees** has **two breakdowns**, one by categories or **components** and one by **kind of activities**. The first - the breakdown by components - is described in the following paragraphs, while the second breakdown by NACE sections (kind of activities) is described in more detail in the succeeding sub-sections 4.7A - 4.7P below. Here, the various sources and methods used are described in a comprehensive and illustrative way. **A variety of sources and methods are applied**, such as statistical surveys (wages statistics) and administrative sources (annual SBS accounting data, RWS register data). For the latter, threshold limitations are not considered a problem. No general adjustments are made for non- reported payments of wages and salaries due to **tax evasion** when applying the standard sources statistics for compensation of employees, SBS and the accounts for local and central government. However, for restaurants adjustments are done motivated partly by tax evasion. For NACE 95 Private households with employed persons, compensation of employees are based on the RWS register data.

4.7.2   Industry-related sources such as SBS and government accounts cover 90 per cent of the employees. Some 10 per cent is covered by the other method - the price x volume method - to which the resulting value of wages and salaries is increased by an estimate for employers' social contributions. Price component is wages in terms of wages and salaries per full-time equivalent employee based on data from wage statistics.

4.7.3   Treatment and estimation of compensation of employees in NNA is made in the project framework of **Labor Accounts** (LA) established already 25 years ago. That framework and procedures therein cover both employment and compensation of employees, and thus ensures that **all employees are covered** by the estimates of compensation of employees. Transactions from resident employers to both resident and non-resident employees are included and recorded in the relevant parts of NA and BOP. For these transactions, see detailed description in chapter 8.

4.7.4   **Wages and salaries in cash** cover more than 80 per cent of compensation of employees, thus by far most important of the four D.1 sub-items in the ESA95. In NNA, wages and salaries in cash comprise the following main elements:

- **Wages and salaries payable at regular intervals** (monthly, weekly etc.), including any social contributions, income taxes etc. payable by the employee even if actually withheld by the employer and paid directly to social insurance schemes, tax authorities etc. on behalf of the employee - **Enhanced rates of pay** for overtime, night work, weekend work, disagreeable or hazardous circumstances - **Cost of living allowances**, local allowances and expatriation allowances fo working abroad - **Housing allowances** paid in cash by employers to their employees - **Bonuses** based on productivity or profits - **Allowances for transport** to and from work - **Commissions, tips, attendance or directors' fees** paid to employees - **Exceptional payments** to employees who leave the enterprise, if those payments are not linked to a collective agreement - **Wages and salaries payable to employees away from work on short periods**, e.g. on holiday (holiday pay), or as a result of a temporary halt to production

4.7.5   Concerning **the very last item**, it is difficult to separate payments of **wages and salaries during short periods of absence** due to sickness or maternity leave from other payments of wages and salaries. Hence, they are grouped with the latter, in accordance with option given in SNA93. In Norway, employers normally pay wages and salaries out of their own resources for the first initial part of the employees' period of sickness. Payments for later periods of absence due to sickness are covered by National Insurance and are not treated as wages and salaries in NNA.

4.7.6   **Tips and gratuities** have been estimated for activities that are most relevant (see chapter 3 and the restaurants activities).

4.7.7   In the estimation of wages and salaries in cash, **annual data on wages and salaries** or total compensation of employees are first **compiled from an industry-based approach**, by utilizing data of the main sources, or from an indicator-based approach (on wages and employment). See 4.7A - 4.7T below for industry details. Estimates - like those for output and intermediate consumption etc. - are made on accruals' basis, i.e. recorded during the period in which the work is done. Most likely, bonus payments are however recorded when they are due to be paid (according to ESA95 rule). The borderline between compensation of employees and intermediate consumption has been studied in terms of items mentioned in ESA95, addressing items that are relevant for both personal and business expenses (see also wages and salaries in kind in paragraphs below).

4.7.8   **Wages and salaries in cash** are **then calculated for each industry by subtracting** estimated wages and salaries in kind from total wages and salaries, or by subtracting wages and salaries in kind and employers' total social contributions from total compensation of employees.

4.7.9   In NNA, the **most important types of wages and salaries in kind** covered are:

- Services of vehicles provided for the personal use of employees - Value of interest foregone by employers when they provide loans to employees at reduced rates of interest - Meals consumed when traveling on business

These and various other items in this category are reviewed below and in chapter 7 in more details - in particular on the basis of the source of RWS. Due to lack of reliable data, however, other elements such as the value of price reductions in subsidized canteens, employee discounts on commodities and free car parking have not been included in the NNA estimate on wages and salaries in kind. Other such examples include home PCs financed by employer, free kindergarten, and sports and recreation

facilities for employees and their families. Investigations are being made on the need for additional adjustments to be made for wages and salaries in kind. More specifically, during the 2006 main revision a new method of estimation was introduced where all wages and salaries in kind reported to the tax authorities and due for taxation (above a specified level) are included. The levels are dependent on the tax regime at the time of recording. The estimates are valued in purchasers' prices, in accordance with ESA95. The amounts paid by employees are deducted – the tax authorities are concerned with only the (net) benefits for the employees. The source is the RWS register.

4.7.10   The main statistical source used for the wages and salaries in kind component so far is the **RWS Register** on wages and salaries. This register provides data on the services of vehicles owned by employer provided for personal use of employees. It also covers an estimate of the interest foregone by employers when they provide loans to employees at reduced rates of interest. Both these items are registered in the RWS source equal to the values subject to income tax.

4.7.11   **Adjustments are made to the RWS data** when estimating different types of allowances covering meals consumed when traveling on business, accommodation and transport expenditures etc., some of which are provided according to stipulated rates. These allowances are to be divided between compensation of employees (employee part) and intermediate consumption (employer part). Due to difficulties in estimating the precise compensation part from the data, it was decided in NNA to **allocate 25 per cent** of the total allowances as compensation of employees and **75 per cent** as intermediate consumption. The compensation of employees' part is altogether treated as wages and salaries in kind, although most of it should ideally be treated as compensation in cash. On the other hand, there are other elements of wages and salaries in kind covered in the estimate of wages and salaries in cash, thus assuming that these two effects to some extent neutralize each other.

4.7.12   **Free travel** for employees is another item covered in wages and salaries in kind. This item was earlier estimated as an addition to the registered amounts, but is now (2009) assumed included in the items of compensation of employees recorded in the SBS due to increasingly strict surveillance and control from the tax authorities.

4.7.13   **Employers' actual social contributions** are divided into two sub-items in NNA, one on contributions to National Insurance, and on other actual social contributions.

4.7.14   **Employers' actual contributions to National Insurance** are specified separately due to its major role in this context. National Insurance - as the most important social security scheme in Norway - covers old age pensions, disability pensions and other types of social benefits. All employers are obliged to pay contributions to National Insurance for the benefit of their employees. The total value of employers' contributions to National Insurance is **estimated on accruals basis** based on NO item 5900 Other indirect staff expense (90 per cent), see table in section 4.3.4. In other activities not covered by SBS, employers' contributions to National Insurance are estimated by using activity figures of wages and salaries and imputed contribution rates.

4.7.15   **Employers' other actual social contributions** comprise contributions to insurance companies or social security funds outside National Insurance. The latter consists of a variety of social security schemes covering different groups of employees, among which three sub-items are specified in NNA:

-      Public Service Pension Fund
-      Municipal Pension Funds
-      Other social security schemes

Also these contributions are estimated mainly with basis in the NO item 5900

4.7.16 **Employers' imputed social contributions** reflects that some employers provide social benefits to their present or former employees out of their own resources without involving an insurance company or autonomous pension fund. The estimation of this item has also been based on the NO, this time item 5420 Pension payments, see table in section 4.3.4.

4.7.17 The following tables give data for industries A – T on compensation of employees and components for 2009.

Compensation of employees 2009. NOK million

NACE		W&S in cash	W&S in kind	Employers' actual social contributions	Employers' imputed social contributions	Compensation of employees
A	01-03	6785	85	970	1	7841
B	05-09	36536	4686	7796	1638	50656
C	10-33	101961	4233	17405	2228	125827
D	35	6204	218	1393	142	7957
E	36-39	5478	97	964	35	6574
F	41-43	64561	3438	10991	1145	80135
G	45-47	106003	4234	19597	2455	132289
H	49-53	57279	4456	12031	1628	75394
I	55-56	17470	871	2768	224	21333
J	58-63	42469	2831	8177	2094	55571
K	64-66	28192	2506	8249	199	39146
L	68	8310	361	1626	285	10582
M	69-75	52888	1532	10092	1773	66285
N	77-82	34350	877	5896	526	41649
O	84	69326	1587	21607	54	92574
P	85	70117	381	18126	2	88626
Q	86-88	145179	720	38291	11	184201
R	90-93	10118	144	1829	3	12094
S	94-96	12069	306	2004	66	14445
T	97	249	74	51	0	374
Total		**875544**	**33637**	**189863**	**14509**	**1113553**

4.7A   Agriculture, forestry and fishing

4.7A.1 In NNA, the activities of NACE A are **distinguished in 6 industries** with respect to compensation of employees and employment.

4.7A.2 Compensation of employees in agriculture, forestry and fishing constitutes a **rather small share 0.3 per cent of GDP** in 2009. Illustration is kept at 2-digit NACE-level in the case of compensation of employees and employment (employees), although more details are usually available.

NACE A 2009		Compensation of employees		Employment, employees		
		Billion NOK	Percentage of GDP	Numbers employed in 1000	Full-equivalent in 1000	Hours worked in million
01	Agriculture, hunting and related service activities	3.9	0.2	17.5	11.4	18.6
02	Forestry, logging and related service activities	1.1	0.0	3.3	2.9	4.7
03	Fishing and aquaculture	2.6	0.1	6.4	5.4	9.2
	Total NACE A	7.7	0.3	27.2	19.6	32.6

4.7A.3 The **distinction between employees and self-employed** is particularly problematic in fishing. The share employees was revised downwards from around 40 per cent to 10 per cent in the 2006 main revision, resulting in a marked downward revision of compensation of employees in the Fishing industry. The revision reflected change in use of sources from LFS to RWS. This revision was to a certain degree however, offset by a revision in the opposite direction within the Fish hatcheries and farming industry, where compensation of employees was revised upwards. This latter revision was due to an upward revision of number of employees in the NA following an adaptation to the correct level according to the SBS type industry statistics.

4.7A.4 **Main sources** used for compensation of employees are:
- Aggregate account of agriculture, compiled by the Budgeting Committee for Agriculture (BCA)
- Aggregate account of forestry, compiled by Statistics Norway
- Employment data from Labor Force Survey (LFS)
- Annual census data of fish farming
- Cost surveys of fishing boats
- Cost surveys of fish farming from the Directorate of Fisheries

4.7A.5 For agriculture sources on indicators of wages is based on information from aggregate account of agriculture and likewise of forestry. Main source of information on the volume indicator was obtained from **labor force survey (LFS) data.**

4.7A.6 The **indicator approach** through multiplying price and volume is applied, firstly because structural business statistics data are lacking, and secondly because RWS data are not considered reliable enough for direct use. The **volume component** is estimated from LFS data, taking into consideration estimated distribution on genders, distribution by employees and number of self-employed, and further breakdowns on hours worked (both normalized and actually worked). Complementary sources on parts of agricultural employment have also been looked at. The wage development over the years is primarily obtained from the Agricultural Employers Association. In addition, employers' social contributions are estimated separately. Please note that in agriculture the part of employees is relatively small compared to self-employed.

4.7A.7 For **agricultural services**, compensation of employees has been estimated in connection with the calculation of output from three production activities. Separate estimate for compensation of employees is available for the main activity part.

4.7A.8 For **forestry and logging**, the wage and employment indicators referred to are utilized in the estimation of compensation of employees in forestry and logging.

4.7A.9 **Cost surveys of fishing boats** managed by the Budgeting Committee of Fishing have been used as a source of indication for the W/FE ratio in the estimation of compensation of employees in fishing. The response rate in these surveys is low, however, and the borderline between employees and self-employed is hard to draw here as well. The remuneration system applied in fishing may be decisive and will depend upon circumstances (ownership to fishing gear etc.). Register data on number of fishermen are utilized as well. From this, labor income is arrived at.

4.7A.10 **Cost surveys of fish farming** provide data that are available on annual basis from the Directorate of Fisheries. Also, **annual census data of fish farming** are available and are based on a register subject to licenses managed by the Ministry of Fishing.

4.7A.11 The **cost surveys data** on labor income and related to number of man-years has been utilized as basic information; it is assumed that such a ratio might reflect the wage level reasonably well. The number of man-years is the average crew number on total fishing boats during the year. These data are limited to large fishing boats, disregarding small boats (below 13 m) assumed to have no employees, just self-employed. Although cost survey data are available on annual basis, they are somewhat adjusted to eliminate large fluctuations and corrected for supplies that are not counted as compensation of employees.

4.7A.12 The **annual census of fish farming** is used to estimate compensation of employees in fish farming.

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4.7B   Mining and quarrying - In particular: Extraction of crude petroleum and natural gas

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4.7B.1 In NNA, the activities of NACE B are **distinguished in 6 industries** for employment and compensation of employees (2 for extraction of petroleum and 4 for mining and quarrying otherwise).

4.7B.2 Compensation of employees in NACE B constitutes a **share of 1.9 per cent to GDP** (a huge difference to share of value added at 21.1 per cent) in 2009.

NACE B 2009		Compensation of employees		Employment, employees		
		Billion NOK	Percentage of GDP	Numbers employed in 1000	Full-equivalent in 1000	Hours worked in million
05	Mining of coal and lignite	0.5	0.0	0.5	0.5	0.8
06	Extraction, crude oil, natural gas	21.2	0.9	23.4	23.0	38.3
07	Mining of metal ores	0.3	0.0	0.6	0.6	1.0
08	Other mining and quarrying	2.0	0.1	3.6	3.4	5.6
09	Mining support service activities	20.6	0.9	25.3	24.5	41.8
	Total NACE B	44.5	1.9	53.4	51.9	87.4

4.7B.3 **Main sources used** are:
- Oil and gas activity statistics
- Services incidental to oil and gas extraction statistics - SBS
- Manufacturing statistics - SBS
- RWS Register of Wages and Salaries

4.7B.4 Data from the **oil and gas activity statistics** are used - with small adjustments - for the estimation of compensation of employees in NNA-industries of NACE 06. NACE 09 is covered by the **SBS** for this industry.

4.7B.5 **Manufacturing statistics** are used for the estimation of compensation of employees in mining and quarrying. Note that this source belongs to structural business statistics.

4.7C	Manufacturing

4.7C.1 In NNA, the activities of NACE D are **distinguished in 44 industries** for compensation of employees, i.e. same industries as for output etc. For employment - and also for the basic estimation of compensation of employees - data are more aggregated by following the specifications of the quarterly accounts (basically 2-digit level NACE).

4.7C.2 Compensation of employees in NACE D constitutes a **share of 5.6 per cent to GDP** in 2009.

NACE C 2009		Compensation of employees		Employment, employees		
		Billion NOK	Percentage of GDP	Numbers employed in 1000	Full-equivalent in 1000	Hours worked in million
10	Manufacture of food products	19.0	0.8	46.8	42.6	68.7
11	Manufacture of beverages	2.5	0.1	5.3	5.0	8.2
12	Manufacture of tobacco products	0.1	0.0	0.0	0.0	0.0
13	Manufacture of textiles	1.1	0.0	2.8	2.5	3.9
14	Manufacture of wearing apparel	0.6	0.0	1.4	1.2	1.9
15	Manufacture of leather and related products	0.1	0.0	0.2	0.2	0.3
16	Manufacture of wood and of products of wood and cork, except furniture, manufacture of articles of straw and plaiting materials, except furniture	6.1	0.3	13.5	12.8	20.6
17	Manufacture of paper and paper products	3.2	0.1	5.8	5.6	9.0
18	Printing and reproduction of recorded media	3.6	0.2	7.1	6.6	10.7
19	Manufacture of coke and refined petroleum products	1.7	0.1	1.5	1.5	2.4
20	Manufacture of chemicals and chemical products	6.3	0.3	9.5	9.2	14.8
21	Manufacture of basic pharmaceutical products and pharmaceutical preparations	1.8	0.1	3.1	2.9	4.7

NACE C 2009		Compensation of employees		Employment, employees		
		Billion NOK	Percentage of GDP	Numbers employed in 1000	Full-equivalent in 1000	Hours worked in million
22	Manufacture of rubber and plastics products	2.7	0.1	5.0	4.7	7.6
23	Manufacture of other non-metallic mineral products	5.8	0.2	11.0	10.5	17.2
24	Manufacture of basic metals	7.0	0.3	12.3	11.9	18.9
25	Manufacture of fabricated metal products, except machinery and equipment	12.4	0.5	25.6	24.4	40.5
26	Manufacture of computer, electronic and optical products	5.9	0.3	10.1	9.7	16.2
27	Manufacture of electrical equipment	4.7	0.2	8.0	7.7	12.5
28	Manufacture of machinery and equipment n.e.c.	12.1	0.5	21.5	20.6	35.3
29	Manufacture of motor vehicles, trailers and semi-trailers	2.2	0.1	3.4	3.2	5.2
30	Manufacture of other transport equipment	16.6	0.7	28.0	26.6	44.6
31	Manufacture of furniture	3.1	0.1	6.5	6.1	9.7
32	Other manufacturing	1.6	0.1	4.0	3.7	5.9
33	Repair and installation of machinery and equipment	11.0	0.5	17.9	17.3	28.9
	Total NACE C	131.2	5.6	249.9	236.6	387.3

4.7C.3 **Main sources used** are:
- Manufacturing statistics - SBS
- Wage statistics
- Register of Wages and Salaries (RWS)

4.7C.4 Manufacturing statistics - as structural business statistics - is used as source for compensation of employees. It may be added that one of the SBS components (5300 Other taxable remuneration) is only 50 per cent recorded as compensation of employees in manufacturing (while 100 per cent in other industries).

4.7D   Electricity, gas, steam and hot water supply

4.7D.1 In NNA, the activities of NACE D are now **distinguished in 4 industries** for compensation of employees and employment as for output etc.

4.7D.2 Compensation of employees in NACE E constitutes a **rather small share of 0.3 per cent to GDP** in 2009.

NACE D 2009		Compensation of employees		Employment, employees		
		Billion NOK	Percentage of GDP	Numbers employed in 1000	Full-equivalent in 1000	Hours worked in million
35	Electricity, gas , steam and air conditioning supply	8.2	0.3	12.4	12.0	20.1
	Total NACE D	8.2	0.3	12.4	12.0	20.1

4.7D.3 **Main sources used** for compensation of employees are:
-       Electricity statistics – SBS basically

-       Register of Wages and Salaries (RWS)

4.7D.4 **Electricity statistics** are utilized to estimate compensation of employees in the electricity activities and steam and hot water supply. This estimate is distributed on the detailed industries using some constant ratios. Small deviations may occur to compensation of employees in order to maintain conceptual relationships between variables. It may be noted that electricity statistics are not entirely considered a SBS source.

4.7E   Water supply, sewerage, waste management and remediation activities

4.7E.1 In NNA, the activities of NACE E are **distinguished in 4 industries** for compensation of employees and employment as for output etc.

4.7E.2 Compensation of employees in NACE E constitutes a **rather small share of 0.3 per cent to GDP** in 2009.

NACE E 2009		Compensation of employees		Employment, employees		
		Billion NOK	Percentage of GDP	Numbers employed in 1000	Full-equivalent in 1000	Hours worked in million
36	Water collection, treatment and supply	1.3	0.1	2.1	2.1	3.4
37	Sewerage	1.4	0.1	2.6	2.7	4.5
38	Waste collection, treatment and disposal activities, materials recovery	4.2	0.2	9.2	8.7	14.2
39	Remediation activities and other waste management services	0.0	0.0	0.1	0.1	0.2
	Total NACE E	6.9	0.3	14.1	13.6	22.3

4.7E.3 **Main sources used** for compensation of employees are:
-       Structural business statistics (SBS)
-       Local government accounts
-       Register of Wages and Salaries (RWS)

4.7E.4 Compensation of employees in **market production** is covered by Structural business statistics (SBS).

4.7E.5 For water supply, **local government accounts** have been utilized.

4.7F   Construction

4.7F.1 In NNA, the activities of NACE F are now **distinguished in 4 industries** for compensation of employees and employment as for output etc. Part of industry general construction of buildings etc. is own-account construction of buildings for own final use, for which there is no compensation of employees being estimated.

4.7F.2 Compensation of employees in NACE F constitutes a **share of 3.4 per cent to GDP** in 2005.

NACE F 2009		Compensation of employees		Employment, employees		
		Billion NOK	Percentage of GDP	Numbers employed in 1000	Full-equivalent in 1000	Hours worked in million
41	Construction of buildings	28.0	1.2	55.0	52.2	84.4
42	Civil engineering	8.6	0.4	15.1	14.8	24.9
43	Specialised construction activities	44.6	1.9	95.7	91.6	150.2
	NACE F	81.2	3.4	165.8	158.5	259.5

4.7F.3 **Main sources used** for compensation of employees are:
-        Construction statistics - SBS
-        Local government accounts
-        Register of Wages and Salaries (RWS)

4.7F.4 In general, data on compensation of employees from **construction statistics** and **wage statistics** have been considered a more reliable base for the NNA estimation than employment data available for this industry. Coverage of the wage statistics, however, was weaker than for manufacturing. **Local government accounts** are applied in relevant parts of construction, while the source of KOSTRA is also taken into account in that respect.

4.7F.5 Construction is the industry most affected by the growth in non-resident workers on short-term stay since the eastward deepening of the EU in 2004.

4.7G   Wholesale and retail trade; repair of motor vehicles and motorcycles

4.7G.1 In NNA, the activities of NACE G are **distinguished in 3 industries** for compensation of employees and employment as for output etc.

4.7G.2 Compensation of employees in NACE G constitutes a **share of 5.6 per cent to GDP** in 2009.

NACE G 2009		Compensation of employees		Employment, employees		
		Billion NOK	Percentage of GDP	Numbers employed in 1000	Full-equivalent in 1000	Hours worked in million
45	Wholesale and retail trade and repair of motor vehicles and motorcycles	18.4	0.8	41.3	38.5	62.5
46	Wholesale trade, except of motor vehicles and motorcycles	61.1	2.6	109.4	102.3	165.8
47	Retail trade, except of motor vehicles and motocycles	51.8	2.2	207.5	145.0	224.1
	Total NACE G	131.3	5.6	358.2	285.8	452.4

4.7G.3 **Main sources used** are:
- Wholesale and retail trade statistics - SBS
- Labor Force Surveys
- Register of Wages and Salaries (RWS)

4.7G.4 The **annual wholesale and retail trade statistics** - as SBS source - are not used entirely alone, rather in combination with LFS employment data being applied. SBS compensation of employees has thus been increased - 3.7 billion above SBS in 2009 - both in respect of SBS uncertainty and other sources been looked into.

4.7G.5 For the **repair activities**, wages and salaries data are covered by the structural business statistics.

4.7H   Transportation and storage

4.7H.1 In NNA, the activities of NACE I are **distinguished in 13 industries** for compensation of employees and employment as for output etc.

4.7H.2 Compensation of employees in NACE H constitutes a **share of 3.2 per cent to GDP** in 2009.

NACE H 2009		Compensation of employees		Employment, employees		
		Billion NOK	Percentage of GDP	Numbers employed in 1000	Full-equivalent in 1000	Hours worked in million
49	Land transport and transport via pipelines	22.7	1.0	55.5	51.7	82.5
50	Water transport	21.3	0.9	54.2	52.8	101.1
51	Air transport	7.3	0.3	9.3	8.7	13.6
52	Warehousing and support activities for transportation	15.3	0.7	25.7	24.1	38.6

53	Postal and courier activities	8.3	0.4	21.1	17.4	27.3
	Total NACE H	74.9	3.2	165.7	154.7	263.1

4.7H.3 **Main sources used** are:
- Annual accounting statistics - SBS
- Information from Norwegian Ship-owners Association
- Annual data of SAS
- Register of Wages and Salaries (RWS)

4.7H.4 Compensation of employees in all parts of **transport and communication except ocean transport and transport via pipelines** is estimated on the basis of the annual accounting statistics - structural business statistics (SBS). Other sources are used in combination in some areas (see below).

4.7H.5 Annual data from the **SBS** for **land transport other than transport via pipeline** is utilized for the estimation in NACE 49 industries. Free travel estimate is also added (8 per cent). The RWS data are utilized - as for other industries - in estimating wages in kind.

4.7H.6 Main source for the estimation of compensation of employees in **taxi transport** is the SBS source - that needs adjustment for non-registered activities (pirate taxies) of NOK 200 million in 2009, see also chapter 3.14.19, and tips + 3 per cent.

4.7H.7 Compensation of employees is quite small in NNA-industry 495 **Transport via pipelines**. The actual method used implies the use of employment data, combined with wage statistics for other oil and gas activities.

4.7H.8 Information from Norwegian Ship-owners Association has been heavily utilized in the estimation of compensation of employees in **ocean transport**. The share of foreign sailors is around half of total employment in this industry. The estimation also involves the use of the dollar exchange rate. There are different systems of employment contracts in operation, such as 6/6 (6 months at sea, 6 months off sea) and 4/8. At present, in lacking SBS data for foreign sailors, employment register data (NOR and NIS registers) from Norwegian Ship-owners Association are being used in combination with wage estimates from same source.

4.7H.9 For **inland water transport**, compensation of employees is estimated on the basis of accounting statistics of SBS.

4.7H.10 **Accounting data from** Scandinavian Airline System **(SAS)** and **SBS statistics on the other air transport companies** constitute the main sources for the estimation of compensation of employees in the air transport industry.

4.7H.11 For NNA-industries 52 **Warehousing and support activities for transportation** and 53 **Postal and courir activities** the SBS is the source.

4.7I	**Hotels and restaurants**

4.7I.1 In NNA, the activities of NACE I are **distinguished in 2 industries** for compensation of employees and employment as for output etc.

4.7I.2   Compensation of employees in NACE I constitutes a **share of 0.9 per cent to GDP** in 2009.

NACE I 2009		Compensation of employees		Employment, employees		
		Billion NOK	Percentage of GDP	Numbers employed in 1000	Full-equivalent in 1000	Hours worked in million
55	Accommodation	8.0	0.3	26.0	21.3	32.0
56	Food and beverage service activities	13.2	0.6	50.6	38.5	59.4
	Total NACE I	21.2	0.9	76.6	59.8	91.3

4.7I.3   **Main sources used** are:
- Accounting statistics (structural business statistics)
- Register of Wages and Salaries (RWS)

4.7I.4   For these industries, the estimation of compensation of employees is based on **structural business statistics data** where available, while **used by adding** for the reason of other indications, such as exhaustiveness considerations, tips. Exhaustive coverage means 0.7 billion added to SBS in 2005.

4.7J   Information and communication

4.7J.1   In NNA, the activities of NACE J are **distinguished in 6 industries** for compensation of employees and employment as for output etc.

4.7J.2   Compensation of employees in NACE J constitutes a **share of 2.3 per cent to GDP** in 2009.

NACE J 2009		Compensation of employees		Employment, employees		
		Billion NOK	Percentage of GDP	Numbers employed in 1000	Full-equivalent in 1000	Hours worked in million
58	Publishing activities	15.7	0.7	24.6	24.5	39.4
59	Motion pictures, video and television programme production, sound recording and music publishing activities	1.4	0.1	3.2	2.7	4.4
60	Programming and broadcasting activities	3.6	0.2	6.4	6.0	9.7
61	Telecommunications	9.5	0.4	13.2	12.7	20.6
62	Computer programming, consultancy and related activities	21.8	0.9	30.8	29.8	50.0
63	Information service activities	2.5	0.1	4.3	4.0	6.5
	Total NACE J	54.4	2.3	82.4	79.8	130.6

4.7J.3 **Main sources used** are:
- Annual accounting statistics - SBS
- Register of Wages and Salaries (RWS)

4.7J.4 Compensation of employees in all parts of **information and communication** is estimated on the basis of the annual accounting statistics - structural business statistics. Other sources are used in combination in some areas (see below).

4.7J.5   For NNA-industries **Telecommunications** the SBS is the source. The structural reorganisation of the telecommunication industry that took place in the 1990s and early 2000s from a monopoly situation (Televerket=Norwegian Telecom) to a more free market situation implied a challenge to the statistical system in terms of keeping a good register of units and understanding and interpret the accounts correctly. These difficulties however clearly diminished as the period of structural changes went by, and for the year 2009 the NA figures for this industry have been based on a standard SBS using the same methods as for other industries in the determination of compensation of employees.

4.7K	**Financial intermediation**

4.7K.1 In NNA, the activities of NACE K are **distinguished in 7 industries** for compensation of employees and employment as for output etc.

4.7K.2 Compensation of employees in NACE K constitutes a **share of 1.6 per cent to GDP** in 2009.

NACE K 2009		Compensation of employees		Employment, employees		
		Billion NOK	Percentage of GDP	Numbers employed in 1000	Full-equivalent in 1000	Hours worked in million
64	Financial service activities, except insurance and pension funding	21.6	0.9	32.7	31.4	50.2
65	Insurance, reinsurance and pension funding, except compulsory social security	7.2	0.3	11.5	11.0	17.5
66	Activities auxiliary to financial services and insurance activities	8.6	0.4	8.6	8.4	13.6
	Total NACE K	37.4	1.6	52.8	50.8	81.3

4.7K.3 **Main sources used** are:
- Credit market statistics for banks
- Credit market statistics for insurance companies
- Credit market statistics for other financial institutions
- Wage statistics
- Register of Wages and Salaries (RWS)

4.7K.4 Wages statistics are considered second in quality after wage bill data (or data on compensation of employees) of the **credit market statistics**, thus considered more reliable than

employment data available. The W/FE ratio is therefore closely connected to wage data. For the auxiliary industry, RWS data was used directly in lack of other information.

4.7K.5 **Accounting data of the various parts of credit market statistics** - though not part of SBS - have been used to estimate compensation of employees in NNA. Compensation of employees data are subsequently split into the various components. For all industries of financial intermediation, except insurance and pension funding, but including the auxiliary industry, the implicit employment data are basically in line with employment data of the Labor Force Surveys and the Register of Employers.

4.7K.6 Accounting data of credit market statistics are used for the estimation of compensation of employees in **life insurance, pension funding and non-life insurance**.

4.7K.7 A new source as part of the credit market statistics are available for **auxiliary financial intermediation** and used for estimating compensation of employees for this relatively small industry.

4.7L   Real estate activities

4.7L.1 In NNA, the activities of NACE L are **distinguished in 2 industries** for compensation of employees and employment as for output etc. One of those industries also contain non-market activities of owner occupied dwellings.

4.7L.2 Compensation of employees in NACE L constitutes a **share of 0.5 per cent to GDP**.

NACE L 2009		Compensation of employees		Employment, employees		
		Billion NOK	Percentage of GDP	Numbers employed in 1000	Full-equivalent in 1000	Hours worked in million
68	Real estate activities	10.6	0.5	21.1	17.9	28.8
	Total NACE L	10.6	0.5	21.1	17.9	28.8

4.7L.3**Main sources used** are:
- Annual accounting statistics (structural business statistics)
- Wage statistics
- Register of Wages and Salaries (RWS)

4.7L.4 In **real estate** the **SBS source is used. Dwelling services** for own final use (NNA-industry 688) is without compensation of employees at all.

4.7M Professional, scientific and technical activities

4.7M.1 In NNA, the activities of NACE K are also **distinguished in 7 industries** for compensation of employees and employment as for output etc. Two of these industries also contain non-market activities of central government.
4.7M.2 Compensation of employees in NACE M constitutes a **share of 2.7 per cent to GDP** in 2009.

NACE M 2009		Compensation of employees		Employment, employees		
		Billion NOK	Percentage of GDP	Nambers employed in 1000	Full-equivalent in 1000	Hours worked in million
69	Legal and accounting activities	13.2	0.6	24.6	23.1	37.9
70	Activities of head offices, management consultancy activities	5.8	0.2	9.3	8.5	13.9
71	Architecture and engineering activities, technical testing and analysis	29.8	1.3	47.4	45.1	76.0
72	Scientific research and development	6.0	0.3	8.9	8.7	14.4
73	Advertising and market research	4.2	0.2	7.3	6.2	9.8
74	Other professional, scientific and technical activities	4.2	0.2	5.6	5.0	8.0
75	Veterinary activities	0.3	0.0	0.8	0.6	0.9
	Total NACE M	63.6	2.7	103.8	97.3	160.9

4.7M.3 **Main sources used** are:
- Annual accounting statistics (structural business statistics)
- Wage statistics
- Register of Wages and Salaries (RWS)

4.7M.4 For **market activities** the **SBS source** is used. For non-market activities of central government - both in research and development and two of the other service industries - compensation of employees has been determined from the central government accounts.

4.7N Administrative and business support service activities

4.7N.1   In NNA, the activities of NACE N are **distinguished in 7 industries** for compensation of employees and employment as for output etc. All industries contain market activities only.

4.7N.2 Compensation of employees in NACE N constitutes a **share of 1.9 per cent to GDP** in 2009.

NACE N 2009		Compensation of employees		Employment, employees		
		Billion NOK	Percentage of GDP	Numbers employed in 1000	Full-equivalent in 1000	Hours worked in million
77	Rental and leasing activities	3.6	0.2	6.8	6.2	10.1
78	Employment activities	19.0	0.8	45.5	40.5	66.1
79	Travel agency, tour operators and other reservation service and related activities	2.3	0.1	5.6	5.0	7.6
80	Security and investigation activities	4.0	0.2	11.9	9.9	15.7
81	Services to buildings and landscape activities	7.6	0.3	25.5	22.3	33.4
82	Office administrative, office support and other business support activities	7.1	0.3	15.6	13.4	20.8
	Total NACE N	43.7	1.9	110.9	97.3	153.7

4.7N.3 **Main sources used** are:
- Annual accounting statistics (structural business statistics)
- Wage statistics
- Register of Wages and Salaries (RWS)

4.7N.4 For **all industies in administrative and business support activities**, the SBS data are used as basis for compensation of employees figures.

4.7O   Public administration and defence; compulsory social security

4.7O.1 In NNA, the activities of NACE L are **distinguished in 3 industries** for compensation of employees and employment as for output etc., i.e. public administration (central and local government), defense other governmental services.

4.7O.2 Compensation of employees in NACE O constitutes a **share of 3.7 per cent to GDP** in 2005.

NACE O 2009		Compensation of employees		Employment, employees		
		Billion NOK	Percentage of GDP	Numbers employed in 1000	Full-equivalent in 1000	Hours worked in million
84	Public administration and defence, compulsory social security	86.6	3.7	182.1	169.7	270.7
	Total NACE O	86.6	3.7	182.1	169.7	270.7

4.7O.3 **Main sources used** are:
- Central government accounts
- Local government accounts

4.7O.4 Compensation of employees data from **central government and local government accounts** are used for the estimation of compensation of employees in public administration and defense (i.e. for all military personnel). RWS has particular problems with industries that contain general government services. In the case of public administration, RWS data are much higher than recorded in NNA from the government accounts, while the difference is insignificant for defense activities when comparing wages and salaries.

4.7O.5 In **the 2002 main revision** a new treatment of the deficit in the **Public Service Pension Fund** was introduced affecting the estimate of compensation of employees of central government administration. The old treatment recorded the deficit as a transfer from central government to the financial enterprises sector. The new method treats the deficit as employers' imputed social contributions included in compensation of employees in central government sector.

4.7P	**Education**

4.7P.1 In NNA, the activities of NACE P are **specified in one education industry** for compensation of employees and employment as for output etc. (while compiled by four types of producer).

4.7P.2 Compensation of employees in NACE P constitutes a **share of 3.5 per cent to GDP** in 2009.

NACE P 2009		Compensation of employees		Employment, employees		
		Billion NOK	Percentage of GDP	Numbers employed in 1000	Full-equivalent in 1000	Hours worked in million
85	Education	82.6	3.5	189.5	173.0	238.4
	Total NACE P	82.6	3.5	189.5	173.0	238.4

4.7P.3 **Main sources used** are:
- Central government accounts
- Local government accounts
- Register of Wages and Salaries (RWS)

4.7P.4 Compensation of employees data from **central government and local government accounts** are used for the estimation of compensation of employees in non-market education activities of government. Compensation of employees in NPISHs was also mainly based on government accounts data, in a more indirect way, while now also utilizing new accounting data. For the market part, compensation of employees is estimated on a weaker basis, in particular expert judgment obtained from the Ministry of Education on the wage level in private primary and secondary education and from the Researchers' Association on the wage level in higher education. The W/FE ratio in non-government education was set slightly higher than in central and local government. RWS data are still higher, but include non-government research and development. In the area of private education, these data do not quite match as regards the above-mentioned sources used for the NNA estimates, the RWS data and Labor force survey data.

4.7Q   Health and social work

4.7Q.1 In NNA, the activities of NACE QN are **distinguished in 4 industries** for compensation of employees and employment as for output etc. (while compiled by four types of producer).

4.7Q.2 Compensation of employees in NACE N constitutes a **share of 7.3 per cent to GDP** 2009.

NACE Q 2009		Compensation of employees		Employment, employees		
		Billion NOK	Percentage of GDP	Numbers employed in 1000	Full-equivalent in 1000	Hours worked in million
86	Human health activities	70.8	3.0	154.4	138.6	208.6
87	Residential care activities	71.2	3.0	238.6	170.5	244.5
88	Social work activities without accommodation	29.9	1.3	107.2	91.0	130.7
	Total NACE Q	171.9	7.3	500.2	400.1	583.9

4.7Q.3 **Main sources used** are:
- Central government accounts
- Local government accounts
- Register of Wages and Salaries (RWS)

4.7Q.4 Compensation of employees data from **central government and local government accounts** are used for the estimation of compensation of employees in non-market health and social work activities of government. Compensation of employees in NPISH was also mainly based on government accounts data, but in a more indirect way. Now new accounting data have been utilized for this part. The market part is estimated on a weaker basis, since no wage or production statistics are available.

4.7R Arts, entertainment and recreation

4.7R.1 In NNA, the activities of NACE R are **distinguished in 4 industries** for compensation of employees and employment as for output etc. (while compiled by three types of producer).

4.7R.2 All 4 industries contribute to **market production**. In addition, there are various industry specifications on **non-market production**:

4.7R.3 Compensation of employees in NACE R constitutes a **share of 0.5 per cent to GDP** in 2009.

NACE R 2009		Compensation of employees		Employment, employees		
		Billion NOK	Percentage of GDP	Numbers employed in 1000	Full-equivalent in 1000	Hours worked in million
90	Creative, arts and entertainment activities	3.4	0.1	8.7	7.8	12.6

91	Libraries, archives, museums and other cultural activities	3.2	0.1	9.2	7.8	12.4
92	Gambling and betting activities	0.5	0.0	1.4	1.2	1.8
93	Sports activities and amusement and recreation activities	4.1	0.2	12.0	10.0	15.8
	Total NACE R	11.3	0.5	31.2	26.7	42.5

4.7R.4 **Main sources used** are:
- Central government accounts
- Local government accounts
- Annual accounting statistics (SBS)
- Wage statistics
- Register of Wages and Salaries (RWS

4.7R.5 Compensation of employees data from **central government and local government accounts** in particular are used for the estimation of compensation of employees in non-market activities of government. Compensation of employees in NPISH is also mainly based on government accounts data, but in a more indirect way. The market part are generally estimated on a weaker basis, but are estimated by the SBS as source in some parts.

4.7S   Other service activities

4.7S.1 In NNA, the activities of NACE S are **distinguished in 3 industries** for compensation of employees and employment as for output etc. Two industries contain market producers only, while one – membership organizations – also include non-market producers in NPISHs.

4.7S.2 Compensation of employees in NACE S constitutes a **share of 0.4 per cent to GDP** in 2009.

	NACE S 2009	Compensation of employees		Employment, employees		
		Billion NOK	Percentage of GDP	Numbers employed in 1000	Full-equivalent in 1000	Hours worked in million
94	Activities of membership organisations	8.4	0.4	19.5	17.0	27.3
95	Repair of computers and personal and household goods	8.4	0.4	19.5	17.0	27.3
96	Other personal service activities	8.4	0.4	19.5	17.0	27.3
	Total NACE S	8.4	0.4	19.5	17.0	27.3

4.7S.3 **Main sources used** are:
- Annual accounting statistics (SBS)
- Wage statistics
- Register of Wages and Salaries (RWS

4.7S.4 Compensation of employees in NPISH is partly mainly based on government accounts data, but in a more indirect way. The market part are generally estimated by using the SBS as source.

4.7T	Private households with employed people

4.7T.1 By convention, **compensation of employees is equal to output** for this industry. See therefore output section for information on source and method used for the estimation of output and compensation of employees. Compensation of employees in NACE T constitutes a **share of 0.0 per cent to GDP** (as for value added) in 2009.

NACE T 2009		Compensation of employees		Employment, employees		
		Billion NOK	Percentage of GDP	Numbers employed in 1000	Full-equivalent in 1000	Hours worked in million
97	Activities of households as employers, undifferentiated goods - and serviceproducing activities of households for own account	0.4	0.0	2.7	1.9	3.0
	Total NACE T	0.4	0.0	2.7	1.9	3.0

4.8	**Other taxes on production and imports**

4.8.1   In NNA, other taxes on production and imports consist of **taxes on production and imports other than taxes on products,** which are described above in Chapter 3 (sections 3.28 and 3.29). In terms of ESA95, other taxes on production include one single item, defined as taxes that enterprises incur as a result of engaging in production, independently of the quantity or value of the goods and services produced or sold. It should be underlined that rules and procedures exist to ensure that for each tax a correct and consistent classification is made (see also section 3.21 above on how items of central government accounts and local government accounts are tabled with a whole set of information).

D 29	Other taxes on production

4.8.2   **Borderline cases** between taxes on products and other taxes on production have been described in section 3.28 above.

4.8.3   In NNA, other taxes on production amounted to NOK 19.6 billion in 2009. Its **share of GDP is 0.8 per cent**. Virtually the whole amount of other taxes on production is related to market activities, while an insignificant amount from non-market production of government and NPISHs.

4.8.4   **Main sources used** are:
- Central government accounts (the fiscal accounts)
- Other central government accounts (government funds etc.)
- Local government accounts

4.8.5   **Central government accounts**, including **other central government accounts**, are used to estimate most other taxes on production since **56 per cent** of the total amount is allocated as income to central government. The **remaining 44 per cent** is income for local government, estimated from **local government accounting data**.

4.8.6   In terms of **valuation** and time of recording, all items are **actual receipts** as recorded in the central and local government accounts. It means that timing adjustments made to tax receipts are not carried out for other taxes on production. It may also be added that adjustments are not made to take account of tax amounts unlikely to be collected.

4.8.7   Some **100 detailed items of central government accounts** (including nearly 20 items from other central government accounts) are treated and coded as other taxes on production. **Largest items** - above NOK 1 billion threshold - are listed and illustrated by 2009 figures below. The source reference is given, with an indication of the allocation made to relevant industries in each case.

Registration duty on motor vehicles

2009 value	NOK 2.3 billion
Source	Items of central government accounts
Paying industry	450 Sale of motor vehicles

Tax on CO2 emission on extraction of Petroleum	
2009 value	NOK 2.2 billion
Source	Items of central government accounts
Paying industry	060 Extraction of crude oil and natural gas

Tax on extraction of petroleum Area excise	
2009 value	NOK 1.5 billion
Source	Items of central government accounts
Paying industry	060 Extraction of crude oil and natural gas

Annual duty on motor vehicles paid by producers	
2009 value	NOK 1.4 billion
Source	Items of central government accounts
Paying industry	Many

4.8.8   Other taxes on production and imports of considerable size include **income from auctions in frequences and licenses in telecom, excise on waste,** and **special import tax on agricultural products.**

4.8.9   Other taxes on production as income for **local government** amount to NOK 8.6 billion in 2009, and have been confined to three items of local government accounts. Two items are related to electricity production and consist of concession taxes, while the **largest item** is **tax on real property**. The tax on real property is particularly levied for urban areas, and for electricity and other energy intensive plants. It is therefore assumed that NNA-industry 688 Dwelling service production of owner-occupiers is a main payment industry, along with the electricity industry and other energy intensive manufacturing industries.

4.9   Other subsidies on production

4.9.1   In NNA, other subsidies on production consist of **subsidies other than subsidies on products**, which are described above in Chapter 3 (section 3.30). In terms of ESA95, other subsidies on production include one single item (D 39), defined as unrequited payments from general government (or the Institutions of the European Union) which resident producer units receive as a consequence of engaging in production and which are not linked to the quantity or value of the goods and services produced or sold. It should be underlined that rules and procedures exist to ensure that all subsidies on production are estimated and consistent classification is made (see text in section 3.21).

> D 39   Other subsidies on production

4.9.2   **Borderline cases** between subsidies on products and other subsidies on production have been described in section 3.30 above, the agricultural subsidies in particular. Other borderline problems dealt with concern the distinction between subsidies and government final consumption expenditure, the current versus capital distinction exemplified by subsidies vs. investment grants, and the treatment of persistent loss. Some of these issues and the NNA treatment are touched upon below when illustrating the largest items of other subsidies on production.

4.9.3   In NNA, other subsidies on production amounted to NOK 42.9 billion in 2009. Its **share of GDP is 1.8 per cent**.

4.9.4   Other subsidies on production are distributed to various NNA-industries of market producers only. Other subsidies on production are not allocated to non-market industries in NNA.

4.9.5   **Main sources used** are:
- Central government accounts (the fiscal accounts)
- Other central government accounts (government funds etc.)
- Local government accounts

4.9.6   **Central government accounts**, including **other central government accounts**, are used to estimate most other subsidies on production since approximately **75 per cent** of the total amount is paid by central government, while **25 per cent** is paid by local government, estimated from **local government accounting data**.

4.9.7   In terms of **valuation** and time of recording, all items are **actual outlays** as recorded in the central and local government accounts.

4.9.8   Almost **500 detailed items of central government accounts** are treated and coded as other subsidies on production. **Largest items** are listed and illustrated by 2009 figures below. The source reference is given, with an indication of the allocation made to relevant industries in each case.

Grants according to Agreement for Agriculture	
2009 value	NOK 8.5 billion
Source	Item 1150/70,73,74,77,78 of central government accounts
Receiving industries	Agriculture and wholesale trade

Government measures to promote employment	
2009 value	NOK 5.0 billion
Source	Item 0634/76 of central government accounts
Receiving industries	Distributed to 20 industries within manufacturing, construction, trade, hotels and restaurants, education and social work.

Special employment measures for sailors	
2009 value	NOK 1.6 billion.
Source	Item 0909/ 73 of central government accounts
Receiving industries	502 Passenger sea transport

Transfers to traffic part of the State Railway Corporation	
2009 value	NOK 1.7 billion
Source	Item 1351/70 of central government accounts
Receiving industry	491 Transport via railways

4.9.9   Other subsidies on production and imports included in 2009 among others grants to **named financial institution,** grants to **transportation** including Hurtigruta- the largest coastal liner company in Norway**,** grants to **promote environmental inmprovements, grants to promote cultural activities -** including film activities, grants to **education and research,** to **health activities, production grants to publishers of newspapers,** and **grant to named mining producer.**

4.9.10   In addition (but included in the total for central government), central government pay out **subsidies from government funds** etc., estimated from some 100 recordings of other central government accounts.

4.9.11   Other subsidies on production paid by **local government** amount to NOK 10.9 billion in 2009. Some 60 items involve other subsidies on production as recorded in local government accounts. The largest items were **transport grants** to scheduled motor bus transport, to tramway and suburban transport and to the dwelling service production industry as payments for housing and community amenity purposes.

4.10   Gross operating surplus

4.10.1   In NNA **operating surplus** is estimated as a **balancing item**. Operating surplus is the balancing item of the generation of income account and can be expressed either in gross or in net terms. Operating surplus is net in the NA compilation framework. Accordingly, consumption of fixed capital is described separately below in section 4.12. It should be added that in the context of statistical sources, sometimes direct information on operating surplus might be approached and mostly in gross terms. Nevertheless - in the current scenario - operating surplus is derived conceptually in the NA system and thus does not provide independent estimate (neither in a particular industry nor for total industries).

4.10.2   Total operating surplus is **calculated as** GDP, less compensation of employees, less taxes on production plus subsidies on production, and less consumption of fixed capital. For a particular industry, operating surplus is calculated as value added in basic prices, less compensation of employees, less other taxes on production (than taxes on products), plus other subsidies on production (than subsidies on products), less consumption of fixed capital. From such an estimation procedure - giving the fact that all other concepts involved in the chain of estimation have been described already - there is no further need for describing sources and methods at this juncture. By the same token, it should be emphasized that **comprehensive estimates** of operating surplus are made - at same detailed activity breakdown as for output, intermediate consumption, value added etc. Furthermore, a range of possible **borderline problems** throughout the chain of main aggregates from output to operating surplus - e.g. against intermediate consumption - has been encountered and looked into during the NA estimation process.

4.10.3   In NNA, operating surplus (net) is estimated at NOK 655 billion in 2009. Its **share of GDP is 27.8 per cent**. It may be added that operating surplus in oil and gas extraction and related services accounted for almost half the total operating surplus in 2009, or 12,4 per cent of GDP.

4.11   Mixed income

4.11.1   From the **ESA95** adopted in the NNA system, operating surplus in this respect is actually to be termed in two parts, i.e. **operating surplus** (proper) and **mixed income**. In fact, the correct use of these terms is not operating surplus for the total, but for the segment that is not covered by mixed income.

4.11.2   **Mixed income** is the term for that particular segment of the balancing item of the generation of income account that is **received by the household sector**. The reason for this is the problem of distinguishing between remuneration for labor and capital in the household sector, thus the expression mixed income. In the case of income for owner-occupiers producing dwelling services, it is not appropriate to use the mixed income term as only the capital production factor is involved. Therefore, in the dwelling service production, the balancing item of income to owner-occupiers of the household sector should still be called operating surplus. Moreover, mixed income is not generated in other sectors than the household sector.

4.11.3   Regarding the household sector, the compilation of production and generation of income accounts was a **new feature** when introduced in NNA in the 1995 revision. It was linked to the improved source situation that came about through **accounting statistics of self-employed** as a means

to evaluate a tax reform taken place in Norway from 1992. This source is described in section 11.2 below (source no.5). Although it is a sample survey, calibration methods are used to avoid biased data and thus providing comprehensive results (conceptually before deducting interest and rent paid on assets owned by others or interest and rent received on assets owned) and links to tax register and population census. Specific adjustment for tax evasion is not made. Time recording differences are not of much relevance with this type of data. The accounting statistics of self-employed as a source was available for the first time in 1991 and 1992.

4.11.4 In NNA, **mixed income** (mixed income and operating surplus proper) in the household sector is estimated at NOK 112.1 billion in 2009. Its **share of GDP is 4.8 per cent.**

4.11.5 In NNA, a **direct approach** has been taken for the estimation of **gross mixed income**, utilizing the new source of accounting statistics of self-employed. This approach means that the following five steps are envisaged:

(1)	**Balancing item** gross operating surplus / gross mixed income is arrived at through the production and income generation accounts of the **total economy**, obtained from the detailed Norwegian approach described throughout chapters 3 and 4.
(2)	**Gross operating surplus of owner-occupiers** from producing dwelling services is obtained as a balancing item, in particular influenced by the output and intermediate consumption estimates.
(3)	**Gross mixed income** is estimated from the accounting statistics of self-employed.
(4)	**Gross operating surplus including gross mixed income of the household sector** is obtained from the sum of (2) and (3).
(5)	**Gross operating surplus of other sectors** are arrived at as a balancing item, deducting (4) from (1).

4.11.6 The utilization and **transformation of the accounting statistics for the gross mixed income estimation** may be described in terms of two phases. These are described in section 4.3 above.

4.11.7 Specifically, strong emphasis has been put in achieving a consistent solution to **the farming part**, i.e. finding a consistent solution for the farming sub-sector vis-à-vis the NNA industry estimates for agriculture. In terms of output and intermediate consumption, farming or agriculture counts for approximately **one-fourth of the household sub-sector for self-employed**. Valuation of output and intermediate consumption is imperative for the treatment of agricultural subsidies in finding an overall and consistent solution in this area. For other industries than agriculture, the confrontation between NNA industry estimates and accounting data for the self-employed has been made in a more summarized way. Thus, adjustments to the accounting data are few for the non-farming part.

4.12   Consumption of fixed capital

4.12.1 Estimates of consumption of fixed capital are illustrated below for the year 2009 broken down by some main categories of fixed assets, by main industries and by market/non-market producers.

Consumption of fixed capital. 2009. NOK billion

BY INDUSTRY		
NACE		NOK billion
A	Agriculture, forestry and fishing	11.8
B	Mining and quarrying	94.1
C	Manufacturing	25.8
D	Electricity, gas, steam and air conditioning supply	11.0
E	Water supply; sewerage, waste management and remediation activities	5.5
F	Construction	8.7
G	Wholesale and retail trade; repair of motor vehicles and motorcycles	15.6
H	Transportation and storage	31.8
I	Accommodation and food service activities	2.3
J	Information and communication	13.9
K	Financial and insurance activities	7.9
L	Real estate activities	58.0
M	Professional, scientific and technical activities	5.3
N	Administrative and support service activities	5.7
O	Public administration and defence; compulsory social security	26.4
P	Education	9.1
Q	Human health and social work activities	11.6
R	Arts, entertainment and recreation	3.8
S	Other service activities	1.7
	TOTAL	**350.2**

BY INSTITUIONAL SECTOR	
Non-financial enterprise	228.0
Financial enterprises	7.9
General government	49.5
Central government	24.9
Civilian central government	20.4
Defence	4.5
Local government	24.6
Households	61.6
NPISHs	3.1
TOTAL	**350.2**

BY MARKET TYPE	
Market producers	250.1
Non-market producers	100.1
TOTAL	**350.2**

BY ASSET TYPE	
Building and construction	130.0
Oil exploration, drilling, pipelines for oil and gas	44.5
Oil platforms etc.	44.9
Ships and boats	18.3
Other transport equipment	21.9
Machinery and equipment	90.6
TOTAL	**350.2**

4.12.2 In 1997 the linear method was replaced by the geometrical approach. **In the 2002 revision**, estimations were again made from the new revised series of gross fixed capital formation and other new assumptions made.

4.12.3 In general government consumption of fixed capital is estimated for 11 types of assets. Figures for 2009 are given in the following table together with figures of the value of (net) stock and figures for services life for each type of capital. For constructions in Supporting activities for cargo handling, the service life is 50 while 60 for construction in other industries. It should be mentioned that in the 2011 main revision the item Constructions was split into **Roads and bridges** on one hand and **Other construction** on the other.

General government. Consumption of fixed capital 2009. NOK billion.

Asset type	CFC	Net stock	Depreciation rate	Service life (years)
Buildings	17,0	520,5	0,034	59
Railroads	1,7	43,4	0,040	50
Roads and bridges	9,9	308,7	0,033	60
Other constructions	5,6	173,4	0,033	60
Ships	1,2	17,5	0,080	25
Aircraft	0,6	6,7	0,100	20
Cars, trucks, buses	0,9	4,3	0,207	10
Machinery and equipment	5,2	36,7	0,134	15
Computers, etc	6,3	16,2	0,404	5
Software	1,0	5,2	0,506	4
Valuables	0,0	0,1		
Total	49,5	1132,7		

4.12.4 **In the 2006 main revision** once again some of the assumptions regarding the consumption profile and the length of service lives were reassessed and revised.

