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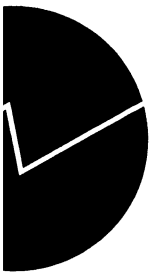

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Norwegian National Accounts

Documentation of the Compilation and Methods Applied

III GDP by Expenditure Approach
IV GDP by Income Approach

Preface to volume II

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

In this second volume, chapter III on GDP by expenditure approach and chapter IV on GDP by income approach are described. The expenditure approach is described by categories of final uses, i.e. government final consumption expenditure, NPISH (Non-Profit Institutions Serving Households) consumption expenditure, household final consumption expenditure, gross fixed capital formation, changes in inventories, exports of goods and services (and imports of goods and services). Commodity flow method, valuation and supply and use tables are also described. At the beginning, the classification schemes used in NNA are presented, in particular the classifications of household consumption expenditure and government consumption expenditure with references to the underlying international classifications of indivdiual consumption of purpose COICOP and functions of the government COFOG. Gross fixed capital formation is classified by industries as well as by type of fixed assets, the latter based on the classification of assets adopted internationally. At the end of chapter III, special borderline problems between final uses and intermediate consumption have been reviewed.

Chapter IV describes the third approach to GDP estimation, which is the income approach. The main income generation components of GDP including compensation of employees, other taxes on production, other subsidies on production, gross operating surplus and the new concept of mixed income are described, and with references to further work on consumption of fixed capital to be undertaken later this year.

The forthcoming two volumes of the inventory, covering chapter V on integration of institutional sector accounts and chapter VI on GDP / GNP and exhaustiveness are planned for publication in second half of 1996.

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

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CHAPTER III. GDP BY EXPENDITURE APPROACH

A. CLASSIFICATION SCHEMES USED IN NNA

The main classification schemes used in NNA for the estimation of GDP according to the expenditure approach are the purpose or purpose-like classifications of COFOG and COICOP used for final consumption expenditure of general government and households respectively, the classifications of fixed assets and of activities used for GFCF, and breakdowns on categories of inventories, and on exports and imports. COFOG was introduced in Norway in 1985, thus applied in FNA. In NNA, there are 55 COFOG groups specified, of which 51 in central government and 25 in local government, within a framework of 14 (15) main groups. While linked with government producers (activities) in FNA, COFOG in NNA has got a new dimension by being cross-classified by products and subsequently linked with the activities. The COICOP for household consumption expenditure is relatively detailed, specifying 112 consumption groups in NNA, somewhat reduced from 145 consumption groups in FNA, and structured at three different levels of aggregation. While goods consumption groups have been reduced from 98 in FNA to 69 in NNA, services consumption groups have been increased from 37 in FNA to 43 in NNA. The classification by type of fixed assets is also relatively detailed. The number of groups have been increased from 34 in FNA to 57 in NNA, of which also 4 intangible fixed assets. GFCF is also broken down by kind of activities. In FNA, about 130 out of 160 activities used for the compilation of production estimates were introduced for fixed capital formation, while further expanded in NNA to have full accordance with the activity classification in production. On the other hand, there are only 4 categories of inventories specified; for changes in inventories the main breakdown in NNA is by products. Altogether, 12 categories have been introduced for exports of goods and services and imports of goods and services. Here also, the main breakdown is by products.

1. COFOG

3.1 The classification scheme in NNA for government final consumption expenditure is based on the classification of the functions of the government (COFOG) adopted in ESA 95 and SNA 93. 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 directly with that of Classification G in Annex 4 of ESA 95, i.e. altogether 61 groups within the framework of 14 main groups.

3.2 The classification of government final consumption expenditure according to COFOG was already introduced in 1985, thus applied in FNA since then.

3.3 In NNA, COFOG is cross-classified by products. This was not the case in FNA, in which COFOG was linked with government producers (activities) and not related to products. Each of the 61 COFOG groups now has a product breakdown from the CPA-based product classification applied in general 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 (see also section public administration above). In parallel, the COFOG codes already in FNA were reviewed and to some extent revised, also for each item and sub-item. Indirectly therefore, the link between COFOG and NNA product was established at detailed level, a level more detailed for central government than for local government accounting flows.

3.4 In order to illustrate the details in the central government part, i.e. for central government consumption expenditure coded by prefix 64, the COFOG breakdown is presented below with the indication of the products involved. Original COFOG sub-group codes are referred to in parenthesis.

COFOG 01	GENERAL PUBLIC SERVICES in NNA consists of 5 sub-groups with altogether 22 CPA products involved (indicated for each of the sub-groups):	
64011	Executive and legislative organs, financial and fiscal affairs, external affairsother than foreign aid (01.1)	8
012	Foreign economic aid (01.2)	2
013	Fundamental research affairs and services (01.3)	3
014	General services (01.4)	8
015	General public services n.e.c. (01.5)	1

A majority of the products (19) belong to public administration and defence services, compulsory social security services (CPA item 75), the others belonging to research and

development services (73) and recreational, cultural and sporting services (library and archive services, 92).

COFOG 02	DEFENCE AFFAIRS AND SERVICES in NNA consists of 4 sub-groups with altogether 10 CPA products involved:	
64021	Military and civil defence administration and operation (02.1)	6
022	Foreign military aid (02.2)	2
023	Defence-related applied research and experimental development (02.3)	1
024	Defence affairs n.e.c. (02.4)	1

All products belong to CPA item 75, except one minor product of library and archive services.

COFOG 03	PUBLIC ORDER AND SAFETY AFFAIRS in NNA consists of 4 sub-groups with altogether 9 CPA products involved:	
64031	Police and fire protection (03.1)	4
032	Law courts (03.2)	2
033	Prison administration and operation (03.3)	2
034	Public order and safety affairs n.e.c. (03.4)	1

All products belong to CPA item 75.

COFOG 04	EDUCATION AFFAIRS AND SERVICES in NNA consists of 6 sub-groups with altogether 26 CPA products involved:	
64041	Pre-primary and primary education affairs and services (04.1)	3
042	Secondary education affairs and services (04.2)	7
043	Tertiary education affairs and services (04.3)	6
044	Education services not definable by level (04.4)	5
045	Subsidiary services to education (04.5)	2
046	Education affairs and services n.e.c. (04.6)	3

Most important products belong to education services (CPA item 80), while as many as 13 products belong to CPA item 75.

COFOG 05	HEALTH AFFAIRS AND SERVICES in NNA consists of 6 sub-groups with altogether 16 CPA products involved:	
64051	Hospital affairs and services (05.1)	5
052	Clinics, and medical, dental and para-medical practitioners (05.2)	4
053	Public health affairs and services (05.3)	2
054	Medicaments, protheses, medical equipment and appliances or other prescribed health-related products (05.4)	1
055	Applied research and experimental development related to the health and medical delivery system (05.5)	2
056	Health affairs and services n.e.c. (05.6)	2

Most important products belong to health and social work services (CPA item 85), while others belong to public administration services (CPA item 75) or research and development services (CPA item 73), respectively 9 and 2 products.

COFOG 06	SOCIAL SECURITY AND WELFARE AFFAIRS AND SERVICES in NNA consists of 3 sub-groups with altogether 15 CPA products involved:	
64061	Social security affairs and services (06.1)	6
062	Welfare affairs and services (06.2)	5
063	Social security and welfare affairs n.e.c. (06.3)	4

Most products (12) belong to CPA item 75, the others to CPA item 85 and CPA item 73 (minor).

COFOG 07	HOUSING AND COMMUNITY AMENITY AFFAIRS AND SERVICES in NNA consists of 6 sub-groups with altogether 8 CPA products involved:	
64070	Environment affairs and pollution abatement	2
071	Housing and community development (07.1)	3
072	Water supply affairs and services (07.2)	1
073	Sanitary affairs and services including pollution abatement and control (07.3)	2
074	Street lighting affairs and services (07.4)	0
075	Housing and community amenity affairs and services n.e.c. (07.5)	0

Most products belong to CPA item 75, another to other business services (CPA item 74, in this case 74.3 Technical testing and analysis services). For national uses, the first group on environment affairs and pollution abatement has been separated from group 07.3 on sanitary affairs etc. The last two groups 07.4 and 07.5 are relevant for local government only.

COFOG 08	RECREATIONAL, CULTURAL AND RELIGIOUS AFFAIRS AND SERVICES in NNA consists of one sub-group only with 9 CPA products involved:	
64080	Recreational, cultural and religious affairs and services (08.0)	9

The number of products are about equally divided between CPA item 75 and recreational, cultural and sporting services (CPA item 92).

COFOG 09	FUEL AND ENERGY AFFAIRS AND SERVICES in NNA consists of 3 sub-groups with altogether 7 CPA products involved:	
64091	Fuel affairs and services (09.1)	3
092	Electricity and other energy sources (09.2)	2
093	Fuel energy affairs and services n.e.c. (09.3)	2

Most products belong to CPA item 75, otherwise minor products of CPA items 73 and 74.

COFOG 10	AGRICULTURE, FORESTRY, FISHING AND HUNTING AFFAIRS AND SERVICES in NNA consists of 5 sub-groups with altogether 16 CPA products involved:	
64101	Agriculture affairs and services (10.1)	7
102	Forestry affairs and services (10.2)	2
103	Fishing and hunting affairs and services (10.3)	3
104	Agricultural research and experimental development n.e.c. (10.4)	3
105	Agriculture, forestry, fishing and hunting affairs and services n.e.c. (10.5)	1

A majority of the products (8) belong to CPA item 75, the others (4) belong to research and development services (CPA item 73), other business services (CPA item 74) and education services (CPA item 80).

COFOG 11	MINING AND MINERAL RESOURCE AFFAIRS AND SERVICES, OTHER THAN FUELS; MANUFACTURING AFFAIRS AND SERVICES; AND CONSTRUCTION AFFAIRS AND SERVICES in NNA consists of 4 sub-groups with altogether 5 CPA products involved:	
64111	Mining and mineral resource affairs and services, other than fuel (11.1)	2
112	Manufacturing affairs and services (11.2)	3
113	Construction affairs and services (11.3)	0
114	Mining and mineral resource affairs and services n.e.c.; manufacturing affairs and services n.e.c.; and construction affairs and services n.e.c. (11.4)	0

These products belong to CPA item 75, except one minor product belonging to research and development services (CPA item 73). The last two groups 11.3 and 11.4 occur in local government only.

COFOG 12	TRANSPORTATION AND COMMUNICATION AFFAIRS AND SERVICES in NNA consists of 8 sub-groups with altogether 21 CPA products involved:	
64121	Road transport affairs and services (12.1)	2
122	Water transport affairs and services (12.2)	8
123	Railway affairs and services (12.3)	1
124	Air transport affairs and services (12.4)	4
125	Pipeline transport and other transport system affairs and services (12.5)	1
126	Transportation system affairs and services n.e.c. (12.6)	2
127	Communication affairs and services (12.7)	1
128	Transportation and communication affairs and services n.e.c. (12.8)	2

A majority of the products (13) belong to CPA item 75, while the remaining 8 products belong to supporting and auxiliary transport services etc. (CPA item 63).

COFOG 13	OTHER ECONOMIC AFFAIRS AND SERVICES in NNA consists of 6 sub-groups with altogether 21 CPA products involved:	
64131	Distribution trade affairs and services including storage and warehousing; hotel and restaurant affairs and services (13.1)	5
132	Tourism affairs and services (13.2)	2
133	Multipurpose development project affairs and services (13.3)	1
134	General economic and commercial affairs other than general labour affairs (13.4)	5
135	General labour affairs and services (13.5)	7
136	Other economic affairs and services n.e.c. (13.6)	1

A majority of the products (12) belong to CPA item 75, although most important are products (3) belonging to other business services (CPA item 74). The remaining products belong to research and development services (4) and services auxiliary to financial intermediation (2).

COFOG 14	EXPENDITURE NOT CLASSIFIED BY MAJOR GROUP in NNA consists of only one group and with 6 CPA products involved:	
64140	Expenditure not classified by major group (14.0)	6

All products belong to CPA item 75, except one minor product of research and development services.

3.5 Compared with COFOG groups of the ESA 95, three more items are introduced in NNA. The first additional item is incorporated in COFOG 07 above as environment affairs and pollution abatement. The other two are:

64150	Nursing and care services
64190	Financial transactions

The second is provisionally introduced as an addition from the fact that health and social work services are not always separable, in particular in local government. The third (quite negligible) is not broken down by functions in the ESA and SNA.

2. COICOP

3.6 The classification scheme used in NNA for household final consumption expenditure and household actual consumption (i.e. individual consumption) is based on COICOP adopted for SNA 93 and ESA 95. It replaces a similar classification scheme by purpose based on table 6.1 of SNA 68 used in the FNA for private final consumption expenditure.

3.7 Both in FNA and NNA, the classification of private / household final consumption expenditure has been adopted in a relatively detailed way. In FNA, as many as 135 consumption groups or categories were applied at the detailed level, while for publication and analytical purposes two additional more aggregated levels were introduced. This 3-level structure has been retained in NNA as well, using the coding structure in a hierarchical manner. At the most detailed level, the number of consumption groups is now reduced, but still contains 112 consumption groups.

	FNA	NNA
Detailed level	135	112
Intermediate level	37	35
Aggregated level	9	10

3.8 The composition between consumption goods and consumption services has been changed significantly towards more service specifications. The share of services consumption groups has increased from 27 to 38 per cent of the total number of consumption groups.

	FNA	NNA
Goods consumption groups	98	69
Services consumption groups	37	43

In addition, the two correction items - direct purchases abroad by residents and direct purchases in Norway by non-residents - have been used in FNA and provisionally in NNA as well. However, in accordance with ESA 95 they will be eliminated from the classification of consumption in the next round when reporting according to the ESA 95 regulation. At that point, contents of the two correction items will be added, respectively deducted, from the relevant detailed consumption groups.

3.9 At the aggregated (1-digit) level, NNA adopts exactly the same structure as in COICOP, i.e. the 10 aggregated consumption groups of COICOP run through first digit from 0 to 9. At the intermediate (2-digit) level, the coding system of NNA cannot exactly adopt the COICOP structure, the reason for which is that number of consumption groups for food exceeds 10. However, there are no problems in reporting at 2-digit level. In preparing the detailed (3-digit) COICOP-based classification in NNA, we have based our work on a background OECD-paper from 1986 on this issue (reference: OECD DES/NI/86.9).

3.10 In the following, we shall present our revised NNA classification, while commenting on particular points and any deviations from COICOP as we understand it.

COICOP 1	FOOD, BEVERAGES AND TOBACCO in NNA consists of the following 23 consumption groups, here grouped according to COICOP 2-digit items:	
1.1	Food	
	61011	Cereals etc.
	61012	Bread and cakes
	61013	Meat
	61014	Fresh fish
	61015	Other fish
	61016	Milk, cream and yoghurt
	61017	Cheese
	61018	Eggs
	61019	Butter, margarine, edible oils etc.
	61021	Fruit and berries
	61022	Fresh vegetables
	61023	Frozen and preserved vegetables
	61024	Potatoes
	61025	Potato products
	61026	Sugar
	61027	Ice cream, chocolate and confectionery
	61028	Spices and food products n.e.c.
1.2	Beverages	
	61031	Coffee, tea and cocoa
	61032	Other non-alcoholic beverages
	61033	Beer
	61034	Wines
	61035	Spirits and liqueurs
1.3	Tobacco	
	61041	Tobacco

Number of food items (consumption groups) has been cut from 33 to 17 compared with FNA, the reasons for which are less interest paid to food details by purpose (given the fact that same food product details are being preserved in NNA) and simplified treatment in estimation. Number of beverages items has increased from 4 to 5 by transferring item coffee, tea and cocoa from food to beverages. Number of tobacco items was 4 in FNA, now merged into one single item. For further clarification, catering products consumed in the households are classified in 9.1 Catering. The same applies to drinks from vending machines etc. Cigarette paper, pipes and lighters are included in item other personal goods of 10.2 Personal effects n.e.c. Food for animals is grouped with item flowers and gardening and pet animals of 7.1 Equipment and accessories, including repairs. However, food produced for own use are included with the relevant consumption groups (such as 61014 Fresh fish, 61016 Milk, .. etc.).

COICOP 2	CLOTHING AND FOOTWEAR in NNA consists of 8 consumption groups:	
2.1	Clothing	
	61111	Shirts, night wear, socks and underwear
	61112	Coats, dresses, suits, jackets etc.
	61113	Hats, caps and gloves
	61114	Fur and leather products
	61115	Fabrics, yarn, sewing thread etc.
	61116	Repair and hire of clothing
2.2	Footwear	
	61121	Shoes and other footwear
	61122	Repairs to footwear

Number of consumption groups has decreased from 13 in FNA, i.e. 3 fewer consumption groups for clothing and 2 fewer for footwear, the reason for which being the same as for fewer food items. Borderline cases are in particular products grouped in 4.2 Household textiles (e.g. textiles for furniture and curtains), products grouped in 4.6 Goods and services for routine household maintenance (e.g. rubber gloves, laundering and cleaning of clothes), products grouped in 10.1 Personal care (e.g. handkerchiefs and napkins in paper), and in 10.2 Personal effects n.e.c. (e.g. umbrellas and jewelleries). Roller skates, orthopedical shoes and means for shoeshine are excluded from footwear and grouped with 7.1, 5.1 and 4.6, respectively.

COICOP 3	HOUSING, WATER, ELECTRICITY, GAS AND OTHER FUELS in NNA consists of the following 12 consumption groups:	
3.1	Gross rents	
	61211	Actual rents
	61212	Imputed rents, owner-occupiers
	61213	Other rents
3.2	Regular maintenance and repair of dwelling	
	61221	Materials for repairs in rented dwellings
	61222	Labour costs for repairs in rented dwellings
3.3	Other services relating to the dwelling	
	61231	Renovation and sanitary services
	61232	Insurance of dwellings
	61233	Water
3.4	Electricity, gas and other fuels	
	61241	Electricity
	61242	Liquid fuels
	61243	Fuelwood, peat, coal and coke
	61244	District heating, gas etc.

Number of consumption groups has been increased from 6 items in FNA, in which all 8 current items in 3.1 - 3.3 were grouped together in one single item. Fuelwood and peat, respectively coal and coke were specified as two consumption groups, while combined in NNA. Gross

rents include both actual and imputed rents. The latter refers to owner-occupiers; gross rents for owner-occupiers are given for dwellings separately in 61212, while only as a sum for imputed and actual rents for holiday homes in 61213. Payments connected with organised hiring out of holiday homes (cottages etc.) are excluded, instead classified with 9.2 Accommodation services. Maintenance and repairs are included in 3.2 when related to rented dwellings, while treated as intermediate consumption for owner-occupiers. Renovation and sanitary services exclude government fees on pesticide and cleaning chimneys (included in 4.6). Insurance of dwellings include house movable insurance as well (difficult to separate). Consumption group water consists of government fees on water supply service.

COICOP 4	FURNISHINGS, HOUSEHOLD EQUIPMENT AND ROUTINE MAINTENANCE OF THE HOUSE in NNA consists of the following 16 consumption groups:	
4.1	Furniture, furnishings and decorations, carpets and other floor coverings and repairs	
	61311	Furniture
	61312	Carpets and other floor coverings
	61313	Lamps, electric bulbs etc.
	61314	Decorative articles
	61315	Repair of furniture etc.
4.2	Household textiles	
	61321	Household textiles
4.3	Heating and cooking appliances; refrigerators, washing machines, similar major household appliances, including fittings and repairs	
	61331	Cooking appliances, refrigerators, washing machines etc.
	61332	Other household appliances
	61333	Repair of household appliances
4.4	Glassware, tableware and household utensils	
	61341	Glassware, tableware and household utensils
4.5	Tools and equipment for the house and garden	
	61351	Lawn movers, electric tools etc.
	61352	Small tools etc.
4.6	Goods and services for routine household maintenance	
	61361	Washing powder and other cleaning materials
	61362	Other non-durable household goods
	61363	Laundering, cleaning and dyeing
	61364	Domestic services

Number of consumption groups - like for food and clothing - has decreased from 22 groups in FNA; more electric appliances were specified before when also glassware and tableware were split into 3 items. Borderline cases related to 4.1 are furniture for garden and camping, as well as valuables (works of art and antiques) of smaller value, which are both included. Water heaters and permanent stoves are excluded from 4.3. Domestic services in 4.6 include baby-sitters, but exclude services from home help and home nursing which are included in 10.4 Social services and 5.2 Non-hospital medical and paramedical services, respectively.

COICOP 5	HEALTH	
	in NNA consists of 7 consumption groups:	
5.1	Medical and pharmaceutical products and therapeutic appliances and equipment	
	61411	Spectacles, orthopaedic equipment etc.
	61412	Medicines and medical goods
5.2	Non-hospital medical and paramedical services	
	61421	Dentistry
	61422	Services of physicians
	61423	Other health services outside institutions
5.3	Hospital services	
	61431	Hospital services
5.4	Sickness and accident insurance services	
	61441	Sickness and accident insurance services

Number of consumption groups has been slightly increased from 6 in FNA, by introducing 5.4 Sickness and accident insurance services - a relatively small item in Norway, however. One important change of principle occurs here: included are households' own health expenditures only, not also government-financed health expenditures through social benefits as was the case in FNA. The latter is treated as individual government consumption expenditure in NNA. One particular borderline case may be clarified: household expenditures at institutions and special homes for old people are included in 10.4 Social services.

COICOP 6	TRANSPORT	
	in NNA consists of the following 11 consumption groups:	
6.1	Purchase of vehicles	
	61511	Motor cars
	61512	Cycles and motor cycles
6.2	Operation of personal transport equipment	
	61521	Spare parts and accessories
	61522	Fuels and lubricants
	61523	Insurance of personal transport equipment
	61524	Maintenance and repairs
	61525	Parking, turnpike money, car hire etc.
6.3	Transport services	
	61531	Local transport
	61532	Long-distance transport
	61533	Removals and furniture storage
	61534	Packaged tours

Number of consumption groups has been decreased from 15 items in former NNA Transport services have been reduced from 7 to 4 categories, not distinguishing between the various means of transportation (rail, tram, boat, air, bus, taxi) any longer, while instead introducing local and long-distance transport. Another new item specified is parking, turnpike and care hire services. The group of packaged tours is considered part of transport services by rule of

majority in contents (not listed in the OECD paper). A number of clarifications might be mentioned: Car sales from business to households are included, while sales and purchases between households and on second-hand cars in general are excluded (except registration duty). Household expenditures on boats, aeroplanes and snow scooters (also petrol for use) are included in 7.1. Wheeled chairs are in main heading of health (5.1), while tricycles are considered toys in 7.1. Operation of personal transport equipment includes driving schools. Car hire with driver, as well as school bus transport, are treated as part of 6.3 Transport services, while car radios are grouped with 7.1. All air transport has been classified as long-distance transport, and all transport by taxi as local transport. In FNA, postal and telecommunication services were included with this COICOP main group.

COICOP 7	LEISURE, ENTERTAINMENT AND CULTURE in NNA consists of the following 16 consumption groups:	
7.1	Equipment and accessories, including repairs	
	61611	Equipment for the reception, recording and reproduction of sound and pictures
	61612	Data processing equipment
	61613	Photographic and cinematographic equipment, optical instruments
	61614	Musical instruments, pleasure boats and other durable equipment for leisure and culture
	61615	Sports equipment etc.
	61616	Games and toys
	61617	Recording media for pictures and sound
	61618	Flowers and gardening
	61619	Repair of equipment and accessories for leisure and culture
7.2	Recreational and cultural services	
	61621	Cinemas, theatres, other entertainment etc.
	61622	Broadcasting services
	61623	Lotteries, gambling etc.
	61624	Photographing and other recreational and cultural services
7.3	Newspapers, books and stationary	
	61631	Books
	61632	Newspapers and miscellaneous printed matters
	61633	Stationary and drawing materials

Number of consumption groups under this heading (after reclassifying education) was 17 in FNA, the difference then being 2 groups for television sets and radio receivers, record players etc., 2 groups for musical instruments and pleasure boats etc. and 2 groups for cinemas and theatres, now merged into one in all three cases, while on the other hand introducing a new item for data processing equipment and a 3-way split between games and toys, recording media and photographic equipment etc.. Furthermore, other entertainment was identified as a separate item before. Borderline items included in 7.1 comprise telephones, antennas for television; data games (software); aeroplanes, boats and snow scooters for household use (including fuel). Items excluded worth mentioned are clothes for sports and sporting shoes in 2.1 and 2.2, batteries and garden equipment in 4.5, and school books and school materials in 8.2 Educational materials.

COICOP 8	EDUCATION in NNA consists of 5 consumption groups:	
8.1	Educational services	
	61711	Pre-primary and primary education
	61712	Secondary education
	61713	Higher education
	61714	Adult education
8.2	Educational materials	
	61721	Educational materials
8.3	Ancillary educational services (not specified, e.g. school canteens are included with 61 811 below)	

In FNA, one single consumption group was specified only, included in heading Recreation, entertainment, education and cultural services. It should be emphasized that only households' own expenditures for education are included now. Government-financed education is treated as individual government consumption expenditure. Household expenditures for nursery schools and kindergarten are included in 10.4 Social services, while music lessons and hobby courses are part of 7.2 Recreational and cultural services.

COICOP 9	HOTELS, CAFES AND RESTAURANTS in NNA consists of 2 consumption groups only:	
9.1	Catering	
	61811	Restaurants, cafes etc.
9.2	Accommodation services	
	61821	Accommodation services

In FNA, consumption groups were the same two, but included in the heading Other goods and services. Catering do not cover meals in aeroplanes or otherwise included in the price for transport, nor hotel breakfasts (accommodation services). Meals served at hotels are otherwise in principle included in item for catering. Refugee receptions etc. are classified as social services.

COICOP 10	MISCELLANEOUS GOODS AND SERVICES in NNA consists of 12 consumption groups:	
10.1	Personal care	
	61911	Hairdressing and beauty treatment
	61912	Electric appliances for personal care
	61913	Cosmetic articles, toothpaste, soap etc.
10.2	Personal effects n.e.c.	
	61921	Jewellery, clocks and watches
	61922	Travel goods, umbrellas etc.
	61923	Other personal effects
10.3	Communications	
	61931	Postal services
	61932	Telephone and telegraph
10.4	Social services	
	61941	Social services in institutions
	61942	Social services outside institutions
10.5	Financial services n.e.c.	
	61951	Financial services
10.6	Other services n.e.c.	
	61961	Legal, business and other personal services

Number of consumption groups (after reclassifying communications and hotels, cafes and restaurants) was 15 in FNA; the consumption groups on goods are down from 8 to 5, partly because stationary has been removed to 7.3 Newspapers, books and stationary. The consumption groups on services now appear more clearly defined than before. Social services have similar treatment as referred to under health and education. Social care in health institutions is grouped as 5.3 Hospital services. Satchels for school use are not included among personal effects above, rather as educational materials. Financial services in post offices are grouped in 10.5. In FNA, item 10.3 was included with main group transport etc.

3.11 As already stated, the correction items

61991	Direct purchases abroad by resident households
61992	Direct purchases in Norway by non-resident households

are still in use until further work has been carried out on distributing these two items on the respective and relevant consumption groups. By the time of reporting according to the ESA 95 Regulation, we expect to eliminate these correction items from COICOP in NNA.

3.12 Finally, apart from COICOP as such, both FNA and NNA have 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). It is a clear-cut correspondence inasmuch as each consumption group belongs to one and only one of the categories.

CONSUMPTION GROUPS CLASSIFIED AS SERVICES
in NNA are the following 43 groups:

61116 - 61122
61211 - 61212 - 61213 - 61222 - 61231 - 61232 - 61233
61315 - 61333 - 61363 - 61364
61421 - 61422 - 61423 - 61431 - 61441
61523 - 61524 - 61525 - 61531 - 61532 - 61533 - 61534
61619 - 61621 - 61622 - 61623 - 61624
61711 - 61712 - 61713 - 61714
61811 - 61821
61911 - 61931 - 61932 - 61941 - 61942 - 61951 - 61961

DURABLE CONSUMPTION GOODS
in NNA comprise the following 16 groups:

61311 - 61312 - 61313 - 61314 - 61331 - 61332 - 61351
61411
61511 - 61512
61611 - 61612 - 61613 - 61614
61912 - 61921

SEMI-DURABLE CONSUMPTION GOODS
in NNA comprise the following 17 groups:

61111 - 61112 - 61113 - 61114 - 61115 - 61121
61321 - 61341 - 61352
61521
61615 - 61616 - 61617 - 61631
61721
61922 - 61923

3.13 The remaining 36 consumption groups in the goods category are classified as non-durable consumption goods.

3. TYPE OF FIXED ASSETS

3.14 The classification scheme in NNA for gross fixed capital formation by type of fixed assets is based on the classification adopted in ESA 95 and SNA 93 on fixed assets, both in which AN.11 Fixed assets specify 7 categories of tangible fixed assets and 4 categories of intangible fixed assets at most disaggregated level. These ESA items are all identified in NNA, including items for cultivated assets and intangible fixed assets sub-divided into 2 and 4 items respectively, in the structure of headings:

Dwellings	AN.1111
Non-residential buildings	AN.11121
Other structures	AN.11122
Transport equipment	AN.11131
Other machinery and equipment	AN.11132
Cultivated assets	AN.11141
Intangible fixed assets	AN.112

3.15 Reference Pi 6 in 1995 ESA, however, is more obscure and should be clarified whether it is meant to be another aggregated product classification, or regrouping of investments as indicated in ESA Annex 4. Regardless interpretation, Norway should have no problem in submitting this table. On one hand, Statistics Norway provides a detailed product breakdown in supply and use tables on a current basis, and secondly, a detailed breakdown of gross fixed capital formation by industry is another feature of NNA (see below).

3.16 In NNA, types of fixed assets are cross-classified by products based on CPA. By notionally defining aggregated products as identical with the respective types of fixed assets, these are again cross-classified by industries of investment (gross fixed capital formation by activities).

3.17 The revised classification by type of fixed assets in NNA replaces a similar classification by type of fixed assets in FNA. The former breakdown contained 34 items, while the revised breakdown is significantly more detailed, i.e. 57 items altogether. A main reason for this increase is the introduction of 15 items by type of fixed assets regarding capital formation for own final use. The specifications in NNA are reproduced in the following blocks.

AN.1111	DWELLINGS are specified in 4 items, one of which for own capital formation:
28 111	Detached houses, houses with two dwelling units, row-houses and terraced houses
112	Multi-dwelling houses (10 or more dwelling units)
113	Own-account construction on dwellings
114	Holiday homes

In FNA, multi-dwelling houses and other dwellings were not distinguished, while on the other hand military residential buildings were specified separately. Since military outlays treated as gross fixed capital formation have been considerably extended beyond this former item, such sub-items for military purposes have not been distinguished in fixed assets' part of NNA.

AN.11121	NON-RESIDENTIAL BUILDINGS are specified in 10 items, of which 3 items for own capital formation:
28 210	Non-residential buildings in agriculture
218	Own-account construction on non-residential buildings in agriculture
220	Office and commercial buildings
230	Schools and other buildings for education
240	Hospitals and other buildings for health services
250	Buildings for manufacturing industries
258	Own-account construction on buildings for manufacturing industries
260	Hotels and restaurants
268	Own-account construction on hotels and restaurants
270	Other non-residential buildings

In FNA, just 4 items were specified for non-residential buildings.

AN.11122	OTHER STRUCTURES are specified in as many as 18 items, 8 of which are for own capital formation:
28 301	Land improvement in agriculture and forestry
305	Other land improvement
308	Own-account construction on land improvement in agriculture and forestry
310	Railways including subways and tramways and bridges
318	Own-account construction on railways
321	Power supply transmission lines
322	Other power supply construction
328	Own-account construction on power supply construction
330	Other civil engineering works
338	Own-account construction on other civil engineering works
340	Public roads and streets including bridges
348	Own-account construction on public roads and streets
370	Construction work for oil and gas extraction
378	Own-account construction for oil and gas extraction construction work
380	Oil production platforms and oil drilling rigs and modules
388	Own-account construction on oil rigs and modules
390	Pipelines for oil and gas
398	Own-account construction for oil and gas pipelines

In FNA, a similar but somewhat different set of items were specified. Except oil exploration expenditures, which are treated as intangible fixed assets, all types of fixed assets related to oil

and gas extraction are now grouped with other structures. Traditionally, investment in the oil sector - and which heading to group these expenditures with - have been discussed a lot in Norway (similarities to machinery and equipment, to ships or to structures). Another area of national interest is power supply, for which several items seems appropriate.

AN.11131	TRANSPORT EQUIPMENT is subdivided into 7 items:
28 410	Ships and boats
420	Aircraft and helicopters
431	Passenger cars and station wagons
432	Buses
433	Vans and lorries and special purpose vehicles
434	Passenger cars for occupational hire
440	Locomotives and rolling stock

Again, much the same items were specified in FNA (though only one item for passenger cars, while fishing boats and other small boats were separately distinguished).

AN.11132	OTHER MACHINERY AND EQUIPMENT is subdivided into 13 items, 5 of which are for own capital formation:
28 510	Agricultural and forestry machinery and equipment
518	Own-account construction on agricultural and forestry machinery and equipment
520	Machinery and equipment in manufacturing, mining and quarrying
528	Own-account construction on machinery and equipment in manufacturing, mining and quarrying
530	Machinery and equipment in electricity plants and gas works
538	Own-account construction on machinery and equipment in electricity plants and gas works
540	Machinery and equipment in construction
550	Machinery and equipment in other industries
558	Own-account construction on machinery and equipment in other industries
560	Computers and office equipment
570	Telecommunication equipment
578	Own-account construction on telecommunication equipment
580	Equipment for welfare purposes

The last four items are new, while FNA grouped oil platforms and rigs under this heading.

AN.1114	CULTIVATED ASSETS consists of the two ESA/ SNA items:
28 610	Livestock for breeding, dairy, draught etc.
650	Vineyards, orchards and other plantations of trees yielding repeat products

The last of the two was not distinguished in FNA.

AN.112	INTANGIBLE FIXED ASSETS are specified in 5 items, one of which is for own capital formation:
28 710	Mineral exploration
718	Own-account construction on mineral exploration
740	Computer software
760	Entertainment, literary or artistic originals
790	Other intangible fixed assets

These items are the same as in ESA / SNA. Among these, oil and gas exploration (and mineral exploration) has been an item of great significance in recent decades in Norway.

4. GROSS FIXED CAPITAL FORMATION BY ACTIVITY

3.18 The classification scheme in NNA for gross fixed capital formation by activity is more based on and inspired from national interests and traditions than by recommendations or requirements set by ESA / SNA. In Norway, gross fixed capital formation by activity is considered more important information than any other breakdown of gross fixed capital formation. On the other hand, in ESA / SNA 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).

3.19 While the investors are grouped into activities by the criterion of ownership of fixed assets, i.e. same basic principle followed in NNA as in ESA / SNA, 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.