4.12.5 **Perpetual Inventory Method (PIM)** is in most countries used to estimate capital stock of fixed assets and consumption of fixed capital. In Norway the calculations are organized within a computer programme called BERKAP and cover both current price and constant price estimates. The BERKAP results for fixed assets and consumption of fixed capital in constant prices are subsequently converted to current price estimates by using price indices for the acquisitions of fixed assets according to type and industry. There are one area - cultivated assets - for which PIM has not been used in NNA. The calculations are comprehensive and eventually include consumption of fixed capital estimates for all activities and all types of producers (market, for own final use and other non-market).

4.12.6   The **computer programme** cover estimates for consumption of fixed capital, as well as gross and net stock values of tangible and intangible fixed assets. The estimates are computed by the standard breakdowns for industries and types of assets in NNA. Subsequently, the estimates are distributed by institutional sectors.

4.12.7   The computations require **long time series of revised GFCF estimates** as input, as well as **parameter information** on average service lives of fixed assets etc. Other parameters concern mortality and survival functions. For the GFCF estimates, industry breakdowns are provided at the same level of detail as for production. These are combined with breakdown by type of asset, an aggregated version consisting of 18 types of assets.

4.12.8   Statistics Norway lacks direct information on **average service lives**. The approach taken in Norway, therefore, has been to utilize relevant information from countries that are in many respects (in terms of economy, technology and climate) comparable with Norway. Thus, average service lives in **Canada, Germany** and **Sweden** have been used as a basis for the Norwegian calculations in NNA. FNA average service lives of the various fixed assets had to be revised and adapted to new specifications of NNA-industries and types of fixed assets. In the 2002 and 2006 revisions, again some few amendments were made to the services lives.

4.12.9   **Average service lives and average annual rate of depreciation** used in NNA are given below for the 17 aggregated types of assets. In some cases they are differentiated by industries (indicated by intervals). Per convention, cultivated assets and valuables are not depreciated.

Average service lives by types of fixed assets.

Types of fixed assets	Average rate	Number of years
Dwellings	0.021	93
Non-resident buildings	0.033	61
Other structures except oil and gas	0.034	59
Construction work for oil and gas production	0.095	21
Oil production platforms and oil rigs	0.099	20
Pipelines for oil and gas	0.041	49
Ships and boats	0.096	21
Aircraft and helicopters	0.105	19
Cars, buses, lorries, locomotives, rolling stock	0.201	10
Machinery and other equipment	0.117	17
Computers, office equipment	0.493	4
Telecommunication equipment	0.132	15
Cultivated assets		
Mineral exploration	0.112	18
IT-programmes	0.564	4
Literary and artistic originals	0.429	5
Valuables		

4.12.10 Average services lives (L) are estimated using the rate of depreciation (d) and assuming that d = 2/L.

4.13 CONCLUSIONS

4.13.1 **A variety of methods are applied** in the income approach, reflecting different types of main aggregates, some of which mostly using statistical sources (compensation of employees, mixed income), others using administrative sources (other taxes on production, other subsidies on production), another mostly based on model estimations (consumption of fixed capital), and finally one main aggregate determined residually (operating surplus).

4.13.2 **Strength and suitability** of the methods applied is considered to be **on the positive side in general**, and for various reasons: **(1) Compensation of employees** is estimated within the **integrated framework of labor accounts (LA)** and coupled with employment estimates, LA seen as close satellite account to NA, **(2) Sources and methods for compensation of employees** are continuously being evaluated for improvements following a detailed approach by activities and the LA framework, **(3) Detailed government accounts and coding procedures** means that these administrative sources are utilized in a best possible and detailed way, **(4) Long-established model developed for calculating consumption of fixed capital** and fixed assets, to which updating and refining procedures are carried out in benchmarking and main revision undertakings, and probably most important, **(5) Accounting data are used more thoroughly** than before and thus providing a closer link between the income approach - also the institutional accounts - and the production and expenditure approaches in terms of sources, and related to this and most important, **(6) Annual SUT framework have been used in NNA and FNA over several decades** to ensure close integration between the three general methods of GDP estimation (the production and expenditure approaches aligned with the income approach).

CHAPTER 5   THE EXPENDITURE APPROACH

5.0   GDP according to the expenditure approach

5.0.1 The table that follows summarizes information according to the expenditure approach for 2009 by main categories of final use of GDP.

Main categories of final use. NOK billion in 2009

	Billion NOK	Per cent of GDP
Total final consumption expenditure	1 558.4	66.1
Household final consumption expenditure	979.2	41.6
NPISH final consumption expenditure	48.5	2.1
Government final consumption expenditure	530.7	22.5
Gross capital formation	529.5	22.5
Gross fixed capital formation	515.6	21.9
Changes in inventories	13.9	0.6
Acquisitions less disposals of valuables	0.2	0.0
Exports of goods and services	929.1	39.4
-Imports of goods and services	660.4	28.0
Gross domestic product GDP	2 356.6	100.0

5.0.2   Also, illustration is given below for 2009 of the **main categories of final use for the total economy by the five main institutional sectors**.

Main categories of final use by main institutional sectors. NOK billion in 2009

	Total economy	Non-financial enterprises	Financial enterprises	General government	Households	NPISH
P.3	**1 558.4**	**-**	**-**	**530.7**	**979.2**	**48.5**
P.31	1 374.2	-	-	346.5	979.2	48.5
P.32	184.2	-	-	184.2	-	-
P.4	**1 559.4**	**-**	**-**	**184.2**	**1 374.2**	**-**
P.41	1 374.2	-	-	-	1 374.2	-
P.42	184.2	-	-	184.2	-	-
P.5	**529.5**	**327.2**	**5.7**	**83.4**	**107.2**	**5.9**
P.51	515.6	313.3	5.7	83.4	107.2	5.9
P.52	13.9	13.9	..	..	..	..
P.53	0.0	..	..	..	..	..
P.6	**929.1**	**-**	**-**	**-**	**-**	**-**
P.61	705.1	-	-	-	-	-
P.62	224.0	-	-	-	-	-
P.7	**660.4**	**-**	**-**	**-**	**-**	**-**
P.71	444.0	-	-	-	-	-
P.72	216.4	-	-	-	-	-

5.1 The reference framework

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5.1.1   The reference framework is primarily the **Use of income account** (Final consumption expenditure**), Capital account** (Gross capital formation), **Rest of the world account** (exports and imports), and the context of **expenditure approach** to estimate GDP. The references to the accounts cited above imply a definitive role in the framework of **institutional sector accounts.** This means that the main items of the expenditure approach all have a breakdown by institutional sectors, in addition to the breakdowns described for the central framework in the paragraphs to follow.

5.1.2   **Final consumption expenditure (P.3 in ESA95)** has **two breakdowns**, one by **categories of use** and one by **products**. In practice, they are cross-classified, i.e. each of the categories of use is broken down by products. Both dimensions are described below in sections 5.7- 5.9. **Final consumption expenditure** has **two main components**:

P.3	Final consumption expenditure	
	P.31	Individual consumption expenditure
	P.32	Collective consumption expenditure

These categories serve as framework for user categories of three different institutional sectors: **household final consumption expenditure, final consumption expenditure of NPISHs** and **government final consumption expenditure.** The first two belong to P.31, while the third partly belongs to P.31 and partly to P.32. This opens up for the alternative framework on final consumption, i.e. **Actual final consumption (P.4 in ESA95)**:

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P.4	Actual final consumption	
	P.41	Actual individual consumption
	P.42	Actual collective consumption

5.1.3   In NNA, both main frameworks of final consumption are taken into account. Still, **final consumption expenditure** clearly has the **main attention**, actual final consumption merely playing a supplementary role. Breakdowns are detailed in most respects, by P.3 user categories and by NNA-products, implicitly also by P.4 user categories, although exposed at aggregated level only in the case of actual final consumption.

5.1.4   **Gross capital formation (P.5 in ESA95)** has **three main breakdowns**, one by **categories of use,** another by **kind of economic activities** (for gross fixed capital formation)**,** and one by **products.** In practice, they are arranged in pairs of cross-classifications. All dimensions are described in sections 5.10-5.14. **Gross capital formation (GCF)** has **three main components or categories of use:**

P.5	Gross capital formation	
	P.51	Gross fixed capital formation
	P.52	Changes in inventories
	P.53	Acquisitions less disposal of valuables

5.1.5   In NNA, this GCF framework has been adopted, although the last main item on valuables plays a negligible role so far. **Breakdowns** are otherwise **detailed in most respects**, by P.51 user categories (types of fixed assets), by kind of activities (industries) and by NNA-products, and furthermore, by P.52 user categories (less detailed), and NNA-products here as well. Gross fixed

capital formation by industries has somewhat more attention with the users in Norway than the alternative breakdown by types of fixed assets.

5.1.6   **Exports of goods and services** (P.6 in ESA95) and **Imports of goods and services** (P.7 in ESA95) both have two breakdowns, one by **categories of use** and by **products**. In practice, they are cross-classified, i.e. each of the user categories are broken down by products. They are described in sections 5.15 -5.18 below. Exports and imports have two main components or user categories each:

P.6	Exports of goods and services	
	P.61	Exports of goods
	P.62	Exports of services
P.7	Imports of goods and services	
	P.71	Imports of goods
	P.72	Imports of services

5.1.7   In NNA, this framework of exports and imports has been adopted, with additional emphasis on aspects of oil and gas extraction in the North Sea and its strong impact on exports from Norway. **Breakdown on NNA-products is detailed,** while the breakdowns on user categories (components of exports and imports) are relatively limited. It should be added that exports and imports are treated in a harmonized way in NNA and in the Balance of Payments.

5.2   Valuation

5.2.1   Valuation is **particularly relevant for transactions in goods and services**, but also to the general aspect of **time of recording**. In general, **the accruals basis principle** of recording is applied in the NNA.

5.2.2   The use categories - both intermediate consumption and final uses **-** are valued at **purchasers' prices,** including **exports at fob. Imports** are valued at **c.i.f.** According to the ESA95 principles, a global c.i.f./f.o.b. correction is made to arrive at imports in f.o.b. prices. In the balance of payments such an alternative estimation of imports f.o.b. has long been made for the reporting to Eurostat and the IMF. In NNA, **household consumption expenditure** is recorded in **purchasers' prices. Gross fixed capital formation** is also valued at **purchasers' prices**, including installation charges and other costs. Products used for **intermediate consumption** are also valued at **purchasers' prices** for purchased products, mostly at basic prices for own-produced products.

5.2.3   **Uncompleted fixed assets** and how to make the proper time of recording is an issue that has been discussed on several occasions in Statistics Norway. During the 1995 main revision, treatment of **non-movable oil production platforms and constructions** changed from work-in-progress (changes in inventories) in FNA to gross fixed capital formation directly in the oil and gas extraction industry, while uncompleted movable exploration and drilling rigs continued to be recorded as work-in-progress on the hand of the producer. ESA95 distinguishes between structures and other fixed assets (e.g. ships and oil rigs) in terms of treatment. In fact, this dividing line is a problematic one in the sense that **movable oil rigs** hardly should be seen as fundamentally different from **other oil platforms**, both types being used in the oil and gas extraction from the North Sea. In NNA, both categories have been considered structures and thus **qualified for the revised treatment as GFCF** (other requirements also being fulfilled).

5.2.4   Still on uncompleted fixed assets, there has been a recent issue on **large investment programme for defense activities**, i.e. building large ships (frigates) for the navy. These were ships to be delivered according to contract after several years in construction (shipyard abroad). The first delivery started in 2006 and the final delivery took place in 2011. Several issues are met here, whether to record this as work in progress (by producer abroad or by owner domestically) or as gross fixed capital formation, and whether to record the deliveries (imports) as intermediate consumption or GFCF. The second issue is discussed below in section 5.3. The first issue is treated as work in progress on the hand of the producer, since this belongs to ships as type of fixed assets and in years before being delivered. Until delivery, that means recording in financial account only. When delivered, it means imports of a good for GFCF, offset by a negative financial transaction.

5.3   Transition from private accounting and administrative concepts to ESA95 national accounts concepts

Including borderline between intermediate consumption and final consumption

5.3.1   Section 5.3 mostly deals with the **borderline between intermediate consumption and final uses**. This is an important borderline since the type of expenditures incurred by producers of all kinds recorded as intermediate consumption is not contributing to GDP, while deducted from output recorded with the same producers.

5.3.2   First, the **SBS-based accounting statistics** should be **emphasised.** The background for these statistics is Directorate of Taxes' General Trading Statements - for short **NO** (NæringsOppgave) - the items from which have been conceptually selected for direct use in compiling the various NA items. It is referred to in section 3.3 concerning output and intermediate consumption, and in section 4.3 for compensation of employees. **Gross fixed capital formation** of the accounting statistics is based on NO and supplementary forms, distinguishing between acquisitions, sales and costs. In addition, there are sub-items for existing buildings and structures and financial leasing. This is useful information for the balancing of supply and uses of products in NNA. The specifications by type of fixed assets follow the classification used by the tax authorities that may deviate from the corresponding classification used in NNA, the latter requiring more details.

5.3.3   Total fixed capital formation for an industry is taken as the sum of investments in machinery and equipment, in transport equipment and in construction and buildings as reported in NO and TS. Gross fixed capital formation by main type of capital is defined according to the following tables:

Gross fixed capital formation in machinery and equipment

NO/TS/Saldo items	Description
Acquisition p0570	Acqusition of office machinery (saldo group a)
- Disposal p0570	- Disposal at market value of office machinery (saldo group a)
- Acqusition p0580	- Acqusition of passenger cars, machinery, furniture and other fixed assests (saldo group d)
- Disposal p0580	- Disposal at market value of passenger cars, machinery, furniture and other fixed assests (saldo group d)
+ TS IKTutg+ AndreIKTutg - IKTakt – andreIKTakt+ Progutg – Progakt	Difference between *total* expenditures on hardware and software and *activated* expenditures on hardware and software
+ TS EGPROGUTG-EGPROGAKT	Difference between *total* expenditures on own account software for own use and *activated* expenditures on own account developed software for own use
+ NO6500	**0,02***(P6500 Tools, equipment etc., not activated)

Gross fixed capital formation in transport equipments

NO/TS/Saldo items	Description
Acquisition p0550	Investments in ships, oilrigs and airplanes (saldo groups e and f)
- Disposal p0550	- Disposal of ships, oilrigs and airplanes (saldo groups e and f)
Acquisition p0560	Investments in other transport equipments exclusive cars (saldo group c)
- Disposal p0560	- Disposal at market value of other transport equipments exclusive of cars (saldo group c)

Gross fixed capital formation in buildings and constructions

5.3.4   In the national account the change of ownership will normally decide the time of recording of a fixed capital formation transaction. For particular buildings and constructions taking more than one period to finish, it is assumed the change of ownership will take place successively as the construction moves forward, and total investment value will be recorded in several periods accordingly.

5.3.5   In NNA - on **military expenditures** - the principles and treatment of ESA95 and SNA93 have been implemented. Government expenditures on **military buildings, installations and equipment** are thus **mainly treated as gross fixed capital formation** (GFCF). This is described elsewhere, e.g. with COFOG segment on defense affairs and services.

5.3.6   Making the borderline between GFCF and intermediate consumption is **not a clear-cut task** following the international guidelines concerning military expenditures. The items that caused problems in terms of allocation were relatively few, however. One such area was referred to in paragraph 5.2.4 on **frigates** imported from abroad. These are recorded as GFCF, since their principal purposes are considered related to provision of sovereignty rights, safeguarding oil and gas installations and the national waters for transportation, and to provide support in case of civil catastrophes and disasters. In fact one of them has been employed off the coast of Somalia to protect

NO/TS/Saldo items	Description
Acquisition p0520	Investments in other buildings and construction (saldo groups g, h, i)
- Disposal p0520	- Disposal at market value of other buildings and constructions (saldo groups g,h,i)
Acquisition p0540	Investments in dwellings including land
- Disposal p0540	- Disposal at market value of dwellings
+ NO6600	Repairs and maintenance, buildings **(NB! 5%)**

merchant vessels from pirate assaults, a task more related to coast guard and civil police activities than traditional military activities. Otherwise it is mostly buildings (for offices and education) and some transportation equipment that are recorded as GFCG. Weapon and weapon systems are generally classified as government final consumption.

5.3.7   Illustrated by 2009 figures, military GFCF was distributed on the following main types of fixed assets:

Military investments recorded as GFCF. 2009. NOK billion

Type of fixed asset	
Buildings	0.3
Structures	0.1
Transport equipment	5.2
Other machinery and equipment	1.9
Total GFCF	**7.5**

5.3.8   **Net purchases by producer units of antiques** should be recorded **as GFCF**, as should works of art created during the year and purchased by producer units. In SNA93 / ESA95, this is part of the third category of gross capital formation (acquisitions less disposals of **valuables**). Obviously, this is a difficult issue. In NNA, antiques and works of art are recognized in a specific NNA-product, but with contents confined from user information available. Since there are recordings in NNA for household consumption expenditure, exports, intermediate consumption and post activities, and **just a small amount for GFCF**, the producer units' expenses in this area are not dealt with seriously or being recorded among unspecified intermediate consumption.

5.3.9   There has been **no effort made in NNA to split** between the two assets - **buildings and land underlying buildings** - when land and buildings are purchased together.

5.3.10 **Three types of expenditures** are all to be regarded as GFCF, i.e. expenditures on **land improvements and reclamation**, expenditures on the drilling of wells or shafts for extracting oil and natural gas or working **mineral deposits**, and certain expenditures on **planting new forests, woodlands, vineyards and orchards**. In NNA, they are all treated as GFCF.

5.3.11 Next issue is **costs incurred in the transfer of ownership of land, buildings, other fixed capital assets or intangible assets**. In NNA, **uncompleted prospective purchases and sales** are included without **transfer costs**. This is the valuation treatment adopted in construction statistics when producing at own-account. Transfer costs are however included in the recordings of purchases and sale of second hand dwellings and building sites.

5.3.12 **Installation costs** are recorded **with transfer costs** in a separate NNA item, which is distributed on types of fixed assets for GFCF, plus intermediate consumption in some industries and exports. Such installation costs are particularly important for GFCF in oil platforms and machinery, and for intermediate consumption in construction and telecommunication. About one half is recorded as GFCF and distributed among type of fixed assets as illustrated by 2009 figures:

Installations costs. 2009. NOK billion.

Type of fixed assets	
Ships and boats	0.7
Oil production platforms and oil drilling rigs and modules	1.2
Agricultural and forestry machinery and equipment	0.3
Machinery and equipment in manufacturing and mining	3.1
Machinery and equipment in other industries	2.4
Total for gross fixed capital formation	**7.7**

5.3.13 For GFCF in residential and non-residential buildings (new buildings), **transfer costs** are also reflected in the following **characteristic NNA-products of real estate activities**:

Transfer costs. 2009. NOK billion.

Transfer costs in:	
681 000 Real estate services with own property	4.4
683 100 Real estate agency services on a fee or contract basis	6.5

5.3.14 The households of sole proprietors commonly use goods and services for both **household and business purposes**. In view of more direct use of household consumer surveys in NNA, expenditures for household purposes are approached from these household surveys, while intermediate consumption for business purposes is approached from the use of accounting statistics of self-employed.

5.3.15 Own-account output of fixed capital goods (**own-account construction**) is described and referred to in detail throughout the output sections of all industries. Large or characteristic items are found in NACE B on oil and gas extraction, NACE D on electricity production, NACE F on construction and NACE J on telecommunications. The various own-account construction items are separately identified as types of fixed assets (see 5.10 below illustrated with 2009 values). Own-account construction output is generally estimated from production costs.

5.4   The roles of direct and indirect estimation methods

5.4.1   **Direct methods** are used, except that changes in inventories - basically at least - are arrived at as a residual at product level, and subsequently at global level. The application of direct methods comes from up-to-date statistical sources that are available with mostly annual data. **Indirect estimation methods** are used partly for gross fixed capital formation when annual sources are lacking, but this is quite limited after the introduction of structural business statistics (SBS).

5.4.2   **Indirect estimation methods** were also used partly when estimating NPISH final consumption expenditure. In this case, estimations were made indirectly on the basis of central and local government accounts, which provided data on grants to such institutions. In the 2002 main revision, however, direct methods were introduced to a larger extent for NPISH final consumption

expenditure. Supplementary information on the relative coverage from government and other special calculations based on fees paid are also used.

5.5   The roles of benchmarks and extrapolations

5.5.1   In the Norwegian statistical system - and using the SUT framework and combining different kinds of information sources - economic statistics have been established with a **high degree of regularity**, on **annual basis** in most cases. Short-term statistics for quarterly national accounts and balance of payments add to this, but are outside the scope in this respect. Benchmarking and extrapolation is however of **some importance** in the NNA compilation within the scope of the expenditure approach, in particular in estimating **household's final consumption expenditures**. It means that new levels obtained initially for the benchmark year are extrapolated to other years in the sense that revised time series are being established, normally from the same quality of sources that was initially introduced for the benchmark year.

5.5.2   **Benchmark** then has an important role to play when undertaking a **main revision.** It is usually both convenient and useful to establish revised levels for the NA estimates for a **benchmark year** in the first place. In the ESA95 implementation, the year 1988 played such a role (not in all respects, however), and 1998, 2003 and 2007 had same sort of benchmark role in the 2002, 2006 and 2011 main revisions respectively

5.6   The main approaches taken with respect to exhaustiveness

5.6.1   Adjustments to the expenditure approach to ensure exhaustiveness are made regularly. For example **household consumption expenditure** is increased due to adjustments such as for free transport in railways, adjustment to register data on taxi operation and additions for dwelling services from holyday homes abroad.

5.6.2   **Chapter 7** below makes further reference to exhaustiveness in respect adjustments to household consumption expenditures Also mentioned is Norway's position regarding the Intrastat problem in relation to the compilation of exports and imports of goods. See also Eurostat Task Force recommendations on construction affecting gross fixed capital formation.

5.7   Household final consumption expenditure

Include explanations of how the sources and methods used to estimate the consumption of each type of product has been chosen. For some individual products there may be a variety of estimates of final expenditure available (from the household budget survey, from retail sales, from administrative or fiscal data and from the commodity flow approach). It will be useful to order the text within this sub-chapter by reference either to the CPA or to COICOP.

5.7.1   Section 5.7 on household final consumption expenditure (HFCE) consists of **three sub-sections - general aspects, individual issues and individual COICOP groups**. After first giving an overview in the first sub-section, then second sub-section reviews various individual issues related to HFCE, issues that were raised in the Phare/PHC projects with the acceding countries but should be relevant to all countries in the European statistical cooperation, and NA in particular. The third sub-section gives a comprehensive and most illustrative review of the individual COICOP groups. The presentation here is related to **the main categories of uses for main products consumed** and also indicates which types of sources that have been exploited in each group. The product illustration referred to - for the largest product of each COICOP group - is another way of illustrating the Norwegian approach in which **detailed treatment of product flows** is manifested in the **integrated annual supply and use tables**. Descriptions and illustrations of the national accounting work in Norway leading to the integrated annual supply and use tables are found in several sections throughout the inventory.

General aspects

5.7.2   **Household final consumption expenditure** is defined in terms of **ESA95** and the **COICOP** classification scheme. The present COICOP main groups 01-12 were introduced in NNA during the 2002 main revision. Still, the **domestic concept** is applied **at the detailed level**. It means the COICOP groups cover recorded household consumption expenditure in the country at this level, irrespective of resident or non-resident households. Although the split on the two household categories might be implemented, the integration of the purchases abroad by resident households is still not possible due to lack of information concerning COICOP details. Satellite accounts on tourism have been developed in Norway on a current basis, providing the suitable framework, but unfortunately not sufficient data on tourists' purchases abroad. There are plans however, to use information from credit card companies in estimating a breakdown of households' expenditures abroad on more detailed categories or products.

5.7.3   **Household final consumption expenditure** in total is estimated at 979.2 billion in 2009, or **41.6 per cent of GDP**. COICOP 04 Housing, water, electricity, gas and other fuels is the largest group – 20.5 per cent in 2009 - then follows - all more than 10 per cent of HCE - COICOP 07 Transport, COICOP 01 Food and non-alcoholic beverages and COICOP 09 Recreation and culture.

Household consumption expenditure 2009 COICOP groups	NOK billion	Per cent of GDP	Per cent of HFCE
01 Food and non-alcoholic beverages	128.8	5.5	13.1
02 Alcoholic beverages, tobacco, etc.	42.4	1.8	4.3
03 Clothing and footwear	52.9	2.2	5.4
04 Housing, water, electricity, gas and other fuels	201.2	8.5	20.5
05 Furnishings, household equipment and routine maintenance of the house	55.4	2.3	5.7
06 Health	26.9	1.1	2.8
07 Transport	132.9	5.6	13.6
08 Communications	26.8	1.1	2.7
09 Recreation and culture	119.2	5.1	12.2
10 Education	4.1	0.2	0.4
11 Restaurants and hotels	56.8	2.4	5.8
12 Miscellaneous goods and services	100.8	4.3	10.3
Direct purchases abroad by resident households	57.3	2.4	5.9
- Direct purchases in Norway by non-residents	-26.1	-1.1	-2.7
Household final consumption expenditure (HFCE)	979.2	41.6	100.0

5.7.4 In general the **main sources used** for estimating houshold's final consumption expenditures have basically been the following three (the third being a class of "similar and related sources"):

(1)	**Household consumer surveys** or Household budget surveys (HBS for short in tables)
(2)	**Retail trade statistics** (RT for short)
(3)	**Output figures**, **selected indicators** and the **commodity flow method** (Other and CF)

All three main sources in general apply for consumption goods, while main sources (1) and (3) are most relevant for the services in HFCE. Main source (3) does not apply in the same direct way for goods as for services, due to trade and other margins and different valuations. For a detailed review of the sources used, see sections below (5.7A - 5.7L) covering the various COICOP groups.

5.7.5 For the year **2009** however the **HBS is not used directly**. The reason is that a steady drop in response rates made the quality of the results of the annual survey drop dramatically in recent years. The results were first published at three years average only, before the survey finally was stopped in 2010. A new periodical survey (every 5 years) is established with the first results for the year 2012 to be published in 2013. The results for the year 2009 were found to uncertain to be used in the national accounts.

5.7.6 The **RT source** is mainly used - both in annual and quarterly NNA - **in the form of retail sales indices** based on annual retail trade statistics and monthly indices of retail sales indices, respectively. **Retail sales matrices** have been worked as background for benchmarking in the main revisions, providing cross-classified table by COICOP groups and RT branches. On those ad hoc occasions, studies are made on the non-HFCE uses based on information from the ad hoc trade margin surveys and on distribution channels etc. Likewise, HFCE not purchased from retailers are dealt with, among which production for own final use/consumption, described in chapter 3 as output from agriculture, fishing, dwelling services etc. See also sub-section on individual issues below.

5.7.7 **Third source group** above both include cases where consumption of services are estimated directly from output of same services (SBS-based or not), also use of volume and price indicators for selected COICOP groups, and the commodity-flow approach (CF) that might also involve splitting output for more use categories than just HFCE. The CF also has a general supporting role in the HFCE compilation from applying the SUT framework (see balancing described in chapter 6).

5.7.8 For the **HFCE estimation in 2009**, the interplay between main sources used in NNA might be described as follows:

Step 1	The starting point is the HFCE current values in t-1 on detailed product and consumption group (COICOP) levels
Step 2	RT data (value growth rates) are used for consumption groups covering goods, implicating that all products within a consumption group have the same development, or for selective products (goods) within consumption groups
Step 3	Other sources other than RT might be preferred for certain specific HFCE groups or detailed products (goods)
Step 4	For HFCE in services CF is used in extrapolating either consumption groups or selected services products using volume growth rates in corresponding services industries in combination with CPI components, or other specific sources for HFCE are used
Step 5	Adjustment is made to detailed HFCE groups or detailed products within a consumption group utilizing balancing method

5.7.9 In Norway, we have a multiple-source situation when estimating each of the COICOP items, and not as in the Eurostat tabular approach (see next paragraph) basically selecting one main source at

the item level. The role of CF and the balancing adjustments are rather extensive in the detailed calculations by products in the HFCE, and even more in the calculations of the COICOP groups. CF is used for reconciliation, not only for calculating residuals.

5.7.10   This **stepwise HFCE scheme used in NNA** may be considered as a variant of the **analytical tables invented by Eurostat**. The former is mainly developed in terms of annual changes from previous year, while the latter is directed at estimates in current prices of a given year.

5.7.11   The NNA stepwise HFCE scheme (see 5.7.8 above) assumes - from long-established experience - **selecting main sources** for explicit use **by COICOP groups in advance**. This mostly means several sources used in combination, often involving HBS (when available), RT and CF altogether. It implies that - in contrast to the requirement set in the Eurostat tabular approach - two or more independent estimates are not worked out for consideration (best estimate) in each of the COICOP groups. By selecting the way of combining sources available at this detailed level, a **best-estimate consideration is made** nonetheless in NNA.

Individual issues

5.7.12   The following description on **particular problem areas** covers 22 items. The description is a summarized one, not leading into much detail. Furthermore, in a number of items it may be sufficient to give reference to descriptions elsewhere in the inventory.

5.7.13   **Wages and salaries (W&S) in kind** is first problem area. NNA has had a good coverage of this item since the 1995 revision, in particular from utilizing the recent RWS source. This is referred to in chapter 4 (sections 4.3 and 4.7), in chapter 7 on exhaustiveness, and in chapter 11 on the source of RWS. HFCE includes income in kind items based on various sources (free travel, business cars) and meets counterpart consistency.

5.7.14   **Final consumption of own production** is treated explicitly by means of separate products specified among the NNA-products, particularly agricultural and fishery products within goods and dwelling services within services. See the relevant sections of chapter 3 describing and illustrating output of these activities and products, and it should be emphasized that a major part of production for own final use is directed at HFCE.

5.7.15   **Dwelling services** have always been regarded as an item of utmost importance. Treatment in NNA is described in chapter 3 (section 3.18 in particular) and in section 5.7D below. Over the years, large revisions have been made to this item in Norway, both numerically and in terms of methodology. Considerable efforts and resources have been put into improving this important item, also including split between intermediate consumption and HFCE for expenditure of owner-occupiers on decoration, maintenance and repair of the dwelling. The Eurostat approach following the stratification method was introduced in NNA in the 1995 revision, before then the user cost method was applied.

5.7.16   **Tips** have been referred to in various sections of the inventory, in chapters 3, 4 and 7. While tips have not been considered worthwhile to include earlier in NA estimates in Norway, they were nevertheless **included in the 2002 revision**, in particular for taxi transport and catering services in restaurants.

5.7.17   **Borderline between HFCE and IC or GFCF** is a problem area centered at the distribution issues of uses of products and referred to in chapter 6 in particular. Section 5.3 above also has a description on borderline between intermediate consumption and final consumption (as relevant for determining size of GDP). The distribution of **consumer durables on HFCE and GFCF** is another

issue looked into in the balancing process, estimated from various sources and indicators at hand, such as register of vehicles (see chapter 11 and also described elsewhere in the inventory).

5.7.18 **Expenditures of residents abroad and of non-residents on the domestic territory** have also been described elsewhere in the inventory (see in particular section 5.7M below, but also sections 5.16 and 5.18 on exports of services and imports of services, respectively.

5.7.19 **Coverage and treatment of shuttle trade** is an item believed to be unimportant in Norway. See also sections 5.15 and 5.17 below on exports of goods and import of goods.

5.7.20 **HFCE directly financed by insurance companies** is not much explicitly treated in NNA, partly due to lack of clarification concerning the problem at stake, and partly due to lack of relevant data if concerning differences between flows of payments involved (see also output of insurance services described in section 3.17).

5.7.21 **Coverage and treatment of persons living in institutions** is not really explicitly dealt with in NNA as HBS does not include information on institutional households. Such collective households - persons in common households like hospitals, boarding houses, prisons etc. - are however taken into consideration when judgments are made in the balancing process and - in particular - in the main revisions to justify additions.

5.7.22 **Charity and gifts from abroad** should not be of much relevance in Norway, and no specific information is taken into account for estimating this item. Small amounts on gifts in kind may be included here, nevertheless.

5.7.23 **Consumption of illegal production and import** is included in explicit estimations in NNA. Estimations for prostitution, drugs and smuggling of alcohol have been carried out as part of the main revision of 2011.

5.7.24 **Meals and drinks provided by the army** have been referred to elsewhere in the inventory (see section 3.21 on output in defense and section 5.9 below on government final consumption expenditure).

5.7.25 **Clothes provided by the army** - see same references. This is hardly included in HFCE at all.

5.7.26 **Service charge concept for insurance services** is included in NNA in accordance with ESA95 principles (see also section 3.17 above).

5.7.27 **Net valuation of the use of lottery services** is included in NNA in accordance with ESA95 principles (see also section 3.24 above).

5.7.28 **Borderline between taxes and services provided to households by general government** is respected in accordance with ESA95 rules. Purchases of government services have been allocated to different uses, among which is HFCE, from analyzing the government accounts (see e.g. sections 3.21, 4.8 and 5.9), while taxes (outside taxes on production) are excluded from HFCE. Another borderline may be mentioned: subscriptions, contributions etc. to NPISH is treated in NNA as current transfers from households to NPISHs - at least in principle - while there are practical problems involved in explicitly accounting for this (see also section 5.8 below).

5.7.29 **Car registration taxes** are also described elsewhere in the inventory, in sections 3.13 (registration tax on existing motor vehicles), 3.28 (import duty on motor vehicles) and 4.8 (registration duty on motor vehicles). Treatment is tax on product for the first and second, and other tax on production (business part) for the last of these three different special taxes related to motor vehicles in Norway.

5.7.30   **Stamp taxes** - or duties on documents in Norway – are considered taxes on products.

5.7.31   **Expenditure on goods under a hire purchase** is recorded in accordance with ESA95 principles, recorded as HFCE at purchasers' prices, i.e. recorded as if bought by the purchaser on the day taking possession of the good (usually durable good).

5.7.32   **Second hand goods** represent a difficult area of estimation in as far as information is scarce on explicit trade margins for the respective second hand goods. However, accounting data (SBS-based) include a basis for estimating trade margin output and consumption eventually. A separate retail industry (47.79 Retail sale of second-hand goods in stores) is covered in the data sources for distribute trades, while figures are small. Analysis of the type of transactions in second-hand goods is vital as regards treatment. Imported goods are recorded in full value, so is also disinvestments (GFCF to become HFCE), while not net sales among households (trade margin only for HFCE). See also section 3.13 above.

5.7.33   **Government's payments to market producers (for medicines etc.)** are estimated in NNA. The description on this item is found in section 5.9.

5.7.34   **Package travel tours** have been mentioned as problematic as concerns treatment in the SUT. Reclassification of this item is also referred to (now HFCE in COICOP 09 Recreation and culture). HFCE estimation of this item in NNA starts from output-based estimation through two products: tour operator services and motor coach services. The first (recorded gross) is the main product of travel agency industry, while the latter has no direct relation to HFCE, rather recorded as intermediate consumption to various transportation industries. Accounting SBS data (with supporting details) are used as source, while HBS has been used for control purposes only. Occasionally, smoothing procedures have proved necessary.

5.7.35   **Second hand goods (existing durables)** appear in the HFCE in form of used cars sold from the enterprise sectors to households or as imported and purchased by households. In the former case the figures are estimated based on the assumption 3 years of use of purchased cars in industries before sales to households take place,in the latter case included in the external trade statistics. Secondly, the trade margins on sales of second hand goods from the trade industry to the household sector are estimated on the basis of SBS for the trade industry.
No other sales of second hand goods are estimated related to the HFCE sector, neither transactions between households, nor the sales of second hand goods (for example valuables) from households to other sectors.

Individual COICOP groups

| 5.7A   Household consumption - COICOP 01 Food and non-alcoholic beverages |

5.7A.1   In NNA, household final consumption expenditure **COICOP 01 is specified in 11 group items.** These are 9 items of food and 2 items of non-alcoholic beverages. Breakdown by products is much more detailed. COICOP 01 consists of non-durable consumption goods, exclusively.

5.7A.2 Household consumption expenditure of COICOP 01 is estimated at NOK 128.8 billion in 2009, or **5.5 per cent of GDP**. The share of household final consumption expenditure (**HFCE**) is **13.1 per cent**.

5.7A.3 **Main sources used** are:

5.7A.4 The first three **sources listed** belong to the main sources used for national accounting. Due to problems with quality the HBS source was not directly used in estimating 2009 figures, but was used for earlier years and thus contributing indirectly to the levels of 2009. In addition, some relevant quantity information is available for some of the consumption groups, i.e. for items that consist of goods that are heavily taxed by government. These are most groups of beverages - Mineral water, soft drinks etc. For these HFCE groups there are quantity data in terms of liters available. The quantity data have been exploited in constructing volume indices to be combined with corresponding price indices of CPI.

5.7A.5 **Illustration by 2009 figures** follows below by consumption groups and respective main products. First column indicates COICOP group; second column indicates how many NNA-products are specified, and HFCE value in column 3, while main sources are indicated in column 4 (RT=Retail Trade Statistics; CF=Commodity Flow method; Other=Other kinds of statistics like surveys statistics, large enterprise statistics, other production statistics, price and quantity indicators combined, etc.).

Example: COICOP group A11 (equivalent of 01.1.1) Bread and cereals is specified by 9 NNA-products with a total purchasers' value of NOK 15.5 billion in 2009. A combination of the RT and CF sources are used.

Household consumption expenditure of COICOP 01. NOK billion 2009

COICOP	*No. products*	*HFCE value*	*Sources used*
A11 Bread and cereals	6	15.5	RT,CF
A12 Meat	12	27.4	RT,CF
A13 Fish	17	11.7	RT,CF
A14 Milk, cheese and eggs	7	15.8	RT,CF
A15 Oils and fats	2	2.2	RT,CF
A16 Fruit	4	7.7	RT,CF
A17 Vegetables	7	9.3	RT,CF
A18 Sugar, jam, honey, chocolate and confectionery	6	16.1	RT,CF
A19 Spices and food products n.e.c.	6	5.1	RT,CF
A21 Coffee, tea and cocoa	3	4.1	RT,CF
A22 Mineral waters, soft drinks, fruit and vegetable juices	3	13.9	Other (price /volume),CF

5.7B   Household consumption - COICOP 02 Alcoholic beverages, tobacco and narcotics

5.7B.1 In NNA, household final consumption expenditure **COICOP 02 is specified in 5 group items.** These are 3 items of alcoholic beverages, one item of tobacco and one item of narcotics. The COICOP item of narcotics is included. Breakdown by products is much more detailed. COICOP 02 consists of non-durable consumption goods, exclusively.

5.7B.2 Household consumption expenditure of COICOP 02 is estimated at NOK 42.4 billion in 2009, or **1.8 per cent of GDP**. The share of household final consumption expenditure (**HFCE**) is **4.3 per cent** in 2009.

5.7B.3 **Main sources used** are:

Annual retail trade statistics
Consumer Price Index material
Quantity information on beverages and tobacco

5.7B.4 The first couple of **sources listed** belong to the main sources used for national accounting. In addition, some relevant quantity information is available for items that are heavily taxed by government. In COICOP 02, these include Wine; Spirits and liqueurs, and Tobacco. For these HFCE groups there are quantity data in terms of liters and pieces available. They have been exploited in constructing volume indices to be combined with corresponding price indices of CPI. For wines, and for spirits and liqueurs, the quantity information was utilized for the main revision benchmark estimation only; instead RT is used directly as there is a retail branch specified that reflects the sales of these alcoholic beverages through the Norwegian monopoly (State Wine Monopoly). It is noted that HBS has never been used for COICOP for obvious reasons (unreliable recording/reporting). Smuggling of alcohol and tobacco is covered as from the main revision of 2011. Furthermore, border trade with Sweden has been problematic, also in terms of statistics. A new survey of border trade was implemented in 2004 for the new BOP.

5.7B.5 **Illustration by 2009 figures** follows below by consumption groups and respective main products. See section 5.7A above for explanations and abbreviations.

Household consumption expenditure of COICOP 02. NOK billion 2009

COICOP	*No. products*	*HCE value*	*Sources used*
B11 Spirits	3	6.3	RT, CF
B12 Wine	2	7.4	RT, CF
B13 Beer	1	7.6	Other (price /volume),CF
B20 Tobacco	2	19.4	Other (price /volume),CF
B30 Narcotics	1	1.8	Other (price /volume),CF

5.7C   Household consumption - COICOP 03 Clothing and footwear

5.7C.1 In NNA, household final consumption expenditure **COICOP 03 is specified in 6 group items.** These are 4 items of clothing and 2 items of footwear. Breakdown by products is much more detailed. COICOP 03 consists of semi-durable consumption goods and two minor groups of repairs categorized as services.

5.7C.2 Household consumption expenditure of COICOP 03 is estimated at NOK 52.9 billion in 2009, or **2.2 per cent of GDP**. The share of household final consumption expenditure (**HFCE**) is **5.4 per cent**.

5.7C.3 **Main sources used** are:

| (Annual household budget surveys – indirectly only) |
| Annual retail trade statistics |
| Annual surveys of repair activities (SBS-based) |

5.7C.4 The first two **sources listed** belong to the main sources used for national accounting and are both utilized according to the general scheme (see 5.7 introduction). The third source is relevant for the groups of repairs.

5.7C.5 **Illustration by 2009 figures** follows below by consumption groups and respective main products. See section 5.7A above for explanations and abbreviations.

Household consumption expenditure of COICOP 03. NOK billion 2009

COICOP	*No. products*	*HCE value*	*Sources used*
C11 Clothing materials	2	0.5	RT,CF
C12 Garments	1	41.9	RT,CF
C13 Other articles of clothing and clothing accessories	4	1.8	RT,CF
C14 Repair and hire of clothing	3	0.5	Other, CF
C21 Shoes and other footwear, incl. repair and hire of footwear	1	7.9	RT,CF
C22 Repair of shoes	1	0.2	Other, CF

| **5.7D** | **Household consumption - COICOP 04 Housing, water, electricity, gas and other fuels** |

5.7D.1 In NNA, household final consumption expenditure **COICOP 04 is specified in 10 group items.** These are 6 items relating to dwellings in 4 different sub-classes (actual rentals, imputed rentals, maintenance and repair, water supply and various services) and 4 items of electricity, gas and fuels. Breakdown by products is much more detailed. COICOP 04 mostly consists of services (dwelling services), but also non-durable goods contribute significantly. Electricity is classified as non-durable goods.

5.7D.2 Household consumption expenditure of COICOP 3 is estimated at 201.2 billion NOK in 2009, or **8.5 per cent of GDP**. The present share of household final consumption expenditure (**HFCE**) is 20.5 **per cent** in 2009. The HFCE share of COICOP 04 is highest among the main COICOP groups.

5.7D.3 **Main sources used** are:

| Housing statistics of various kinds, including surveys on actual rents |
| Annual electricity statistics |
| Annual energy statistics |

5.7D.4 Housing statistics are used for the dwelling services, in combination with output statistics for certain items. Combined price and quantity indicators are used for electricity, liquid fuels and solid fuels, in which energy statistics have been taken into account.

5.7D.5 **Illustration** by 2009 follows by consumption groups and respective main products. See section 5.7A above for explanations and abbreviations.

Household consumption expenditure of COICOP 04. NOK billion 2009

COICOP	No. products	HCE value	Sources used
D10 Actual rentals paid by tenants and other actual rentals	3	32.2	Other, CF
D20 Imputed rentals of owner-occupiers and other imputed rentals	1	119.5	Other, CF
D31 Materials for the maintenance and repair of the dwelling	16	1.0	Other, CF
D32 Services for the maintenance and repair of the dwelling	4	0.5	Other, CF
D40 Other goods and services related to dwellings	7	12.6	Other, CF
D51 Electricity	1	32.3	Other (price /volume),CF
D52 Gas	3	0.2	Other, CF
D53 Liquid fuels	4	1.5	Other (price /volume),CF
D54 Solid fuels	3	1.1	Other (price /volume),CF
D55 District eat energy	1	0.3	Other

5.7E   Household consumption - COICOP 05 Furnishings, household equipment and routine maintenance of the house

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5.7E.1   In NNA, household final consumption expenditure **COICOP 05 is specified in 12 group items.** These are 3 items of furniture, furnishings etc., 1 item of household textiles, 3 items of household appliances, 1 item of glassware, tableware and household utensils, 2 items of tools and equipment for house and garden, and 2 items of goods and services for routine household maintenance. Breakdown by products is much more detailed. COICOP 05 mostly consists of consumption goods by all three types of durability (durable goods most important), while 3 items are considered services (2 items of repair, plus domestic services).

5.7E.2 Household consumption expenditure of COICOP 05 is estimated at NOK 55.4 billion in 2009, or **2.3 per cent of GDP**. The share of household final consumption expenditure (**HFCE**) is **5.70 per cent** in 2009.

5.7E.3 **Main sources used** are:

> (Annual household budget surveys – indirectly only)
> Annual retail trade statistics
> Annual surveys of repair activities (SBS-based)

5.7E.4 The first two **sources listed** belong to the main sources used for national accounting and are both utilized for the goods part according to the general scheme (see 5.7 introduction). The third source is relevant for group of repairs.

 5.7E.5 **Illustration by 2009 figures** follows below by consumption groups and respective main products. See section 5.7A above for explanations and abbreviations.

Household consumption expenditure of COICOP 05. NOK billion 2009

COICOP	No. products	HCE value	Sources used
E11 Furniture and furnishings	14	21.7	RT,CF
E12 Carpets and other floor coverings	1	1.0	RT,CF
E13 Repair of furniture, furnishings and floor coverings	1	0.2	Other, CF
E20 Household textiles	8	4.5	RT,CF
E31 Major household appliances whether electric or not and small electric household appliances	4	8.8	RT,CF
E32 Other household appliances	1	0.5	RT,CF
E33 Repair of household appliances	1	0.4	Other, CF
E40 Glassware, tableware and household utensils	10	4.7	RT,CF
E51 Major tools and equipment for the house and garden	5	1.6	RT,CF
E52 Small tools and miscellaneous accessories	8	3.8	RT,CF
E61 Non-durable household goods	20	7.3	RT,CF
E62 Domestic and household services	4	0.7	CF

5.7F   Household consumption - COICOP 06 Health

5.7F.1   In NNA, household final consumption expenditure **COICOP 06 is specified in 7 group items.** These are 3 items of medical products, appliances and equipment, 3 items of outpatient services and one item on hospital services. Breakdown by products is much more detailed. COICOP 06 consists mostly of services, but non-durable (group of medicaments) and durable consumption goods (group of spectacles etc.) are also included.

5.7F.2   Household consumption expenditure of COICOP 06 is estimated at NOK 26.9 billion in 2009, or **1.1 per cent of GDP**. The share of household final consumption expenditure (**HFCE**) is **2.8 per cent**.

5.7F.3   **Main sources used** are:

> (Annual household budget surveys – indirectly only)
> Annual retail trade statistics
> Central government accounts (including National Insurance)
> Local government accounts – KOSTRA reporting
> Income sample surveys for private practitioners, dentists, etc.

5.7F.4   The first and second of the **sources listed** belong to the main sources used for national accounting. RT is used in the two groups of consumption goods. Government accounts are used when non-market parts are involved, and for market health services the source of ad hoc income sample surveys have been utilized for private practitioners, dentists etc.

5.7F.5   **Illustration by 2009 figures** follows below by consumption groups and respective main products. See section 5.7A above for explanations and abbreviations.

Household consumption expenditure of COICOP 06. NOK billion 2009

COICOP	No. products	HCE value	Sources used
F11 Pharmaceutical products	4	7.5	RT,CF
F12 Other medical products, therapeutic appliances and equipment	3	0.2	RT,CF
F13 Spectacles, orthopedic equipment	4	3.6	RT
F21 Medical services	10	4.4	Other,CF
F22 Dental services	2	8.4	Other,CF
F23 Other health services outside institutions	3	2.3	Other,CF
F30 Hospital services	2	0.6	Other, CF

5.7G   Household consumption - COICOP 07 Transport

5.7G.1 In NNA, household final consumption expenditure **COICOP 07 is specified in 12 items.** These are 3 items of purchase of vehicles, 4 items of operation of personal transport equipment and 5 items of transport services. Breakdown by products is much more detailed. COICOP 07 consists of durables, (first group), non-durable goods (part of second group), and of services, including repair of vehicles.

5.7G.2 Household consumption expenditure of COICOP 07 is estimated at NOK 132.9 billion in 2009, or **5.6 per cent of GDP**. The share of household final consumption expenditure (**HFCE**) is **13.6 per cent** in 2009. Actually, this is higher than for COICOP 01 Food and non-alcoholic beverages.

5.7G.3 **Main sources used** are:

> (Annual household consumer surveys – indirectly only)
> Annual retail trade statistics
> Statistics on new registrations of motor vehicles
> Energy statistics
> Consumer Price Index material

5.7G.4   The second of the **sources listed** belong to the main sources used for national accounting, used for group of spare parts etc. The last three sources listed are volume and price indicators that are combined for estimations of the remaining items (purchase of vehicles, gasoline).

5.7G.5 Statistics of new registrations of motor vehicles, which include new cars and imports of second-hand cars are being used. There are data available on number of cars and prices by type. In reviewing this issue, better prices on cars are looked for. Regarding second-hand cars sold from industries to households, special estimations are conducted.

5.7G.6 **Illustration by 2009 figures** follows below by consumption groups and respective main products. See section 5.7A above for explanations and abbreviations.

Household consumption expenditure of COICOP 07. NOK billion in 2009

COICOP	No. products	HCE value	Sources used
G11 Motor cars	9	37.2	Other (price /volume),CF
G12 Motor cycles	1	2.6	Other (price /volume),CF
G13 Bicycles	1	2.4	
G21 Spare parts and accessories for personal transport equipment	10	5.1	RT,CF
G22 Fuels and lubricants for personal transport equipment	5	27.2	Other (price /volume),CF
G23 Maintenance and repair of personal transport equipment	4	19.5	CF
G24 Other services in respect of personal transport equipment	2	8.9	CF
G31 Passenger transport, short distance	3	4.2	CF
G32 Passenger transport, long distance	1	10.8	Other, CF
G33 Passenger transport, plane	1	8.1	Other, CF
G34 Passenger transport, boat	2	6.3	Other, CF
G36 Removals and furniture storage	3	0.6	CF

5.7H   Household consumption - COICOP 08 Communications

5.7H.1 In NNA, household final consumption expenditure **COICOP 08 is specified in 3 items.** These are 1 item of postal services and 2 items of telecommunications. Breakdown by products is much more detailed. COICOP 08 consists of services, except the smallest item of telecommunications (telephone and telefax equipment).

5.7H.2 Household consumption expenditure of COICOP 08 is estimated at 26.8 billion NOK in 2009, or **1.1 per cent of GDP**. The share of household final consumption expenditure (**HFCE**) is **2.7 per cent**.

5.7H.3 **Main sources used** are:

(Annual household budget surveys – indirectly only)   Annual retail trade statistics

5.7H.4 The second source is available for telephone equipment, while the services are estimated using information on NACE 61 in combination with CF.

5.7H.5 **Illustration by 2009 figures** follows below by consumption groups and respective main products. See section 5.7A above for explanations and abbreviations.

Household consumption expenditure of COICOP 08. NOK billion 2009

COICOP	No. products	HCE value	Sources used
H10 Postal services	1	0.8	CF
H20 Telephone and telefax equipment	2	3.1	RT, CF
H30 Telephone and telefax services	2	22.9	CF

5.7I.1   In NNA, household final consumption expenditure **COICOP 09 is specified in 20 items.**
These are 11 items (in three sub-classes) of equipment and accessories, including repair and services,
5 items of recreational and cultural goods and services, 3 items of newspapers, books and stationery,
and 1 item of package holidays (regrouped from transport). Breakdown by products is much more
detailed. COICOP 09 consists of all three types of durability for consumption goods, and a
considerable amount of services.

5.7I.2   Household consumption expenditure of COICOP 09 is estimated at NOK 119.2 billion in
2009, or **5.1 per cent of GDP**. The share of household final consumption expenditure (**HFCE**) is **12.2
per cent** (fourth in rank among COICOP main groups).

5.7I.3   **Main sources used** are:

> (Annual household budget surveys – indirectly only)
> Annual retail trade statistics
> Sources used for output of various NACE (SBS-based)

5.7I.4   The last two **sources listed** are used for most items of COICOP 09 in combination.
The sources used for estimating output of recreational, cultural and sporting activities (NACE 90 - 93)
include cultural statistics, annual reports from theatres, museums, film and cinema, accounting data of
the State Broadcasting Company, annual accounts of the nation-wide betting institutions etc.

5.7I.5   **Illustration by 2009 figures** follows below by consumption groups and respective main
products. See section 5.7A above for explanations and abbreviations.

Household consumption expenditure of COICOP 09. NOK billion in 2009

COICOP	No. products	HCE value	Sources used
I11 Equipment for the reception, recording and reproduction of sound and pictures	5	11.0	RT,CF
I12 Photographic and cinematographic equipment and optical instruments	2	1.2	RT,CF
I13 Information processing equipment	3	9.1	RT,CF
I14 Recording media	7	5.1	RT,CF
I15 Repair of audio-visual, photographic and information processing equipment	1	0.2	CF
I21 Major durables for outdoor recreation	9	6.3	RT,CF
I22 Musical instruments and other durables for recreation	1	0.9	
I23 Repair of recreation durables	2	0.2	
I31 Games, toys and hobbies	7	4.7	RT,CF
I32 Equipment for sport, camping and open-air recreation	6	4.4	RT,CF
I33 Gardens, plants and flowers	9	8.7	RT,CF
I34 Pets	4	2.4	
135 Veterinary services relating to pets	3	0.7	Other, CF
I41 Recreational and sporting services	9	7.5	CF
I42 Broadcasting services	14	16.7	CF
I43 Lotteries, gambling etc.	1	8.3	Output, CF
I51 Books	1	6.0	RT,CF
I52 Newspapers and periodicals	3	11.7	RT,CF
I54 Miscellaneous printed matter and stationery and drawing materials	5	1.3	RT,CF
I60 Package holidays	3	12.6	CF

5.7J   Household consumption - COICOP 10 Education

5.7J.1   In NNA, household final consumption expenditure **COICOP 10 is specified in 4 items.** These are 4 items of education services relating to different levels of education. Breakdown by products is much more detailed. COICOP 10 consists of services, exclusively.

5.7J.2   Household consumption expenditure of COICOP 10 is estimated at 4.1 billion NOK in 2009, or just **0.2 per cent of GDP**. The share of household final consumption expenditure (**HFCE**) is **0.4 per cent**. Government is dominating in providing education services in Norway.

5.7J.3   **Main source used** is:

Output statistics of NACE 85

5.7J.4   The **source listed** is used for all items of COICOP 10 (see also chapter 3, NACE P). Different sources in the category of other sources, e.g. price and quantity indicators for private driving schools (belong to J13 group below, using CPI for driving schools and number of driving licenses issued as indicators).

5.7J.5   **Illustration by 2009 figures** follows below by consumption groups and respective main products. See section 5.7A above for explanations and abbreviations.