3.20 In NNA, the breakdown by activity of gross fixed capital formation is as detailed as the activity breakdown in production. Although this is hardly justified from the point of statistical sources available, such a one- to- one correspondence is considered a valuable basis for the compilation of such data. Already in FNA, Norway approached this kind of correspondence by covering some 130 out of 160 activities by GFCF estimates. The lacking part was services industries outside transport, financing and real estate. With more emphasis on services in NNA, it was decided to bridge this gap notwithstanding the quality of the statistical sources to be used.

3.21 The GFCF activity classification in full accordance with the activity classification in production, implies that NACE Rev.1 -based industries also in this area are split into separate items for market production (83- accounts corresponding with 23-accounts), production for own final use (82-accounts vs. 22-accounts), and non-market production distinguished in central government (84-accounts vs. 24-accounts), in local government (85-accounts vs. 25-accounts) and in NPISH (86-accounts vs. 26-accounts). In practice, however, GFCF will be taken to be zero in some of the activities producing for own final use. Given the structure adopted in NNA, a further insight into the classification of gross fixed capital formation by activity is therefore provided in section 2.1 above.

5. CATEGORIES OF INVENTORIES

3.22 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 ESA 1995 classification of inventories within produced assets is such a classification basis.

3.23 The ESA 1995 categories of materials and supplies, finished goods and goods for resale are not explicitly shown in the Norwegian national accounts (FNA nor NNA). 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 is available from retail and wholesale trade statistics. The 3-split breakdown of inventories - apart from work in progress - is therefore a target set for a more distant future.

3.24 For the purpose of specifying categories of inventories for a breakdown of changes in inventories, NNA has the following items (FNA had similar specifications):

87 000	Changes in inventories (excluding work in progress)
87 910	Work in progress, oil platform modules and ships
87 920	Work in progress, other
87 930	Work in progress on cultivated assets

3.25 The main item of changes in inventories has a cross-classification by products, in NNA broken down by some 575 NNA-products (goods). This feature is part of the commodity-flow approach used in Norway, resulting in annual supply and use tables.

3.26 Work in progress is broken down by three items in NNA, while two in ESA 1995. Due to their special importance in the Norwegian economy, work in progress on modules to oil platforms is separately identified, and likewise for work in progress on different types of ships (6 different NNA-products). Work in progress on cultivated assets consists of three sub-items (NNA-products). They are related to livestock for slaughter, stocks of timber or fuelwood, and farmed fish. In Norway, in describing the annual accounts, work in progress on other vegetation yielding once-only products is not of much relevance.

3.27 Changes in inventories for services are not implemented so far, where appropriate. Accidentally, and which should be removed at the next juncture, an item for changes in non-life insurance services had to be introduced to cope with time restraint and an occurred difference from balancing supply and use of non-life insurance services.

6. CATEGORIES OF EXPORTS AND IMPORTS OF GOODS AND SERVICES

3.28 In ESA 1995, exports of goods and services and imports of goods and services are broken down into the two categories each: P.61/ P 71 Exports of goods / Imports of goods and P.62 / P 72 Exports of services / Imports of services, 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 for both exports and imports. In FNA, a somewhat different solution was followed, i.e. a total number of 16 categories of exports and 21 categories of imports - in both cases most categories in services - while cross-classified with products as a consequence of detailed annual supply and use tables.

3.29 In NNA, the four categories of ESA 1995 has been increased to 12 categories altogether, as each category has been given a 3-item specification of sub-categories. For national reasons, certain categories related to oil activity, shipping and tourism have been introduced separately.

3.30 The categories of exports and imports in NNA are the following:

511	Exports of goods	
	51 110	Exports of goods recorded in external trade statistics
	51 120	Exports of ships, oil rigs and modules
	51 130	Exports of goods not recorded in external trade statistics
512	Exports of services	
	51 210	Gross receipts from abroad in shipping
	51 220	Direct purchases in Norway by non-residents
	51 230	Exports of other services
521	Imports of goods	
	52 110	Imports of goods recorded in external trade statistics
	52 120	Imports of ships, oil rigs and modules
	52 130	Imports of goods not recorded in external trade statistics
522	Imports of services	
	52 210	Current expenditure abroad in shipping
	52 220	Direct purchases abroad by Norwegian residents
	52 230	Imports of other services

B. COMMODITY FLOW METHOD

National accounts work in Norway has since its 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 30 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 user side, the two sides been balanced in basic prices and forming a basis for the national accounts and input-output tables. In NNA, the balanced commodity flow system contain a supply table and user tables for the various segments of purchasers' prices, i.e. basic prices, non-deductible VAT, investment levy, 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.

Introduction

3.31 National accounts work in Norway has since its beginning been based on the commodity flow method. As a tradition, it has served as a basis for a complete integration between national accounts and input-output tables. Nowadays, with this integration having an even stronger footing in the new international standards than in the previous ones, Statistics Norway is proud to say that annual supply and use tables have been in use for more than 30 years in the Norwegian national accounts.

3.32 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 contain several million elements, although a good majority of them are zero-value cells. When confined to the commodity flows of supply and uses for the products, and each product flow split into different value components from basic price to purchaser's price (see section on valuation below), it still amounts to a total close to 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.

3.33 The basic philosophy behind the design of such a detailed system is to create a framework which could utilize all kinds of specific information, which would be robust to changes in definitions and classifications without being fundamentally affected, and which would allow users of data a maximum of flexibility.

3.34 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.

3.35 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 containing product information. At present, some 6 000 products are specified for exports and imports of goods in the external trade statistics, while some 3 000 products are specified for manufacturing output, but will be more extensive in near future when adopting the EEA-based structural statistics of manufacturing goods. The NNA level of 565 manufacturing goods may be seen as a fairly moderate number of products in that context. A problem of recent years, however, is irregular information available on manufacturing input. In the services area, the number of NNA-products have increased from FNA, but still not beyond the level of outputs identified in the sources, whether these are product-based or activity-based. Output of services are to a large extent defined in a characteristic way from more detailed activities than industries defined as NNA-industries.

3.36 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. A basis more suitable for practical work in the manufacturing area was achieved when the industry specifications for manufacturing was cut from 97 industries in FNA to 67 industries in 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. A symptom of this fact has rendered necessary a rather extensive use of unspecified intermediate consumption items in the field of services industries.

3.37 As regards categories of final uses, the NNA level of detail has a reasonably good matching between detailed products (services) and detailed breakdown of 55 groups of government final consumption expenditure with basis in government accounts linked to common data base with the national accounts. With annual household consumer surveys available, the same considerations could be made around a detailed breakdown of some 110 groups of household final consumption expenditure. Also for gross fixed capital formation, the number of categories have been fairly high - some 55 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 known 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. For exports and imports, the product-category cross-clasification 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.

3.38 As regards valuation-related information, the most important value components contained in the difference between purchaser's price and basic price of each commodity flow are specified for proper treatment, i.e. the trade margins and other kinds of margin combined, non-deductible VAT, the Norwegian-typical investment levy, 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).

The supply side

3.39 The supply side of the NNA system is contained in an approximately 1 000 products by 150 industries matrix for domestic output. Imports are aggregated to 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.

3.40 Imports c.i.f. are fed directly into the national accounts system from the tapes 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. Imports of services are co-ordinated with the integrated balance of payments statistics, but some elaboration is required in NNA because more detail is needed.

3.41 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 from tape 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 (see chapter II above).

3.42 It should be observed that non-characteristic output is also included with output of the undertaking industries of NNA. That means, e.g. that trade activity of manufacturing industries is treated as non-characteristic output of manufacturing, while transformed to wholesale and retail trade in FNA.

The user side

3.43 The 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. Firstly, 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. Secondly - in one operation including the product breakdown

- the corresponding values in basic prices is calculated. Thirdly, a first phase of the balancing of each product is carried out including the estimation of change in inventories of each product.

3.44 Total exports and the breakdown on products are known from external trade statistics and balance of payments statistics, as described above for imports.

3.45 Total intermediate consumption in each industry is based on much the same sources as mentioned for output, but in general the estimation problem is more complicated. In some areas. and even when statistical coverage may be good, some kinds of expenditure are only given at the enterprise and not at the establishment level. For manufacturing industries, intermediate consumption data have been readily available along with the data on output, but as described above the situation has deteriorated in recent years, although manufacturing input data regularly are presented on tape for use in the NNA estimation. For industries outside manufacturing industries, the data situation varies quite a lot from sound accounting information to estimating total intermediate consumption as a rather unfounded fixed percentage of output (see chapter II). Input data for the construction and wholesale and retail trade industries may be seen as especially challenging and problematic. In general, most often input data for the non-manufacturing industries are fed into the system by means of growth rates in current prices, for subsequently being multiplied by the latest figures of the preceding year.

3.46 The initial estimates for each of the items of household consumption expenditure are either made directly as absolute figures 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 which translate the classifications of the retail trade turnover index, the accounts statistics for retail trade etc. into the COICOP being used in NNA. In this way, also taking into account annual changes of the household consumer survey data (using the COICOP classification), several different growth rates can be obtained for one particular consumption group, and also taking into consideration the price index for each group, it is a matter for the experienced national accountant to choose the most likely growth rate for each group. The product composition of each group is usually neutral to this approach - applying same growth to each products of the particular COICOP group - except that particular product information may be utilized and thereby affects the product composition of the group.

3.47 Data needed for the estimation of central and local government consumption expenditure are received from the specialized division on government finance statistics. That include a detailed breakdown of government sales (fees from households and other sectors). The breakdown of government consumption is applied in the commodity flow system as well in NNA. The product aspect is a new feature to the estimation of government final consumption expenditure, in FNA the flows had a direct connection from production activity to COFOG group without any exposition to product information.

3.48 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 user side in many cases are scarce. 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, which would reflect - as for output, intermediate consumption etc. - a quite divergent data situation among the industries as regards specific user side information.

3.49 Change in inventories is a particularly weak point in the compilation of national accounts in Norway, since reliable data are not 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 the total of all product differences between supply and other uses in basic prices.

Balancing the system in basic prices

3.50 First set of balances for the value components lying between purchaser's price and basic price, i.e. non-deductible VAT, the investment levy, 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 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 (see also sections R, S and T of chapter II above). 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 leave the initial user side estimates unaffected for the other value components, this is not normally the case for the margins. Here, trade margins in particular - as well as other margins to some extent - are sometimes corrected on the user 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 change in inventories. The balancing of the margins thus constitutes a particular complicated process (see also chapter V below).

3.51 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 price is obtained. During this balancing process in basic prices, some estimates might be changed directly - e.g. by eliminating change in inventories on a service product or adjusting change in inventories found unreasonable - or to be changed indirectly as an implication from adjusting again items in a final balancing of trade margins or (less likely) VAT, investment levy, taxes on products, subsidies on products or other margins.

3.52 There are also notional products involved in the commodity flow method applied . These often have a special complicated treatment and might not be dealt with here (see chapter V below for more details).

3.53 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 may seem 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 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.

3.54 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 user side or to the conclusion that some significant new developments 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. Finally, 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.

The system as a basis for national accounts and input-output tables

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

- a supply matrix in basic prices
- user matrices, separately in
  - basic prices,
  - non-deductible VAT,
  - investment levy
  - other taxes on products
  - subsidies on products
  - trade margins and other margins

3.56 When these user matrices are added, the use matrix at purchasers' prices is arrived at.

3.57 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 ESA 95 table - are gross fixed capital formation and labour inputs which are also part of NNA, and fixed capital stock, which still is to be revised for NNA (although estimates available in FNA).

3.58 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, the latest in Rapporter 92/26 Kryssløpsdata og kryssløpsanalyse 1970-1990 by Nils Øyvind Mæhle (in Norwegian only).

C. VALUATION

Valuation is treated in an articulated way in both FNA and NNA. Between the two main price concepts of basic price and purchaser's price, 6 different intermediate price components are specified in NNA. These components are taxes on product, subsidies on product, wholesale and retail trade margins, net taxes on trade margins, non-deductible VAT and investment levies. They relate to all product flows of the use table to the extent applicable. Output is recorded in basic prices in NNA. Since recorded in producers' prices in FNA, this is also an alternative recording provided for in NNA.

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

3.60 According to ESA 95, all output is to be valued in basic prices, with specific conventions for the valuation of other non-market output at total costs of production. In NNA - following the new ESA principles - output is valued or measured 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). In FNA, output was measured in producers' prices. In both versions, however, flexible valuation was built into the systems which have enabled publication of either output values. 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.

3.61 The 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 which is relevant for the valuation of specific product flows (see sections S and T of chapter II).

3.62 The VAT treatment is an important part of the treatment of taxes on products. Following the net treatment of VAT in the national accounts, implies that only non-deductible VAT flows are recorded. As far as output valuation is concerned, net VAT treatment means no VAT in output whatever alternative is at stake, basic price or producer's price. As long as

gross treatment of VAT was practised in FNA, VAT was included in output in producers' prices. Later, when net treatment of VAT was introduced in FNA - and kept in NNA - output in producers' prices is measured without any VAT (see section R for more information on VAT).

3.63 The other central price concept of the product flows is purchaser's price, which is the price the purchaser actually pays for the products at the time of the purchase. In NNA, the final consumption expenditure of households is recorded in purchasers' prices. Gross fixed capital formation is also valued in purchasers' prices including installation charges and other costs. A special investment levy is included in some of the GFCF flows in purchasers' prices. Products used for intermediate consumption are also valued in purchasers' prices. The investment levy applies for certain types of intermedation consumption flows as well, thereby included in the purchasers' prices.

3.64 There are certain exceptions to the general rule of recording uses of flows in purchasers' prices. Retained goods or services for own consumption are valued in basic prices. When fixed assets are produced on own-account it is valued at costs of production, i.e. in NNA as well as FNA usually by cost component of compensation of employees alone. Changes in inventories are calculated from the balancing process in basic prices and are therefore consistent with the other product flows in basic prices.

3.65 In Norway - applying annual integrated supply and use tables - imports of goods are valued c.i.f. According to the new principles in ESA 95, a global c.i.f. / f.o.b. correction is to be made to arrive at total imports in f.o.b. prices. This is not implemented yet in NNA, but in the balance of payments - both related to FNA and NNA - such an alternative estimation of imports f.o.b. has been made for the reporting to IMF. This estimation procedure is now being improved compared to before. Due to considerable imports on resident carriers, exports are also affected (lower value at f.o.b.) when imports of goods are re-estimated for f.o.b. prices.

3.66 As mentioned in the section on commodity-flow method above, 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. 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
15	Net taxes on trade margins
17	Non-deductible VAT
18	Investment levies

3.67 Value component items for aggregates are also introduced (it should be noted that taxes and subsidies on trade margins are identified by + and - , respectively in item 15; subsidies on product in item 12 are technically given - signs as well):

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 + 18)

3.68 Finally, for illustration of this value component system, some typically taxes and subsidized products for final consumption expenditure in households are shown:

1990. Billion kroner
Household consumption expenditure of:

		Milk and cream	Beer	Electricity	Petrol
10		3,9	0,7	3,8	3,2
11			1,7	1,1	
12		-0,6			
	13	3,3	2,5	4,9	3,2
14		1,0	1,3	6,5	2,8
15					5,2
	16	1,0	1,3	6,5	8,0
17		0,8	0,8	2,1	2,2
18					
	19	5,1	4,5	13,5	13,5

D. GOVERNMENT FINAL CONSUMPTION EXPENDITURE

Government final consumption expenditure amounts to 20,7 per cent of GDP in 1990, and close to 30 per cent of total final consumption expenditure. The 1990 revision from FNA to NNA has slightly reduced the GDP share from 21,1 per cent. Government final consumption expenditure contributes by 10,4 billion to the 61,5 billion increase in 1990 GDP, altogether from definitional changes. Most important are definitional changes for the consumption expenditure in defence, health and some economic affairs and services. By distinguishing between consumption expenditure and actual consumption in NNA, implications are faced for the treatment of various government payments on subsidies, social benefits and government consumption expenditure. Some of the latter - 5,6 per cent of total government consumption expenditure in 1990 - is even produced outside government. Central government accounts and local government accounts are the sources, utilized in a much detailed way introducing breakdowns by type, COFOG groups, NNA-industries and NNA-products, for the indirect calculation of central and local government consumption expenditure. Fees from households and /or other sectors are deducted from output in this calculation.

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3.69 In NNA, government final consumption expenditure is distinguished in 55 groups of function within the framework of 14 main groups. COFOG is applied as classification for both central government and local government. government expenditure. In total, 51 groups are specified for central government and 25 groups for local government. The COFOG framework of main groups and number of groups adopted are as follows (depicts the situation in 1990, other COFOG groups might also occur in other years):

		Government COFOG groups		
		Central	Local	General
01	General public services	4	1	4
02	Defence affairs and services	2	1	2
03	Public order and safety affairs	4	2	4
04	Education affairs and services	5	4	5
05	Health affairs and services	6	4	6
06	Social security and welfare affairs and services	3	3	3
07	Housing and community amenity affairs and services	3	2	4
08	Recreational, cultural and religious affairs and services	1	1	1
09	Fuel and energy affairs and services	3	-	3
10	Agriculture, forestry, fishing and hunting affairs and services	5	2	5
11	Mining and mineral resource affairs and services, other than fuels; manufacturing affairs and services; and construction affairs and services	4	-	4
12	Transportation and communication affairs and services	6	1	6
13	Other economic affairs and services	4	1	5
14	Expenditure not classified by major group	1	1	1

15	Combined nursing and care	-	2	2
	Total	51	25	55

3.70 In NNA, government final consumption expenditure is estimated at 149,5 billion kroner. 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 among purchases of goods and services by government from market producers as social transfers in kind (see below). The share of services in government final consumption expenditure was 98 per cent in 1990, and the overall distribution between central government and local government was 41 per cent and 59 per cent, respectively.

	1990. Billion kroner		
	Goods	Services	Total
Central government consumption expenditure	3,0	58,3	61,3
Local government consumption expenditure	-	88,1	88,1
Government final consumption expenditure	3,0	146,5	149,5

3.71 Government final consumption expenditure accounted for 29,5 per cent of total final consumption expenditure in 1990. Its share of GDP was 20,7 per cent. In FNA, these shares were almost the same, 29,3 per cent and 21,1 per cent, respectively.

3.72 The 1990 revision from FNA to NNA has increased final consumption expenditure from 475,2 to 506,6 billion kroner, i.e. by 31,4 billion kroner. About one third of this increase represents an increase in government consumption expenditure, i.e. by 10,4 billion kroner. The 1990 level was increased by approximately same amount in both central government and local government. The total increase is regarded as change in definition.

	Billion kroner		Revision	
	FNA	NNA	Total	Definitional
Government consumption expenditure	139,1	149,5	10,4	10,4
Central government	56,1	61,3	5,2	5,2
Local government	83,0	88,1	5,1	5,1

3.73 A number of definitional changes has occurred to the government consumption expenditure estimates. They are referred to in the output description in particular. Most important are definitional changes with implications for the estimation of government consumption expenditure in defence, health and some economic affairs and services. The estimation of consumption of government fixed assets is extended to include roads and the like. Fees for purchase of government services have also an extended coverage in NNA compared to FNA. The new principles of ESA on distinguishing between consumption expenditure and actual consumption have had implications for the treatment of various government payments in FNA on subsidies, social benefits and government consumption expenditure. These are described in their proper context, but in general a net effect has been an enlarged concept of government consumption expenditure.

3.74 It should be emphasized that part of government final consumption expenditure now is produced by non-governmental producers, in particular market producers. Government consumption expenditure thus consists of two distinctive parts, i.e. the value of the goods and services for consumption produced by general government itself other than expenditure made by other units (referred to as fees), and 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. This implies that general government just pays for goods and services that the sellers provide to households. The latter part covered 5,6 per cent of government consumption expenditure in 1990. Included in central government consumption expenditure was 6,1 billion kroner of this category, main items being medicaments, physicians' services and taxi transportation services. Included in local government consumption expenditure was 2,1 billion of this category, main its here child day-care services and medicaments.

	1990. Billion kroner		
	Government consumption expenditure		
	Government produced	Non-government produced	Total
Central government	55,2	6,1	61,3
Local government	86,0	2,1	88,1
General government	141,2	8,3	149,5

Sources

3.75 Main sources are:

- Central government accounts
- Local government accounts

3.76 The sources used to estimate government final consumption expenditure are the central and local government accounts. Government consumption expenditure is calculated indirectly, deducting fees from household and other sectors from output of government production. Data for output measured as costs of production are available from items by type on the costs side of the government accounts. Data on fees appear on the income side of the government accounts. In addition - according to new principles of ESA - 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.

Methods of estimation

3.77 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 of the NPISHs. More often, fees from households (and/or other sectors) should be deducted from output in order to arrive at government consumption expenditure, and in a few cases government purchases from non-government producers - recorded as government final consumption expenditure - also appear as items for deduction from total supply of the particular products. Final consumption expenditure of central government is specified by some 50 COFOG groups for central government and some 25 COFOG groups for local government. Only a few of the local government groups are additional groups which do not appear for central government (see above). In the classification

section above, it was indicated the number of products related to each COFOG group (in the range of 1 - 10 NNA-products per group).

3.78 Illustration by 1990 figures follows by COFOG groups and further details of methods of estimation for most important products (values above 500 million kroner, excluding consumption of fixed capital which is referred to in the output section) .

		1990. Billion kroner
Central government		
01	General public services	5,3
011	Executive and legislative organs, financial and fiscal affairs, external affairs other than foreign aid	3,9
Most important products:		
751 162	Financial and fiscal services Output (2,7 billion) - estimated by 107 items of main source, of which 23 items on government fees; 8 items of other government accounts, otherwise from fiscal accounts - less fees (0,2 billion), distributed on 5 COFOG groups of various main groups (mostly 01)	2,4
751 161	Executive and legislative services Output (0,9 billion, see output section) less fees (0,0 billion), distributed on 8 COFOG groups of various main groups (mostly 01)	0,7
012	Foreign economic aid	0,3
013	Fundamental research affairs and services	0,0
014	General services	1,1
02	Defence affairs and services	20,8
021	Military and civil defence administration and operation	20,6
Most important product:		
752 261	Military defence services Output (19,4 billion) less fees for exports and other fees (1,4 billion), distributed on the 2 COFOG groups of main group 02	17,7
022	Foreign military aid	0,3

03	Public order and safety	4,1
031	Police and fire protection	3,2
Most important product:		
752 461	Police services Output (3,7 billion) less fees from households (0,1 billion) and other fees (0,1 billion), distributed on 4 COFOG groups of several main groups (mostly 03)	3,1
032	Law courts	- 0,1
033	Prison administration and operation	0,8
Most important product:		
752 362	Administrative services related to detention or rehabilitation of criminals Output (0,8 billion) less fees (0,0 billion), allocated to this COFOG group exclusively	0,8
034	Public order and safety affair n.e.c.	0,1
04	Education affairs and services	7,7
041	Pre-primary and primary education affairs	0,5
042	Secondary education affairs and services	0,5
043	Tertiary education affairs and services	6,1
Most important product:		
803 060	Higher education services Output (6,4 billion) less fees from households (0,1 billion) and fees for exports and other fees (0,6 billion), allocated to this COFOG group exclusively	5,7
044	Education services not definable by level	0,5
046	Education affairs and services n.e.c.	0,2
05	Health affairs and services	8,4
051	Hospital affairs and services	1,8
Most important product:		
851 161	Somatic hospital services Output (1,8 billion) less fees from households (0,1 billion) and other fees (0,1 billion), allocated to this COFOG	1,6

group exclusively

052 Clinics, and medical, dental and para-medical practitioners 3,1

Most important products:

851 210 Medical practice services 1,5

Almost no government output (0,0 billion), while 1,5 billion purchased by central government as social transfers in kind from 3,2 billion output of market producers

602 210 Taxi services etc. 0,7

No government output, while 0,7 billion purchased by central government as social transfers in kind from 2,7 billion output of market producers

053 Public health affairs and services 0,2

054 Medicaments, protheses, medical equipment and appliances or other prescribed health-related products 3,0

Most important product:

244 210 Medicaments 2,6

No government output, while 2,6 billion purchased by central government as social transfers in kind from supply of 5,7 billion (purchases also of central government producers at 0,1 billion as intermediate consumption)

055 Applied research and experimental development related to the health and medical delivery system 0,2

056 Health affairs and services n.e.c. 0,1

06 Social security and welfare affairs and services 2,4

061 Social security affairs and services 1,7

Most important product:

753 060 Compulsory social security services 1,6

Output (1,8 billion) less fees (0,2 billion), allocated to this COFOG group exclusively

062 Welfare affairs and services 0,1

063 Social security and welfare affairs n.e.c. 0,7

Most important product:

751 165 Other administrative services of the government

	n.e.c	0,6
	Output (1,0 billion) less fees (0,0 billion), distributed on 9 COFOG groups of various main groups (06 as major part)	
07	Housing and community amenity affairs and services	0,5
070	Environment affairs and pollution abatement	0,2
071	Housing and community development	0,0
073	Sanitary affairs and services including pollution abatement and control	0,3
08	Recreational, cultural and religious affairs and services	0,7
080	Recreational, cultural and religious affairs and services	0,7
Most important product:		
751 264	Administrative recreational, cultural and religious services	0,5
	Output (0,7 billion) less fees (0,1 billion), distributed on 4 COFOG groups of various main groups (mostly 08)	
09	Fuel and energy affairs and services	0,3
091	Fuel affairs and services	0,1
092	Electricity and other energy sources	0,1
093	Fuel energy affairs and services n.e.c.	0,1
10	Agriculture, forestry, fishing and hunting affairs and services	0,9
101	Agriculture affairs and services	0,3
102	Forestry affairs and services	0,0
103	Fishing and hunting affairs and services	0,5
104	Agricultural research and experimental development n.e.c.	0,1
105	Agriculture, forestry, fishing and hunting affairs and services n.e.c.	0,7
Most important product:		
751 361	Administrative agriculture, forestry, fishing and hunting services	0,7
	Output (1,2 billion) less fees (0,2 billion) and land improvement as GFCF (0,0 billion), distributed on 6 COFOG groups in several main groups (mostly 10)	

11	Mining and mineral resource affairs and services other than fuels; manufacturing affairs and services; and construction affairs and services	0,1
111	Mining and mineral resource affairs and services, other than fuel	0,0
112	Manufacturing affairs and services	0,0
113	Construction affairs and services	-0,0
114	Mining and mineral resource affairs and services n.e.c.; manufacturing affairs and services n.e.c.; and construction affairs and services n.e.c.	0,1
12	Transportation and communication affairs and services	6,6
121	Road transport affairs and services	5,6
Most important product:		
751 364	Administrative transport and communication related services	3,8
	Output (4,3 billion) less from households (0,1 billion) and from producers (0,1 billion) and from exports and other fees (0,2 billion), distributed on 4 COFOG groups of main group 12	
122	Water transport affairs and services	0,3
123	Railway affairs and services	1,2
Most important product:		
601 060	Railroad maintenance work	1,2
	Output (1,3 billion) less fees (0,2 billion), allocated to this COFOG group exclusively	
124	Air transport affairs and services	-0,5
Most important product:		
632 360	Other supporting services for air transport	-0,7
	Output (1,0 billion) less fees (1,7 billion), which creates a negative difference for government consumption expenditure	
126	Transportation system affairs and services	0,1
127	Communication affairs and services	-0,1
13	Other economic affairs and services	2,1

131	Distribution trade affairs and services including storage and warehousing; hotel and restaurant affairs and services	0,1
132	Tourism affairs and services	0,0
134	General economic and commercial affairs other than general labour affairs	0,5
135	General labour affairs and services	1,4

Most important products:

745 060	Placement services of personnel Output (0,8 billion) less fees (0,0 billion), allocated to this COFOG group exclusively	0,8
751 368	General administrative economic, commercial and labour affairs related services Output (1,2 billion) less fees and land improvement as GFCF (-0,1 billion), distributed on 7 COFOG groups of various main groups	0,5

14	Expenditure not classified by major group	0,7
140	Expenditure not classified by major group	0,7

Most important product:

751 462	Other general services for the government n.e.c. Output (1,0 billion) less fees (0,1 billion), distributed on 6 COFOG groups of various main groups (14 as major part)	0,5

Local government

01	General public services	6,1
011	Executive and legislative organs, financial and fiscal affairs, external affairs other than foreign aid	6,1

Most important product:

751 181	Executive and legislative services Output (5,8 billion) less fees (0,4 billion), distributed on 3 COFOG groups of several	5,4

main groups (mostly 01)

02 Defence affairs and services 0,0

021 Military and civil defence administration and operation 0,0

03 Public order and safety 1,0

031 Police and fire protection 1,0

Most important product:
752 580 Fire brigade services 0,9
Output (1,1 billion) less fees(0,2 billion), allocated to this COFOG group exclusively

032 Law courts 0,0

04 Education affairs and services 27,7

041 Pre-primary and primary education affairs 16,7

Most important product:
801 080 Primary education services 16,0
Output (16,8 billion) less fees (0,1 billion), distributed on 2 COFOG groups of main group 04

042 Secondary education affairs and services 8,5

Most important product:
802 080 Secondary education services 8,1
Output (8,3 billion) less fees from households (0,2 billion) and other fees (0,1 billion), allocated to this COFOG group exclusively

044 Education services not definable by level 1,7

Most important products:
804 280 Adult and other education services n.e.c. 0,9
Output (1,1 billion) less fees from households (0,1 billion), distributed on 3 COFOG groups of 2 main groups (mostly 04)
801 080 Primary education services 0,7
See 041 above

046 Education affairs and services n.e.c. 0,9

Most important product:

751 281 Administrative education services 0,8
Output (0,8 billion) less fees (0,0 billion), allocated to this COFOG group exclusively

05 Health affairs and services 31,4

051 Hospital affairs and services 17,8

Most important products:

851 181 Somatic hospital services 13,5
Output (14,0 billion) less fees from households (0,4 billion), allocated to this COFOG group exclusively

851 182 Psychiatric hospital services 2,4
Output (2,7 billion) less fees from households (0,2 billion), allocated to this COFOG group exclusively

851 489 Other human health services 1,2
Output (2,2 billion) less fees from households and other fees (0,2 billion), distributed on 3 COFOG groups of main group 05

052 Clinics, and medical, dental and para-medical practitioners 2,2

Most important products:

851 210 Medical practice services 1,5
Local government output (1,0 billion) less fees from households and other fees (0,2 billion), while 0,7 billion purchased by local government as social transfers in kind from 3,2 billion output of market producers

851 380 Dental practice services 0,7
Local government output (0,9 billion) less fees from households (0,2 billion), while a small additional amount is purchased by local government as social transfers in kind from 2,9 billion output of market producers

053 Public health affairs and services 1,3

Most important product:

851 489 Other human health services 0,7
See 051 above

056	Health affairs and services n.e.c.	0,3
06	Social security and welfare affairs and services	11,6
061	Social security affairs and services	0,3
062	Welfare affairs and services	5,4

Most important product:

853 211 Child-day care services 3,5

Local government output (3,7 billion) less fees from households (1,1 billion), allocated to this COFOG exclusively, while 0,9 billion is purchased by local government as social transfers in kind from 1,8 billion output of market producers

853 283 Other social work services 1,4

Output (1,8 billion) less fees from households (0,1 billion), distributed on 2 COFOG groups of main group 06

063	Social security and welfare affairs n.e.c.	1,4

Most important product:

751 282 Administrative health care services 1,3

Output (1,8 billion) less fees (0,0 billion), distributed on 3 COFOG groups of two main groups (06 as major part)

07	Housing and community amenity affairs and services	2,3
071	Housing and community development	0,2
075	Housing and community amenity affairs and services n.e.c.	2,1

Most important product:

751 283 Administrative housing and community amenity services 1,8

Output (2,5 billion) less fees from producers (0,5 billion), distributed on 2 COFOG groups of main group 07

08	Recreational, cultural and religious affairs and services	3,8
080	Recreational, cultural and religious affairs and services	3,8

Most important products:

751 284	Administrative recreational, cultural and religious services	1,3
	Output (1,4 billion) less fees from households and other fees (0,1 billion), allocated to this COFOG group exclusively	
927 280	Other recreational services	1,3
	Output (1,6 billion) less fees from households and other fees (0,3 billion), allocated to this COFOG group exclusively	
925 180	Library and archive services	0,5
	Output (0,5 billion) less fees from households (0,0 billion), allocated to this COFOG group exclusively	

10	Agriculture, forestry, fishing and hunting affairs and services	0,2
101	Agriculture affairs and services	0,1
102	Forestry affairs and services	0,0

12	Transportation and communication affairs and services	2,6
121	Road transport affairs and services	2,6

Most important product:

751 384	Administrative transport and communication related services	2,3
	Output (2,9 billion) less fees from households (0,3 billion) and other fees (0,3 billion), allocated to this COFOG group exclusively	

13	Other economic affairs and services	0,9
136	Other economic affairs and services n.e.c.	0,9

Most important products:

751 388	General administrative economic, commercial and labour affairs related services	0,6
	Output (0,6 billion) less fees (0,0 billion), allocated to this COFOG group exclusively	

14	Expenditure not classified by major group	0,5
140	Expenditure not classified by major group	0,5

In addition (see output section):

15	Combined nursing services	14,2
151	Combined nursing services in nursing homes etc.	9,8
152	Combined nursing services in old peoples homes	4,5

Most important product:

854 080	Combined nursing services for old people and the handicapped Output (15,8 billion) less fees from households (2,3 billion), distributed on 2 COFOG groups of main group 15	13,5

E. NPISH CONSUMPTION

Final consumption expenditure of non-profit institutions serving households (NPISH) is estimated at 19 billion kroner in 1990 or 2,6 per cent of GDP. In FNA, this concept was not estimated, while included in private final consumption expenditure. However, between 85 and 90 per cent of the NPISH consumption in NNA was never covered in FNA. Estimations are indirectly based, both conceptually and in terms of sources used. Most often government accounting data have to be utilized. Final consumption expenditure of the NPISHs are specified by 5 items of function (similar to COFOG) and by 12 NNA-products.

Contents

3.79 In NNA, final consumption expenditure by the non-profit institutions serving households (NPISHs) has been introduced and specified by five items. The classification used is more or less that of COFOG.

3.80 In NNA, NPISH consumption expenditure is estimated at 18,9 billion kroner. It consists of services, exclusively.

		NPISH consumption expenditure 1990. Billion kroner
66 400	Health affairs and services	3,1
66 620	Recreational and cultural affairs and services	3,6
66 710	Education affairs and services	0,6
66 940	Welfare affairs and services	5,8
66 960	Services of membership organizations	5,8
	Total NPISH consumption expenditure	18,9

3.81 NPISH consumption expenditure accounted for 3,7 per cent of total final consumption expenditure in 1990. Its share of GDP was 2,6 per cent. In FNA, NPISH consumption was not specified at all.

3.82 The 1990 revision from FNA to NNA has increased final consumption expenditure from 475,2 to 506,6 billion kroner, i.e. by 31,4 billion kroner. About half of this increase may be seen as the effect of introducing this new item into the calculation of final consumption expenditure and GDP. Presumably, NPISH consumption of some 2 or 3 billion kroner was contained in private final consumption expenditure of FNA. In other words, 85 - 90 per cent of the NNA estimate was not covered in FNA.

	Billion kroner		Revision
	FNA	NNA	Total
Total final consumption expenditure	475,2	506,6	31,4
Government consumption expenditure	139,1	149,5	10,4
Private consumption expenditure	336,1	357,1	21,0
Household consumption expenditure	..	338,2	
NPISH consumption expenditure	..	18,9	
Tentative assumption (FNA maximum):			
NPISH consumption expenditure	3,0	18,9	15,9

Sources

3.83 Main sources are:

- Central government accounts
- Local government accounts

3.84 The sources used to estimate NPISH consumption expenditure are the same ones used for NPISH output (see description in the output sections of the respective industries, and also methods of estimation by products). Sources used for items of deduction are supplementary sources in this context, in particular household consumer surveys etc. for fees from households in the respective cases.

Methods of estimation

3.85 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 - also appear as items for deduction. Final consumption expenditure of the NPISHs - and specified on 5 items of function - is specified on 12 NNA-products (services).

3.86 Illustration by 1990 figures and summarized references to sources and methods follows by products. The direct output to consumption correspondence is indicated if not otherwise.

		1990. Billion kroner
Health affairs and services		3,1
851 110	Hospital services Calculated as output less fees from households (HFCE, part of 61 422 and 61 431) and less purchases by local government	2,9
851 414	Ambulance services Determined equal to output	0,1
Recreational and cultural affairs and services		3,6
923 122	Artistic creation and interpretation services Calculated as output less fees from households (HFCE, part of 61 621)	1,2
925 000	Library, archives, museums and cultural services Calculated as output less fees from households (HFCE, part of 61 621)	0,3
926 000	Sporting services Calculated as output less fees from households (HFCE, part of 61 621 and part of 61 624) and less fees from other units of the sporting activity industry and a few government industries (minor amounts)	2,1
Education affairs and services		0,6
801 010	Primary education services Calculated as output less fees from households (HFCE, part of 61 711)	0,2
802 000	Secondary education services Calculated as output less fees from households (HFCE, part of 61 712) and less purchases of NPISH output by central government (minor amount)	0,4
Welfare affairs and services		5,8
853 110	Social work services with accommodation	0,7

	Calculated as output less fees from households (HFCE, part of 61 941)	
853 213	Other social work services	2,4
	Determined equal to output	
854 010	Combined nursing services for old people and for the handicapped	2,7
	Calculated as output less fees from households (HFCE, part of 61 941)	
Services of membership organizations		5,8
912 010	Services furnished by trade unions	1,5
	Determined equal to output	
913 000	Other membership organizations services	4,3
	Calculated as output less fees from the military (minor amount)	
	Total NPISH consumption expenditure	18,9

F. HOUSEHOLD FINAL CONSUMPTION EXPENDITURE

Household final consumption expenditure (HFCE) amounts to 46,8 per cent of GDP in 1990, or two-thirds of total final consumption expenditure. The 1990 revision from FNA to NNA has reduced the GDP share from 50,9 per cent. Household final consumption expenditure contributes by just 2,1 billion to the 61,5 billion increase in 1990 GDP. However, this net result overshadows relatively large revisions and changes to the structure of the 10 COICOP main groups. COICOP 1 Food, beverages and tobacco has been reduced by 10 billion kroner and is no longer the largest main group. Also direct purchases abroad by resident households and COICOP 5 Health have been reduced considerably by 8,6 and 7,6 billion, respectively. In particular, the downward revision for health is caused. by definitional changes. On the other hand, COICOP 3 Housing, water, electricity, gas and other fuels has been revised upwards by 17,4 billion and has become the largest main group, contributing 11,3 per cent to GDP in 1990 while less than 10 per cent before the revision. COICOP 6 Transport has also been increased considerably by 13,2 billion kroner. The total effect from definitional changes is negative for HFCE, estimated at 8,5 billion, which is somewhat more than half of the definional changes for total output. Three classes of sources are utilized in the HFCE estimation; these are household consumer surveys, retail trade statistics and the commodity flow method following output estimates in particular. It is an interplay between these three source elements, where the main change from FNA to NNA is more use of household consumer survey data in the current estimations while mostly confined to benchmark use in FNA. The HFCE estimation is detailed, specifying some 110 consumption groups and involving a large number of product flows. The new concept of household actual final consumption has been introduced in NNA, and amounts to 450,1 billion kroner in 1990. It means that 75 per cent of household actual final consumption is covered by households own expenditures, while local government was the major contributor outside households by nearly 17 per cent. In areas such as education and health, the contributions by local government were as high as 73 and 62 per cent, respectively.

1. COICOP 1 FOOD, BEVERAGES AND TOBACCO

Contents

3.87 In NNA, final consumption expenditure of households for COICOP 1 is specified by 23 items - 17 items of food, 5 items of beverages and one item of tobacco.

3.88 In NNA, household consumption expenditure of food, beverages and tobacco is estimated at 74,8 billion kroner. It consists exclusively of non-durable consumption goods.

		Household consumption expenditure 1990. Billion kroner		
		Non-durable goods	Other	Total
61 010-020	Food	50,8	-	50,8
61 030	Beverages	16,3	-	16,3
61 040	Tobacco	7,7	-	7,7
	Total	74,8	-	74,8

3.89 Household consumption expenditure of food, beverages and tobacco accounted for 22,1 per cent of household final consumption expenditure (HFCE) in 1990. Its share of GDP was 10,4 per cent.

		1990. Percentage of:	
		Total HFCE	GDP
61 010-020	Food	15,01	7,03
61 030	Beverages	4,83	2,26
61 040	Tobacco	2,27	1,06
	Total	22,11	10,36

3.90 The 1990 revision from FNA to NNA has reduced household consumption expenditure of food, beverages and tobacco considerably from 84,9 to 74,8 billion kroner, i.e. down by 11,9 per cent. The downward revision was particularly high for the food component (more than 15 per cent). A main reason for this comprehensive revision is a more direct utilization of the household consumer survey data than before the revision. In total, no definitional changes occurred. There was however a regrouping of coffee, tea and cocoa from food in FNA to beverages in NNA.

		Billion kroner		Revision	
		FNA	NNA	Total	Definitional
61 010-020	Food	62,3	50,8	- 11,5	- 1,7
61 030	Beverages	14,3	16,3	2,0	1,7
61 040	Tobacco	8,3	7,7	- 0,6	-
	Total	84,9	74,8	- 10,1	-

Sources

3.91 Main sources used are:

- Annual household consumer surveys
- Annual retail trade statistics
- Consumer Price Index material
- Quantity information on beverages and tobacco

3.92 The first three sources listed belong to the main sources used for national accounting and are thus described in general in section I.C above. In addition, some relevant quantity information is available for some of the consumption groups, i.e. for items that consist of goods which are heavily taxed by government. These are most groups of beverages and tobacco:

61 032	Other non-alcoholic beverages
61 033	Beer
61 034	Wines
61 035	Spirits and liqueurs
61 041	Tobacco

For almost all goods belonging to these HFCE groups there are quantity data in terms of litres and pieces available, to be exploited in constructing volume indices to be combined with corresponding price indices of CPI. (for wines and spirits and liqueurs, the quantity information was utilized for the 1988 benchmark estimation only).

Methods of estimation

3.93 Illustration by 1990 figures and summarized references to sources and methods follows by consumption groups and by main products within the respective groups.

Food

1990. Billion kroner

61 011	Cereals etc. Estimated on the basis of household consumer surveys (HCS) data, retail trade statistics (RTS) and the commodity flow (CF) method in combination. Distributed on 7 NNA-products.	2,1
Main product consumed:		
158 213	Other bread and bakers' wares About 50 per cent of total use (1,3 billion) is allocated to HFCE, other main uses are change in inventory (0,4 billion, unlikely high in this case), intermediate consumption for institutions (0,3 billion) and exports (0,1 billion)	0,6
61 012	Bread and cakes Estimated from HCS data, RTS and the CF method	3,7
Main and only product consumed:		
158 110	Bread and cakes Virtually all of total use(3,8 billion) is allocated to HFCE, other uses are intermediate consumption for institutions (0,1 billion), while reduction in inventory (-0,1 billion).	3,7
61 013	Meat Estimated from HCS data, RTS and the CF method. Distributed on 11 products, of which the following 4 products count for 85 per cent.	12,9
Main products consumed:		
151 312	Other prepared and preserved meat etc. About 80 per cent of total use (9,1 billion) is allocated to HFCE, other main uses are intermediate consumption for institutions (0,9 billion), change in inventory (0,9 billion) and exports (0,1 billion)	7,1
151 311	Meat and edible offal, edible flours and meals thereof Virtually all of total use (1,9 billion) is allocated to HFCE	1,8
151 113	Fresh or chilled swine meat Less than 25 per cent of total use (5,7 billion) is allocated to HFCE, other main uses are intermediate consumption in meat production (4,2 billion, from	1,3

manufacturing statistics), intermediate consumption in institutions (0,2 billion),while reduction in inventory (-0,1 billion)

151 111 Fresh or chilled bovine meat 1,0

Allocation of total use (6,3 billion) is almost the same as for swine meat, mostly for intermediate consumption in meat production (5,0 billion), also here a small reduction in inventory

61 014 Fresh fish 1,1

Estimated from HCS data, RTS and the CF method. Distributed on 8 products, all of them relatively small (below 0,5 billion).

61 015 Other fish 2,7

Estimated from HCS data, RTS and the CF method. Distributed on 5 products.

Main product consumed:

152 014 Fish, otherwise prepared or preserved; caviar 1,3

Almost 60 per cent of total use (2,3 billion) is allocated to HFCE, other main uses are exports (0.6 billion), intermediate consumption for institutions (0,1 billion) and change in inventory (0,2 billion)

61 016 Milk, cream and yoghurt 5,8

Estimated from HCS data, RTS and the CF method. Distributed on 4 products.

Main products consumed:

155 111 Milk and cream 5,1

Almost 75 per cent of total use (7,0 billion) is allocated to HFCE, other main use is intermediate consumption in production of dairy products (1,7 billion, from manufacturing statistics), just insignificant change in inventory in this case

155 150 Other dairy products 0,6

About 60 per cent of total use (1,1 billion) is allocated to HFCE, other main uses are intermediate consumption for institutions (0,1 billion) and change in inventory (0,2 billion)

61 017 Cheese 3,1

Estimated from HCS data, RTS and the CF method.

Main and only product consumed:

155 140 Cheese 3,1

More than 70 per cent of total use (4,4 billion) is allocated to HFCE, other main uses are exports (0,5 billion), change in inventory (0,4 billion) and intermediate consumption for institutions (0,2 billion)

61 018 Eggs 1,0

Estimated from HCS data, RTS and the CF method. Distributed on 2 products.

Main product consumed:

012 421 Eggs 1,0

90 per cent of total use (1,1 billion) is allocated to HFCE, other main use is change in inventory (0,1 billion)

61 019 Butter, margarine, edible oils etc. 1,1

Estimated from HCS data, RTS and the CF method. Distributed on 3 products.

Main products consumed:

154 310 Margarine and similar preparations 0,7

More than 80 per cent of total use (0,8 billion) is allocated to HFCE, other main use is intermediate consumption for other food production (0,1 billion)

61 021 Fruit and berries 3,2

Estimated from HCS data, RTS and the CF method. Distributed on 10 products.

Main products consumed:

011 322 Citrus fruit 0,6

Virtually the whole total use is allocated to HFCE, there is a small reduction in inventory

011 323 Apples 0,6

The same picture as for citrus fruit above

61 022 Fresh vegetables 1,8

Estimated from HCS data, RTS and the CF method. Distributed on 5 products.

Main product consumed:		
011 214	Fresh vegetables	0,8
	About 80 per cent of total use (1,0 billion) is allocated to HFCE, other main use is intermediate consumption for institutions (0,2 billion), just a small reduction in inventory for this product	
61 023	Frozen and preserved vegetables	0,6
	Estimated from HCS data, RTS and the CF method. Distributed on 3 products, all small in size.	
61 024	Potatoes	0,8
	Estimated from HCS data, RTS and the CF method. Distributed on 2 products.	
Main product consumed:		
011 121	Potatoes	0,7
	About 80 per cent of total use (0,9 billion) is allocated to HFCE, other uses are intermediate consumption for several industries of food production (0,3 billion), while a reduction in inventory (-0,1 billion)	
61 025	Potato products	0,8
	Estimated from HCS data, RTS and the CF method. Distributed on 2 products.	
Main product consumed:		
153 110	Prepared and preserved potatoes	0,7
	Almost 80 per cent of total use (0,9 billion) is allocated to HFCE, other uses are intermediate consumption for institutions (0,1 billion) and change in inventory (0,1 billion)	
61 026	Sugar	0,5
	Estimated from HCS data, RTS and the CF method.	
Main and only product consumed:		
158 310	Sugar	0,5
	About 55 per cent of total use (1,0 billion) is allocated to HFCE, other main use is intermediate consumption to several industries of food production (0,4 billion)	

61 027 Ice cream, chocolate and confectionery 6,4
Estimated from HCS data, RTS and the CF method. Distributed on 2 products.

Main products consumed:

155 210 Ice cream and other edible ice 1,6
More than 90 per cent of total use (1,8 billion) is allocated to HFCE, other use is intermediate consumption for institutions (0,1 billion)

158 420 Chocolate and sugar confectionery 4,8
Almost 90 per cent of total use (5,5 billion) is allocated to HFCE, other main uses are exports (0,2 billion), intermediate consumption for institutions (0,1 billion) and change in inventory (0,4 billion)

61 028 Spices and food products n.e.c. 3,1
Estimated from HCS data, RTS and the CF method. Distributed on 10 products.

Main products consumed:

158 710 Vinegar, sauces, mixed condiments, mustard etc. 0,8
90 per cent of total use (0,9 billion) is allocated to HFCE, also a small increase in inventory

158 914 Other food products 0,6
90 per cent of total use (0,7 billion) is allocated to HFCE, other main use is intermediate consumption in production of beverages

Beverages

61 031 Coffee, tea and cocoa 1,7
Estimated from HCS data, RTS and the CF method. Distributed on 3 products.

Main products consumed:

158 611 Coffee 1,4
More than 90 per cent of total use (1,5 billion) is allocated to HFCE, other main use is intermediate consumption for institutions (0,1 billion)

61 032 Other non-alcoholic beverages 5,3
Estimated from quantity data and CPI data and the CF method. Distributed on 3 products.

Main products consumed:

159 812 Non-alcoholic beverages, except mineral water 4,4

Almost all of total use (4,4 billion) is allocated to HFCE, other uses are intermediate consumption for institutions (0,1 billion) and for hotels etc.(0,1 billion), and reduction in inventory (-0,1 billion)

153 210 Fruit and vegetable juices 0,9

Almost 90 per cent of total use (1,1 billion) is allocated to HFCE, other main use is intermediate consumption in several industries for food production (0,1 billion)

61 033 Beer 4,5

Estimated from quantity data and CPI data and the CF method.

Main and only product consumed:

159 610 Beer 4,5

About 80 per cent of total use (5,6 billion) is allocated to HFCE, other main uses are intermediate consumption to restaurants etc. (0,6 billion) and hotels etc. (0,2 billion) and change in inventory (0,3 billion)

61 034 Wines 1,5

Estimated from quantity data and CPI data for 1988 benchmark, later RTS (State Wine Monopoly as separate branch) and the CF method. Distributed on 3 products.

Main products consumed:

159 310 Wines 1,3

About 85 per cent of total use (1,6 billion) is allocated to HFCE, other main uses are intermediate consumption in restaurants etc. (0,2 billion), in hotels etc. (0,1 billion) and in production of beverages (0,1 billion), while reduction in inventory (-0,2 billion)

61 035 Spirits and liqueurs 3,4

Estimated from quantity data and CPI data for 1988 benchmark, later RTS (State Wine Monopoly as separate branch) and the CF method.

Main and only product consumed:		
159 110	Spirits and liqueurs	3,4
	Almost 95 per cent of total use (3,6 billion) is allocated to HFCE, other main uses are intermediate consumption in restaurants etc. (0,2 billion) and in hotels etc. (0,1 billion), while reduction in inventory (-0,1 billion)	
Tobacco		
61 041	Tobacco	7,7
	Estimated from quantity data and CPI data and the CF method.	
Main and only product consumed:		
160 010	Tobacco	7,7
	About 95 per cent of total use (8,1 billion) is allocated to HFCE, other main uses are exports (0,1 billion) and change in inventory (0,4 billion)	

2. COICOP 2 CLOTHING AND FOOTWEAR

Contents

3.94 In NNA, final consumption expenditure of households is specified by 8 items - 6 items of clothing and 2 items of footwear.

3.95 In NNA, household consumption expenditure of clothing and footwear is estimated at 22,7 billion kroner. It consists of semi-durable consumption goods, except two minor groups of repairs categorized as services.

		Household consumption expenditure 1990. Billion kroner		
		Semi-durable goods	Services	Total
61 110	Clothing	19,5	0,1	19,6
61 120	Footwear	3,0	0,1	3,1
	Total	22,5	0,2	22,7

3.96 Household consumption expenditure of clothing and footwear accounted for 6,7 per cent of total household final consumption expenditure (HFCE) in 1990. Its share of GDP was 3,1 per cent.

		1990. Percentage of:	
		Total HFCE	GDP
61 110	Clothing	5,80	2,71
61 120	Footwear	0,91	0,43
	Total	6,71	3,14

3.97 The 1990 revision from FNA to NNA has reduced household consumption expenditure of clothing and footwear slightly from 23,0 to 22,7 billion kroner. No definitional changes occurred.

		Billion kroner		Revision	
		FNA	NNA	Total	Definitional
61 110	Clothing	19,2	19,6	0,4	-
61 120	Footwear	3,8	3,1	-0,7	-
	Total	23,0	22,7	-0,3	-

Sources

3.98 Main sources are:

- Annual household consumer surveys
- Annual retail trade statistics
- Annual surveys of repair activities

Methods of estimation

3.99 Illustration by 1990 figures and summarized references to sources and methods follows by consumption groups and by main products within the respective groups.

		1990. Billion kroner
Clothing		
61 111	Shirts, nightwear, socks and underwear Estimated from HCS data, RTS and the CF method. Distributed on 4 products.	5,6
Main products consumed:		
182 300	Underwear, shirts etc. About two-thirds of total use (3,8 billion) is allocated to HFCE, other main uses are intermediate consumption for institutions (0,7 billion), in non-market health production (0,3 billion), exports (0,1 billion) and change in inventory (0,2 billion)	2,6
177 210	Jerseys, pullovers, cardigans, waistcoats etc. Almost 90 per cent of total use (2,6 billion) is allocated to HFCE, other uses are intermediate consumption for non-market production, exports and change in inventory (0,1 billion each).	2,2
177 110	Panty hose, tights, stockings and other hosiery 90 per cent of total use (0,7 billion) is allocated to HFCF, in this case also a small amount to HFCF in health, while other uses are quite small.	0,6
61 112	Coats, dresses, suits, jackets etc. Estimated from HCS data, RTS and the CF method. Distributed on 5 products.	11,2
Main products consumed:		
182 230	Other outerwear, for women and girls More than 90 per cent of total use (5,9 billion) is allocated to HFCE, other main uses are intermediate consumption for institutions (0,3 billion) and change in inventory (0,1 billion)	5,4
182 220	Other outerwear, for men and boys More than 80 per cent of total use (4,2 billion) is allocated to HFCE, other main uses are intermediate consumption for institutions (0,4 billion) and in the	3,5

	military (0,1 billion), exports (0,1 billion) and change in inventory (0,2 billion)	
182 210	Outerwear, knitted or crocheted Almost all total use (1,1 billion) is allocated to HFCE	1,1
182 412	Track-suits, ski suits and swim wear etc. About 70 per cent of total use (1,5 billion) is allocated to HFCE, other main uses are for various intermediate consumption (0,4 billion), exports (0,1 billion) and change in inventory (0,1 billion)	1,0
61 113	Hats, caps and gloves Estimated from HCS data, RTS and the CF method. Distributed on 8 products, which are all relatively small (below 0,5 billion)	1,0
61 114	Furs and leather products Estimated from HCS data, RTS and the CF method. Distributed on 2 products.	1,2
Main products consumed:		
181 010	Leather clothes More than 90 per cent of total use (0,8 billion) is allocated to HFCE, other main use is change in inventory (0,1 billion)	0,7
183 010	Furs, articles of fur Almost all total use (0,5 billion) is allocated to HFCE	0,5
61 115	Fabrics, yarn, sewing thread etc. Estimated from HCS data, RTS and the CF method. Distributed on 5 products, which are all relatively small.	0,4
61 116	Repair and hire of clothing Estimated from the CF method, i.e. output of NNA-industries 527 and 714, which have been allocated to three different HFCE groups (of which this is the largest) by also utilizing HCS data. Distributed on 2 products, of which the one from 714 is quite negligible.	0,1
Footwear		
61 121	Shoes and other footwear Estimated from HCS data, RTS and the CF method.	3,0

	In utilizing RTS, footwear is weighted with sporting equipment. Distributed on 3 products.	
Main products consumed:		
193 010	Footwear other than sports and protective footwear About 80 per cent of total use (2,6 billion) is allocated to HFCE, other main uses are for various intermediate consumption (0,4 billion) and change in inventory (0,1 billion)	2,0
193 020	Sports footwear Almost all total use (1,0 billion) is allocated to HFCE	1,0
61 122	Repairs to footwear Estimated from the CF method, i.e. output of NNA-industry 527, exclusively allocated to this HFCE group, by also utilizing HCS data. Allocated to one small product only.	0,1

3. COICOP 3 HOUSING, WATER, ELECTRICITY, GAS AND OTHER FUELS

Contents

3.100 In NNA, final consumption expenditure of households is specified by 12 items - 3 items of gross rents, 2 items of regular maintenance and repair of dwelling (until further notice combined into one item, and by tenants solely), 3 items of other services relating to the dwelling and 4 items of electricity, gas and other fuels.

3.101 In NNA, household consumption expenditure of housing, water, electricity, gas and other fuels is estimated at 81,7 billion kroner in 1990. It consists mostly of consumption services (7 groups, 65,9 billion kroner), but also non-durable goods contribute significantly (5 groups, 15,8 billion). Electricity is classified as non-durable goods.

		Household consumption expenditure 1990. Billion kroner		
		Non-durable goods	Services	Total
61 210	Gross rents	-	60,5	60,5
61 220	Regular maintenance and repair of dwelling	0,2	-	0,2
61 230	Other services relating to the dwelling	-	5,5	5,5
61 240	Electricity, gas and other fuels	15,6	-	15,6
	Total	15,8	65,9	81,7

3.102 Household consumption expenditure of housing, water, electricity, gas and other fuels accounted for 24,2 per cent of total household final consumption expenditure (HFCE) in 1990. Its share of GDP was 11,3 per cent.

		1990. Percentage of: Total HFCE	GDP
61 210	Gross rents	17,87	8,37
61 220	Regular maintenance and repair of dwelling	0,05	0,02
61 230	Other services relating to the dwelling	1,62	0,76
61 240	Electricity, gas and other fuels	4,61	2,16
	Total	24,16	11,32

3.103 The 1990 revision from FNA to NNA has increased household consumption expenditure of housing, water, electricity and other fuels very significantly from 64,3 to 81,7 billion kroner. No definitional changes are related to these consumption flows, except within the main group (water and insurance part of intermediate consumption and gross rents in FNA, while now specified as separate HFCE groups).

		Billion kroner		Revision	
		FNA	NNA	Total	Definitional
61 210	Gross rents	43,7	60,5	22,4	-5,5
61 220	Regular maintenance and repair of dwelling	..	0,2	..	-
61 230	Other services relating to the dwelling	..	5,5	..	5,5
61 240	Electricity, gas and other fuels	20,6	15,6	-5,0	-
	Total	64,3	81,7	17,4	-

Sources

3.104 Main sources are:

- Housing statistics of various kinds, including surveys on actual rents
- Annual household consumer surveys
- Annual retail trade statistics
- Annual electricity statistics
- Annual energy statistics

Methods of estimation

3.105. Illustration by 1990 figures and summarized references to sources and methods follows by consumption groups and by main products within the respective groups.

Gross rents, also including regular maintenance and repair of dwelling and other services relating to the dwelling

1990. Billion kroner

61 211	Actual rents Estimated from the CF method, i.e. output is first estimated, primarily from production of dwelling services for own final use (NNA-industry 704) from which a tenant part is allocated to this HFCE group (see description in the output section). There are also some output and HFCE allocated to consumption from market and non-market production of other real estate activities (NNA-industry 700) and fees for non-market output of local government (in areas of education and health and social work services in particular). Distributed on 10 products altogether.	9,6
	Main product consumed:	
704 000	Dwelling services, households Estimated share of total output (60,2 billion), see output description	8,4
61 212	Imputed rents, owner-occupiers Estimated from the CF method, i.e. output is first estimated from production of dwelling services for own final use (NNA-industry 704) from which a owner-occupiers part is allocated to this HFCE group (see description in the output section).	49,0
	Main and only product consumed:	
704 000	Dwelling services, households Estimated share of total output (60,2 billion), see output description	49,0
61 213	Other rents Estimated from the CF method, i.e. output is first estimated from production of dwelling services for own final use (NNA-industry 704) from which a part on secondary dwellings is allocated to this HFCE group (see description in the output section).	2,9

Main and only product consumed:		
704 000	Dwelling services, households Estimated share of total output (60,2 billion), see output description	2,9
61 221	Materials for repairs in rented dwellings Estimated from the 1988 Survey of Housing Conditions, RTS (ISIC branch 6252) and the CF method. HCS data are not useful in this case. Distributed on 6 products, all of them small.	0,2
61 222	Labour costs for repairs in rented dwellings Not estimated so far	..
61 231	Renovation and sanitary services Estimated from HCS data and the CF method. Distributed on 2 products.	2,2
Main products consumed:		
900 091	Sewage services, fees to local government About 50 per cent of total use (2,4 billion) is allocated to HFCE, other main uses are intermediate consumption for business activities of industrial cleaning (1,1 billion) and for real estate activities (0,1 billion)	1,2
900 092	Refuse disposal services, fees to local government The same picture and use distribution as for the preceding product.	0,9
61 232	Insurance of dwellings Estimated from the CF method, i.e. first 1988 benchmark for output and extrapolated as for output.	0,7
Main and only product consumed:		
660 319	Other non-life insurance services Less than 20 per cent of total output and use (4,5 billion) is allocated to HFCE, other main uses are intermediate consumption for various industries, and also exports (0,3 billion)	0,7
61 233	Water Estimated from HCS data and the CF method.	1,6

Main and only product consumed:

410 090 Distribution services of water, fees to local government 1,6

About 80 per cent of total use (2,0 billion) is allocated to HFCE, other main uses are intermediate consumption for business activities of industrial cleaning (0,3 billion) and also for non-market production of government in the areas of education and health and social work (0,2 billion)

Electricity, gas and other fuels

61 241 Electricity 13,5

Estimated from quantity (GWh consumed by households) and price data (purchasers' prices) and the CF method. HCS data are indirectly used for control (fit well by level and development).

Main and only product consumed:

401 015 Electricity for household consumption 13,5

This product is exclusively for HFCE

61 242 Liquid fuels 1,6

Estimated from quantity (consumed quantity by households, obtained from energy accounts) and price data (CPI) and the CF method. Distributed on 5 products.

Main products consumed:

232 011 Gas oils 0,7

About 5 per cent of total use (12,3 billion) is allocated to HFCE, including also a small amount to another HFCE group (petrol etc.), other main uses are intermediate consumption in various industries (7,8 billion), exports (4,1 billion) and reduction in inventory (-0,4 billion)

232 005 Fuel oils 0,6

About 40 per cent of total use (1,5 billion) is allocated to HFCE, other main uses are intermediate consumption in various industries and change in inventory (unlikely high in this case)

61 243 Fuelwood, peat, coal and coke 0,5

Estimated from quantity data (obtained from energy accounts) and CPI price data and the CF method. Distributed on 3 products, all of them small.

61 244	District heating, gas etc. Estimated from the CF method, i.e. output based on information in electricity statistics (energy accounts). Allocated to one product only. The HFCE share is about 20 per cent, the remaining 80 per cent used for intermediate consumption in various manufacturing industries.	0,1

4. COICOP 4 FURNISHINGS, HOUSEHOLD EQUIPMENT AND ROUTINE MAINTENANCE OF THE HOUSE

Contents

3.106 In NNA, final consumption expenditure of households is specified by 16 items - 5 items of furniture, furnishings and decorations etc., one item of household textiles, 3 items of heating and cooking appliances etc., one item of glassware, tableware and household utensils, 2 items of tools and equipment for the house and garden and 4 items of goods and services for routine household maintenance.

3.107 In NNA, household consumption expenditure of furnishings, household equipment and routine maintenance of the house is estimated at 21,4 billion kroner. It consists of both goods and services and goods by all three types of durability, durable goods counting for some 60 per cent of the whole value of COICOP 4..

		Household consumption expenditure 1990. Billion kroner				
		Non-durable goods	Semi-durable goods	Durable goods	Services	Total
61 310	Furniture, furnishings and decorations, carpets and other floor coverings and repairs			8,3	0,1	8,4
61 320	Household textiles		1,9			1,9
61 330	Heating and cooking appliances; refrigerators, washing machines, similar major household appliances, including fittings and repairs			4,3	0,3	4,5
61 340	Glassware, tableware and household utensils		1,4			1,4
61 350	Tools and equipment for the house and garden		1,0	0,5		1,5
61 360	Goods and services for routine household maintenance	2,7			0,9	3,6
	Total	2,7	4,3	13,1	1,3	21,4

3.108 Household consumption expenditure of COICOP 4 accounted for 6,3 per cent of total household final consumption expenditure (HFCE) in 1990. Its share of GDP was 3,0 per cent.

		1990. Percentage of: Total HFCE	GDP
61 310	Furniture, furnishings and decorations, carpets and other floor coverings and repairs	2,49	1,17
61 320	Household textiles	0,56	0,26
61 330	Heating and cooking appliances; refrigerators, washing machines, similar major household appliances, including fittings and repairs	1,34	0,63
61 340	Glassware, tableware and household utensils	0,41	0,19
61 350	Tools and equipment for the house and garden	0,44	0,21
61 360	Goods and services for routine household maintenance	1,08	0,51

Total	6,33	2,96

3.109 The 1990 revision from FNA to NNA has reduced household consumption expenditure of furnishings, household equipment and routine maintenance of the house from 23,3 to 21,4 billion kroner. No definitional changes occurred.

		Billion kroner		Revision	
		FNA	NNA	Total	Definitional
61 310	Furniture, furnishings and decorations, carpets and other floor coverings and repairs	8,3	8,4	0,1	-
61 320	Household textiles	3,5	1,9	-1,6	-
61 330	Heating and cooking appliances; refrigerators, washing machines, similar major household appliances, including fittings and repairs	2,2	4,5	2,3	-
61 340	Glassware, tableware and household utensils	3,0	1,4	-1,6	-
61 350	Tools and equipment for the house and garden	..	1,5	1,5	-
61 360	Goods and services for routine household maintenance	6,1	3,7	-2,4	-
	Total	23,3	21,4	-1,9	-

Sources

3.110. Main sources used are:

- Annual household consumer surveys
- Annual retail trade statistics

Methods of estimation

3.111 Illustration by 1990 figures and summarized references to sources and methods follows by consumption groups and by main products within the respective groups.

Furniture, furnishings and decorations, carpets and other floor coverings and repairs

1990. Billion kroner

61 311	Furniture	5,7
	Estimated from HCS data, RTS (branch of furniture and movables) and the CF method. Distributed on 4 products.	
	Main products consumed:	
361 112	Wooden seats etc.	3,2
	About 80 per cent of total use (4,2 billion) is allocated to HFCE, other main uses are gross fixed capital formation (0,5 billion) and exports (0,4 billion)	
361 410	Other furniture	1,8
	Less than 30 per cent of total use (5,0 billion) is allocated to HFCE, other main use are gross fixed capital formation (0,3 billion), exports (0,3 billion), change in inventory (0,1 billion), but most of all intermediate consumption in various market and non-market (NPISH)) industries (altogether 2,5 billion)	
361 310	Kitchen furniture	0,5
	About 40 per cent of total use (1,8 billion) is allocated to HFCE, other main uses are intermediate consumption in various industries (1,0 billion), gross fixed capital formation (0,2 billion) and change in inventory (0,1 billion)	
61 312	Carpets and other floor coverings	0,8
	Estimated from HCS data, RTS and the CF method.	
	Main and only product consumed:	
175 110	Carpets and rugs	0,8
	About 70 per cent of total use (1,0 billion) is allocated to HFCE, other main uses are intermediate consumption in dwelling service industry, construction and other industries (0,1 billion each)	
61 313	Lamps, electric bulbs etc.	0,7
	Estimated from HCS data, RTS and the CF method. Distributed on 4 products.	

Main product consumed:

315 020 Lamps and lighting fittings 0,6

About one-third of total use (2,0 billion) is allocated to HFCE, also a small amount in HFCE group of small tools etc., other main uses are intermediate consumption in various industries (1,0 billion) and exports (0,3 billion)

61 314 Decorative articles 1,1

Estimated from HCS data, RTS (partly) and the CF method. Distributed on 9 products.

Main product consumed:

923 110 Works of art 0,6

About 30 per cent of total use (2,0 billion, which is output basically determined from the user side, see output description) is allocated to HFCE, other main uses are intermediate consumption in post activities (1,0 billion, philately), gross capital formation (0,1 billion, valuables) and exports (0,2 billion)

61 315 Repair of furniture etc. 0,1

Estimated from the CF method, i.e. output of NNA-industry 527, which have been allocated to three different HFCE groups (the largest is 61 116), by also utilizing HCS data. Allocated to one small product only.

Household textiles

61 321 Household textiles 1,9

Estimated from HCS data, RTS and the CF method. Distributed on 13 products, 12 of which are small (below 0,5 billion).

Main products consumed:

174 010 Made-up textile articles for the household 1,0

About 50 per cent of total use (2,0 billion) is allocated to HFCE, other main uses are intermediate consumption in various market and non-market industries (0,9 billion) and exports (0,1 billion)

Heating and cooking appliances; refrigerators, washing machines, similar major household appliances, including fittings and repairs

61 331 Cooking appliances, refrigerators, washing machines etc. 3,0

Estimated from HCS data, RTS and the CF method. Distributed on 2 products.

Main products consumed:

297 110 Refrigerators, freezers, washing machines, etc. 2,1

Virtually all total use (2,0 billion) is allocated to HFCE, including reduction in inventory (-0,1 billion)

297 127 Ovens and cookers, microwave ovens etc. 0,9

Virtually all total use (0,9 billion) is allocated to HFCE, while other uses are exports (0,1 billion), gross fixed capital formation (0,1 billion) and reduction in inventory (-0,2 billion)

61 332 Other household appliances 1,3

Estimated from HCS data, RTS and the CF method. Distributed on 7 products.