Household consumption expenditure of COICOP 10. NOK billion in 2009

COICOP	*No. products*	*HCE value*	*Sources used*
J10 Pre-primary and primary education	1	0.2	Other, CF
J20 Secondary education	1	1.0	Other, CF
J30 Adult education services	2	0.8	Other, CF
J40 Tertiary education	1	2.0	Other, CF

5.7K   Household consumption - COICOP 11 Restaurants and hotels

5.7K.1   In NNA, household final consumption expenditure **COICOP 11 is specified in 3 items**, one for catering services (restaurants etc.), one for canteens and one for accommodation services (hotels etc.)**.** Breakdown by products is much more detailed. COICOP 11 consists of services, exclusively.

5.7K.2   Household consumption expenditure of COICOP 11 is estimated at NOK 56.8 billion in 2009, or **2.4 per cent of GDP**. The share of household final consumption expenditure (**HFCE**) is **5.8 per cent**.

5.7K.3   **Main sources used** are:

Output statistics, i.e. structural business statistics
(Annual household budget surveys – indirectly only)
Accommodation statistics of guest nights

5.7K.4   The first **source listed** is used for both items of COICOP 11, while the third source is used as supporting source for accommodation services.

5.7K.5 **Illustration by 2009 figures** follows below by consumption groups and respective main products. See section 5.7A above for explanations and abbreviations.

Household consumption expenditure of COICOP 11. NOK billion in 2009

COICOP	No. products	HCE value	Sources used
K11 Restaurants, cafes and the like	3	40.9	HBS,Other,CF
K12	17	7.1	
K20 Accommodation services	3	8.8	HBS,Other,CF

5.7L   Household consumption - COICOP 12 Miscellaneous goods and services

5.7L.1   In NNA, final consumption expenditure of households for **COICOP 12 is specified by 11 items** in terms of purposes of consumption groups - 3 items of personal care, 2 items of personal effects n.e.c., 1 item of social work services, 3 items on financial services (insurance services, FISIM and financial services n.e.c.), 1 item on prostituion and 1 item of other personal services. The major part consists of services, but also of all three types of goods.

5.7L.2 **In the 2006 main revision** FISIM was allocated to users for the first time and thus was introduced as new product within the COICOP group L62.

5.7L.3 Household consumption expenditure of COICOP 12 is estimated at NOK 100.8 billion in 2009, or **4.3 per cent of GDP**. The share of household final consumption expenditure (**HFCE**) is 10.3 **per cent**.

5.7L.4 **Main sources used** are:

- Annual retail trade statistics
- (Annual household budget surveys – indirectly only)
- Local government accounts
- Social statistics and health statistics

5.7L.5   The first **source listed** is used for consumption goods items of COICOP 11, while the other two sources are used for part of the consumption services of this main group (with other sources as well).

5.7L.6 Output statistics of NACE K and the commodity flow method are both utilized for financial and insurance services. Estimation of households' consumption expenditures on non-life insurance services is carried out as part of the estimation of output in the insurance industry, see chapter 3.17.20.The reports from the insurance companies give data split on 29 various insurance segments of which 14 are related directly to households' final consumption expenditures. The following table lists all 29 types of non-life insurance segments and states which of them are related to households. Segments no. 111 House insurance and no. 113 Holiday home insurance are related to owner occupied dwellings and thus not relevant for final consumption expenditures. The data reported from insurance companies on the segments marked with an x are used to estimate the household final consumption expenditures of non-life insurance services.

Segments within non-life insurance. Houshold related marked with an x.

No		
111	House insurance private	
112	Home insurance	X
113	Holiday home insurance	
119	Other private insurance combined	X
121	Traffic insurance (liability) private	X
122	Other (comprehencive, minicomprehensive etc.) private	X
130	Private boat insurance	X
140	Accident insurance private	X
150	Travel insurance private	X
190	Other insurance – private	X
210	Industry insurance	
220	Combined insurance industry	
231	Traffic insurance (liability) industry	
232	Other (comprehencive, minicomprehensive etc) industry	
240	Liability- and guarantee insurance	
250	Accident insurance industry	X
260	Safety insurance	X
270	Live stock insurance	
280	Fish farm insurance	
290	Transport insurance industry	
299	Other insurance industry	
311	Nordic insurance industry	
312	Non-Nordic insurance industry	
320	Short water insurance	
330	P&I-insurance	
390	Other maritime insurance	
400	Energy insurance	
500	Aviation insurance	
611	Run-off-contracts life- and accident insurance	X
612	Run-off-contracts fire – and machinery insurance	
613	Run-off-contracts liability insurance	
614	Run-off-contracts maritime, oil, energy transport insurance	
619	Other run-off-contracts	
621	XL-contracts life- and accident insurance	X
622	XL- contracts fire – and machinery insurance	
623	XL- contracts liability insurance	
624	XL- contracts maritime, oil, energy transport insurance	
625	Financial XL-reinsurance	
629	Other XL-contracts	
631	Clean-cut-contracts fire and accident insurance	
639	Clean-cut-contracts other branches	
690	Other reinsurance	
700	Credit insurance	
910	Nature damages insurance	X (50%)
990	Other insurance	X (50%)

5.7L.7 **Illustration by 2005 figures** follows below by consumption groups and respective main products. See section 5.7A above for explanations and abbreviations.

Household consumption expenditure of COICOP 12. NOK billion in 2009

COICOP	No. products	HCE value	Sources used
L11 Hairdressing salons and personal grooming	2	10.9	Other,CF
L12 Electric appliances for personal care	1	0.4	RT,CF
L13 Cosmetic articles, toothpaste, soap etc.	8	13.4	RT,CF
L20 Prostitution services	1	0.3	Other, CF
L31 Jewellery, clocks and watches	4	2.2	RT,CF
L32 Other personal effects	8	4.0	RT,CF
L40 Social protection	11	16.9	Other, CF
L50 Insurance services	3	16.2	Other, CF
L61 Other financial services n.e.c.	5	10.8	Other, CF
L62 Financial Intermediation Services Indirectly Measured	4	19.7	Other
L70 Other services n.e.c.	10	5.9	Other, CF

5.7M   Correction items

5.7M.1 **Traditionally, two correction items - direct purchases abroad by residents** (to be added) and **direct purchases in the domestic market by non-residents** (to be deducted) had a role in the NA system in making global adjustments to the total of individual COICOP-type items **first recorded as a domestic concept** to become a **final total of HFCE as a national concept**. This set-up was kept in Norway in the 1995 revision, although ESA95 sort of assumed to do way with this split.

5.7M.2 No efforts have so far been done to integrate **direct purchases abroad by resident households** with the detailed HFCE breakdown. Main reason for this - so far - is that information is lacking on COICOP groups for distributing direct purchases abroad by residents. This distribution may have a different pattern, and the border traffic to Sweden is one important part of this problem issue. The situation has been improved substantially from just dealing with two global adjustments in NA and the BOP travel items to having a satellite account for tourism introduced and allocating non-residents purchases in Norway to the various relevant COICOP items. Allocating resident households' purchases abroad in a similar way should be investigated for implementation in not a distant future (see 5.7.2).

5.7M.3 **Direct purchases in Norway by non-resident households**, have on the contrary, **significantly improved** by integrating information on distribution of direct purchase in Norway by non-residents (46 COICOP groups), see also chapter 10. One step forward towards the suggested ESA95 recording - although implying a quasi-solution between the domestic and national concept - would be to delete the second correction item and deduct non-residents' purchases at the individual COICOP level.

5.7M.4 For the time being the **two correction items are still kept** in their traditional roles in the NNA.

5.7M.5 The **sources** behind the two correction items are from 2005 onwards, on the debit side two quarterly surveys conducted by Statistics Norway (one covering day tourism and one travel with overnight stays abroad). They are used as sources in both the BoP statistics and in national accounts. On the credit side, non-residents travel expenditures in Norway, are measured through bench mark estimations based on visitor statistics produced by a private institution (Transportøkonomisk Institutt), giving annual information on number of visitors and bi-annually information on expenses per head. **Household budget survey data** have become available to record the distribution of direct purchase in

Norway by non-residents. From chapter 10, it is seen that **tourism satellite accounts** established on a current basis, have made it possible to have a further split of consumption expenditure in the domestic market of Norway: a three-split for **non-tourist residents -** although tourist residents abroad are included as one item, **resident tourists in Norway** and **non-resident tourists in Norway**. The first category contains most of the 93 COICOP groups, while resident tourists in Norway are specified in 28 groups, and non-resident tourists in Norway specified in 46 groups.

5.8   NPISH final consumption expenditure

5.8.1   In NNA, final consumption expenditure of non-profit institutions serving households (NPISHs) was introduced in the 1995 revision and **specified by five items of purposes or functions**. The classification introduced was more or less in line with COFOG (see also chapter 10 on COPNI), while slightly amended during the 2002 main revision.

5.8.2   Final consumption of non-profit institutions serving households (NPISH) is estimated at NOK 48.5 billion in 2009, or **2.1 per cent of GDP**. It consists of various types of services grouped as purposes or functions - in descending order of importance these are religious and humanitarian purposes, cultural and recreational services, welfare, health and education. No consumption of goods is included.

	NOK billion in 2009	**Percentage of GDP**
Religious and humanitarian purposes	14.8	0.6
Cultural and recreational services	13.1	0.6
Welfare	13.1	0.6
Health	4.2	0.2
Education	3.4	0.1
Total NPISH consumption	**48.5**	**2.1**

5.8.3   **Main sources used** are:
- Central government accounts
- Local government accounts

5.8.4   The sources used to estimate NPISH consumption expenditure are the **same sources** as **used for NPISH output**. Sources used for items of deduction are supplementary sources in this context, in particular household budget surveys etc. for **fees** from households in the respective cases. Grants or transfers to NPISHs are recorded in central and local government accounts, thus used as sources indirectly. A more comprehensive discussion of the sources is given in chapter 3 with the output description. The Business Register in Statistics Norway provides a population of NPI units, but there is often difficult to decide whether the NPIs are NPISHs or market NPIs serving businesses. SNA93/ESA95 principles are examined in this respect, with NA unit staff being involved in the coding register work as well. As an example, the NPI status in the Business Register was per **13 June 2006**: 46 316 units coded as NPISH as against 2 879 units coded as market NPI serving business. Per **10 November 2010** the corresponding figures were 65 249 and 2 987 units respectively.

5.8.5   In some cases, there is a **one-to-one correspondence** between output and final consumption expenditure of the NPISHs. More often, fees from households (and/or others) should be deducted from output in order to arrive at NPISH consumption, and in a few cases government purchases from non-government producers - recorded as government final consumption expenditure - might also appear as items for deduction. In NNA, the latter is assumed not taking place. In estimating NPISH output, the cost approach principle of non-market production is applied like for general government. It implies that estimates of consumption of fixed capital for NPISHs are made as well. Government expenses

(expenditure side of the government accounts) are coded by type (kind of transaction) – among them GFCF items – apart from by product, by industry, by sector and by COFOG.

5.8.6 **Illustration by 2009 figures** follows by products, specified by 5 items of function and 17 NNA-products (services). The direct output to consumption correspondence is indicated if not otherwise. Coding prefix 66 is used for NPISH consumption expenditure. For information on how output is estimated, see chapter 3 (relevant sections).

NPISH consumption expenditure. NOK billion in 2009 - Sources and methods

Religious and humanitarian purposes (66 L70)	**14.8**	
942 000 Services furnished by trade unions	4.7	Determined equal to output (see NNA-industry 26 940 in chapter 3)
949 910 Other membership organizations services	10.1	Calculated as output (NNA 26 940) less fees from the military (minor amount)
Cultural and recreational services (66 I40)	**13.1**	
900 100 Entertainment in theatre, opera, concert halls n.e.c.	3.8	Calculated as output (NNA 26 900) less fees from households and exports
900 200 Support services to performing arts	0.7	Calculated as output in 26 900
910 000 Library and museums services, botanical and zoological services	2.2	Calculated as output (NNA 26 910) less fees from households
931 200 Sports facilities operation services	6.3	Calculated as output (NNA 26 930) less fees from households and less fees from other units of the sporting activity industry and a few government industries (minor amounts)
Welfare (66 L41)	**13.1**	
871 000 Social welfare in institution	3.7	Calculated as output (NNA 26 870) less fees from households and government industries (minor)
889 950 Services from organizations	3.1	Determined equal to output (NNA 26 870) less exports
873 020 Nursing and welfare services to old persons and handicapped persons	6.3	Calculated as output (NNA 26 870 less fees from households and less purchases by local government
Health (66 F00)	**4.2**	
861 010 Hospital services, somatic	2.1	Calculated as output (NNA 26 860) less fees from households and less purchases by local government
861 040 Hospital services, psychiatric	1.3	Calculated as output (NNA 26 860) less fees from households and less purchases by local government
861 070 Somatic services, rehabilitation	0.5	Determined equal to output (NNA 26 860)
869 040 Preventive health services	0.0	Determined equal to output (NNA 26 860)
869 090 Other health services	0.2	Determined equal to output (NNA 26 860)
Education (66 J00)	**3.4**	
851 000 Education services, preschool and primary school	1.6	Calculated as output (NNA 26 850) less fees from households and less purchases by local government
853 000 Secondary education services	1.7	Calculated as output (NNA 26 850) less fees from households
855 900 Other education services	0.1	Calculated as part of output (NNA 26 850)

5.9   Government final consumption expenditure

5.9.1   In NNA, government final consumption expenditure is distinguished in **67 groups of function** within the **framework of 11 main groups**. COFOG is applied as classification for both central government and local government. In total, **68 groups are specified for central government** and **62 groups for local government** (see 5.9.9 below or chapter 10 for more details).

5.9.2   Government final consumption expenditure is **partly produced by non-governmental producers**, in particular market producers. Thus, government consumption expenditure consists of two distinctive parts:

(i)	Goods and services for consumption **produced by general government** itself other than expenditure made by other units (referred to as fees)
(ii)	Purchases by general government of goods and services **produced by market producers** that are supplied to households - without any transformation - as social transfers in kind.

5.9.3   The latter part of social transfers in kind - **purchases by general government in the market for households** - covered 9.9 per cent of government consumption expenditure in 2009. It refers to 34.8 billion in central government consumption expenditure, main items being medicaments, physicians' services and taxi transportation services, and 17.7 billion in local government consumption expenditure, mainly child day-care services, basic medical care and transportation. Thus, this item has a much higher share of central government consumption expenditure (12.6 per cent in 2009) than in local government (6.9 per cent), and the reason for this is arrangements being established through use of the National Insurance Fund. **Main NNA-products** involved - illustrated by 2009 figures - are indicated in the table that follows:

Purchases by general government in the market for households. NOK billion in 2009

NNA-products	Central government	Local government
212 010 Medicaments	8.9	
309 220 Invalid carriages and parts thereof	0.9	
325 000 Medical and orthopedic equipment	3.5	
493 200 Taxi services, rental services with driver	2.5	0.5
493 900 Transportation by bus		1.6
861 010 Hospital services, somatic	1.6	
861 070 Rehabilitation service	1.5	
862 110 Basic medical and diagnostic service	4.6	2.1
862 210 Specialised medical services, speciallised physicians	2.2	
862 300 Orthodontic services	1.3	0.1
869 020 Services provided by physiotherapists and other para-medical persons	2.1	
869 070 Ambulance services	0.8	
869 090 Other health services	1.2	0.1
889 109 Private kindergarten services		13.0
Other NNA-products	3.7	0.3
Total government purchases in the market	**34.8**	**17.7**

5.9.4   Government final consumption expenditure is estimated at NOK 530.7 billion in 2009, or **22.5 per cent of GDP.** It consists mainly of services produced by central and local government, but some few items of goods - mostly medicaments for health purposes - are also involved as part of purchases from market producers as social transfers in kind (see table above). Overall distribution between central government and local government was 40 and 60 per cent, respectively, in 1995 and 2000, but changed to almost 50 -50 in 2005. The reason is mainly the central government take-over of hospitals from the local governments sector in 2002.

	NOK billion in 2009	**Percentage of GDP**
Central government consumption expenditure	275.5	11.7
Local government consumption expenditure	255.2	10.8
Total government consumption expenditure	530.7	22.5

5.9.5   **Main sources used** are:
- Central government accounts
- Local government accounts

5.9.6   The sources used to estimate government final consumption expenditure are the **central and local government accounts**. This means all general government units are covered, taking also into account other central government accounts. Government consumption expenditure is calculated indirectly, deducting fees from household and other sectors from output of government production. Data for output - measured in terms of costs of production - are available from items by type on the cost side of the government accounts. Government expenses (expenditure side of the government accounts) are coded by type (kind of transaction) apart from by product, by industry, by sector and by COFOG. Data on fees appear on the income side of the government accounts. In addition, according to the principles of ESA95, government consumption expenditure also include government purchases from non-government producers supplied to households without any transformation as social transfers in kind. Data for this additional component are also available in the government accounts. Not covered here is consumption of fixed capital for government, but this is included in the government output (and consumption) estimates through the BERKAP programme described in chapter 4 (see section 4.12 above). Also FISIM is estimated separately and added to the government accounts data. The coding approach used for all central and local government transactions in the government accounts - referred to in section 3.21 above - also implies that all capital expenditures are identified and excluded from final consumption.

5.9.7   **Central government accounts** and **local government accounts** are utilized for the estimation of government final consumption expenditure of central government and local government, respectively. In some cases, there is a one-to-one correspondence between output and final consumption expenditure. More often, fees from households (and/or other sectors) are deducted from output in order to arrive at government consumption expenditure. In a few cases, government purchases from non-government producers - recorded as government final consumption expenditure - mean government output is lower than government consumption on particular products.

5.9.8   Government consumption is **illustrated below by 2009 figures** by COFOG groups. There is one table on central government consumption expenditure, another for local government consumption expenditure.

Central government consumption expenditure. NOK billion in 2009

A/01 General public services		
A1/011 Executive and legislative organs, financial and fiscal affairs, external affairs	17.9	Distributed on 6 NNA-products
A2/012 Foreign economic aid	1.6	3 NNA-products
A3/013 General services	3.6	6 NNA-products
A4/014 Basic research	0.5	5 NNA-products
A5/015 R&D General public services	0.0	5 NNA-products
A6/016 General public services n.e.c.	0.4	2 NNA-products
B/02 Defense		
B1/021 Military defense	31.9	Distributed on 4 NNA-products
B2/022 Civil defense	0.8	4 NNA-products
B3/023 Foreign military aid	1.9	2 NNA-products
B4/024 R&D Defense	0.0	3 NNA-products
B5/025 Defense n.e.c.	0.9	5 NNA-products
C/03 Public order and safety		
C1/031 Police services	10.0	Distributed on 2 NNA-products
C2/032 Fire-protection services	0.6	2 NNA-products
C3/033 Law courts	2.8	Distributed on 4 NNA-products
C4/034 Prisons	3.0	Distributed on 2 NNA-products
C6/036 Public order and safety n.e.c.	0.5	Distributed on 4 NNA-products
D/04 Economic affairs		
D1/041 General economic, commercial and labor affairs	1.6	Distributed on 6 NNA-products
D2/042 Agriculture, forestry, fishing	1.6	Distributed on 2 NNA-products
D3/043 Fuel and energy	1.4	2 NNA-products
D4/044 Mining, manufacturing, construction	0.1	2 NNA-products
D5/045 Transport	17.5	Distributed on 6 NNA-products
D6/046 Communications	0.0	4 NNA-products
D7/047 Other industries	0.1	2 NNA-products
D8/048 R&D Economic affairs	1.3	5 NNA-products
D9/049 Economic affairs n.e.c.	1.1	2 NNA-products
E/05 Environment protection		
E3/053 Pollution abatement	0.4	3 NNA-products
E4/054 Protection, biodiversity, landscape	0.6	2 NNA-products
E5/055 R&D Environment protection	0.4	5 NNA-products
E6/056 Environment protection n.e.c.	0.5	2 NNA-products
F/06 Housing and community amenities		
F1/061 Housing development	0.0	2 NNA-products
G/07 Health		
G1/071 Medical products, appliances and equipment	13.1	Distributed on 10 NNA-products
G2/072 Out-patient services	29.5	Distributed on 19 NNA-products
G3/073 Hospital services	68.4	Distributed on 11 NNA-products
G4/074 Public health services	2.3	6 NNA-products
G5/075 R&D Health	0.3	3 NNA-products
G6/076 Health n.e.c.	3.3	8 NNA-products
H/08 Recreation, culture and religion		
H2/082 Cultural services	1.5	5 NNA-products

A/01 General public services		
H4/084 Religious and other community services	1.4	Distributed on 2 NNA-products
H6/086 Recreation, culture and religion n.e.c.	0.2	2 NNA-products
I/09 Education		
I1/091 Pre-primary and primary education	1.3	4 NNA-products
I2/092 Secondary education	0.2	2 NNA-products
I3/093	0.1	2 NNA-products
I4/094 Tertiary education	13.0	Distributed on 3 NNA-products
I6/096 Subsidiary services to education	0.7	4 NNA-products
I7/097 R&D Education	14.6	3 NNA-products
I8/098 Education n.e.c.	1.1	Distributed on 3 NNA-products
J/10 Social protection		
J1/101 Sickness and disability	0.4	4 NNA-products
J4/104 Family and children	4.4	6 NNA-products
J5/105 Unemployment	0.3	2 NNA-products
J7/107 Social exclusion n.e.c.	4.4	3 NNA-products
J8/108 R&D Social protection	0.1	5 NNA-products
J9/109 Social protection n.e.c.	11.8	Distributed on 2 NNA-products

Local government consumption expenditure. NOK billion in 2009

A/01 General public services		
A1/011 Executive and legislative organs, financial and fiscal affairs, external affairs	22.7	Distributed on 3 NNA-products
A3/013 General services	5.7	Distributed on 2 NNA-products
C/03 Public order and safety		
C2/032 Fire-protection services	2.5	Distributed on 2 NNA-products
D/04 Economic affairs		
D1/041 General economic, commercial and labor affairs	0.7	2 NNA-products
D5/045 Transport	6.5	Distributed on 2 NNA-products
D9/049 Economic affairs n.e.c.	1.4	2 NNA-products
E/05 Environment protection		
E6/056 Environment protection n.e.c.	0.7	Distributed on 2 NNA-products
F/06 Housing and community amenities		
F1/061 Housing development	1.3	Distributed on 3 NNA-products
G/07 Health		
G2/072 Out-patient services	8.6	Distributed on 5 NNA-products
G3/073 Hospital services	26.6	Distributed on 2 NNA-products
G4/074 Public health services	2.6	Distributed on 3 NNA-products
G6/076 Health n.e.c.	0.1	Just one NNA-products
H/08 Recreation, culture and religion		
H1/081 Recreational and sporting services	2.7	Distributed on 4 NNA-products
H2/082 Cultural services	4.3	Distributed on 7 NNA-products
H4/084 Religious and other community services	3.4	Distributed on 2 NNA-products
H6/086 Recreation, culture and religion n.e.c.	1.7	Distributed on 3 NNA-products
I/09 Education		
I1/091 Pre-primary and primary education	53.9	Distributed on 2 NNA-products

A/01 General public services		
I2/092 Secondary education	20.6	Distributed on 3 NNA-products
I5/095 Education not definable by level	6.6	Distributed on 4 NNA-products
I6/096 Education services	2.8	
I8/098 Education n.e.c.	1.4	Distributed on 4 NNA-products
J/10 Social protection		
J1/101 Sickness and disability	34.1	
J2/102 Old age	3.1	Distributed on 5 NNA-products
J4/104 Family and children	35.7	Distributed on 4 NNA-products
J7/107 Social exclusion n.e.c.	5.3	Distributed on 4 NNA-products
J9/109 Social protection n.e.c.	0.4	Distributed on 3 NNA-products

5.9.9 Government final consumption expenditure (GFCE) is - in accordance with the ESA95 principle - distributed into **collective consumption** and **individual consumption**.

	NOK billion in 2009			Percentages		
	Total GFCE	GFCE in central government	GFCE in local government	Total GFCE	GFCE in central government	GFCE in local government
Collective consumption	184.2	135.9	48.4	34.7	49.3	19.0
Individual consumption	346.5	139.6	206.8	65.3	50.7	81.0
Total GFCE	530.7	275.5	255.2	100.0	100.0	100.0

5.9.10 **Individual consumption** accounts for **65.3 per cent of government final consumption expenditure in 2009**. This share is quite different in central government and local government, slightly above 50 per cent of central government consumption expenditure in contrast to 80 per cent of local government consumption expenditure. While 47 per cent of GFCE is related to local government, the share of individual consumption is 58 per cent in local government.

5.10   Acquisitions less disposals of tangible fixed assets

5.10.1 **Gross fixed capital formation (GFCF)** includes both acquisitions less disposals of tangible fixed assets and acquisitions less disposals of intangible fixed assets (see next section 5.11). GFCF has **two main breakdowns**, one by categories or types of fixed assets and one by kind of activities. The first - the breakdown by types of fixed assets - is described in the following paragraphs, while the second breakdown by NACE sections (kind of activities) is described in more detail in the succeeding sub-sections 5.10A - 5.10T below. The way GFCF data are organised in NNA illustrates the importance given to the breakdown by kind of activities. The activity of capital formation has actually same standing as the activity of production, specifying more or less the same number of industries in both instances, motivated by the need of symmetric output and capital data in the **analysis of productivity**. It should be underlined that Norway has constructed within the SUT framework a **well developed cross classification of the GFCF information be industries and types of assets** (see below).

5.10.2 The **GFCF structure of flows** in NNA contains **three main stages** in the following order:

(1)	**Cross-classification** of industries and type of assets as aggregated products
(2)	**Balancing** of aggregated products for type of assets
(3)	**Cross-classification** of type of assets and ordinary products

5.10.3 In first stage, **GFCF estimates specified by type of assets** appear as constituent parts of GFCF of each NNA-industry. The **NNA-industries** in this context are structured by type of investor in the same way as the structure applied for output and intermediate consumption by type of producer. There are **5 different types of investors**: market, own final use, non-market of central government, non-market of local government and non-market of NPISHs. The number of NNA-industries comes close to the corresponding number of NNA-industries used for production. The most striking difference is for own use industries, where the industry for owner-occupiers of dwelling service production is the only industry specifying GFCF. In the bulk of market producers / investors, the only industries for which GFCF is not specified are agricultural and animal husbandry service activities and private households with employed persons.

5.10.4 The **GFCF flows by industries** in the first stage are **in terms of aggregated products at the level of types of assets** specified in NNA. The NNA specification of types of assets is given in chapter 10 (section 10.3). Altogether, 50 types of assets are specified, grouped in 8 main categories.

5.10.5 GFCF types of fixed assets in NNA are shown by main category and figures for 2009 below.

NOK billion in 2009

Gross fixed capital formation by types of fixed assets	NOK
1 Dwellings	**101.6**
100 Dwellings and holiday homes	85.2
108 Own-account construction on dwellings	9.1
180 Existing dwellings, transaction costs	7.1
190 Land, transaction costs	0.2
2 Non-residential buildings	**83.2**
200 Non-residential buildings	78.2
208 Own-account construction on non-residential buildings	1.5
290 Existing non-residential buildings, transaction costs	3.4
3 Other structures	**160.1**
300 Land improvement in agriculture and forestry	0.2
308 Own-account construction on land improvement in agriculture and forestry	0.2
310 Railways including subways and tramways and bridges	3.1
320 Power supply transmission lines	0.7
328 Own-account work on power supply transmission lines	0.4
330 Other power supply construction	2.2
338 Own-account work on other power supply constructions	0.2
350 Other civil engineering works	22.2
358 Own-account construction on other civil engineering works	1.9
340 Public roads and streets including bridges	20.4
348 Own account work on public roads and streets including bridges	0.5
370 Construction work for oil and gas extraction	38.9
378 Own-account construction for oil and gas extraction construction work	1.7
380 Oil production platforms and oil drilling rigs and modules	63.3
388 Own-account construction on oil rigs and modules	3.8
390 Pipelines for oil and gas	0.0
398 Own-account construction for oil and gas pipelines	0.5

Gross fixed capital formation by types of fixed assets	NOK
4 Transport equipment	**57.3**
410 Ships and boats	32.6
420 Aircraft and helicopters	3.9
430 Passenger cars and station wagons	6.5
440 Buses	1.6
450 Vans and lorries and special purpose vehicles	6.0
460 Passenger cars for occupational hire	6.1
470 Locomotives and rolling stock	0.7
5 Other machinery and equipment	**77.4**
508 Own-account construction on machinery and equipment in manufacturing, mining and quarrying	2.1
510 Agricultural and forestry machinery and equipment	2.6
520 Machinery and equipment in manufacturing, mining and quarrying	21.5
530 Machinery and equipment in electricity plants and gas works	5.9
540 Machinery and equipment in construction	0.8
550 Machinery and equipment in other industries	17.7
560 Computers and office equipment	22.1
570 Telecommunication equipment	4.8
590 Military weapons	
6 Cultivated assets	**0.0**
610 Livestock for breeding, dairy, draught etc.	-0.0
650 Vineyards, orchards and other plantations of trees yielding repeat products	0.0
7 Intangible fixed assets	**45.7**
710 Mineral exploration	25.2
718 Own-account construction on mineral exploration	1.3
740 Computer software	13.1
748 Own-account work on computer software	4.0
760 Literary and artistic originals	1.4
768 Own-account work on literary and artistic originals	0.6
790 Other fixed intangible assets	
9 Valuables	0.4
990 Valuables, acquisitions less disposals	0.4

5.10.6 In the illustration table, it is not distinguished between acquisition value and **net purchases of existing fixed assets**. For all items, the latter is counterbalanced by a corresponding negative value for other final uses. It includes first of all, (net) sales (exports) of ships, but also some exports of other existing fixed assets. The other important item is disinvestments of existing passenger cars and station wagon for household consumption expenditure, which are assumed to be sold on to the households 3 years after purchase by the producers.

5.10.7 In the second stage, the aggregated products of **fixed asset types are balanced for the supply and use tables**. These aggregated products are - technically speaking - determined from the use side, and their totals are at this stage given a corresponding **notional output**, from which their VAT are separately calculated and identified. An example can clarify this:

Example: Type 110	From the use side NOK billion in 2005	From the supply side NOK billion in 2005
Dwellings and holiday homes	85.2	
Dwellings and holiday homes		85.2
Multi-dwelling houses in basic price		68.1
VAT on multi-dwelling houses		17.1

5.10.8 In the third stage, each of the components of aggregated products (types of assets) - i.e. basic price, VAT - is **cross-classified by ordinary NNA-products**. For VAT no further flows are arrived at. Flows in basic price, however, are connected to the CPA-based products in NNA. For buildings and structures these are primarily products of the construction industry, supplemented by real estate services and occasionally manufacturing products (prefabricated buildings). In the example given for multi-dwelling houses, GFCF in basic price is broken down by 15 different characteristic products of the construction industry. Machinery and equipment in other industries is the fixed assets item which is composed of most products, altogether 39 NNA-products (characteristic products of various manufacturing industries).

5.10.9 **Main sources used** for the estimation of gross fixed capital formation are **mostly industry-oriented sources** and often the same sources that are used for the estimation of output of the respective industries. More systematically, these sources are referred to in the second part of the GFCF description below. The **SBS** main data (NO), supplemented by data from the supplementary questionnaires (TS), are now the main source for all industries covered.

5.10.10 Since SBS was introduced in the latter part of the 1990's the statistics, including data on GFCF, have gradually improved. The improvements are mainly the extended scope of the SBS and the supplementary data, but there have been also improvements to the statistical methods used for estimation the figures, mainly in the grossing up procedures used. It is thus fair to say in most cases **direct estimation following the expenditure approach is the main national practice** in this context. However, there are certain industries - in particular among the service industries - where industry-based information on GFCF is more uncertain and thus in practical work, the **estimation of GFCF is an interplay between various approaches and methods** and in particular the **commodity flow method has a role to play in this context.**

5.10.11 The **two main alternative sources** to expenditure-based information obtained from the various investors (industries) are:

-        Construction statistics
-        External trade statistics on imports of fixed assets

5.10.12 As emphasized in the output section, **construction statistics** play a much more direct role for the compilation in NNA than before. Obviously, when this applies to output, the same works for the overall estimation of GFCF in **buildings and structures**. However, reflecting the extensive availability of industry-based information when deciding upon the classification for GFCF by type of fixed assets, a majority of the items of buildings and structures in fact are approached from industry-related GFCF information. **Dwellings** as well as **office and commercial buildings**, however, seem to be dependent upon construction statistics in a vital way in their estimation.

5.10.13 Fixed assets for which GFCF is approached from the **external trade statistics**, include those items that are mainly imported, i.e. **ships and boats, aircraft and helicopters** and **passenger cars and station wagons.** For ships and boats, and for aircraft and helicopters, just a few industries are involved. Industry-based information has however until recently been relatively poor in spite of this,

and the GFCF estimation has therefore relied upon utilization of import data from the external trade statistics. The recent availability of SBS for the relevant industries has however changed this situation. Now reports on GFCF for those industries are used in addition to the commodity flow method, although in has been taken into account a rather high estimated degree of uncertainty in the industry information (+/- 20%). For passenger cars and station wagons and for vans and lorries and special purpose vehicles as well, a long range of industries are involved for GFCF. In these cases, special calculations have been carried out by utilizing a cross-classified material on types of fixed assets and industry groups.

5.10.14 For investments in buildings (and land), a transaction cost is estimated. For other capital goods (ships etc.), no estimation of transaction costs is done, since we do not know whether these costs (brokers fees etc.) are already included in the purchasers' price or not. On time of recording of GFCF, see section 5.2 above. The assumption on work being contracted is considered valid for the Norwegian situation in general.

5.10A   GFCF - NACE A. Agriculture, forestry and fishing

5.10A.1 **Investment activities of NACE A** are distinguished in **5 industries**, one for agriculture, two for forestry and logging and two for fishing. Investments in agricultural and husbandry services activities and in hunting, trapping and game propagation are assumed to be non-existent or included in agriculture. The same applies to agricultural production for own consumption. Services incidental to forestry and logging, however, contain investment activities.

5.10A.2 Gross fixed capital formation (GFCF) of these industries is estimated at NOK 9.5 billion in 2009, or **0.4 per cent of GDP**. In agriculture, most important types of fixed assets are non-residential buildings and machinery and equipment. Separate estimates are made for land improvement, and for changes in livestock for breeding, dairy, draught etc. In fishing, most important types of fixed assets are fishing boats, while no particular type is the more dominant one in fish farming.

NACE A. Gross fixed capital formation. 2009

		NOK billion	Per cent of GDP
01	Agriculture, hunting and related service activities	6.5	0.3
010	Agriculture	6.5	0.3
02	Forestry and logging	0.5	0.0
020	Forestry and logging	0.3	0.0
024	Forestry services	0.2	0.0
03	Fishing and aquaculture	2.5	0.1
031	Fishing	0.8	0.0
032	Aquaculture	1.6	0.1
	Total NACE A	9.5	0.4

5.10A.3 **Main sources used** are:
- Aggregate account of agriculture, compiled by Budgeting Committee for Agriculture
- Forestry statistics and aggregate account of forestry, compiled by Statistics Norway
- Annual manufacturing statistics
- Annual census data of fish farming
- State Fishery Bank, annual reports

5.10A.4 **Aggregate account of agriculture** - as for production - is almost an exhaustive source for estimating GFCF in agriculture. Other sources used are limited to aggregate account of the reindeer industry, and in some cases ad hoc calculations are made. The following tables of the BCA Aggregate account are used for the GFCF estimation in agriculture:

Tab.13	Income from transport
Tab.14	Own-account construction
Tab.26/27	Gross fixed capital formation

The first of these – income from transport – refers to imputed income to farmers related to investment, i.e. land improvements in agriculture and forestry.

5.10A.5 Various information in the **forestry statistics** publication of Statistics Norway serve as source material for forestry and logging, in particular information relating to silviculture and forest roads. The aggregate account of forestry provides a table on incomes and expenditures that are used and recoded for compiling GFCF estimates for forestry and logging.

5.10A.6 **Manufacturing statistics** provide data on fishing boats domestically produced, while external trade statistics supplement this kind of information by exports and imports data. Another supplementary source is the annual report of the State Fishery Bank. For fish farming, annual census data also cover investments.

5.10A.7 For agriculture, the GFCF estimates are very close to those given in the main source of BCA Aggregate account. Minor corrections occur only, similar to those listed in the output section. Fishing boat investments are made from commodity flow considerations, taking into account output extracted from manufacturing statistics and imports and exports from external trade statistics. Major rebuilding of fishing boats is also added, based on information from the annual reports of the State Fishery Bank. Annual census data are used in estimating GFCF in fish farming. Fishing activities for own consumption has no investments because the separate industry producing goods for own consumption is production within households only. When a household buys for example a boat for fishing, this is classified as household consumption and not as investment. Production for own consumption among the professional farmers/fishermen could use capital assets. If so, these investments are included in GFCF of their industry

5.10B   GFCF - NACE B. Mining and quarrying, in particular: Extraction of crude petroleum and natural gas

5.10B.1 **Investment activities of NACE C** are distinguished in **6 industries.** These are the same industries as specified for the production activities of NACE b.

5.10B.2 Gross fixed capital formation (GFCF) of these industries is estimated at NOK 146.2 billion in 2009, or **6.2 per cent of GDP** - and of which 143.6 billion relates to the two oil and gas industries, i.e. extraction of oil and gas and services incidental to oil and gas extraction. In oil and gas extraction, most investments are other structures that are specified in several items. Intangible fixed assets are also significantly represented, i.e. mineral exploration. GFCF in the oil and gas extraction industries can fluctuate rather significantly from year to year.

5.10B.3 In the oil and gas extraction industry the accruals principle in the valuation of GFCF, is employed, i.e. costs in constructing production platforms and structures are recorded as GFCF on a

continuous basis. Also in the services incidental to oil and gas extraction industry, GFCF in movable exploration and drilling rigs now are recorded accorded to the accrual principle.

NACE B - Gross fixed capital formation. Oil and gas extraction. NOK billion in 2009

		NOK billion	Per cent of GDP
05	Mining of coal and lignite	0.0	0.0
06	Extraction, crude oil, natural gas	133.9	5.7
07	Mining of metal ores	1.4	0.1
08	Other mining and quarrying	1.2	0.1
09	Mining support service activities	9.7	0.4
091	Service activities incidental to oil extraction	9.7	0.4
099	Mining support service activities	0.0	0.0
	Total NACE B	146.2	6.2

5.10B.4 **Main sources used** are:
- Oil and gas activity statistics
- Manufacturing statistics

5.10B.5 **Oil and gas activity statistics** and **manufacturing statistics** – SBS based - both belong to the main sources used in Norwegian national accounts. From the former source, data on gross fixed capital formation are collected on a quarterly basis. Six different statistical forms are used in this case (different from the eight different forms used for production, see 3.8.8):

Form	Activity-related area	NACE and NNA-activity
A	Supporting activities, pipeline transport	NACE 49.5 - 495
I	Investments at fields in production	NACE 06 – 060
K	Licensee activity	NACE 06 – 060
L	Drilling for oil etc.	NACE 06 – 060
M	Oil exploration	NACE 06 – 060
R	Pipeline transportation	NACE 49.5 - 495
T	Investments, terminals	NACE 06 – 060
U	Field development	NACE 06 – 060

5.10B.6 With respect to oil exploration (form M), exploration covers the activity from when the production license is given until the exploration programme is finished or the license is returned. All current costs in exploration and field development, including production drilling, are regarded as investment costs. Specific items in the basic source are covered, that include exploration costs and wages to own employees etc.

5.10B.7 The **quarterly oil and gas activity statistics on investments** are used in estimating GFCF in the oil and gas extraction activities. When the accruals basis of valuation was adopted in NNA, no difference appeared between values recorded in NNA and in the oil and gas activity statistics, except a small deviation in the treatment of one particular tax on crude petroleum and natural gas production. **Foreign ownership adjustment to oil and gas fields** is made where located partly in Norway and partly abroad (United Kingdom) when operated by Norwegian resident producers (and vice versa). Accordingly UK and Norway share the ownership to the resources, and income and costs are distributed between the countries according to the ownership share. The fields are operated by Norwegian companies from the Norwegian territory. The way this situation is solved in the NNA and BoP is that the total investment costs are initially debited the Norwegian extraction industry and subsequently UK is debited according to its share, shown as exports of existing assets to UK. This way

Norway is debited with investments cost according to its ownership share only. Correspondingly the current operating costs are at first hand debited Norway, and secondly Norway is credited with an export of services to be interpreted as "payment" for operating the UK part of the field. On the resource side only the income corresponding to the Norwegian ownership share is credited Norway as output of oil and gas. This way of solving the joint ownership problem was agreed between Statistics Norway and the UK statistical office in meetings in the mid 1970s.

5.10B.8 Data on gross fixed capital formation in **manufacturing statistics - now SBS-based** - are used as the basis for the NNA estimation in mining and quarrying. Figures are quite small, and should not need further explanations.

5.10C GFCF - NACE C. Manufacturing

5.10C.1 **Investment activities of NACE D** are distinguished in **44 industries.** It means same level of industry details as for production.

5.10C.2 Gross fixed capital formation (GFCF) of these industries is estimated at NOK 23.0 billion in 2009, or **1.0 per cent of GDP**. In manufacturing, most types of fixed assets are represented.

NACE C. Gross fixed capital formation. 2009

		NOK billion	Per cent of GDP
101-332	Manufacturing	23.0	1.0
	Total NACE C	23.0	1.0

5.10C.3 **Main sources used** are:
- Manufacturing statistics, SBS-based

5.10C.4 Gross fixed capital formation in manufacturing industries is estimated on the basis of GFCF data provided by the SBS-based **manufacturing statistics**. GFCF is defined as total of investments in **buildings and structures**, investments in **transport equipment** and investments in **other machinery and equipment**.

5.10C.5 As explained in the discussion of SBS as a source of IC, part of the current expeditures for equipment and machinery is **reclassified** as GFCF in order to adjust for the different size requirements inherent in the definition of GFCF. The adjustments are done explicitly on selceted items of the General Trading Statement (NO) and Supplementary Form (TS), see chapter 5.3.3 for detailed estimations..

5.10D GFCF - NACE D. Electricity, gas, steam and hot and water supply

5.10D.1 **Investment activities of NACE D** are distinguished in **4 industries.** It means same level of industry details as for production. Like for production, separate GFCF estimates are calculated for each of the three electricity items.

5.10D.2 Gross fixed capital formation (GFCF) of these industries is estimated at NOK 12.1 billion in 2009, or **0.5 per cent of GDP**. Most important investment assets in electricity are electricity plants and machinery and equipment for the electricity industry.

NACE D. Gross fixed capital formation. 2009

		NOK billion	Per cent of GDP
35	Electricity, gas , steam and air conditioning supply	12.1	0.5
	Total NACE D	12.1	0.5

5.10D.3 **Main sources used** are:
- Annual electricity statistics
- Local government accounts

5.10D.4 **Annual electricity statistics** provide data on GFCF along with data on production etc. Gross fixed capital formation in **electricity production** is estimated on the basis of GFCF data provided by the **electricity statistics**. Total GFCF estimate of the main source has to be **distributed among the underlying industries** and types of fixed assets of NNA. The distribution on industries is made in proportion to output when several industries apply. This means a small amount of GFCF in the distribution of electricity for sales industry, since this industry would have no structures. The electricity statistics provide separate items for the GFCF estimate of steam and hot water supply.

5.10E   GFCF - NACE E. Water supply, sewerage, waste management and remediation activities

5.10E.1 **Investment activities of NACE E** are distinguished in **4 industries.** It means same level of industry details as for production.

5.10E.2 Gross fixed capital formation (GFCF) of these industries is estimated at NOK 9.8 billion in 2009, or **0.4 per cent of GDP**. Most important investment assets are other constructions and other machinery.

NACE E. Gross fixed capital formation. 2009

		NOK billion	Per cent of GDP
36	Water collection, treatment and supply	3.1	0.1
37	Sewerage	3.3	0.1
38	Waste collection, treatment and disposal activities, materials recovery	3.0	0.1
39	Remediation activities and other waste management services	0.3	0.0
	Total NACE E	9.8	0.4

5.10E.3 **Main sources used** are:
- Structural Business Statistics for NACE 36 – 39
- Local government accounts NACE 36 – 38

5.10E.4 **Local government accounts** are utilized in and are important particular for the estimation of GFCF in **water supply** and in **sewerage** activities.

5.10E.5 For **market producers** GFCF are estimated using the model based on SBS, see chapter 5.3.3.

5.10F GFCF - NACE F. Construction

5.10F.1 **Investment activities of NACE F** are distinguished in **4 industries.** It means same level of industry details as for production. However, no specific investment activities are specified for construction activity for own final use and for non-market construction activity of local government.

5.10F.2 Gross fixed capital formation (GFCF) of these industries is estimated at NOK 12.7 billion in 2009, or **0.5 per cent of GDP**. Most important investment assets in construction are non-residential buildings and other machinery and equipment (item for machinery and equipment in construction).

NACE F. Gross fixed capital formation. 2009

		NOK billion	Per cent of GDP
41	Construction of buildings	8.8	0.4
42	Civil engineering	0.7	0.0
43	Specialised construction activities	3.3	0.1
	Total NACE F	12.7	0.5

5.10F.3 **Main source used** is:
- Annual accounting statistics for construction, SBS-based

5.10F.4 The annual SBS-based **construction statistics** is utilized for the estimation of GFCF in the construction industry, see chapter 5.3.3 for more details. For the allocation of the three GFCF items of the construction statistics on more detailed NNA types of assets, various distributions have been assumed.

5.10G GFCF - NACE G. Wholesale and retail trade; repair of motor vehicles and motorcycles

5.10G.1 **Investment activities of NACE G** are distinguished in **3 industries.** It means same level of industry details as for production.

5.10G.2 Gross fixed capital formation (GFCF) of these industries is estimated at NOK 9.7 billion in 2009, or **0.4 per cent of GDP**. Most important investment assets in wholesale and retail trade are non-residential buildings, transport equipment and in particular other machinery and equipment (inter alia, computers and office equipment). Net sales of cars (disinvestments) also play a significant role.

NACE G. Gross fixed capital formation. 2009

		NOK billion	Per cent of GDP
45	Wholesale and retail trade and repair of motor vehicles and motorcycles	1.7	0.1
46	Wholesale trade, except of motor vehicles and motorcycles	5.3	0.2
47	Retail trade, except of motor vehicles and motocycles	2.8	0.1
	Total NACE G	9.7	0.4

5.10G.3 **Main source used** is:
- Annual accounting statistics, SBS-based

5.10G.4 While **annual accounting SBS-based statistics** is the **main source,** also two important supplementary sources of information are utilized for the NACE G estimation:

-	Buildings statistics
-	Register of vehicles and the publication "Car and road statistics" from the Directorate of Roads

5.10G.5 **Annual building statistics** (also monthly figures) provide information on buildings completed and started and buildings under construction as per end of period. The Ground Property, Address and Building Register (GAB) is a computerised register containing information about all ground properties and addresses in Norway, also on all buildings under construction per end of period and all buildings that have been built or changed since beginning of the last period. The register specifies various types of building, for which there are figures available on numbers and utility floor space in square metres. Commercial buildings are the item of type closest to non-residential buildings in wholesale and retail trade.

5.10G.6 The **register of vehicles** and figures available in **"Car and road statistics"** are specified and cross-classified by types of vehicles and broad user groups. Among the user groups is one industry group comprising wholesale and retail trade and financial intermediation (banks, insurance companies etc.).

5.10H   GFCF – NACE H. Transportation and storage

5.10H.1 **Investment activities of NACE G** are distinguished in **13 industries.** It means same level of industry details as for production.

5.10H.2 Gross fixed capital formation (GFCF) of these industries is estimated at NOK 39.8 billion in 2009, or **1.7 per cent of GDP**. Most important investment assets are transport equipment, including acquisitions less disposals of existing ships and aircraft. The remaining is mainly distributed on structures (mostly pipelines), other machinery and equipment and non-residential buildings.

NACE H. Gross fixed capital formation. 2009

		NOK billion	Per cent of GDP
49	Land transport and transport via pipelines	5.4	0.2
50	Water transport	23.7	1.0
51	Air transport	2.0	0.1
52	Warehousing and support activities for transportation	7.2	0.3
53	Postal and courier activities	1.4	0.1
	Total NACE H	39.8	1.7

5.10H.3 **Main sources used** are:
- Annual accounting statistics, SBS-based
- Annual statistics of oil activities
- Annual and quarterly accounting data of SAS

5.10H.4 **Annual accounting statistics (SBS-based)** were introduced in NNA in the 2002 main revision. This source is used for all industries of NACE H, except for petroleum pipeline transport.

5.10H.5 The quarterly **statistics of oil activities** are used to estimate GFCF in **pipeline transport**. Items from both the A-form and the R-form constitute the basis for the GFCF estimate. Two types of assets are involved - both pipelines - the own-account construction part shown separately.

5.10H.6 GFCF in **water transport** consisted earlier of ships and boats exclusively and the estimation was based on the **commodity flow approach**, i.e. total investment in ships and boats was determined from the supply side and distributed for the relevant uses. After the SBS for water transport companies became available however, a combination of the commodity flow approach and the reported industry data has been used in the estimations. The supply figures are available by products (type of ships), which helps the allocation work to GFCF in ocean transport, inland water transport, fishing and other industries. For instance, investment in passenger ships (or ferries) in ocean transport is determined as total supply (less exports) of passenger ships (or ferries) less investment in such ships and ferries in inland water transport, as other users are unlikely. Rebuilding of ships is also taken into account (on a weak basis). The external trade statistics include data on exports of existing ships. It is assumed that the total amount is taken (negatively) from GFCF in ocean transport, i.e. not affecting GFCF in inland water transport. GFCF in inland water transport is partly determined from SBS-data, particularly distribution by type of fixed assets.

5.10H.7 A question has been raised how to treat the accidental sinking of an oil tanker (e.g. due to a storm). Probably we would delete it from stocks of fixed assets, as caused by and treated as other changes in volume, although none such events have probably been taken into consideration in Norwegian national accounts experience. Another view would be to consider such an event as a normal accidental damage to be taken into account in establishing the length of average service life of this category of capital.

5.10H.8 For **air transport** sources are the same as for output, i.e. **accounting data of SAS and SBS-data for other air transport companies**. The GFCF estimate is arrived at by using 2/7 of total capital outlays of SAS, adding total capital outlays of other Norwegian air transport companies. Exports of existing aircraft recorded in external trade statistics are deducted. There is also adjustment made by item for change in ownership. Ownership structure has been changed in the SAS consortium and adjustments made in that respect. The old 2/7 share approach for SAS is still followed for international flights, and integrated in combination with new SBS data. **.**

5.10I   GFCF - NACE I. Accommodation and food serving activities

5.10I.1 **Investment activities of NACE F** are distinguished in **2 industries.** It means same level of industry details as for production.

5.10I.2 Gross fixed capital formation (GFCF) of these industries is estimated at NOK 2.0 billion in 2009, or **0.1 per cent of GDP**. Single most important investment assets are non-residential buildings.

NACE I. Gross fixed capital formation. 2009

		NOK billion	Per cent of GDP
55	Accommodation	1.2	0.0
56	Food and beverage service activities	0.9	0.0
	Total NACE I	2.0	0.1

5.10I.3 **Main sources used** are:
- Annual accounting statistics, SBS-based

5.10I.4 While **annual accounting SBS-based statistics** is the main source, a**nnual construction statistics** is relevant for the most important component of GFCF - buildings in hotels and restaurants. Items for hotels and restaurants as project and for various installations work in the hotels and restaurants are available from the construction statistics. The register data on vehicles (car and road statistics) might be seen as a supplementary source even in this case.

5.10J   GFCF - NACE J. Information and communication

5.10J.1 **Investment activities of NACE F** are distinguished in **6 industries.** It means same level of industry details as for production.

5.10J.2 Gross fixed capital formation (GFCF) of these industries is estimated at NOK 13.1 billion in 2009, or **0.6 per cent of GDP**. The most important investment assets are machinery and equipment for telecommunications and IT- and office equipments.

NACE J. Gross fixed capital formation. 2009

		NOK billion	Per cent of GDP
58	Publishing activities	1.7	0.1
59	Motion pictures, video and television programme production, sound recording and music publishing activities	0.8	0.0
60	Programming and broadcasting activities	0.6	0.0
61	Telecommunications	7.8	0.3
62	Computer programming, consultancy and related activities	1.7	0.1
63	Information service activities	0.4	0.0
	Total NACE J	13.1	0.6

5.10J.3 **Main sources used** are:
-        Annual accounting statistics, SBS-based

5.10J.4 For all industries the principal source is used to estimate GFCF. Total figures distributed on main types of fixed assets are estimated from the general approach. For distribution on some detailed assets additional information is used.

5.10J.5 It should be mentioned here that in the 2011 main revision investments in artistic and literary originals were introduced in the NNA for the first time for the relevant industries NACE 580, 590 and 600, see chapter 5.11.

5.10K   GFCF - NACE K. Financial intermediation

5.10K.1 **Investment activities of NACE K** are distinguished in **7 industries,** 3 industries of financial intermediation and 3 industries of insurance and pension funding and 1 auxiliary services industry.

5.10K.2 Gross fixed capital formation (GFCF) of these industries is estimated at NOK 5.7 billion in 2009, or **0.2 per cent of GDP**.

NACE K. Gross fixed capital formation. 2009

		NOK billion	Per cent of GDP
64	Financial service activities, except insurance and pension funding	4.7	0.2
65	Insurance, reinsurance and pension funding, except compulsory social security	0.7	0.0
66	Activities auxiliary to financial services and insurance activities	0.3	0.0
	Total NACE K	5.7	0.2

5.10K.3 **Main sources used** are (same as for production):
- Credit market statistics, accounting data organized in database for banks
- Credit market statistics, accounts of insurance companies and pension funds
- Credit market statistics, accounts of other financial institutions

5.10K.4 The **credit market statistics** have been utilized to estimate GFCF of financial intermediation. Data are extracted by using catalogues for recoding, creating input files for further processing into a final data base from which NNA estimates are taken. No particular problem is met in breaking down on types of assets required in NNA.

5.10K.5 According to the **principles**, the treatment of foreclosures and repossessions of goods by creditors should not be treated as uncompensated seizures but as transactions, disposals by debtors and acquisitions by creditors. This is a problem under discussion, for instance whether to treat this differently in the context of sector accounts than in the context of GFCF by industries.

5.10L GFCF - NACE L. Real estate activities

5.10L.1 **Investment activities of NACE L** are distinguished in **2 industries,** of which one covers owner occupied dwellings.

5.10L.2 Gross fixed capital formation (GFCF) of these industries is estimated at NOK 131.4 billion in 2009, or **5.6 per cent of GDP**. Most important investment assets are dwellings, while the remaining is distributed on most other main types of fixed assets.

NACE L. Gross fixed capital formation. 2009

		NOK billion	Per cent of GDP
68	Real estate activities	131.4	5.6
680	Sale and management of real estate	36.0	1.5
688	Dwelling service production, for own final use	95.3	4.0
	Total NACE L	131.4	5.6

5.10L.3 **Main sources used** are:
- Annual business statistics, SBS-based
- Building statistics
- Index of building costs and price index of new dwellings
- Central and local government accounts

5.10L.4 **GFCF in dwellings** consist of completed dwellings, work-in-progress in dwellings when a contract of purchase exists, and own-account construction of dwellings. In practice it is assumed that all dwelling output is allocated to intermediate consumption and GFCF (plus a small amount to exports), while nothing is recorded as work-in-progress (changes in inventories). Also included is an

estimate of transaction costs related to sales and purchases of new and used dwellings. "Dwellings" also include holyday homes and garages related to dwellings. GFCF of dwellings above also includes a separate estimate of the transaction costs of land for industry 688.