Main products consumed:

297 121 Vacuum cleaners for the household 0,7

Almost all total use (0,8 billion) is allocated to HFCE, other use is intermediate consumption (0,1 billion)

61 333 Repair of household appliances 0,3

Estimated from the CF method, i.e. output of NNA-industry 527, which have been allocated to two different HFCE groups (the other is 61 619 below), also by utilizing HCS data. Allocated to one small product only.

Glassware, tableware and household utensils

61 341 Glassware, tableware and household utensils 1,4

Estimated from HCS data, RTS and the CF method. Distributed on 8 products, all of which are below the 0,5 billion size.

Tools and equipment for the house and garden

61 351 Lawn movers, electric tools etc. 0,5
Estimated from HCS data, RTS and the CF method. Distributed on 8 products, all of which are below the 0,5 billion size.

61 352 Small tools etc. 1,0
Estimated from HCS data, RTS and the CF method. Distributed on 13 products, all of which are below the 0,5 billion size.

Goods and services for routine household maintenance

61 361 Washing powder and other cleaning materials 1,3
Estimated from HCS data, RTS and the CF method. Distributed on 9 products.

Main product consumed:
245 132 Detergents and washing preparations 1,0
Almost 50 per cent of total use (1,9 billion) is allocated to HFCE, other main uses are intermediate consumption in various industries (0,8 billion) and exports (0,1 billion)

61 362 Other non-durable household goods 1,4
Estimated from HCS data, RTS and the CF method. Distributed on 16 products, all of which are below the 0,5 billion size.

61 363 Laundering, cleaning and dyeing 0,2
Estimated from HCS data, RTS and the CF method. Distributed on 3 products, all of which are below the 0,5 billion size.

61 364 Domestic services 0,8
Estimated from the CF method, i.e. equal to output of NNA-industry 950 (see output description). HCS

	data are indirectly used through the output estimation.
Main and only product consumed:	
950 010	Domestic services in private households with employed persons 0,8
	HFCE is equal to total output or use (0,8 billion)

5. COICOP 5 HEALTH

Contents

3.112 In NNA, final consumption expenditure of households is specified by 7 items - 2 items of medical and pharmaceutical products etc., 3 items of non-hospital medical and paramedical services, one item of hospital services and one item of sickness and accident insurance services.

3.113 In NNA, household consumption expenditure of health is estimated at 8,2 billion kroner. The major part consists of services, but non-durable (medicines etc.) and durable goods (spectacles etc.) are also included.

		Household consumption expenditure 1990. Billion kroner			
		Non-durable goods	Durable goods	Services	Total
61 410	Medical and pharmaceutical products and therapeutic appliances and equipment	1,2	2,0		3,2
61 420	Non-hospital medical and paramedical services			4,9	4,9
61 430	Hospital services			0,1	0,1
61 440	Sickness and accident insurance services				-
	Total	1,2	2,0	5,0	8,2

3.114 Household consumption expenditure of health accounted for 2,4 per cent of total household final consumption expenditure (HFCE) in 1990. Its share of GDP was 1,1 per cent.

		1990. Percentage of: Total HFCE	GDP
61 410	Medical and pharmaceutical products and therapeutic appliances and equipment	0,95	0,44
61 420	Non-hospital medical and paramedical services	1,44	0,67
61 430	Hospital services	0,03	0,02
61 440	Sickness and accident insurance services	-	-
	Total	2,42	1,13

3.115 The 1990 revision from FNA to NNA has reduced household consumption expenditure of health dramatically from 15,8 to 8,2 billion kroner. Important definitional changes are behind this reduction, i.e. government-financed health expenditures through social benefits are not part of household consumption expenditure any longer. There is also a regrouping of item for old-age nursing services from health to COICOP 10.

		Billion kroner FNA	NNA	Revision Total	Definitional
61 410	Medical and pharmaceutical products and therapeutic appliances and equipment	3,4	3,2	-0,2	-
61 420	Non-hospital medical and paramedical services	8,1	4,9	-3,2	- 3,2
61 430	Hospital services	4,3	0,1	-4,2	- 6,4
61 440	Sickness and accident insurance services	..	-		
	Total	15,8	8,2	-7,6	- 9,6

Sources

3.116 Main sources are:

- Annual household consumer surveys
- Annual retail trade statistics
- Central government accounts (including National Insurance)
- Local government accounts
- Income sample surveys for private practitioners, dentists etc.

Methods of estimation

3.117 Illustration by 1990 figures and summarized references to sources and methods follows by consumption groups and by main products within the respective groups.

Medical and pharmaceutical products and therapeutic appliances and equipment

1990. Billion kroner

61 411	Spectacles, orthopaedic equipment etc. Estimated from HCS data, RTS (retail pharmacy) and the CF method. Distributed on 4 products.	1,2
Main products consumed:		
334 010	Spectacles, lenses etc. Almost all of total use (1,1 billion) is allocated to HFCE - including also a small amount to another HFCE group (61 923)	1,0
61 412	Medicines and medical goods Estimated from HCS data, RTS and the CF method. Distributed on 6 products.	2,0
Main products consumed:		
244 210	Medicaments About 30 per cent of total use (5,7 billion) is allocated to HFCE, other main uses are central government consumption expenditure (2,6 billion, purchased from market producers), intermediate consumption in health and social work industries (1,0 billion) and some other industries (0,1 billion), exports (0,3 billion) and reduction in inventory	1,7

(-0,1 billion)

Non-hospital medical and paramedical services

61 421 Dentistry 3,0

Estimated from 1988 benchmark income sample survey for dentists, HCS data and the CF method, i.e. market and non-market output of dental practice services from NNA-industry 851 (see output description). Distributed on 3 products.

Main product consumed:
851 310 Dental practice services 2,8

More than 95 per cent of total use (2,9 billion) is allocated to HFCE, other uses are central and local government consumption expenditure (0,1 billion)

61 422 Services of physicians 1,3

Estimated from 1988 benchmark income sample survey for physicians, HCS data and the CF method, i.e. market and non-market output of medical practice services from NNA-industry 851 (see output description). Distributed on 7 products.

Main product consumed:
851 210 Medical practice services 0,8

About 25 per cent of total use (3,2 billion) is allocated to HFCE, other uses are central government consumption expenditure (1,5 billion), local government consumption expenditure (0,7 billion) and intermediate consumption particularly in non-market production of local government health services (0,2 billion)

61 423 Other health services outside institutions 0,6

Estimated from 1988 benchmark income sample survey for physiotherapists and other para-medical persons, HCS data and the CF method, i.e. market and non-market output of other health services from NNA-industry 851 (see output description). Distributed on 3 products, all, of which are small (below 0,5 billion).

Hospital services

61 431	Hospital services Estimated from the CF method, i.e. market output from NNA-industry 851 (see output description). Allocated to one product only. In this case, HFCE counts for just a small part of total use (3,2 billion), the main use of which is NPISH consumption expenditure (2,9 billion)	0,1

Sickness and accident insurance services

61 441	Sickness and accident insurance services Not estimated so far, while also assumed of insignificant importance in Norway	-

6. COICOP 6 TRANSPORT

Contents

3.118 In NNA, final consumption expenditure of households is specified by 11 items - 2 items of purchase of vehicles, 5 items of operation of personal transport equipment and 4 items of transport services.

3.119 In NNA, household consumption expenditure of transport is estimated at 50,2 billion kroner. It consists of goods in all three types of durability, and a considerable element of services (40 per cent).

		Household consumption expenditure 1990. Billion kroner				
		Non-durable goods	Semi-durable goods	Durable goods	Services	Total
61 510	Purchase of vehicles			13,3		13,3
61 520	Operation of personal transport equipment	14,0	2,7		6,5	23,2
61 530	Transport services				13,6	13,6
	Total	14,0	2,7	13,3	20,1	50,2

3.120 Household consumption expenditure of transport accounted for 14,8 per cent of total household final consumption expenditure (HFCE) in 1990. Its share of GDP was 7,0 per cent.

		1990. Percentage of: Total HFCE	GDP
61 510	Purchase of vehicles	3,94	1,84
61 520	Operation of personal transport equipment	6,87	3,22
61 530	Transport services	4,03	1,89
	Total	14,84	6,95

3.121 The 1990 revision from FNA to NNA has increased household consumption expenditure of transport considerably from 37,0 to 50,2 billion kroner. Definitional changes explain at least 1,9 billion as related to HFCE, net effect from introducing the gross treatment for tour operator services. The introduction of government consumption expenditure from purchases of market output might have caused a net increase in this respect, but is mainly assumed a change in the distribution of consumption expenditure between household and government consumption.

		Billion kroner		Revision	
		FNA	NNA	Total	Definitional
61 510	Purchase of vehicles	11,2	13,3	2,1	-
61 520	Operation of personal transport equipment	16,4	23,4	7,0	-
61 530	Transport services	9,4	13,6	4,2	1,9
	Total	37,0	50,2	13,2	1,9

Sources

3.122 Main sources are:

-	Annual household consumer surveys
-	Annual retail trade statistics
-	Annual accounts and statistics of various transportation services
-	Statistics on new registrations of motor vehicles

Methods of estimation

3.123 Illustration by 1990 figures and summarized references to sources and methods follows by consumption groups and by main products within the respective groups.

Purchase of vehicles

		1990. Billion kroner
61 511	Motor cars Estimated from quantity data (new registrations of motor vehicles for households) and price data (average price of such motor vehicles). Distributed on 6 products. Further information on volume of motor cars: In NNA, volume of motor cars is arrived at by deflating the value index - from the above mentioned price times quantity estimation - by CPI for passenger cars, implying that a shift to more expensive models is treated as volume	12,1
Main products consumed:		
341 020	Passenger cars Almost 60 per cent of total use (11,2 billion) is allocated to HFCE, other main uses are gross fixed capital formation (3,8 billion in two groups, the other one for rented cars) and change in inventory (0,9 billion)	6,5
009 430	Passenger cars, net acquisitions of existing cars This is desinvestment of existing cars from the	2,9

	industries (most important industries in this respect are wholesale and retail trade) and now recorded as HFCE	
341 040	Motor vehicles for the transport of goods About 30 per cent of total use (4,0 billion) is allocated to HFCE, other main uses are gross fixed capital formation (2,8 billion), exports (0,2 billion) and reduction in inventory (-0,3 billion)	1,2
501 002	Tax on existing passenger cars Exclusively allocated to HFCE (see description of other taxes on production)	0,9
61 512	Cycles and motor cycles Estimated from quantity data (new registrations of motor cycles) and price data (average prices of motor cycles), while HCS data, RTS and the CF method is used for bicycles. Distributed on 2 products.	1,2
Main product consumed:		
354 210	Bicycles and other cycles, not motorized Almost all of total use (0,9 billion) is allocated to HFCE, other use is exports (0,1 billion) and a small reduction in inventory	0,9
Operation of personal transport equipment		
61 521	Spare parts and accessories Estimated from HCS data, RTS and the CF method. Distributed on 11 products, 10 of which are small (below 0,5 billion).	2,7
Main product consumed:		
251 111	Rubber tyres and tubes for cars and bicycles About 70 per cent of total use (1,4 billion) is allocated to HFCE, other main uses are exports (0,3 billion) and intermediate consumption in various industries (0,1 billion)	1,0
61 522	Fuels and lubricants Estimated from quantity data (gasoline and auto diesel to households, obtained from energy accounts) and price data (CPI on gasoline and auto diesel), making an addition for foreigners, also using the CF method.	14,0

	Distributed on 5 products.	
Main product consumed:		
232 001	Gasoline (petrol) About 70 per cent of total use (19,2 billion) is allocated to HFCE, other main uses are intermediate consumption in most industries (3,8 billion), exports (2,7 billion) and reduction in inventory (0,9 billion)	13,5
61 523	Insurance of personal transport equipment Estimated from the CF method, i.e. output of car insurance services, while making a 1988 benchmark part for HFCE, extrapolated for later years as for output of insurance services.	1,0
Main product consumed:		
660 312	Car insurance About 50 per cent of total use (2,1 billion) is allocated to HFCE, other use is intermediate consumption for various industries (1,1 billion)	1,0
61 524	Maintenance and repairs Estimated from HCS data and the CF method. Distributed on 3 products.	3,1
Main products consumed:		
502 010	Maintenance and repair services of passenger motor cars About one-third of total use (8,9 billion) is allocated to HFCE, other main uses are intermediate consumption in various industries (5,9 billion)	3,0
61 525	Parking, turnpike money, car hire etc. Estimated from HCS data and the CF method. Distributed on 7 products.	2,4
Main products consumed:		
804 110	Driving school services More than 90 per cent of total use (0,9 billion) is allocated to HFCE, other main uses are intermediate consumption in some industries (0,1 billion)	0,8
632 122	Highway operation services Almost 60 per cent of total use (0,9 billion) is allocated to HFCE, other main uses are intermediate consumption in some industries	0,5

(0,4 billion)

Transport services

61 531 Local transport 4,9

Estimated from HCS data and the CF method, including various sources used for the output estimation (see description in output section). Distributed on 6 products.

Main products consumed:

602 123 Urban and suburban passenger transportation services 2,3

Almost 70 per cent of total use (3,3 billion) is allocated to HFCE, other main uses are local government consumption expenditure (0,9 billion, from market producers for school bussing) and intermediate consumption in the military and other industries (0,2 billion)

602 210 Taxi services and rental services of passenger cars with operator 0,9

About one-third of total use (2,7 billion) is allocated to HFCE, other main uses are central government consumption expenditure (0,7 billion, from market producers for health purposes) and intermediation consumption in various industries (1,1 billion)

611 011 Passenger transportation services in local inland water transport 0,5

About 90 per cent of total use (0,6 billion) is allocated to HFCE, other uses are intermediate consumption of tour operators etc. (0,1 billion)

61 532 Long-distance transport 4,4

Estimated from HCS data and the CF method, including various sources used for the output estimation (see description in output section). Distributed on 6 products.

Main products consumed:

621 010 Scheduled passenger transportation services by air 2,8

About 30 per cent of total use (9,8 billion) is allocated to HFCE, other main uses are exports (2,7 billion), intermediate consumption in tour operators etc.(0,3 billion), in the military (0,2 billion) and in other industries (3,8 billion)

601 010 Interurban passenger transportation services by railways 0,6

	More than 40 per cent of total use (1,5 billion) is allocated to HFCE, other main uses are exports (0,3 billion), intermediate consumption in the military (0,2 billion) and in other industries (0,4 billion)	
61 533	Removals and furniture storage Estimated from HCS data and the CF method. Distributed on 2 products.	0,0
61 534	Packaged tours Estimated from the CF method, i.e. output determines HFCE (output indicators are number of tourists on charter and CPI on package tours), while HCS data are used as supplementary source mostly confirming the yearly changes, while not the level (higher than in NNA). Occasionally, smoothing procedure has proved necessary. Distributed on 2 products.	4,3
Main product consumed:		
633 011	Tour operator services Estimated equal to total output and use (3,9 billion, see output description)	3,9

7. COICOP 7 LEISURE, ENTERTAINMENT AND CULTURE

Contents

3.124 In NNA, final consumption expenditure of households is specified by 16 items - 9 items of equipment and accessories, including repairs, 4 items of recreational and cultural services and 3 items of newspapers, books and stationary.

3.125 In NNA, household consumption expenditure of leisure, entertainment and culture is estimated at 28,9 billion kroner. It consists of goods in all three types of durability, and a considerable element of services (33 per cent).

		Household consumption expenditure 1990. Billion kroner				
		Non-durable goods	Semi-durable goods	Durable goods	Services	Total
61 610	Equipment and accessories, including repairs	3,7	3,5	6,0	0,3	13,5
61 620	Recreational and cultural services				9,1	9,1
61 630	Newspapers, books and stationary	4,7	1,6			6,3
	Total	8,4	5,1	6,0	9,4	28,9

3.126 Household consumption expenditure of leisure, entertainment and culture accounted for 8,6 per cent of total household final consumption expenditure (HFCE) in 1990. Its share of GDP was 4,0 per cent.

		1990. Percentage of: Total HFCE	GDP	
61 610	Equipment and accessories, including repairs		3,99	1,87
61 620	Recreational and cultural services	2,70	1,26	
61 630	Newspapers, books and stationary	1,86	0,87	
	Total	8,55	4,01	

3.127 The 1990 revision from FNA to NNA has increased household consumption expenditure of leisure, entertainment and culture from 28,2 to 28,9 billion kroner. The only definitional change to affect flows of household consumption expenditure is regrouping of educational materials to COICOP 8 Education.

		Billion kroner		Revision	
		FNA	NNA	Total	Definitional
61 610	Equipment and accessories, including repairs	13,8	13,5	-0,3	-
61 620	Recreational and cultural services	7,1	9,1	2,0	-
61 630	Newspapers, books and stationary	7,2	6,3	-0,9	- 0,9
	Total	28,2	28,9	0,7	- 0,9

Sources

3.128. Main sources used are:

- Annual household consumer surveys
- Annual retail trade statistics
- Sources used for output in areas of NACE 92

The sources used for estimating output of recreational, cultural and sporting activities (NACE 92) are described in the output section and 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.

Methods of estimation

3.129 Illustration by 1990 figures and summarized references to sources and methods follows by consumption groups and by main products within the respective groups.

Equipment and accessories, including repairs

		1990. Billion kroner
61 611	Equipment for the reception, recording and reproduction of sound and pictures	3,5
	Estimated from HCS data, RTS and the CF method. Distributed on 8 products.	
Main products consumed:		
323 020	Television receivers	1,5
	More than 85 per cent of total use (1,7 billion) is allocated to HFCE, other main uses are gross fixed	

	capital formation (0,1 billion) and change in inventory (0,1 billion)	
323 010	Radio broadcast receivers Virtually all of total use (0,8 billion) is allocated to HFCE, with a reduction in inventory (-0,2 billion), while also a small amount as gross fixed capital formation (0,1 billion)	0,9
61 612	Data processing equipment Estimated from HCS data, RTS and the CF method. Distributed on 3 products.	0,7
Main products consumed:		
300 210	Computing machinery and parts and accessories thereof Less than 5 per cent of total use (12,2 billion) is allocated to HFCE, the main uses are gross fixed capital formation (4,4 billion), exports (2,0 billion), intermediate consumption in various market industries (4,4 billion) and non-market industries (0,4 billion) and change in inventory (0,4 billion)	0,6
61 613	Photographic and cinematographic equipment, optical instruments Estimated from HCS data, RTS and the CF method. Distributed on 3 products, all of which are small.	0,3
61 614	Musical instruments, pleasure boats and other durable equipment for leisure and culture Estimated from HCS data, RTS and the CF method. Distributed on 9 products.	1,4
Main product consumed:		
351 210	Pleasure and sporting boats About 60 per cent of total use (1,3 billion) is allocated to HFCE, other main uses are exports (0,5 billion) and reduction in inventory (-0,1 billion)	0,8
61 615	Sports equipment etc. Estimated from HCS data, RTS and the CF method. Distributed on 8 products, all of which are small (below 0,5 billion).	1,0

61 616	Games and toys Estimated from HCS data, RTS and the CF method. Distributed on 6 products.	1,2
	Main product consumed:	
365 000	Games and toys About 80 per cent of total use (1,3 billion) is allocated to HFCE, other main uses are intermediate consumption in health and social work industries (0,2 billion) and change in inventory (0,1 billion)	1,0
61 617	Recording media for pictures and sound Estimated from HCS data, RTS and the CF method. Distributed on 7 products, all of which are small (below 0,5 billion).	1,3
61 618	Flowers and gardening Estimated from HCS data, RTS and the CF method. Distributed on 15 products.	3,7
	Main products consumed:	
011 221	Live plants About two-thirds of total use (2,5 billion) is allocated to HFCE, other main uses are intermediate consumption in various industries (0,7 billion) and change in inventory (0,1 billion)	1,7
011 222	Flowers About 40 per cent of total use (1,7 billion) is allocated to HFCE, other main uses are intermediate consumption in various industries (1,0 billion)	0,7
61 619	Repair of equipment and accessories for leisure and culture Estimated from HCS data and the CF method, in particular output of NNA-industry 527 (see also HFCE group 61 333). Distributed on 2 products.	0,3
Recreational and cultural services		
61 621	Cinemas, theatres, other entertainment etc. Estimated partly from HCS data and the CF method (see output section for sources behind output estimation). Distributed on 12 products.	2,2

Main products consumed:

926 000 Sporting services 0,6

About 20 per cent of total use (2,9 billion) is allocated to HFCE, including also a small amount to another HFCE group of COICOP 6 (61 624), other main uses are in particular NPISH consumption expenditure (2,1 billion) and also intermediate consumption in some non-market industries (0,1 billion)

923 300 Fair and amusement park services 0,5

All of total use (0,6 billion) is allocated to HFCE, main part to this group, while also to HFCE group of 61 624 (0,1 billion)

61 622 Broadcasting services 2,0

Estimated from HCS data and the CF method, in particular output of radio and television services (NNA-industry 922) and output of radio and television cable services (part of NNA-industry 642). Distributed on 2 products.

Main products consumed:

922 001 Radio and television services 1,5

More than 90 per cent of total use (1,6 billion) is allocated to HFCE, other use is intermediate consumption (0,1 billion)

642 030 Radio and television cable services 0,6

All of total output and use is allocated to HFCE

61 623 Lotteries, gambling etc. 3,2

Estimated from the CF method, in particular from the output estimates of NNA-industry 927 (see output section). Distributed on 3 products.

Main products consumed:

927 111 Pools betting services 1,0

All of total output and use is allocated to HFCE.

927 112 Lotto 0,9

All of total output and use is allocated to HFCE.

927 114 Other gambling services and lotteries 0,8

All of total output and use is allocated to HFCE.

61 624 Photographing and other recreational and cultural services 1,7

Estimated partly from HCS data, but mostly from the CF method. Distributed on 7 products.

Main products consumed:

714 010 Rental services concerning personal and household goods 0,7

All of total output and use is allocated to HFCE, to this group and two other HFCE groups (just small amounts)

748 120 Photographic services 0,6

About 50 per cent of total use (1,2 billion) is allocated to HFCE, other main use is intermediate consumption in two industries of business activities (0,6 billion)

Newspapers, books and stationary

61 631 Books 1,6

Estimated from HCS data, RTS (bookstores and stationery etc.) and the CF method. Distributed on 2 products.

Main product consumed:

221 110 Books 1,5

About one-third of total use (4,8 billion) is allocated to this HFCE group, other main uses are another HFCE group within education (0,7 billion), intermediate consumption in various market industries (0,9 billion) and non-market industries (1,4 billion, of which 0,7 billion in education), exports (0,1 billion) and change in inventory (0,1 billion)

61 632 Newspapers and miscellaneous printed matters 4,1

Estimated from HCS data, RTS and the CF method. Distributed on 4 products.

Main products consumed:

221 211 Newspapers 2,5

About 50 per cent of total use (4,8 billion) is allocated to HFCE, other main use is intermediate consumption (2,3 billion)

221 310 Journals and periodicals etc. 1,4

About 40 per cent of total use (3,7 billion) is allocated to HFCE, other main use is intermediate consumption (2,2 billion)

61 633	Stationery and drawing materials Estimated from HCS data, RTS and the CF method. Distributed on 4 products, all of which are small (below 0,5 billion).	0,6

8. COICOP 8 EDUCATION

Contents

3.130 In NNA, final consumption expenditure of households is specified by 5 items - 4 items of educational services and one item of educational materials. Ancillary educational services are not specified.

3.131 In NNA, household consumption expenditure of education is estimated at 2,0 billion kroner. The major part consists of services, but semi-durable goods (educational materials) are also important.

		Household consumption expenditure 1990. Billion kroner		
		Semi-durable goods	Services	Total
61 710	Educational services		1,1	1,1
61 720	Educational materials	0,9		0,9
	Total	0,9	1,1	2,0

3.132 Household consumption expenditure of education accounted for 0,6 per cent of total household final consumption expenditure (HFCE) in 1990. Its share of GDP was 0,3 per cent.

		1990. Percentage of: Total HFCE	GDP
61 710	Educational services	0,31	0,15
61 720	Educational materials	0,28	0,13
	Total	0,59	0,28

3.133 The 1990 revision from FNA to NNA has increased household consumption expenditure of education from 1,7 to 2,0 billion kroner. Definitional changes are confined to regrouping of educational materials.

		Billion kroner FNA	NNA	Revision Total	Definitional
61 710	Educational services	1,7	1,1	-0,6	-
61 720	Educational materials	..	0,9	0,9	0,9
	Total	1,7	2,0	0,3	0,9

Sources

3.134 Main sources used are:

- Annual household consumer surveys
- Annual retail trade statistics

Methods of estimation

3.135 Illustration by 1990 figures and summarized references to sources and methods follows by consumption groups and by main products within the respective groups.

Educational services

1990. Billion kroner

61 711	Pre-primary and primary education Estimated from the CF method, i.e. output from NNA-industry 800. Distributed on 2 products.	0,1
61 712	Secondary education Estimated from the CF method, i.e. output from NNA-industry 800. Distributed on 3 products.	0,1
61 713	Higher education Estimated from the CF method, i.e. output from NNA-industry 800. Distributed on 2 products.	0,6
	Main product consumed:	
803 010	Higher education services, non-government Virtually all of total output and use (0,6 billion) is allocated to HFCE	0,5
61 714	Adult education Estimated mainly from the CF method, i.e. output from NNA-industry 800. Distributed on 2 products.	0,3

Educational materials

61 721	Educational materials Estimated from HCS data, RTS and the CF method. Distributed on 5 products.	0,9
	Main product consumed:	
221 110	Books About 15 per cent of total use (4,8 billion) is allocated to this HFCE group, other main uses are the ordinary HFCE group on books (1,5 billion), intermediate consumption in various market industries (0,9 billion) and non-market industries (1,4 billion, of which 0,7 billion in education), exports (0,1 billion) and change in inventory (0,1 billion)	0,7

Ancillary educational services

Not estimated in NNA.

9. COICOP 9 HOTELS, CAFES AND RESTAURANTS

Contents

3.136 In NNA, final consumption expenditure of households for COICOP 9 is specified by 2 items - one item of restaurants, cafes etc. and one item of accommodation services.

3.137 In NNA, household consumption expenditure of hotels, cafes and restaurants is estimated at 16,9 billion kroner. It consists of services, exclusively.

		1990. Billion kroner	
		Services	Total
61 810	Restaurants, cafes etc. (catering)	13,3	13,3
61 820	Accommodation services	3,6	3,6
	Total	16,9	16,9

3.138 Household consumption expenditure of hotels, cafes and restaurants accounted for 5,0 per cent of total household final consumption expenditure (HFCE) in 1990. Its share of GDP was 2,3 per cent.

		1990. Percentage of:	
		Total HCE	GDP
61 810	Restaurants, cafes etc. (catering)	3,92	1,84
61 820	Accommodation services	1,06	0,50
	Total	4,98	2,33

3.139 The 1990 revision from FNA to NNA has increased household consumption expenditure of hotels, cafes and restaurants from 13,8 to 16,9 billion kroner. Definitional changes are insignificant, as the regrouping of catering units is mainly related to other uses than household consumption expenditure.

		Billion kroner		Revision	
		FNA	NNA	Total	Definitional
61 810	Restaurants, cafes etc. (catering)	11,3	13,3	2,0	-
61 820	Accommodation services	2,4	3,6	1,2	-
	Total	13,8	16,9	3,1	-

Sources

3.140 Main sources used are:

- Statistics from Statistics Norway's Business Register
- Statistics of business accounts for hotels and restaurants
- Household consumer surveys
- Accommodation statistics of guest-nights

Methods of estimation

3.141 Illustration by 1990 figures and summarized references to sources and methods follows by consumption groups and by main products within the respective groups.

Restaurants, cafes etc. (catering)

		1990. Billion kroner
61 811	Restaurants, cafes etc. Estimated from the CF method, i.e. output of NNA-industry 553 (see output description), but also utilizing HCS data. Distributed on 10 products, 7 of which are small and represent government fees.	13,3

Main products consumed:

553 000	Food serving services About 75 per cent of total use (13,7 billion) is allocated to HFCE, other main uses are intermediate consumption in various industries for representation (3,1 billion) and in the tour operator industry (0,2 billion)	10,5

555 000	Canteen and catering services About 50 per cent of total use (3,2 billion) is allocated to HFCE, other main uses are intermediate consumption in various industries for representation (0,5 billion), in the oil extraction industry (0,6 billion), and in air transport (0,1 billion) and exports (0,3 billion)	1,6
554 000	Beverage serving services All of total output and use is allocated to HFCE.	0,7

Accommodation services

61 821	Accommodation services Estimated from the CF method, i.e. output of NNA-industry 551 (see output description), but also utilizing HCS data. Distributed on 2 products.	3,6

Main products consumed:

551 000	Hotel services About 60 per cent of total output and use (4,8 billion) is allocated to HFCE, other main uses are intermediate consumption in various industries for representation (1,6 billion) and in the military and tour operator services (0,3 billion)	2,9
552 000	Other accommodation services All of total output and use is allocated to HFCE	0,7

10. COICOP 10 MISCELLANEOUS GOODS AND SERVICES

Contents

3.142 In NNA, final consumption expenditure of households is specified by 12 items - 3 items of personal care, 3 items of personal effects n.e.c., 2 items of communications, 2 items of social services, one item of financial services n.e.c. and one item of other services n.e.c. The communication items were grouped with transport in the former system. Part of social services was grouped with health in FNA.

3.143 In NNA, household consumption expenditure of miscellaneous goods and services is estimated at 27,7 billion kroner. The major part consists of services (77 per cent in 1990), but consists also of all three types of goods.

		Household consumption expenditure 1990. Billion kroner				
		Non-durable goods	Semi-durable goods	Durable goods	Services	Total
61 910	Personal care	4,0		0,2	3,7	7,9
61 920	Personal effects n.e.c.		1,6	0,6		2,2
61 930	Communications				7,0	7,0
61 940	Social services				5,5	5,5
61 950	Financial services n.e.c.				3,9	3,9
61 960	Other services n.e.c.				1,3	1,3
	Total	4,0	1,6	0,8	21,4	27,7

3.144 Household consumption expenditure of miscellaneous goods and services accounted for 8,2 per cent of total household final consumption expenditure (HFCE) in 1990. Its share of GDP was 3,8 per cent.

		1990. Percentage of: Total HFCE	GDP
61 910	Personal care	2,32	1,09
61 920	Personal effects n.e.c.	0,66	0,31
61 930	Communications	2,06	0,96
61 940	Social services	1,63	0,76
61 950	Financial services n.e.c.	1,15	0,54
61 960	Other services n.e.c.	0,38	0,18
	Total	8,20	3,84

3.145 The 1990 revision from FNA to NNA has reduced household consumption expenditure of miscellaneous goods and services from 32,0 to 27,7 billion kroner. Definitional changes are almost non-existent for HFCE flows, except regrouping one item from health.

		Billion kroner FNA	NNA	Revision Total	Definitional
61 910	Personal care	7,2	7,9	0,7	-
61 920	Personal effects n.e.c.	5,1	2,2	-2,9	-
61 930	Communications	6,9	7,0	0,1	-
61 940	Social services	..	5,5	5,5	1,1
61 950	Financial services n.e.c.	3,7	3,9	0,2	-
61 960	Other services n.e.c.	8,9	1,3	-7,6	-
	Total	32,0	27,7	-4,3	1,1

Sources

3.146 Main sources used are:

- Annual retail trade statistics
- Annual household consumer surveys
- Local government accounts
- Social statistics and health statistics

Methods of estimation

3.147 Illustration by 1990 figures and summarized references to sources and methods follows by consumption groups and by main products within the respective groups.

Personal care

1990. Billion kroner

61 911 Hairdressing and beauty treatment 3,7

Estimated from the CF method, i.e. output of NNA-industry 930 (see output description), while HCS was used for the 1988 benchmark and later as supplementary source (for comparison). Distributed on 2 products.

Main product consumed:

930 220 Hairdressing and other beauty treatment services 3,4

All of total output and use is allocated to HFCE

61 912 Electric appliances for personal care 0,2

Estimated from HCS data, RTS and the CF method.

61 913 Cosmetic articles, toothpaste, soap etc. 4,0

Estimated from HCS data, RTS and the CF method. Distributed on 8 products.

Main products consumed:

245 210 Perfumes and toilet preparations 2,3

Almost 85 per cent of total use (2,8 billion) is allocated to HFCE, other main uses are intermediate consumption in other service production (0,3 billion) and change in inventory (0,1 billion)

212 211 Toilet paper, handkerchiefs, cleaning tissues etc. 1,2

About 75 per cent of total use (1,5 billion) is allocated to HFCE, other main uses are intermediate consumption in various industries (0,3 billion) and exports (0,1 billion)

Personal effects n.e.c.

61 921	Jewellery, clocks and watches Estimated from HCS data, RTS and the CF method. Distributed on 4 products, all of which are small (below 0,5 billion).	1,0
61 922	Travel goods, umbrellas etc. Estimated from HCS data, RTS and the CF method. Distributed on 2 products.	0,6
	Main product consumed:	
192 012	Luggage, handbags etc. About 50 per cent of total use (1,0 billion) is allocated to this HFCE group and another 20 per cent to HFCE group on education materials, and intermediate consumption in various industries (0,3 billion)	0,5
61 923	Other personal effects Estimated from HCS data, RTS and the CF method. Distributed on 9 products, all of which are small (below 0,5 billion).	0,6
Communications		
61 931	Postal services Estimated from HCS data and the CF method, particularly from output of NNA-industry 641.	0,4
61 932	Telephone and telegraph Estimated from HCS data and the CF method, particularly from output of NNA-industry 642. Distributed on 2 products.	6,6
	Main product consumed:	
642 011	Public telephone services About 50 per cent of total use (13,2 billion) is allocated to HFCE, other main uses are intermediate consumption in various industries (6,1 billion) and exports (0,4 billion)	6,6
Social services		

61 941 Social services in institutions 2,5

Estimated from the CF method, i.e. output of NNA-industries 853 and 854 (see output description). Social statistics play a central role, also government accounts data. Distributed on 4 products.

Main products consumed:

854 090 Social work services with accommodation, fees to local government 1,9

All of total output and use (2,3 billion) is allocated to HFCE, about 80 per cent to this HFCE group, while the remaining to HFCE groups of gross rents (0,2 billion, actual rents by tenants) and social work services without accommodation (0,2 billion)

854 010 Social work services with accommodation, in non-government institutions 0,5

About 15 per cent of total output and use (3,2 billion) is allocated to HFCE, other main use is NPISH consumption expenditure (2,7 billion)

61 942 Social services outside institutions 3,0

Estimated from the CF method, i.e. output of NNA-industries 853 and 854 (see output description). Statistics on child day-care services play a central role, also government accounts data. Distributed on 4 products.

Main products consumed:

853 291 Child day-care services, fees to local government 1,1

All of total output and use is allocated to HFCE

853 211 Child day-care services, in non-government institutions 0,9

About 50 per cent of total output and use (1,8 billion) is allocated to HFCE, other main use is local government consumption expenditure (0,9 billion) purchased from market producers

Financial services n.e.c

61 951 Financial services 3,9

Estimated from the CF method, i.e. output of NNA-industries for services from banks and from insurance. Direct charges to households from banks estimated as a 1988 benchmark, extrapolated as output for later years (see output description). Distributed on 5 products.

Main products consumed:		
660 110	Life insurance services Virtually all of total output and use is allocated to HFCE (besides, small amount of exports)	2,3
651 212	Other monetary intermediation services, direct charges Less than 20 per cent of total output and use (7,3 billion) is allocated to HFCE, other main uses are intermediate consumption in various industries (5,4 billion) and exports (0,6 billion)	1,3
Other services n.e.c		
61 961	Legal, business and other personal services Estimated from the CF method, i.e. output from various NNA-industries (see output description). Distributed on 9 products, all of which are small (below 0,5 billion).	1,3

11. HOUSEHOLD CONSUMPTION - SUMMARY

Structure of household consumption expenditure

3.148 The NNA as well as FNA structure of household consumption expenditure as of COICOP 1-10 is summarized in the following table.

COICOP main groups		1990. Billion kroner		1990 GDP shares	
		FNA	NNA	FNA	NNA
1	Food, beverages and tobacco	84,9	74,8	12,9	10,4
2	Clothing and footwear	23,0	22,7	3,5	3,1
3	Housing, water, electricity, gas and other fuels	64,3	81,7	9,7	11,3
4	Furnishings, household equipment and routine maintenance of the house	23,3	21,4	3,5	3,0
5	Health	15,8	8,2	2,4	1,1
6	Transport	37,0	50,2	5,6	7,0
7	Leisure, entertainment and culture	28,2	28,9	4,3	4,0
8	Education	1,7	2,0	0,3	0,3
9	Hotels, cafes and restaurants	13,8	16,9	2,1	2,3
10	Miscellaneous goods and services	32,0	27,7	4,8	3,8
Sub-total		324,0	334,5	49,0	46,3
Correction items:					
	Direct purchases abroad by resident households	22,5	13,9	3,4	1,9
	Direct purchases in Norway by non-resident households	-10,5	-10,2	- 1,6	- 1,4
Total HFCE		336,1	338,2	50,9	46,8

3.149 The structure of household consumption expenditure has changed considerably as a result of the revision. Measured by GDP shares, the largest group in FNA - food, beverages and tobacco - has reduced its share by 2,5 percentage points. The groups of health and miscellaneous goods and services have also reduced their GDP shares considerably (1,3 and 1,0 percentage point, respectively), in both cases mainly from definitional changes. On the other hand, the group of housing, water, electricity, gas and other fuels has increased its GDP share by 1,6 percentage points and become the largest COICOP main group in NNA. Transport has also increased its share much by 1,4 percentage points.

3.150 While COICOP main groups 1-10 in total has been reduced by 2,7 GDP percentage points from 49,0 in FNA to 46,3 in NNA, the downward revision for total HFCE is even higher by 4,1 percentage points, down from 50,9 per cent of GDP in FNA to just 46,8 per cent in NNA. This enlarged effect is explained by the correction items (see below). Total 1990 revision for HFCE in current value is up by moderate 2,1 billion kroner.

Correction items

3.151 COICOP main groups 1-10 in NNA is still a continuation of the FNA practice, in which the COICOP groups cover all recorded household consumption expenditure in the country, by resident as well as non-resident households. For instance, food consumption is not just the domestic food consumption of the resident household, what is now the intention of this item in ESA 1995. The exceeding part of food consumption - and all other consumption by non-resident households in Norway - is to be deducted in the correction item direct purchases in Norway by non-resident households. The split of the two parts - for resident and non-resident households - at the detailed item level is to be implemented within the next few years. In achieving this goal, the Norwegian satellite accounts on tourism would be utilized as they are compiled closely with the current national accounts.

3.152 The item of direct purchases abroad by resident households mirrors the other correction item as Norwegian households may be regarded as non-resident households making direct purchases in a great number of countries abroad. This item adds to the national concept of household consumption expenditure. It may be somewhat more difficult to allocate its total value to the detailed groups, although ESA 1995 seems to require this split as well.

3.153 Direct purchases abroad by resident households have been revised quite dramatically, from 22,5 to 13,9 billion kroner in 1990. The reason behind this downward revision is two-fold, a new classification of the HFCE part that specify package tours as a separate item under COICOP 6 Transport, but also allocation to intermediate consumption for a great part of the direct purchases abroad that relates to business expenses of a similar kind to hose of the tourists which are still the bulk of the HFCE correction item.

3.154 Direct purchases in Norway by non-resident households, on the contrary, have not been much affected by the revision.

3.155 The sources behind the two correction items are the foreign exchange statistics compiled by the Bank of Norway, with supplementary information on the split into a household and business part for direct purchases by Norwegian abroad. (see also the section on imports of services). The two correction items are to be deleted when the ESA 1995 treatment is implemented. At that juncture, the household consumer survey data would have an even more direct use than applied with today's treatment.

Type of revision

3.158 In describing the revision from FNA to NNA, a distinction between definitional changes and other changes is aimed at. For the HFCE part of the chapter III area, the following table should indicate and illustrate the distribution between these two categories of revision.

COICOP main groups		HFCE revision. 1990. Billion kroner		
		Total	Definitional	Other
1	Food, beverages and tobacco	- 10,1	-	- 10,1
2	Clothing and footwear	- 0,3	-	- 0,3
3	Housing, water, electricity, gas and other fuels	17,4	-	17,4
4	Furnishings, household equipment and routine maintenance of the house	- 1,9	-	- 1,9
5	Health	- 7,6	- 9,6	2,0
6	Transport	13,2	1,9	11,3
7	Leisure, entertainment and culture	0,7	- 0,9	1,6
8	Education	0,3	0,9	- 0,6
9	Hotels, cafes and restaurants	3,1	-	3,1
10	Miscellaneous goods and services	- 4,3	1,1	- 5,4
Sub-total		10,5	- 6,6	17,1
Correction items:				
	Direct purchases abroad by resident households	- 8,6	- 1,9	- 6,7
	Direct purchases in Norway by non-resident households	0,3	-	0,3
Total HFCE		2,1	- 8,5	10,7

3.159 While definitional changes have contributed to a small increase in GDP by 1 per cent, their effect on household final consumption expenditure is in the opposite direction, estimated at 8,5 billion kroner in 1990, which is down by 2,5 per cent from HFCE in FNA. This is in line with the output results which showed a 14 billion decrease from definitional changes. It means the definitional changes for HFCE is somewhat more than half of the definitional changes for total output. The two main elements of downward definitional revision in HFCE is for health and direct purchases abroad, partly matched by a upward definitional revision for transport (see above).

Type of sources used

3.160 For each of the some 110 consumption groups, the main sources used have been indicated in their summarized introduction above. It is seen that three basic elements describe the main situation as sources are concerned, by the use of:

(1)	Household consumer surveys
(2)	Retail trade statistics
(3)	Output figures and the commodity flow method

Elements (1) and (3) work for the services in general, while all three elements in general work for the goods' part. In the latter case, element (3) does not apply in the same direct way for goods as for services, due to the occurrence of trade margins and different valuations.

3.161 For the goods, the interplay between elements (1) and (2) in particular might be described as follows:

Step 1	Household consumer survey data are utilized for detailed groups, while relevant totals are related to retail trade statistics for combinations of HFCE totals and NACE branch totals
Step 2	Other sources might be preferred for certain specific HFCE groups
Step 3	Adjustment is made to secure same growth rate for totals as recorded in NACE branches of retail trade statistics
Step 4	Adjustments to detailed HFCE groups are determined from considerations to either development in household survey data or to the commodity flow method (element 3) and direct use of household survey data.

3.162 As an example related to the COICOP 1 estimation, the first two steps might be illustrated like this (while steps three and four follow accordingly):

Step 1	Framework total is determined to include food, beverages, tobacco, non-durables of HFCE groups 61 361 and 61 362 and part of 61913, developed in accordance with the branch turnover data for food and groceries etc.of the retail trade statistics, while household consumer survey data are utilized at the detailed HFCE group level in the first place
Step 2	HFCE groups of some beverages and tobacco are developed by indicators of quantity data and CPI prices, while HFCE groups for wines and spirits developed by sales data from the State Wine Monopoly

3.163 Included as a central part of the HFCE description, there are illustrations of the main categories of uses for each of the main products consumed (those exceeding 0,5 billion in 1990). In total, there were 119 main products consumed by households as defined by this size. Indirectly, this presentation indicates which types of sources that have been exploited.

3.164 The product illustration just referred to is another way of illustrating the Norwegian approach to a detailed treatment of product flows on the way to become 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, in particular:

- detailed descriptions and illustrations of the compilation of NNA estimates according to the output approach and to the expenditure approach, and also of the income approach to some account
- separate sections in chapter III on the commodity flow method and valuation
- section on government final consumption expenditure in chapter III, describing how this concept is measured on the basis of output and other items
- section on household final consumption expenditure in chapter III, illustrating the distribution on the various use categories for the most important products consumed by households (referred to in preceding paragraph)
- illustrative supply and use tables in chapter V

Household actual final consumption

3.165 The new concept of household actual final consumption has been introduced and estimated in NNA. Illustrated by 1990 figures, the compilation contains the following elements:

	1990. Billion kroner
Total household final consumption expenditure	338,2
Total NPISH final consumption expenditure	18,9
Government individual consumption expenditure	93,0
= Household actual consumption expenditure	450,1

3.166 Household actual final consumption constitute the total acquisitions of consumption goods and services by the households regardless source of financing (who pays). This concept is higher than HFCE as there are several contributors:

	1990. Billion kroner	Percentages
From households themselves, i.e. HFCE	338,2	75,1
From local government, i.e. their individual-related part	74,5	16,6
From NPISH, i.e. total NPISH consumption expenditure	18,9	4,2
From central government, i.e. their individual-related part	18,5	4,1
Total	450,1	100,0

In 1990, households own expenditures covered 75 per cent of household actual final consumption, while local government was the major contributor outside households by nearly 17 per cent, or one-sixth of household actual consumption.

3.167 Central government consumption expenditure and local government consumption expenditure are both split into one individual-related part and one collective part, of which the former part (individual consumption expenditure) is allocated to household actual final consumption. This split is done by utilizing the COFOG breakdown. The following elements are conveyed to the individual part (see section on government consumption expenditure above):

		1990. Billion kroner
Central government		
COFOG 4	Education affairs and services	7,7
COFOG 5	Health affairs and services	8,4
COFOG 6	Social security and welfare affairs and services	2,4
Sub-total, central government		18,5
Local government		

COFOG 4	Education affairs and services	27,7
COFOG 5	Health affairs and services	31,4
COFOG 6	Social security and welfare affairs and services	11,6
COFOG 8	Recreational and cultural affairs and services	3,8
Sub-total, local government		74,5

3.168 Household actual final consumption of important areas such as education and health is composed by all four contributors mentioned. This is illustrated by 1990 figures:

	1990. Billion kroner	Percentages
Education	38,0	100,0
Local government	27,7	72,9
Central government	7,7	20,3
Households	2,0	5,3
NPISH	0,6	1,6
Health	51,1	100,0
Local government	31,4	61,5
Central government	8,4	16,4
Households	8,2	16,0
NPISH	3,1	6,1

Local government is the largest contributor to household actual final consumption in both education and health, about 73 per cent in the case of education and 61,5 per cent in the case of health in 1990. Households own expenditures covered just about 5 per cent of their actual consumption of education services, while about one-sixth or 16 per cent of their health services.

G. GROSS FIXED CAPITAL FORMATION BY TYPE OF ASSETS

Gross fixed capital formation (GFCF) in NNA is broken down by type of assets as well as by kind of activities, in practice cross-classified. The latter breakdown is regarded as the principal one, closest to sources in most cases. There are 57 types of fixed assets specified in NNA, grouped in 7 main categories. In Norway, other structures are the largest of these main categories by 47,6 billion kroner in 1990, followed by other machinery and equipment at 33,5 billion, while dwellings, non-residential buildings and transport equipment are somewhat smaller in size, from approximately 25 to 20 billion. The other two main categories - intangible fixed assets and cultivated assets - are much smaller. In Norway, intangible fixed assets are dominated by mineral exploration (oil exploration). The method of estimation is first directed at the use of industry-related sources and the expenditure approach, while the commodity flow approach take a substantive role in next phases. Aggregated products designed at level of the 57 fixed assets are balanced for the supply and use tables, and subsequently cross-classified by ordinary NNA-products.

Introduction

3.169 Gross fixed capital formation (GFCF) has two main dimensions in terms of breakdowns, one by category or type of assets, and one by kind of activities. In practice, they are cross-classified, for each kind of activity there is a breakdown by type of assets. In the estimation, access to GFCF data are more easily approached by kind of activities than by type of assets, although there is an interaction between the two. Both dimensions are described below. An overview is first given by type of assets, while details by industries follow in the second part.

3.170 The way GFCF data are organized in NNA illustrates the importance given to the breakdown by kind of activities. The activity of capital formation is actually of the same standing as the activity of production, specifying more or less the same number of industries in both instances. 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

3.171 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, i.e. by 5 different types:

	No. NNA-industries	Type of investors	Corresponding types and numbers of producers	
82 ...	1	Own final use	22 ...	6
83 ...	140	Market	23 ...	142
84 ...	14	Non-market of central government	24 ...	14
85 ...	8	Non-market of local government	25 ...	9
86 ...	7	Non-market of NPISHs	26 ...	7

It is seen that the number of NNA-industries comes close to the corresponding number of NNA-industries used for production (output, intermediate consumption etc.). 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 (apart from some industries that might have no activity in Norway). For non-market producers / investors, the one difference is construction in local government which is grouped with market in terms of GFCF.

3.172 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 are given in section III.A on classification schemes for the expenditure approach estimation of GDP. Altogether, 57 types of assets are specified, grouped in 7 main categories.

3.173 Illustration by 1990 figures of the GFCF by types of fixed assets follows:

		1990. Billion kroner
1	Dwellings	25,4
111	Detached houses, houses with two dwelling units, row-houses and terraced houses	10,6
112	Multi-dwelling houses (10 or more dwelling units)	5,9
118	Own-account construction on dwellings	8,3
119	Holiday homes	0,6

2	Non-residential buildings	24,1	
210	Non-residential buildings in agriculture	1,2	
218	Own-account construction on non-residential buildings in agriculture	0,5	
220	Office and commercial buildings	11,6	
230	Schools and other buildings for education	2,4	
240	Hospitals and other buildings for health services	3,3	
250	Buildings for manufacturing industries	2,8	
258	Own-account construction on buildings for manufacturing industries	0,1	
260	Hotels and restaurants	1,0	
268	Own-account construction on hotels and restaurants	0,0	
270	Other non-residential buildings	1,2	
3	Other structures	47,6	
301	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	0,3	
318	Own-account construction on railways	0,0	
321	Power supply transmission lines	0,8	
322	Other power supply construction	0,9	
328	Own-account construction on power supply construction	1,1	
330	Other civil engineering works	7,6	
338	Own-account construction on other civil engineering works	0,4	
340	Public roads and streets including bridges	6,0	
370	Construction work for oil and gas extraction	3,7	
378	Own-account construction for oil and gas extraction construction work	0,1	
380	Oil production platforms and oil drilling rigs and modules	22,1	-0,5
388	Own-account construction on oil rigs and modules	1,8	
390	Pipelines for oil and gas	2,8	
398	Own-account construction for oil and gas pipelines	0,1	
4	Transport equipment	19,4	
410	Ships and boats	17,2	-7,0
420	Aircraft and helicopters	5,3	-2,5
431	Passenger cars and station wagons	4,1	-2,9
432	Buses	0,8	
433	Vans and lorries and special purpose vehicles	3,8	
434	Passenger cars for occupational hire	0,3	
440	Locomotives and rolling stock	0,3	

5	Other machinery and equipment	33,5	
510	Agricultural and forestry machinery and equipment	2,3	
518	Own-account construction on agricultural and forestry machinery and equipment	0,1	
520	Machinery and equipment in manufacturing, mining and quarrying	6,6	
528	Own-account construction on machinery and equipment in manufacturing, mining and quarrying	0,3	
530	Machinery and equipment in electricity plants and gas works	1,5	
538	Own-account construction on machinery and equipment in electricity plants and gas works	0,8	
540	Machinery and equipment in construction	0,4	
550	Machinery and equipment in other industries	10,1	
558	Own-account construction on machinery and equipment in other industries	0,0	
560	Computers and office equipment	9,2	
570	Telecommunication equipment	1,2	
578	Own-account construction on telecommunication equipment	1,1	
580	Equipment for welfare purposes	0,1	
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	6,2	
710	Mineral exploration	4,7	-0,0
718	Own-account construction on mineral exploration	0,2	
740	Computer software	1,2	

3.174 In the illustration table, for some types of assets a double set of amounts are listed. The first amount is the acquisition value, while the second amount is net sales (negative values) of existing fixed assets. For all items, the negative value of GFCF is counterbalanced by a corresponding positive value for other final uses, i.e. household consumption expenditure in the case of passenger cars and station wagons, and exports for all other items. Exports of existing fixed assets are particularly important for ships, and also to some extent for aircraft.

3.175 In the second stage, the aggregated products of fixed asset types are balanced for the use and supply 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 and investment levy are separately calculated and identified. An example might clarify this:

		1990. Billion kroner
From the use side:		
112	Multi-dwelling houses (10 or more dwelling units)	5,9
To the supply side:		
112	Multi-dwelling houses (10 or more dwelling units)	5,9
	Multi-dwelling houses in basic price	4,9
	VAT on multi-dwelling houses	1,0

3.176 In the third stage, each of the components of aggregated products (types of assets) - i.e. basic price, VAT or investment levy - are cross-classified by ordinary NNA-products. For VAT and investment levy 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 16 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 60 NNA-products (characteristic products of various manufacturing industries).

Sources

3.177 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.

Methods of estimation

3.178 In practical work, the estimation of GFCF is an interplay between various approaches and methods. One main question is whether independent estimates are made for the main GFCF totals in accordance with the expenditure approach, and to which extent they have to be combined with the commodity approach. There is no question that the commodity flow method has a role to play in the context of the second and third stages referred to above. The main question rests with the first stage. It is fair to say to in most cases - reflecting the long-established use of industry-related sources in the national accounts compilation for production and capital formation activities - direct estimation following the expenditure approach is the main national practice in this context. As will be revealed in the second part, there are certain

industries - in particular among the service industries - where industry-based information is not as accessible for GFCF as for output and possibly intermediate consumption.

3.179 The two main sources being an alternative to expenditure-based information obtained from the various investors (industries) are:

- construction statistics
- external trade statistics on imports of fixed assets

3.180 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, same works for the overall estimation of l 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. The following main types of fixed assets, however, seem to be dependent upon construction statistics in a vital way in their estimation:

- dwellings
- office and commercial buildings

3.181 Fixed assets for which GFCF is approached from the external trade statistics, include those items which are mainly imported:

- ships and boats
- aircraft and helicopters
- passenger cars and station wagons

For ships and boats , and for aircraft and helicopters, just a few industries are involved. Industry-based information is however relatively poor in spite of this, and the GFCF estimation is therefore relied upon utilization of imports data from the external trade statistics. 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 in which these are invested.

3.182 Typical examples of fixed assets that are exposed to GFCF elements of both kinds - i.e. industry-related information and other non-industry-related information like imports statistics and construction statistics - include some of the larger items:

- other non-residential buildings
- other civil engineering works
- machinery and equipment in other equipment
- computers and office equipment

For these fixed assets, in particular, the commodity flow method is playing a decisive role even in the first stage of the GFCF estimation.

H. GROSS FIXED CAPITAL FORMATION BY KIND OF ACTIVITIES

Gross fixed capital formation (GFCF) amounts to 156,2 billion kroner or 21,6 per cent of GDP in 1990. The 1990 revision from FNA to NNA has increased the GDP share substantially from 18,8 per cent. GFCF contributes by 32,1 billion to the 61,5 billion increase in 1990 GDP. By kind of activities, the largest increases occurred in oil and gas extraction activities and in public administration and defence by 13,8 and 12,6 billion kroner respectively, and due to definitional changes. In the first case, it was caused by introducing accruals based valuation treatment, in the latter case by treating part of military expenditures as GFCF and by regrouping road maintenance activities. The latter regrouping has caused a significant decrease in GFCF for the main industry group of transport. In several other main industry groups - such as agriculture, manufacturing, electricity etc., construction, financial intermediation and education - the GFCF revision was quite small. More substantive increase occurred in wholesale and retail trade (6,5 billion) and in real estate, renting and business activities (4,5 billion). Sources are much weaker than for output in some industry groups, while sources are the same in others. Particular weak source basis is found for wholesale and retail trade and other parts of market service industries.

1. AGRICULTURE, HUNTING AND FORESTRY - NACE A

Contents

3.183 In NNA, the investment activities of NACE A are distinguished in 2 industries, one for agriculture and one for forestry and logging. Compared with the production activities of NACE A, investments in 014 Agricultural and husbandry services activities and 015 Hunting, trapping and game propagation are assumed to be non-existent or included in 010 Agriculture. The same applies to agricultural production for own consumption. Two items by kind of activity - i.e. agriculture, forestry and logging - were specified in FNA as well.

3.184 In NNA, gross fixed capital formation (GFCF) of these industries is estimated at 4,9 billion kroner in 1990. In agriculture, most important types of fixed assets are non-residential buildings and machinery and equipment, while other structures are most important in forestry and logging.

		GFCF 1990. Billion kroner			
		Other buildings and structures	Machinery and equipment	Cultivated assets	Total
01	Agriculture	1,9	2,5	-0,0	4,3
02	Forestry and logging	0,4	0,1		0,6
	Total	2,3	2,6	-0,0	4,9

3.185 Gross fixed capital formation of agriculture and forestry accounted for 3,1 per cent of total gross fixed capital formation in 1990. Its share of GDP was 0,7 per cent.

		1990. Percentage of:	
		Total GFCF	GDP
01	Agriculture	2,77	0,60
02	Forestry and logging	0,37	0,08
	Total	3,14	0,68

3.186 The 1990 revision from FNA to NNA has increased GFCF in these industries from 4,2 to 4,9 billion kroner. Just an insignificant part is caused by definitional changes. Non-residential buildings are revised upwards since the 1989 Agricultural Census, in particular, has been incorporated into the main source of the BCA Aggregate account.

		Billion kroner		Revision	
		FNA	NNA	Total	Definitional
01	Agriculture	3,6	4,3	0,7	0,0
02	Forestry and logging	0,6	0,6	0,0	
	Total	4,2	4,9	0,7	

Sources

3.187 Main sources are:

-	Aggregate account of agriculture, compiled by the Budgeting Committee for Agriculture
-	Forestry statistics and aggregate account of forestry, compiled by Statistics Norway

3.188 Aggregate account of agriculture - as for estimating 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.12	Income from transport
Tab.13	Own-account construction
Tab.25	Gross fixed capital formation

3.189 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. For further reference, see output section above.

Methods of estimation

Agriculture

3.190 The aggregate account of agriculture, compiled by the Budgeting Committee for Agriculture is used to estimate gross fixed capital formation in agriculture. Addition is made to account for the reindeer industry, and special calculations are made for GFCF in transport equipment and for plantations of trees. Illustration by 1990 figures and summarized references to sources and methods follows by type of assets:

		1990. Billion kroner
Other buildings and structures		
008 210	Non-residential buildings in agriculture Tab.25 item, plus minor item for reindeer industry investment, less own-account construction (separate item below)	1,2
008 218	Non-residential buildings in agriculture, own-account construction Tab.12 and 13 items (= output 014 002 + output 070 003)	0,5
008 301	Land improvement in agriculture and forestry	0,1

	Tab.25, 5 items, less tab.12 and 13 items	
008 308	Land improvement in agriculture and forestry, own-account construction	0,1
	Tab.12 and 13 items, plus part of government fees	
Machinery and equipment		
008 433	Lorries, vans, special purpose vehicles etc.	0,3
	Special calculations for motor vehicles, addition for reindeer industry (snow scooters)	
008 510	Agricultural and forestry machinery and equipment	2,2
	Tab.25 item, addition for reindeer industry, less own-account construction (separate item below)	
008 518	Agricultural and forestry machinery and equipment, own-account construction	0,1
	Tab.13 item (= output 070 002)	
Cultivated assets		
008 610	Livestock for breeding, dairy, draught etc.	-0,0
	Tab.14 and 32 items (= output 060 001)	
008 650	Plantations of trees	-0,0
	Special calculation (= output 060 006)	
Total GFCF		4,3

3.191 The GFCF estimates of NNA 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 and adding to less than 100 million kroner (68 million in 1988).

Forestry and logging

3.192. The NNA estimation of GFCF is based on information given in the annual forestry statistics publication, including items of the Aggregate account of forestry.

3.193 Illustration by 1990 figures follows by type of assets. Items are relatively small and need not be further cross-referenced in terms of sources and methods.

		1990. Billion kroner
Other buildings and structures		
008 210	Non-residential buildings in agriculture	0,0
008 301	Land improvement in agriculture and forestry	0,0
008 308	Land improvement in agriculture and forestry, own-account construction	0,1
008 330	Other structures	0,2
008 338	Other structures, own-account construction	0,0
Machinery and equipment		
008 433	Lorries, vans, special purpose vehicles etc.	0,0
008 510	Agricultural and forestry machinery and equipment	0,1
Total GFCF		0,6

2. FISHING - NACE B

Contents

3.194 In NNA, the investment activities of NACE B are distinguished in 2 industries, one for fishing proper and one for fish farming. Compared with the production activities of NACE B, no investment is specified for fishing activity for own consumption. Two items by kind of activity - i.e. fishing and fish farming - were specified in FNA as well.

3.195 In NNA, gross fixed capital formation (GFCF) of these industries is estimated at 1,0 billion kroner in 1990. In fishing, most important type of fixed assets are fishing boats (part of ships and boats), while no particular type of assets is the more dominant one in fish farming.

		GFCF 1990. Billion kroner			
		Other buildings and structures	Machinery and equipment	Existing assets	Total
051	Fishing	-	0,9	-0,3	0,7
052	Fish farming	0,2	0,2		0,3
	Total	0,2	1,1	-0,3	1,0

3.196 Gross fixed capital formation of fishing and fish farming accounted for 0,6 per cent of total gross fixed capital formation in 1990. Its share of GDP was 0,1 per cent.

		1990. Percentage of:	
		Total GFCF	GDP
051	Fishing	0,43	0,09
052	Fish farming	0,21	0,05
	Total	0,64	0,14

3.197 The 1990 revision from FNA to NNA has kept GFCF in these industries at the same level of 1,0 billion kroner. No definitional changes have occurred.

		Billion kroner		Revision	
		FNA	NNA	Total	Definitional
05	Fishing, incl. fish farming	1,0	1,0	-	-

Sources

3.198 Main sources are:

- Annual manufacturing statistics
- Annual census data of fish farming

3.199 The 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 cover investments as well (see output section above).

Methods of estimation

3.200 The estimation of fishing boat investments is 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. Investments in other types of assets (minor amounts) are more or less kept as in FNA. Annual census data are used in estimating GFCF in fish farming. Illustration by 1990 figures and summarized references to sources and methods follows by type of assets:

		1990. Billion kroner
Other buildings and structures		
008 270	Other non-residential buildings Item in annual census of fish farming	0,1
008 330	Other structures Item in annual census of fish farming	0,1
Machinery and equipment		
008 410	Ships and boats Commodity flows of manufacturing and external trade statistics, and item in annual census of fish farming	0,9
008 433	Lorries, vans, special purpose vehicles etc. Item in annual census of fish farming	0,0
008 550	Machinery and equipment for other activities FNA-based estimate for fishing, and item in annual census of fish farming	0,2
008 558	Machinery and equipment for other activities, own-account construction FNA-based estimate for fishing	0,0
Existing assets		
009 412	Sale of existing fishing boats FNA-based estimate	-0,3
Total GFCF		1,0

3. MINING AND QUARRYING - NACE C IN PARTICULAR: EXTRACTION OF CRUDE PETROLEUM AND NATURAL GAS

Contents

3.201 In NNA, the investment activities of NACE C are distinguished in 5 industries. These are the same industries as specified for the production activities of NACE C. Mining of uranium and thorium is non-existing in Norway.

3.202 In NNA, gross fixed capital formation (GFCF) of these industries is estimated at 33,2 billion kroner in 1990, of which 32,8 billion in the two oil and gas extraction industries. In oil and gas extraction, most investments are other structures which are specified in several items. Intangible fixed assets are also significantly represented, i.e. mineral exploration.

		GFCF 1990. Billion kroner				
		Other buildings and structures	Machinery and equipment	Existing assets	Intangible fixed assets	Total
100	Mining of coal and lignite; extraction of peat	0,0	0,0			0,0
111	Extraction of crude petroleum and natural gas	24,0	0,3	-0,1	5,0	29,1
112	Service activities incidental to oil and gas extraction	4,1	0,1	-0,4		3,7
130	Mining of metal ores	0,0	0,1	-0,0		0,1
140	Other mining and quarrying	0,1	0,2	-0,0		0,2
	Total	28,2	0,7	-0,6	5,0	33,2

In addition, there is an insignificant amount for residential buildings in coal mining.

3.203 Gross fixed capital formation of mining and quarrying, including extraction of crude petroleum and natural gas, accounted for 21,3 per cent of total gross fixed capital formation in 1990. Its share of GDP was 4,6 per cent. GFCF in the oil and gas extraction industries could fluctuate rather significantly over the years, e.g. their GFCF share was close to 29 per cent in 1992.

		1990. Percentage of: Total GFCF	GDP
100	Mining of coal and lignite; extraction of peat	0,01	0,01
111	Extraction of crude petroleum and natural gas	8,62	4,03
112	Service activities incidental to oil and gas extraction	2,40	0,52
130	Mining of metal ores	0,06	0,01
140	Other mining and quarrying	0,15	0,03
	Total	21,25	4,60

3.204 The 1990 revision from FNA to NNA has very significantly increased GFCF in these industries from 19,4 to 33,2 billion kroner. This is due to definitional changes exclusively, in particular by introducing the accruals principle in the valuation of GFCF, replacing the recording in FNA at the period when oil platforms were actually towed to the oil and gas fields. This change in recording principles has had a decisive effect on the GFCF estimates over the period of revision as illustrated below:

GFCF in oil and gas extraction industries. Billion kroner		
	FNA	NNA
1988	32,0	28,9
1989	41,2	30,9
1990	19,0	32,8
1991	26,5	38,5
1992	38,2	44,6
1993	59,3	49,5
1994	30,3	45,2

In 1990, the revision for the whole NACE C group of industries was as follows:

		Billion kroner		Revision	
		FNA	NNA	Total	Definitional
11	Oil and gas extraction	19,0	32,8	13,8	13,8
10-14	Mining and quarrying	0,4	0,4	-	
	Total	19,4	33,2	13,8	13,8

Sources

3.205 Main sources used are:

-	Oil and gas activity statistics
-	Manufacturing statistics

3.206 Oil and gas activity statistics and manufacturing statistics are both described above in section I.C among main sources used in Norwegian national accounts. Data on gross fixed capital formation are collected on a quarterly basis. Five different statistical forms are used:

Form I	Investments at fields in production
Form K	Investments, offices
Form L	Oil and gas exploration
Form T	Investments, terminals
Form U	Field development

Methods of estimation

Oil and gas extraction

3.207 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 appears 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 (annual amount of 0,5 billion kroner recorded as other taxes on production in NNA, while included in exploration expenditures in oil statistics). Foreign ownership adjustment to oil and gas fields is made in those cases where fields are located partly in Norway and partly abroad (United Kingdom) when operated by Norwegian resident producers. Expenditures are reimbursed in such cases as far as foreign ownership part is concerned (and treated as exports).

3.208 Illustration by 1990 figures and summarized references to sources and methods follows by type of assets. The various forms are utilized , from which own-account construction items are also distinguished when extracted from relevant source items.

		1990. Billion kroner
Other buildings and structures		
008 220	Office and commercial buildings One item in form K, one item in form T and one item in form L are used	0,3
008 330	Other structures 2 items in form T	0,1

008 338	Other structures, own-account construction	0,0
008 370	Drilling at fields in production	3,7
	Item in form I, and item in form U	
008 378	Drilling at fields in production, own-account construction	0,1
008 380	Oil platforms, oil rigs and modules	22,1
	Item in form I and 2 items in form U; plus one item in form L for exploration (alternative source here: balance of payments)	
008 388	Oil platforms, oil rigs and modules, own-account construction	1,8
Machinery and equipment		
008 433	Lorries, vans, special purpose vehicles etc.	0,0
	One item in form K and one item in form T, plus one item in form L	
008 520	Machinery and equipment for manufacturing	0,1
	One item in form T and one item in form L	
008 560	Computers and office equipment	0,2
	One item in form K and one item in form L	
Existing assets		
009 200	Net sale of existing non-residential buildings	-0,0
009 380	Net sale of existing oil platforms and oil rigs	-0,4
	One item in form L (alternative source: item from foreign exchange statistics)	
009 385	Net sale of existing oil platforms, foreign ownership adjustment	-0,1
	Item in form I, multiplied by UK ownership part of the Statfjord and Frigg fields	
009 500	Net sale of existing machinery and equipment	-0,0
009 705	Net sale of foreign ownership adjustment	-0,0
	Item in form I, multiplied by UK ownership part of the Statfjord and Frigg fields	
Intangible fixed assets		
008 710	Oil and gas exploration	4,7
	2 items in form L, less own-account construction (separate product)	
008 718	Oil and gas exploration, own-account construction	0,2
Total GFCF		32,8

Mining and quarrying

3.209 Data on gross fixed capital formation in manufacturing statistics are used as the basis for the NNA estimation. They are also regrouped according to NACE Rev.1 in NNA. Figures are quite small, and should not need further explanations.

4. MANUFACTURING - NACE D

Contents

3.210 In NNA, the investment activities of NACE D are distinguished in 67 industries. It means same level of industry details as for production (see section II.E for a complete listing). A common specification of manufacturing industries for production and investment activities was also provided in FNA.

3.211 In NNA, gross fixed capital formation (GFCF) of manufacturing is estimated at 13,1 billion kroner in 1990. In manufacturing, most types of fixed assets are represented, with the following distribution in terms of their main types:

	GFCF 1990. Billion kroner Total manufacturing
Non-residential buildings	2,5
Other structures	2,6
Transport equipment	0,6
Other machinery and equipment	7,4
Total	13,1

3.212 Gross fixed capital formation of manufacturing accounted for 8,4 per cent of total gross fixed capital formation in 1990. Its share of GDP was 1,8 per cent.

		1990. Percentage of: Total GFCF	 GDP
151-372	Manufacturing	8,38	1,81

3.213 The 1990 revision from FNA to NNA has reduced GFCF in manufacturing from 14,2 to 13,1 billion kroner in 1990. The reduction is mainly due to changes in definitions from activity reclassifications.