5.10L.5 **GFCF in new dwellings** is projected from a benchmark year (2007) using indicators from the building statistics. The indicator used is the average of finished and started dwellings measured in square metres. Separate projections are made for dwellings and holyday homes (including garages and other buildings for household use). These quantity indices are combined with price index for GFCF of new dwellings in order to compile GFCF in current prices. The price index used is the one for GFCF of dwellings in the quarterly accounts, which is based on a combination of the price index of new detached dwellings and the building cost index. The index is checked against the price index produced by the annual accounts and updated if necessary.

5.10L.6 The benchmark estimate for 2007 was estimated indirectly using prices for new dwellings that were collected for the purpose of providing weights for the price index for new dwellings. These price data was given for dwellings in three categories of buildings. VAT was added for the household investments. The number of observations were small, however. These data indicated higher values for the new detached houses than in the former accounts, whereas data for block of flats were comparable to the former national accunts estimats. On this evidence we increased the investment in new detached and small houses of dwellings by 10 billion NOK, keeping GFCF of blocks of flats unchanged. Holiday houses and garages were assigned 67 percent of the value of new dwellings. This resulted in a small upwards revision, which seems likely in light of discussions in the media at the time. More detailed data for real estate agents were taken into account. The estimate of the value of major improvements from the project data in the building statistics was taken in, adjusting for intermediate consumption and for major improvements in leisure homes and letting of dwellings within other industries. No new evaluation of household own account investment activities could be done.

5.10L.7 **Household own account investment work** are added in NNA to estimate output in construction as described in the output section, and given the adjustments proved necessary to apply to the NNA definitions.

 5.10L.8 Major repairs/improvements are not specified in the fixed asset classification, but from the **2002 revision** onwards a special addition is made to the capital formation as compiled by using the indicators from building statistics. This addition is based on an assessment of the construction statistics. In these statistics, there are data by type of project, and repairs and major improvements for investment purposes are one of the specified projects. The split between repairs and major improvements are taken from the previous year.

5.10L.9 The final GFCF estimate for dwellings is subject to reconciliation contrasting supply and demand for products from the construction industry. This reconsiliation also take into account uses for intermediate consumption as well as supply from other relevant industries.

5.10L10 There is also a separate compilation of costs of ownership transfers in property. The production of estate agents are regarded as part of costs of ownership transfers and so used for GFCF. The ownership transfer costs are split between dwellings and leisure homes, transactions in land and other (business) buildings. The split was found in the 2006 revision from a study of transactions in the register of property ownership. The property registration tax is regarded as a product tax on the transaction costs.

5.10L.11 Purchase and sale of existing dwellings (net sales) have been recorded in NNA to the extent they are recorded in government accounts, i.e. crossing over to/from government sector and household sector.

5.10L.12 For the sale and management of real estate industry (industry 680), the SBS are used to estimate total GFCF, following the general method (see chapter 5.3.3). The proportion of this total that is dwellings is estimated from changes in the stock of dwellings in the balance sheet.

5.10M GFCF - NACE M. Professional, scientific and technical activities

5.10M.1 **Investment activities of NACE M** are distinguished in **7 industries.** It means same level of industry details as for production.

5.10M.2 Gross fixed capital formation (GFCF) of these industries is estimated at NOK 6.4 billion in 2005, or 0.3 **per cent of GDP**. Most important investment assets are IT machinery and equipments.

NACE M. Gross fixed capital formation. 2009

		NOK billion	Per cent of GDP
69	Legal and accounting activities	0.6	0.0
70	Activities of head offices, management consultancy activities	0.4	0.0
71	Architecture and engineering activities, technical testing and analysis	4.5	0.2
72	Scientific research and development	0.5	0.0
73	Advertising and market research	0.2	0.0
74	Other professional, scientific and technical activities	0.1	0.0
75	Veterinary activities	0.1	0.0
	Total NACE M	6.4	0.3

5.10M.3 **Main source used** are:
-        Annual accounting statistics, SBS-based

5.10M.4 GFCF for industries in NACE M is estimated on the basis of GFCF data in the **annual accounting statistics, SBS-based** that are utilized for GFCF industry totals and type of fixed assets, see chapter 5.3.3.

5.10N GFCF - NACE N. Administrative and business support service activities

5.10N.1 **Investment activities of NACE N** are distinguished in **7 industries.** It means same level of industry details as for production.

5.10N.2 Gross fixed capital formation (GFCF) of these industries is estimated at NOK 4.2 billion in 2009, or 0.2 **per cent of GDP**. Among the most important investment assets we find machinery and equipment, including IT-equipment, and passenger cars.

NACE N. Gross fixed capital formation. 2009

		NOK billion	Per cent of GDP
77	Rental and leasing activities	2.7	0.1
78	Employment activities	0.1	0.0
79	Travel agency, tour operators and other reservation service and related activities	0.3	0.0
80	Security and investigation activities	0.3	0.0
81	Services to buildings and landscape activities	0.3	0.0
82	Office administrative, office support and other business support activities	0.5	0.0
	Total NACE N	4.2	0.2

5.10N.3 **Main source used** are:
-      Annual accounting statistics, SBS-based

5.10N.4 GFCF for these industries is estimated on the basis of GFCF data in the **annual SBS-based accounting statistics** that are utilized for GFCF totals and by type of fixed assets.

5.10N.5 For **passenger cars,** that are import asset to the renting industry, it is assumed that cars that are purchased by producers are sold on to the households after 3 years, see also chapter 5.10.6.

5.10O   GFCF - NACE O. Public administration and defense

5.10O.1 **Investment activities of NACE O** are distinguished in **3 industries,** one for general public administration, one for defense and one for other public services activities. The latter include the Norwegian Railway Administration, the Norwegian Coastal Administration, the Norwegian Geological Survey and several research institutes. The specifications are similar to that of production in public administration and defense, with separate estimates for non-market producers of central government and local government.

5.10O.2 Gross fixed capital formation (GFCF) of these industries is estimated at NOK 50.2 billion in 2009, or **2.1 per cent of GDP**. **GFCF in defense** was estimated at 5.1 billion in 2009. In NNA, most important investment assets are structures - in particular, roads and streets, but also other structures - and machinery and equipment. Transport equipment is also an important item in defence. In public administration of central government and local government buildings are import investment assets.

NACE O. Gross fixed capital formation. 2009

		NOK billion	Per cent of GDP
84	Public administration and defence, compulsory social security	50.2	2.1
841	Administration of the State and the economic and social policy of the community	37.5	1.6
842	Defence activities	7.5	0.3
844	Other public service activities	5.1	0.2
	Total NACE O	50.2	2.1

<u>5.10O.3</u> **Main sources used** are:
- Central government accounts
- Local government accounts
- Specifications on military expenditures obtained from the Ministry of Defense

<u>5.10O.4</u> The annual **central and local government accounts** are used to estimate GFCF in the non-market activities of central and local government, respectively. In central government, several hundreds of items in **central government accounts** define GFCF in central administration. In most cases, the type of investment could be seen from the accounts. On the part of **defence**, however, supplementary specifications on military expenditures are obtained from the Ministry of Defence and military forces and are used and serve as basis for the allocation of military expenditures for either GFCF or intermediate consumption. For Central government, it is as a rule possible to identify the projects in the detailed budget notes, where more information on the projects are given.The **local government accounts** identify GFCF flows on main types of assets. In the further processing for NNA - including also the industry allocation (local administration in this case) - the given investment flows are further disaggregated (from expert judgement) to conform to the asset classification used in NNA. Number of details in the central government accounts suggests that the NNA specifications are more easily approached in the case of central government than for local government.

5.10P   GFCF - NACE P. Education

<u>5.10P.1</u> **Investment activities of NACE P** are all included in one industry as for production. However, separate estimates are made for the four different types of producers involved, i.e. non-market producers of central government, of local government and NPISHs, and market producers

<u>5.10P.2</u> Gross fixed capital formation (GFCF) of education is estimated at NOK 16.5 billion in 2009, or **0.7 per cent of GDP**. It is mostly related to investment in non-market education (16.0 billion). Most important investment assets are non-residential buildings and machinery and equipment, in particular items of schools and other buildings for education, and computers and office equipment. Disinvestments of cars and sale of schools occurs however in insignificant magnitudes.

<u>5.10P.3</u> As **illustrated by 2005 figures**, the GFCF estimate in education **by market versus non-market production** has the following composition:

NACE P. Gross fixed capital formation by market versus non-market production. 2009

		NOK billion	Per cent of GDP
85	Education	16.5	0.7
	Market production	0.5	0.0
	Non-market production	16.0	0.7
	Total NACE P	16.5	0.7

<u>5.10P.3</u> **Main sources used** are:
- Central government accounts
- Local government accounts

<u>5.10P.4</u> The **annual central and local government accounts** are used to estimate GFCF in the non-market activities of central and local government, respectively. For instance, GFCF of buildings for

education in general government is estimated from some detailed items in the central government and local government accounts.

5.10P.5 For market education and for the NPISHs' - **the minor items** - GFCF has been estimated from the cost survey for private education institutions. Market activities of education are of rather minor importance in Norway. GFCF is assumed to follow same development as for output in this small activity of market education.

5.10Q   GFCF - NACE Q. Health and social work

5.10Q.1 **Investment activities of NACE Q** are specified in 4 industries and differentiated on all four types of producers, i.e. with same specifications as for production.

5.10Q.2 Gross fixed capital formation (GFCF) of health and social work is estimated at NOK 15.9 billion in 2009, or **0.8 per cent of GDP**. It is mostly related to investment in non-market sector (14.1 billion). Most important investment assets are non-residential buildings and machinery and equipment, in particular items of hospitals and other buildings for health and social work, and computers and office equipment. Net purchases of existing buildings occur, however in insignificant magnitudes.

5.10Q.3 As **illustrated by 2009 figures**, the GFCF estimate in health and social work **by market and non-market and by industry** has the following composition:

NACE Q. Gross fixed capital formation. 2009

		NOK billion	Per cent of GDP
86-88	Human health and social work activities	15.9	0.7
	Market production	1.8	0.1
	Non-market production	14.1	0.6
86	Human health activities	8.2	0.3
87	Residential care activities	3.8	0.2
88	Social work activities without accommodation	4.0	0.2
882	Child day-care activities	3.9	0.2
889	Social work activities by disabled workers	0.1	0.0
	Total NACE Q	15.9	0.7

5.10Q.4 **Main sources used** are:
-        Central government accounts
-        Local government accounts

5.10Q.5 The **annual central and local government accounts** are used to estimate GFCF in the non-market activities of central and local government, respectively. For instance, GFCF of buildings for health and social work in local government is estimated from detailed items in the local government accounts. Reclassification of hospitals from 2002, might be mentioned as institutional change - responsibility transferred from local government (counties) to central government.

5.10Q.6 For **market health and social work** and for **the NPISHs**, GFCF is based on health statistics now including accounting data, which therefore have been used in the NNA for health institutions. For other NPISHs the GFCF are estimated as a fixed percentage of output.

5.10R   GFCF - NACE R. Arts, entertainment and recreation

5.10R.1 **Investment activities of NACE R** are specified in 4 industries and differentiated on all four types of producers, i.e. with same specifications as for production.

5.10R.2 Gross fixed capital formation (GFCF) of health and social work is estimated at NOK 5.3 billion in 2009, or **0.2 per cent of GDP**. It is mostly related to investment in non-market sector. Investment assets are mostly distributed on non-residential buildings, structures and machinery and equipment.

5.10R.3 As **illustrated by 2009 figures**, the GFCF estimate in arts, entertainment and recreation activities **by market and non-market and by industry** has the following composition:

NACE R. Gross fixed capital formation. 2009

		GFCF NOK billion	Per cent of GDP
90-93	Arts, entertainment and recreation	5.3	0.2
	Market production	1.5	0.1
	Non-market production	3.9	0.2
90	Creative, arts and entertainment activities	0.9	0.0
91	Libraries, archives, museums and other cultural activities	0.9	0.0
92	Gambling and betting activities	0.4	0.0
93	Sports activities and amusement and recreation activities	3.1	0.1
	Total NACE R	5.3	0.2

5.10R.4 **Main sources used** are:
- Central government accounts
- Local government accounts
- Annual accounting statistics, SBS-based

5.10R.5 The **annual central and local government accounts** are used to estimate GFCF in the non-market activities of central and local government (part of NACE 91) respectively.

5.10R.6 For the **market part and the NPISHs**, GFCF is based on a combination of directly or indirectly used SBS-data when available and a fixed share of corresponding output. In the **2011 main revision** own account production of literary and artistic originals was introduced in the NNA, see also chapter 5.11.

5.10S   GFCF - NACE S. Other service activities

5.10S.1 **Investment activities of NACE S** are specified in 3 industries and differentiated on two types of producers, market producers and non-market producers in NPISHs, i.e. with same specifications as for production.

5.10S.2 Gross fixed capital formation (GFCF) of these industries is estimated at NOK 1.9 billion in 2009, or **0.1 per cent of GDP**. It is mostly related to investment in non-market sector. Investment assets are mostly distributed on non-residential buildings and machinery and equipment, including IT-equipment.

NACE S. Gross fixed capital formation. 2009

		GFCF NOK billion	Per cent of GDP
94-96	Other service activities	1.9	0.1
	Market production	0.6	0.0
	Non-market production	1.3	0.1
94	Activities of membership organisations	1.4	0.1
95	Repair of computers and personal and household goods	0.0	0.0
96	Other personal service activities	0.4	0.0
	Total NACE S	1.9	0.1

5.10S.3 **Main sources used** are:
- Annual accounting statistics, SBS-based

5.10S.4 The **annual accounting statistics (SBS)** is used to estimate GFCF in the market activities of NACE S (part of or whole of all three industries).

5.10S.5 For the **market part of the NPISHs**, GFCF is based on a combination of directly or indirectly used SBS-data when available and a fixed share of corresponding output.

5.10T   GFCF - NACE T. Private households with employed persons

5.10T.1 GFCF is not estimated for this activity, i.e. **not considered appropriate**.

5.11   Acquisitions less disposals of intangible fixed assets

5.11.1   Two types are mainly specified in NNA concerning intangible fixed assets, i.e. mineral exploration and computer software. Own-account construction on mineral exploration is separated from mineral exploration proper. **Mineral exploration** has always been treated as gross fixed capital formation, never as intermediate consumption (current expenses). Oil and gas activity statistics - described elsewhere in the Inventory - provide data on quarterly basis (see chapter 11). More details are given in section 5.10B above.

5.11.2   **Computer software** and large databases became GFCF with the late general revision when implementing ESA95. This definitional change was implemented in the 1995 revision to the extent data were in fact available at that time. That meant an underestimation caused by lacking data for part of the economy, e.g. for non-market units (government etc.). Hence, no additional consumption of fixed capital related to these units was covered. **In the 2002 revision** new estimates were made, both for purchased software and software developed on own account. In the **2006 main revision** source data were further developed through questions on the additional form part of the SBS. As from 2005 data for **own account work on ICT in general government** became available through separate surveys ICT costs in general government. Data from these surveys have been gradually introduced in the NNA from 2005. **Computer** software is estimated as GFCF at NOK 17.1 billion in 2009, or 0.7 per cent of GDP, of which 4.0 billion is own account developed software.

5.11.3 When looking at the NA time series, it is seen that GFCF on software has increased considerably that partly reflects the real situation and partly caused by improved data capture. The latter improvement is particularly due to improvements recently introduced in the basic statistics (new items in questionnaires, recoding of existing ones, etc.), including the SBS-based statistics. The sources of data on computer software are generally the same as used for output and intermediate consumption by industries.

5.11.4 Strategy has thus so far been to capture what information is available and implement this in the NA that revealed a number of "holes" with no adjustments to them made. Meanwhile, basic statistics by industries have been reorganized so as to incorporate this information, and from this development "coverage" has been enlarged significantly. SBS data have been looked into and investigated further, keeping in mind the 15 recommendations list from Eurostat.

5.11.5 **Other intangible fixed assets** have now been estimated as part of the **2011 main revision**. Estimates have been done involving 4 NNA market producing industries: Publishing, Motion picture, TV and music activities, Radio- and TV broadcasting and Artistic and entertainment activities. In Publishing costs related to purchase of originals are reallocated from intermediate consumption to gross fixed capital formation. The same takes place within Motion picture etc. activities and Broadcasting activities, but here also own account production of originals related to motion picture production is introduced. For Artistic and entertainment activities own account production of originals and gross fixed capital formation is introduced. The **sources** used for the new estimations are partly new interpretations of existing sources, i.e. SBS, and partly use of new sources in particular for Artistic and entertainment activities, i.e. Performing Rights Society. With reference to the OECD Handbook on Deriving Capital Measures of IIPs (2010), various methods in estimating the values are used depending on the information available for the relevant activities. In 2009 investments in literary and artistic originals amounted to about 10 per cent of the total GFCF in the NACE 580 – 600.

5.12   Additions to the value of non-produced non-financial assets

5.12.1 **Land improvement in agriculture and forestry** is estimated in two NNA items (types of fixed assets - market and for own final use). It is referred to in section 5.10A above, estimated from the use of aggregate account of agriculture. From this source, sub-items (ditching, clearance of forests, etc.) are allocated to NNA-item 300, while other sub-items from this source (income from transport, etc.) are allocated to NNA-item 308, the item of own-account construction on land improvement, i.e. output on own final use (GFCF).

5.13   Changes in inventories

5.13.1 In NNA, changes in inventories are specified by **an handful of different categories**. By far the largest item category is a global item for **changes in inventories of goods**. The other three categories are all representing **work in progress,** both on goods and services. Compared with the classification of assets as inventories in ESA95, the breakdown in NNA is more aggregated on regular inventories (not specifying materials and supplies, finished goods and goods for resale separately), while more disaggregated on work in progress.

5.13.2 **Work in progress on modules for oil production platforms and offshore production structures and movable exploration and drilling rigs** is treated as gross fixed capital formation in NNA. However, work in progress on ships still is treated as changes in inventories, the reason for which is partly practical considerations in treating discrepancies against exports in external trade statistics, partly due to circumstances where contracts for purchase/sale may not be finally settled (tradable contracts and the like).

5.13.3 The NNA categories of changes in inventories **illustrated by 2009 figures** are:

Changes in inventories. 2009

	NOK billion	Per cent of GDP
Changes in inventories of goods	-59.8	-2.5
Changes in inventories of services	57.5	2.4
Work in progress on ships and modules for oil platforms	0.0	0.0
Other work in progress	-0.6	0.0
Work in progress on cultivated assets	3.5	0.1
Sevices in progress	26.0	1.1
Correction VAT	-11.4	-0.5
Total changes in inventories	13.9	0.6

5.13.4 Changes in inventories accounted for 0.5 per cent of total final use in 2009. Its **share of GDP** was 0.6 per cent. In the period since 1990, the GDP share for 2009 is relatively low, e.g. compared to 3.3 per cent in 2008 and 2.7 per cent in 2010. **Persistent positive changes in inventories** - and often with a large magnitude – constitute a problem that still has to be faced in main revisions. **In all the main revisions**, total changes in inventories tended to be lower than before. However, it still continues to be high - relatively to GDP - compared with most countries.

5.13.5 **Changes in inventories on goods** are the result of individual changes in inventories for almost 600 NNA-products (goods). The **main approach** to the estimation of changes in inventories by products is through the **balancing of supply and use of each product total** as described in chapter 6 (the commodity flow method being used). It should be stressed, however, that these estimates are not just calculated residuals, but in many cases **adjusted estimates** established **from expert judgments** when reviewing supply or other uses of a good number of products that are considered problematic in some sense. The judgement of the estimates for change in inventories relates to both the level of change in inventories, the development from previous periods and of course taking account of type of product. Direct comparison of the NA estimates with available data from sources on changes in inventories is carried out for selected products. The assessment of the levels contains an analysis comparing the level of change in inventories relative to all other supply and use categories. This is done at a detail product level comprising about 800 goods and a few services items.

5.13.6 **Two kinds of sources** on changes in inventories exist for 2009, **the annual SBS-based accounting statistics,** and **quarterly inventories statistics** collected through short-term indicators. The short-term statistics on inventories by end of each quarter are providing value data by industry, and not as before - quantity data by products. The short-term staistics was however closed down in 2010.

5.13.7 Particular product estimates are described in their output context, such as changes in **livestock for slaughter**, growth in **cultivated forests**, and changes in inventories in **fish farming** - the case of smolt. See chapter 3, NACE A for more information.

5.13.8 As stated elsewhere in the inventory also, the item of changes in inventories is a **relatively weak point** in the NNA compilation. Efforts have been made in the main revisions to make significant

progress on changes in inventories estimates. While the main approach has been kept unchanged, and the residual and detailed character of the operations behind the final estimate, the underlying discomfort of having these persistent additions to inventories - at least at the global level - is still a problematic feature of NNA. This implies that **research has continued**, and also **whether a new approach should replace the present one** of adding detailed residuals from NNA-product balancing. The present approach is not really recommended in ESA95, although under certain conditions - and referred to as practical method - approximation methods could be used that include residual kind of changes between beginning and end of period, among others.

5.13.9 On **research agenda for improvements** for several years, examinations have been made several times on the possibility to utilize either of the two sources referred to above. Now, as the short-term statistics has been stopped, **utilizing data from the SBS-based statistics** is the only option for the **annual NNA**. The latter was looked into in the 2002 revision, but not completed as there appeared to be quite sizeable discrepancies between the provisional results of that new method and the present one being used. While experiences are gained as time goes by on SBS-based statistics and their use in NNA, the item of changes in inventories is surely one that requires much attention and accumulated statistical experience. However, there should be better conditions for improvements probably in not too distant future. At present, SBS-based statistics have been successfully explored and utilized for items like output, intermediate consumption and compensation of employees, while more problems are faced for gross fixed capital formation. In such a perspective, beyond GFCF in terms of problems to overcome, changes in inventories might be tackled next. It involves various adjustments to be made (excluding holding gains/losses etc.).

5.13.10 The most recent effort was initiated within the umbrella of the quality-upgraded investments supported by Eurostat grants. A first report assessing the relevant sources was submitted to Eurostat in 2006, se Grant agreement no 2004 40100 012. Its main conclusions were that neither the SBS information on inventories nor the quarterly inventory statistics can be used directly in the national accounts without further investigations and adjustments to the statistical reports itself. The SBS information suffers from poor reliability and the quarterly statistics misses both relevant industries and types of inventories. One particular aspect that the report pointed at was that the sources give information on changes in stocks in total by industry, while the prevailing NNA system demands information on a product level. However, the data from the SBS on an aggregate level are concluded to be of acceptable quality and should be utilized in comparing or verifying the NNA figures. The quarterly inventory statistics on the other hand cover only a limited number of industries and do not cover stocks of raw materials, hence the conclusion of the report is that the statistics are not appropriate for guiding estimations of changes in inventories in NNA. Based on the findings in the report it is clear that further investigations are needed. First of all, inventory figures should be revised and examined more thoroughly within SSB. Secondly, the coverage of inventory statistics should be extended, i.e to include inventories for the missing industries, and thirdly, surveys should be pinpointed according to NNA needs. The main conclusion of the above mentioned project was that it was not possible to reach good estimates on the levels of change in inventories to be used directly in the NA. However, what should be pursued further is the idea to establish check points upon the development from year to year in the change of inventories. Such efforts will probably not give results to be implemented into current estimations before the main revision in 2014. Further testing and research are planned ahead.

5.14 Acquisitions less disposals of valuables

5.14.1 **Acquisitions less disposals of valuables** represent a new main category of gross capital formation. In NNA, this item so far has really not been introduced in a significant way. It seems as if

reliable sources are not available, although this has to be better explored (on research agenda). It will therefore be on the agenda for the 2014 main revision, when the transition to the new ESA will take place. Valuation aspects should be looked carefully at as well.

5.14.2 Just an insignificant value has been incorporated as yet. It relates to NNA-product - **works of art -** as characteristic product of the activity of artistic and literary creation and interpretation. This NNA-product is mainly domestically produced, while used partly for investment, household consumption expenditure, and to a much lesser extent intermediate consumption and exports. With just an rather small value for investment, the item has been listed among GFCF items instead of being focused at separately as an aggregate.

5.15   Exports of goods

5.15.1 In NNA, exports of goods are distinguished in **two main categories**, each of them cross-classified with a set of products. The three categories are:

110	Exports of goods recorded in external trade statistics
140	Exports of goods not recorded in external trade statistics

The **first category** is defined to include goods that are **recorded in the external trade statistics**. In a **second category** are recorded goods outside external trade statistics. Basically, the cases listed in ESA95 para.3.135 should be covered in the statistics used. As to the borderline between goods and services, it may be mentioned that a handful out of more than 370 products in the first category are in fact characteristic products of service-producing industries (in particular software programs and works of art). A reclassification from goods as recorded in ETS to services is needed to adapt to the national accounts supply and use tables, or more in general to achieve the most correct split between goods and services. In fact this is even hinted at in the international guidelines for BoP (BPM5 §212,259, BoP Compilation Guide tables 2.1 and 11.3, BoP TF2 annex 5 page 22 and 101). As to the question how to identify the goods to be defined as services by convention, the most practical solution is to make reference to the correspondence table between the CPA/NACE classification and the combined nomenclature/HS used by the External Trade statistics.

5.15.2   The distinction between **intra-EU and extra-EU** transactions is not applicable in the case of Norway.

5.15.3 **Further breakdowns of these categories** have been employed for publication purposes. In particular, characteristic products of the oil and gas activities have been specified. In addition, in the publication table also specified are both ships and also export items on aggregated characteristic products of main manufacturing industries and aggregates of exports from other groups of goods-producing industries (from agriculture, forestry and fishing, respectively mining and quarrying, and also electricity). For the breakdown on goods and services, the **product classification rather than the category classification** has been followed.

5.15.4 Exports of goods are estimated at NOK 707.9 billion in 2009, or **30.0 per cent of GDP**. Exports of goods accounted for 76 per cent of total exports of goods and services in 2009.

5.15.5 The following table presents the **2009 figures for exports of goods** broken down by the two categories:

Exports of goods. 2009	NOK billion	Percentage of GDP
110 Exports recorded in external trade statistics of which: Crude oil and natural gas	707.8 414.4	30.0 17.6
14 Exports of goods not recorded in external trade statistics	0.1	0.0
Total	707.9	30.0

5.15.6 **Main source used** is:
  -        External trade statistics

5.15.7   The **external trade statistics** are one of the main sources used in national accounting.
Excluded from external trade statistics are the following categories of exports that are not included in the statistics:

a) Consignments of goods in direct transit
b) Commodities from Customs Authority warehouses
c) Consignments of goods from Norway to Svalbard or Jan Mayen
d) Temporary exportation of goods (goods for display or use at exhibitions, for scientific research, goods on loan, professional equipment, transport equipment in international traffic, containers, broadcasting and television equipment etc.) to be used for not more than twelve months abroad and goods returned after corresponding use in Norway.
e) Returned merchandise (claims, free repair in Norway, free-of-charge merchandise replacements from Norway, merchandise to be repaired free of charge abroad for re-imports to Norway)
f) Equipment and other supplies delivered to Norwegian ships, oil platforms or aircraft in foreign trade
g) Merchandise for repair abroad on Norwegian account, for later re-importation
h) Merchandise after repair in Norway on foreign account
i) Merchandise returned to non-resident supplier in unaltered condition and returned packing material
j) Personal belongings; removable articles exported on transfer of residence
k) Goods for own use by Norwegian diplomatic corps
l) Supplies under military defence agreements
m) Commercial samples, advertising material, gifts, etc. of negligible value
n) Provisions, bunkers and equipment delivered to Norwegian or foreign ships and aircraft in Norwegian harbour/airport
o) Monetary gold, i.e. gold exchanged between national or international monetary authorities or authorized banks
p) Current coin; unused postage stamps, revenue and similar stamps of current or new issue in the country to which they are destined; stampimpressed paper; bank notes, stock, share and bond certificates and similar documents of title; cheque books.

5.15.8 No adjustments are done to the External Trade statistics in use in NA and BoP except for a re-classification of selected Harmonized System codes from goods to services, see also chapter 5.16.17.

5.15.9 **Supplementary information** for exports falling outside the customs area, include in particular transactions related to oil activities on the Norwegian part of the Continental shelf, and is obtained with the oil and gas activity statistics. The energy accounts are also available for supplementary use.

5.15.10 The **external trade statistics** are used to estimate exports of the **first category** listed above. Exports of these goods are specified by more than 370 product items (goods). Exports of **crude oil and natural gas** are also included, same are exports of new and existing ships. More detailed description of the external trade statistics-based estimation should not be necessary.

5.15.11 No general adjustment is made in the NNA to the external trade statistics in order to account for goods that cross the border without a **change of ownership**. External trade statistics, in practice, record the goods when they physically cross the customs boundary of the country. Thus, it has not been possible to make an adjustment for the difference between the change in ownership principle and the one from current practice. For goods crossing the border without change in ownership, no correction is made, i.e. Norway uses the General Trade Principle where a change of ownership is assumed when a good crosses the border. One example is Norwegian owned oil from oil fields on the Norwegian continental shelf is landed by pipeline in England and transported back to Norway; those flows are registered gross as exports and imports of crude oil, even if no change in ownership has taken place. Otherwise transit trade and free trade zones etc. are of minor importance in Norway. For other goods where sale and purchase do not imply border crossing (ships and other movable capital equipment), the ownership principle is followed. Regarding processing of goods, the gross flows are recorded in imports and exports of merchandise. Another type of adjustment is however made, the one for **foreign ownership adjustment territorially** (related to oil gas fields in the North Sea, air transportation of SAS), i.e. for the discrepancy between the Norwegian ownership share and the actual share as recorded through the external trade statistics.

5.15.12 Exports of merchandise (goods) are **valued f.o.b.** at Norwegian ports where goods are exported or at the customs frontier of the operation area of the Norwegian part of the Continental shelf. The f.o.b. prices are purchasers' prices that may include export levies and costs connected with loading, irrespective of whether these are paid by the exporter or importer.

5.15.13 The **second category** - exports of goods not recorded in external trade statistics - is specified by 2 products (goods), and constitutes a negligible part of total exports of goods. Illustration by 2009 figures follows below.

Exports of goods not recorded in external trade statistics. NOK billion in 2009

Sub-category and products	Value	Special comments
Exports of goods not recorded in external trade statistics	**0,1**	
009 389 Oil production platforms; adjustment for foreign ownership shares	0,1	Item in form I, multiplied by UK ownership part of the border crossing Statfjord and Frigg fields
009 719 Oil exploration and drilling; adjustment for foreign ownership shares	0.0	Item in form I, multiplied by UK ownership part of the border crossing Statfjord and Frigg fields

5.16   Exports of services

5.16.1 In NNA, exports of services are distinguished in **three main categories**, each of them cross-classified with a set of products. The three categories are:

210	Gross receipts from abroad in shipping	
220	Direct purchases in Norway by non-residents	
230	Exports of other services	

The **first two categories** give information on incomes from abroad in **shipping** and on incomes from non-residents on **tourism in Norway** (and other consumption from diplomats, military personnel etc.

included in the Travel item). These are the categories of exports that are considered most interesting for specification in the area of services. The number of specifications has been increased from three to six for publication purposes (three more sub-groups on other services). A main reason for this has been the emphasis on more details from the oil and gas activities. For the delineation between goods and services, see problem mentioned under exports of goods. Basically, the cases listed in ESA95 para.3.142 on services should be covered in the statistics used.

5.16.2   Exports of services are estimated at 221.2 billion NOK in 2009, or **9.4 per cent of GDP**. Exports of services accounted for approximately 24 per cent of total exports of goods and services in 2009.

Exports of services. 2009	NOK billion	Percentage of GDP
210 Gross receipts from abroad in shipping	82.6	3.5
220 Direct purchases in Norway by non-residents	26.1	1.1
230 Export of other services	112.5	4.8
Total	221.2	9.4

5.16.3   **Main sources used** are:-
-       UT - new collection system for BoP - from 2005
-       Maritime transport statistics
-       Oil and gas activity statistics

5.16.4 Prior to 2005 the **foreign exchange statistics (ITRS)** was used in most instances for the estimation of exports of services. For the first category of gross receipts from shipping, both the ITRS and the **maritime transport statistics** have been utilized (see section on output of ocean transport). Traditionally, the tourism items have been exclusively approached from the ITRS. Having faced increasing problems over the years, these basic statistics have been supplemented - from 1992 - by utilizing **tourism statistics** as well. For the third category of other services, the ITRS was used almost exclusively, exceptions being **oil and gas activity statistics** for pipeline transportation services, **accounting data** for air transportation services and the accounts of Postal Service and Norwegian Telecom for post and telecommunication
services.

5.16.5 Early in 2001 the central bank decided to close down the ITRS by the end of 2004, and a new project (**UT=UtenriksTransaksjoner= ExternalTransactions**) was launched by Statistics Norway in 2002 with the aim to replace the ITRS with other sources. A matrix model (see below) was used in designing the new data collection system where the mapping of sources connected with the various institutional sectors and BoP items was put in focus.

SEcTOR *BoP-item*	ENTERPRISES FINANCIAL	ENTERPRISES OTHER	GOVERNMENT	HOUSHOLDS/ NPISHS
GOODS	CUSTOMS DECLARATIONS			
SERVICES	DIRECT/ TOTAL/ ACCOUNTS	DIRECKT/ SAMPLE/ ACCOUNTS/ ADM.DATA	DIRECKT/ TOTAL/ ACCOUNTS	DIRECT/ SURVEYS TRAVEL/ CREDIT CARDS
INCOME	DIRECT/ TOTAL/ ACCOUNTS	DIRECKT/ SAMPLE/ ACCOUNTS/ ADM.DATA	DIRECKT/ TOTAL/ ACCOUNTS	ESTIMATIONS BASED ON STOCKS/ TAX DATA
TRANSFERS	DIRECT/ TOTAL/ ACCOUNTS	DIRECKT/ SAMPLE/ ACCOUNTS/ ADM.DATA	DIRECKT/ TOTAL/ ACCOUNTS	?
DIRECT INVESTMENTS	DIRECT/ TOTAL/ ACCOUNTS	DIRECKT/ SAMPLE/ ACCOUNTS/ ADM.DATA	DIRECKT/ TOTAL/ ACCOUNTS	IRRELEVANT
PORTEFOLIO INVESTMENTS	DIRECT/ TOTAL/ ACCOUNTS	DIRECKT/ SAMPLE/ ACCOUNTS/ ADM.DATA	DIRECKT/ TOTAL/ ACCOUNTS	INDIRECT?
OTHER INVESTMENTS	DIRECT/ TOTAL/ ACCOUNTS	DIRECKT/ SAMPLE/ ACCOUNTS/ ADM.DATA	DIRECKT/ TOTAL/ ACCOUNTS	INDIRECT?

5.16.6 For **services and income**, i.e. items relevant for GNI, the new sources and estimation methods fall into two categories:

a. Those where information already existed or could be obtained with relative small efforts (financial enterprises, government), and

b. Those where new sources had to be identified and new surveys had to be implemented (non-financial enterprises, households/NPIHs).

For sources in the first category information that already were collected and part of current statistics had to be used in a more extensive and systematic way than previously. For example income data are now drawn directly from **government accounts** on both quarterly and annual data. Or transactions in both services and income with non-residents that were already part of the census type reporting from **financial enterprises**, or information from the petroleum activity statistics.

5.16.7 On the other hand, to compensate for the loss of bank settlements data regarding the **non-financial enterprises**, both quarterly and annual sample surveys had to be established. The total population behind the surveys is estimated at 30-40.000 enterprises. The annual survey use a sample of 3.000 enterprises, estimated to cover more than 97 per cent of the aggregated BoP items. The quarterly survey consists of 8-900 enterprises, estimated to cover more than 80 per cent of the aggregated BoP items. Data on services, income and financial stocks are collected. Financial transactions are estimated from the stock data and partly reported, partly estimated revaluation figures.

5.16.8 The most difficult challenge has been to establish and maintain a high quality population register for resident units involved with non-resident units. The former ITRS register, the external trade in goods register, information on non-resident board members from the Directorate of Taxes' register of Shareholders and other relevant information embedded in the statistical infrastructure has been utilized to keep track of targeted units. Also information from media and the direct contact with reporting units are useful in this respect. In addition a new register on cross borders currency transactions that was recently established to meet the need of government fraud authorities etc., has been tested as a source for information needed to maintain the BoP register.

5.16.9 Exports and imports of services are to be recorded at the **time they are rendered**. In the guidelines to the reporters of the new survey it is clearly stated that "Reported data should be based upon actual transactions…" (§4). Further it says (§ 5.1); "… the reporting firms (are) to state transactions during the reporting period as earned incomes and accrued costs." Mostly the period in the accounting system of the companies is in accordance with the required period in the statistical

system, and in practice the services probably will be reported for the period they are booked as income/expenditures in the accounts. To seek consistency with production/use of services in NA it is in §5.3.1 referred to the NO, the administrative source for the Structural Business Statistics (SBS): "…the items asked for are linked to the NO supplied to the Directorate of Taxes".

5.16.10 New data were collected for the first time on a full-scale basis through all quarters of 2004 on an *accumulated* basis, meaning that only figures for the sum of four quarters 2004 were available from the new survey. As from the first quarter of 2005, quarterly data were available through the year. When comparing new and old figures break in time series were detected both on aggregated BoP items levels, in terms of structural composition of BoP-items at disaggregated levels, and changes in the quarterly (seasonal) patterns of BoP-items. As a general rule, for items that are part of GDP, breaks of the *first type* were not accepted (the other two types not relevant for discussion here). For imports of services the difference between new and old figures was of a minor scale and efforts were made to smooth the time series going back 2-3 years. This was achieved in the 2006 main revision. For exports of services however, quite another situation was revealed. The new survey based figures were about NOK 20 billion, or about 10 per cent lower than the old level. Hence for 2005 and subsequent years, initially only the **development according to the new source data** was used while keeping the levels from the 2004 ITRS as a bench mark in the compilation of national accounts and BoP. This has also led to the question on the correctness of the upward revision that took place in the 2002 main revision (see chapter 5.16.3). Subsequently in the 2011 main revision the grossed up figures from the UT-statistics were used directly in the NNA and BoP, however with some adjustments made (see below).

5.16.11 The analysis of and adaption to the new **levels of exports and imports of services according to the new sample surveys** has been taken in two steps. First, the survey data grossed up on an aggregated level only (14 services products groups) was disaggregated on the about the 70 detailed products used in NNA and BoP. This disaggregation is achieved by using the distribution on detailed products found in the sample survey. Secondly, an assessment is carried out for each of the detailed services products as to whether the data can be used directly or has to be adjusted for definitional reasons or others. Here, it can also be useful to recall the main conclusion of the report from the Department of Statistical Methods evaluating the UT-project: "UT-trade in services survey is a complicated survey. There are many sources of errors: problems in defining population, uncertainty linked to the sample sizes, errors of measurement including explaining to the reporters essential characteristics like resident versus non-resident or services versus goods, and errors of estimations. Experiences tell us that it will take time to reach the optimal design of this survey". In the following some of the areas where adjustment to the survey data has been done are indicated: **Imports of freight transportation services** are in the NNA and BoP estimated as an integrated part of the CIF-FOB adjustments and the survey data from the UT-statistics are not used. As Norway is not part of the Intrastat system and has kept a full and detailed customs declaration system the CIF-FOB correction is estimated using declaration data, which in addition to statistical value also states type of transportation means and nationality. These data are used to estimate the imports of transportation services as by definition the transport services are deemed to be imported by the country to which the goods are imported. A separate argument for choosing this solution is that collecting the information on imports of freight services from the domestic importers is not expected to give a reliable picture as many importers will face a total invoice only and are not able to identify transportation costs separately. **Imports of Pipeline transport** of crude oil and natural gas is assumed not relevant to NNA and BoP as no physical transportation to Norway of these goods takes place using pipelines. For P**etroleum services** alternative sources exists in terms of information in the Oil and gas statistics. For **Construction services** the survey is not able to identify the value of goods and to what extent there is an overlap with the External trade in goods statistics. **Merchanting services** are per definition to be observed on the exports side only. For **Business travels debit** reported by the enterprises will have an overlap with data from the Travel surveys, were the travellers are asked the same. Similar can be said about **Exports of passenger transport services** reported by domestic passenger transport enterprises where it will an overlap with Travel credit as measured by using of tourism statistics.

5.16.12 In conclusion the results of the above mentioned and some similar assessments and adjustments are that the levels of both exports and imports in the trade in services survey are reduced when used in the NNA and BoP. As an illustration of the size of the adjustments exports of services for 2007 were revised down about NOK 20 billion or about 10 per cent of total exports of services, while imports of services were revised up about 10 billion or about 5 per cent of imports of services.

5.16.13 For the **household sector's** transactions with non-residents, the most severe loss when the ITRS was closed down was data on the BoP item **Travel**. Here a **new quarterly survey on cross-border one day travels** of resident persons to neighbouring countries has been introduced, covering about 15 per cent of the total item Travel debit. The sample size is 2.500 persons and the values reported are grossed up to represent the whole population of Norway. In addition, data from the already existing quarterly survey on travel abroad including minimum 1 night overstay (sample size also 2.500) is added together with some minor items representing expenses by diplomats and students etc. to reach the Travel item in total.

5.16.14 For Travel credit, i.e. non-residents expenses on travel in Norway, estimates are based on bench mark estimations using annual and tri-annual data from TØI (Transport Økonomisk Institutt), a private institution, surveying non-residents visiting Norway, both in terms of number of visitors and their expenses. Tourist statistics (accommodation, passenger transport) published by Statistics Norway are used for calculating preliminary figures.

5.15.15 For some other relevant Rest of the World account and BoP items related to households (interests, dividends), figures from 2004 ITRS are extrapolated using growth in household income in general. It must be stressed that the flows are of minor importance. Of more importance are the flows of compensation of employees to and from abroad. For those items a new estimation model has been developed generating both flows of wages and salaries and corresponding flows of premiums (see chapter 8.1).

5.16.16 As for the **NPISH's** exports of services are estimated for the first time representing aid services supplied to non-residents by domestic organisations working abroad. The data used are administrative data collected by NORAD (NORwegian Agency for Development cooperation). All NPHIs receiving governmental financial support have to report a full income and loss statement, as well as balance sheets and other relevant information to NORAD. The NORAD data shows that 90 per cent of the operating costs of the aid organisations operating abroad are financed through governmental transfers. From this information source estimations are done on the value of aid services exported as well as transfers made to abroad, including a geographical breakdown.

5.16.17 **Insurance** is a particular case in national accounts and balance of payments due to special definitions used. In principle, the measurement of transactions in international insurance services is consistent with that of insurance services for resident sectors in SNA93 and ESA95. Both exports and imports are now estimated by **using the ratio of services to gross premiums** as observed in the statistics on domestic insurance companies. Non-life and life insurance are recorded as two different products; re-insurance is, however, not recorded separately but included in the figures for non-life insurance. As from 2005 the information on premiums (and claims) flows to and from abroad (non-residents) necessary to estimate the corresponding insurance services flows, are taken from the **UT-statistics**, i.e. the premiums reported by the relevant domestic units (financial and non-financial enterprises, government).

5.16.18 When it comes to **software content** of the relevant CN codes in the foreign trade statistics no attempt has been made to identify this. Also there is no systematic and frequent assessment in the processing of the customs declarations as to whether exports or imports of software goods are valued at full value rather than the value of the carrier only. However, as long as the software is subject to taxation (VAT) the full value of the software and not only the value of the carrier will be declared. This can be detected in the declarations by comparing the values to the quantity data for each detailed

product group. Another point is that "goods" for which the services part constitutes most of the economic value should be classified as services and not goods. This problem has been approached by **re-classifying selected items in the Harmonised System from goods to services**. This involves specific products like photographs, films, diskettes etc, for which the value of the product is more related to the amount of services put into it than the physical good itself. The selection of goods under this treatment follows the recommendations of the CPA classification. In the nomenclature of the reporting system (UT) IT-services on software is specified and identified (code 721000). Royalties and licence fees related to software are however not identified in the reporting.

5.16.19 Exports of services are specified by some 90 NNA-products (services).

5.17 Imports of goods

5.17.1 In NNA, imports of goods are distinguished in **three main categories**, each of them cross-classified with a set of products. The three categories are:

110	Imports of goods recorded in external trade statistics
140	Imports of goods not recorded in external trade statistics

The **first category** is defined to include goods that are **recorded in the external trade statistics**. In a **second category** are recorded goods outside external trade statistics. As to the borderline between goods and services, it may be mentioned that 6 out of more than 600 products in the first category are in fact characteristic products of service-producing industries (in particular software programs and dvds/video tapes). More important, there were 2 products of current expenditure abroad for shipping which actually are regarded as goods. Basically, the cases listed in ESA95 para.3.135 should be covered in the statistics used.

5.17.2   The distinction between **intra-EU and extra-EU** transactions is not applicable in the case of Norway.

5.17.3 **Further breakdowns of these categories** have been employed for publication purposes. In particular, characteristic products of the oil and gas activities have been specified. In addition import items on aggregated characteristic products of main manufacturing industries and aggregates of imports from other groups of goods-producing industries (from agriculture, forestry and fishing, respectively mining and quarrying, and also electricity). For the breakdown on goods and services, the **product classification rather than the category classification** has been followed.

5.17.4 Imports of goods are estimated at 442.0 billion NOK in 2009, or **18. 8 per cent of GDP**. Imports of goods accounted for 67 per cent of total imports of goods and services in 2009.

5.17.5 The following table presents the **2009 figures for imports of goods**:

Imports of goods. 2009	NOK billion	Percentage of GDP
110 Imports of goods recorded in external trade statistics	430.4	18.3
130 Imports of goods not recorded in external trade statistics	11.6	0.5
Total imports of goods	442.0	18.8

<u>5.17.6</u> **Main source used** is:
- External trade statistics
- Oil and gas activity statistics

<u>5.17.7</u> The **external trade statistics** are one of the main sources used in national accounting. **Excluded from external trade statistics** are consignments of goods in direct transit, the catch outside territorial waters by Norwegian fishing vessels etc., returned merchandise, free merchandise replacements, merchandise for repair abroad etc, personal belongings, goods imported for diplomats etc, supplies under military defense agreements, commercial samples etc., monetary gold, bunkers, temporary imports, etc. **Supplementary information** for imports falling outside the customs area, include in particular transactions related to oil activities on the Norwegian part of the Continental shelf, and is obtained with the oil and gas activity statistics. The maritime transport statistics (for imports and intermediate consumption of fuels) and the energy accounts are also available for supplementary use.

<u>5.17.8</u> The **external trade statistics** are used to estimate imports of the **first categoriy** listed above. Imports of these goods are specified by approximately 380 product items (goods). More detailed description of the external trade statistics-based estimation should not be necessary.

<u>5.17.9</u> No general adjustment is made to the external trade statistics in order to account for goods that cross the border without a **change of ownership**. See paragraph 5.15.11 above for more information. Adjustment is however made for **foreign ownership adjustment territorially** (related to oil gas fields in the North Sea, air transportation of SAS).

<u>5.17.10</u> Imports of merchandise (goods) are **valued at c.i.f. prices.** These include all freight and insurance connected with the imported goods, irrespective of whether the payments are made to Norway or abroad. Total imports are adjusted from c.i.f. valuation to a f.o.b. valuation, until 2005 based on data from the annual maritime statistics and partly based on the ITRS, while from 2005 based on special estimations involving information from customs declarations exclusively. Norway is not part the Intrastat system and therefore has more information in the declarations than most European countries. The following information from the declarations is of particular interest and used for the CIF-FOB estimations.

Information from SAD=SingleAdminsitrativeDocument used in CIF-FOB estimations.

SAD boxes:	The declaration header	
15a	Country of consignment	3-digit national code (ISO 3166)
12	Freight	Freight, in NOK
20	Delivery terms	International Incoterm codes
21	Nationality Transport means	ISO alpha 3166 code (Nationality of transport means)
24	Transport means	International standard codes (EU)
	The item part	
33	Commodity number	Customs tariff line = statistical commodity number
34	Country of origin	3-digit national code (ISO 3166)
46	Statistical value	In national currency
45	Adjustment	Sum freight and insurance at item level

5.7.11 This information is used to estimate a set of ratios to be used in the CIF-FOB estimation:

- a ratio of total freight and insurance on merchandise imports CIF
- a split between freight on residents carriers and on foreign carriers (also by country)
- a distribution of the freight by type of carrier

The ratios are used successively starting with the total CIF value of goods imports to estimate total freight and insurance on goods imported to Norway, imports of freight and a split between different types of freight according to transportation means used. Also an adjustment of freights exports are estimated to take into account that part of the freight of imported goods are carried out by domestic transport units.

5.17.12 The **second category** - imports of goods not recorded in external trade statistics - is specified by 8 products (goods). The most important items is illustrated by 2009 figures below.

Imports of goods not recorded in external trade statistics. NOK billion in 2009

Sub-category and products	*Value*	*Special comments*
Imports of goods not recorded in external trade statistics	**11.6**	
005 046 Adjustment for UK ownership share investments oil fields	0.0	Estimated from oil and gas activity statistics
005 060 Imports of unspecified goods for oil and gas extraction activities	1.6	Items of oil and gas activity statistics
005 062 Imports of unspecified goods for pipeline transportation activity	0.1	Items of oil and gas activity statistics
110 900 Alcohol beverages, smuggled	0.3	Special estimations
192 220 Jet fuel and petrol	3.4	Calculation based on the energy accounts
192 260 Marine gas oils	0.1	Calculation based on the energy accounts
211 050 Narcotics, smuggled	0.9	Special estimations
301 180 Modules oil riggs	5.2	Items of oil and gas activity statistics

5.18   Imports of services

5.18.1 In NNA, imports of services are distinguished in **two main categories**, each of them cross-classified with a set of products. These categories are:

210	Current expenditures abroad for shipping
220	Direct purchases abroad by residents
230	Imports of other services

5.18.2 The **first two categories** give information on current expenditures abroad for **shipping** (also including two NNA-goods: heavy fuel oils and marine gas oils), and on direct purchases abroad by residents (on **tourism abroad** and other consumption). They are the categories of imports that are considered most interesting for specification in the area of services in Norway. The number of specifications has been increased from three to five for publication purposes (two more sub-groups on other services). A main reason is again more details from the oil and gas activities. For the delineation between goods and services, see problem mentioned under imports of goods. Basically, the cases listed in ESA95 should be covered in the statistics used.

5.18.3   Imports of services are estimated at 218.4 billion in 2009, or **9.3 per cent of GDP**. Imports of services accounted for approximately 33 per cent of total imports of goods and services in 2009.

Imports of services. 2009	NOK billion	Percentage of GDP
210 Current expenditures abroad for shipping of which services: 23.8 (1.0 %)	33.9	1.4
220 Direct purchases abroad by residents	75.8	3.2
230 Import of other services	108.8	4.6
Total	218.4	9.3

5.18.4   **Main sources used** are:
-        UT - new collection system for BoP - from 2005
-        Maritime transport statistics
-        Oil and gas activity statistics

5.18.5 From 2005, a new data collection system for residents engaged in economic relations with non-residents has replaced the ITRS source UT-statistics). For more information, see chapter 5.16.6 - 5.16 14 (Exports of services) and chapter 11.

5.18.6   **UT-statistics** - from 2005, **maritime transport statistics** and **oil and gas activity statistics** are all among the main sources used in national accounting. Two quarterly travel and holyday surveys are the sources for Travel, imports. The figures are assessed within the framework of Tourism satellite accounts.

5.18.7   Imports of services are specified by some 90 NNA-products (services).

5.18.8 Insurance services debit (imports) are estimated on annual basis by taking a share of gross premiums paid to abroad as registered by the various sources. The share used is the same as estimated annually for the domestic insurance industry, i.e. service as a portion of gross premiums.

CHAPTER 6   THE BALANCING OR INTEGRATION PROCEDURE, AND VALIDATING THE ESTIMATES

6.1   GDP balancing procedure

6.1.1   In Norway, national accounts work has since beginning been based on **the commodity flow method**. As a tradition, it has served as a basis for having a **complete integration between national accounts and input-output tables**. Nowadays, with this integration having a stronger footing in the present international standards than in the previous ones, Statistics Norway is proud to say that **computerized annual supply and use tables (SUT) have been in use for more than 50 years** in the Norwegian national accounts. Annual SUT in Norway have always been **compiled and balanced at a high level of detail**. This approach has over several decades been regarded as the most relevant one to ensure that the best GDP - and subsequently GNI - estimates are being produced.

6.1.2   The commodity flow system could be seen as a **main system** and a **number of sub-systems** attached to the main system. The full system of national accounts contains **several million elements**, although a good majority of them in fact are zero-value cells. We can look - horizontally - at the **supply and uses for the products**, and - vertically - at each product flow to be split into different value components from basic price to purchaser's price (see section on valuation below). These commodity flows still amount to approximately **200 000 elements**, of which 70-80 000 are non-zero elements and consequently have to be estimated. The work is **highly computerized** in order to cope with data at this level of detail. In Statistics Norway, this has been achieved by using the **SNA-REA software**, an application that is both a flexible system and adopted to the framework of SNA93/ESA95. This software is constructed to handle a precisely defined, documented and efficient set-up with respect to routines for compiling annual NA based on the new international NA system. The SNA-REA software contains catalogues that contain lists of codes that classify the various suppliers, types of use and products used to produce the SUT.

6.1.3   The basic philosophy behind the **design of such a detailed system** is to create a framework that could utilize all kinds of specific information, which would be robust to changes in definitions and classifications, and which would allow users of data a maximum of flexibility. To provide a good basis for deflation is another important concern, having positive impact on the quality of the constant-price estimates.

6.1.4   In designing such a comprehensive commodity flow system various considerations have been taken into account. Most important from the data sources point of view, the design is viewed against **information** available along the following **four dimensions**:

-	Product-related information
-	Industry-related information
-	Category of final use-related information
-	Valuation-related information

6.1.5   As regards **product-related information**, the important consideration behind the choice to handle relatively detailed specifications is the wealth of product data available from external trade statistics and manufacturing statistics in particular. Around 1 000 NNA-products are nonetheless far below the product numbers in those two main sources. Around

6 000 products are specified for exports and imports of goods in the external trade statistics, while some 3 000 products were specified for manufacturing output, but more extensive after adopting the structural business statistics involving manufacturing goods. The NNA level of 360 manufacturing goods may be seen as a fairly moderate number of products in that context. A problem of recent years, however, has been irregular information available on manufacturing input. This situation is however to change from 2008 with a new annual survey on input in manufacturing industries. The SBS based on the NO and TS reports are the basis for the estimation of input in manufacturing. These forms give however only aggregated information on the distribution of the total costs on products. For this reason special surveys have been carried out to capture the detailed product information needed by the NA, but the last 25 years these have been run only sporadic (every 5 years). As from 2008 there will be a annual survey on the use of detailed products in manufacturing. This is important especially for the deflation of intermediate consumption in the NA and not so much of direct importance for GNI estimates. However, through the overall balancing process using the commodity flow approach some effect can not be ruled out. In the services area, the number of NNA-products has increased over time, but still not beyond the level of outputs identified in the sources, whether these are product-based or activity-based. Output of services is to a large extent defined in a characteristic way from more detailed activities than industries defined as NNA-industries.