		Billion kroner		Revision	
		FNA	NNA	Total	Definitional
151-372	Manufacturing	14,2	13,1	- 1,1	-0,9

3.214 Definitional changes are much smaller for GFCF than for output in 1990, since the former treatment and much higher output on oil platform building and repairing in FNA did not affect GFCF, but work in progress. The changes in nomenclature - regrouping from ISIC-based to NACE-based activity classification - are considered definitional, while there are some other small revisions that may be categorized as non-definitional. The latter involve the introduction of GFCF in dwellings (0,1 billion) in manufacturing and a somewhat higher estimate on net sales of existing fixed assets (0,4 billion in NNA while 0,1 billion in FNA).

Sources

3.215 Main source is:

- Annual manufacturing statistics

3.216 The manufacturing statistics provide data on GFCF. The share of GFCF in large establishments in 1990 was even higher than for output: 98,2 per cent of total GFCF in manufacturing. Like for output and other concepts, the GFCF data are regrouped according to NACE Rev.1 in NNA.

Methods of estimation

3.217 Gross fixed capital formation in manufacturing industries is estimated on the basis of GFCF data provided by the manufacturing statistics. The GFCF values of NNA (13,1 billion) and of manufacturing statistics (13,3 billion) illustrate that only minor adjustments are made to basic statistics in compiling national accounts estimates in this area.

5. ELECTRICITY, GAS AND WATER SUPPLY - NACE E

Contents

3.218 In NNA, the investment activities of NACE E are distinguished in 6 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. The fourth item - gas supply - has no investment (nor production) activity in the revision period.

3.219 In NNA, gross fixed capital formation (GFCF) of these industries is estimated at 6,6 billion kroner in 1990, of which 5,7 billion in the three electricity industries. Most important investment assets in electricity are electricity plants and machinery and equipment for the electricity industry, while non-residential buildings are most important for the water supply activities.

		GFCF 1990. Billion kroner			
		Non-residential buildings	Other structures	Machinery and equipment	Total
40	Electricity, gas, steam and hot water supply	0,3	2,9	2,7	5,9
41	Collection, purification and distribution of water	0,6		0,1	0,7
	Total	0,9	2,9	2,8	6,6

Small amounts are also estimated for residential buildings, intangible fixed assets and net sales of existing fixed assets.

3.220. Gross fixed capital formation of manufacturing accounted for 4,2 per cent of total gross fixed capital formation in 1990. Its share of GDP was 0,9 per cent.

		1990. Percentage of:	
		Total GFCF	GDP
40	Electricity, gas, steam and hot water supply	3,81	0,82
41	Collection, purification and distribution of water	0,42	0,09

	Total	4,23	0,91

3.221 The 1990 revision from FNA to NNA has kept GFCF in these industries at same level of 6,6 billion kroner in 1990. No definitional changes seem to come into effect for the GFCF estimates.

		Billion kroner		Revision	
		FNA	NNA	Total	Definitional
40	Electricity, gas, steam and hot water supply	6,0	5,9	-0,1	-
41	Collection, purification and distribution of water	0,7	0,7	-	-
	Total	6,6	6,6	-	-

Sources

3.222 Main sources are:

- Electricity statistics
- Local government accounts

Annual electricity statistics provide data on GFCF along with data on production etc. Local government accounts contain corresponding GFCF data in water supply.

Methods of estimation

Electricity production

3.223 Gross fixed capital formation in electricity production is estimated on the basis of GFCF data provided by the electricity statistics. The GFCF values of NNA (5,9 billion) and of electricity statistics (5,8 billion) illustrate that only minor adjustments are made to basic statistics in compiling national accounts estimates in this area.

3.224 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.

Water supply

3.225 Local government accounts are utilized for the estimation of GFCF in this industry. Four items of the relevant chapter identify and constitute the components needed for the GFCF estimate.

6. CONSTRUCTION - NACE F

Contents

3.226 In NNA, the investment activities of NACE F are distinguished in 5 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.

3.227 In FNA, the investment activities in construction - apart from oil and gas exploration and drilling as a separate industry - were not split by sub-industries and no government activities occurred.

3.228 In NNA, gross fixed capital formation (GFCF) of construction is estimated at moderate 1,0 billion kroner in 1990. Most important investment assets in construction are non-residential buildings and other machinery and equipment (item for machinery and equipment in construction). Net sales of cars (desinvestments) are insignificant.

		GFCF 1990. Billion kroner				
		Non-residential buildings	Transport equipment	Other machinery and equipment	Other	Total
45	Construction	0,4	0,1	0,5	0,0	1,0

3.229 Gross fixed capital formation in the construction industry accounted for 0,7 per cent of total gross fixed capital formation in 1990. Its share of GDP was 0,1 per cent.

		1990. Percentage of: Total GFCF	GDP
45	Construction	0,65	0,14

3.230 The 1990 revision from FNA to NNA has reduced GFCF in construction from 2,0 to 1,0 billion kroner in 1990. Most of this reduction is due to definitional changes, i.e. the same nomenclature changes and change of treatment for own-account construction as described for output.

		Billion kroner FNA	NNA	Revision Total	Definitional
45	Construction	2,0	1,0	-1,0	-1,0

Sources

3.231 Main source is (as for output and intermediate consumption):

- Construction statistics

3.232 Construction statistics contain data on gross fixed capital formation - specified on three items, i.e. buildings and structures, transport equipment, and other machinery and equipment. For one-man establishments, GFCF data are lacking.

Methods of estimation

3.233 The annual construction statistics are utilized for the estimation of GFCF in the construction industry. For one-man establishments, the same proportion as registered between output of one-man establishments and output of other units in construction has been used. For the allocation of the three GFCF items of the construction statistics on more detailed NNA types of assets, various distributions have been assumed, e.g. buildings and structures split on office and commercial buildings (70 per cent in two sub-industries, 80 per cent in three sub-industries), on manufacturing constructions (15 per cent), and on other buildings (30 per cent and 20 per cent, respectively).

7. WHOLESALE AND RETAIL TRADE; REPAIR OF MOTOR VEHICLES, MOTORCYCLES AND PERSONAL AND HOUSEHOLD GOODS - NACE G

Contents

3.234 In NNA, the investment activities of NACE G are distinguished in 6 industries. It means same level of industry details as for production.

3.235 In NNA, gross fixed capital formation (GFCF) of these industries is estimated at 11,2 billion kroner in 1990, of which 11,0 billion in the four industries of wholesale and retail trade. 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 (desinvestments) also play a significant role (-1,1 billion, see table below)

		GFCF 1990. Billion kroner				
		Non-residential buildings	Transport equipment	Other machinery and equipment	Other	Total
50-52	Wholesale and retail trade	2,8	3,1	6,3	-1,1	11,0
50/52	Repairs of vehicles etc.	0,1	0,1	0,1		0,2
	Total	2,9	3,2	6,4	-1,1	11,2

3.236 Gross fixed capital formation of these industries accounted for 7,1 per cent of total gross fixed capital formation in 1990. Its share of GDP was 1,6 per cent.

		1990. Percentage of:	
		Total GFCF	GDP
50-52	Wholesale and retail trade	7,01	1,52
50/52	Repairs of vehicles etc.	0,13	0,03
	Total	7,14	1,55

3.237 The 1990 revision from FNA to NNA has dramatically increased GFCF in wholesale and retail trade from 4,7 to 11,0 billion kroner in 1990. An important definitional change explains almost half of this revision: GFCF for buildings (and structures) was not estimated in FNA due to the alternative treatment through the notional industry of commercial buildings.

		Billion kroner		Revision	
		FNA	NNA	Total	Definitional
50-52	Wholesale and retail trade	4,7	11,0	6,3	2,9
50/52	Repairs of vehicles etc.	..	0,2	..	
	Total	4,7	11,2	6,5	3,0

Sources

3.238 No main source is available for the estimation of gross fixed capital formation in wholesale and retail trade.

3.239 Two sources that play a limited role in the GFCF estimation in wholesale and retail trade:

- Buildings statistics
- Register of vehicles and the publication "Car and road statistics" from the Directorate of Roads

3.240 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 computerized 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 specify 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. The register of vehicles and figures available in "Car and road statistics" are specified by types of vehicles and broad user groups. Figures are cross-classified by some 10 vehicle types and 9 user groups. Among the user groups is one industry group comprising wholesale and retail trade and financial intermediation (banks, insurance companies etc.).

3.241 Annual surveys of car repair shops etc. contain GFCF data for repair shops, in recent years published in Statistics weekly along with output data etc.

Methods of estimation

3.242 It is seen from the section on sources above that specific and relevant information for the estimation of GFCF in wholesale and retail trade is not available. Last time such direct information in fact was available was way back in the 1970s - with the 1974 Industrial Census.

3.243 In NNA, the benchmark estimation in this case is very much determined from the supply side in lack of specific information from the use side. The revision revealed a significant increase in the supply of machinery and equipment, in particular for computers, office machinery and the like, but also for acquisitions of motor vehicles. In the latter case, the register data on vehicles could be utilized as a supplementary source in the work on distributing the supply estimates on the various uses. For other types of assets, the wholesale and retail trade investment share of the respective supply of fixed assets could only be determined from reasoning and expert considerations. Relatively detailed specifications - the traditional approach in Norway - do help in this work on commodity flows and their balancing of supply and uses. However, the strong message from the compiling situation in this case is that the development of current specific investment data for wholesale and retail trade is a quite imperative need.

3.244 The situation for extrapolation is almost as dark as described above for benchmarks. The two supplementary sources - building statistics and register information on the composition of motor vehicles - are used as means of indicators as closely relevant as possible, but still much is left for the compile to determine.

3.245 Gross fixed capital formation for repair shops is estimated directly from the annual survey data. Some adjustment - insignificant magnitude however - is needed for grossing up to the coverage of the two industries of repairs involved.

8. HOTELS AND RESTAURANTS - NACE H

Contents

3.246 In NNA, the investment activities of NACE H are distinguished in 2 industries. It means same level of industry details as for production.

3.247 In NNA, gross fixed capital formation (GFCF) in hotels and restaurants is estimated at 1,4 billion kroner in 1990. Most important investment assets are non-residential buildings for hotels and restaurants (separate item). Net sales of cars (desinvestments) are recorded in the column other below.

		GFCF 1990. Billion kroner			
		Non-residential buildings	Machinery and equipment	Other	Total
55	Hotels and restaurants	1,0	0,4	-0,1	1,4

3.248 Gross fixed capital formation in hotels and restaurants accounted for 0,9 per cent of total gross fixed capital formation in 1990. Its share of GDP was 0,2 per cent.

		1990. Percentage of:	
		Total GFCF	GDP
55	Hotels and restaurants	0,91	0,20

3.249 The 1990 revision from FNA to NNA has increased GFCF in hotels and restaurants from 0,2 to 1,4 billion kroner in 1990. Most of this revision is due to the same definitional change as described for wholesale and retail trade, i.e. GFCF for buildings (and structures) was not estimated in FNA due to the alternative treatment through the notional industry of commercial buildings.

		Billion kroner		Revision	
		FNA	NNA	Total	Definitional
55	Hotels and restaurants	0,2	1,4	1,2	1,0

Sources

3.250 Main source used is:

- Construction statistics

3.251 The annual construction statistics, which are described in general in the introductory section I.C, are relevant for the most important component of GFCF - buildings in hotels and restaurants - in these industries. Items for hotels and restaurants as project and for various installation work in the hotels and restaurants are available from the construction statistics. VAT and activities of one-man establishments are not included, however. The register data on vehicles (car and road statistics) may be seen as a supplementary source even in this case.

Methods of estimation

3.252 The annual construction statistics are directly used for the estimation of hotels and restaurants as non-residential buildings. Taxes on production (VAT and investment levy) are added, and so is contribution from one-man establishments. Otherwise, there are no specific and relevant information available for the estimation of GFCF in hotels and restaurants. Last time such direct information in fact was available was way back in the 1970s - with the 1974 Industrial Census. Thus, the investment estimation is very much determined from the supply side in lack of specific information from the use side. The register data on vehicles might - but not easily - be utilized as a supplementary source in the work on distributing supply estimates on uses. For other types of assets, the investment share could only be determined from reasoning and expert considerations. The message from the compiling situation in this case - as in many areas of service industries - is that the development of current specific investment data for the hotels and restaurants industry is a need.

9. TRANSPORT, STORAGE AND COMMUNICATION - NACE I

Contents

3.253 In NNA, the investment activities of NACE I are distinguished in 14 industries. It means same level of industry details as for production.

3.254 In NNA, gross fixed capital formation (GFCF) in transport, storage and communication is estimated at 22,5 billion kroner in 1990. Most important investment assets are transport equipment, at 23,1 billion in acquisitions less 9,1 billion in disposals of existing ships and aircraft. The remaining 9 billion is mainly distributed as 3,8 billion on structures (mostly pipelines), 3,5 billion on other machinery and equipment and 1,7 billion on non-residential buildings.

		GFCF 1990. Billion kroner			
		Structures	Transport equipment	Other	Total
60	Land transport; transport via pipelines	3,2	2,2	0,2	5,6
61	Water transport		16,2	-6,7	9,6
62	Air transport		4,4	-2,4	2,0
63	Supporting and auxiliary transport activities; activities of travel agencies	0,5	0,2	1,1	1,9
64	Post and telecommunications		0,1	3,5	3,5
	Total	3,7	23,1	-4,3	22,5

3.255 Gross fixed capital formation in transport, storage and communication accounted for 14,4 per cent of total gross fixed capital formation in 1990. Its share of GDP was 3,1 per cent.

		1990. Percentage of:	
		Total GFCF	GDP
60	Land transport; transport via pipelines	3,55	0,77
61	Water transport	6,09	1,32
62	Air transport	1,30	0,28
63	Supporting and auxiliary transport activities; activities of travel agencies	1,21	0,26
64	Post and telecommunications	2,27	0,49
	Total	14,42	3,12

3.256 The 1990 revision from FNA to NNA has reduced GFCF in transport, storage and communication from 25,9 to 22,5 billion kroner in 1990. The revision is a result of comprehensive definitional changes downward at 8,5 billion and other changes upwards at about 5 billion kroner. The two main definitional changes are caused by the new treatment at accruals basis for GFCF in pipelines, and the regrouping of roads and street investment from supporting transport activities to a kind of public administration for NACE L.

		Billion kroner		Revision	
		FNA	NNA	Total	Definitional
60	Land transport; transport via pipelines	4,0	5,6	1,6	-2,0
61	Water transport	8,9	9,5	0,6	-
62	Air transport	2,1	2,0	-0,1	-0,1
63	Supporting and auxiliary transport activities; activities of travel agencies	7,5	1,9	-5,6	-6,4
64	Post and telecommunications	3,3	3,5	0,2	-
	Total	25,9	22,5	-3,4	-8,5

Sources

3.257 Main sources used are:

- Annual accounts of the State railway corporation NSB
- Central government accounts
- Annual reports of tramway and suburban transport companies
- Annual statistics of oil activities
- Annual and quarterly accounting data of SAS
- Annual accounts of the Postal Service
- Annual accounts and statistics of Norwegian Telecom
- Register of vehicles and the publication "Car and road statistics" from the Directorate of roads

Methods of estimation

Land transport

3.258 Accounting data of the State monopoly corporation NSB are used to estimate GFCF in transport via railways (0,3 billion), while the roadway investment part is known from central government accounts (0,4 billion). Accounting data are also available for investment in tramway and suburban transport (0,1 billion).

3.259 For scheduled motor bus transport and other land transport, GFCF is mainly in buses (0,7 billion) and lorries etc. (0,6 billion). In both cases, the estimation is based on a 1988 benchmark, extrapolated for later years by using an indicators' approach. The benchmark

estimates were established from combining data on new registered motor vehicles with detailed price data. Directorate of Public Roads provides data on new registered motor vehicles by a certain breakdown on occupation / industry (one item for buses and 5 items for lorries etc.), the data from which are also utilized to determine volume indices for later years. Price data made available by Opplysningsrådet for Biltrafikken are based on detailed price material in the Directorate of Public Roads. The price x quantity approach for 1988 was carried out in a very detailed way. Import prices are used to construct price indices, for buses and lorries etc. separately. The other and smaller GFCF estimates for scheduled motor bus transport and other land transport have been determined from the commodity flow method.

Pipeline transport

3.260 The quarterly statistics of oil activities are used to estimate GFCF in pipeline transport. Two items from the A-form and four items from 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 (about 4 per cent of total GFCF on pipelines for oil and gas transport in 1990).

Water transport

3.261 GFCF in water transport consists of ships and boats exclusively. The estimation is based on the commodity flow approach, i.e. total investment in ships and boats is determined from the supply side and distributed for the relevant uses. 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, recorded at 6,7 billion kroner in 1990. It is assumed that the whole amount is taken (negatively) from GFCF in ocean transport, i.e. not affecting GFCF in inland water transport.

Air transport

3.262 For air transport, FNA data are kept for the GFCF estimation in NNA. Sources are the same as for output, accounting data of SAS and other air transport companies. The GFCF estimate is arrived at by using 2/7 of total capital outlays of SAS, plus total capital outlays of other Norwegian air transport companies, while deducting exports of existing aircraft recorded in external trade statistics, adjusted by item for change in ownership (the latter two components add to 2,0 billion as net disposal of aircraft in 1990).

Supporting and auxiliary transport

3.263 Information on GFCF is scarce for these industries. For the non-market activities, data from the central government has been used. The use of the commodity flow method is the main approach to the GFCF estimation for the market part of these industries, since direct information is scarce. Some indication is available in the statistical data utilized for the estimation of investment in transport equipment (motor vehicles), referred to elsewhere.

Post and telecommunications

3.264 Annual accounts of the Postal Service and the Norwegian Telecom are the principal sources used to estimate GFCF in post and telecommunications. For the Postal Services, relevant items from both the investment and the operating sections of the accounts have been added for the GFCF estimate. About 90 per cent of GFCF in telecommunications concern Norwegian Telecom, accounting data from which have been utilized. Data concerning the cable companies have been added, i.e. at different percentages of addition depending upon which fixed assets, most important being the telecommunication equipment.

10. FINANCIAL INTERMEDIATION - NACE J

Contents

3.265 In NNA, the investment activities of NACE J are distinguished in 6 industries, 3 industries of financial intermediation and 3 industries of insurance and pension funding. Compared with industries specified for production, activities auxiliary to financial intermediation and those concerned with FISIM are not significant or relevant for the estimation of gross fixed capital formation.

3.266 In NNA, gross fixed capital formation (GFCF) in financial intermediation is estimated at 3,4 billion kroner in 1990. Most important investment assets are non-residential buildings, more specifically, offices and commercial buildings. There are also net purchases of existing assets this year, buildings in particular.

		GFCF 1990. Billion kroner			
		Non-residential buildings	Machinery and equipment	Other	Total
65	Financial intermediation, except insurance and pension funding	0,2	0,8	0,4	1,5
66	Insurance and pension funding	1,5	0,1	0,3	1,9
	Total	1,7	0,9	0,7	3,4

3.267 Gross fixed capital formation in financial intermediation accounted for 2,2 per cent of total gross fixed capital formation in 1990. Its share of GDP was 0,5 per cent.

		1990. Percentage of:	
		Total GFCF	GDP
65	Financial intermediation, except insurance and pension funding	1,20	0,26
66	Insurance and pension funding	0,97	0,21
	Total	2,18	0,47

3.268 The 1990 revision from FNA to NNA has reduced GFCF in financial intermediation from 4,3 to 3,4 billion kroner in 1990. The reduction refers to buildings in particular, in addition there are relatively comprehensive changes in the composition of GFCF transactions in new and existing buildings. The latter composition has been reviewed in light of data that are not much specific and has resulted in higher transaction value on new buildings and lower value on existing buildings. No definitional changes are involved in the new revised figures.

		Billion kroner		Revision	
		FNA	NNA	Total	Definitional
65/66	Financial intermediation	4,3	3,4	-0,9	-

Sources

3.269 Main sources used are (same as for production):

- Credit market statistics, accounting data organized in data base for banks
- Credit market statistics, accounts of insurance companies
- Credit market statistics, accounts of other financial institutions

Methods of estimation

3.270 The credit market statistics processed into data base of FIIN (see output section) have been utilized to estimate GFCF of financial intermediation. From this data base, 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.

3.271 According to the new principles , the treatment of foreclosures and repossessions of goods by creditors should not be treated as uncompensated seizures but as transactions, disposals by creditors 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.

11. REAL ESTATE, RENTING AND BUSINESS ACTIVITIES - NACE K

Contents

3.272 In NNA, the investment activities of NACE K are distinguished in 12 industries. It means same level of industry details as for production.

3.273 In NNA, gross fixed capital formation (GFCF) in real estate, renting and business activities is estimated at 29,5 billion kroner in 1990. Most important investment assets are dwellings at 25,3 billion. The remaining 4 billion is distributed on most other main types of fixed assets. Small amounts of net sales are estimated for most industries.

		GFCF 1990. Billion kroner				
		Dwellings	Non-residential buildings	Machinery and equipment	Other	Total
70	Real estate	25,3	1,4	0,4	- 0,1	27,0
71	Renting			0,6	- 0,3	0,3
72-74	Business activities		0,3	1,7	0,2	2,2
	Total	25,3	1,7	2,6	- 0,2	29,5

3.274 Gross fixed capital formation in real estate, renting and business activities accounted for 18,9 per cent of total gross fixed capital formation in 1990, mostly in real estate (mainly dwellings). Its share of GDP was 4,1 per cent.

		1990. Percentage of:	
		Total GFCF	GDP
70	Real estate	17,27	3,74
71	Renting	0,22	0,05
72-74	Business activities	1,43	0,31
	Total	18,92	4,10

3.275 The 1990 revision from FNA to NNA has increased GFCF in real estate, renting and business activities from 25,0 to 29,5 billion kroner in 1990. The comparison is hampered as GFCF in business activities and renting was not specified (i.e. machinery and equipment in these activities were included in a wider group of other private services). They have been recorded here as definitional changes. In real estate, GFCF has not been much revised from 25,0 to 27, 0 billion. As the new treatment of renting services of non-residential property, means that GFCF in dwellings has been revised upwards considerably more, i.e. from 19,8 billion in FNA to 25,3 billion in NNA.

		Billion kroner		Revision	
		FNA	NNA	Total	Definitional
70	Real estate	25,0	27,0	2,0	- 3,6
71	Renting	..	0,3	0,3	0,3
72-74	Business activities	..	2,2	2,2	2,2
	Total	25,0	29,5	4,5	- 1,1

Sources

3.276 Main sources used are:

- Annual construction statistics
- Building statistics
- Index of building costs and price index of new dwellings
- Annual production statistics of business activities
- Central and local government accounts

Methods of estimation

Real estate

3.277 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, however, it is assumed that the difference between output of dwellings and GFCF in dwellings is negligible. It implies 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).

3.278 Construction statistics are used directly 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. The project-oriented part for dwellings in this source is imperfectly filled in. Furthermore, the CPA-based characteristic products of the construction industry do not address dwellings specifically, except the NNA-product own account construction of dwellings.

3.279 Alternative sources are available, by utilizing building statistics in a quantity and price approach. Building statistics specify three items - buildings completed, started and in work progress, all by 5 types of dwellings (detached houses etc., annexes to houses, other small houses, multi-dwelling houses and holiday homes). Average square metres data for buildings started and buildings completed are used. The immediate problem with this approach, however, is that no price data are available to recalculate quantity data for GFCF value data. The price statistics available for buildings relate to building costs and prices of new dwellings, considered useful as current price indicator when extrapolating the benchmark estimate made for 1988. The 1988 benchmark was estimated from the construction statistics and special calculations on own-account construction (this part of GFCF is estimated by special calculations for three different categories (also including annexes and holiday homes) and based on two benchmark surveys, see output section). By using this indirect method, it is assumed that "all dwellings" are covered, those by large construction establishments as well as small establishments, households' own account construction and from other hidden construction. The final GFCF estimate for dwellings is determined from the commodity flow

method, also taking into account that the GFCF estimate for non-residential buildings in real estate activity is partly known from the use side as well.

3.280 There are specific problems with the indicators available. The long production period should be respected when applying the building statistics. The index of building costs is inferior as it misses the mark-up element and changes in productivity. Furthermore, and a drawback as well, is that the cost index is a Laspeyres index with a cost structure from 1986-1988 (from some 30 building projects), a structure which last was replaced with data from period 1973-1977. The price index now used for all five types of dwellings in estimating market output 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 are made later on.

3.281 Purchase and sale of existing dwellings (net sales) are recorded in NNA to the extent they are recorded in government accounts.

Renting

3.282 For renting, information on GFCF is particularly related to automobiles for renting. New acquisitions are measured by changes to relevant stock of motor vehicles at the beginning and end of the year - adjusted for estimated sale and scrap - known from the publication "Car and road statistics". These quantity data are multiplied by average purchasers' prices that have been compiled. It is assumed that automobiles for renting have a shorter service life than other automobiles, more specifically, that 50 per cent of the stock at the beginning of the year is sold or scrapped during the following year (for buses and lorries 35 per cent). GFCF in the other renting industry for machinery and equipment is quite small and is estimated from the commodity flow method, without any particular specific information available.

Business activities

3.283 GFCF for business activities is estimated on the basis of GFCF data in the annual business services statistics. Separate data on main types of fixed assets - non-residential buildings, machinery and equipment - are available for acquisitions as well as sale. An estimate for one-man establishments is made in addition, based on the assumption that GFCF per output is the same as in establishments for which data are available. The data available are subsequently further distributed and adopted for the NNA asset classification. For instance, it is assumed that 40 per cent of machinery and equipment in most of these activities is allocated to the NNA item software (30 per cent in NNA-industries 742 and 748). R&D statistics include information on GFCF, although almost insignificant values (0,2 billion in 1990).

12. PUBLIC ADMINISTRATION AND DEFENCE - NACE L

Contents

3.284 In NNA, the investment activities of NACE L are distinguished in 2 industries, one for public administration and one for defence. The specifications are similar to that of production in public administration and defence, with separate estimates for non-market producers of central government and local government.

3.285 In NNA, gross fixed capital formation (GFCF) in public administration and defence is estimated at 14,4 billion kroner in 1990, i.e. 10,4 billion in central government and 4,0 billion in local government. GFCF in defence is estimated at 3,3 billion, while not defined at all in FNA (although residential buildings for the military were considered GFCF, but with the dwellings industry of central government at a very minor amount - 45 million in 1990). 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, there are net purchases and net sales of buildings, respectively, almost offsetting each other.

		GFCF 1990. Billion kroner			
		Non-residential buildings	Structures	Machinery and equipment	Total
751	Public administration	1,9	7,2	1,8	11,1
752	Defence	0,1	0,4	2,8	3,3
	Total	2,0	7,6	4,6	14,4

3.286 Gross fixed capital formation in public administration and defence accounted for 9,2 per cent of total gross fixed capital formation in 1990. Its share of GDP was 2,0 per cent.

		1990. Percentage of:	
		Total GFCF	GDP
751	Public administration	7,07	1,53
752	Defence	2,12	0,46
	Total	9,20	1,99

3.287 The 1990 revision from FNA to NNA has increased GFCF in public administration and defence dramatically from 1,8 to 14,4 billion kroner in 1990. This increase consists exclusively of changes in definitions (see also description in the output section above). In NNA, GFCF has been introduced in defence activities at 3,3 billion kroner, applying the new treatment of ESA 95. In public administration, most important explanation is that GFCF of roads and streets has been regrouped from supporting services to land transport in FNA (6,0 billion). The FNA estimate referred to for public administration excludes GFCF in local administration, which for unknown reason was not specified and instead included with producers of other local government services (3,4 billion, most part of which should be GFCF in local administration).

		Billion kroner		Revision	
		FNA	NNA	Total	Definitional
751	Public administration	1,8	11,1	9,3	9,3
752	Defence	-	3,3	3,3	3,3
	Total	1,8	14,4	12,6	12,6

Sources

3.288 Main sources used are:

- Central government accounts
- Local government accounts
- Specifications on military expenditures obtained from the Ministry of Defence

Methods of estimation

3.289 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, some 300 items in central government accounts define GFCF in central administration. On the part of defence, however, the specifications on military expenditures obtained from the Ministry of Defence - with the new ESA principles - are used and serve as basis for the allocation of military expenditures for either GFCF or intermediate consumption. 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. The number of details in the central government accounts suggest

that the NNA specifications are more easily approached in the case of central government than for local government.

13. EDUCATION - NACE M

Contents

3.290 In NNA, the investment activities of NACE M 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.

3.291 In NNA, gross fixed capital formation (GFCF) in education is estimated at 3,6 billion kroner in 1990, of which 3,3 billion by non-market producers. 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. Desinvestments of cars and sale of schools occur, however in insignificant magnitudes (see column other below).

		GFCF 1990. Billion kroner			
		Non-residential buildings	Machinery and equipment	Other	Total
80	Education	2,2	1,3	-0,0	3,6

3.292 Gross fixed capital formation in education accounted for 2,3 per cent of total gross fixed capital formation in 1990. Its share of GDP was 0,5 per cent.

		1990. Percentage of:	
		Total GFCF	GDP
80	Education	2,27	0,49

3.293 The 1990 revision from FNA to NNA has increased GFCF in education from 3,3 to 3,6 billion kroner in 1990. In FNA, education was grouped with research and development, while the non-government part was not separately specified. From the revised NNA estimates, these differences in coverage suggest 0,1 billion as net changes in definition (0,3 billion on R&D, 0,4 billion on market education etc.).

		Billion kroner		Revision	
		FNA	NNA	Total	Definitional
80	Education	3,3	3,6	0,3	0,1

Sources

3.294 Main sources used are:

- Central government accounts
- Local government accounts

Methods of estimation

3.295 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 central government is estimated from some 40 items in the central government accounts, while in local government accounts a corresponding set of 8 items defines GFCF of buildings for education in local government.

3.296 For the market part and the NPISHs' - the minor items - GFCF has been estimated with no statistical base, as fixed shares of the respective incomes (e.g. market GFCF in cars estimated as 5 per cent of driving school activity output, and similar GFCF to output ratios for other types of assets involved).

3.297 As illustrated by 1990 figures, the GFCF estimate in education by types of producer has the following composition:

	1990. Billion kroner
Non-market activities of local government	1,9
Non-market activities of central government	1,2
Non-market activities of NPISHs	0,1
Market activities	0,3
Total GFCF in education	3,6

14. HEALTH AND SOCIAL WORK - NACE N

Contents

3.298 In NNA, the investment activities of NACE N are specified in 5 industries and differentiated on all four types of producers, i.e. with same specifications as for production.

3.299 In NNA, gross fixed capital formation (GFCF) in health and social work is estimated at 5,4 billion kroner in 1990, of which 4,6 billion by non-market producers. 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.

		GFCF 1990. Billion kroner			
		Non-residential buildings	Machinery and equipment	Other	Total
85	Health and social work	3,5	1,8	0,0	5,4

3.300 Gross fixed capital formation in health and social work accounted for 3,4 per cent of total gross fixed capital formation in 1990. Its share of GDP was 0,7 per cent.

		1990. Percentage of:	
		Total GFCF	GDP
85	Health and social work	3,44	0,794

3.301 The 1990 revision from FNA to NNA has increased GFCF in health and social work from 2,5 to 5,4 billion kroner in 1990. In FNA, social work activities by disabled workers were grouped with manufacturing, while the non-government part was not separately specified. From the revised NNA estimates, these differences in coverage suggest 1,4 billion as changes in definition.

		Billion kroner		Revision	
		FNA	NNA	Total	Definitional
85	Health and social work	2,5	5,4	2,9	1,4

Sources

3.302 Main sources used are:

- Central government accounts
- Local government accounts

Methods of estimation

3.303 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 some 25 items in the local government accounts.

3.304 For the market part and the NPISHs, GFCF has been estimated with no statistical base. Fixed share of 4 per cent of corresponding output is used for investments in health activities, while the investment ratio has been set considerably higher in social work activities, primarily based on commodity flow considerations whereby a relatively low estimate on intermediate consumption is restricted to.

3.305 As illustrated by 1990 figures, the GFCF estimate in health and social work by types of producer has the following composition:

	1990. Billion kroner
Non-market activities of local government	3,8
Non-market activities of central government	0,2
Non-market activities of NPISHs	0,6
Market activities	0,8
Total GFCF in health and social work	5,4

15. OTHER COMMUNITY, SOCIAL AND PERSONAL SERVICE ACTIVITIES - NACE O

Contents

3.306 In NNA, the investment activities of NACE 0 are specified in 7 industries and differentiated on all four types of producers, i.e. with same specifications as for production.

3.307 In NNA, gross fixed capital formation (GFCF) in other community, social and personal service activities is estimated at 5,1 billion kroner in 1990, of which 3,5 billion by non-market producers. Investment assets are mostly distributed on non-residential buildings, structures and machinery and equipment.

		GFCF 1990. Billion kroner				
		Non-residential buildings	Structures	Machinery and equipment	Other	Total
90	Sewage and refuse disposal, sanitation and similar activities	0,1	1,5	0,1		1,8
91	Activities of membership organizations n.e.c.	0,1		0,2		0,3
92	Recreational, cultural and sporting activities	0,8	0,9	0,7		2,4
93	Other service activities	0,2		0,5	- 0,1	0,6
	Total	1,2	2,4	1,5	- 0,1	5,1

3.308 Gross fixed capital formation in other community, social and personal service activities accounted for 3,2 per cent of total gross fixed capital formation in 1990. Its share of GDP was 0,7 per cent.

		1990. Percentage of:	
		Total GFCF	GDP
90	Sewage and refuse disposal, sanitation and similar activities	1,13	0,24
91	Activities of membership organizations n.e.c.	0,19	0,04
92	Recreational, cultural and sporting activities	1,57	0,34
93	Other service activities	0,36	0,08
	Total	3,24	0,70

3.309 The 1990 revision from FNA to NNA has increased GFCF in other community, social and personal service activities from 3,0 to 5,1 billion kroner in 1990. The comparison is hampered as detailed specifications are lacking. The difference has been recorded as definitional changes, both as new sources are not available and from the new treatment of non-residential buildings industry.

		Billion kroner		Revision	
		FNA	NNA	Total	Definitional
90	Sewage and refuse disposal, sanitation and similar activities	..	1,8	..	
91	Activities of membership organizations n.e.c.	..	0,3	..	

92	Recreational, cultural and sporting activities	..	2,4	..	
93	Other service activities	..	0,6	..	
	Total	3,0	5,1	2,1	2,1

Sources

3.310 Main sources used are:

- Central government accounts
- Local government accounts
- Other services production statistics
- Accounting data of the State Broadcasting Company NRK

Methods of estimation

3.311 The annual central and local government accounts are used to estimate GFCF in the non-market activities of central government (part of NACE 92) and local government (part of NACE 90 and 92), respectively.

3.312 For most of the market part and the NPISHs, GFCF has been estimated with no statistical base. A fixed share of corresponding output is used for investments in cultural activities (GFCF at 0,3 billion) and sporting activities (1,1 billion). In radio and television activities, GFCF (0,3 billion) has been estimated on the basis of information in accounting data of the State Broadcasting Company and information obtained from the commercial companies operating. Other services production statistics have been utilized in the market activities of NACE 90 and NACE 93, estimated at 0,1 and 0,6 billion respectively.

16. PRIVATE HOUSEHOLDS WITH EMPLOYED PERSONS - NACE P

3.313 GFCF is not estimated for this activity (not appropriate).

I. CHANGES IN INVENTORIES

Changes in inventories accounted for 1,6 per cent of GDP in 1990, while between 0,6 and 0,9 per cent in the other years in the period 1988-1992. The 1990 revision from FNA to NNA brought only slight change to this item. However, changes in inventories of goods became substantially higher, while work in progress on ships and modules for oil platforms fell dramatically due to the new valuation treatment. The vast difference before and after the revision for goods is a net result from opposite directions in their inventories; for some 80 products increases were higher than 100 million kroner in 1990, while for some 50 products reductions were higher than 100 million. No reliable sources are available on total changes in inventories. The main approach to estimating changes in inventories is therefore through balancing of supply and use for each NNA-product by using the commodity flow method.

Contents

3.314 In NNA, changes in inventories are specified by 4 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. Compared with the classification of assets as inventories in ESA 95, the breakdown in NNA is more aggregated on regular inventories (not specifying materials and supplies, finished goods and goods for resale separately), while a little more disaggregated on work in progress. The specifications used in FNA were quite similar.

3.315 The NNA categories of changes in inventories illustrated by 1990 figures are:

		1990. Billion kroner
87 000	Changes in inventories of goods	14,7
87 910	Work in progress on ships and modules for oil platforms	- 0,6
87 920	Other work in progress	0,1
87 930	Work in progress on cultivated assets	- 0,6
Addition, to be amended:		
87 400	Adjustment item (see no-life insurance)	- 1,6
	Total changes in inventories	11,9

3.316 Changes in inventories accounted for 1,8 per cent of total final use in 1990. Its share of GDP was 1,6 per cent. In the period of 1988 - 1992 of final revised national accounts estimates, the GDP share for 1990 is particularly high. For the other years of this period the GDP share for changes in inventories lies between 0,6 and 0,9 per cent. For later years than 1992, even higher GDP share than for 1990 have been revealed, but still based on provisional estimates.

3.317 The 1990 revision from FNA to NNA has more or less kept the estimate for changes in inventories unchanged, i.e. increased slightly from 11,1 to 11,9 billion kroner, and its GDP share has declined from 1,7 to 1,6 per cent. However, by looking behind the total estimate for the sub-categories, the picture before and after the revision reveals big differences:

	Billion kroner		Revision	
	FNA	NNA	Total	Definitional
Changes in inventories of goods	- 5,0	14,7	19,7	
Work in progress on ships and modules for oil platforms	16.0	- 0,6	-16,6	- 16,5
Other work in progress	0,1	0,1	-	
Work in progress on cultivated assets	- 0,0	- 0,6	- 0,6	- 0,6
Adjustment item		- 1,6	- 1,6	
Total changes in inventories	11,1	11,9	0,8	- 17,1

3.318 Work in progress on modules for oil platforms is treated as gross fixed capital formation in NNA, while treated as changes in inventories in FNA. However, work in progress on ships are still 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). The remaining content of the same FNA item (approximately 14 billion kroner)

refers to oil capital formation that are now recorded as GFCF on accruals basis. In NNA, in addition there remains a content of this activity as work in progress (negative amount of 2,5 billion in 1990) for similar practical considerations as referred to above on ships.

3.319 The vast difference (18 billion kroner when correcting for the adjustment item) on changes in inventories on goods in FNA and NNA is the result of changes in inventories for as many as 565 product groups as goods. It is observed that for more than 430 products the calculated estimate of changes in inventories are small below 100 million kroner in 1990. Thus, for some 130 products the estimates were higher, but still divided in two distinctive groups: some 80 products with increase in inventories by more than 100 million kroner, and some 50 products even with decrease in inventories by more than 100 million kroner. The 1990 picture is therefore quite compounded, in spite of the large net increase.

Sources

3.320 No reliable source on total changes in inventories exists, although scattered information on changes or level of inventories has been collected either through short-term indicators or some annual basic statistics (e.g. accounting statistics of large manufacturing and wholesale and retail trade enterprises, annual manufacturing statistics). The short-term statistics on inventories by end of each quarter have ceased as of middle of 1990, and information collected annually in the manufacturing statistics on inventories is assumed less reliable for producing statistics. Thus, there is a weak basis for comparison or verification of the NNA estimates on changes of inventories. The most global item of the short-term statistics for the first two quarters of 1990, showed increases in both quarters compared to the same quarters in 1989, on average some 4 per cent increase. This may be a weak indication that inventories on goods rather grew in 1990 (as calculated in NNA) than shrinked (as in FNA).

Methods of estimation

3.321 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 above in the section on commodity flow method. It should be reminded that these estimates are not just calculated residuals, but in many cases adjusted estimates established from expert judgements when reviewing supply or other uses of a good number of products that are considered problematic in some sense.

3.322 Particular product estimates are described in their output context, such as changes in livestock for slaughter and changes in inventories in fish farming.

J. EXPORTS OF GOODS AND SERVICES

Exports of goods and services amount to 293,8 billion kroner or 40,7 per cent of GDP in 1990. The 1990 revision from FNA to NNA has been quite small, up from 293,0 billion. Thus, exports contribute by only 0,8 billion to the 61,5 billion increase in 1990 GDP. Exports of goods accounted for 72,7 per cent of total exports of goods and services. The 1990 revision for exports of goods was slightly downwards by 1,9 billion. Exports of services accounted for 27,3 per cent of total exports, with a revision upwards by moderate 2,5 billion kroner. External trade statistics contain detailed specifications and are distributed on more than 540 NNA-products. Not recorded in external trade statistics is a minor fraction, just slightly more than 1 per cent of exports of goods. Exports of services are generally estimated on the basis of foreign exchange statistics, but in combination with maritime transport statistics and oil and gas activity statistics and some other sources.

1. EXPORTS OF GOODS

Introduction

3.323 In NNA, exports of goods are distinguished in three main categories, each of which are cross-classified with a set of products. The three categories are:

51 110	Exports of goods recorded in external trade statistics
51 120	Exports of ships, oil rigs and modules
51 130	Exports of goods not recorded in external trade statistics

The first category is defined to include goods - except ships, oil rigs and modules covered by the second category - which are recorded in the external trade statistics. This means that 6 products recorded in fact are characteristic products of service-producing industries (0,4 billion kroner, in particular software programmes and works of art). In the third group, one such product of services is also included (catering services at 0,3 billion).

3.324 In FNA, there was a similar set of specifications, but the second category emphasized ships and with a further breakdown on new and second-hand (existing) ships.

3.325 For publication purposes, further breakdowns have been employed. In particular, characteristic products of the oil and gas activities have been specified. In addition, the mentioned split of ships has continued, 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 (see illustration below). In FNA, the opposite choice was made.

3.326 In NNA, exports of goods are estimated at 213,6 billion kroner in 1990. The composition on categories and main items is the following:

		1990. Billion kroner
51 110	Exports of goods recorded in external trade statistics	201,0
	of which:	
	Crude oil and natural gas	88,5
51 120	Exports of ships, oil rigs and modules	10,5
51 130	Exports of goods not recorded in external trade statistics	2,7
	Total categories	214,3
	Total exports of goods	213,6

3.327 Exports of goods accounted for 72,7 per cent of total exports of goods and services. Its share of GDP was 29,6 per cent.

		1990. Percentage of: Total exports	GDP
51 110	Exports of goods recorded in external trade statistics	68,44	27,84
	of which:		
	Crude oil and natural gas	30,14	12,26
51 120	Exports of ships, oil rigs and modules	3,58	1,46
51 130	Exports of goods not recorded in external trade statistics	0,92	0,37
	Total categories	72,94	29,67
	Total exports of goods	72,73	29,59

3.328 The 1990 revision from FNA to NNA has reduced exports of goods from 215,5 to 213,6 billion kroner. Part of this relatively small decrease is due to changes in definitions.

		Billion kroner		Revision	
		FNA	NNA	Total	Definitional
51 110	Exports of goods recorded in external trade statistics	201,1	201,0	- 0,1	
	of which:				
	Crude oil and natural gas	88,5	88,5	-	
51 120	Exports of ships, oil rigs and modules	10,5	10,5	-	
51 130	Exports of goods not recorded in external trade statistics	3,9	2,7	- 1,2	
	Total categories	215,5	214,3	- 1,2	
	Total exports of goods	215,5	213,6	- 1,9	-1,0

Sources

3.329 Main source used is:

-	External trade statistics

3.330 The external trade statistics are described above in section I.C as one of the main sources used in national accounting. 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 foreign exchange statistics and the energy accounts are also available for supplementary use.

Methods of estimation

3.331 The external trade statistics are used to estimate exports of the first and second categories listed above. Exports of crude oil and natural gas are also included here, same are exports of new and existing ships. No adjustment is at present made 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. 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. Exports of these goods are specified - apart from the two categories - by more than 540 product items (goods), i.e. some 535 products from the first category and 7 products from the second category. More detailed description of the external

trade statistics-based estimation should not be necessary (see also description above on output of oil and gas activities).

3.332 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.

3.333 The third category is specified by 20 products (goods), and constitutes a small part of total exports of goods. Illustration by 1990 figures and summarized references to sources and methods follows by the most significant products:

		1990. Billion kroner
Exports of goods not recorded in external trade statistics		2,7
of which items of more than 100 million kroner in 1990:		
009 425	Net sale of existing aircraft, foreign ownership adjustment	1,5
	Difference between 2/7 as Norwegian part of transaction and what is recorded in external trade statistics	
232 004	Jet fuel and petrol	0,2
	Calculation based on the energy accounts and item of the foreign exchange statistics	
232 008	Heavy fuel oils	0,1
	Calculation based on the energy accounts and item of the foreign exchange statistics	
555 000	Catering services	0,3
	Part of item in the foreign exchange statistics	

2. EXPORTS OF SERVICES

Introduction

3.334 In NNA, exports of services are distinguished in three main categories, each of which are cross-classified with a set of products. The three categories are:

51 210	Gross receipts from abroad in shipping
51 220	Direct purchases in Norway by non-residents
51 230	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.). 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, the reason for which 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.

3.335 In FNA, there was a wider specification of 16 different categories of exports of services.

3.336 In NNA, exports of services are estimated at 80,1 billion kroner in 1990. The composition on categories and main items is the following:

		1990. Billion kroner
51 210	Gross receipts from abroad in shipping	46,0
51 220	Direct purchases in Norway by non-residents	10,2
51 230	Exports of other services	23,3
	Total categories	79,4
	Total services	80,1

3.337 Exports of services accounted for 27,3 per cent of total exports of goods and services. Its share of GDP was 11,1 per cent.

		1990. Percentage of:	
		Total exports	GDP
51 210	Gross receipts from abroad in shipping	15,66	6,37
51 220	Direct purchases in Norway by non-residents	3,47	1,41
51 230	Exports of other services	7,93	3,21
	Total categories	27,06	11,01
	Total services	27,27	11,09

3.338 The 1990 revision from FNA to NNA has increased exports of services from 77,6 to 80,1 billion kroner. Part of this increase is due to changes in definition. There is a small decrease in item of travel from regrouping to transportation items, but more important is a new

treatment of royalties, licenses as item output and exports of services, while recorded as financial income in FNA (0,8 billion).

		Billion kroner		Revision	
		FNA	NNA	Total	Definitional
51 210	Gross receipts from abroad in shipping	46,0	46,0	-	
51 220	Direct purchases in Norway by non-residents	10,5	10,2	- 0,3	
51 230	Exports of other services	21,1	23,3	2,2	
	Total categories	77,6	79,5	1,9	
	Total services	77,6	80,1	2,5	1,0

Sources

3.339 Main sources used are:

- Foreign exchange statistics
- Maritime transport statistics
- Oil and gas activity statistics

3.340 The foreign exchange statistics, the maritime transport statistics and the oil and gas activity statistics are all described above in section I.C among the main sources used in national accounting. The annual accounts of Postal Service and Norwegian Telecom are available as supplementary sources. From 1992, tourist statistics in the form of accommodation statistics supplement the foreign exchange statistics on items of travel.

Methods of estimation

3.341 The foreign exchange statistics are used in most instances for the estimation of exports of services. For the first category of gross receipts from shipping both the foreign exchange statistics 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 foreign exchange statistics. Having faced increasing problems in recent years, these basic statistics from 1992 have been supplemented by utilizing tourism statistics as well. For the third category of other services, the foreign exchange statistics are used almost throughout all items, the exceptions are 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. Exports of services are specified - apart from the three categories - by 58 NNA-products (services).

3.342 Illustration by 1990 figures and summarized references to sources and methods follows by the most significant products:

		1990. Billion kroner
Gross receipts from abroad in shipping		
611 014	Sea passenger transportation services excl. cruise ships	1,0
	Combined use of foreign exchange statistics and maritime transport statistics (see also output description)	
611 022	Sea freight transportation services	32,5
	Exports equal output (see output)	
611 029	Supply transportation services for oil activity	0,9
	Combined use of foreign exchange statistics and maritime transport statistics (see also output description)	
611 033	Rental services of sea-going vessels with crew	11,1
	Combined use of foreign exchange statistics and maritime transport statistics (see also output description)	
Other NNA-products (2 items)		0,5
	Includes renting services of transport equipment and business services, estimated from items of foreign exchange statistics	
Total exports of category		46,0
Direct purchases in Norway by non-residents		
005 076	Direct purchases in Norway by non-resident tourists	9,4
	Item of foreign exchange statistics, from 1992 also adjusted utilizing tourists statistics	
005 077	Direct purchases in Norway by other non-residents	0,8
	Item of foreign exchange statistics, from 1992 also adjusted utilizing tourists statistics	
Total exports of category		10,2
Exports of other services		
000 379	Fees and other payments for various services	2,2
	Items of foreign exchange statistics	
005 548	Foreign ownership adjustment, current expenditures	

	of oil and gas activities	0,8
	Items of oil and gas activity statistics	
510 900	Commission trade services	1,6
	Item of foreign exchange statistics	
603 012	Transportation of natural gas by pipelines	1,1
	Based on item of oil and gas activity statistics (corrected from transport margin)	
621 010	Scheduled passenger transportation services by air	2,7
	Item of foreign exchange statistics	
632 215	Other supporting services for water transport n.e.c.	1,3
	Item of foreign exchange statistics	
634 011	Ship-broker services	0,9
	Item of foreign exchange statistics	
651 212	Other monetary intermediation services, direct charges	0,6
	Item of foreign exchange statistics	
742 020	Technical consultancy services	0,6
	Item of foreign exchange statistics	
748 400	Miscellaneous business services n.e.c.	3,4
	Items of foreign exchange statistics	
748 410	Use of licenses, patents, royalties etc.	0,8
	Item of foreign exchange statistics	
752 271	Military defence services, government fees	1,4
	Item of foreign exchange statistics (and items of central government accounts)	
Other NNA-products (32 items)		5,9
	Includes a number of flows of exports of services, estimated mostly from items of foreign exchange statistics; accounting data of Postal Service and Norwegian Telecom are used for relevant items	
Total exports of category		23,3

K. IMPORTS OF GOODS AND SERVICES

Imports of goods and services amount to 246,4 billion kroner or 34,1 per cent of GDP in 1990. The 1990 revision from FNA to NNA has been quite small, up from 242,8 billion. Thus, imports contribute by 3,6 (negatively) to the 61,5 billion increase in 1990 GDP. Imports of goods accounted for 72,9 per cent of total imports of goods and services. The 1990 revision for imports of goods was stronger than for total imports, up by 7,7 billion kroner. Imports of services accounted for 28,1 per cent of total imports, with a downward revision by 4,3 billion kroner. External trade statistics contain detailed specifications and are distributed on 635 NNA-products. About 3 per cent of the goods is estimated from other sources than external trade statistics. Imports of services are generally estimated on the basis of foreign exchange statistics, but - like for exports - in combination with maritime transport statistics and oil and gas activity statistics and some other sources.

1. IMPORTS OF GOODS

3.343 In NNA, imports of goods are distinguished in three main categories, each of which are cross-classified with a set of products. The three categories are:

52 110	Imports of goods recorded in external trade statistics
52 120	Imports of ships, oil rigs and modules
52 130	Imports of goods not recorded in external trade statistics

The first category is defined to include goods - except ships, oil rigs and modules covered by the second category - which are recorded in the external trade statistics. This means that 6 products recorded in fact are characteristic products of service-producing industries (0,9 billion kroner, in particular software programmes, video cassettes and works of art). More important, there are 3 products of current expenditure abroad for shipping (first category of imports of services) which actually are regarded as goods (4,3 billion kroner).

3.344 In FNA, there was a similar set of specifications, but the second category emphasized ships and with a further breakdown on new and second-hand (existing) ships.

3.345 For publication purposes, further breakdowns have been employed. In particular, characteristic products of the oil and gas activities have been specified. In addition, the mentioned split of ships has continued, also 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 (see illustration below). In FNA, the opposite choice was made.

3.346 In NNA, imports of goods are estimated at 179,5 billion kroner in 1990. The composition on categories and main items is the following:

		1990. Billion kroner
52 110	Imports of goods recorded in external trade statistics	152,4
52 120	Imports of ships, oil rigs and modules	18,0
52 130	Imports of goods not recorded in external trade statistics	5,7
	Total categories	176,1
	Total imports of goods	179,5

3.347 Imports of goods accounted for 72,9 per cent of total imports of goods and services. Its share of GDP was 24,9 per cent.

		1990. Percentage of: Total imports	GDP
52 110	Imports of goods recorded in external trade statistics	61,87	21,11
52 120	Imports of ships, oil rigs and modules	7,31	2,50
52 130	Imports of goods not recorded in external trade statistics	2,31	0,79
	Total categories	71,49	24,39
	Total imports of goods	72,87	24,86

3.348 The 1990 revision from FNA to NNA has increased imports of goods from 171,8 to 179,5 billion kroner. Part of this increase is due to changes in definitions.

		Billion kroner		Revision	
		FNA	NNA	Total	Definitional
52 110	Imports of goods recorded in external trade statistics	152,4	152,5	0,1	
52 120	Imports of ships, oil rigs and modules	18,0	18,0	-	
52 130	Imports of goods not recorded in external trade statistics	1,3	5,7	4,4	
	Total categories	171,8	176,2	4,4	
	Total imports of goods	171,8	179,5	7,7	1,0

Sources

3.349 Main source used is:

-	External trade statistics

3.350 The external trade statistics are described above in section I.C as one of the main sources used in national accounting. 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 foreign exchange statistics and the energy accounts are also available for supplementary use.

Methods of estimation

3.351 The external trade statistics are used to estimate imports of the first and second categories listed above, i.e. also including imports of new and existing ships. No adjustment is at present made to the external trade statistics in order to account for goods that cross the border without a change of ownership. Adjustment is however made for foreign ownership adjustment territorially (related to oil gas fields in the North Sea, air transportation of SAS). Imports of these goods are specified - apart from the two categories - by 635 product items (goods), i.e. more than 620 products from the first category and 12 products from the second category. More detailed description of the external trade statistics-based estimation should not be necessary.

3.352 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 a c.i.f. valuation to a f.o.b. valuation, based on data from the annual maritime statistics and partly based on the foreign exchange statistics.

3.353 The third category is specified by 6 products (goods), and constitutes a small part of total imports of goods. Illustration by 1990 figures and summarized references to sources and methods follows by products:

		1990. Billion kroner
005 045	Foreign ownership adjustment, SAS investments Difference between 2/7 as Norwegian part of transaction and what is recorded in the annual accounts of SAS	0,3
005 046	Foreign ownership adjustment, investments for oil and gas activities Difference between 2/7 as Norwegian part of transaction and what is recorded in the oil and gas activity statistics	0,1
005 060	Imports of unspecified services for oil and gas extraction activities Items of oil and gas activity statistics	2,6
005 062	Imports of unspecified services for pipeline transportation activity Item of oil and gas activity statistics	2,2
232 004	Jet fuel and petrol Calculation mainly based on the energy accounts	0,3
232 011	Gas oils Calculation mainly based on the energy accounts	0,1
	Total	5,7

2. IMPORTS OF SERVICES

Introduction

3.354 In NNA, imports of services are distinguished in three main categories, each of which are cross-classified with a set of products. The three categories are:

52 210	Current expenditures abroad for shipping
52 220	Direct purchases abroad by residents
52 230	Imports of other services

The first two categories give information on current expenditures abroad for shipping and on direct purchases abroad by residents (on tourism abroad and other consumption). These are the categories of imports that are considered most interesting for specification in the area of services. The number of specifications has been increased from three to five for publication purposes, the reason for which is again more details from the oil and gas activities. For the delineation between goods and services, see problem mentioned under imports of goods.

3.355 In FNA, there was a wider specification of 17 different categories of imports of services.

3.356 In NNA, imports of services are estimated at 66,8 billion kroner in 1990. The composition on categories and main items is the following:

		1990. Billion kroner
52 210	Current expenditures from abroad for shipping	27,2
52 220	Direct purchases abroad by residents	20,7
52 230	Imports of other services	22,2
	Total categories	70,2
	Total imports of services	66,8

3.357 Imports of services accounted for 27,1 per cent of total imports of goods and services. Its share of GDP was 9,3 per cent.

		1990. Percentage of:	
		Total imports	GDP
52 210	Current expenditures from abroad for shipping	11,05	3,77
52 220	Direct purchases abroad by residents	8,40	2,87
52 230	Imports of other services	9,05	3,09
	Total categories	28,51	9,73
	Total imports of services	27,13	9,26

3.358 The 1990 revision from FNA to NNA has reduced imports of services from 71,1 to 66,8 billion kroner. Part of this reduction is due to changes in definition. There is a decrease in item of travel from regrouping to transportation items, the new treatment of foreign sailors reduces current expenditures abroad for shipping (1,0 billion), while the new treatment of royalties, licenses as item included in imports of services (0,9 billion) has the opposite positive effect. Current expenditures abroad for shipping are also affected by new treatment of bunker.

		Billion kroner		Revision	
		FNA	NNA	Total	Definitional
52 210	Current expenditures abroad for shipping	27,7	27,2	- 0,5	
52 220	Direct purchases abroad by residents	23,2	20,7	- 2,5	
51 230	Exports of other services	20,2	22,3	2,1	
	Total categories	71,1	70,2	- 0,9	
	Total services	71,1	66,8	- 4,3	-3,0

Sources

3.359 Main sources used are:

- Foreign exchange statistics
- Maritime transport statistics
- Oil and gas activity statistics

3.360 The foreign exchange statistics, the maritime transport statistics and the oil and gas activity statistics are all described above in section I.C among the main sources used in national accounting. The annual accounts of Postal Service and Norwegian Telecom are available as supplementary sources. From 1992, tourist statistics in the form of air passenger statistics supplement the foreign exchange statistics on items of travel.

Methods of estimation

3.361 The foreign exchange statistics are used in most instances for the estimation of imports of services. For the first category of current expenditures abroad for shipping, both the foreign exchange statistics and the maritime transport statistics have been utilized (see section on intermediate consumption of ocean transport). Traditionally, the tourism items have been exclusively approached from the foreign exchange statistics. Having faced increasing problems in recent years, these basic statistics from 1992 have been supplemented by utilizing tourism statistics as well. For the third category of other services, the foreign exchange statistics are used almost throughout all items, the exceptions are oil and gas activity statistics and the accounts of Postal Service and Norwegian Telecom for proper items. Imports of services are specified - apart from the three categories - by 52 NNA-products (services).

3.362 Illustration by 1990 figures and summarized references to sources and methods follows by the most significant products:

		1990. Billion kroner
Current expenditures abroad for shipping		
005 053	Current expenditures abroad for shipping, excluding bunker items	20,0
	Combined use of foreign exchange statistics and maritime transport statistics (see also intermediate consumption description)	
232 008	Heavy fuel oils	1,8
	Calculation based on the energy accounts and item of the foreign exchange statistics	
232 011	Gas oils	2,4
	Calculation based on the energy accounts and item of the foreign exchange statistics	
351 191	Repair and maintenance services of ships	2,6
	Items of foreign exchange statistics	
Other NNA-products (2 items)		0,4
	Include rebuilding of ships and other refined petroleum product, estimated from items of foreign exchange statistics	
Total imports of category		27,2
Direct purchases abroad by residents		
005 066	Direct purchases abroad by residents, tourists	13,9
	Item of foreign exchange statistics, from 1992 also adjusted utilizing tourists statistics	
005 067	Direct purchases abroad by other resident consumers	0,2
	Item of foreign exchange statistics, from 1992 also adjusted utilizing tourists statistics	
005 068	Direct purchases abroad by residents, business travel	5,4
	Item of foreign exchange statistics, from 1992 also adjusted utilizing tourists statistics	
005 069	Imports by travel agencies	1,3
	Item of foreign exchange statistics	
Total imports of category		20,7

Imports of other services

000 371	Payments for contract work Items of foreign exchange statistics	4,0
005 055	Current expenditures abroad, air transport Items of air transportation statistics	2,1
005 056	Current expenditures abroad, oil drilling activities Item of oil and gas activity statistics	0,6
005 059	Fees and other payments for various services, imports Item of foreign exchange statistics	1,6
005 063	Imports of unspecified services for oil and gas extraction activities Items of oil and gas activity statistics	1,4
005 065	Imports of unspecified services for central government Item of foreign exchange statistics (and items of central government accounts)	0,5
112 011	Drilling services Items of oil and gas activity statistics	0,9
510 900	Commission trade services Item of foreign exchange statistics	1,2
611 029	Supply transportation services for oil activity Combined use of foreign exchange statistics and maritime transport statistics	0,6
621 010	Scheduled passenger transportation services by air Item of foreign exchange statistics	0,9
642 011	Public telephone services Item of accounts of Norwegian Telecom	0,8
651 212	Other monetary intermediation services, direct charges Item of foreign exchange statistics	0,7
748 400	Miscellaneous business services n.e.c. Items of foreign exchange statistics	2,2
748 410	Use of licenses, patents, royalties etc. Item of foreign exchange statistics	0,9
Other NNA-products (28 items)	Includes a number of flows of imports of services, estimated mostly from items of foreign exchange statistics; accounting data of Postal Service and Norwegian Telecom are used for relevant items	3,9
Total imports of category		22,3

L. SUPPLY AND USE TABLES

Annual supply and use tables are a basic feature of the national accounts in Norway. The tables of ESA 1995 input-output framework are illustrated by NNA 1990 figures in this section on supply and use tables. The supply table in basic prices shows that output and imports add up total supply in a 84 to 16 per cent distribution. The use table in purchasers' prices records intermediate consumption as the largest use category by 39 per cent of total use, then household consumption expenditure by 21 per cent, exports by 18 per cent, gross fixed capital formation by 10 per cent, government consumption expenditure by 9 per cent, and finally, NPISH consumption expenditure and changes in inventories by 1 per cent each. Special use tables are presented for trade and other margins and for taxes less subsidies on products, from which tables a use table in basic prices is deduced. About 40 per cent of the margins and 66 per cent of taxes less subsidies on products are related to the flows of household consumption expenditure. The actual supply and use tables are not published in all details, but are obtainable for users of the national accounts.

3.363 In Chapter IV, section B, it was described how the Norwegian national accounts use the commodity flow method as a basis for a complete integration between national accounts and input-output tables. Annual supply and use tables are therefore a basic feature of the national accounts in Norway.

3.364 In order to illustrate the Norwegian practice with supply and use tables, revised 1990 figures have been filled into the chapter 9 tables of the ESA 1995 input-output framework.

Supply table

3.365 A supply table in basic prices is drawn up in Table IX.5 of ESA 1995. It also includes a transformation into purchasers' prices. The NNA data shown in the table are totals, and recordings of the three largest products:

	NNA-products	1990. Billion kroner
111 010	Crude oil	86,1
510 100	Wholesale trade margins	67,8
704 000	Dwelling services, households	60,2

In the table, the corresponding three industries of the three products being illustrated are specified with a sum for total industries.

A supply table in basic prices, including a transformation into purchasers' prices

	Output. Industries.				Imports	Total supply	Trade and	Taxes less	Total supply
	111	510	704	Sum	cif.	in basic prices	transport margins	subsidies on products	in purchasers prices
111010	84,4			84,4	1,7	86,1	3,3		89,5
510100		67,8		67,8		67,8	- 67,8	8,1	8,1
704000			60,2	60,2		60,2			60,2
Total	105,0	72,2	61,7	1264,6	246,4	1511,0	-	85,5	1596,5
of which:									
Market	105,0	72,2		1003,9	246,4	1250,3		85,5	1335,8
For own final use			61,7	72,1		72,1			72,1
Other non-market				188,5		188,5			188,5

3.366 The row total primarily shows the distribution of total supply in basic prices on output and imports. One sixth of the total supply of goods and services is covered from imports.

	1990. Total supply Billion kroner	Percentages
Output	1264,6	83,7
Imports	246,4	16,3
Total supply	1511,0	100,0

Use table

3.366 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 and labour inputs, also by industry. Stocks of fixed assets are not included as they have not yet been revised. 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

A use table in purchasers' prices

	Intermediate consumption				Final uses by categories							Total use
	111	510	704	Sum	(1)	(2)	(3)	(4)	(5)	(6)	Sum	
111010				13,9					1,0	74,6	75,6	89,5
510100												8,1
704000					60,2						60,2	60,2
Total	17,8	30,1	11,0	628,0	338,2	18,9	149,5	156,2	11,9	293,8	968,4	1596,4
Value added components:												
(A)	7,0	25,0	0,2	357,2								
(B)	8,9	- 0,1	-1,6	-7,1								
(C)	71,3	17,3	52,0	286,5								
Value added	87,2	42,1	50,7	636,6								
Output	105,0	72,2	61,7	1264,6								
Suppl.info:												
GFCF	29,1	6,4	25,3	156,2								
Labour inputs	24,9	179,2	1,6	2941,6								

3.367 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 with 39,3 per cent, household consumption expenditure with 21,2 per cent and exports with 18,4 per cent of total use in purchasers' prices in 1990.

	1990. Total use	
	Billion kroner	Percentages
Intermediate consumption	628,0	39,3
Household consumption expenditure	338,2	21,2
Exports	293,8	18,4
Gross fixed capital formation	156,2	9,8
Government consumption expenditure	149,5	9,4
NPISH consumption expenditure	18,9	1,2
Changes in inventories	11,9	0,7
Total use	1596,5	100,0

3.368 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).
- Labour inputs are given in millions of hours worked and combined for employees and self-employed. As documented in chapter VII and elsewhere in the inventory, NNA contains a number of employment series, among which hours worked is considered most adequate as a labour input measure.
- Adjustment for FISIM is considered item of the industry part, as it differs in nature from the valuation adjustment items of taxes and subsidies.

3.369 The use table in purchasers' prices are to be split in three 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 IX.7	A simple trade and transport margin table
Table IX.8	A simple taxes less subsidies on products table
Table IX.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 IX.9 and IX.10 should not be seen as central statistical tables of the basic structure, but as analytical follow-up tables, among which particularly the import matrix of table IX.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.

3.370 The first segment or sub-table of the use table framework to be illustrated is that of ESA table IX.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.

A simple trade and transport margin (and other margins) table

	Intermediate consumption				Final uses by categories						Total use
	111	510	704	Sum	(1)	(2)	(3)	(4)	(5)	(6)	Sum	
111010				0,5						2,9	2,9	3,4
510100				..							..	-67,8
704000				-							-	-
Total	0,1	1,2	2,1	57,3	59,9	-	1,2	10,7	-	20,2	92,0	149,3

3.371 The row total shows the distribution of total margins on intermediate consumption and final uses, and furthermore, by main use categories. Almost 80 per cent of the margins are

related to the product flows for household consumption expenditure and intermediate consumption, about 40 per cent in each of these two main items.

	1990. Total margins Billion kroner	Percentages
Intermediate consumption	57,3	38,4
Final consumption expenditure of households	59,9	40,1
Final consumption expenditure of government	1,2	0,8
Gross fixed capital formation	10,7	7,2
Exports	20,2	13,5
Total	149,3	100,0

3.372 The second segment or sub-table of the use table framework to be illustrated is that of ESA table IX.8 on taxes less subsidies on products.

A simple taxes less subsidies on products table

	Intermediate consumption				Final uses by categories							Total use
	111	510	704	Sum	(1)	(2)	(3)	(4)	(5)	(6)	Sum	
111010				-							-	-
510100				..							..	8,1
704000				-							-	-
Total	0,0	0,9	1,8	26,5	56,8	- 0,5	1,6	-	0,1		59,0	85,5

3.373 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. Two-thirds of total taxes less subsidies on products is related to the flows of household consumption expenditure.

	1990. Taxes less subsidies on products Billion kroner	Percentages
Intermediate consumption	26,5	31,0
Final consumption expenditure of households	56,8	66,4
Final consumption expenditure of government	0,5	0,6
Gross fixed capital formation	1,6	1,9
Exports	0,1	0,1
Total	85,5	100,0

3.374 The third segment or sub-table of the use table framework is that of ESA tables IX.9 and 10 combined, and shows the basic prices' part of the use table in purchases 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. The result of this calculation follows in this last 1990 illustration table of the supply and use tables of NNA.

A use table in basic prices

	Intermediate consumption				Final uses by categories							Total use
	111	510	704	Sum	(1)	(2)	(3)	(4)	(5)	(6)	Sum	
111010				13,4					1,0	71,7	72,7	86,1
510100				..							..	67,8
704000					60,2						60,2	60,2
Total in basic pr.	17,8	29,2	9,2	601,5	281,4	18,9	149,0	154,6	11,9	290,7	909,4	1511,0
Net taxes on prod.	0,0	0,9	1,8	26,5	56,8	-	0,5	1,6	-	0,1	59,0	85,5
Total in purch.pr.	17,8	30,1	11,0	628,0	338,2	18,9	149,5	156,2	11,9	293,8	968,4	1596,5
Value added components:												
(A)	7,0	25,0	0,2	357,2								
(B)	8,9	- 0,1	-1,6	-7,1								
(C)	71,3	17,3	52,0	286,5								
Value added	87,2	42,1	50,7	636,6								
Output	105,0	72,2	61,7	1264,6								

3.375 The actual supply and use tables - 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 sections of chapter II and chapter III, in particular concerning products, industries and categories of uses.

M. FINAL USE BORDERLINES

Borderlines between final uses and intermediate consumption are examined in this special section to respond to a questionnaire drawn up by Eurostat to gather information from national practices. Twelve borderline issues have been identified for investigation. These are structured in two parts, first, recording of expenditures in basic statistics, and second, other borderline issues which mostly are borderline problems between gross fixed capital formation and intermediate consumption. Furthermore, some are affected by the transition from FNA to NNA (e.g. treatment of military expenditures). The investigation of the first part on basic statistics showed a tendency to record the borderline issues as current costs (intermediate consumption) rather than as capital (GFCF).