6.1.6   As regards **industry-related information**, the NNA level of detail is reasonably well matched with the availability of production statistics and similar industry-related sources. To reach a more suitable basis for practical work in the manufacturing area the industry specifications for manufacturing has been cut from around 100 industies in the early 1990s to 44 industries in the current NNA. For services industries, the less fortunate data situation is more related to the product composition of intermediate consumption than to industry totals of intermediate consumption as covered in the SBS for those industries. A symptom of this fact has rendered necessary a rather extensive use of unspecified intermediate consumption items in NA in the field of services industries.

6.1.7   As regards **categories of final uses**, the NNA level of detail has a reasonably good matching between detailed products (services) and detailed breakdown of 68 groups of government final consumption expenditure with basis in government accounts linked to common database with the national accounts. Household final consumption expenditure has a detailed breakdown of 105 groups. Also for gross fixed capital formation, the number of categories have been fairly high - 51 types of fixed assets. In this area - more than is the case for the consumption flows - the estimation benefits from the detailed product breakdown and the nature of the given product supplies. For changes in inventories - apart from a few special items - the Norwegian situation calls for no sub-categories at all, while utilizing the detailed product breakdown to monitor and estimate change in inventories for each product. It is foreseen that a new practice – or the prevailing one being modified - could be established in the future. For exports and imports, the product-category cross-classification has a similar position as for changes in inventories, in the sense that product details are far more important than sub-categories in NNA. The opposite is however true for the balance of payments treatment of exports and imports. In NNA, a few categories of exports and imports have been introduced at any rate.

6.1.8   As regards **valuation-related information**, the most important value components are contained in the difference between purchaser's price and basic price of each commodity flow. They are specified for proper treatment, i.e. the trade margins and other kinds of margin combined, non-deductible VAT, other taxes on products and subsidies on products. The nature of attaching information on prices, net taxes and margins to specific product flows has provided a sound basis for an articulated approach to the valuation challenges in the national accounts estimation in Norway (see section on valuation below).

6.1.9   **The supply side** of the NNA system is contained in a **matrix for domestic output (make matrix)**, the size of which is approximately 1 000 products by 150 industries (around 180 industries in practice when distinguishing the different types of producers). **Imports** are added at the level of the 1 000 NNA-products as well. Customs duties are considered taxes on products. **Supply in basic prices** thus consists of output in basic prices and imports in c.i.f. prices.

6.1.10   **Imports c.i.f. of goods** are fed directly into the national accounts system from the files containing external trade statistics. The master file used for transformation to NNA-products is updated annually and contains link for merchandise imports as well as merchandise exports. For international reporting, imports c.i.f. of goods are transformed to imports f.o.b. and imports of transportation and insurance services. **Imports of services** are coordinated with the **integrated balance of payments statistics**, which are designed to supply NNA with all the product details that are needed.

6.1.11   **Output** is calculated in several parts and ways. For **manufacturing** and mining and quarrying, a master file has been established and updated annually to transform the data from manufacturing statistics to NNA-products. These data are fed directly into the NNA system. For **non-manufacturing industries**, a great number of different sources and methods of estimation are used. For some industries, such as government services, only few adjustments are required, while there is a varying degree of closeness to source data in other industries, and in some industries a great number of adjustments are needed. The process has been much more uniform in later years with the use of SBS-based statistics in a large majority of industries.

6.1.12   It should be observed that **non-characteristic output** is also included with output of the respective industries of NNA. That means, e.g. that trade activity of manufacturing industries is treated as non-characteristic output of manufacturing.

6.1.13   In order to **illustrate the Norwegian practice**, 2009 figures have been filled into the chapter 9 tables of the ESA95 input-output framework. A **supply table in basic prices** is drawn up in **Table IX.5 of ESA95**. It also includes a transformation into purchasers' prices. The NNA data shown in the table are **totals** and **recordings of three of the largest products in 2009**:

Code	NNA-products illustrated	NOK billion in 2009
060 010	Crude oil	274.3
460 007	Wholesale trade margins	157.6
684 000	Dwelling services, owner-occupiers	119.5

Supply table in basic prices, including transformation into purchasers' prices. NOK billion 2009

	Output				Imports c.i.f.	Total supply in basic prices	Trade and transport margins	Taxes less subsidies	Total supply in purchasers prices
Product		Industries							
	060	460	688	Total					
060 010	274.3			274.3	3.6	277.9	2.5		280.5
460 007		157.6		157.6		157.6	-157.6		0
684 000			119.5	119.5		119.5			119.5
Total output	**485.3**	**168.4**	**137.8**	**4021.0**	**660.4**	**4681.4**	**-**	**261.3**	**4942.7**
Market	485.3	168.4	18.3	3289.1	660.4	3949.5	-	261.3	4210.8
Own final use			119.5	131.3		131.3			131.3
O.non-market				600.6		600.6			600.6

6.1.14   The **row total** primarily shows the **distribution of total supply** in basic prices **on output and imports**. From supply table above it is seen that NOK 660.4 billion out of the 4681.4 billion for total supply of goods and services is covered from imports, measured in basic prices.

Supply in basic prices	NOK billion in 2009	Percentages
Output	4 021.1	85.9
Imports	660.4	14.1
Total supply	4 681.5	100.0

6.1.15 **Total use of each of the NNA-products** - also in basic prices - is to be **confronted with the supply** in the balancing process. This involves **several steps**. **First**, each category of use in purchasers' prices must be estimated. The product composition of each category of use is determined as well at this step. **Second** - in one operation including the product breakdown - the corresponding values in basic prices are calculated. **Third**, a first phase of the balancing of each product is carried out including estimation of changes in inventories of each product.

6.1.16 Total **exports** and the breakdown on products are known from external trade statistics and balance of payments statistics, as described above for imports.

6.1.17 Total **intermediate consumption** in each industry is based on much the same sources as for output, but in general the estimation problem is more complicated. In some areas, even when statistical coverage may be good, some kinds of expenditure are in the first place given at the enterprise level and not for the establishments. For manufacturing industries, intermediate consumption data have been readily available along with the data on output. After a period of receiving details on intermediate consumption in manufacturing every 5 year only, from 2008 on data on detailed products are once again supplied on an annual basis. For industries outside manufacturing industries, the **structural business statistics** have provided **totals** together with some details to be used in most industries.

6.1.18 The initial estimates for each of the items of **household consumption expenditure** are either made directly in current values or - more often and eventually for all COICOP groups - as estimates of **growth rates at current prices** to be multiplied by the latest figures of the preceding year. The growth rates are the results of several transformation processes that translate the classifications of the retail trade turnover index and SBS-based annual statistics for retail trade into the COICOP being used in NNA. In this way, and also taking into account annual changes of the household consumer survey data (using the COICOP classification), growth rates can be obtained the particular consumption groups. Furthermore, the price index for each group is taken into consideration. It is a matter for experienced national accountants to make the choice of estimate for each group. The product composition of each group is usually neutral to this approach - applying same growth to all products of the particular COICOP group - except that particular product information may be utilized and thereby affecting the product composition of the group.

6.1.19 Data needed for the estimation of **central and local government consumption expenditure** are received from the specialized division on government finance statistics. Included is also a detailed breakdown of government sales (fees from households and other sectors). The breakdown of government consumption is applied in the commodity flow system of NNA as well. The source of KOSTRA is being utilized with the local government accounts data.

6.1.20 For **gross fixed capital formation**, data for most industries are given by the SBS-based statistics or other industry statistics. The uncertainty with the GFCF data should however be stressed, making adjustments to the initial estimates more common than in any other category of final demand. In particular the composition of the GFCF on type of invetments goods can be changed through the commodity flow system.

6.1.21 **Changes in inventories** are a weak point in the compilation of national accounts in Norway, since reliable data have not been readily available for the particular product-oriented compilation context used. The commodity flow method has therefore a direct application for this item, i.e. its initial

estimate is obtained from adding all product differences between supply and other uses in basic prices. However, some crude plausibility checks are made with the quarterly statistics on inventories in manufacturing. The direct use of SBS-based statistics - having made the necessary adjustments first - is probably a new approach that may prove useful in years to come.

6.1.22 **On the user side**, the recorded items are measured in purchasers' prices. The **initial use table**, therefore, is a use table **in purchasers' prices**. In the illustration below, the largest three NNA-products and corresponding industries from the supply side are supplemented by total final use categories (1)-(6). **Final use categories** are:

(1)	Final consumption expenditure by households
(2)	Final consumption expenditure by NPISH
(3)	Final consumption expenditure by government
(4)	Gross fixed capital formation and valuables
(5)	Changes in inventories
(6)	Exports

At the bottom of the industry part of the table, **main components of value added** by industry are shown with **supplementary information** on gross fixed capital formation (GFCF) and labor inputs (hours worked), also by industry. Main components of value added are summarized in three items:

A	Compensation of employees
B	Other net taxes on production
C	Operating surplus/Mixed income, gross

Use table in purchasers' prices. NOK billion 2009.

Product	Intermediate consumption by industries				Final uses by categories							Total use, purchasers prices
	060	460	688	Total	(1)	(2)	(3)	(4)	(5)	(6)	Total	
060010				33.4					-2.9	250.0	247.1	280.5
460007												
684000					119.5						119.5	119.5
Total	**87.9**	**82.6**	**34.9**	**1925.8**	**979.2**	**48.5**	**530.7**	**515.6**	**13.9**	**929.1**	**3017.0**	**4942.8**
Value added components												
A	24.3	60.7	0.0	1113.6								
B	3.6	-0.9	1.5	-23.4								
C	370.3	25.9	80.5	1005.1								
Value added	398.1	85.8	80.5	2095.3								
Output	485.3	168.4	119.5	4021.1								
Supplemtenary info												
GFCF	133.9	5.3	95.3	515.6								
Labor inputs	38.3	175.2	-	3672.4								

6.1.23 The **row total** shows the **distribution of total use** of goods and services **on intermediate consumption** and **the six final use categories**. The largest main items are intermediate consumption 39.0 per cent, exports 18.8 per cent and household consumption expenditure 19.8 per cent of total use in purchasers' prices in 2009.

Uses in purchasers' prices	NOK billion in 2009	Percentages
Intermediate consumption	1 925.8	39.0
Exports	929.1	18.8
Household consumption expenditure	979.2	19.8
Government consumption expenditure	530.7	10.7
Gross fixed capital formation	515.6	10.4
Changes in inventories	13.9	0.3
NPISH consumption expenditure	48.5	1.0
Total uses	4 942.8	100.0

6.1.24 Some **special comments** are offered to the figures of **the use table**:

- For **wholesale trade margins**, the distribution on uses is not directly obtainable in NNA, primarily because trade margins are not specified on wholesale and retail trade respectively on the use side. Some allocation might be provided from some simple assumptions (through uses of products involved).

- **Labor inputs** are given in millions of **hours worked** and combined for employees and self-employed. As documented in chapter 7 and elsewhere in the inventory, NNA contains a number of employment series, among which hours worked are considered most adequate as labor input measure.

6.1.25 **Balancing the system in basic prices** is described in the paragraphs that follow. Comparisons and analysis are often made on the final completed estimates, but it may also be mentioned that the pre-balancing and the post-balancing data are not normally compared systematically, and the revisions in that respect are not usually documented.

6.1.26 First, **set of balances for the value components** lying between purchaser's price and basic price, i.e. non-deductible VAT, other taxes on products, subsidies on products, and trade and other types of margin, respectively, are calculated. These are value components that are determined initially on the user side following the commodity flow approach and the explicit use of catalogues specifying which flows are involved. Once having **determined their use**, the **corresponding notional item on the supply side** is arrived at.

6.1.27 Determining the **flows of margins** is somewhat **more complicated**, as user side information by products is reconciled with supply side information by industries. While the balancing leaves the initial use side estimates unaffected for the other value components, this is normally not the case for the margins. Here, trade margins in particular - as well as other margins to some extent - are sometimes corrected on the use side by products when the totals of wholesale and retail trade margins calculated for all uses are compared with total supply of each of these kinds of trade margins. If there are big differences, the matter is looked into. This may result in adjustments of trade margins for certain categories of final demand, and thereby affecting other flows, most typically the initial estimate of changes in inventories. The balancing of the margins thus constitutes a particular and complicated process. In general, the balancing of the trade margins would not have an impact on data in purchaser's prices. As said, there could be adjustments to changes in inventories, rather.

6.1.28   Having determined the balances for the value components between purchaser's price and basic price, a **basis for the confrontation between supply in basic prices and uses in basic prices** has been obtained. During this balancing process in basic prices, some estimates might be changed directly. For instance, changes are made by eliminating change in inventories on a service product or by adjusting changes in inventories that are found unreasonable. Furthermore, there may be changes indirectly from adjusting again items in a final balancing of trade margins or (less likely) VAT, taxes on products, subsidies on products or other margins.

6.1.29   There are also **notional products** involved in the commodity flow method applied. These often have a most complicated treatment and might not be dealt with here.

6.1.30   It should be emphasized that the balancing process is **not just a computerized operation**. It is a manual operation or balancing process, in which even going back to the most detailed primary statistics is necessary from time to time. The art of national accounting takes over from the techniques of national accounting, in a work that usually is shared between a few people. The **manual balancing process** (on-line computerized though) usually takes **1 - 2 months**, and it may seem a little paradoxical that the use of resources might be significantly higher in years when more benchmark information is available, e.g. in years with industrial input censuses. More extensive information requires more resources for having it produced, but also more resources for having it used in national accounts. Outside expert knowledge is seldom used, only for special products and areas on ad hoc basis (an example is given for ocean transport).

6.1.31   Overall check in the manual balancing work might also lead to **detection of errors in the data input** into the system on either the supply or use side. Furthermore, some significant new developments may have happened which must be further investigated before the balancing could be completed. The commodity flow method might also have a decisive influence not just on the commodity composition, but also on the total sizes of the final demand categories. Again, it should be stressed that the manual balancing process indeed is **computerized in the sense** that each person engaged in the balancing works **on-line from a PC**. In addition, some efforts utilizing **RAS technique** are made.

6.1.32   The **balanced commodity flow system** described above might be seen as consisting of several matrices:

-       Supply matrix in basic prices
-       Use matrices, separately in
Basic prices
Non-deductible VAT
Other taxes on products
Subsidies on products
Trade margins and other margins

6.1.33   When the separate use matrices are added together, the **use matrix at purchasers' prices** is arrived at.

6.1.34   As seen above, the Norwegian national accounts have **articulated flows of the various value components** embodied in the supply and use tables. In NNA, therefore, the most important value components between purchaser's price and basic price of each product flow are specified, technically by 2-digit codes connected to each pair of transaction by product identification. The 2-digit value component items introduced as components of purchaser's price are:

10	Basic price	
11	Taxes on product	
12	Subsidies on product	
14	Wholesale and retail trade margins, transport margins	
15	Net taxes on trade margins	
17	Non-deductible VAT	

<u>6.1.35</u> **Value component items for aggregates** can also be arrived at:

13	Producer's price	(defined as: 10 + 11 - 12)
16	Trade margins in producer's price	(defined as: 14 + 15)
19	Purchaser's price	(defined as: 13 + 16 + 17)

<u>6.1.36</u> The use table in purchasers' prices is to be split in **sub-tables** within the same use table framework. Thus, the following **three ESA tables** might be seen as three segments or sub-tables of the use table just presented in purchasers' prices:

Table 9.7	A simple trade and transport margin table
Table 9.8	A simple taxes less subsidies on products table
Table 9.9 and 10 combined	A use table in basic prices

The split of the latter in **separate parts for imports and domestic production** is considered **a follow-up operation** after first providing a use table in basic prices for the total economy. Thus, **tables 9.9 and 9.10** might not be seen as central statistical tables of the basic structure, but as **analytical follow-up tables**. In particular, the **import matrix** of table 9.9 is very useful for the construction of symmetric input-output tables that should follow from the statistical supply and use tables by applying certain assumptions.

<u>6.1.37</u> The first segment or sub-table of the use table framework to be illustrated is that of ESA table 9.7 on **trade and transport margins**. In NNA, the margins are not confined to traditional trade and transport margins, but are also connected to electricity and pipeline transport activities.

Simple trade and transport margin (and other margins) table. NOK billion 2009.

	Intermediate consumption by industries				Final uses by categories							Total use, purchasers prices
	060	460	688	Total	(1)	(2)	(3)	(4)	(5)	(6)	Total	
060010				0.3						2.2	2.2	2.5
460007												
684000				-							-	-
Total	1.1	6.4	2.2	144.5	143.0	-	5.7	20.1	-	54.2	223.0	367.5

<u>6.1.38</u> The **row total** shows the **distribution of total margins on intermediate consumption and final uses**, and furthermore, by **main use categories**. According to 2009 figures, almost 80 per cent of the margins were related to the product flows for household consumption expenditure and intermediate consumption, about 40 per cent in each of these two main items.

Total margins by uses	NOK billion in 2009	Percentages
Intermediate consumption	144.5	39.3
Household consumption expenditure	143.0	38.9
Exports	54.2	14.7
Gross fixed capital formation	20.1	5.5
Government consumption expenditure	5.7	1.6
Total uses	**367.5**	**100.0**

6.1.39   The second segment or sub-table of the use table framework to be illustrated is that of ESA table 9.8 on **taxes less subsidies on products**.

A simple taxes less subsidies on products table. NOK billion 2009

	Intermediate consumption by industries				Final uses by categories							Total use, purchasers prices
	060	460	688	Total	(1)	(2)	(3)	(4)	(5)	(6)	Total	
060010				-							-	-
460007												
684000				-							-	-
Total	0.3	0.5	0.0	16.3	49.1	-	0.0	24.8	-	0.0	73.9	90.2

6.1.40   The **row total** shows total **taxes less subsidies on products distributed on** flows of **intermediate consumption** and final uses, and furthermore, by **main use categories**. More than half of total taxes less subsidies on products relate to the flows of household consumption expenditure.

Taxes less subsidies on products by uses	NOK billion in 2009	Percentages
Intermediate consumption	16.3	18.1
Household consumption expenditure	49.1	54.4
Exports	0.0	0.0
Gross fixed capital formation	24.8	27.5
Government consumption expenditure	0.0	0.0
Total uses	**90.2**	**100.0**

6.1.41   The third segment or sub-table of the use table framework is that of ESA tables 9.9 and 10 combined, and show the **basic prices' part** of the use table in purchasers' prices. By using the same framework in all tables, the elements of the use table in basic prices are arrived at by subtracting corresponding elements from the margins table and from the taxes less subsidies on products table from the corresponding elements of the use table in purchasers' prices. The row total of the margin table, however, must be added into the row total in basic prices to include services created by margins and to offset the deductions on the flows of goods.

Use table in basic prices. NOK billion 2009.

	Intermediate consumption by industries				Final uses by categories							Total use, basic prices
	060	460	688	Total	(1)	(2)	(3)	(4)	(5)	(6)	Total	
060010				33.1					-2.9	247.8	244.8	277.9
460007												157.6
684000					119.5						119.5	119.5
Total	**86.8**	**82.1**	**34.9**	**1864.6**	**816.9**	**48.5**	**527.2**	**469.9**	**25.3**	**929.1**	**2816.9**	**4681.5**
Net taxes on prod.	0.3	0.5	4.1	61.2	162.3	-	3.5	45.7	-11.4	0.0	200.1	261.3
Total in purch. prices	**87.1**	**82.6**	**39.0**	**1925.8**	**979.2**	**48.5**	**530.7**	**515.6**	**13.9**	**929.1**	**3017.0**	**4942.8**
Value added components												
A	24.3	60.7	0.0	1113.6								
B	3.6	-0.9	1.5	-23.4								
C	370.3	23.9	80.5	1005.1								
Value added	398.1	85.8	80.5	2095.3								
Output	485.3	168.4	119.5	4021.1								
Suppl. info												
GFCF	133.9	5.3	95.3	515.6								
Labor inputs	38.3	175.2	0.0	3672.4								

6.1.42 For **another illustration** of this value component system, **some typically taxes and subsidized products** for household final consumption expenditure are shown:

Household consumption expenditure of four NNA-products. NOK billion in 2009

Value components	Milk and cream 105 100	Beer 110 500	Electricity to households 35 110	Petrol (gasoline) 192 210
10	3.6	1.8	11.3	6.1
11		4.2	3.1	
12				
14	2.0	0.1	11.4	2.4
15			3.7	5.5
16				
17	0.8	1.5	5.9	3.5
18				
19	**6.4**	**7.6**	**32.3**	**17.5**

6.1.43   The commodity flow system part must be supplemented by some further information in order to obtain the basis for ordinary national accounts tables and the input-output tables, i.e. supply and use tables as well as symmetric input-output tables. Most important **supplements** are the **components of value added by industry**, i.e. compensation of employees, consumption of fixed capital, other taxes on production, other subsidies on production, operating surplus and mixed income. Other supplements by industry to the use table - part of the ESA95 table - are **gross fixed capital formation** and **labor inputs** that are also part of NNA, and **fixed capital stock.**

6.1.44   The actual supply and use tables in Norway - compiled on annual basis - are **not published in all details, but are obtainable for users** of the national accounts. The level of details is indicated in the classification chapter, in particular concerning products, industries and categories of uses.

6.1.45   From the supply and use tables, **symmetric input-output tables** are constructed **on an annual basis**. This input-output compilation work is described in special publications, in particular Rapporter 92/26 Kryssløpsdata og kryssløpsanalyse 1970-1990 by Nils Øyvind Mæhle (in Norwegian only).

6.1.46   Balancing adjustments are fed back to basic sources in a number of cases, and also, source statisticians are consulted before these adjustments are made.

6.1.47   In reference to question of **storing balancing adjustments**, this was started for the year 2003 by compiling a simple table system showing original industry figures, adjustments and final NNA figures for industries. It was used to present to the various SBS data suppliers what adjustments were done to their industry data through the NA compilation process. As from 2005 however detailed process tables for all supply and use components are compiled designed to supply the Eurostat Process table with aggregated data. These process tables are now compiled annually. As to the individual adjustments there is however a log including explaining text kept with each NNA annual version.

6.2   Other approaches used to validate GDP

6.2.1   **Other approaches** are also used to validate the estimates of GDP or GNI. It should be emphasized that **integration** has been a strong motivation to broaden and harmonize the estimates of the "satellites" of **labor accounts** and **balance of payments** with those of the central national accounts. The finalization and publishing of labor accounts, balance of payments and national

accounts is thus made by the same unit of national accounts in Statistics Norway, and by use of the same data and coding structures (systems).

6.2.2   The history of **Labor accounts** in Norway goes back to second half of the 1980s when Statistics Norway introduced new and comprehensive employment figures in the national accounts, inspired by principles and concepts from labor accounting systems (LAS). Among the new elements introduced were estimates on total hours worked and distribution of employment by sex. Consistent employment figures have been estimated back to 1962. The **Norwegian approach** is characterized by being integrated in the national accounts. It focused initially on employed persons, while concepts like jobs and filled posts were not used. Until now, there has been no explicit treatment of persons with more than one job, due to shortcomings in the statistics. It follows that characteristics like shift system, pay system and amount of compensation of employees were related to employed persons and not to posts or jobs. Following the 2006 main revision however, now also jobs have been included as characteristics in the Labor accounts. The labor accounting system in the Norwegian national accounts do not comprise unemployed persons and persons outside the labor force. However, consistent estimates for these concepts are provided by the Labor Force Sample Surveys, a link that is utilized in labor market analyses. Data on vacancies are not utilized in this system. The Norwegian approach contains estimates on **total hours worked**, however, in agreement with the general LAS-structure. The aim is to estimate **hours actually worked**, but the distinction between hours worked and hours paid for is not always clear. Sex was the only demographic variable introduced in the Norwegian employment figures until mid 1990s, while later education has been introduced into the system as well. Breakdown of employed persons is also made in the context of regional accounts, i.e. regional breakdowns in NA by county. An updating or reorganization of the Labor Accounts took place with the 2006 main revision, introducing also jobs as a specified variable.

6.2.3   The way labor accounts is seen as a means for validating the GDP figures are described in more detail in chapter 7 on **exhaustiveness.** This issue is also outlined in the employment section of section 1.7 in the overview chapter.

6.2.4   **Balance of payments (BOP)** in Norway has long traditions of being integrated with the Norwegian national accounts. Principles and definitions are in full accordance with corresponding international rules for the presentation of the National Accounts. The Norwegian BOP is compiled and presented in accordance with the Balance of Payments Manual, 5th edition. Statistics Norway is responsible for producing and publishing both NA and BOP statistics, reflecting the view that BOP in principle is the mirror of the Rest-of-the-World account in the NA statistics. BOP tables have been presented as part of NA tables and publications. And descriptions of BOP compilation methods have been included in the NA methodology publications.

6.2.5   The latest aspect of true integration between the two systems is the full integration in the software systems of compilation. Technically speaking, the **same IT system** is now used for the **current production of both BOP data and NA data**. By introducing a joint data structure, classifications and coding systems on a detailed level - and using the same set of estimation procedures and rules for the calculation of values of corresponding variables in the two statistical systems - data for both BOP tables and NA tables are extracted from one joint data base.

6.2.6   An important incentive behind integration is to utilize all relevant information from the other institutional sectors, and thus to **ensure consistency between the Rest-of-the-World account**, and thus BOP, **and the other sectors** in the institutional sector accounts. This opens for the possibility to make systematic evaluation and plausibility checks on the BOP data within a consistent macro-economic accounting framework. For example assessment of exports and imports of services flows at current prices within the NA price and volume decomposition model.

6.2.7   The **integration of exports and imports** items of the BOP with the corresponding items of the NA is made possible through the detailed supply and use tables for products combined with a **detailed commodity-flow system**. For other items on the current account, a separate but quite similar balancing system is used.

6.2.8   Another area of validating GDP is **value added tax (VAT).** A most interesting check between theoretical VAT calculated in the national accounts and actual VAT recorded in the government accounts is referred to. Main results of this kind of check show normally a quite stable difference in the area of 3 - 4 per cent. The small and positive differences show that more activity is covered than is evidenced by the taxation authority. Statistics Norway believes that the size of these differences is reasonably well in their context as checks to ensure exhaustiveness. Although the 2006 main revision introduced the concept of time-adjusted government accounts VAT figures in NNA, the technical system generating theoretical VAT were kept for plausibility check purposes.

6.2.9 For the year 2009 however the difference is 6.1 per cent. This larger difference than normal can probably be explained by the down turn of the economy in the wake of the financial crisis, increasing the number of bankruptcies almost 40 per cent from 2008 to 2009.

6.2.10   Although the GNI Inventory is confined to NA estimates in current prices, it may be relevant to add here as important to the evaluation of the current-price estimates, the process of deflation arriving at constant-price estimates, and **comparisons made between volume changes in NA and other volume data available**. Work is generally made in sequential order, first in current prices, then in constant prices. Simultaneous balancing is not carried out, rather made when analyzing results instead. However, sometimes repercussions back to current price estimation are being made from constant-price estimates. Trade is another area of recalculations.

CHAPTER 7   OVERVIEW OF THE ALLOWANCES FOR EXHAUSTIVENESS

Introduction

7.1   The aim of chapter 7 is to bring together the explanations given elsewhere in the inventory on the allowances made for **exhaustiveness**, the aim being to give this issue its due prominence and to ensure that as good a case as possible is made for the exhaustiveness of GNI. First, it addresses the **Commission Decision on Exhaustiveness** (Titles III, IV, V and VI). Second, there are particular subject areas having been dealt with by task forces. These subject areas address best practices for achieving exhaustive estimates in **construction,** in **distribution,** in using **household budget surveys,** and overcoming the problems posed for the national accounts by the introduction of **Intrastat.** Third, the issue of **illegal activities** is dealt with here to inform that the first results have been achieved in the areas of prostitution, illegal drugs and smuggling covering the years 2002 onwards. These results have been included in the NNA figures in the 2011 main revision. Fourth, the Tabular Approach scheme has not been taken on board in the national accounts compilation, but is brought to staff's attention and must be dealt with in the future.

7.2   On the Commission Decision on Exhaustiveness, **Title III** - when introduced in the mid-90s - relates to the **existing calculations and adjustments made to ensure exhaustiveness** of the GNP (later GNI) estimates. For Norway, this has been summarized below in four parts. First part addresses the **general approaches** used to ensure that the estimates of production are exhaustive. Thus, for example, it discusses the completeness of the sources used, the grossing-up of statistical surveys and the use of the business register. Second, it summarizes explicit and implicit adjustments that are made for **exhaustiveness in the production approach**. Third, it discusses methods used to ensure the **exhaustiveness of the expenditure approach**. And the final part outlines the **checks** that are made on the resulting estimates of GDP and GNI and their components.

Title III
General approaches

7.3   In identifying population for most economic surveys that are undertaken, **Statistics Norway's Business Register (BR)** has an important role in the context of exhaustiveness. In principle, the Business Register comprises all production units, i.e. all units that are relevant for economic statistics by industry are included today. Each unit in BR is identified by a uniform **organization number**. This contributes to more efficient use of administrative data. The updating of units is mostly based on administrative registers, the Value Added Tax Register and the Register of Employers in particular. Statistical units employed are enterprises and local KAUs. However, the individual activity must be of a certain size before a local unit is divided into several different local KAUs. The statistical information - confined to employment and turnover data - of the registered units in the Register is normally updated through main surveys or more simple questionnaires. The business register has a general cut-off threshold set at NOK 50 000 in annual turnover. Units below this threshold are not covered by the VAT Register, which is used for updating units in the BR. This shortcoming is assumed to be of minor importance, although there are no studies available trying to quantity the missing value. It should be emphasized that the BR is more of an **indirect source** than   being a direct source of estimation for the NA. See also chapter 3.1.

7.4   In broad terms, five main categories of **types of sources** have been used when estimating GDP by the production approach (main approach used in Norway).

(a)   **Annual production statistics** - also **including** sources termed as **accounting statistics** and associated with **Structural Business Statistics (SBS)** - are collected for fish farming within NACE A, all industries within industries NACE B – NACE J, real estate activities within NACE L, all industries within NACE M and NACE N and repair of computers and personal and household goods and other personal service activities (except prostitution) within NACE S

(b)   **Supervisory data** are used for financial intermediation (insurance included)

(c)   **Functional estimates** (prices x quantities) are used for agriculture, forestry, fishing and dwelling services

(d)   **Estimates from the costs side** are used for central and local government and for non-profit institutions serving households (NPISHs)

(e)   **Annual reports and miscellaneous sources** are used for other industries within services.

7.5   For **source category (a) - production statistics** - the annual censuses, surveys or accounts by which Statistics Norway collects market production data covered industries responsible for 60 per cent of GDP of the Norwegian economy in 2009. The annual **SBS-based accounting statistics** are used in NNA in a wide range of industries (see table below), representing 38.1 per cent of GDP or 42.9 per cent of total value added. The **annual sources** referred to as production statistics are **census-based, register-based or otherwise fully covered through accounts** and the like. The current situation with the availability of full coverage through the census like administrative register based SBS, the question of various quality problems related to fraud etc. can be seen as a question belonging to the project of estimating illegal activities. Results from this project have been incorporated in the NNA as part of the main revision in 2011. Full coverage directly applies for fish farming, extraction of crude petroleum and natural gas, electricity, gas and water supply, railways, scheduled motor bus transport, tramways and suburban transport, pipeline transport, air transport, communication (post and most telecommunications), sewage and refuse disposal etc. and radio and television activities. The SBS based manufacturing statistics are also census-like, since large establishments (local KAUs) fill in complete forms, while small establishments are covered in a more summarized way (total employment and turnover collected only). Needless to say also cost side estimates for general government resting on full set of government accounts and supervisory data for financial enterprises also give full coverage. The following table presents the contribution from each type of source within the various industry areas to the total value added and adding net taxes on products, to GDP.

Types of sources used by NACE industries. Percentages of GDP. 2009

NACE	Production statistics		Supervisory data	Functional estimates	Cost side estimates	Miscellaneous	Total
	SBS-based	Other					
A		0.3		0.9			1.2
B	0.2	18.6					18.8
C	7.3						7.3
D		2.1					2.1
E	0.2				0.3		0.5
F	5.2						5.2
G	7.3						7.3
H	4.2	0.8					5.0
I	1.2						1.2
J	3.5						3.5
K			4.1				4.1
L	2.7			4.0			6.7
M	3.9						3.9
N	2.4						2.4
O					5.1		5.1
P					3.9	0.2	4.1
Q					7.4	1.5	8.9
R					0.4	0.4	0.8
S	0.0				0.3	0.5	0.8
T				0.0			0.0
Total	**38.1**	**21.8**	**4.1**	**4.9**	**17.4**	**2.6**	**88.9**
Net taxes on products							11.1
GDP							**100**

7.6   **Category (b) - supervisory data** - is relevant for financial intermediation including insurance, representing 4.1 per cent of GDP in 2009. **Functional estimates - category (c) or prices x quantities** - are used for agriculture, forestry, fishing and dwelling services, representing 4.9 per cent in 2009 (decreased significantly since 1990). Although the data sources for agriculture and forestry are available in value terms in Aggregate account of agriculture and Aggregate account of forestry, they are basically calculated on a price x quantity basis. This approach is also followed for fishing (except fish farming), where catch statistics contain detailed data on quantities and values by fish species. Even more significantly, the estimation of dwelling services for own final use belongs to this category, as rents data and time series for stock of dwellings in square meters (and their values) are involved.

7.7   The use of **estimates from the costs side - category (d)** - reflects the normal approach of estimation for central and local government and for non-profit institutions serving households - important in Norway - and representing 17.4 per cent of GDP in 2009. The last **category (e)** consisting of other types of sources, such as **annual reports and miscellaneous sources**, added to some 2.6 per cent of GDP in 2009, less than half of the share in 1990. They belong to various parts of market service activities, i.e. education, health and social work, part of other community, social and personal service activities, and also to private households with employed persons.

Title III
Production approach

7.8   In 2009 **total adjustments made to ensure exhaustiveness from the production approach** added to NOK 16.7 billion, or **0.7 per cent of GDP** and GNI. Adjustments were highest in construction, accommodation and food services, other services and agriculture etc.. This is a marked reduction both in absolute value and as a share of the total GDP compared to the situation before the introduction of the **accounting based SBS.** For example, adjustments were earlier done for missing data for one-man establishments in both manufacturing and construction. These were made redundant with the introduction of SBS-data. Also estimated figures for dwelling services from holiday homes, now based on register data, are no longer viewed as adjustments for exhaustiveness, bringing the total value of exhaustiveness adjustments downward compared to earlier. In the remaining paragraphs of this section, the results of this exhaustiveness study are reviewed by industry. But first an overview in the following table:

Adjustments for exhaustiveness by industry. 2009

NACE groups	NOK billion in 2009	Per cent of GDP
A - Agriculture, forestry and fishing	2.3	0.1
B – Mining and quarrying	0.5	0.0
C - Manufacturing	-	-
D – Electricity, gas, steam and hot water supply	0.4	0.0
E - Water supply, sewerage, waste management and remediation	-	-
F – Construction	16.5	0.7
G – Wholesale and retail trade, repair of motor vehicles and motorcycles	-	-
H - Transport and storage	0.9	0.0
I – Accommodation and food service activities	2.8	0.1
J – Information and communication	-	-
K - Financial and insurance activities	-	-
L - Real estate activities	-	-
M – Professional, scientific and technical services	-	-
N - Administrative and support service activities	-	-
O - Public administration and defence, compulsory social security	-	-
P – Education	-	-
Q - Health and social work	-	-
R - Arts, entertainment and recreation	-	-
S - Other services	2.4	0.1
T - Private households with employed persons	-	-
Total	**25.9**	**1.1**

7.9   For NACE A - **Agriculture, forestry and fishing** - most important adjustment for improving exhaustiveness include agricultural production for own consumption in other households than farmers' households (fresh fruit in particular) and own consumption of fish. Other adjustments made include reindeer production, services from kennel activities not covered by basic data, and services incidental to forestry and logging, like timber scaling, spraying the trees and forestry management planning. Also added are estimates on cannabis production (negligible figure).

7.10   For NACE B - **Mining and quarrying, extraction of crude petroleum and natural gas** - adjustment for foreign ownership faced with border fields with the UK in the North Sea might be considered a problem of exhaustiveness.

7.11   For NACE C - **Manufacturing** - no adjustments are made - adjustment to include one-man establishments was **made redundant in 2000** when also one-man establishments were covered by the SBS for manufacturing.

7.12   For NACE D - **Electricity, gas, steam and hot and water supply -** adjustments were made to cover supply of gas through mains.

7.13   For NACE E - **Water supply, sewerage, waste management and remediation** - no adjustments to the sources were done from the point of exhaustiveness.

7.14   For NACE F - **Construction** - adjustments for exhaustiveness of considerable effect were made for own-account construction of buildings. This relates to existing dwellings (major improvements and the like), but also to own-account construction of new dwellings and on cottages, summer houses etc. Also adjustments for exhaustiveness related to construction market activities have been made. These adjustments are based on reports from both tax authorities and private research institutes (Frisch-senteret).

7.15   For NACE G - **Wholesale and retail trade; repair of motor vehicles, motorcycles and personal and household goods** – no adjustments to the sources were done from the point of exhaustiveness.

7.16   For NACE H - **Transport, storage and storage** - adjustments were made to certain areas, in particular for taxi operation. Free transport was estimated in railway transport and air transport based on experts' view and other considerations and added to output. Additions were not made to compensation of employees however as it is assumed that the income is declared.

NACE H. Adjustments for exhaustiveness. 2009. NOK million.

Industry	Income in kind (free travel)		Tips	Unregistered activity
Land transport	**211**		**223**	**200**
Railways		211		
Taxies			223	200
Air transport	**301**			
Total NACE I	**512**		**223**	**200**

7.17   For NACE I - **Hotels and restaurants** - adjustments were made to improve on canteen and catering services and restaurant services., including adjustments for tips

7.18   For NACE J - **Information and communication** - no adjustments had been necessary from the point of exhaustiveness.

7.19   For NACE K – **Financial intermediation** - no adjustments had been necessary from the point of exhaustiveness.

7.20   For NACE L - **Real estate activities** – no adjustments made out of considerations on exhaustiveness.

7.21 – For NACE M - **Professional, scientific and technical services** - **Education** - no adjustments on exhaustiveness were made.

7.22   For NACE N - **Administrative and support service activities** – no adjustments was made from exhaustiveness considerations.

7.23   For NACE O – **Public administration and defense** – no adjustments was made from exhaustiveness considerations.

7.24   For NACE P – **Education** – no adjustments was made from exhaustiveness considerations.

7.25   For NACE Q – **Health and social work** – no adjustments were made from exhaustiveness considerations.

7.26   For NACE R – **Arts, entertainment and recreation** – no adjustments were made from exhaustiveness considerations.

7.27   For NACE S – **Other services** – explicit exhaustiveness adjustment was made for hairdressers and for prostitution.

7.28   For NACE T – **Private households with employed persons** - no adjustment for exhaustiveness was made to the RWS register data used.

Title III
Expenditure approach

7.29   Adjustments to the expenditure approach have been made to ensure exhaustiveness, e.g. H**ousehold consumption expenditure** explicitly as part of the **NNA main revisions.** As the Norwegian approach to estimating household consumption expenditures for years between the main revisions is more based on extrapolation and the commodity flow method in place of the tabular approach, the adjustments can be explicitly articulated for the bench mark year only. **Household final consumption expenditure** can be said to be increased from given adjustments for exhaustiveness. Items under consideration have in particular been: agricultural production for own final use; free transport in transportation; adjustments to data on taxi operation; tips in accommodation and food serving services; addition for secondary dwelling services; hairdressing services etc.. Minor adjustments to household consumption involved also activities of the reindeer industry; fish for own consumption. **Illegal services** have been estimated and included, meaning for instance that there are estimates made for household consumption expenditure for items such as narcotics and prostitution.

7.30   Final consumption expenditure of NPISHs has had a **weak source basis** and is still mainly estimated from indirect use of government accounts, such as distributive flows of grants etc., due account taken to fees from households and others. In the effort of broadening the accounts of the NPISH sector, the possibilities have been explored for estimating final consumption expenditure of NPISHs in a more direct way in years to come, based on the Johns Hopkins project involvement in the late 1990s and also through the development of SBS and accounting statistics for relevant industries. **Final consumption of the NPISHs** have been affected from three items which might be looked upon as adjustments of exhaustiveness: services of catastrophic and aid institutions estimated from the use side; part of ambulance services; and communal work for/and sporting services. Also new information from a recent study on voluntary work to be utilized for the newly established satellite account will in the future be of importance.

7.31   **Gross fixed capital formation** has been affected by the adjustments made on including own-account construction of dwellings (new and existing dwellings)

7.32   **Exports** were affected through foreign ownership adjustment to oil and gas fields in the North Sea, which raised output, value added and exports by 0.5 billion in 2009.

Title III
Checks to ensure exhaustiveness

7.33   **Important characteristics of the Norwegian National Accounts** include input-output framework integrated on annual basis, supply and use tables built around commodity flows, detailed breakdown of most variables, and the role of national accounts as long-established tool in integrating and coordinating economic statistics.

7.34   **Approaches used to calculate GDP** are further described in the Inventory as 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 the commodity flow approach. The income approach has played a minor role, but will have a more decisive role with the development of complete accounts in integrating accounting approaches by sectors. And most important, the product dimension - with the balancing of supply and uses of each product - is a very strong element in the Norwegian approach to national accounting.

7.35   **Balancing at both current prices and constant prices at detailed level** has been an important check to ensure exhaustiveness. Balancing at constant prices - a topic not described in the Inventory - uses the same framework of integrated supply and use tables at current prices, by deflating current values by price indices at the detailed product level. The **deflation approach** has in fact two dimensions:

(i)   Differentiated by **main categories** of supply and use (deflating output, imports, exports and implicitly domestic use)

(ii)   Differentiated through **valuation** (deflating current values at basic prices by price indices and implicitly determining the other value components, including adjustments against values at purchasers' prices).

7.36   **Constant-price estimates** for aggregates of supply, uses and value added follow through adding up and balancing constant-price estimates of products. They include aggregates such as output by industry, categories of exports and imports, categories of other final uses, intermediate consumption by industry, value added by industry and GDP. This entails that **the principle of double deflation** is used through a detailed input-output framework (supply and use tables). The condition of great details is linked to the condition that the individual products are as price homogeneous as possible, with a possibility for adapting to basic statistics available for values as well as prices.

7.37   It should also be added that Statistics Norway adopted **the principle of annual chaining** already around 1990, and that chaining is carried out separately for all items (with few exceptions). Thus, constant-price estimates are calculated at prices of the previous year, and base year is thus changed every year. Subsequently, data on changes of volume are constructed in terms of growth rates and corresponding implicit data on changes in prices. In parallel, time series are constructed in constant 2005-prices, at present using 2005 (= 100) as a reference year. The reference year is chosen in response to international recommendation advocating the use of years ending at 0 or 5 as base year or reference year.

7.38   In describing **value added tax (VAT)** - a most interesting check between theoretical VAT calculated in the national accounts and actual VAT recorded in the government accounts should be referred to. Main results of this kind of check are a difference of 3.9 per cent on average for the period 2000 - 2009 when using time lag adjusted government accounts figures. The difference for individual years was quite stable in the first part of this period, in the area of 3 - 5 per cent, but with more variation the last years of the period. For the year 2009 the difference was 6.1 per cent. The positive - but rather small - differences show that more activity is covered than is evidenced by the taxation authority. Statistics Norway believes that the size of these differences is reasonably well in their context as checks to ensure exhaustiveness. Statistics Norway believes that the size of these differences is reasonably well in their context as checks to ensure exhaustiveness. Studies and comparisons made in both the 1995, 2002 and 2006 revisions have confirmed the picture given above. Although adopting the Eurostat concept of accrued VAT in 2006, the system for estimating theoretical VAT was kept operative for plausibility check purposes.

7.39   Another important check on the level of GDP is that provided by the comparisons of the national accounts estimates of **employment and compensation of employees** with the same estimates in the labor accounts. This is to a certain extent dealt with in the Inventory on compensation of employees by kind of activities when reviewing former and revised figures on wages and salaries per full-time equivalent employee. Norway is in a favorable position by having labor accounts compilation integrated with the national accounts. This is elaborated below under Title IV of the Commission Decision on exhaustiveness.

Title IV
Employment underlying the GNP estimates and alternative estimates of employment

7.40   Title IV of the Commission Decision on Exhaustiveness concerns **employment as a key variable for ensuring the exhaustiveness** of the national accounts. Eurostat is referring to a process **in four steps**, i.e. (i) defining employment underlying GNP, (ii) standardizing the definition of employment, (iii) assessing the employment comparisons, and (iv) assessing the impact on GNP.

7.41   The Decision requires **comparisons of the employment data according to demographic sources with the employment estimates underlying the GNP** (i.e. GNI) **estimates.** This involves standardizing the definition of employment for the comparison on that of the domestic occupied population. The demographic data sources used are the **Labor Force Survey** (LFS) and the **Population Census**. The rationale behind this kind of comparison is the recognition that employment is a key variable for ensuring the exhaustiveness of the national accounts. If the same statistical sources used to estimate production and value added for the national accounts can also be used to yield an estimate of employment, then that employment estimate can also be assessed for completeness against the estimates of employment available from demographic sources. If the comparison should show a deficiency in the employment estimates underlying the national accounts, then there may well be grounds for believing that production and value added are also understated in the national accounts. If the comparison shows no such deficiency, then one likely conclusion is that the national accounts cover at least employment exhaustively.

7.42   **Statistics Norway** already has more than 25 years experience in constructing **Labor Accounts (LA)**, data from which have been a fully integrated part of the national accounts all these years. The main concern expressed in the Title IV of the Commission Decision on Exhaustiveness therefore has already been faced when constructing the Labor Accounts of Norway, as comparisons of this kind are vital to that task. Furthermore, the LA work not only has involved validating employment data, but **validating employment and wages and salaries data altogether in an integrated approach**. It means that the Norwegian national accounts estimates, through this integrated approach, are reviewed against both **demographic employment data sources** (as requested in Title IV), and against **vital register data** obtained from the employers on wages and salaries as reflecting the actual transactions to be registered with the Tax Authorities.

7.43　**Consistency considerations** play an important role in estimating employment in the Norwegian national accounts. Since the framework generally applied to the compilation of national accounts is the annual supply and use tables, detailed employment data by branch (industries) are considered adjacent information of the same format as that of compensation of employees. Furthermore, employment data for employees should be fully consistent with the data on compensation of employees for internal consistency reasons. In Norway, therefore, the estimation of **employment** has been **closely linked to the estimation of compensation of employees and to production (output and value added)**. These are all estimations carried out in the NA unit, thus reviewed and discussed with a view to a best possible consistency.

7.44　The Labor Accounts (LA) should be looked upon as an essential and **integrated part of the National Accounts**. It was established in Norway in the last half of the 1980s. **Three basic employment measures** were introduced: **employed persons, full-time equivalent persons** and **total hours worked**. The three types of employment concepts are linked by a set of relationships to a consistent system and are specified according to industry, status (employees or self-employed) and sex. Part-time workers, conscripts and persons temporarily absent from work are included in the employment concepts. This is in line with definitions used in LFS and ESA95. Furthermore, number of jobs is a new variable introduced recently in LA, with figures from 2000 onwards.

7.45　**Several sources and methods are used** in the estimation. Basically, there are **direct methods** or approaches using **either industry-based data** of the same kind as used for output, etc. or **data from the Labor Force Surveys (LFS)**. Which source to use has been determined by the particular circumstances of each industry, considering the advantages and weaknesses in each case. **Implicit methods** are also possible, when taken into account **wage sums according to SBS and wage (rate) statistics** of better quality than by using employment data directly. The picture of sources and methods throughout the various industries is quite composite and also reflects the fact that quality of the data varies considerably from industry to industry. Quality variation also applies to the concepts as such. In general, the estimation of hours worked has been based on more uncertain factors than the estimation of employed persons and full-time equivalent persons, while efforts have also been made over the years to improve on the estimates of hours worked. LFS is also mainly used to estimate second jobs for the new concept of jobs.

7.46　In the Norwegian system, **LFS is the main determinant source for the total number of employed persons in the national accounts**. This restriction was introduced from the fact that LFS is more reliable the more aggregated are the measures.

7.47　**The procedure used for the estimation of employment** categories and the utilization of information from the LFS may be outlined as follows:

(i)　**Basic statistics** of different kinds are compiled **by branch at detailed industry levels**. Inconsistencies between data sources are revealed either directly or indirectly through the use of the conceptual relationships and consequently adjusted.

(ii)　The first-step estimates are aggregated to totals and to a specified intermediate level of aggregation. The total number of persons employed according to the **LFS is then compared with these aggregates**.

(iii)　Discrepancies lead to **feedback adjustments in the detailed estimates**, but not implemented as an automatic procedure. Relevant adjustments are indicated by use of aggregated results at intermediate level, i.e. at 1-digit NACE level. The feedback adjustment is **mostly** directed to **branches with weak statistical information** on employment. The process of adjustment on details is repeated until the result is considered to be acceptable.

7.48	In more detail the conversion from number of jobs to full-time equivalents (registered, unregistered employees, registered, unregistered self-employed etc.) are estimated as follows:
The number of full time equivalent persons among "employee jobs" is estimated on basis of wages and salaries (in cash and in kind) according to SBS and government accounts, and estimates of wages and salaries (in cash and in kind) per full time equivalent according to wage statistics. The number of full time equivalents among "self employed jobs" is calculated on basis of the LFS. Jobs (employee jobs, self employment jobs) are calculated according to the formula:

Jobs = Full time equivalent persons/ [(1-d) + a*d]

d: part time jobs/ all jobs
a: average agreed hours of work among part time jobs/average agreed working hours among full time jobs

The source for the parameters d and a, is the LFS.

7.49	This process of harmonization between LFS and other data sources is **conducted separately for employees and self-employed**. Some of the conceptual relationships are relevant for employees only, and the data availability at detailed industry level certainly is weaker for self-employed. The data for self-employed and unpaid family workers in the national accounts are however more directly based on the Labor Force Surveys.

7.50	**Population and Housing Census 2001** (FoB01) is the latest population census held in Norway and for which the results are available at the time of writing. Its scope is all persons, including foreign citizens, who were considered resident in Norway, according to the Central Population Register at the date of the Census - 3 November 2001. The census basically comprises all private households and private dwellings where at least one person was registered as resident on 3rd November 2001. An innovation of the 2001 census was that each single flat in Norway was given a unique address. Information was not gathered on dwellings of people being cared for in old people's homes, nursing homes, orphanages or other institutional households. However, information about place of usual residence was gathered for students and people dwelling in old people's homes and nursing homes.

7.51	Labour market data of the **Population and Housing Census 2001** is based on several registers. The most important ones are the register of Employees, The Register of End of the Year Certificate (Register of Wage Sums), The Register for personal tax Payers, The Register of Unemployed and The Central Coordinating Register for Legal Entities (business register).

7.52	**Main totals** on population at the census date and on occupational population the year until the census date are shown in the following table.

Population and employment aggregates at 3 November 2001

Total resident population	4 520 947
Resident population 16 years and more	3 568 309
Occupational population 16 years and more	2 275 000
Of which: Male	1 208 839
Of which: Female	1 066 161

7.53	**A first comparison** between the national accounts 2001 estimate on total persons employed and the population census figure on occupational population 16 years and more of the 12 month period before the census date 3 November 2001, shows a discrepancy of - 1.5 per cent. It means, NNA

estimate is 35 000 above the population census figure. However, certain adjustments are necessary in order to have a more standardized comparison (see below). It is recalled that non-residents - among them foreign sailors and non-resident workers on short-term stay in Norway - are included in national accounts, while not in the register.

Population census and national accounts. Employment 2001

Population census - Occupational population	2 275 000
National accounts - Employed persons	2 310 000
Difference in per cent	- 1.5

7.54   In the population census, occupational population 16 years and more is grouped **by industry.** The activity classification used was the 1994 Standard Industrial Classification (NACE Rev.1). Making this first comparison by industry, see below. To also provide the update using the previous format of comparison, we have adapted to the level of NACE-CLIO at the level of detailed publication.

Occupational population vs. numbers employed. 1000 persons. 2001

NACE-CLIO	NACE Rev.1		Population census	National accounts	Difference
01	01,02,05	Agriculture, forestry and fishing	85.2	89.6	- 4.4
06	10,111,23, 40, 41	Fuel and power products	34.9	35.3	- 0.4
13	13,27	Mining of metal ores, basic metals	15.0	14.9	0.1
15	14,26	Other mining, mineral products	13.1	13.3	- 0.2
17	24	Chemicals and chemical products	16.8	14.2	2.6
19	28	Fabricated metal products	21.1	19.0	2.1
21	…	Agricultural and industrial machinery	9,1	9.7	- 0.6
23	29,30	Other machinery	24.9	26.1	- 1.2
25	31,32	Electrical machinery and apparatus etc.	15.3	16.0	- 0.7
28	34,35	Transport equipment, oil platforms	39.7	40.6	- 0.9
36	15,16	Food products, beverages and tobacco	56.9	54.0	2.9
42	17,18,19	Textiles, wearing apparel, footwear and leather products	7.3	7.7	- 0.4
47	21,22	Paper and printing products	42.0	47.2	- 5.2
49	25	Rubber and plastic products	6.4	6.0	0.4
48	20,33,36	Other manufacturing	36.5	36.4	0.1
53	112, 45	Construction	165.0	139.4	25.6
55	37,502,527	Repair of motor vehicles and goods etc.	23.4	22.8	0.6
57	50-502,51, 52-527	Wholesale and retail trade	315.1	305.7	9.4
59	55	Hotels and restaurants	76.5	66.3	10.2
61	60	Land transport, pipeline transport	60.5	58.0	2.5
63	61,62	Water transport, air transport	36.2	63.4	- 27.2
65	63	Supporting transport activities (market)	28.4	29.6	- 1.2
67	64	Post and telecommunications	41.1	44.9	- 3.8
69	65,66,67	Financial intermediation etc.	47.6	48.7	- 1.1
71	71,72,74	Business services (market)	..	199.2	..

NACE-CLIO	NACE Rev.1		Population census	National accounts	Difference
73	70	Real estate	23.2	18.5	4.7
75	73,80	Education, research and development (market)	..	20.8	..
77	85	Health and social work (market)	..	49.7	..
79	90,91,92,93	Other services (market)	..	47.1	..
81	45,63,74,75, 90,91,92	Public administration and defense, government non-market except education, R&D, health and social work	..	183.2	..
85	73,80	Education, research and development (non-market)	..	170.6	..
	73,80 Memo	Education, research and development (market + non-market)	186.8	191.4	- 4.6
89	85	Health and social work (non-market)	..	395.2	..
	85 Memo	Health and social work (market + non-market)	383.3	444.9	- 61.6
93	90,91,92, 93,95	Domestic services and other services (NPISHs)	..	32.1	..
	90,91,92, 93,95 Memo	Domestic services and other services (market + non-market)	85.6	88.3	- 2.7
		Total all industries	**2 275.0**	**2 310.1**	**- 35.1**

7.55   **Population census figures are lower** than the national accounts figures, with some exceptions.

7.56   The NACE-CLIO breakdown on 33 branches is not very suitable to the Norwegian analyses, **NACE Rev.1** should rather be used.

7.57   Thus, a **comparison between the population census and the national accounts** is undertaken by using the **A60 format of the ESA 95 (NACE Rev.1), see 7.62 etc**.

7.58   Statistics Norway has conducted quarterly **Labor Force Surveys (LFS)** since 1972. The concepts and definitions are in accordance with recommendations given by the International Labor Organization (ILO). The reference period from 1997 is altered to a system of continuous reference weeks as far as data collection is concerned. In the period 1988 - 1996, the reference period was one week each month, while one survey week each quarter before 1988. Persons aged 16 - 74 (later amended to 15 – 74) are classified as employed persons, as non-employed persons seeking work, or as persons not in the labor force. Employed persons comprise persons at work (at least one hour in the reference week), persons temporarily absent from work (due to illness, holidays etc.), and persons doing compulsory military service.

7.59   The **sample of persons underlying LFS** has gradually been expanded. Since 1990, it consists of about 24 000 persons, which correspond to about 0.7 per cent of population 16-74 years (from 2006: 15 – 74 years). The annual estimates are arithmetical averages of the quarterly estimates. Employed persons are classified by sex, age, marital status, region, industry (ISIC until 1996 when NACE Rev.1 was introduced), status (self-employed or employees), occupation and education. Settled and actual working hours per week are both estimated in the LFS. So is also secondary employment.

7.60   A **first comparison between the national accounts estimates on total persons employed and the corresponding totals in the LFS** shows small discrepancies in the order of 1 - 3 per cent,

highest for the latest years. The LFS totals are however lower than the national accounts estimates, varying from 40 000 to 94 000 in the period 2000 - 2009. The main reasons for this kind of difference is that foreign seamen in ocean transport and non-resident workers on short-term stay are included in the resident employment estimates of the national accounts, while excluded in the labor force surveys. The growth in the latter group was particular strong after the expansion of the EEA in 2004.

Employment in Labor Force Surveys and National accounts. 1000 persons

	Labor Force Surveys	**National accounts**	**Difference**
1990	2 030	2 059	-29
1991	2 010	2 038	-28
1992	2 004	2 034	-30
1993	2 004	2 049	-45
1994	2 035	2 077	-42
1995	2 079	2 120	-41
1996	2 132	2 163	-31
1997	2 195	2 226	-31
1998	2 248	2 285	-37
1999	2 258	2 306	-48
2000	2 269	2 320	-51
2001	2 278	2 328	-50
2002	2 286	2 337	-51
2003	2 269	2 309	-40
2004	2 276	2 320	-44
2005	2 289	2 350	-61
2006	2 362	2 432	-70
2007	2 443	2 532	-89
2008	2 524	2 614	-90
2009	2 508	2 607	-94

7.61   The following table shows the transition from the national concept of the LFS to the domestic concept in the NA for the year 2009.

Employment. National and domestic concepts. 2009.

Employed persons according to:		*1000 persons*
Labor Force Survey (national concept)		2 508
+ non-residents with resident employer		94
- foreign sailors on Norwegian vessels	28	
- foreign workers on short-term stay in Norway	66	
- 15 years old employees		9
- residents with non-resident employers		7
= National accounts (domestic concept)		2 602
Deviation		16

The deviation constitute 0.5 per cent of total employment in the NA and reflects the fact that the NA employment figures also are balanced by detailed industry against compensation of employees and wage rates within the framework of the Labor Accounts. **LFS** data has then been **compared with NNA** estimates **by industry using the NACE** classification. LFS follows NACE, with a detailed breakdown from 1996 and less detailed one back to 1989.

7.62   Finally, the various comparisons for 2001 were combined into one where the **national accounts (NA)** estimates, the **labor force surveys (LFS)** data and data from the **population census (PC)** were brought together for comparison.

Numbers employed. 1000 persons. 2001

NACE Rev.1		Population Census	Labor Force Surveys	National accounts
01	Agriculture and hunting	61	67	68
02	Forestry and logging	6	5	5
05	Fishing and fish farming	18	17	16
10	Coal mining and peat extraction	0	0	0
11	Oil and gas extraction	29	32	26
12	Mining of uranium and thorium ores	-	-	-
13	Mining of metal ores	0	1	0
14	Other mining and quarrying	4	3	4
15	Food products and beverages	56	48	54
16	Tobacco products	0	1	0
17	Textile products	5	6	5
18	Wearing apparel, fur	2	2	2
19	Footwear and leather products	1	0	1
20	Wood and wood products	16	17	16
21	Pulp, paper and paper products	9	13	10
22	Publishing, printing, reproduction	33	33	38
23	Refined petroleum products	1	1	1
24	Chemicals and chemical products	17	16	14
25	Rubber and plastic products	6	7	5
26	Other non-metallic mineral products	10	11	9
27	Basic metals	15	16	15
28	Fabricated metal products	21	18	19
29	Machinery and equipment n.e.c.	24	23	25
30	Office machinery and computers	0	0	1
31	Electrical machinery and apparatus	9	8	9
32	Radio, TV sets, communication equipment	6	6	7
33	Instruments, watches and clocks	7	8	8
34	Motor vehicles, trailers, semi-trailers	6	4	5
35	Other transport equipment	34	32	35
36	Furniture, manufacturing n.e.c.	14	15	13
37	Recycling	2	1	1
40	Electricity, gas and steam supply	16	16	16
41	Water supply	1	1	1
45	Construction	152	152	130
50	Motor vehicle sale and services	55	52	54
51	Wholesale trade, commission trade	108	105	122
52	Retail trade, repair personal goods	174	173	152
55	Hotels and restaurants	77	67	66
60	Land transport, pipeline transport	61	63	59
61	Water transport	23	21	51
62	Air transport	13	13	13
63	Supporting transport activities	28	29	30
64	Post and telecommunications	41	43	45
65	Financial intermediation	32	33	34
66	Insurance and pension funding	10	12	10
67	Auxiliary financial intermediation	6	5	4
70	Real estate activities	23	19	18
71	Renting of machinery and equipment	6	7	5
72	Computer and related activities	39	41	39

NACE Rev.1		Population Census	Labor Force Surveys	National accounts
73	Research and development	11	12	11
74	Other business services	155	145	159
75	Public administration and defense	172	151	165
80	Education	175	190	180
85	Health and social work	383	417	445
90	Sewage, refuse disposal activities	6	8	7
91	Membership organizations n.e.c.	24	23	17
92	Cultural and sporting activities	34	40	32
93	Other service activities	22	22	23
95	Domestic services	1	2	9
99	Extra-territorial organizations and bodies	0	..	-
	Non-specified	14	5	9
	Total industries	**2 275**	**2 278**	**2 310**

7.63   The **largest industry differences** in 2001 might deserve some comments. First, look to the manufacturing industries. The NA estimate on number of persons employed in **total manufacturing** (294 000) was higher than in the LFS (286 000) but very close to the population census (295 000). On the other hand, in the main source for this industry - manufacturing statistics - total numbers employed were 283 600. For employees in manufacturing, the NA estimates are **indirectly derived** from using data on wages and salaries obtained in the manufacturing statistics and wage rate data in the wage statistics. Data currently available for employees are the LFS data, the employers/employees register data, and the employment data collected in the annual manufacturing statistics.

7.64   **Still on total manufacturing**, the NA estimate of wages and salaries was lower than the RWS. On the other hand, the NA level of employment was about 4 per cent higher than in the main source of manufacturing statistics for number of employees. As manufacturing statistics are NA source in the first case - while not in the second case - it clearly indicates that the quality of manufacturing statistics varies a lot. Data on wages and salaries therein are considered more reliable than the corresponding employment data. Furthermore, by the **approach taken in the NNA** it might be viewed as a **compromise** between lowering the NA employment estimate to the level of manufacturing statistics and bringing it up to the higher level of LFS and employers/employees register data. If the latter move had been taken and perhaps would have questioned the activity level of output and other economic variables in the manufacturing statistics to be measured too low, it would have brought even more worries with it concerning the continued increases in inventories in the NA.

7.65   Given the fact the **manufacturing statistics** are the basic source for the production estimates, the NNA estimate **at first sight** is significantly above the **employment underlying GDP**. However, this should not lead to indicate that the present NA employment estimate should be replaced by the lower employment underlying GDP. It has been argued that the quality of the source material is such that the employment data in manufacturing should not be used directly. It is reason to believe that **employment data in manufacturing statistics underestimate short-term employment**. There are indicators that point in that direction: LFS and employment register data that are higher; RWS register data on wages and salaries that are higher than wages and salaries in manufacturing statistics which together with wage statistics data used should tend to give an even higher employment estimate.

7.66   Some comments on **other table differences**:

45	Construction

NNA estimate on persons employed is much lower than in population census and LFS. Construction is one of the largest industries in total economy, and thus regarded as a target for adjustment made necessary for keeping total employment according to the LFS. In scrutinizing the estimates to maintain conceptual and other relationships, the final estimates in construction are influenced by various divergent considerations.

50,51,52   Wholesale and retail trade

NNA estimate is in line with LFS, while the distribution is different. Employment level is somewhat lower than in population census.

61   Water transport

Here – and also in the total economy estimate – the national accounts include foreign seamen, while excluded in LFS and in the register (population census).

75   Public administration and defense

Employment estimate in NNA is higher than corresponding data in LFS and a little lower than in Register of employers. It is indirectly estimated from wage and salaries data in government accounts and wage rate statistics. Despite this, RWS data are clearly above wages and salaries in the government accounts.

85   Health and social work

Register-based data in 2001 (4th quarter used for population census) was much lower (383 000) than in national accounts (445 000), with LFS right in the middle (417 000). The difference between low and high is most likely due to treatment of part time, which to a large extent tends to be recorded in public administration rather than health in the low figure.

7.67   The traditional LFS has excluded non-resident workers on short-term stay. A new statistics on this part of the labor force was however introduced in 2005 (figures from 4. quarter 2003). The new statistics cover all persons aged 16-74 who are either employed or registered as unemployed in Norway, and who are registered as "non-resident" in the Central Population Register. Persons arriving in Norway for a period of more than six months are to be registered as "resident" in the Central Population Register. Persons staying in Norway for a period of less than six months, and persons not staying in Norway but commuting to Norway for work on a daily basis, are registered as "non-resident". The statistics cover the latter two groups. The statistics only includes persons employed by an enterprise, i.e. self-employed are excluded, as data quality is currently not good enough to identify and classify non-resident self-employed persons. The statistics are based on data from several administrative registers. The most important registers for employment data are (Norwegian names of registers in parentheses): The Central Register on Employers and Employees, End of the Year Certificate Register, Register of persons and employment contracts from the Central Office - Foreign Tax Affairs, The Central Coordinating Register for Legal Entities, The Central Register of Establishments and Enterprises and The Register for Personal Tax Payers.

Title V
Income in kind and tips

7.68   As a main rule, **income in kind is taxable** in Norway. There are tax exemptions, however (small size, gifts etc.). The source of **RWS (Register of Wages and Salaries)** originally developed for administrative purposes by the Norwegian Directorate of Taxation, comprises all types of payments from employers to employees recorded by the tax authorities. There are items that discern to employers' social contributions in particular, also taken into account for the treatment in NA.

7.69   Earlier RWS was used as a direct source in the NNA for estimating income in kind and added to wages in salaries in cash to reach the aggregate of wages and salaries. For some years however - and for 2009 – a top-down approach has been used as the RWS information is used more indirectly in de-composing the total of wages and salaries into wages and salaries in cash and wages and salaries in kind. In practice for almost all industries compensation of employees is extracted directly from the industry source, e.g. for most industries accounting based SBS or government accounts. This concerns total compensation of employees and both actual and imputed social contributions.

7.70   Wages and salaries in kind is the result of estimations. The framework is the integrated Labor Accounts. The starting point is the Wages statistics' data on annual wages and absence per full-time equivalent which are used to estimate the number of man-years. Based on information in the RWS the Wage statistics supplies data on 4 elements of annual wages per full-time equivalent: wages and salaries in kind, items split on wages and salaries in kind and intermediate consumption, over-time payment and annual salary (cash payments). The second element is by convention split into in wages kind and intermediate consumption using a 25 – 75 ratio. Added then to the first element an estimate on wages in salaries per full-time equivalent is reached. Total wages and salaries per industry is then the result of multiplying wages and salaries in kind per full-time equivalent by total number of man-years.

7.71   **Wages and salaries in kind** are estimated at NOK 33.6 billion in 2009 , which is **1.4 per cent of GDP**. It should be noted that the estimated figure for wages and salaries in kind in practice is very close to the actual figure than can be extracted directly from the RWS.

7.72   Treatment in the NNA is indicated for 10 listed items of income in kind in the following paragraphs and reference to the RWS is given when relevant. The RWS information falls into **two categories**. The first consists of items that are fairly easy to allocate to wages and salaries in kind, while the second consists of items of expenditures that will be partly wages and salaries in kind and partly intermediate consumption.

7.73   The first item is **business cars used for private purposes.** Rather than the car purchase as such (purchased by employers for the purpose of at least some business driving), it is the services (use) of cars being offered free or at reduced prices that is relevant here. The two next items listed is taxable and non-taxable allowances for use of private car. The non-taxable part covers allowances according to standard central government rates, while the taxable part covers allowances above the standard rates (and all non-documented expenses).

RWS Title	Percentage taxable	Category
Advantage of private use of employer's car	100	I
Allowances for use of private car (taxable part)	100	I
Allowances for use of private car (non-taxable part)	0	II
Taxable life- and accident insurance	100	I
Minor items in addition: Additional allowances for passengers and trailers, compensation for use of cars, and adjustment item on free services of vehicles		

7.74   **Employers' contributions to the running costs of canteens** address at least **two problems**: whether economic activities of canteens are **covered or not in NA**, and when so, **to reallocate** the uses of such services **partly to household consumption expenditure** to reflect the advantage to employees through employers' contributions to the running costs of canteens resulting in price reductions (free or subsidized canteens). The **first problem** pertains to the secondary output of employers, provided that these canteens are run by the employer and do not constitute separate

economic units. (In the latter case, their contributions to output etc. are made through the restaurants industry.) Separate estimate is not made for such a secondary output, as no direct sources are available. However, as such costs (intermediate consumption for representation, meals etc.) are not VAT-deductible, an effort has been made to identify and calculate these costs for the theoretical VAT calculations in the national accounts. Employers' costs of canteens are thus included in intermediate consumption in terms of an aggregated item of unspecified products (inter alia, purchased food for own canteens). Although secondary output is not explicitly estimated, it is suggested that it is embodied in some other outputs and thus covered in the total output of the respective units. Thus, this aspect of exhaustiveness is thus likely taken care of, while we might ideally have opted for a reallocation of outputs to have full identification on the supply side as well.

7.75   The **final use vs. intermediate consumption problem** addresses the income in kind item of this heading. Separate estimate based on the income approach has not been possible as no direct sources are available. Nonetheless, it is reasonable to state that exhaustiveness of the GDP estimate has been ensured. First, specific information on sales in the government (fees of various kinds) has been reviewed and has to a substantive extent been allocated to this kind of expenditures and thus incurred for in terms of household consumption expenditure. In Norway, main government services in areas like education, health and social work are still provided free to a very large extent; thus, expenditures for meals, sales of goods in kiosks etc. have a relatively large share of incidental sales from government. Apart from household consumption expenditure recorded directly on this basis, household consumption expenditure - as described in the Inventory - has been given a thorough review to ensure that a reasonable estimate for the total is arrived at on the basis of information available. This total review takes into account the various sources and using the method of commodity flows and the expenditure approach in combination. Based on this review, no further adjustment seems necessary to reallocate from intermediate consumption to household consumption expenditure a separate adjustment for employers' contributions to the running costs of canteens.

7.76   **Meal vouchers provided by employers to employees** also pertain to goods and services bought by the employer to provide them free or at reduced prices as income in kind. While this is believed to be a minor item in Norway and is represented by two RWS items with small amounts, i.e. administrative board and board when working overtime. Pay to armed forces (conscripts) is treated as wages in cash, not wages in kind.

7.77   The item **Food and accommodation provided free of charge or at reduced prices to employees in hotels, catering establishments and agriculture** is next Community heading. In a somewhat broader scope than this, the income approach is used to estimate income in kind as part of compensation of employees. Relevant RWS items are shown in the following table.

RWS Title	Percentage taxable	Category
Daily allowances, incl. accommodation - for inland travel - central government rates	0	II
Daily allowances, incl. accommodation - for travel abroad - central government rates	0	II
Daily allowances, excl. accommodation - for inland travel and travel abroad - central government rates	0	II
Daily allowances, incl. accommodation - for inland travel - other rates	0	II
Daily allowances, excl. accommodation - for inland travel and travel abroad - other rates	0	II
Daily allowances - lodgings/barracks	0	II
Daily allowances, incl. accommodation - for inland travel on special duty	0	II

Minor items in addition: Daily allowances to foreign workers in Norway; daily allowances, incl. accommodation for travel abroad, other rates; and for long-lasting stays; daily allowances for travel abroad to air transport personnel, incl. accommodation; and excl. accommodation; accommodation allowance in lodgings/barracks; daily allowances incl. accommodation for travel abroad to long distance truck drivers; daily allowances for students and their families in certain areas.		

7.78   The item **Rent-free dwellings and dwellings let to employees at below-market rents** also pertains to secondary output of employers and self-employed. In NNA, renting services are provided by the various participating industries, typically as secondary production of renting services of non-residential property. No such part is recorded for residential purposes. Only two minor items (free housing for foreigners in business, housing or accommodation allowances to foreign workers in Norway are identified in the RWS. Military dwellings probably are underestimated in this context.

7. 79   **The value of the interest foregone by employers when they provide loans to employees at reduced, or even zero, rates of interest** pertains to financial assets bought, issued or granted by the producer. When loans are provided by a bank to its employees, the interest foregone should be included in calculating output in the bank and in compensation of employees. When provided by a producer other than a bank, it should also be included in the compensation of employees. The RWS source includes one item on advantage to employees from cheap loans from their employers. It should also be recalled that Norway has a system of State banks that provide subsidized loans, treating the grants as subsidies to those producers benefiting from them, or as social benefits to households as consumers.

7.80   The expenditure approach and the income approach are both used to estimate the item **travel tickets supplied free of charge or at reduced prices to employees.** The **expenditure approach** has been applied to special groups of employees in certain transport industries and mostly geared to long-distance travel. Employees in transport via railways, in tramway and suburban transport and in air transport - and their families - can enjoy the benefit of free travel. This expenditure item is estimated primarily from the household budget surveys, but also based on experts' view and considerations related to the estimation of compensation of employees. In the case of railways, total use of railway transportation services is also taken into account. Income in kind in terms of free travel is however assumed being declared and thus part of estimated compensation of employees.

7.81   Item **Electricity and coal supplied free of charge or at reduced prices to employees** is not important in Norway, i.e. there are few arrangements whereby an electricity or coal company supply electricity or coal free of charge or at reduced prices to their employees or others. When such arrangements occur, they have been recorded in wages and salaries in cash of the RWS.

7.82   Next item is **free telephone (at home)**. Two RWS items - telephone allowance (non-taxable) and free telephone - are recorded under this heading. The latter item sets a fixed subscriber fee plus a threshold to number of telephone calls.

7.83   The item **Traders' consumption from their own traded goods and services and other items of income in kind** is the item of miscellaneous income in kind which consists of a fairly long list of RWS items.

7.84   RWS code 116 covers **employers' payments on accident and life insurance premiums** for the benefit of the employees above standard mandatory insurance contracts. It includes premiums for non-life insurance, group life insurance, individual and collective life annuity and individual pension funds or pension insurance. Also employers' payment of premium for "loss of licence" insurances is covered here.

7.85   It should be recalled that the list of **examples from ESA95** and SNA93 also contain items that have not been explicitly dealt with here. Also, some RWS items are unspecified and termed miscellaneous. One such ESA95 item is **car parking**. No explicit information is available for this item, part of the reason being that car parking provided free for employees and paid for by employers is not widespread (mostly confined to the Oslo metropolitan area). Ad hoc travel pattern surveys for the Oslo area have revealed that as much as 90 per cent of car parking is in fact free parking (i.e. for employers also), and has also been a motive behind employers' relocations to outskirts over the most recent years. That apply to shopping malls also; in those cases the cost of parking have been transferred into higher prices.

7.86   In practice, **tipping** is not widespread in Norway. At least in the past, only in rather exceptional circumstances were tips given, and they have tended to be small after all. However, two areas often mentioned are **restaurants and taxis**. In the restaurants industry, studies have been conducted in which national accounts estimates have been compared against special tourist household surveys, and from these comparisons a conclusion might be drawn that tipping in the restaurants in Norway cannot be very extensive. In the RWS, there is a sub-item on tipping concerning restaurant personnel whose remuneration is percentage-based. It might therefore indicate that tipping in restaurants to some degree is included with the estimate on wages and salaries in cash in the restaurants industry. For taxi operation, it should be recalled that the estimates on output and value added are done from considerations related to exhaustiveness.

7.87   **Tips in restaurants** are referred to in section 3.15 and are explicitly estimated at 0.2 billion in 2009 or less than 0.3 per cent of output in the hotels and restaurants industry. The estimate is based on the tax authorities' estimate of 3 per cent addition to registered wages for waiters and waitresses who do not report tips. **For taxi operation**, tips are indicated in section 3.14, again adding 3 per cent on the basis of survey results from mid-1990s. That would mean a similar small amount as for tips in restaurants.

Title VI
Using fiscal data to validate GNP

7.88   In Norway, information from **fiscal audits is not used** in the national accounts to increase the exhaustiveness. In the main revisions in 1995 and 2002, Statistics Norway considered a more thorough effort to explore the possibilities in this field. The results from fiscal audits, however, have been considered difficult to use, mainly due to non-randomness concerning units being sampled.

Other considerations

7.89   **Household final consumption expenditure** is estimated from a composite set of sources and methods as described in detail in the Inventory. Improving exhaustiveness when searching for a best choice of sources and methods involve the review of the sources that are available, and steps are taken accordingly to improve the estimation. For instance, household budget survey data are not utilized when evident loss of coverage is existent, such as for alcoholic beverages, tobacco and for some other consumption goods. Exhaustivity has also been influenced from the revised estimates of trade margins and use of wholesale and retail trade statistics. **Improvement in exhaustiveness** thus has been achieved through the revised estimates of both household consumption and output of wholesale and retail trade.

7. 90   However, there has been room for more improvement to the exhaustivity of the total estimate of household consumption expenditure. In particular, in the area of illegal activities, estimates now have been made and implemented for COICOP items of narcotics, prostitution and smuggling.

7.91   **Annual household budget survey data** has been since the introduction of ESA95 in the 90's, **utilized in a better and more comprehensive way** than before, although for the year **2009** however the **HBS is not used directly**. The reason is that a steady drop in response rates made the quality of the results of the annual survey drop dramatically in recent years, see chapter 5.7. In the benchmark estimates, wholesale and retail trade margin rates respectively have been dealt with explicitly and distributed on all relevant commodity flows. The Inventory gives information on the estimation of output of wholesale and retail trade. Searching for best choice of sources and methods also involve the use of direct volume information and the information embodied in the commodity flow system, which in itself include a number of adjustments for improvements as obtained in the balancing process each year. Since the supply estimates - in that context - are usually considered to be the stronger side, balancing usually affects the expenditure side, and changes in inventories in particular.

7.92   **Government final consumption expenditure** has not been much affected by considerations of improved exhaustiveness, since government accounts are used as sources without taking into account adjustments of this kind. However, the addition to government final consumption expenditure of non-government output purchased by government as social transfers in kind for the benefit of households is an area being specially monitored, and it also concerns exhaustiveness.

7.93   **Final consumption expenditure of NPISHs** has had a weak source basis and is mainly estimated from indirect use of government accounts, such as distributive flows of grants etc., due account taken to fees from households and others. More accounting data and direct approach have been used in the recent years, though. In an effort of improving the future situation, possibilities should be explored for estimating final consumption expenditure of NPISHs in a more direct way, and in this process, adjustments of improving exhaustiveness would also have to play a key role. The newly established satellite accounts for voluntary work can be seen as a framework for further development of both source data and national accounts data in this area, see also: http://www.ssb.no/vis/magasinet/analyse/art-2010-01-11-01.html

7.94   **Gross fixed capital formation** most often has an industry-related source basis, which means there are some resemblance with the estimation process of the different industries with respect to other items such as output and intermediate consumption. In the next phase, the commodity flow approach takes a substantive role. All together, therefore, adjustments of improving exhaustiveness play a key role here as well. In particular, the service industries sometimes lack adequate sources for the estimation of gross fixed capital formation and thus necessitate adjustments for exhaustiveness.

7.95   As referred to in chapter 5, acquisitions of certain other intangible fixed assets have now been estimated. More specifically, it means entertainment, literary or artistic originals (AN.1123). Although being another category under gross capital formation, it should be added here that considerable work of improvement is foreseen on estimating acquisition less disposals of valuables properly for national accounts.

7.96   **Changes in inventories** have no reliable source as a basis for estimation, meaning that adjustments have been and still are made to the NA estimates in the balancing process and thereby serve to ensure better exhaustivity. A project supported by Eurostat grants concluded that neither the SBS information on inventories nor the quarterly inventory statistics can be used directly in the national accounts without further investigations and adjustments to the statistical reports itself, see chapter 5.13.10. New studies and research agenda considerations are needed in the years to come.

7.97   **Exports and imports** are estimated from the external trade statistics, foreign exchange statistics, and in combination with maritime transport statistics, oil and gas activity statistics and some

other sources. The close integration between national accounts and balance of payments is important and serve to ensure exhaustiveness. Certain issues of illegal activities are dealt with and included in the estimates, such as smuggling. Other issues of non-observed economy that affect border crossings are also continuously looked into in context of improving exhaustiveness. For example estimates are made for flows of both services and income related to the ownership to and use of holiday homes abroad.

7.98   The **Intrastat** problem has not been a serious problem to Norway. This is due to the fortunate and stable situation with good administrative data obtained through the customs declarations, a sound basis for establishing reliable statistics on exports and imports of goods. Supplements are made, however, as described in sections 5.15 and 5.17 above.

7.99   During the 1990s, **GNP Committee Task Forces** have studied exhaustiveness issues in **construction**, in **distributive trade and Horeca** (Hotels, Restaurants and Catering)**,** in using in national accounts **household budget surveys,** and issued related to **Intrastat**. The latter is referred to in preceding paragraph, while some summary references are followed below for the other areas. In particular, the recommendations made in the respective Task Forces are looked into from the point of Norwegian experience.

7.100   Recommendations of the GNP Committee Task Force on **Construction** include in total 23 items, of which 2 on integration, balancing and cross-checks, 12 on production statistics and 9 on price and quantity. The two **recommendations on integration, balancing and cross-checks** are generally met in NNA where annual SUT frame and detailed product balances are among the main features. **Recommendations on production statistics** are also generally met with the SBS-based statistics, the Business Register, variables covered, grossing methodology (reliable estimates for both output and intermediate consumption), comparisons including LFS data, subcontracting businesses covered, supply and demand of building materials in SUT, data on repairs and improvements to dwellings from households, appropriate strata for sample surveys, information about self-build of new dwellings, exports separately identified and with consistent treatment vis-à-vis BOP. Fiscal audits data are however not possible to use in NNA. **Recommendations on price and quantity** are not addressed here (outside GNP/GNI Inventory dealing with estimates in current prices, although in a more general sense it should be added that assessment of current-price estimates are being made again some times after deflation and separate judgments of volume estimates from alternative volume indices have been made). Activities carried out by foreign workers have become increasingly important in the construction industry in most recent years. These involve a number of important exhaustiveness issues that have been analyzed in a separate project financed by Eurostat. Results from this project were included in the NNA in the 2006 main revision and for the year 2005 compensation of employees to non-residents was raised more than 100 percent to NOK 14 billion. See detailed documentation in: http://www.ssb.no/english/subjects/09/90/doc_200702_en/doc_200702_en.pdf

7.101   Recommendations of the GNP Committee Task Force on **Distributive trade and Horeca** include 15 general items affecting both the distributive trades and Horeca, 8 items specifically for the distributive trades and 4 items specifically for Horeca. **General recommendations on distributive trades and Horeca** are generally met with respect to availability of an updated Business Register, direct inquiries to enterprises, SBS-based statistics, i.e. using accounting statistics data, tips, independent estimates made on both supply and demand side, coherence with employment data through labor accounts, checks for internal consistency and relationships with corresponding statistics, and being able to give the significance of small firms for variables like turnover and employment (Business Register data). What is more questionable in the NNA compilation is quality of adjustments for missing units, underreporting of income, hidden labor, VAT fraud, to some extent also income and kind, and again, failing to make use of fiscal audits. **Recommendations specifically for the distributive trades** are to a large degree met in NNA compilation, such as using trade margin survey data broken down by products as benchmark (not on annual basis). Some are difficult, however: to utilize detailed information concerning the distribution channels of goods, and to create a good

validation method for the retail trade to compare retail trade turnover data and tradable consumption of households. **Recommendations specifically for Horeca** are basically met in NNA.

7.102   Recommendations of the GNP Committee Task Force on use of **Household Budget Surveys** in NA are grouped in 9 items. Each of them is listed below with Norwegian experience attached.

Recommendations of the TF on the use of Household Budget Surveys in NA	Norwegian experience
I. Ensure all appropriate adjustments for difference in population, concepts and definition are undertaken to convert raw HBS data into the corresponding NA estimates of household final consumption	See section 5.7; coverage and treatment of persons living in institutions is unsatisfactory dealt with in NNA, while adjustments are made in main revisions to justify additions
II. Identify where HBS results are consistently of most value. This experience will vary between countries, but food and housing are generally regarded as reliable	See section 5.7 by COICOP where HBS as source for HFCE is discussed at individual item level
III. Use HBS time series to compare or validate other sources like retail sales, commodity/supply side estimates, administrative data, business statistics	Comparative studies of HBS and HFCE estimates of NA are made from time to time, especially when main revisions are undertaken, same applies to other studies and comparisons of this nature
IV. Guard against (mainly downward) biases in HBS data, and adopt appropriate solutions (points are given)	Long experience in Statistics Norway is taken into account
V. Improve the reliability of HBS data by appropriate solutions (points are given)	Reference is made here to special projects with Research Department in Statistics Norway on how best to use HBS data for NA compilation, on refining methodology etc.
VI. Resources permitting, increase both the frequency and timeliness of HBS results; continuous surveys offer the greatest opportunities for exploiting HBS data, and for improving the quality of HBS results	Annual HBS have been undertaken in Norway since 1974 and timely enough for final NA estimates
VII. Institute regular and systematic checks on the resulting time series and feed back the results to HBS statisticians and interviewers	Close cooperation exists between the producers (statisticians and interviewers) and main users of HBS in Statistics Norway (NA, Research Department)
VIII. Have faster and better organizational links between HBS and NA staff to maximize the productiveness of the statistical dialogue between them; this helps to improve the quality of HBS data	See above
IX. Use information in the HBS for making imputations (for rent, in particular) and for estimates of benefits in kind, of own production, repair and maintenance, and certain capital expenditures	HBS data are discussed for use (direct use or indirectly as control or in combination with other sources) on item by item basis

CHAPTER 8   THE TRANSITION FROM GDP TO GNI

This chapter deals with relations to and from the Rest of the World in the context of transition from the GDP to the measure of GNI.

8.1   Compensation of employees

8.1.1   In NNA, compensation of employees in the context of Balance of Payments is distinguished in **two main categories:**

> Compensation of employees to abroad
> Compensation of employees from abroad

8.1.2   **Compensation of employees to abroad** is defined according to ESA95 and BPM5 (BOP expenditure item: compensation of employees). In Norway, this item historically mainly consisted of compensation to non-resident seamen and compensation to non-resident pilots (and other air transport personnel). These are fields of Norwegian production more typically than others being performed in international territories, and thus relevant to be recorded here. This item has however been re-estimated quite recently (in 2006), taking into account the recent years' growth in non-resident workers' short-term stay in Norway. Information is taken from two separate sets of sources, (i) tax return statistics in combination with information from the Central Register of Wages and Salaries, and (ii) register-based employment statistics combined with data from wage statistics.

8.1.3   **Compensation of employees from abroad** (BOP income item: compensation of employees) relates to Norwegians working abroad. This item is estimated as a group as a whole, based on information from the tax authorities and from the register of wages and salaries (RWS). It should be noted that this item is based on rather scarce observable information and a set of assumptions, making the results more uncertain than for the outflow of compensation of employees. Still, the revised estimates for compensation of employees from abroad have basis in some current observations rather than - as with the old figures - being extrapolated from a rather distant benchmark period.

8.1.4   In Norway, compensation of employees to abroad has a higher value than compensation of employees from abroad. The amounts are relatively small, **1.1 and 0.2 per cent of GDP** in 2009. Before last (2006) main revision, the first item in particular was much underestimated and thus accordingly **revised upwards**. Administrative information and specific surveys, as well as the fact that the recent expansions of EEA, indicate that these flows needed to be assessed in a more detailed manner than before.

Compensation of employees. 2009.

	NOK billion	Percentage of GDP
Compensation of employees to abroad	26.1	1.1
Compensation of employees from abroad	4.0	0.2
Memo:		
Total compensation of employees	1 113.6	47.2

8.1.5   Compensation of employees to abroad and compensation of employees from abroad are **two items of minor importance** both compared to total compensation of employees and to other items involved in the transitions from GDP to GNI. Thus, compensation of employees to abroad is just 2.3 per cent of total compensation of employees in Norway and compensation of employees from abroad at 0.4 per cent of total compensation of employees (in 2009). This implies that total compensation of employees on a national basis amounts to 98.0 per cent of total compensation of employees on a domestic basis.

8.1.6   **Main sources used** are:
-    Tax (authorities' data) return statistics
-    Register-based employment statistics
-    Maritime transport statistics
-    Accounting data from SAS

8.1.7   The sources used suggest that the cross-border flows of compensation of employees are mostly recorded on **an accrual basis**. Until 2004, ITRS compiled by the Norges Bank (the central bank) was the most important data source. Direct reporting from the relevant economic units is the dominant method now to replace ITRS as source for BOP. However, for the items of compensation of employees to and from abroad it was decided that indirect information in administrative registers and other existing sources should be used. Two sources have been used and the following describes the methods used for **the year 2004**, chosen as a **base year** in the estimations. The source of **tax return statistics (TRS)** has provided a new basis for compensation of employees to abroad, but coverage is just 70 - 80 percent since reliable data in air transport and ocean transport are not expected from this source. For these two industries of transportation, therefore, adjustments have to be made using separate sources. It should be added that the tax authorities' data imply income tax of approximately 33 per cent of compensation of employees to abroad.

8.1.8   TRS is a register of personal tax payers kept by the Directorate of Taxes and comprise all individuals, both residents and non-residents, obliged to leave a tax return with Norwegian taxation authorities. It appears that the non-resident concept used is not defined in a coherent manner among the local tax authorities, and it may take four years before an individual who is initially labeled non-resident, is given a resident code and reclassified as resident. For this reason the persons categorized as non-residents in the Tax Return register are linked to the Central Population register to leave out those individuals that are defined as residents according to the population statistics, i.e. living more than 6 months in Norway. This population is further limited to those with a work contract with resident employers through a link with the Central register of Wages and Salaries. This first method by combining TRS and the Central Register of Wages and Salaries gives an estimate of compensation of employees to abroad of NOK 9.1 billion in 2004.

8.1.9   The other source is the register based **Labour Force statistics**. According to data from this source 30 000 non-residents were working in Norway on **short term basis and employed by resident employers in 2004**. This information is used to make estimations of compensation of non-resident employees complementary to those based on the first set of sources. To do an estimate on the nominal value of compensation of employees corresponding to the 30 000 non-resident persons working in Norway, a further set of assumptions must be made.

8.1.10   A separate study indicates that about 20 per cent of the non-residents were **working part time.** We do not know exactly their average part time share, but the study indicates an average part time percentage of 35 among those who works part-time. Roughly speaking, this corresponds to each employee on the average supplies 0.87[9] man-years.

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[9]   80% working full-time (100%) = 30 000 persons x 0.80 = 24 000 man-years
+ 20% working part-time (35%) = 30 000 persons x 0.20 x 0.35 man-years/person = 2 100 man-years
= 26 100 man-years. 26 100/30 000 = 0.87.

(1) 30 000 persons ∗ 0.87 man-years/person = 26 100 man-years.

Statistics Norway's Wage Statistics give some information on the level of wage rates for non-residents compared to resident employees. According to this, non-residents receive wages and salaries that are about 10 per cent lower than the average wages and salaries for all Norwegian employees in 2004, which were NOK 347 000.

(2) NOK 347 000 per man-year ∗ 0.90 = NOK 312 300 per man-year.

Total wages and salaries received by non-residents covered by the Labour Force statistics thus are:
(3) 26 100 man-years ∗ NOK 312 300/man-year = NOK 8 151 million.

8.1.11   Comparing this to the result when the **Tax Return data** (NOK 9.1 billion) are used, we find a difference of NOK 1 billion. This made us conclude that the two sets of estimations both confirmed the need of a clear upward revision of the figures compared to those that were currently in use. Secondly, acknowledging the uncertainty of both sets of estimations, we also concluded that the two methods indicate roughly the same level. Finally, we chose to use the results from the estimations based on the Labour Force statistics, i.e. NOK 8.1 billion in 2004, as this figure ensures consistency with the Labour Accounts data of the NA.

8.1.12   **Compensation to non-resident seamen** was until the late 1990s the main sub-item of compensation of employees to abroad. It was earlier estimated in fact from all three sources: **maritime transport statistics** compiled by Statistics Norway, **ITRS** and **tax authorities' data**. Taking the first as the basic source, three adjustments were made to it. From the maritime transport statistics of Statistics Norway and information from Norwegian Shipowners' Association, estimates was arrived at by eliminating previous adjustments, particularly from the ITRS. The non-resident seamen compensation were estimated at NOK 2.4 billion in 2004, of which 2.3 billion were wages and salaries and 0.1 billion employers' social contributions.

8.1.13 The item consists of two elements:

-        Foreign seamen on Norwegian ships -   Foreign crews on chartered ships

Foreign seamen on Norwegian ships were redefined from residents to non-residents as part of the 1995 main revision of National Accounts and Balance of Payments. This entails that their wages are no longer recorded as a combination of direct purchases abroad by resident households and transfers to abroad, but entirely as compensation of non-resident workers (seamen). Compensation paid to foreign crews on chartered ships (foreign-registered vessels participating in Norwegian production) is now recorded as compensation of non-resident workers (seamen), whereas previously included as part of the shipping sector's operating expenditure abroad. The current treatment addresses ESA95, paras.1.30 and 2.10 - foreign seamen and crew on these ships having their center of economic interest in their home country. It should be added that Norwegian NA and BOP treatment respect the residential criteria referred to above. That applies to the new treatment of students abroad as well.

8.1.14   **Compensation to non-resident air pilots** is estimated in connection with production of air transportation services (see output section), and earlier also related payments recorded in the foreign exchange statistics (ITRS). Presumably, tax authorities' data exclude this completely. Quarterly accounting data received from the Scandinavian airline company SAS are used instead to calculate compensation to foreign pilots. This has been in accordance with the special treatment SAS is given in the national accounts.

8.1.15 Previous, no estimation was made for compensation of employees to **other groups of non-residents**. At present, however, separate estimations based on employment statistics and tax authorities' data provide figures for non-resident workers on short-term stay in Norway, see 8.1.7 – 8.1.11 above. Expenses on wages and salaries to personnel at Norwegian embassies obtained from central government accounts have been used to include their local non-residents working as staff in the estimations (small amount 0.1 billion NOK). Payments to local employees are assumed to be 25 per cent of these expenses.

8.1.16 Wages and salaries of **frontier and seasonal workers** resident and working in two different countries have not been estimated directly. In this respect, there are no regular exchanges of data sources with neighboring countries. These items were however included by the ITRS recordings among services. In the 1995 main revision, information from tax authorities etc. seemed to indicate that the former estimate was much too low, and was in part related to the oil and gas extraction industry. The final estimate for **compensation of employees from abroad** has later been revised upwards in several stages, most recent as part of the 2006-main revision, see 8.1.7 – 8.1.11 above.

8.1.17 The only source presently of some potential use for estimating **compensation of employees from abroad** is the **Tax return register.** Residents working abroad and having work contract with non-resident employers are obliged to report their income in terms of wages and salaries to the Norwegian Tax authorities, even when not taxed in Norway. This information is not specified on the tax return form submitted by the employees to the tax authorities. What is available, though, is the taxpayer's claim of tax deduction based on taxes paid to other countries. By assuming tax ratio as in Norway and also the wages and salaries ratio to total income as earned in Norway, an estimation of wages and salaries earned abroad can be made. It turned out that the new estimate for 2004 (2.9 billion NOK) was almost the same as the current one (2.6 billion). Compensation of employees from extra-territorial organizations is not estimated separately, but is implicitly included through the use of data from the Tax return register.

8.1.18 Contribution paid by resident employers to **foreign Social Security** schemes or similar foreign private insurance or pension funds should be included as part of compensation of employees. **Employers' social contributions** are included in the figures of compensation of employees in most cases and excluded in other cases where figures are relatively small. In the case of foreign seamen, the social contributions are estimated directly reflecting the social security funds or arrangements in that case (4 per cent of total compensation). For the SAS air transportation case, social contributions are included in total compensation of employees. Elsewhere, to be able to estimate not only wages and salaries but also employers' social contributions and thus compensation of employees in total, an assumption on the share of the premiums (contributions) to the total amount of compensation is made. This share is assumed to be 10 per cent, while observed to be 22 per cent for the Norwegian economy in total in this case. No effort was made to **split between actual and imputed social contributions by employers** in the BoP and NNA.

8.2   Taxes on production and imports

8.2.1   Taxes on production and imports in the context of Balance of Payments are virtually **not applicable** in Norway. In 2009, it has not been possible to locate any taxes on production and imports to and from abroad.

8.3   Subsidies

8.3.1   Subsidies in the context of Balance of Payments are virtually **not applicable** in Norway. Or rather, it may be that a small part of subsidies included under current transfers could refer to subsidies on production. In 2009, it has not been possible to locate any subsidies to and from abroad.

8.4   Interest

8.4.1   **Investment income** (Property income D.4 in ESA95) is defined as the income accruing to an investor from the ownership of financial assets. Included under this heading are interest, dividends, remittance of branch profits and reinvested earnings. Interest is the largest item contributing to investment income and investment expenditure (D.4 also) on the credit side, while dividends are the largest component on the debit side. Some general information for investment income: **Holding capital gains and losses**, both realized and unrealized, are **not classified as income on investment**. Realized holding gains and losses arising from transactions are included in the financial account, while the latter is recorded in a separate revaluation account.

8.4.2   In Norway, **interest to abroad** (interest expenditure) had until the mid 1990s a **higher value than interest from abroad** (interest income). In 2009 however interest from abroad is NOK 30 billion higher than interest to abroad, and **4.3 and 3.0 per cent of GDP** respectively. Interest expenditure to abroad and interest income from abroad both are of **considerable (but declining) importance** compared with total investment expenditure to abroad (61 per cent in 2009) and total investment income from abroad (54 per cent), respectively, as compared with 68 and 77 per cent in 2000.

Interest. 2009.

	NOK billion	Percentage of GDP
Interest expenditure to abroad	71.6	3.0
Interest income from abroad	102.0	4.3
Memo:		
Total investment expenditure to abroad	132.6	
Total investment income from abroad	168.3	

8.4.3   **Main source used** to record data on interest income and interest expenditure in the Norwegian Balance of Payments was earlier the ITRS from Norges Bank, but from 2005 succeeded by the new data collection system for residents engaged in economic relations with non-residents (UT-statistics for short):

- Foreign exchange statistics (ITRS) – until 2004
- UT-statistics – from 2005 (direct reporting from the various sectors: non-financial enterprises, financial enterprises, government etc.)

8.4.4   In 2005, when ITRS was abolished as source in the BOP, the UT statistics were introduced as the general source like for most other parts of BOP including exports and imports of services as referred to in chapter 5. In the case of interests, the compilation uses a sector approach involving an interest matrix to be established. From the direct quarterly survey used in the UT statistics, data on interest between residents and non-residents are obtained as far as non-financial corporations are

concerned. Other sources used are central and local government accounts for general government and accounting data from credit market statistics for financial corporations sector.

8.4.5   In the new system collecting data from the accounts it is possible to have a more transparent information on the interest flows. As regards the question of grants for interest relief, earlier it was not possible to say for sure whether they were included or not, payments being mixed in certain ways. Most likely, however, grants are now included in the cross-border interest flows.

8.4.6   BPM5 recommends that interest should be recorded on an accrual basis. As the sources of the UT-statistics to a very large extent are the accounts of the reporting units it is assumed that the income flows are recorded on an accrual basis and not payments basis.

8.4.7   **Non-distributed interests and dividends in mutual funds** are added to the share capital of the share holders, i.e. no "reinvested earnings" are entered in the current account, all transactions take place in the financial account. This treatment will change with the introduction of the revised SNA and ESA from 2014 when corresponding income flows will be introduced in the non-financial accounts.

8.5   Distributed income of corporations

8.5.1   **Investment income** (Property income D.4 in ESA95) is defined as the income accruing to an investor from the ownership of financial assets. Besides interest (dealt with above), this section and the next deal with the other components of investment income, and likewise investment expenditure.

8.5.2   The item of **dividends** tends to fluctuate in Norway. This to large extent is related to dividends to abroad in connection with fluctuating prices in the oil extraction industry. For example, while dividends represented 21 per cent of total investment expenditure in 1995, this relative was 59 per cent in 2009. **Dividends to abroad were historically much higher than dividends from abroad**, in 2000 at the level of **1.7 and 0.4 per cent of GDP,** but this relative has changed and in 2009 the debit component and the credit component are of roughly the same size.

Dividends. 2009.

	NOK billion	Percentage of GDP
Dividends to abroad	78.8	3.3
Dividends from abroad	74.2	3.1
Memo:		
Total investment expenditure to abroad	132.6	
Total investment income from abroad	168.3	

8.5.3   **Main source used** to record data on dividends to and from abroad in the Norwegian Balance of Payments is the ITRS from Norges Bank:
- Foreign exchange statistics (ITRS) – until 2004
- UT-statistics – from 2005 (direct reporting from the various sectors: non-financial enterprises, financial enterprises, government etc.)

8.5.4   Dividends are reported through the UT statistics from the reporting units of the various sectors (non-financial enterprises, financial enterprises etc.) and are based on the accounts of the reporting units. It is therefore reasonable to interpret the flows of dividends being recorded on an **accrual basis** and not payment basis (while reinvested earnings are recorded in the periods when they are earned, see

next item). Dividends (and reinvested earnings) are recorded with the code for the resident sector involved, in order to include the transactions in the Institutional Sector Accounts of the National Accounts. Dividends are recorded before the deduction of any taxes levied on it. Holding gains are excluded from estimates of dividends (see 8.4.1 above).

8.5.5   The treatment of the income of **Undertakings for Collective Investment (UCIs)** has been discussed during the 1990s, especially relating to ESA79 as to clarify that such income is to be recorded as property and entrepreneurial income, both when income is distributed and when it is not. In the latter case, it should be treated as an income paid out by the UCI to its shareholders, which the latter reinvest immediately in the UCI. This treatment is also applied in ESA95 (cf. also reinvested earnings). Two observations should be made in the Norwegian case: UCIs are not many and important in Norway, and the treatment is likely followed; after all, a similar treatment has been introduced for reinvested earnings (see next item).

8.5.6   Non-distributed interests and dividends in mutual funds are added to the share capital of the share holders, i.e. no "reinvested earnings" are entered in the current account, all transactions take place in the financial account. (We are aware of the change in this respect in the revised SNA and ESA which will be applied from 2014).

8.5.7   There is the question of treatment of withdrawals from the income of quasi-corporations, and particularly the net operating surplus received by residents as owners of land or buildings abroad. Until the new UT-statistics were introduced, no estimate was made, while a first attempt has been made on basis of this new source.

8.5.8   However, the growth in ownership of secondary or **holiday homes abroad** has made it necessary to estimate stock values as well as income and consumption flows in the BoP and the Rest of the World account of the NA. Table 1 summarizes estimation results in the Norwegian NA and BoP for 2002, which were the base year in the estimations carried out.

Holiday homes abroad. 2002. NOK million.

	Norwegian owned dwellings Abroad	Dwellings in Norway owned by non-residents
Stock value	36 936	20 629
Annual investment	10 985	988
Property income	388	217
Consumption of dwelling services	483	270

8.5.9   The number of foreign properties owned by Norwegian resident households abroad is based upon yearly data collected by Statistics Norway and an interview survey conducted in the second half of 2002 (Sentio, 2002). The interview survey found that 2 per cent of Norwegian households had holiday homes abroad. The number of Norwegian households that own a second home abroad in 2002 is used as a benchmark. Then more recent years is projected by extrapolating the benchmark estimate with a volume index. The volume index is deduced from data recorded in the Tax Return Statistics (Statistics Norway), in which the number of persons who *report* they own property abroad is registered each year. Hence, the benchmark estimate from 2002 is extrapolated using the annual growth in persons reporting the own property abroad.

8.5.10   The economic flow related to the ownership of holiday homes abroad are estimated using ratios observed in the NNA and some crude assumptions. For example it is assumed that the income received from abroad generated through the ownership abroad is in the same proportion to the stock value abroad as the ratio between operating surplus generated in the Norwegian dwelling industry and the stock value of dwellings in Norway. As seen from the table, the ratio between the stock value of

dwellings owned by Norwegians abroad and non-residents ownership of dwellings in Norway, including their respective economic flows, is almost 2:1 in 2002. This result seems plausible taking into account both Norway's position in ranking income per capita for different countries and the size of the Norwegian BoP item Travel debit relative to Travel credit. However, it must be admitted that more relevant and accurate information is in demand to raise the quality of these results. In particular, improvements could be made if NA-data from partner countries on dwelling activities is obtained and made use of in the calculations.

8.6   Reinvested earnings on foreign direct investment

8.6.1   Investment income (Property income D.4 in ESA95) is defined as the income accruing to an investor from the ownership of financial assets. **Reinvested earnings** are an important component in investment income and investment expenditure. Hence, it is described in a separate section of the Inventory.

8.6.2   **Reinvested earnings** are the difference between the total operating surplus in direct investment enterprises (income for the investor) and distributed dividends. Previously - before the 1995 main revision - actual dividend payments only were included in the accounts. Reinvested earnings may be positive or negative which was the case in Norway in 2009 (may be interpreted as disinvestments). In 2009, reinvested earnings corresponded to **-0.8 and -0.3 per cent of GDP** respectively to abroad and from abroad.

Reinvested earnings. 2009.

	NOK billion	Percentage of GDP
Reinvested earnings to abroad	-17.8	-0.8
Reinvested earnings from abroad	-7.9	-0.3
Memo:		
Total investment expenditure to abroad	132.6	
Total investment income from abroad	168.3	

8.6.3   **Main sources used** are:
- Special surveys on direct investment in Norway by Statistics Norway
- UT-statistics – reports from non-financial enterprises to Statistics Norway

8.6.4   Reinvested earnings are estimated based on information collected as part of the surveys on **direct investment.** From 2005 direct investment data are based on the **new survey reporting system** of Statistics Norway for balance of payments purposes **(UT)**. For direct investment abroad from 2007 a separate survey by Statistics Norway is another important data source. In addition, information from annual accounts submitted to the Register of Company Accounts is used as a source to detect and collect data on Norwegian direct investment abroad. The statistics on foreign direct investment in Norway is based on the new BOP-reporting for non-financial enterprises (UT), which has 2004 as the first reference year, and annual accounts submitted to the Register of Company Accounts. Information from newspapers and the Internet is used as a supplement to detect and collect data on new investment abroad and in Norway.

8.6.5 For **inward FDI** the source for profits is register data for total profits which is combined with the share of foreign ownership from the BOP data survey of non-financial enterprises (the UT-

statistics). The latter is also the source for distributed dividends. For **outward FDI** the source for profits is the FDI survey on equity capital and profits, while the BOP survey of non-financial enterprises is the source for distributed dividends.

8.6.6 There is a clear distinction between direct investment income and portfolio income in the BOP survey of non-financial enterprises, but the distinction is not yet utilized in the published BOP. The two sources for outward FDI is co-ordinated regarding the resident investors, but not regarding the non-resident investment companies. Distributed dividends are collected also in the outward FDI equity capital and profit survey, but the numbers have shown not to be reliable (too small numbers).

8.6.7 The sources have become less adequate for updating the survey register after the introduction of the new BOP data collection system. Consequently, a project has been launched to improve the update sources including a co-operation with the **EuroGroup Register**. Both holding companies, branches (unincorporated enterprises wholly owned by foreign companies) and special purpose entities are covered by the register, but there is no special identification of SPEs yet.

8.6.8 **Re-invested earnings** on inwards direct investments are based on accounting information from the NO taxation reports, where gains, losses, extraordinaire events etc. are given as separate items and can thus be excluded from the estimations. The question regarding exclusion of holding gains on outward direct investments has so far not been underlined in our reporting instructions for profit reporting, but we shall include this point in a revised version of the instructions.

8.6.9 The cross-border flows of re-invested earnings for the periods covered by registered data and accounting based report data (t-2) are measured when they are earned, but for the subsequent periods, i.e. before the annual register data and survey data are available, RIE is estimated based on the most recent known annual data (and more recent reported data for distributed profits). In very volatile periods (e.g. the financial crisis 2008/2009), less emphasis is made on the previous period.

8.6.10 Two important changes were made as from 2007 with backward revisions. First, indirect owned equity capital was excluded thus bringing this part in line with the manual and with inward FDI. Second, other capital and income are taken from the BOP survey of non-financial enterprises (and from other sources for the few financial enterprises involved in FDI) rather than from the special survey for FDI purposes which is then limited to equity capital and profits. In addition the FDI is now based on a sample (cut-off) survey instead of the (in theory) full scale tax survey. But the tax survey became increasingly less complete with a random lack of reports which we had to replace by other sources.

8.7 Property income attributed to insurance policy holders

8.7.1 Investment income includes also other income that cannot be classified according to the associated assets or liabilities. Normally, relatively small figures were reported as **other investment income** in the ITRS, included with the item of dividends when published. Values included here are not consistent with the values for premium supplements used in calculating imports and exports of insurance.

8.8 Rents on land and on sub-soil assets

8.8.1   Investment income includes also income in terms of rent from directly owned property and land abroad as reported in the sample survey of non-financial enterprises replacing the ITRS in 2005.

8.A Appendix to Chapter 8 The transition from GDP to GNI

8.A.1   In Norway the Balance of Payments data are integrated in the Institutional Sector Accounts. This contributes to improved quality, consistency and harmonization between ISA/NA and BOP systems and thereby the transition from GDP to GNI.

8.A.2   Thus complementary descriptions to GNI are through **the rest-of-the-world sector** and the integration of Balance of Payments. Transition from GDP to GNI is approached through the global items in the Balance of Payments Accounts, and this is illustrated below in conceptual relationships. However, it should be clear that **GNI** also could be estimated through adding the **balances of gross primary incomes** in the ordinary institutional sectors.

Different approaches to GNI. NOK billion in 2009

	Main national approach	Sectoral approach
Gross domestic product (GDP)	2356.6	
+ Compensation of employees from abroad	4.0	
- Compensation of employees to abroad	26.1	
+ Property income from abroad	168.3	
- Property income to abroad	132.6	
= Gross national income (GNI)	**2370.1**	**2370.1**
Non-financial corporations		482.7
Financial corporations		54.3
Central government		507.1
Local government		25.4
Households		1 295.3
NPISHs		5.3

CHAPTER 9 THE EXCLUSION OF THE EFFECT OF THE ALLOCATION OF FISIM ON GNI

This chapter replaces former chapter on ESA79.

9.1 Estimating FISIM output

9.1.1 Statistics Norway revised its **FISIM** calculations as part of the 2006 main revision and new estimates was released in December 2006.

9.1.2 While the new principle of allocating FISIM output to various uses was the most pioneering feature of the new treatment, there was also a **new method** introduced for the FISIM output calculation. The new method makes use of **other types of data** than before – balance sheet data and rates of interest instead of interest data flows – and furthermore, FISIM is **no longer estimated for Norges Bank** (the central bank).

9.1.3 FISIM outputs are thus **first calculated by sector**, i.e. for non-financial corporations, general government and households, and for rest-of-the world in terms of exports and imports, on loans and deposits these sectors have with the financial corporations involved. Total FISIM for each sector is arrived at by adding the two components FISIM on loans and FISIM on deposits. FISIM on loans is calculated by multiplying stock of loans by the difference between the rate of interest on loan and a chosen reference rate, while FISIM on deposits is calculated by multiplying stock of deposits by the difference between the reference rate and the rate of interest on deposits. Grand total FISIM is the sum over all sectors. Important reason behind the change of method and data used is the sectoral approach taken as a departure for the calculations, and also the fact that balance sheet data are more easily available than data on transaction flows when it comes to relevant data involving all the sectors.

9.1.4 Stock data and interest data are available by domestic sector from the monetary statistics compiled by Norges Bank. For more details, see chapter 11 on main sources used. The reference chosen as interbank interest rate is NIBOR (3-monthly efficent rate for the domestic part, see *http://www.norges-bank.no/en/price-stability/interest-rates/*.

9.1.5 The reference rate chosen for the international part is EURIBOR (360 Day) 3 month, Fixing, see *http://www.euribor-ebf.eu/euribor-org/euribor-rates.html*. Initially also the corresponding 3-monthly rates LIBOR for USA and TIBOR for Japan was selected for use, but because of lack of stock data these interest rates were abandoned. Most of the stocks are in the EURO area anyway.

9.1.6 Interest rates on deposits and loans are available from Statistics Norway. The interest rates chosen are described in the following table:

Interest rates used for FISIM calculations

	Sector	Interest rates on
Deposits	Households	Deposits with agreed maturity up to 1 year
	Corporations & general government	Deposits with agreed maturity up to 1 year for non-financial corporations.
Loans	Households	House purchase - floating rate and up to 1 year initial rate fixation
	Corporations & general government	Other loans over EURO 1 million: Floating rate and up to 1 year initial rate fixation

See *http://www.ssb.no/english/subjects/11/01/orbofrent_en/*

9.2 Allocating FISIM

9.2.1   Statistics Norway has implemented the revised treatment of FISIM and replaced the former method of allocating FISIM just to a nominal sector or industry with an allocation of FISIM to sectors and industries that involve the main aggregates of final uses and GDP.

9.2.2   Results of this allocation are illustrated by figures for 2009 below.

FISIM allocated. 2009

FISIM items	NOK billion
Total output	68.7
Output in banks	47.8
Output in other financial institutions	20.9
Imports	7.3
Total supply	76.0
Intermediate consumption	50.4
Final consumption expenditure	19.7
Exports	5.9
Total uses	76.0

9.2.3   Results of the allocation are illustrated further in terms of effect on the GDP.

FISIM allocated in NOK billion and percentages of GDP. 2009

FISIM items	NOK billion
Total changes in GDP	18.3
Of which: final consumption expenditures	19.7
of which: Exports – Imports	-1.4
	Percentages
FISIM effect on the GDP	0.8
FISIM effect from final consumption expenditures	0.8
FISIM effect from exports less imports	- 0.0

9.2.4   Having presented the results, there is a need to go back and see how they are calculated. The first step calculating FISIM by sector was described briefly above. Next, **allocating to industries** is done by using the Eurostat method II, i.e. using as distribution key the output of the respective industries. There is a link between institutional sectors and the respective categories of industries (types of producers). The output share of an industry is multiplied with total FISIM to arrive at each industry's FISIM.

9.2.5   Allocating **between intermediate consumption and final consumption** is not at all easy in the case of **households**. It is assumed that 15 per cent of mortgage loans are made for final consumption (85 per cent for intermediate consumption in owner-occupied dwellings). Non-mortgage loans are also allocated to final consumption. This assumption is obviously rather sensitive to the estimation. For deposits, it is assumed that full allocation is made from NPISH sector to final consumption, and full allocation from household employers, corporations, etc. to intermediate consumption.

CHAPTER 10   MAIN CLASSIFICATIONS USED

This chapter describes the correspondence between the national classifications used and those given in ESA95.

10.1   Classifications used for the production approach

Summary

10.1.1   **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.2**, and the **product classification based on the corresponding CPA**. They replaced in the 2011 main revision the former activity classification based on NACE Rev.1, and corresponding CPA.

10.1.2   In NNA, there are at present (for reference year 2009) **131 activities specified** in terms of NACE specifications, while altogether **155 activities when cross-classified by categories of production** (types of producer). Norway is keeping - and has always kept - a detailed profile for the activity classification in the national accounts. A shift from goods to more services in NNA has been accompanied by a shift from goods-producing activities to more service-producing activities being specified. There is now a roughly 50 - 50 distribution between goods-producing and services-producing activities. Statistics Norway's **self-evaluation** is that the present activity classification applied in NNA has **enough details**, a **well-adjusted profile between types of activities** and with a **user-friendly differentiation into categories of production**. All the three features contribute and lead to reliable ESA95 based NA estimates.

10.1.3   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 NPIs serving households. There are 127 market production activities specified, 5 activities of production for own final use, and altogether 23 non-market production activities. The latter activities are composed of 7 central government activities, 9 local government activities and 7 activities of non-profit institutions serving households.

10.1.4   In NNA, the total number of products are about **925 products**, of which almost 800 are ordinary products, while the remaining products are of supporting nature introduced for technical reasons. Out of the ordinary products about 55 per cent or almost 450 are goods and the rest, about 350, are services. Statistics Norway's **self-evaluation** is that the present product classification applied in NNA has **enough details**, a **well-adjusted profile between manufactured products and other products**.

Activity classification

10.1.5   The **activity classification scheme** based on NACE Rev.2 used in NNA is illustrated below. Please note that number in total the column is the consolidated number of activities (e.g. education in four different categories of production means one NACE-activity in total). A64 specifications are all provided, except for 99 Services provided by extra-territorial organizations and bodies. This is outside the scope of domestic production, i.e. excluded from the activity classification of NNA and are instead included as part of the activity of the rest-of-the-world sector. The NNA activity details in most cases are either **at the 2-digit level, at the 3-digit level, or between these two levels**. Norway, therefore, is able to identify 2-digit level of NACE Rev.2 (A64 in ESA) for reporting or other dissemination of annual activity data from NNA.

Number of economic activities specified in NNA

NACE Rev.2 A64 specification			Total number of industries (consolidated)	Type of producer		
				Market	Own final use	Other non-market
A	01	Crop and animal production, hunting and related service activities	2	2	1	
	02	Forestry and logging	2	2		
	03	Fishing and aquaculture	2	2	1	
B	05-09	Mining and extraction				
C	10-12	Manufacture of food products, beverages and tobacco	11	11		
	13-15	Manufacture of textiles, wearing apparel and leather products	3	3		
	16	Manufacture of wood and of products of wood and cork, except furniture, manufacture of articles of straw and plaiting materials, except furniture	1	1		
	17	Manufacture of paper and paper products	1	1		
	18	Printing and reproduction of recorded media	1	1		
	19	Manufacture of coke and refined petroleum products	1	1		
	20	Manufacture of chemicals and chemical products	3	3		
	21	Manufacture of basic pharmaceutical products and pharma- ceutical preparations	1	1		
	22	Manufacture of rubber and plastics products	1	1		
	23	Manufacture of other non-metallic mineral products	4	4		
	24	Manufacture of basic metals	4	4		
	25	Manufacture of fabricated metal products, except machinery and equipment	2	2		
	26	Manufacture of computer, electronic and optical products	1	1		
	27	Manufacture of electrical equipment	1	1		
	28	Manufacture of machinery and equipment n.e.c.	1	1		
	29	Manufacture of motor vehicles, trailers and semi-trailers	1	1		
	30	Manufacture of other transport equipment	3	3		
	31-32	Manufacture of furniture and other manufacturing	2	2		

NACE Rev.2 A64 specification			Total number of industries (consolidated)	Type of producer		
				Market	Own final use	Other non-market
	33	Repair and installation of machinery and equipment	2	2		
D	35	Electricity, gas , steam and air conditioning supply	4	4		
E	36	Water collection, treatment and supply	1	1		1
	37-39	Sewerage; Waste collection, treatment and disposal activities, materials recovery; Remediation activities and other waste management services	3	3		2
F	41-43	Construction	4	4	1	
G	45	Wholesale and retail trade and repair of motor vehicles and motorcycles	1	1		
	46	Wholesale trade, except of motor vehicles and motorcycles	1	1		
	47	Retail trade, except of motor vehicles and motorcycles	1	1		
H	49	Land transport and transport via pipelines	5	5		
	50	Water transport	3	3		
	51	Air transport	1	1		
	52	Warehousing and support activities for transportation	3	3		
	53	Postal and courier activities	1	1		
I	55-56	Accommodation and food service	2	2		
J	58	Publishing activities	1	1		
	59-60	Motion pictures, video and television programme production, sound recording and music publishing activities; Programming and broadcasting activities	2	2		
	61	Telecommunications	1	1		
	62-63	Computer programming, consultancy and related activities; Information service activities	2	2		
K	64	Financial service activities, except insurance and pension funding	3	3		
	65	Insurance, reinsurance and pension funding, except compulsory social security	3	3		

NACE Rev.2 A64 specification			Total number of industries (consolidated)	Type of producer		
				Market	Own final use	Other non-market
	66	Activities auxiliary to financial services and insurance activities	1	1		
L	68	Real estate activities	2	2	1	
M	69-70	Legal and accounting activities; Activities of head offices, management consultancy activities	2	2		
	71	Architecture and engineering activities, Technical testing and analysis	1	1		
	72	Scientific research and development	1	1		
	73	Advertising and market research	1	1		
	74-75	Other professional, scientific and technical activities; Veterinary activities	2	2		
N	77	Rental and leasing activities	1	1		
	78	Employment activities	1	1		
	79	Travel agency, tour operators and other reservation service and related activities	2	2		
	80-82	Security and investigation activities; Services to buildings and landscape activities; Office administrative, office support and other business support activities	3	3		
O	84	Public administration and defence, compulsory social security	3	3		
P	85	Education	1	1		1
Q	86	Human health activities	1	1		1
	87-88	Residential care activities; Social work activities without accommodation	3	3		2
R	90-92	Creative, arts and entertainment; Libraries, archives, museums and other cultural activities; Gambling and betting activities	4	3		2
	93	Sports activities and amusement and recreation activities	1	1		1

NACE Rev.2 A64 specification			Total number of industries (consolidated)	Type of producer		
				Market	Own final use	Other non-market
S	94	Activities of member- ship organisations	1	1		1
	95	Repair of computers and personal and household goods	1	1		
	96	Other personal service activities	1	1		
T	97	Activities of house- holds as employers, undifferentiated goods and service producing activities of house- holds for own account	1		1	

10.1.6 **Most activities are market**, just four NNA activity items occur exclusively outside market activities. These are one activity exclusively for **own final use**: private household with employed persons (A97). Furthermore, there are three **other non-market activities** that are exclusive: public administration and compulsory social security activities; defense activities and other government activities, all items in A84. Apart from these, there are activities for own final use that are split, i.e. one part market, one part production for own final use (agriculture; fishing; general construction of buildings etc. and dwelling services production of owner-occupiers). The same occurs for other non-market, i.e. **one part market, one part non-market**. These comprise the following NNA activities:

-	360	Water collection, treatment and supply (A36)
-	370	Sewerage (A37)
-	380	Waste collection, treatment and disposal activities (A38)
-	850	Education (A85)
-	860	Human health activities (AA86)
-	870	Social work activities (items in A87 and A88)
-	882	Kindergartens (item in A88)
	900	Creative arts and entertainment activities (A90)
-	910	Libraries, archives, museums and other cultural activities (A91)
	930	Sports and recreation activities (items in A93)
	940	Activities of membership organizations (A94)

It should be added that these split market/non-market activities, for the non-market part in several instances are further split on all three sub-groupings of non-market production (central government, local government and NPISHs).

Product classification

10.1.7 The **product classification scheme** used in NNA is based on CPA. In presenting this scheme, we use the approach of the 2-digit CPA (see table below). The presentation also shows that Norway could provide a product breakdown according to CPA 3-digit level in the national accounts.

10.1.8 Norway has **continued to apply a relatively detailed product classification** scheme, although efforts have been made lately to reduce number of products and product flows significantly to a more

manageable body of details, in particular for manufactured goods. All in all there are almost 970 products specified, of which about 780 can be labeled ordinary or characteristic products. Among these almost 450 are goods, of which 340 manufacturing products. The remaining are goods outside manufacturing. Around 350 services products are specified. In general, the NNA product details are typically somewhat between 5-digit and 6-digit CPA.

10.1.9 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. It means, for instance, that products for own final use have been specified along with other products (e.g. there are specified products for own final consumption in agriculture, forestry and fishing). Products of non-market producers are given special attention as concern services of central and local government, while not for NPISH 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. This solution significantly increases total number of products.

10.1.10 For **technical and other reasons** - in addition - there are 190 more products introduced for technical reasons or products otherwise defined as not being characteristic of any activities. 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 that are purchased and consumed over the whole range of industries. Such articles are channeled 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. Then, there are some products not connected to any particular industry, such as own-account construction and the like. A last category of "products" is items that are aggregated fixed assets through which gross fixed capital formation or net acquisition of existing fixed assets is cross classified for industry destinations.

10.1.11 NNA products 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.

Number of products specified in NNA

CPA 2-digit level	Number of NNA-products
01 Products of agriculture, hunting and related services	43
02 Products of forestry, logging and related services	10
03 Fish and other fishing products, services incidental to fishing	19
05 Coal and lignite	1
06 Crude petroleum and natural gas	4
07 Metal ores	1
08 Other mining and quarrying products	4
09 Mining support services	3
10 Food products	52
11 Beverages	8
12 Tobacco products	1
13 Textiles	12
14 Wearing apparel; furs	1
15 Leather and leather products	3
16 Wood and products of wood and cork, articles of straw etc.	13

CPA 2-digit level	Number of NNA-products
17 Pulp, paper and paper products	11
18 Printed matter and recorded media	5
19 Coke, refined petroleum products and nuclear fuel	13
20 Chemicals, chemical products	37
21 Basic pharmaceutical products	4
22 Rubber and plastic products	10
23 Other non-metallic mineral products	26
24 Basic metals	30
25 Fabricated metal products	23
26 Computers, electrical and optical instruments	24
27 Electrical machinery and apparatus	13
28 Machinery and equipment	20
29 Motor vehicles, trailers and semi-trailers	9
30 Other transport equipment	21
31 Furniture,	5
32 Other manufactured goods	9
33 Repair	11
35 Electricity, gas, steam and hot water	7
36 Natural water, water treatment services	3
37 Sewage and refuse disposal services	3
38 Waste collection services etc.	2
39 Remediation services and other waste management services	10
41 Buildings and building construction works	5
42 Construction work for civil engineering	1
43 Specialized construction work	11
45 Trade, maintenance and repair services of motor vehicles	5
46 Wholesale trade and commission trade services	3
47 Retail trade services	2
49 Land transport and transport via pipeline services	16
50 Water transport services	12
51 Air transport services	4
52 Supporting and auxiliary transport services	14
53 Post and communication services	4
55 Accommodation services	3
56 Food and beverages serving services	4
58 Publishing services	6
59 Motion picture, video, television, sound recording services	4
60 Programming and broadcasting services	2
61 Telecommunication services	4
62 Computer programming, consultancy and related services	4
63 Information services	4
64 Financial intermediation services	16
65 Insurance and pension funding services	5
66 Services auxiliary to financial intermediation	4
68 Real estate services	15
69 Legal and accounting services	2
70 Services of head offices, management consulting services	2
71 Architectural and engineering services, testing and analysis services	9
72 Scientific research and development services	3
73 Advertising and market research services	2

CPA 2-digit level	Number of NNA-products
74 Other professional, scientific and technical services	4
75 Veterinary services	2
77 Rental and leasing services	11
78 Employment services	1
79 Travel agencies and tour operator and other reservation services	3
80 Security and investment services	2
81 Services to buildings and landscape	2
82 Office administration and support, and other business services	3
84 Public administration and defense services; compulsory social security	18
85 Education services	21
86 Human health services	37
87 Residential care services	8
88 Social work services	17
90 Creative, arts and entertainment services	8
91 Library, archive, museum and other cultural services	15
92 Gambling and betting services	1
93 Sporting, amusement and recreational services	9
94 Services furnished by membership organization	4
95 Repair services of computers and household goods	2
96 Other personal services	6
97 Services of households as employers	1
99 Services provided by extra-territorial organizations and bodies	(0)

Market/ non-market distinction

10.1.12 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.

10.1.13 In NNA, Statistics Norway has adopted the **market versus non-market distinction** of producers and production. This is expressed in the coding system through prefix to the activity classification. Their respective percentage shares of total value added by industries and of GDP in 2009 are indicated below. Shares of total value added are approximately 78 per cent from market production, 5 per cent production for own final use and 17 per cent from other non-market production.

Categories of market and non-market production in 2009

Categories of production	Percentage of Total value added	Percentage of GDP
23 Market production	76.2	67.8
22 Production for own final use	4.1	3.6
24 Other non-market production of central government	8.1	7.2
25 Other non-market production of local government	10.1	8.9
26 Other non-market production of NPISHs	1.5	1.3
Net taxes on products		11.1
Total production	100.0	100.0

10.1.14 These five groups of market and non-market categories are used throughout **all variables or items by industry**. Output, intermediate consumption, value added, compensation of employees, wages and salaries, employers' social contributions, other taxes on production, other subsidies on production, consumption of fixed capital, operating surplus, mixed income, gross fixed capital formation, number of employed persons, number of employees and self-employed, full-time equivalent persons, jobs, 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.

10.2   Classifications used for the income approach

10.2.1   The **main classification scheme** used in the NNA for the estimation of GDP according to the income approach is the **activity classification based on NACE Rev.2.** The activity classification applies to all income approach aggregates - compensation of employees, operating surplus/mixed income, consumption of fixed capital, other taxes on production and other subsidies on production.

10.2.2   The NACE Rev.2-based activity classification is already described in section 10.1. Statistics Norway's **self-evaluation** on the present activity classification (see 10.1.2 above) thus applies for the income approach as for the production approach. It is adopted with the **same degree of detail for all income approach aggregates.** In addition, the same activity classification is used for each of the categories specified under compensation of employees. It may be added that the calculations for the manufacturing part - for the variables compensation of employees as well as for employment - follow a two-stage procedure, initially at the aggregated level used in the quarterly accounts, but eventually adapted to the detailed activity specification level of the annual accounts.

10.2.3   There are as well groupings or breakdowns that provide more details for most of these aggregates. These are groupings of **compensation of employees by category, consumption of fixed capital by type of fixed assets, other taxes on production by type** and **other subsidies on production by type.**

10.2.4   Compensation of employees (D.1) has two main categories or components:

D.11	**Wages and salaries**
D.12	**Employers' social contributions**

10.2.5   Each of the two main components consists of two items:

-	**Wages and salaries in cash**
-	**Wages and salaries in kind**
D.121	**Employers' actual social contributions**
D.122	**Employers' imputed social contributions**

10.2.6   In NNA, employers' actual social contributions are further specified into two sub-items:

-	**Employers' actual social contributions to National Insurance**
-	**Employers' other actual social contributions**.

Employers' contributions to National Insurance are specified separately due to its major role in this context. National Insurance - as the most important social security scheme in Norway - covers old age pensions, disability pensions and other types of social benefits. All employers are obliged to pay contributions to National Insurance for the benefit of their employees.

10.2.7   The classification scheme in NNA for **gross fixed capital formation** by type of fixed assets is **also adopted for consumption of fixed capital** (K.1). One reason is arriving at net concept of fixed capital formation. The scheme is based on the classification adopted in ESA95 and SNA93 on fixed assets. Altogether 50 items are specified in NNA, the same items that apply to gross fixed capital formation.

10.2.8   In NNA, **other taxes on production** (D.29) consist of taxes on production and imports (D.2) other than taxes on products (D.21) that are described elsewhere (in chapter 3). Other taxes on products (D.29) are further broken down into 35 types of taxes. This is done to serve special analytical needs.

10.2.9 In NNA, **other subsidies on production** (D.39) consist of subsidies (D.3) other than subsidies on products (D.31) that are described elsewhere (in chapter 3). Other subsidies on production (D.39) are further broken down into 14 types of subsidies to serve special analytical needs.

10.3   Classifications used for the expenditure approach

Summary

10.3.1   The **main classification schemes** used in NNA for the estimation of GDP according to the expenditure approach in the field of **consumption** are the purpose or **purpose-like classifications of COICOP and COFOG.** They are used for final consumption expenditure of households and general government, respectively. The existing international versions were **implemented in the 2002 main revision**, while more detailed (see below). They replace the versions presented in the ESA95 and SNA95. Less important, consumption of non-profit institutions serving households (NPISH) has been introduced and specified by five items. Statistics Norway's **self-evaluation** is that the present functional classifications applied in NNA have **enough details**, with a **hierarchal structure in three levels of aggregation**. All these features contribute and lead to reliable ESA95 based NA estimates.

10.3.2   Other classifications used are the **classifications of fixed assets** and of **activities used for gross fixed capital formation (GFCF)**, and **breakdown on categories of inventories**, and **on exports and imports**. Some adjustments to the types of fixed assets, inventories and valuables might be necessary for coming inventory update.

10.3.3   **COICOP** for household consumption expenditure in NNA is relatively detailed, specifying 106 consumption groups within the framework of 12 main groups. The classification is structured at three different levels of aggregation.

10.3.4   In NNA the COFOG framework of 10 main groups, the **number of COFOG groups** is **68 in central government** and **57 in local government**. COFOG in NNA has got a second dimension by being cross-classified by products and subsequently linked with the activities.

10.3.5   The classification by **type of fixed assets** is also relatively detailed. The number of groups is **50** in NNA, within the framework of 8 aggregated groups. GFCF is **also broken down by kind of activities**, with full accordance with the activity classification in production.

10.3.6   For the other final uses, there are less detailed breakdowns by categories. As main breakdown for **changes in inventories** is by products (NNA-products), only 7 categories of inventories are specified. Altogether, 10 categories have been introduced for **exports of goods and services** and **imports of goods and services** (5 categories of exports and 5 categories of imports). Here also, the main breakdown is by products.

COICOP

10.3.7   The classification scheme used in NNA for **household final consumption expenditure and household actual consumption (i.e. individual consumption)** is the present COICOP that was adopted by the UN Statistical Commission in 1999. As many as 106 consumption groups or categories are specified at the detailed level, while for publication and analytical purposes two more aggregated levels is introduced, using the coding structure in a hierarchal manner. Thus, in the present NNA (2011 version) there are around 106 consumption groups at detailed level, 47 consumption groups at intermediate level and 12 consumption groups at aggregated level.

10.3.8   The composition between **consumption goods** and **consumption services** has over time been changed significantly towards more service specifications. In addition, the two **correction items** (direct purchases abroad by residents and direct purchases in Norway by non-residents) provisionally have continued being used in NNA. However, in accordance with ESA95 they will be eliminated (and consolidated with the detailed items) from the classification of consumption in due time. For the time being, information is lacking on COICOP groups for distribution of direct purchases abroad by residents. As illustrated above, information is however available on distribution of direct purchase in Norway by non-residents (46 COICOP groups). One step forward towards the suggested ESA95 recording, would be to delete the second correction item and deduct non-residents' purchases at the individual COICOP level. This will, however, imply a quasi-solution between the domestic concept used today and the ultimate national concept of ESA95 also for the individual items.

10.3.9   At **aggregated (1-digit) level**, NNA has adopted the same structure as in COICOP. That refers to the 12 aggregated consumption groups of COICOP. In terms of codes, the COFOG groups 01-12 have been replaced by 1-digit letter codes A through L in NNA. At **intermediate (2-digit) level**, the coding system of NNA has added 1-digit codes to the preceding letter code. At **detailed (3-digit) level,** the coding system used in NNA has added 2-digit codes to the relevant letter code. This coding structure is exemplified below by the first entry (61A11):

61 = Household final consumption expenditure A = Food and non-alcoholic beverages A1 = Food A11 = Bread and cereals

10.3.10 The **COICOP version with its structure** used in Norway is illustrated below. It shows the level of detail with the 3-level structure. Distribution by non-tourist/tourist categories (prefix 61, 68 and 69) is added to the table. In section 5.7 above, it was indicated which individual COICOP groups belonged to the respective non-tourist/tourist categories.

COICOP and number of household consumption groups specified in NNA (prefix 61)

Aggregated level (1-digit)	Intermediate level (2-digits)	Detailed level (3-digits)
01 Food and non-alcoholic beverages	2	11
02 Alcoholic beverages, tobacco and narcotics	3	5
03 Clothing and footwear	2	6
04 Housing, water, electricity, gas and other fuels	5	10
05 Furnishings, household equipment and routine maintenance of the house	6	12
06 Health	3	7
07 Transport	3	12
08 Communications	3	3
09 Recreation and culture	6	20
10 Education	4	4
11 Restaurants and hotels	2	3
12 Miscellaneous goods and services	8	13
Total number of consumption groups in NNA	**47**	**106**

10.3.11 Two COICOP groups, **narcotics and prostitution,** were introduced in the 2011 main revision.

10.3.12 As already stated, the overall **correction items**

-       Direct purchases abroad by resident households   -   Direct purchases in Norway by non-resident households

are in use until further work (also tourism satellite accounts) has been carried out on distributing these two items on the respective and relevant consumption groups (see 10.3.8 above).

10.3.13 Finally, NNA has (like in FNA) a **complementary classification** by which the consumption groups are classified either as consumption goods or consumption services and the former category also **by durability** (non-durable, semi-durable and durable). The consumption groups are **not published by a breakdown of durability** (reflecting that SNA93 and ESA95 do not present such a breakdown).

COFOG

10.3.14 The classification scheme used in NNA for **government final consumption expenditure (**and **collective consumption)** is based on COFOG, the last version adopted in 1999. In the sphere of final uses, COFOG is applied for both central government consumption expenditure and local government consumption expenditure. The level of detail for which COFOG is applied corresponds with the structure of the existing international COFOG standard. It means **10 main groups at the aggregated level**, and altogether **69 groups are specified at the intermediate level used in NNA.** Of these, **68 groups are used as relevant for central government consumption,** while less detailed in **local government consumption at 57 groups**. More detailed breakdown is not implemented in NNA, but is available in the government accounts.

10.3.15 In NNA, COFOG is **cross-classified by products**. Each of the detailed COFOG groups now has a product breakdown from the CPA-based product classification generally applied in NNA. The COFOG-by-product flows have been set up in a rather pragmatic way. The starting point has been the

current items and sub-items of the government accounts. A relevant NNA product has been connected to each of these items, in some instances easily determined, in other instances more difficult to determine when certain reasonable conventions or considerations had to be taken

10.3.16 **Summary illustrations** on purposes are provided below.

COFOG and number of purposes specified in NNA

Aggregated level	Intermediate level of central government	Intermediate level of local government
Present COFOG		
01 General public services	7	7
02 Defense	5	
03 Public order and safety	5	1
04 Economic affairs	9	9
05 Environment protection	3	5
06 Housing and community amenities	2	6
07 Health	6	6
08 Recreation, culture and religion	3	6
09 Education	6	8
10 Social protection	7	9
Total number of purposes specified in NNA	68	57

10.3.17 The **COFOG** version used in Norway is further illustrated by its **connection to products**. The numbers of COFOG groups-to-product flows are shown in this table, not number of products as such. The table refers to central government only, and depicts the situation in 2009. In most COFOG groups, the product flows involving characteristic products of public administration and defense services, compulsory social security services dominate.

COFOG and number of products specified in NNA

Aggregated level	Number of NNA-products in central government (non-consolidated count)
Present COFOG (2000 situation)	
01 General public services	27
02 Defense	18
03 Public order and safety	14
04 Economic affairs	31
05 Environment protection	12
06 Housing and community amenities	2
07 Health	57
08 Recreation, culture and religion	9
09 Education	21
10 Social protection	22
Total number of purposes specified in NNA	213

10.3.18 Like for COICOP and COFOG, a **new breakdown** was implemented in NNA with the main revision in 2002. The new standard was restructured at the level of 5 items (note reference to the COFOG in parenthesis).

- Health (F00)
- Recreation and culture (I40)
- Education (J00)
- Welfare (L41)
- Religious and humanitarian purposes (L70)

Gross fixed capital formation by type of fixed assets

10.3.19 The classification scheme in NNA for **gross fixed capital formation by type of fixed assets** is based on the classification adopted in ESA95 and SNA93 on fixed assets. Here AN.11 Fixed assets specify 7 categories of tangible fixed assets and 4 categories of intangible fixed assets at most disaggregated level. These are all identified in NNA, including items for cultivated assets and intangible fixed assets sub-divided into 2 and 4 items respectively.

10.3.20 The following table presents the classification of type of fixed capital.

Aggregated type of fixed capital	Detailed type of fixed capital
1 Dwellings	100 Dwellings
	108 Own account capital formation
	180 Transaction costs existing dwellings
	190 Transaction costs land and sites
2 Non-residential buildings	200 Non-residential buildings
	208 Own account capital formation
	290 Transaction costs non-residential buildings
3 Other structures	300 Improvements to land in agriculture and forestry
	308 Own account improvements to land
	310 Railroad tracks and bridges
	320 Power supply transmission lines
	328 Own account capital formation
	330 Power supply stations
	338 Own account capital formation power plants
	340 Roads and streets
	348 Own account capital formation roads and streets
	350 Other structures
	358 Own account capital formation other structures
	370 Wells for oil and gas extraction
	378 Own account capital formation wells
	380 Petroleum rigs and platforms
	388 Own account capital formation rigs and platforms
	390 Petroleum pipelines
	398 Own account capital formation pipelines
4 Transport equipments	410 Ships and boats
	420 Aircraft and helicopters

Aggregated type of fixed capital	Detailed type of fixed capital
	430 Passenger cars and station wagons
	440 Buses
	450 Vans and lorries and special purpose vehicles
	460 Passenger cars for occupational hire
	470 Locomotives and rolling stock
5 Machinery and equipment	508 Own account capital formation machinery
	510 Machinery for agriculture and forestry
	520 Machinery for mining and manufacturing
	530 Machinery for power plants
	540 Machinery for construction
	550 Machinery for other use
	560 Computer and office equipments
	570 Equipments for telecommunication
	590 Weapons
6 Cultivated assets	610 Livestock for breeding, dairy, draught
	650 Vineyeards, orchards and other plantation trees
7 Intangible fixed assets	710 Mineral and petroleum exploration
	718 Own account capital formation exploration
	740 Software
	748 Own account capital formation software
	760 Literary and artistic copyrights
	790 Other fixed intangible assets
9 Valuables	990 Antiques, art pieces and other valuables

10.3.21 Statistics Norway provides also a **detailed product breakdown** in supply and use tables on a current basis, a **detailed breakdown of gross fixed capital formation by industry**. The cross-classifications in NNA are organized in the following sequence: (i) producers (industries or imports) by products, (ii) products by type of fixed assets, (iii) type of fixed assets by identical aggregated products, and (iv) aggregated products by industries for investment use.

Gross fixed capital formation by activities

10.3.22 The classification scheme in NNA for gross fixed capital formation **by activities or industries** is more based on national interests and traditions than by recommendations or requirements in SNA93 and ESA95. In Norway, gross fixed capital formation by activity is considered more important information than any other breakdown of gross fixed capital formation, most of all to accommodate **productivity analysis**. In ESA95, however, this breakdown is basically referred to as a supplementary breakdown called for in the framework of the supply and use tables (bottom section of the use table).

10.3.23 In NNA, the breakdown by activity of gross fixed capital formation (GFCF) is **as detailed as the activity breakdown in production**. Although this might be questioned from the point of statistical sources available, such a one-to-one correspondence is considered a valuable basis for the compilation of such data. It also means separate items for GFCF by category of production, i.e. in **market production**, **production for own final use** and in **non-market production** distinguished in central government, local government, and NPISH. In practice, however, GFCF will be taken to be zero in some of the activities producing for own final use.

10.3.24 So far, no effort has been made to provide a modified treatment in the supply and use tables from reclassification of fixed capital formation to be recorded as **if owned by the user**.

10.3.25 In the context of GDP by expenditure approach, a classification of categories of inventories may seem appropriate for a breakdown of changes in inventories. The ESA95 classification of **inventories within produced assets** is such a classification basis.

10.3.26 The ESA95 categories of materials and supplies, finished goods and goods for resale are not explicitly shown in the Norwegian national accounts. Although there are some information on materials and supplies and finished goods, respectively, in manufacturing statistics, other areas are lacking and the picture too scattered to go along with such a breakdown. Furthermore, no direct inventory information on goods for resale has been available from retail and wholesale trade statistics. The **3-split breakdown of inventories** - apart from work in progress - is therefore **a target** set for future.

10.3.27 **Work in progress on goods** also belongs to changes in inventories. It has a breakdown of four items in NNA, while two in ESA95. Due to their special importance in the Norwegian economy, work in progress on modules to oil platforms and ships are separately identified. Two types of work in progress on cultivated assets are shown. They are related to livestock for slaughter, stocks of timber or fuel wood, and farmed fish.

10.3.28 **Changes in inventories for services** – interpreted as services-in-progress - are introduced for selected services items.

10.3.29 The main item of changes in inventories has a cross-classification **by products**, in NNA broken down by detailed NNA-products (goods). This feature is part of the commodity-flow approach used in Norway, resulting in annual supply and use tables.

Categories of exports and imports

10.3.30 In ESA95, exports of goods and services and imports of goods (P.61 and P.71) and services (P.62 and P.72) thus are broken down into the two categories each, each of which is of course cross-classified with a set of products. In NNA, this structure of a few categories by product details has been introduced. The four categories become, however, **10 categories altogether** as each category has been given a 3-item specification of sub-categories. In the goods part, recordings in external trade statistics are distinguished from the remaining part not recorded in external trade statistics (which of course is a smaller part). For national reasons, certain categories related to shipping and tourism have been introduced separately.

10.4   Classifications used in the transition from GDP to GNI

10.4.1   Classification of distributive transactions (D) apply in this case, i.e. the first parts including compensation of employees (D.1), taxes on production and imports (D.2), subsidies (D.3) and in particular, property income (D.4).

10.4.2   In NNA, the specifications are quite detailed. See chapter 8 for more information.

Chapter 11 serves as a guide to the system of statistical surveys and other data (e.g. administrative and fiscal data sources) used as the basis for the national accounts in Norway.

11.0   Overview

11.0.1 Table given below presents in alphabetical order the inventory of data sources used in national accounts compilation in Norway. It is noticed that the majority of these data sources for the GDP estimation are the same from two or three approaches. Also noticed is that for the majority of industries **Structural Business Statistics** were in use for 2009. These are marked with **SBS in parenthesis**. Some of the sources were not used directly for 2009 estimations. They are still referred to in the list because these sources were used in bench marking in earlier years and through extrapolation are of relevance for the levels in 2009.

Inventory of sources used for national accounts

Ref.	Source	Prod.	Inc.	Exp.	GNI
1	**Accounting data of SAS (Scandinavian Airlines)**	A		11.1	
2	**Accounting data of State Broadcasting Company NRK (SBS)**	B		11.1	
3	**Accounting statistics of air transport companies (SBS)**	B			
4	**Accounting statistics of private non-financial enterprises**	B			
5	**Accounting statistics of self-employed (see 11.2)**	11.2	A		
6	**Accounting statistics of wholesale and retail trade (SBS)**	B			
7	**Accounts statistics of telecom services (SBS)**	A		11.1	
8	**Accounts/statistics various transportation services (SBS)**			B	
9	**Accounts of nation-wide betting institutions**	B			
10	**Accounts statistics of postal and courier service (SBS)**	B		11.1	
11	**Accounts of State Railway Corporation NSB**	A		11.1	
12	**Accommodation statistics of guest-nights**			B	
13	**Aggregate account of agriculture**	A		11.1	
14	**Aggregate account of forestry**	B		11.1	
15	**Building statistics**			A	
16	**Catch statistics**	A			
17	**Census data of fish farming**	A		11.1	
18	**Central government statistics**	11.3	11.3	A	
19	**Construction statistics (SBS)**	A		11.1	
20	**Consumer Price Index**			A	
21	**Cost survey data for defense activities**	11.3		A	
22	**Cost survey data for education and health activities**	B			
23	**Cost surveys of fishing boats and fish farming**	B			
24	**Credit market statistics**	A		11.1	
25	**Cultural statistics**	B			
26	**Economic surveys for supporting services transport (SBS)**	B			
27	**Electricity statistics**	A		11.1	
28	**Employment statistics**		A		
29	**Energy statistics**			B	
30	**External trade statistics**			A	
31	**Foreign exchange statistics (ITRS data)**	11.3		B	11.3
32	**Household budget surveys**	11.3		A	

Ref.	Source	Prod.	Inc.	Exp.	GNI
33	Housing statistics	B			
34	Income surveys of private medical practitioners, etc.	B		11.1	
35	Index of building costs and price index of new dwellings			B	
36	Interest statistics - European Central Bank			B	
37	Interest statistics - Norges Bank (central bank of Norway)	B			
38	KOSTRA – Municipality-State Reporting	11.3	11.3	A	
39	Local government accounts	11.3	11.3	A	
40	Manufacturing statistics (SBS)	A	11.1	11.1	
41	Maritime statistics domestic non-scheduled goods (SBS)	B			
42	Maritime statistics on regular coastal trade (SBS)	B			
43	Maritime transport statistics (SBS)	A		11.1	
44	Oil and gas activity statistics	A		11.1	
45	Other central government accounts		B		
46	Other services production statistics (partly SBS)	B		11.1	
47	Quantity information on beverages and tobacco			B	
48	Research and development statistics	B			
49	Register of vehicles			B	
50	Register of Wages and Salaries (RWS)		A		
51	(Reports) acc. stat. Film and Cinema (SBS)	B			
52	(Reports) acc.stat. travel agencies/tour operators (SBS)	B			
53	Reports on theatres, the opera house and museums	B			
54	Reports on tramway and suburban transport companies	B		11.1	
55	Retail trade statistics (SBS)			B	
56	Sample surveys on trade margins	A			
57	Scheduled motorbus transport statistics (SBS)	B			
58	Social statistics	B			
59	Social statistics and health statistics			B	
60	Special survey for direct investment in Norway				B
61	Statistics from Business Register	B		11.1	
62	Statistics of business accounts of hotels/restaurants (SBS)	B		11.1	
63	Statistics of business activities etc. (SBS)	A		11.1	
64	Statistics of health institutions	B			
65	Statistics on new registrations of motor vehicles			B	
66	Structural business statistics, common module (SBS)	A	11.1	11.1	
67	Structural business statistics, detailed module in industry (SBS)	A	11.1	11.1	
68	Structural bus. stat, detailed module on distributive trades (SBS)	A	11.1	11.1	
69	Structural bus. stat, detailed module in construction	A	11.1	11.1	
70	Surveys on actual rents	11.3		A	
71	Survey of car repair shops etc. (SBS)	B		11.1	
72	Surveys of taxi operation industry (SBS)	B			
73	Special survey on direct investment abroad				B
74	Tourist/travel statistics			B	
75	UT-statistics: Reporting of balance of payments data from non-financial enterprises	11.3	11.3	A	11.3
76	Wage statistics		B		
77	Wholesale and retail statistics (SBS)	A			

11.0.2 In general, data collected in all these **sources are sufficiently detailed** to permit a transition to national accounts concepts. Naturally, due to the very detailed national accounts in Norway, there are **cases that are not served directly with relevant data**, but are estimated from distributing keys and

the like based on indicators relevant for establishing -fixed or variable - such keys. When applying basic data for NA, conversion keys or similar links have been established in a detailed and relevant way to meet NA rules and principles. In some cases it includes adjustments to be made (see detailed text throughout the inventory).

11.1 Statistical surveys and other data sources used for the production approach

11.1.1 **Main data sources used for the production approach** are listed above - in alphabetical order - in table of **inventory of sources used for national accounts - first column relating to production approach**. When a source is considered more important for one approach but still used in other approaches, this is indicated by reference to second column for income approach or third column for expenditure approach or fourth column for transition from GDP to GNI (see sections 11.2, 11.3 and 11.4 respectively for main use of the sources in that respect). Altogether 75 sources are listed for the four sections. Those considered **main sources** - approximately one half - are designated as **A sources**, while those not regarded as main sources are designated as **B sources**. The latter is also described in a more summarized way by text than are the main sources.

Example: Source 1 Accounting data of SAS is indicated with A as main source and recorded as used for production approach, while also listed as used for expenditure approach, with an indication of 11.1, meaning the main use of that source is for production approach and described in the list of section 11.1.

11.1.2 Inventory list retains the original list of sources used before 2002 main revision, as well as adding the new sources introduced after the 2002 revision, in particular modules of **structural business statistics**, i.e. SBS as such (common module for annual structural statistics), SBS in industry (detailed module for structural statistics in industry), SBS on distributive trades (detailed module for structural statistics on distributive trades), and SBS in construction (detailed module for structural statistics in construction). These four modules are listed separately below to underline the importance of this new source set. Where original source has been replaced by Structural business statistics, this is marked by **SBS in parenthesis**. Two more very important sources have lately been added to the inventory list above – both relevant for all three approaches, described in section 11.3 on the expenditure approach. These sources are **KOSTRA – Municipality-State Reporting** on government flows, and **UT statistics – Reporting of balance of payments data from non-financial enterprises** on flows with rest of the world.

11.1.3 The sources form a **good basis for accurate estimates with satisfactory coverage** after having made the necessary adjustments to conform to NA principles. Coverage has certainly been strengthened by the use of more accounting data, particularly **SBS-based data** covering more and more areas of the total economy. In the inventory surely it is given examples on what can reduce the quality of the sources. However, given the strong emphasis in Statistics Norway on data collection nowadays and the strong commitment to following international NA rules and principles, the present NA compilation situation is good and with a view to take on necessary improvements.

11.1.4 **Source 1** contains accounting data from SAS on quarterly as well as annual basis, data being processed by Statistics Sweden and subsequently communicated to Statistics Norway (and Statistics Denmark).

Name of data source: **Accounting data of SAS (Scandinavian Airlines)**
Organization collecting the data, and purposes for which it is collected: Statistics Sweden
Reporting units: SAS Consortium (SAS airline, SAS Finance and SAS Trading)
Periodicity: Quarterly and annual
Variables collected: Accounting data with details
Methods used to allow for missing data: No information
Adjustments made for conceptual differences from national accounts concepts: Particular and common treatment to allocate transactions to each of the countries concerned in proportion to their shares in the equity of the corporation, i.e. 2/7 for Norway (and 2/7 for Denmark and 3/7 for Sweden). This allocation is lately relevant to intercontinental flights only.
Further adjustments made to the data: The workshop activity is relocated to manufacturing, while SAS Finance and SAS Trading are considered non-characteristic services produced by air transport

11.1.5 **Source 2** contains accounts of the Norwegian Broadcasting Corporation (NRK) provided on annual basis. They are available in annual reports to the Parliament on the activities of NRK. This source has since 2002 main revision been replaced by/integrated in the new **SBS-based source (source 66)**.

11.1.6 **Source 3** contains reports of accounts from the aviation companies in Norway (the dominating company SAS treated separately). The reports are compiled by the Civil Aviation Administration and processed in co-operation with Statistics Norway. The statistical forms from the companies involved - a few large companies and some 35 small air transport companies - provide the accounting statistics needed on annual basis. Providers of helicopter services to the oil fields in the North Sea are included as well. This source has since 2002 main revision been replaced by/integrated in the new **SBS-based source (source 66)**.

11.1.7 **Source 4** contains accounting statistics of non-financial enterprises from 1991 onwards, prepared as a means to evaluate a tax reform taken place in Norway in 1992, and to improve on the data sources for the compilation of institutional sector accounts for this sector.
In future, this source would likely belong to the A sources, serving a basis for reconciling estimates of the central framework and of the institutional sector accounts at macro level.
Earlier in this area of statistics, income and wealth surveys for corporate taxpayers have been conducted. The source material is based on tax data in tax declarations and accounts submitted to the tax authorities. The sample of this survey has been increased gradually, from 3000 in 1991 to a total census in 2005 through registration electronically. Note also **structural business statistics by industries (sources 66-69)**, implemented in the 2002 main revision.

11.1.8 **Source 6** contains accounting statistics of wholesale and retail trade that have taken the form of **structural business statistics (see sources 66 and 68)**.

11.1.9 **Source 7** contains annual data on telecommunication services since 2002 main revision integrated in the new **SBS-based source (source 66)**.

Name of data source: **Accounts and statistics of telecom services**
Link to surveys undertaken at the European level: EU regulation on structural business statistics
Organization collecting the data, and purposes for which it is collected: Statistics Norway
Reporting units: Enterprises primarily but also local KAUs
Periodicity: Annual
Time of availability of results: Within 18 months after end of accounting year
Survey is voluntary or compulsory?: Compulsory according to the Statistical Act of 1989
Population and sampling: The population consists of all active enterprises in the relevant industry in the statistical year and 715 local KAUs. The population is divided into subpopulations, called strata, according to criteria such as industrial classification and number of employees. In some strata all enterprises are included in the sample. In the remaining strata, a representative selection of enterprises is drawn. All enterprises in this sample are asked to report a full set of tax returns and to complete a questionnaire
Variables collected: Accounting data, including details
Methods used to allow for missing data: Non-response by particularly important units is examined in manual checks. Other enterprises that fail to return the questionnaires are treated in the same way as enterprises that are not part of the survey.
Adjustments made for conceptual differences from national accounts concepts: Se chapter 3.3 on transformation from SBS to NNA concepts.

11.1.10 **Source 9** contains reports of the national-wide institutions of gambling and betting activities (Norwegian Pools Ltd., Norsk Rikstoto) providing data on annual basis. They provide relevant information on most important gambling and betting services.

11.1.11 **Source 10** is since 2002 main revision part of the **SBS-based source (source 66)** and covers post and courier activities.

11.1.12 **Source 11** contains annual accounting statistics on rail transport activities integrated in the **SBS-based source (source 66).**

Name of data source: Accounts and statistics of rail transport services
Link to surveys undertaken at the European level: EU regulation on structural business statistics
Organization collecting the data, and purposes for which it is collected: Statistics Norway
Reporting units: Enterprises primarily but also local KAUs
Periodicity: Annual
Time of availability of results: Within 18 months after end of accounting year
Survey is voluntary or compulsory?: Compulsory according to the Statistical Act of 1989
Population and sampling: The statistics include all approved rail operators, i.e. all commercial transport by rail including possible private own enterprises. The suburban railways and urban tramways are not included.
Variables collected: Accounting data, including details
Methods used to allow for missing data: There are quite few operators. The control and revision is therefore carried out manually.
Adjustments made for conceptual differences from national accounts concepts: Se chapter 3.3 on transformation from SBS to NNA concepts.

11.1.13 **Source 13** contains annual aggregate accounts of agriculture, consisting of production and income data generated in this industry from the use of factors of production in agriculture in the year of account. Specifications are quite detailed, to a large extent based on prices and quantity data. Production and incomes data are related to sale of agricultural products and products for own final

consumption. The expenditure side (intermediate consumption) is equally detailed. Incomes of the agricultural population outside the agriculture industry are not covered.

Name of data source: **Aggregate account of agriculture**
Organization collecting the data, and purposes for which it is collected: Budgeting Committee for Agriculture (BCA) responsible for working out the aggregate account of agriculture
Reporting units: Farms of the agriculture industry
Periodicity: Annual
Variables collected: Production and income items, mostly in terms of prices and quantity data
Methods used to allow for missing data: Underlying basic agricultural statistics are used, BCA regarded as an intermediate set of accounting data, almost exhaustive source for estimating agricultural output
Adjustments made for conceptual differences from national accounts concepts: BCA income is adjusted to arrive at output in NNA in basic prices and operating costs in BCA to intermediate consumption in NNA (small adjustments)
Further adjustments made to the data: See chapter 3 above

11.1.14 **Source 14** contains an aggregate account of forestry, similar but less detailed than the one on agriculture. It is a table published by Statistics Norway in the annual publications on Forestry statistics, calculated according to principles and definitions in the national accounts. This source is been prepared according to the ESA95 framework. The activities covered have been extended to comprise services related to forestry (felling, off-road haulage, timber scaling, and drawing up management plans and timber floating). Income and expenditure from hunting and fishing are calculated. Services delivered by contractors are included in the expenditure. Silviculture and building of forest roads are partly treated as being performed by the forestry and partly by others.

11.1.15 **Source 16** contains data on the fishing industry in publications of Fishery Statistics, issued by Statistics Norway. One chapter comprises catch data for marine fish landed by Norwegian fishermen in Norway or abroad, including the catch of salmon and sea trout, sealing, whaling fish farming and the fisheries in other countries. Another chapter deals with foreign landings in Norway. The catch statistics from the Directorate of Fisheries contain detailed data on quantities and values by fish species.

Name of data source: **Catch statistics**
Organization collecting the data, and purposes for which it is collected: Published by Statistics Norway as part of Fishery Statistics, a statistical survey of the fishing industry that comprises a sample of accessible statistics. Data system of the Directorate of Fisheries comprises all catches by Norwegian registered vessels in the sea fisheries. Information about foreign landings in Norway is also available.
Reporting units: Sales organizations deliver information to Directorate of Fisheries on landings of vessels ("establishment" unit).
Periodicity: Quarterly, while published annually by Statistics Norway
Variables collected: Quantities and values of landed fish species, type of fishing gear, disposition of the catch, fishing-ground, landing place and the register identification of the vessel.
Methods used to allow for missing data: Excepted is sealing, whaling, seaweed, oyster, mussel and landings that are not registered by sales organizations and unregistered sales of fish. Rearing of fish and fishery for own consumption are not included.
Adjustments made for conceptual differences from national accounts concepts: Not relevant
Further adjustments made to the data: Lacking information is estimated for national accounts (see chapter 3 above).

11.1.16 **Source 17** contains annual data on fish farming, inter alia information on sales and purchases of fish, labor input, number of workers, fixed capital formation and foreign trade. The material is mainly based upon annual information from the fish farmers, collected by the Directorate of Fisheries.

Name of data source: **Census data of fish farming**
Organization collecting the data, and purposes for which it is collected: Directorate of Fisheries responsible for the collection and for annual preliminary statistics; Statistics Norway responsible for preparing and publishing the final statistics
Reporting units: Fish farmers, all operating units covered (unit = license given for fish farming)
Periodicity: Annual
Variables collected: Sales, purchases, exports, imports, losses, capacity utilized, workers, labor input, number of units
Methods used to allow for missing data: Verification of data made by the Directorate of Fisheries after first control by local fishery authorities, once more at Statistics Norway before publishing
Adjustments made for conceptual differences from national accounts concepts: Treatment of smolt (breeding as work in progress)
Further adjustments made to the data: Processing errors, manual used to ensure the quality of revision during several controls revealing possible and absolute errors.

11.1.17 **Source 19** contains statistics for the construction industry. This source is adapted to the EU regulation on structural statistics, which primarily requires statistics at the enterprise level. Statistics on the local KAUs have also been compiled for some variables for national accounts and other Norwegian users. By all means, this source has since 2002 main revision been replaced by/integrated in the new **SBS-based source (source 69)**.

Name of survey: **Construction statistics**
Link to surveys undertaken at the European level: EU regulation on structural business statistics
Reporting units: Enterprises primarily; local KAUs also compiled using the Business Register (the Central Register of Establishments and Enterprises) in Statistics Norway
Periodicity: Annual
Time of availability of results: Final data available and published 16 months after the end of the accounting year.
Sampling frame: Population organized in strata before all estimates are made, in terms of 20 groups within NACE division 45 at the lowest level (4 or 5 digit level), 3 age groups (1989 and earlier, 1990-1993 and 1994-1997, 2 groups of enterprises (single and multi-local KAU enterprise) and 1, 2 or 3 groups of turnover. This yields a maximum 12 strata per division, altogether 203 strata. Some other restrictions also made.
Survey is compulsory or voluntary?: Compulsory according to the Statistical Act of 1989
Main features of survey methodology: Information from all enterprises is obtained as follows: (i) complete set of statements (NO, appendix to tax return) with supplementary forms, (ii) sales figures and other essential accounting data from the Register of Annual Company Accounts in Brønnøysund, (iii) turnover data utilizing the Industry Survey in Statistics Norway, and (iv) sales figures from the VAT Register. The Business Register was used to obtain information.
Population size: 38 135 enterprises in 2005 (NACE F)
Sampling: The population consists of all enterprises in the relevant industry divisions with registered activity in the reference year. The population is divided into subpopulations, called strata, after criteria like industrial classification and number of employees. In some of the strata, all enterprises are always included in the sample. From the remaining strata, a representative selection of enterprises is drawn. All enterprises in this sample are asked to report a full set of Trading Statements and to complete a questionnaire. This detailed survey of accounting data is combined with the additional information from the various registers and the structural survey of Statistics Norway to form the basis for the estimation of the financial structures of the different industries and the sector as a whole.

Survey response rate: For turnover and employment a full census, sample variance for other variables; altogether 40 full census strata (out of 203).
Method used to impute for missing data: Missing statistical material estimated for enterprises with no complete NO, by using part (ii) and to split into respective sub-items according to relative shares in the data from NO sample. Parts (iii) and (iv) subsequently were taken into account in the statistical calculation.
Variable used for grossing-up to the population: Sales from parts (iii) and (iv)
Sample coverage, as % in terms of variable used for grossing-up: See above
Main variables collected: Turnover, compensation of employees, employees, employment, man-years, production value, value added, paid subcontractors, project specifications, gross investment, new investments, etc.
Further adjustments made to the survey data: Checks and corrections of the AN statements in the sample were undertaken, including the form in which additional information is given per local KAU. Statements are corrected when there are obvious errors in the information.

11.1.18 **Source 22** contains more detailed cost data than usually provided in the central and local government accounts. This source has been used for structural purposes, i.e. for composition of intermediate consumption by products in general government. It refers to cost survey data available for education and health activities in local government. For education, the Ministry of Education conducted an accounting survey of schools of primary and secondary education for the years 1986 and 1990. For health, survey data were obtained from annual statistics on somatic and mental hospitals in local government. **The new source KOSTRA** is now the relevant source for local government (see **source 38** described in section 11.3).

11.1.19 **Source 23** contains cost data (averages by boat) from annual cost surveys of fishing boats, managed by the Budgeting Committee of Fishery in preparing The Fishing Sector Account. A similar cost survey is available for fish farming. A grossing up procedure is necessary to utilize these data for intermediate consumption in the NNA.

11.1.20 **Source 24** contains 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 financial enterprises on annual basis. Profit and loss account and balance sheet by financial instrument are provided in tables for 10 different kinds of financial institutions (see below). This source could be seen as related to SBS as source.

Name of data source: **Credit market statistics**
Organization collecting the data, and purposes for which it is collected: Statistics Norway has been collecting these statistics from the financial corporations
Reporting units: Enterprises (financial). Required to report in 2009: Central Bank of Norway, banks, state lending institutions, mortgage companies, finance companies, life insurance companies etc., non-life insurance companies etc., private and municipal pension funds, unit trusts and financial holding corporations.
Periodicity: Annual
Variables collected: Accounting data (profit and loss accounts and balance sheet figures)
Methods used to allow for missing data: Errors and discrepancies that may occur are checked, standardized and if necessary corrected.
Adjustments made for conceptual differences from national accounts concepts: Both internal and external reconciliation are made according to accounting principles, the latter to make sure that income/expenditure items and balance sheet items that have contra entries on other sector accounts are registered with the same amount in both accounts
Further adjustments made to the data: Errors and inconsistencies are dealt with, both for errors stemming from the transferring of data, when different accounting and estimation principles, when different times of entering data and when incomplete statements are received from the reporting units

11.1.21 **Source 25** contains information on various cultural activities and on various institutions and bodies within the cultural sector. More specifically, information include participation of various cultural activities, private and public expenditures for cultural purposes, grants for artists, purchase systems, copyrights, information on performing arts, sports and outdoor activities, museums and collections, libraries, film and cinema, radio and TV, music, publishing of books, newspapers and periodicals, National archives services and religious and philosophical communities. Statistics Norway has published cultural statistics issues annually since 1996.

11.1.22 **Source 26** contains economic survey data on supporting services to transport activities according to the **SBS-based source (source 66)**.

11.1.23 **Source 27** contains statistics on the number of enterprises in electricity supply, water reservoirs, capacity of installed machinery, grid systems and transformer statistics, production and consumption of electric energy, prices of electricity, staff-years, value added, fixed capital formation and economic figures. This source is a **SBS-based** source.

Name of survey: **Electricity statistics**
Link to surveys undertaken at the European level: No EEA obligation
Reporting units: Enterprises (establishments until 1993). Split into several categories of utility: industrial generators, production plants, wholesale utilities, retail utilities, integrated utilities, grid companies and other utilities.
Periodicity: Annual
Time of availability of results: Available 18 months after the end of the accounting year.
Sampling frame: Not relevant (census on annual basis)
Survey is compulsory or voluntary? Compulsory, acquired under the Statistical Act from 1989 and regulations promulgated by the Ministry of Finance
Main features of survey methodology: Statistics remodeled from 1993: complete accounting returns and extensive additional specifications are obtained from all electricity utilities jointly by Statistics Norway and the Norwegian Water resource and Energy Administration (NVE)
Population size: 335 electricity plants and 739 power stations (in 2009).
Sample size: Not relevant (complete coverage)
Survey response rate: All enterprises covered
Method used to impute for missing data: Not relevant
Variable used for grossing-up to the population: Not relevant
Sample coverage, as % in terms of variable used for grossing-up: Not relevant
Main variables collected: Gross value of production, consumption in power stations, pump consumption, losses, imports, exports, net consumption (by type and consumer groups), intermediate consumption, value added, gross fixed capital formation, compensation of employees, tax on use of electric power, royalty, commission fees and other public charges. From 1994, gross value of production and intermediate consumption is both defined on net basis, excluding sales respectively purchases of electricity and grid services to other utilities.
Further adjustments made to the survey data: Electricity production on the Norwegian Continental Shelf is excluded from the statistics

11.1.24 **Source 33** contains in particular the Survey of Housing Conditions 2001. 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. The sample for the survey consisted of 5000 persons, including the additional sample for the capital area. General background variables are regional, historical, household structure and resources such as income, wealth, health etc. Other groupings are 11 different types of households and 14 types of houses. Construction year is registered, and so is dwelling ownership status by 7 different items. Since 1996,

annual surveys of living conditions, including housing conditions, have been undertaken (without economic data, however).

11.1.25 **Source 34** contains data from periodic income sample surveys for various occupation groups in the health sector, such as private medical practitioners (veterinarians also specified), dentists, physiotherapists and psychologists and contains data on output, intermediate consumption, compensation of employees and subsidies.

11.1.26 **Source 40** contains annual statistics for enterprises in manufacturing, mining and quarrying. It includes information on number of local KAUs and enterprises, employment, production value, value added, operating income, operating profit, compensation of employees and investments classified by industry division, type of ownership and group, employment group and county. A table on consumption of fuel and electricity is also included. From 1996, these statistics have been adapted to the EU regulation for structural statistics. Still, the local KAU dimension has been retained, since manufacturing statistics are one of the basic foundations for the annual national accounts. Statistics on the local KAUs have also been compiled for some variables for national accounts and other Norwegian users. By all means, this source has since 2002 main revision been replaced by/integrated in the new **SBS-based source (source 67)**.

Name of survey: **Manufacturing statistics**
Link to surveys undertaken at the European level: EU regulation on structural business statistics. Norwegian manufacturing statistics are coordinated with corresponding statistics from the EEA.
Reporting units: Local KAUs and enterprises. More detailed data on enterprises than previously (more focus on profit and loss accounts), but important to retain the local KAU dimension in the basic data.
Periodicity: Annual
Time of availability of results: Preliminary data available 10 months and final data available within 18 months after the end of the accounting year.
Sampling: The statistical population consists of all active enterprises in the reference year. The population is divided into strata (no overlapping, exhaustive groups) by industry divisions and employment. Some groups are sampled more frequently, some less. Detailed accounting data from the sample and administrative data form the basis for calculating the economic structures in the industry
Survey is compulsory or voluntary? Compulsory according to the Statistical Act of 1989
Main features of survey methodology: Statistics are based on information from questionnaires and data from administrative registers. A form and copy of the standard financial report that the tax authorities are collected from the enterprises - The Standard Industry Form - (10 persons or more). For the remaining local KAUs, total figures are estimated based on annual accounts, employment and sales. The annual accounts include the income statement as well as the balance sheet, but the specifications vary and are not as detailed as the Standard Industry Form (for all joint-stock companies). Small local KAUs and non-sample enterprises are estimated on the basis of sales and employment data from other sources (Business Register).
Population size: 19 584 local KAUs in 2009, 17 924 enterprises in 2009
Survey response rate: Not relevant
Method used to impute for missing data: Errors occur in many steps and are corrected for.
Variable used for grossing-up to the population: Sales and employment (for small units)
Sample coverage, as % in terms of variable used for grossing-up: See sampling
Main variables collected: Value of production, cost of goods and services consumed, value added, value added at factor prices, compensation of employees, gross investments (local KAUs), operating income, operating costs, operating profit/loss, profit of the year (enterprises).
Further adjustments made to the survey data: Data collected are sent through a thorough revision at micro level. Consistency controls are conducted between items on the form, against the previous year, against production statistics, against the Business Register (Central Register of Establishments and Enterprises), against the Standard Industry Form and against the annual reports.

11.1.27 **Source 41** contains annual data on domestic non-scheduled maritime transport of goods as part of **SBS-based source (source 66) staistics**.

11.1.28 **Source 42** contains annual data on regular coastal trade for licensed passenger transportation services. Freight transportation services are included when accompanied and combined with passenger transportation services (freight services basically covered by source 39 above). The data are obtained from reports submitted by the individual companies and comprise scheduled services between Norwegian ports. Statistics are also provided on the Express Coastal Liner Bergen-Kirkenes based on reports compiled by the Ministry of Transport and Communications. This source has since 2002 main revision been replaced by/integrated in the new **SBS-based source (source 66)**.

11.1.29 Source 43 contains annual data describing the development of the ocean shipping industry. It presents tables on size, structure and crew of the merchant fleet. Furthermore, there are statistics on vessels in Norwegian foreign-going trade and shipping between Norway and foreign countries and arrivals of Norwegian vessels at foreign ports. For Norwegian coastal trade, there are tables for regular coastal trade and vessels for hire or reward on own account. This source has become SBS-based source. That means not the ship as such but rather the operating enterprises are the reporting unit. In fact the source consists of two surveys. The standard SBS survey based on the NO formula and in addition Operating survey for vessels in foreign going trade. This annual survey is an extension of the standard annual SBS with more information on type of income (type on transportation products), cost elements and also ratios for exports and imports respectively. This can be seen as representing TS (supplementary form) for this industry.

Name of data source: **Maritime transport statistics**
Organization collecting the data, and purposes for which it is collected: Statistics Norway has been collecting similar statistics for a long time. Maritime Statistics publications aim at describing the development of the different aspects of the shipping industries.
Reporting units: NO formulas are collected for all operating enterprises belonging to NACE 61.1 reports. In addition a separate survey is conducted to collect operating income and cost data on all Norwegian operated vessels in foreign-going trade (250 gross tons and over) and foreign vessels in Norwegian foreign-going trades, i.e. either registered in Norway (NOR of NIS registers) or registered abroad. The latter are either foreign-owned ships operated by Norwegian ship owners, or Norwegian - owned ships registered abroad while operated by Norwegian ship owners.
Periodicity: Annual
Time of availability of results: Within 18 months after the end of the accounting year
Variables collected: Accounting data, such as operating earnings, operating expenditure and operating result, tonnage data, merchant fleet (size and structure), number of ships and employment. Operating earnings and expenditure by type of chartering and type of vessel. Operating earnings also differentiated by size of vessel.
Methods used to allow for missing data: Total census annually. About 1 500 forms each year from approximately 350 respondents. Missing data are either copied from last year or estimated based on similar forms (same type of vessel and same size of vessel).
Adjustments made for conceptual differences from national accounts concepts: The Norwegian International Ship Register (NIS) 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 third refers to non-residents only, although they must have a representative in Norway.
Further adjustments made to the data: Data are registered and revised manually, and with logical machine controls.

11.1.30 **Source 44** contains comprehensive and detailed statistics on quarterly basis for the oil and gas activity on the Norwegian Continental Shelf. The survey data include data on accrued investment costs for exploration, field development, fields on stream and onshore activity, also including estimates for 12 - 18 months ahead. Information on production and prices etc. is also included. Annual data are also provided, including accounting statistics for licensees.
This source has become **SBS-based source**.

Name of data source: **Oil and gas activity statistics**
Organization collecting the data, and purposes for which it is collected: Statistics Norway is collecting quarterly investment statistics from the operators of the Norwegian continental shelf, and annual statistics from the operators involved at fields in production, terminals and pipeline activities. A comprehensive detailed statistical survey of the oil and gas activity on the Norwegian Continental Shelf is published in quarterly publications.
Reporting units: Licensed Norwegian establishments (operators), their activity-based offshore or on-shore. Census-type information is collected.
Periodicity: Annual and quarterly (gross fixed capital formation on accruals basis)
Availability of results: Annual data within 18 months after the end of the accounting year
Variables collected: Output (incomes from production), intermediate consumption (costs of production), employment, wages and salaries, other current costs, taxes on production and electricity production at the fields, etc. Gross fixed capital formation by each individual license, pipeline and terminal the operators are responsible for, structures by production phases (exploration, field development and fields in production).
Methods used to allow for missing data: 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.
Adjustments made for conceptual differences from national accounts concepts: 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).
Further adjustments made to the data: Adjustments are made for border areas to ensure correct value added and operating surplus figures in the Norwegian statistics.

11.1.31 **Source 46** contains data related to parts of NACE sections 94 to 96 and is since 2002 main revision part of the **SBS-based source (source 66)**.

11.1.32 **Source 48** contains data on research and development (R&D) since 2002 main revision been replaced by/integrated in the new **SBS-based source (source 66)**. These statistics provide data on operational and capital expenditures with a breakdown on research institutes, other producers and universities and high schools.

11.1.33 **Source 51** contains information on the motion picture industry in **standard SBS format**.

11.1.34 **Source 52** contains reports on travel agencies and tour operators has since 2002 main revision been part of the standard **SBS-based source (source 66)**.

11.1.35 **Source 53** contains data from annual reports obtained from the theatres (also including concert houses), the opera house and the museums.

11.1.36 **Source 54** contains data from tramway and suburban transport companies. All existing rail companies in Oslo, Bergen and Trondheim are covered. This source has since 2002 main revision been part of the standard **SBS-based source (source 66)**.

11.1.37 **Source 56** contains data on trade margins of wholesale trade and on trade margins of retail trade. Ad hoc sample surveys were carried out for the first time in wholesale trade for the year 1985 and in retail trade for 1986. A second round was held in the late 1990s (1996 for retail trade and 1998 for wholesale trade) and the latest survey cover 2008. 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 were examined.

Name of survey: **Sample surveys on trade margins**
Link to surveys undertaken at the European level: Partly EEA-relevant (turnover by commodity groups every 5 years)
Reporting units: Local KAUs
Periodicity: Ad hoc periodic (1985 and 1998 for wholesale trade, 1986 and 1996 for retail trade). Latest survey in progress covering the year 2008
Time of availability of results: Several years in first round (more than 3 years), shorter time lag in second round (about 2 years). Results from 2008 survey was partly available early 2011 for use in main revision
Sampling frame: Stratified by branch groups 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.
Survey is compulsory or voluntary?: Compulsory according to the Statistical Act of 1989
Main features of survey methodology: All large units were covered as well as a sample of semi-large units, while small units were not covered. Separate forms were used, product groups included
Population size: Wholesale trade - 13 300 (local) KAUs in wholesale trade (1985) and 17 800 local KAUs in 1998. Retail trade - much more (local) KAUs.
Sample size: Wholesale trade - About 1 600 (local) KAUs in 1985 survey and 3 600 local KAUs in 1998 survey. Retail trade - more than 4 000 (local) KAUs in 1986 survey.
Survey response rate: Data for 1 300 (68 per cent of total sales) out of 1 600 KAUs in 1985 survey. 1998-survey: almost 70 per cent.
Method used to impute for missing data: No particular information
Variable used for grossing-up to the population: 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.
Sample coverage, as % in terms of variable used for grossing-up: See above.
Main variables collected: Sales, purchases by branches and product groups, etc. Gross margins 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.
Further adjustments made to the survey data: Adjustments made after controls against other statistics and registers. Definition of turnover is the same as in wholesale and retail trade statistics and corresponding short-term statistics (retail trade indices, etc.)

11.1.38 **Source 57** contains annual data on scheduled motorbus transport and has since 2002 main revision been part of the **SBS-based source (source 66)**.

11.1.39 **Source 58** contains various kinds of information related to social work and nursing activities. Annual data are provided on economic assistance, child welfare and children's institutions. Gross expenditure data are particularly useful for national accounts purposes.

11.1.40 **Source 61** contains data from the Business Register essentially confined to employment and turnover data. These are data that rely on surveys, from which results are finalized after a certain time lag, and occasionally reflect a situation 1 - 2 years back. This statistics or source is of less relevance since the introduction of SBS for most industries.

11.1.41 **Source 62** contains annual statistics of business accounts for hotels and restaurants and has since 2002 main revision been part of the **SBS-based source (source 66) statistics**.

11.1.42 **Source 63** contains statistics for real estate, renting and business activities (i.e. NACE group L). This source has been amended from 1996 when adapted to the EU regulation on structural statistics, which primarily requires statistics at the enterprise level. Statistics on the local KAUs have also been compiled for some variables for national accounts and other Norwegian users. This source has since 2002 main revision been replaced by/integrated in the new **SBS-based source (source 66)**.

Name of survey: **Statistics of business activities etc.**
Link to surveys undertaken at the European level: EU regulation on structural business statistics
Reporting units: Enterprises primarily; local KAUs also compiled using the Business Register (the Central Register of Establishments and Enterprises) in Statistics Norway
Periodicity: Annual
Time of availability of results: Within 18 months after the end of the accounting year
Sampling frame: The population consists of all enterprises in the relevant industry divisions with registered activity in the reference year. The population is divided into subpopulations, called strata, after criteria like industrial classification and number of employees. In some of the strata, all enterprises are always included in the sample. From the remaining strata, a representative selection of enterprises is drawn. All enterprises in this sample are asked to report a full set of Trading Statements and to complete a questionnaire. This detailed survey of accounting data is combined with the additional information from the various registers and the structural survey of Statistics Norway to form the basis for the estimation of the financial structures of the different industries and the sector as a whole
Survey is compulsory or voluntary?: Compulsory according to the Statistical Act of 1989
Main features of survey methodology: Information from all enterprises is obtained as follows: (i) complete set of statements (NO, appendix to tax return) with supplementary forms, (ii) sales figures and other essential accounting data from the Register of Annual Company Accounts in Brønnøysund, and (iii) sales figures from the VAT Register.
Population size: approx. 95 000 local KAUs in 2005 (NACE K, excluding 70.201 and 74.150
Sample size: Full census for part (i); 15 000 for part (ii) and 35 per cent of turnover; 11 000 for part (iii) and 8 per cent; 7 000 for part (iv) and 4 per cent in 1997.
Survey response rate: For turnover and employment a full census, sample variance for other variables; altogether 69 full census strata (out of 390)
Method used to impute for missing data: Missing statistical material estimated for enterprises with no complete NO, by using part (ii) and to split into respective sub-items according to relative shares in the data from the NO sample. Parts (iii) and (iv) subsequently were taken into account in the statistical calculation.
Variable used for grossing-up to the population: Sales from parts (iii) and (iv)
Sample coverage, as % in terms of variable used for grossing-up: See above
Main variables collected: Turnover, compensation of employees, employees, employment, man-years, production value, value added, total purchases of goods and services, gross investment, new investments, etc.
Further adjustments made to the survey data: Checks and corrections of the NO statements in the sample were undertaken, including the form in which additional information is given per local KAU. Statements are corrected when there are obvious errors in the information.

11.1.43 **Source 64** contains data on annual basis for health institutions. Particularly useful for national accounts are data on expenditures of health institutions that are covered by the county health plans. Most important terms in the tables include gross current expenses (also corrected for outpatient activity), gross current revenues and counties' gross current expenses corrected for revenues and expenses for guest patients.

11.1.44 From **1 January 2002** the central government took over responsibility for **Specialist Health Service**. Specialist health service includes: Accounts, somatic care (hospitals), psychiatric health care, substance abuse treatment, ambulance service and specialists with operating agreements with Health Enterprises. The new organizational structure was a Health Enterprise model with 5 Regional Health Enterprises (RHE), being the owners of subsidiary Health Enterprises (HE). This includes a transition from an administrative organization to an enterprise organization. The responsibility for the population of a specific geographical area lies with the RHE the area belongs to. The RHEs have also taken over the operating agreements with private hospitals, institutions and specialist from the counties. The purpose of the specialist service statistics is to provide information on capacity, activity, personnel and economy within the Specialist health services. The statistics cover all general hospitals and other institutions (specialist nursing homes, convalescence and rehabilitation institutions, hospitals and delivery wards), institutions in psychiatric health care for adults and for children and adolescents, ambulance service, operating agreements with private specialists and clinical psychologists and specialized substance abuse institutions. The accounts are structured in a two-axis system, which provides us adequate details for the ICHA-implementation. The system has the same structure as the KOSTRA-system described in the previous section. As the KOSTRA-system the specialist service statistics gives data classified by Type of service and by Type of expenditure, which enable us to split the cost by product (type of service/function) and by source of financing (type of expenditure). The statistics on typr of expenditures provide us with details on:
- Services produced by the institutions
- Services bought from others (private companies, other municipalities or the state)

11.1.45 **Source 66** is based on Council Regulation of 20 December 1996 concerning structural business statistics. See Annex 1 of this Council Regulation for characteristics etc. Table descriptions and templates for **sources 7, 11, 43 and 63** above provide relevant information and should be referred to. For more detailed information, see chapter 3 (output and intermediate consumption), chapter 4 (compensation of employees) and chapter 5 (gross fixed capital formation) of the various NACE groupings involved, particularly within services.

11.1.46 **Source 67** is based on Council Regulation of 20 December 1996 concerning structural business statistics. See Annex 2 of this Council Regulation for characteristics etc. Table descriptions and templates for **sources 27, 40 and 44** above provide relevant information and should be referred to. For more detailed information, see chapter 3 (output and intermediate consumption), chapter 4 (compensation of employees) and chapter 5 (gross fixed capital formation) of the NACE groupings involved.

11.1.47 **Source 68** is based on Council Regulation of 20 December 1996 concerning structural business statistics. See Annex 3 of this Council Regulation for characteristics etc. Table description and template for **source 77** below provides relevant information and should be referred to. For more detailed information, see chapter 3 (output and intermediate consumption), chapter 4 (compensation of employees) and chapter 5 (gross fixed capital formation) of NACE G.

11.1.48 **Source 69** is based on Council Regulation of 20 December 1996 concerning structural business statistics. See Annex 4 of this Council Regulation for characteristics etc. Table description and template for **source 19** above provides relevant information and should be referred to. For more detailed information, see chapter 3 (output and intermediate consumption), chapter 4 (compensation of employees) and chapter 5 (gross fixed capital formation) of NACE F.

11.1.49 **Source 71** covers repair of motor vehicles, household apparatus and commodities for personal use and has since 2002 main revision been part of standard **SBS-based source (source 66) statistics**.

11.1.50 **Source 72** contains data from periodic surveys of the taxi operation industry and has since 2002 main revision been part of standard **SBS-based source (source 66)**.

11.1.51 **Source 77** contains statistics for wholesale and retail trade, repair of motor vehicles, motorcycles and personal and household goods (i.e. NACE sections 45, 46 and 47). This source has been amended from 1995 according to the Structural Business Statistics programme. This source has since 2002 main revision been part of standard **SBS-based source (source 68)**.

Name of survey: **Wholesale and retail trade statistics**
Link to surveys undertaken at the European level: EU regulation on structural business statistics
Reporting units: Enterprises primarily; local KAUs also compiled using the Business Register (the Central Register of Establishments and Enterprises) in Statistics Norway
Periodicity: Annual
Time of availability of results: Within 18 months after the end of the accounting year
Sampling frame: The population consists of all enterprises in the relevant industry divisions with registered activity in the reference year. The population is divided into subpopulations, called strata, after criteria like industrial classification and number of employees. In some of the strata, all enterprises are always included in the sample. From the remaining strata, a representative selection of enterprises is drawn. All enterprises in this sample are asked to report a full set of Trading Statements and to complete a questionnaire. This detailed survey of accounting data is combined with the additional information from the various registers and the structural survey of Statistics Norway to form the basis for the estimation of the financial structures of the different industries.
Survey is compulsory or voluntary?: Compulsory according to the Statistical Act of 1989
Main features of survey methodology: Information from all enterprises is obtained as follows: (i) complete set of statements (NO, appendix to tax return) with supplementary forms, (ii) sales figures and other essential accounting data from the Register of Annual Company Accounts in Brønnøysund, and (iii) sales figures from the VAT Register.
Population size: approx. 67 000 local KAUs in 2005 (NACE G)
Sample size: 4 600 enterprises for part (i) representing 52 per cent of turnover; 25 000 for part (ii) and 36 per cent of turnover; 3 000 for part (iii) and 3 per cent; 24 000 for part (iv) and 9 per cent in 1997.
Survey response rate: For turnover and employment a full census, sample variance for other variables; altogether 245 full census strata (out of 1 167). The wholesale and retail trade statistics may have measuring errors from the following sources: imbalances in the sample, not answered, misunderstanding of questions and lack of correct data basis.
Method used to impute for missing data: Missing statistical material estimated for enterprises with no complete NO, by using part (ii) and to split into respective sub-items according to relative shares in the data from the NO sample. Parts (iii) and (iv) subsequently were taken into account in the statistical calculation.
Variable used for grossing-up to the population: Sales from parts (iii) and (iv)
Sample coverage, as % in terms of variable used for grossing-up: See above
Main variables collected: Turnover, compensation of employees, employees, employment, part-time employees, man-years, sales income, costs of goods, production value, value added, total purchases of goods and services, gross investment, new investments, etc.
Further adjustments made to the survey data: Checks and corrections of the NO statements in the sample were undertaken, including the form in which additional information is given per local KAU. Statements are corrected when there are obvious errors in the information.

11.2   Statistical surveys and other data sources used for the income approach

11.2.1   **Main data sources used for the income approach** are listed in table of **inventory of sources used for national accounts - second column relating to income approach -** in alphabetical order.

The inventory table is presented above at the start of chapter 11 (see also introductory text there as well).

11.2.2 **Source 5** contains accounting statistics based on a survey conducted for self-employed people and their household members. The electronic availability of all tax return forms has made this source a census like source

Name of data source: **Accounting statistics of self-employed persons**
Organization collecting the data, and purposes for which it is collected: Statistics Norway collects the data in a sample survey since 1991 initiated by the Ministry of Finance. Sample consists of three sub-samples, one used for analysis of living condition, while the two others are used for household consumer surveys (same year and last year).
Reporting units: Self-employed people and their family members
Sampling frame: The population is all self-employed persons who operate businesses at their own account and risk. The tax return statistics define the population as all persons with entrepreneurial income, entrepreneurial deficits and/or estimated personal income from such business activities, regardless of the size of the entrepreneurial income/loss and the ratio between entrepreneurial income/deficit and other income. The unit of analysis is sole proprietorship (business) and self-employed person. From the income year 2004 the tables include residents age 17 years or older.
Sample size: The sample consists of all self-employed persons who have delivered their tax assessment.
Periodicity: Annual
Time of availability of results: 70 weeks after the end of the accounting year
Variables collected: Accounting data and tax declarations submitted to the tax authorities
Methods used to allow for missing data: Calibration methods were used for several reasons, inter alia to avoid biased data.
Adjustments made for conceptual differences from national accounts concepts: Adjustments necessary, data being influenced by tax rules and tax auditing practice.

11.2.3 **Source 28** contains data from the labor market statistics, primarily based on the quarterly Labor Force Sample Surveys (LFS). Labor Market Statistics publications from Statistics Norway - usually issued on annual basis - also contain employment figures from the national accounts, register-based employment data, statistics on unemployment and on labor conflicts.

Name of survey: **Employment statistics (here: Labor Force Sample Survey)**
Link to surveys undertaken at the European level: In line with ILO recommendations, EU regulations on labor costs/employment
Reporting units: Persons aged 15-74
Periodicity: Quarterly
Time of availability of results: One month or 5 weeks after end of quarter
Sampling frame: Sample of family units (persons) each quarter. Each family member aged 16-74 participates 8 times during a period of 8 quarters, i.e. 7/8 of the sample is identical in two subsequent quarters, and half of the sample is identical in surveys held in the same quarter in two subsequent years. Inhabitants in all municipalities are randomly selected, on the basis of a register of family units, which is continuously updated.
Survey is compulsory or voluntary?: Compulsory, on the basis of the Statistical Act of 1989
Main features of survey methodology: Interview by telephone (or by visits) using CATI/CAPI technique (from 1996), by a permanent survey organization (employed by Statistics Norway). Data collection is done during the two weeks following the reference week. All the weeks in a year are covered.
Population size: All persons aged 15 - 74, registered as residents in Norway (excluding persons residing abroad).

Sample size: About 12 000 family units or 24 000 persons (0.75 per cent of the population)
Survey response rate: About 90 per cent
Method used to impute for missing data: Adjustments for total non-response is done in the estimating procedure. Partial non-response is adjusted for some variables (by the hot-deck method). Sampling units that cannot be reached are not ultimately replaced.
Variable used for grossing-up to the population: Inflating factors are calculated for 109 groups by post-stratification based on information from the Central Population Register, the Register of Employees and the Tax Register.
Sample coverage, as % in terms of variable used for grossing-up: See above
Main variables collected: Status in employment (main job), employed persons, unemployed persons, underemployment, hours worked, part-time employment, paid hours of work, total labor force. Classifications by industry (all branches), by occupation (all) and by education.
Further adjustments made to the survey data: Procedures for electronic control of the registration of answers. Seasonally adjusted data are calculated by using the X12 ARIMA method.

11.2.4 **Source 45** contains accounting data that are part of central government accounts, i.e. reflecting one of three sub-sectors of central government (the other two being central government's fiscal account and the social security accounts). They consist of government funds, price regulation funds, public service pension funds, central government special accounts, advance and deposits accounts, plus Norwegian Guarantee Institute for Exports, and credits. Advance and deposit accounts may be viewed as a supplement to central government accounts in terms of achieving correct timing and to cover transactions without previous allocation.

11.2.5 **Source 50** contains administrative data from the Register of Wages and Salaries (RWS) developed by the Norwegian Directorate of Taxation. It comprises all types of payments from employers to employees that are recorded by the tax authorities. This is a source with figures available from 1991 onwards.

Name of data source: **Register of Wages and Salaries (RWS)**
Organization collecting the data, and purposes for which it is collected: Administrative register data developed by the Norwegian Directorate of Taxation. Statistics Norway has prepared statistics for the development in wage sums from year to year, also strong focus on income in kind.
Reporting units: All employees, and employers with employed people in the country.
Periodicity: Annual (preliminary and final data). Statistics Norway makes statistical data twice a year.
Variables collected: Wages and salaries in cash and in kind, employers' social contributions.
Methods used to allow for missing data: Census-type source. Non-response is negligible, might come in late.
Adjustments made for conceptual differences from national accounts concepts: Some items are adjusted to national accounts specifications for proper groupings (such as borderline between in cash and in kind). From 1997, RWS data are broken down by institutional sector and by industry.
Further adjustments made to the data: Links are provided to Business Register and Register of Employers (for industries and institutional sectors). Controls and revisions of the RWS data are made in several steps (employer, municipality, Directorate of Taxation, Statistics Norway). Wage sums are comparable with wage sums in Tax Return Statistics. Development in wage sums should be in line with development for wages and salaries, labor costs and employment.

11.2.6 Earlier listed **source 66** represented a common term for all sources that were typically industry-based in the context of compiling estimates for compensation of employees (or wages and salaries) and employment. The common term is applied here in order to avoid repeating once more the relatively long list of sources that applies in the production approach (for output, intermediate

consumption) and in the expenditure approach (for gross fixed capital formation). This source has since 2002 main revision been replaced by/integrated in the new **SBS-based source (**again **source 66)**.

11.2.7 **Source 76** contains a series of statistics on wages and earnings in different industries. The system of wage statistics has consisted of a number of independent statistics covering different groups of wage and salary earners, i.e. wages and salaries per hour or month, or wages and salaries per year. Not all industry groups have been covered. In most recent years, the system of wage statistics has been amended to include quarterly wage statistics (indices), structural wage statistics on annual basis for a large number of industries, wage and salary data from the RWS register of Directorate of Taxation (see source 50) and statistics on labor costs.

11.3   Statistical surveys and other data sources used for the expenditure approach

11.3.1 **Main data sources used for the expenditure approach** are listed in table of **inventory of sources used for national accounts - third column relating to income approach -** in alphabetical order. The inventory table is presented at the start of chapter 11 above (see also introductory text there as well).

11.3.2 **Source 8** represents a common term for all sources that are typically industry-based in the context of compiling estimates for household consumption expenditure of transportation services. The common term is applied here in order to avoid repeating once more the relatively long list of sources that applies in the production approach (for output). This source has since 2002 main revision been replaced by/integrated in the new **SBS-based source (source 66)**.

11.3.3 **Source 12** contains accommodation statistics based on monthly reports from each hotel etc. 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.

11.3.4 **Source 15** contains information on buildings completed and started and buildings under construction as per end of period (monthly and annual data). These are register data, from computerized register containing information about all ground properties and addresses in Norway. The register specifies various types of buildings, for which there are figures available on numbers and utility floor space in square meters.

Name of data source: **Building statistics**
Organization collecting the data, and purposes for which it is collected: Statistics Norway prepares statistics based on reports to the GAB register (Ground Property, Address and Building Register). Owner of the register is Ministry of Environment, while the Norwegian Mapping Authority is professionally responsible and the municipalities provide the necessary information The statistics measure development in building activities for all types of buildings.
Reporting units: All ground properties and addresses in Norway, all buildings under construction as per end of period and all buildings that have been built or changed during the period (thus: complete census)
Periodicity: Monthly
Variables collected: Type of building, i.e. 20 types of all-year dwellings, 7 types of production building for mining, quarrying and manufacturing, 9 types of office and business building, 5 types of

hotel and restaurant building, building for education services and research (1 type only), 2 types of buildings for health services, 4 types of assembly buildings, 17 types of buildings for agriculture, forestry and fishing and 8 types of other buildings. Furthermore: Site, building work started, buildings completed, and buildings under construction, utility floor space, dwellings, dwelling units and single rooms. Industrial classification is also provided (more uncertain than type of building).
Methods used to allow for missing data: Municipalities are responsible for entering building cases in the GAB register. Time lags occur: average delays about 3 months for buildings completed, 4 months for building permits and 5 months for building started.
Adjustments made for conceptual differences from national accounts concepts: Not applicable
Further adjustments made to the data: Each building is checked and revised if necessary with a set of machine and manual checking and revision procedures to ensure that obvious errors in the register are corrected.

11.3.5 **Source 18** contains accounting information in a standardized form for central government, based on the same principles and definitions as in the national 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. Central government accounts consist of the central government's fiscal account, other central government accounts and the social security accounts.

Name of data source: **Central government accounts**
Organization collecting the data, and purposes for which it is collected: Statistics Norway is responsible after most data have been transferred from the Ministry of Finance. Purpose is to provide financial statistics for central government, as well as institutional sector accounts for central government in the National Accounts.
Reporting units: Most specialized data are obtained from the various Ministries, Norges Bank, the Social Security Fund and some other governmental authorities.
Periodicity: Annual and quarterly (revenue and expenditures)
Variables collected: Types of transactions (income and outlay items) and financial assets and liabilities, as required by the institutional sector accounts. Information on accounting statements include breakdown on chapter, type, COFOG, NNA-product and activity according to NACE.
Methods used to allow for missing data: Not relevant, but information is sometimes less detailed than needed in the accounting framework. Breakdown by NNA-products is a feature for which the text attached to the central government accounts is considered useful in some instances, while the main guidance for the allocation work are explanations to the CPA.
Adjustments made for conceptual differences from national accounts concepts: Government accounts in Norway are based on same principles as in the national accounts. Procedures of control and standardization of the individual statements of accounts are made, both in connection to transfer of data and in following normal accounting rules.
Further adjustments made to the data: Adjustments are 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 by sector - and by external reconciliation work in 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.

11.3.6 **Source 20** contains consumer prices in terms of the CPI (Consumer Price Index) covering all private households and their purchase of goods and services for household consumption.

Name of survey: **Consumer Price Index**
Link to surveys undertaken at the European level: ILO (Convention 160 concerning Labor Statistics), and Harmonized Consumer Price Index (HCPI), being EEA-relevant
Reporting units: Establishments, municipalities (local government services) or households (rents)

Periodicity: Monthly
Time of availability of results: 10th of next month (between 1 and 2 weeks after end reference month)
Sampling frame: A sample of about 650 goods and services is selected. In addition, scanner data of around 14 000 goods are used for the calculation of sub-index for food and non-alcoholic beverages. Representative goods and services in the sample are selected based on information from the annual household budget survey and branch information. The sample of goods and services is basically kept constant, but is regularly updated when new important products enter the market while outdated products are removed. Prices are collected from a sample of outlets, households and municipalities. The outlets comprise a panel sample where one sixth of the outlets are replaced each year. The sample amounts to about 2 200 firms. The sample of households for the survey of rents amounts to 1 700 tenants. The outlets/firms are selected from Statistics Norway's Business Register in proportion to the firms turnover i.e. large firms have a bigger probability of being chosen. The selection is made after stratifying the population by industry and region. The probability to be selected is proportional to the size of the turnover. Another sampling methodology is used for sub-surveys directed towards municipalities.
Survey is compulsory or voluntary? Compulsory, acquired under the Statistical Act from 1989
Main features of survey methodology: Prices are collected according to sampling frame (see above) as of 15th in reference month. Postal survey is normally used (forms sent out 10th each month), supplemented by data collected electronically or by telephone.
Population size: Prices of household consumption expenditure for households located in Norway
Sample size: See sampling frame above
Survey response rate: 95 per cent
Method used to impute for missing data: Missing prices normally imputed by average price change for submitted prices of same commodity in same region (hot deck)
Variable used for grossing-up to the population: See above
Sample coverage, as % in terms of variable used for grossing-up: Not relevant
Main variables collected: Consumer prices, i.e. actual purchasers' prices (given any discounts or sales price)
Further adjustments made to the survey data: Controls are made at the level of representative goods and services, against historical series and other relevant statistics and data (such as PPIs and changes in taxes on products)

11.3.7 **Source 21** contains specifications on military expenditures obtained from the Ministry of Defense, to serve as a basis for the allocation of military expenditures for either gross fixed capital formation or intermediate consumption. The regularity of this source has been deteriorated in most recent years, but resuming work on this is expected.

Name of data source: **Cost survey data for defense activities**
Organization collecting the data, and purposes for which it is collected: Ministry of Defense, calculation of improved price index for defense activities in return
Reporting units: All relevant unit specifications recorded by Ministry of Defense
Periodicity: Annual
Variables collected: Military expenditures by user categories (GFCF, intermediate consumption). Obtained once a year for annual final accounts
Methods used to allow for missing data: No information
Adjustments made for conceptual differences from national accounts concepts: Adjusted to ESA95 principles
Further adjustments made to the data: No information

11.3.8 **Source 29** contains data on total energy consumption, electricity, crude oil, natural gas, petroleum products, coal and coke, prices and price changes for different energy bearers. In the

context of compiling household consumption expenditure estimates, quantity and price data are combined, quantity data obtained from energy accounts. Energy accounts and energy sources balance sheet represent a central part of energy statistics compiled by Statistics Norway. Energy accounts and energy sources balance sheet are published annually with the purpose to cover the total supply and consumption of energy in Norway. Figures for production, transformation, imports, exports and consumption in households and various industries are presented for each energy source. It covers the consumption and supply of all energy commodities in Norway (oil, electricity, gas, coal, coke, district heating, biofuels etc). Energy sources that are of very little importance for the Norwegian energy supply, for instance solar energy and geothermal energy, are not included. On the use side, the statistics cover energy consumption in all sectors and industries (energy industries, manufacturing industries, construction, transport, private and public services, primary industries, households) etc., in total about 130 different industries and sectors. The sources are available basic statistics, partly from Statistics Norway's own statistics, partly from other institutions. Relatively few figures are collected only for the purpose of being used in the energy accounts and the energy sources balance sheet. The statistics have been published annually since 1976 and the statistics are used by various public and private institutions working on energy related issues and analyses. In Statistics Norway, the Division for Environmental Statistics, the Research Department and the Division for National Accounts are important users, the latter in connexion with NOREEA (environmental accounts) and the balancing of supply and use in the SUT. At the moment, the work in the Oslo city group for energy statistics has given renewed interest in the energy accounts as a source for national accounts compilation of energy use.

11.3.9   **Source 30** contains time series and statistics highlighting the main features and development of Norwegian external trade in commodities. It also contains tables on a more detailed level on areas of trade of special interest.

Name of data source: **External trade statistics**
Organization collecting the data, and purposes for which it is collected: Statistics Norway mainly obtains information from the Norwegian customs authorities' system for electronic data exchange with the enterprises (TVINN). Purpose is to give information about the commodity flows between Norway and other countries.
Reporting units: Administrative data from Norwegian customs authorities (customs declarations)
Periodicity: Monthly
Variables collected: Exports of goods (merchandise exported directly from free circulation and through customs warehouses) and imports of goods (commodities cleared on arrival and commodities placed in warehouses)
Methods used to allow for missing data: Total census, except consignments of value less than 1000 NOK. Statistics Norway also collects data on imports and exports outside the Norwegian customs territory, i.e. on ships and mobile oil platforms, cross-border transfer of electric current, and exports of crude oil and natural gas
Adjustments made for conceptual differences from national accounts concepts: Not relevant
Further adjustments made to the data: The data have been subject to various controls in the TVINN system and from co-operation with Statistics Norway, including probability controls. Monthly figures are revised until release of final annual figures (for traditional goods, usually small revisions only)

11.3.10 **Source 31** contains reported data to Norges Bank (Central Bank of Norway) from foreign exchange banks concerning payments between residents and non-residents, i.e. own payments and payments on behalf of their customers. This source was **replaced from 2005** by a new data collection system for BoP statistics (see source 75). For exports and imports of services the new source, a sample survey conducted by SN, has for 2005 however been used to estimate the development in the international trade in services, while keeping the 2004 levels of the ITRS as a bench mark.

Name of data source: **Foreign exchange statistics (ITRS = International Transactions Reporting System) – discontinued as from 2005**
Organization collecting the data, and purposes for which it is collected: Norges Bank (Central Bank of Norway). Purpose of the reporting is to collect information on payments between residents and non-residents in both NOK and foreign currency.
Reporting units: All foreign exchange banks in Norway and a cut-off sample of residents (enterprises) keeping bank accounts abroad
Periodicity: Monthly
Variables collected: All gross transactions together with the stock value of the corresponding financial asset or liability. Payments are classified in 30 - 40 payment types, and Norges Bank undertakes a further breakdown into about 300 items (including sector and industry breakdown)
Methods used to allow for missing data: ITRS is a closed system with self-balancing mechanisms, i.e. credit equals debit, in principle no statistical errors and omissions will occur.
Adjustments made for conceptual differences from national accounts concepts: For NA and BOP purposes, ITRS often is replaced with data from other sources, e.g. for most parts of exports and imports. Then the difference between ITRS and the alternative source is calculated and recorded as a trade credit or as unallocated financial transactions and statistical error on the financial account depending on the nature of the transaction.
Further adjustments made to the data: Internal controls are made as the ITRS in practice does not fulfill its self-balancing mechanisms but records a balance, i.e. a net credit or a debit.

11.3.11 **Source 32** contains data on average consumption expenditure in private households, resulting from household consumer surveys of consumption expenditure carried out by Statistics Norway on annual basis. 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. This statistics was stopped in 2010 due to low quality.

Name of survey: **Household budget (consumer) surveys**
Link to surveys undertaken at the European level: Not EEA relevant (no EU regulation)
Reporting units: Households
Periodicity: Annual (since 1974)
Time of availability of results: After nearly ¾ year (2005 data released 11 September 2006)
Sampling frame: Samples of households selected in three stages: sample areas (grouped in 10 regions, type of municipality etc.), individual sample areas (three smaller areas) and finally households living in the addresses at the time of interview. Institutional households are not included.
Survey is compulsory or voluntary?: Voluntary survey
Main features of survey methodology: Consumption expenses are registered by means of detailed accounting (account books for 14 days) and interviews (introductory and concluding) using the CAPI technique. Persons from 0 to 79 years are selected, the households of which constitute the sample.
Population size: All private households in the country
Sample size: 2 200 persons (households) per year
Survey response rate: Around 50 per cent. Main cause of non-response: "refuse to answer".
Method used to impute for missing data: During the interviews, machine routines are followed to avoid errors or misregistrations. In processing the accounts books, coding and registration controls are used. Corrections are made for non-response.
Variable used for grossing-up to the population: Average data are published, also 3-years averages
Sample coverage, as % in terms of variable used for grossing-up: No particular information
Main variables collected: total consumption expenditure, classification of expenditure following COICOP (from 1998, or average 1996-98), and more detailed groups of goods and services (470), ownership of durable goods, income (from tax assessment registers), expenses for dwelling, light and fuel. Data by socio-economic status, region, area of residence.
Further adjustments made to the survey data: Household groups with a high non-response rate are weighted relatively more in estimating average figures.

11.3.12 **Source 35** contains price statistics that relate to building costs and prices of new dwellings. The index of building costs is inferior as it misses the mark-up element and changes in productivity. A further drawback is that this cost index is a Laspeyres index with a cost structure from 1986-1988 (from some 30 building projects). The price index now used for all five types of dwellings is a hedonic type index. It is considered quite relevant for detached houses, houses with two dwelling units, row-houses and terraced houses, plus for holiday homes, although it may prove less representative for multi-dwelling houses. The index is a weighted index, also including building costs (50 per cent) until further improvement is made later on.

11.3.13 **Source 38** is a relatively new source, in fact a new system for electronic data reporting and publishing. KOSTRA is an abbreviation for "Municipality-State-Reporting" (KOmmuneSTatRApportering). The KOSTRA-project started as a pilot in 1995, after which it was decided that all local governments should report according to the new system. The number of municipalities increased gradually over the years, and the first full scale reporting took place in March 2002, and in operating phase from July 2002. KOSTRA focuses on two purposes: **(1) better information about the municipalities**, both for the central and local governments, and **(2) more efficient reporting**. The latter means that all data reporting from the municipalities are electronic, by use of electronic forms or file extracts and implies that the same data should be collected only once, even if it is used for many purposes. Better information means a more coherent data collection which makes it possible to combine data from many sources, e.g. data on accounts with data on services and personnel. Focus has also been on comparability between municipalities, and to make benchmarking possible as a part of the management process. Timeliness is vital, collecting information in February and first figures published in March, when electronic tests only check the reliability of data. Later in June, revised figures are published. A number of fixed indicators on the municipalities' priorities, productivity and their needs are published, structured to enable comparisons, also with average for the comparable group of municipalities, the region or the country. The publishing also includes detailed data that enables the users to construct their own indicators and tables (using e.g. Excel or PC-Axis), and data may be presented on maps (using PC-Axis in combination with PX-Map). The accounts are classified by KOSTRA-function and by Type of expenditure, which enable us to split the cost by product (type of service/function) and by source of financing (type of expenditure). To be more specific about the data the KOSTRA-functions gives costs related to a number of relevant issues, that is:

• Maternal and child health; family planning and counseling
• Dental care
• Basic medical and diagnostic services
• Activation of elderly and disabled
• Nursing and care, help in institutions
• Nursing and care, help at home

The Type of expenditure gives sufficient data to separate between:
• Services produced by the municipalities
• Services bought from others (private companies, other municipalities or the state)
• Transfers
• Consumption of fixed capital

11.3.14 **Source 39** contains accounting information in a standardized form for local government, 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 431 municipalities and 19 counties in Norway (2005), and from joint (county) municipal administration activities.

Name of data source: **Local government accounts**
Organization collecting the data, and purposes for which it is collected: Statistics Norway, while accounting rules or regulations are set by the Ministry of Labor and Municipal Affairs. Purpose is to provide financial statistics for local government, as well as institutional sector accounts for local government in the National Accounts.
Reporting units: Administrative units of 431 municipalities, 19 counties and joint administrations
Periodicity: Annual
Variables collected: Types of transactions (income and outlay items) and financial assets and liabilities, as required by the institutional sector accounts. Information on accounting statements include breakdown on chapter, type, COFOG, NNA-product and activity according to NACE.
Methods used to allow for missing data: Not relevant, but information is less detailed for local government than for central government. Breakdown by NNA-products is a new feature, for which 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.
Adjustments made for conceptual differences from national accounts concepts: Government accounts in Norway are based on same principles as in the national accounts. Procedures of control and standardization of the individual statements of accounts are made, both in connection to transfer of data and in following normal accounting rules.
Further adjustments made to the data: Adjustments are 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 by sector - and by external reconciliation work in 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.

11.3.15 **Source 47** contains relevant quantity information for items that consist of goods heavily taxed by government. These include five groups of beverages and tobacco (other non-alcoholic beverages, beer, wines, spirits and liqueurs and tobacco) and for which quantity data in terms of liters and prices are available.

11.3.16 **Source 49** contains data from the Central Register of Motor Vehicles and figures available in the publication "Car and road statistics" from the Directorate of Roads. Data are specified by type of vehicles and broad user groups and refer to vehicles registered at the end of the year. Figures are in fact cross-classified by some 10 vehicle types and 9 user groups.

11.3.17 **Source 55** contains data on retail trade used extensively for the compilation of consumption expenditure estimates on household goods. It used to contain information on the number of establishments, employment and sales by industry group, location, size and legal organization of the establishments. From 1995, the annual statistics have been adapted to the EU regulation on structural statistics, which primarily requires statistics at the enterprise level. In fact, this source is part of wholesale and retail statistics (source 73) and - from 2002 revision onwards - **SBS module on distributive trades (source 68)**.

11.3.18 **Source 59** represents a common term for all sources that are typically industry-based in the context of compiling estimates for household consumption expenditure of social services and health services.

11.3.19 **Source 65** contains quantity data in terms of new registrations of motor vehicles on monthly basis.

11.3.20 **Source 70** contains price data on rents, an important part of the data material for the Consumer Price Index (CPI). Surveys on actual rents were earlier conducted on quarterly basis

through 1999, but now replaced by monthly surveys on both actual and imputed rents (implementing revised COICOP as well) starting January 2000.

Name of survey: **Surveys of rents**
Link to surveys undertaken at the European level: As part of the CPI: ILO (Convention 160 concerning Labor Statistics), and Harmonized Consumer Price Index (HCPI), being EEA-relevant
Reporting units: Households, i.e. owner-occupiers, tenants and part owners in housing co-operatives
Periodicity: Monthly
Time of availability of results: 10th of next month (between 1 and 2 weeks after end reference month)
Sampling frame: Sample of tenants kept unchanged for 12 consecutive months (before 2000 quarterly survey and kept for 4 consecutive counts).
Survey is compulsory or voluntary?: Compulsory, acquired under the Statistical Act from 1989
Main features of survey methodology: For owner-occupiers, procedure followed is that of tenants (tenants' total market), stratified by type of dwelling, building year and location (municipalities). Rentals for tenants are collected by means of CATI - Computer Assisted Telephone Interview - directly from households on monthly basis. Rentals for part owners in housing co-operatives are collected from register data of 5 housing co-operatives (total of 75 000 units) on monthly basis.
Population size: Private households that own or rent dwellings, i.e. owner-occupiers, tenants and members of co-operative building societies. Owner-occupier share is particularly high in Norway (between 80 and 90 per cent). According to Survey of Housing Conditions 1988 more than 250 000 households are part owners in housing co-operatives (or joint-stock companies).
Sample size: The sample (net) of households for the survey rents amounts to 1 300 tenants, while the register part makes a sample of 75 000 part owners in housing co-operatives.
Survey response rate: No explicit information
Method used to impute for missing data: Missing data are imputed following different methods by type of non-response. Regression analyses have been examined for this purpose. No missing data in the register part.
Variable used for grossing-up to the population: Consumption in household consumer surveys (for the tenants part)
Sample coverage, as % in terms of variable used for grossing-up: See other information
Main variables collected: Actual rent in current month and expected rent next month (in tenant survey); rents (a split into operation and capital components is available for 2 300 units) and type of dwelling, year of building, location, floor area and number of rooms (in housing co-operative register survey).
Further adjustments made to the survey data: Indices are checked against time-series and comparisons with other statistics are made. Adjustments are made for quality changes in case of large changes in rents and in case of rehabilitation etc. Revisions are made at both micro and macro level.

11.3.21 **Source 74** contains tourist and travel statistics. Statistics on travel deal with economy and employment data in this field, also operation of accommodation services, other travel services (passenger data) and data from holiday surveys. Questionnaires on hotel statistics, camping statistics and holiday dwellings statistics are used to collect these data.

11.3.22 **Source 75** has become the new source to replace foreign exchange statistics (ITRS data of source 31). It is named after the project UT, while the source as such is data collection as described in the template below. The second template has been used, into which three lines of the first template have been inserted at the end in addition.

Name of data source: **UT-statistics: Reporting of balance of payments data from non-financial enterprises**
Organization collecting the data, and purposes for which it is collected: Statistics Norway has been collecting the data since 2004. The survey is compulsory and covers data on imports and exports of

services and data on foreign assets and liabilities among other things. The data are collected from Norwegian enterprises. The data will among others be used for producing statistics that are important for the authorities governing of macroeconomics, and for statutory reporting to international organizations.
Reporting units: Norwegian part of the legal person, i.e. the legal person excluding any affiliates abroad. Generally all Norwegian enterprises that have transactions or assets and liabilities towards foreign legal persons should be included in the balance of payments statistics. Therefore, we base the new survey on statistical methods and draw a sample of the largest enterprises that are to report statistics of balance of payments data quarterly and annual. In addition, a sample of small and medium size enterprises must also submit data on an annual basis.
Periodicity: Quarterly and annual, and a small sample report financial and balance sheet data on a monthly basis.
Variables collected: The variables collected to the balance of payments statistics can be divided into two categories: data on trade in services, income, capital transactions and balance sheet items.   Monthly: Liabilities (a few items)   Quarterly: Data on trade in services: exports and imports of services.   Income, capital transactions and balance sheet data: comprise other transactions and assets and liabilities towards foreign countries, including various specified assets and liabilities items, financial incomes and costs, gains and losses in connection with assets and liabilities. The data should mainly be found in the companies' accounting systems. All reporting enterprises will not be asked to submit data on both trade in services and financial and balance sheet data.   Annual: Same variables as quarterly, and in addition geographical breakdown.
Methods used to allow for missing data: Financial and balance sheet data are copied from last year or period. Missing data on exports and imports of services are not estimated or copied from last period. The sample figures on trade in services are grossed up by a statistical method.
Adjustments made for conceptual differences from national accounts concepts: In general, the balance of payments data are based upon principles and definitions from the BOP manual. The data of trade in services are required to be classified in accordance with the EU's product standard "Classification of Products by Activity" (CPA). Adjustment1: Some items in Merchandise trade are redefined as services based on a link between HS- and CPA-classification. Adjustment2: Import transportation services are not collected, but estimated from Merchandise trade statistics.
Further adjustments made to the data: Data are revised manually, and with logical automatic controls.
Population size: 11 875 units on trade in services, 11 019 on financial flows and balance sheets, in total approximately 18 000 enterprises
Sample size: Quarterly: 958 units; Annual: 3 743 units; Monthly: 80 units (for periods as indicated below)
Survey response rate: Around 95%

11.4 Statistical surveys and other data sources used for the transition from GDP to GNI

<u>11.4.1</u> **Main data sources used for the transition from GDP to GNI** are listed in table of **inventory of sources used for national accounts - fourth column relating to the given transition -** in alphabetical order. The inventory table is presented at the start of chapter 11 above (see also introductory text there as well).

11.4.2 **Source 31** - **Foreign exchange statistics (ITRS data)** – has been the most important source used for the transition from GDP to GNI until 2004. It has already been described in section 11.3 above in relation to exports and imports of services. From 2005, it has been **replaced by source 75, i.e. by direct statistical surveys of enterprises** (quarterly and annual, to some extent also monthly).

11.4.3 **Source 60** refers to source for estimating reinvested earnings in Norway (debit). Reinvested earnings are estimated based on information collected as part of the surveys on **direct investment.** From 2005 direct investment data are based on the **new survey reporting system** of Statistics Norway for balance of payments purposes **(UT)**.

11.4.4 **Source 73** is referring to a separate survey in direct investments abroad initiated by Statistics Norway in 2007 and used for estimating reinvested earnings credit. Also comprising information from annual accounts submitted to the Register of Company Accounts which is used as a source to detect and collect data on Norwegian direct investment abroad.

11.4.5 **Source 75 – UT-statistics: Reporting of balance of payments data from non-financial enterprises** - is now the most important source used for the transition from GDP to GNI. It has already been described in section 11.3 above in relation to exports and imports of services.