Introduction

3.376 In Chapter II, GDP from the output approach has been described in terms of output, intermediate consumption and value added for the respective industries and other global items (VAT, other taxes on products, subsidies on products and adjustment for FISIM), which are the building blocks in order to arrive at GDP in market prices. For the problem to be studied in this section - the borderline between intermediate consumption and final uses - it is noted that 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.

3.377 Above in Chapter III , GDP has been reviewed and described from the expenditure approach point of view, this time with the building blocks of final use categories, i.e. government final consumption expenditure, NPISH consumption expenditure, household final consumption expenditure, gross fixed capital formation, changes in inventories, exports of goods and services, less imports of goods and services. In this context, consumers as well as producers have incurred other types of expenditures than recorded under intermediate consumption, this time recorded as final uses and contributing directly to the GDP in market prices.

3.378 Thus, the borderline between intermediate and final uses is of utmost importance to the estimation of GDP. With the aim of ensuring the comparability of GDP estimates, a special questionnaire has been drawn up by Eurostat to gather information from the respective national practices on this borderline problem. Twelve borderline issues have been identified for investigation in the study and questionnaire used for that purpose. Two parts have been distinguished:

(1)	Expenditures that might be recorded inappropriately in the basic statistics
(2)	Other borderline issues listed

Recording of expenditures in basic statistics

3.379 In part (1) of the questionnaire, five borderline issues are to be investigated as to how expenditures are recorded in basic statistics under either intermediate consumption or final uses. The five borderline issues are:

A1.	Purchases of durable goods in small value
A2.	Purchases of research, advertising and market research
A3.	Expenditures on major repairs, renovations and improvements
A4.	Purchases and rentals of intangible assets
A5.	Expenditure on software

3.380 Guidance on recording given in the basic statistics is item 1 of the questionnaire. When statistical forms are sent to the respondents (producers etc.), these forms are most often accompanied by quite detailed guidance on how to fill in the figures. In Norway, there has been a long tradition and close co-operation between the national accounts unit and the respective subject-matter units on economic statistics in order to ensure that definitions of the national accounts are requested in the statistical forms on the standard variables.

3.381 Specifically on the five issues, the guidance on A.1 in the industry-related statistics on production, investment etc. states that acquisitions for production purposes that have a service life beyond one year should be recorded as gross fixed capital formation. As regards A.2, the NA treatment as intermediate consumption has been emphasized in guiding the respondents. Accounting regulations and rules tend to support this treatment (and tax rules support recording deficits over a period of 10 years). Guidance on A.3 is part of the general guidance, but is not made explicit in terms of threshold values or other specific conventions. On A.4, purchases of intangible assets that have a lasting value over several years are recorded as capital flows and in balance sheets. Patents and licences appear as separate items in manufacturing statistics and are treated as in NA. Expenditures on software in A.5 have been treated as intermediate consumption in the statistics, but are not explicitly mentioned in the guidance to it. The new treatment as GFCF probably needs some time to be implemented in basic statistics.

3.382 Item 2 of the questionnaire deals with compliance in practice by the providers of basic statistics with the guidance given to them. In general, respondents to statistical forms often prefer to apply accounting rules rather than the principles and definitions accompanying the statistical forms. This means that respondents - in many instances - tend to search for similar items in their accounts and apply those data without any adjustment that may be required to comply with the NA definitions. It is impossible to say how widespread this phenomena in fact is in practical work, nor do we know how widespread the compliance to the principles behind the statistical forms is when figures deviate from the accounting data or when accounting data are not available. In general, it might be said there is a tendency to report costs as intermediate consumption in a number of borderline cases. With the structure statistics being implemented in near future - in accordance with the obligations of the EEA treaty - the actual reporting as intermediate consumption and GFCF respectively will possibly be more transparent, since the structure statistics are to be closely linked to the accounting data of the respondents.

3.383 There are just scattered specific information to be given on compliance, any adjustments and values involved asked for the five issues in items 2 - 4 of the questionnaire. In the case of durable goods of small value (A.1), the accounting approach means that acquisitions which are recorded in the operation account will be reported as intermediate consumption despite the statistical guidance stating that such acquisitions should have been recorded as GFCF. Thus, acquisitions of goods with a value of 15 000 kroner or below and expected service life less than 3 years would be reported as intermediate consumption in a normal situation when the accounts of the respondents are followed without any adjustment. For this issue, supposedly, this practice is believed to be widespread. For R & D (A.2), the compliance is not very clear; some respondents record this item as capital, especially in a starting phase when large R & D expenditures are involved and lasting values from them are expected, while others emphasize accounting rules and treatment as intermediate consumption. A.3 is a difficult area. In principle, these costs are recorded as capital in investment statistics, in other cases there is a tendency to go for the option of intermediate consumption despite the fact that the service life is prolonged with the expenditures of major repairs, renovations and improvements. This issue is also touched upon in other parts of the inventory for a number of industry-related cases.

Other borderline issues

3.384 Other borderline issues contain seven specific issues:

A6.	Government expenditures on military buildings, installations and equipment
A7.	Purchases of antiques and works of art
A8.	Purchases of land and buildings together
A9.	Expenditures on land improvement (including oil exploration, etc.)
A10.	Costs incurred in the transfer of ownership of land, buildings, other fixed capital assets or intangible assets
A11.	Purchases by sole proprietorships
A12.	Expenditures on own account output of fixed capital goods

Military expenditures

3.385 In NNA, the new principles and treatment of ESA 1995 and SNA 1993 have been implemented. Government expenditures on military buildings, installations and equipment are thus mainly treated as gross fixed capital formation (GFCF). This is described above in Chapter II, paras. 2.484, 2.493, 2.501 and 2.503, and in Chapter III, paras. 3.4 (COFOG 02), 3.17, 3.73, 3.78 (segment 02 Defence affairs and services), 3.383 and 3.385-3.387. Key information in para. 2.497 is that cost survey data from the Ministry of Defence are broken down by approximately 200 FNA-products for intermediate consumption and 60 FNA-products for gross fixed capital formation (GFCF) and subsequently converted into corresponding NNA-products.

3.386 Making the borderline between GFCF and intermediate consumption was not a clear-cut task following the new international guidelines. The problematic items in terms of allocation were relatively few, however. One such area was a compounded item for new acquisitions of materials, buildings and structures (cf. item 1760, sub-items 45, 46 and 48 of the central government accounts). The attitude taken was to keep the former treatment of intermediate consumption in most such cases. However, certain buildings and structures supposed for alternative civilian use (such as buildings for welfare and recreational purposes, airports, and dwellings for military personnel like before) were treated as GFCF. The resulting relationship between the 1990 figures of GFCF and intermediate consumption in defence activities is 22,5 to 77,5 per cent. In FNA, virtually all military expenditures, including expenditures on military buildings, installations and equipment, were treated as intermediate consumption in defence activities and consequently as part of government final consumption expenditure. There was one minor exception from this treatment, i.e. dwellings for military employees (not for conscripts) were treated as GFCF (just 45 million kroner in 1990).

3.387 Illustrated by 1990 figures, GFCF introduced in NNA is distributed on the following main types of fixed assets:

	Military investments. Billion kroner
Buildings	0,1
Structures	0,4
Transport equipment	1,3
Other machinery and equipment	1,4
Military fixed assets treated as GFCF	3,3

Purchases of antiques and works of art

3.388 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 SNA 1993 / ESA 1995, 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 in post activities, and just a small amount for GFCF (see para. 3.111 above), the producer units' expenses in this area are not dealt with seriously or being recorded among unspecified intermediate consumption.

Purchases of land and buildings together

3.389 In NNA, there is no effort made to split among the two assets - buildings and land underlying buildings - when land and buildings are purchased together. For purchases and sale of residential and non-residential buildings, there are a number of recordings for each of the two aggregated products - some 85 GFCF activity items for existing residential buildings and some 45 GFCF activity items for existing non-residential buildings - in terms of purchases (+) and sale (-), with a zero total in each of the two cases. Each individual item is small, at least in 1990 (other monetary intermediation as largest industry of purchaser at 0,2 billion).

Expenditures on land improvement (including oil exploration, etc.)

3.390 Under this heading , three types of expenditures are all to be regarded as GFCF. They are 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. From the GFCF documentation in chapter III, sections G and H, more information is given on these GFCF items. 1990 figures are presented by types of fixed assets in para. 3.173, which show that land improvement in agriculture and forestry is not particularly important in Norway (0,4 billion), while expenditures on mineral exploration (oil drilling in particular) is much more important (4,9 billion). In FNA, mineral exploration was treated as GFCF as well.

Costs incurred in the transfer of ownership of land, buildings, other fixed capital assets or intangible assets

3.391 In NNA, transfer costs are included in uncompleted prospective purchases and sales. This is the valuation treatment adopted in construction statistics when producing at own-account. No transfer costs are included in the recordings of purchases and sale of existing assets. Transfer costs are not specified in the case of servicing contracts and guarantees.

3.392 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 construction). Such installation costs are particularly important for ships, oil platforms and machinery, while one part is intermediate consumption in construction as illustrated by 1990 figures:

	1990 Installation costs. Billion kroner
Ships and boats	0,3
Oil production platforms and oil drilling rigs and modules	0,2
Agricultural and forestry machinery and equipment	0,2
Machinery and equipment in manufacturing and mining	0,1
Machinery and equipment in other industries	0,6
Total for gross fixed capital formation	1,3

3.393 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:

		1990. Billion kroner
701 000	Real estate services with own property	0,5
703 000	Real estate agency services on a fee or contract basis	1,0

Purchases by sole proprietorships

3.394 The households of sole proprietors commonly use goods and services for both household and business purposes. In view of the more direct use of household consumer surveys in NNA, it may be said that 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 (see also section on gross mixed income in chapter IV).

3.395 A somewhat related issue - treatment of one-man establishments - is referred to throughout the output and intermediate consumption section. It is described how industry-related basic statistics are adjusted to cover one-man establishments, as most often such establishments are not covered in the production statistics (for example, manufacturing statistics). Special calculations are however made to cover these units in NNA.

Expenditures on own account output of fixed capital goods

3.396 Own-account output of fixed capital goods (own-account construction) is described and referred to in detail throughout the output sections of all industries in chapter II. Large or characteristic items are found in NACE C on oil and gas extraction (2,3 billion), in NACE E on electricity production (1,9 billion), in NACE F on construction (8,3 billion) and in NACE I on telecommunications (1,1 billion). The various own-account construction items are separately identified as types of fixed assets (see para. 3.173, where 17 different assets are listed). Output of own-account construction is generally estimated from production costs.

CHAPTER IV. GDP BY INCOME APPROACH

A. COMPENSATION OF EMPLOYEES BY COMPONENTS

Compensation of employees amounts to 357,2 billion kroner in 1990, which is very close to half the size of GDP (49,5 per cent). Wages and salaries constitute 83,2 per cent of total compensation of employees, of which 97 per cent is in cash and 3 per cent in kind. Employers' social contributions constitute the remaining 16,8 per cent of compensation of employees, of which 98 per cent is actual social contributions and 2 per cent imputed social contributions. The 1990 revision from FNA to NNA has increased total compensation of employees by 15,2 billion kroner, a small part of which due to definitional changes in the treatment of compensation to foreign sailors on Norwegian ships. The estimates are mainly compiled from an industry-related approach, and sometimes from an indicator-based approach using wages and employment data. The estimation of compensation of employees by industry is closely linked to the estimation of employment and hours worked. Wider coverage on wages in kind has been achieved, mainly by utilizing data from the new Register of Wages and Salaries. Accounting data from the National Insurance Administration cover the major part (nearly 80 per cent) of employers' actual social contributions, while the employers' imputed social contributions are approached by estimating unfunded social benefits actually paid and needed to cover the imputed contributions.

Introduction

4.1 Compensation of employees has two breakdowns, one by categories or components and one by kind of activity. In practice, they are cross-classified, i.e. each of the components are broken down by kind of activities or industries. Both dimensions are described below. An overview is first given by components (part A), while details by industries follow in the second part (part B).

4.2 Compensation of employees has two main components:

- wages and salaries
- employers' social contributions

Each of the two main components consists of two items, i.e. wages and salaries in cash and in kind, and employers' actual and imputed social contributions.

4.3 In NNA, compensation of employees is estimated at 357,2 billion kroner in 1990. Wages and salaries constitute 297,2 billion or 83,2 per cent of total compensation of employees. Wages and salaries in cash and in kind make a 97 to 3 per cent distribution. Employers' social contributions constitute the remaining 60,1 billion kroner or 16,8 per cent of total consumption of employees. The item of actual social contributions is far the largest part of employers' social contributions, making a 98 to 2 per cent distribution between actual and imputed social contributions. The GDP share of total consumption of employees is very close to 50 per cent (49,5 per cent).

	1990		
	Billion kroner	Percentages of: Compensation of employees	GDP
Wages and salaries	297,2	83,19	41,15
- in cash	289,0	80,91	40,03
- in kind	8,1	2,27	1,12
Employers' social contributions	60,1	16,81	8,32
- actual	58,7	16,43	8,13
- imputed	1,4	0,38	0,19
Total compensation of employees	357,2	100,00	49,47

4.4 The 1990 revision from FNA to NNA has increased compensation of employees from 342,0 to 357,2 billion kroner. A small part of the increase was due to definitional changes, i.e. 1 billion kroner caused by a new treatment of compensation to foreign sailors on Norwegian ships (foreign-registered vessels). There is also a reclassification of FNA item other outlays to benefit employees and employers' contributions to Municipal Pension Fund (included in wages and salaries at 8,6 billion kroner in FNA), in NNA grouped with employers' social contributions. Non-definitional changes from FNA to NNA thus totals 14,2 billion kroner in 1990, most of which relates to wages and salaries at 13,7 billion kroner.

	Billion kroner		Revision	
	FNA	NNA	Total	Definitional
Wages and salaries	291,1	297,2	6,1	-7,6
- in cash	290,0	289,0	- 1,0	..
- in kind	1,1	8,1	7,0	..
Employers' social contributions	50,9	60,1	9,2	8,6
- actual	50,9	58,7	7,8	..
- imputed	..	1,4	1,4	..
Total compensation of employees	342,0	357,2	15,2	1,0

Sources

4.5 Main sources used are:

- Manufacturing statistics
- Central government accounts
- Local government accounts
- Structural statistics covering other industries
- Employment statistics
- Wage statistics
- Register of Wages and Salaries (RWS)

4.6 The last two sources listed above are referred to as Wage and earnings statistics in section I C. The first three sources from the list are also described in section I.C on main sources for the national accounts, i.e. sources that include data on wages and salaries (and compensation of employees) among other main variables covered. It should be stressed that RWS in some near future might have a much more solid position as statistical source than for the time being. Such comprehensive register data need some years to be properly established as a most relevant statistical source for the estimation of compensation of employees. Problems faced so far are most accentuated when it comes to the distribution by industries.

Methods of estimation

Wages and salaries in cash

4.7 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 for 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

4.8 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 SNA 1993. In Norway, employers normally pay wages and salaries out of their own resources for the first 14 days of the employees' period of sickness. Payments for periods of absence due to sickness for more than 14 days per year are covered by National Insurance and are not treated as wages and salaries in NNA.

4.9 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 listed above, or from an indicator-based approach (on wages and employment). See second part, for details by kind of activities.

4.10 Wages and salaries in cash are then calculated for each industry by subtracting estimated wages and salaries in kind (see below) from total wages and salaries, or by subtracting wages and salaries in kind and employers' total social contributions from total compensation of employees.

Wages and salaries in kind

4.11 Wages and salaries in kind have been significantly extended in coverage from FNA to NNA, the main reason for which was an obvious underestimation before the revision. The detailed description of the extended estimation in NNA is given in chapter VII on exhaustiveness, what follows next is a summarized description only.

4.12 In NNA, the most important types of wages and salaries in kind covered are:

- the services of vehicles provided for the personal use of employees
- the value of interest foregone by employers when they provide loans to employees at reduced rates of interest
- meals consumed when travelling on business
- free travel for the employees of railways and airlines.

Due to lack of reliable data, 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.

4.13 The main statistical source used for this component 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.

4.14 Adjustments are made to the RWS data when estimating different types of allowances covering meals consumed when travelling 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), but due to difficulties in estimating the precise compensation part from the data, it was decided in NNA to allocate 50 per cent of the total allowances as compensation of employees and 50 per cent as intermediate consumption. The compensation of employees' part is altogether treated as wages and salaries in kind, although some 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.

4.15 Free travel is another item covered in wages and salaries in kind. Employees of railways and airlines - and their families - can enjoy the benefit of free travel. This item is estimated primarily from the household budget surveys.

Employers' actual social contributions

4.16 In NNA, this item is divided into two sub-items:

- employers' contributions to National Insurance
- employers' other actual social contributions.

4.17 Employers' contributions to National Insurance are specified separately due to its major role in this context, covering 77,5 per cent of total social contributions of the employers. 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. Employers' contribution rates (percentages of wages and salaries) are differentiated according to the employees' region of residence.

4.18 The total value of employers' contributions to National Insurance is estimated on accruals basis based on accounting data from the National Insurance Administration. The activity distribution is estimated in the national accounts. In manufacturing activities and government service activities, available payment and accounting data are used. In other activities, employers' contributions to National Insurance are estimated by using activity figures of wages and salaries and imputed contribution rates.

4.19 In NNA, 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.

4.20 Members of Public Service Pension Fund relate to employees in central government, central government enterprises (railways, post and telecommunications) and all teachers. This fund is also responsible for the administration of some minor social security schemes for seamen, fishermen, forestry workers and pharmacists.

4.21 The main statistical source used in estimating employers' contributions to the Public Service Pension Fund is central government accounts, which provide data on employers' contributions to this fund concerning employees in central government, in local government (mainly teachers) and in other industries. The latter figure is allocated to industries in NNA by using accounting data for the most important activities (railway transportation, post and telecommunications) and distributional keys for less important activities. The administration of the Public Service Pension Fund provided a detailed list of institutions paying contributions for 1992, thus a supplementary source being used. By confronting the data from this list with data of central government accounts, some items missing in the central government accounts were detected and accounted for. The revision from FNA to NNA was quite considerable - downwards for central government, upwards for local government - by using new statistics and by thorough assessments of the estimates in collaboration with expert advice from people responsible for finance statistics of central government in Statistics Norway.

4.22 Members of Municipal Pension Funds relate to employees in local government (excluding teachers) and some municipal enterprises. Most of these employees are members of an insurance enterprise (the Municipal Insurance Company).

4.23 From 1991 onwards, local government accounts provide data on employers' contributions in local government. For previous years, only total contributions to National Insurance and municipal pension funds were available. In NNA, the contributions to National Insurance were first separated, and then the contributions to other pension funds residually, allocated to local government activities in proportion to wages and salaries while adjusting for

teachers as members of the Public Service Pension Fund. In FNA, social contributions from local government were treated alternatively as part of wages and salaries.

4.24 Other social security schemes comprise various private pension funds, private health and accident insurance and occupational injury insurance.

4.25 The estimation of employers' contributions to other social security schemes is based on different types of sources. Annual production statistics (manufacturing statistics etc.) contain figures for item other outlays to benefit employees (part of wages and salaries in cash in FNA) for the activities in manufacturing, mining and quarrying, oil and gas extraction activities, electricity, construction and business activities. Adjustment is made for benefits paid directly to employees, which are treated as imputed social contributions. Data for wholesale and retail trade and financial intermediation are obtained from a survey on indirect labour costs in 1988 conducted by Statistics Norway. It is assumed that the contribution rates in these activities are constant for the subsequent years. Social contribution estimates for other industries are based on statistics from the RWS register (items of accident insurance and individual pension schemes) and from the Association of Norwegian Insurance Companies (items of collective pension schemes and occupational injury insurance).

Employers' imputed social contributions

4.26 This new item 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. Since it is difficult to approach this in terms of social contributions, the NNA has adopted as approach the estimation of unfunded social benefits actually paid by the employers in the accounting period needed to cover the imputed contributions.

4.27 The estimation of this item has been based on the RWS register data on pensions paid directly from employers to employees, payments caused by death of employees etc. Employers' imputed social contributions are probably underestimated in NNA, in part from the difficulties met when trying to separate payments due to short periods of absence (see above) from other payments of wages and salaries in cash.

B. COMPENSATION OF EMPLOYEES BY KIND OF ACTIVITIES

The industry structure for compensation of employees has not been substantially altered by the main revision from FNA to NNA. Compensation of employees - from the income approach point of view - contributes by 15,2 billion to the 61,5 billion increase in 1990 GDP. The largest contribution came from NACE K (especially business activities) by 7,5 billion and NACE N (health and social work) by 3,4 billion, while most NACE main groups had revisions of small amounts only (less than 1 billion up or down for as many as eight of these main groups). In general, the estimation of compensation of employees has been reviewed in relation to the compilation of employment figures. Sources which provide compensation of employees or wages and salaries data directly are judged against alternative or supplementary sources of wage statistics and employment data. In this review, the new ratio of wages and salaries to full-time equivalent employees has proved more reasonable than before in several industries, and the role for RWS is provisionally as a source of reference, at the industry comparisons in particular.

1. AGRICULTURE, HUNTING AND FORESTRY - NACE A

Contents

4.28. In NNA, compensation of employees - as well as employment - is specified in 3 industries for NACE A (Agriculture, Agricultural and animal husbandry service activities and Forestry and logging). The activity of hunting is recorded without any employment and compensation of employees.

4.29 In NNA, compensation of employees of NACE A is estimated at 3,1 billion kroner in 1990. It accounted for 0,9 per cent of total compensation of employees. Its share of GDP was 0,4 per cent.

4.30 The 1990 revision from FNA to NNA has increased compensation of employees in these industries quite considerably from 1,6 to 3,1 billion kroner. No definitional changes occur.

		Compensation of employees			
		Billion kroner		Revision	
		FNA	NNA	Total	Definitional
01	Agriculture	0,6	2,3	1,7	-
02	Forestry and logging	1,0	0,8	-0,2	-
	Total	1,6	3,1	1,5	-

4.31 In general, the estimation of compensation of employees should be reviewed in relation to the compilation of employment figures. The employment figures of full-time equivalent employees and hours worked for employees have not been revised in NNA. However, a considerable revision was undertaken some years ago, i.e. for employment but not for compensation of employees. In NNA, the latter has therefore been strongly revised upwards in order to reflect more reasonable ratios as illustrated below.

		1990			
		Full-time equivalent employees. 1000		Hours worked employees. Million	
		FNA	NNA	FNA	NNA
01	Agriculture	14,4	14,4	23,2	23,6
02	Forestry and logging	4,2	4,2	6,9	7,0
	Total	18,6	18,6	30,1	30,6

		Wages and salaries per full-time equivalent employee	
		FNA	NNA
01	Agriculture	36	139
02	Forestry and logging	198	170

Sources

4.32 The Register of Wages and Salaries (RWS) was used as a source of reference only, not fully established as a reliable source when the general revision was held.

4.33 Sources on indicators of wages were available through wage statistics for employees in agriculture and horticulture on annual basis until 1987, wage statistics for agricultural relieve personnel in 1992, information on wage development from the agriculture and forestry employers associations, also including wage levels in the latter case. Main source information on the volume indicator was obtained from labour force survey (LFS) data. Forestry statistics constitute a supplementary source on employment data.

Methods of estimation

Agriculture

4.34 The indicator approach through multiplying price (wages) and volume (employment) was applied, since the RWS data were not yet considered reliable enough for direct use. The volume component was 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 were also looked at. The wage price component was estimated on basis of the two sources available. The 1992 data for agricultural relieve personnel showed their full-time wages corresponding to about 70 per cent of the national average. The wage development over the years is primarily obtained from the Agricultural Employers Association. In addition, employers' social contributions are estimated separately (see above).

4.35 For agricultural services, compensation of employees has been estimated at 0,2 billion kroner in connection with the calculation of output from three production activities (see output section above). Separate estimate for compensation of employees is available for the main activity part. Some adjustment is needed, the result of which showed a W/FE ratio somewhere between the corresponding ratios in agriculture and forestry.

4.36 The NNA estimate of wages and salaries - for total agriculture - came close to the reference source of RWS for agriculture. Please note that in agriculture the part of employees is relatively small compared to self-employed.

	Billion kroner	
	1990	1992
Wages and salaries		
- NNA estimate	2,3	2,2
- Reference data of RWS	..	2,3

Forestry and logging

4.37 The wage and employment indicators referred to are utilized in the estimation of compensation of employees in forestry and logging. This resulted in a downward revision, although just halfway down from the FNA estimate to the RWS reference alternative.

	Billion kroner	
	1990	1992
Wages and salaries		
- NNA estimate	0,8	0,8
- Reference data of RWS	..	0,5

2. FISHING - NACE B

Contents

4.38. In NNA, compensation of employees - as well as employment - is specified in 2 industries for NACE B, one for fishing proper and one for fish farming.

4.39 In NNA, compensation of employees of NACE B is estimated at 1,9 billion kroner in 1990. It accounted for 0,5 per cent of total compensation of employees. Its share of GDP was 0,3 per cent.

4.40 The 1990 revision from FNA to NNA has increased compensation of employees in fishing considerably from 0,9 to 1,9 billion kroner, of which 0,8 billion in fishing excluding fish farming. No definitional changes occur.

		Billion kroner		Revision	
		FNA	NNA	Total	Definitional
05	Fishing	0,9	1,9	1,0	-

4.41 The employment figures of full-time equivalent employees and hours worked for employees have been revised downwards in NNA. With the markedly formidable revision in the compensation of employees estimate in NNA, the ratio of wages and salaries per full-time equivalent employee therefore has appeared much more reasonable than before as illustrated below.

		1990			
		Full-time equivalent employees. 1000		Hours worked employees. Million	
		FNA	NNA	FNA	NNA
05	Fishing	11,0	8,1	19,2	14,1

		Wages and salaries per full-time equivalent employee	
		FNA	NNA
05	Fishing	71	208

4.42 The distinction between employees and self-employed is particularly problematic in fishing. In FNA - based on the 1980 Population Census - the share of employees has been

somewhat above 50 per cent. The Labour Force Surveys, however, seem to apply a lower share for employees, also supported by information obtained from the Guarantee Fund for Fishermen. In NNA, the share of employees has been set at approximately 35 per cent.

Sources

4.43 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 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.). From this source, labour income is calculated by the Budgeting Committee of Fishing.

4.44 Cost surveys of fish farming provide data that are available on annual basis from the Directorate of Fisheries. Employment data are available in the publication Fishing and Rearing of Salmon etc., also based on data collected by the Directorate of Fisheries..

Methods of estimation

4.45 The cost survey data on labour 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.

4.46 The cost survey data of fish farming have been utilized as a basis for the W/FE estimate. Expert judgement suggests that the FNA estimate for fish farming was too low. Supplementary information has also been taken into consideration, such as wage development in total manufacturing and manufacture of food products in particular, and the RWS register on wages and salaries in kind for revising that component upwards.

4.47 In NACE B in total, the RWS has recorded a much lower amount than estimated for NNA, and might indicate that most fishermen are regarded as self-employed in terms of taxation.

	Billion kroner	
	1990	1992
Wages and salaries		
- NNA estimate	1,9	2,1
- Reference data of RWS	..	0,7

3. MINING AND QUARRYING - NACE C IN PARTICULAR: EXTRACTION OF CRUDE PETROLEUM AND NATURAL GAS

Contents

4.48. In NNA, compensation of employees is specified in 5 industries for NACE C, i.e. same as for output etc.(no Norwegian activity in NACE 120). For employment, however, data are more aggregated by following the specifications of the quarterly accounts. It means three industries, the two industries of oil activities plus one combined industry for mining and quarrying.

4.49 In NNA, compensation of employees of NACE C is estimated at 9,6 billion kroner in 1990. It accounted for 2,7 per cent of total compensation of employees. Its share of GDP was 1,3 per cent.

4.50 The 1990 revision from FNA to NNA has reduced compensation of employees in these industries from 10,3 to 9,6 billion kroner. No definitional changes occur, except for the nomenclature change of oil drilling that are already accounted for.

		Billion kroner		Revision	
		FNA	NNA	Total	Definitional
11	Extraction of crude petroleum and natural gas; Service activities incidental to oil and gas extraction	9,1	8,4	- 0,7	-
10,13,14	Mining and quarrying	1,1	1,2	0,1	-
	Total	10,3	9,6	- 0,7	-

4.51 In general, the estimation of compensation of employees is reviewed in relation to the compilation of employment figures. The employment figures of full-time equivalent employees and hours worked for employees have just been slightly reduced in NNA for these industries.

		1990			
		Full-time equivalent employees. 1000		Hours worked employees. Million	
		FNA	NNA	FNA	NNA
11	Extraction of crude petroleum and natural gas; Service activities incidental to oil and gas extraction	18,5	18,5	31,4	31,4
10,13,14	Mining and quarrying	5,3	5,2	8,2	8,1
	Total	23,8	23,7	39,6	39,5

		Wages and salaries per full-time equivalent employee	
		FNA	NNA
11	Extraction of crude petroleum and natural gas; Service activities incidental to oil and gas extraction	425	366
10,13,14	Mining and quarrying	203	195

Sources

4.52 Main sources used are:

- Oil and gas activity statistics
- Construction statistics for oil drilling activity
- Register of Wages and Salaries (RWS)

Again, the Register of Wages and Salaries is mainly used as a source of reference, although a direct role in estimating the component of wages and salaries in kind.

Methods of estimation

Extraction of crude oil and natural gas

4.53 Data from the oil and gas activity statistics are used - with small adjustments - for the estimation of compensation of employees in NNA-industry 111. The corresponding data from the RWS are somewhat higher, however. The W/FE ratio of FNA was at a significantly higher level than recorded in wage statistics. Contrary to the case of manufacturing, employment data are here considered more reliable than wage information from the wage statistics. Nonetheless, the W/FE ratio has been reduced, primarily as a result of less adjustment to the wage data from the oil and gas activity statistics than before the revision.

4.54 Data from the construction statistics reflecting oil drilling activities are used - with small adjustments - for the estimation of compensation of employees in NNA-industry 112. The RWS data are higher here as well. The W/FE ratio has been revised upwards, partly based on expert judgement obtained from the Confederation of Norwegian Business and Industry.

		Billion kroner	
		1990	1992
Wages and salaries			
NNA estimates			
111	Extraction of crude petroleum and natural gas	5,5	6,6
112	Service activities incidental to oil and gas extraction	1.2	1,3
Reference data of RWS			
111	Extraction of crude petroleum and natural gas	..	6,8
112	Service activities incidental to oil and gas extraction	..	1,6

Mining and quarrying

4.55 Manufacturing statistics are used - including an adjustment upwards to the wage bill proper of the same source - for the estimation of compensation of employees in mining and quarrying.

4. MANUFACTURING - NACE D

Contents

4.56 In NNA, compensation of employees is specified in 67 industries for NACE D, i.e. same industries as for output etc. For employment in manufacturing - and also for the estimation of wages and salaries per full-time equivalent employee - data are more aggregated by following the specifications of the quarterly accounts. It means the following 16 aggregated industries:

NNA-industries	Short description in terms of manufacturing products
151, 155	Meat and meat products; Dairy products
152	Fish and fish products
153-154, 156-158	Food products except the above
159-160	Beverages; Tobacco products
17-19	Textiles; Wearing apparel and fur; Leather and leather products, footwear
20	Wood and wood products
21	Pulp, paper and paper products
22	Publishing. printing and reproduction of recorded media
23	Refined petroleum products etc.
241-242, 247	Basic chemicals; Fertilizers etc.; Plastics and man-made fibres
243-246, 25, 26	Chemical products except the above; Rubber and plastic products; Other non-metallic mineral products
27	Basic metals
28-34, 353-356	Fabricated metal products, machinery, equipment and apparatus except mentioned below
351	Ships and boats
352	Oil platforms and modules
36-37	Furniture, manufacturing n.e.c.; Recycling

4.57 In NNA, compensation of employees of NACE D is estimated at 61,7 billion kroner in 1990. It accounted for 17,3 per cent of total compensation of employees. Its share of GDP was 8,5 per cent.

4.58 The 1990 revision from FNA to NNA has moderately reduced compensation of employees in manufacturing from 62,5 to 61,7 billion kroner. The reduction is explained by certain changes in nomenclature (regroupings) that are described elsewhere. Most important in terms of employment and compensation of employees is the regrouping of social work activities by disabled persons.

		Billion kroner		Revision	
		FNA	NNA	Total	Definitional
151-372	Manufacturing	62,5	61,7	-0,8	- 0,8

4.59 In general, the estimation of compensation of employees is reviewed in relation to the compilation of employment figures. The employment figures of full-time equivalent employees and hours worked for employees have been reduced by approximately 2,5 per cent from FNA to NNA for these industries. The W/FE ratio has been slightly reduced.

		1990			
		Full-time equivalent employees. 1000		Hours worked employees. Million	
		FNA	NNA	FNA	NNA
151-372	Manufacturing	272,2	265,9	439,1	428,8

		Wages and salaries per full-time equivalent employee	
		FNA	NNA
151-372	Manufacturing	199	192

Sources

4.60 Main sources used are:

- Manufacturing statistics
- Wage statistics
- Register of Wages and Salaries (RWS)

Again, the Register of Wages and Salaries is mainly used as a source of reference, although a direct role in estimating the component of wages and salaries in kind. This source has no overall significance yet due to introductory problems.

Methods of estimation

4.61 Compensation of employees and employment figures are estimated by combining data from manufacturing statistics and wage statistics. The employment figures in all industries are adjusted upwards by 2-3 per cent to meet the level of the Labour Force Surveys. Items of RWS on remuneration for certain expenses in manufacturing (daily allowances, use of own cars, etc.) are compared with corresponding items of manufacturing statistics, leading to an

upward adjustment to manufacturing statistics (corresponding adjustment downwards made to intermediate consumption). The corresponding data from the RWS are somewhat higher, however.

	Wages and salaries Billion kroner	
	1990	1992
NNA estimates	51,1	53,8
Reference data of RWS	..	59,2

5. ELECTRICITY, GAS AND WATER SUPPLY - NACE E

Contents

4.62 In NNA, compensation of employees - as well as employment - is specified in 6 industries for NACE E (or 5 industries as there was no such gas supply activity in this period).

4.63 In NNA, compensation of employees of NACE E is estimated at 5,0 billion kroner in 1990. It accounted for 1,4 per cent of total compensation of employees. Its share of GDP was 0,7 per cent.

4.64 The 1990 revision from FNA to NNA has increased compensation of employees in these industries from 4,8 to 5,0 billion kroner. No definitional changes seem to occur.

		Billion kroner		Revision	
		FNA	NNA	Total	Definitional
40	Electricity, gas, steam and hot water supply	4,6	4,8	0,2	-
41	Collection, purification and distribution of water	0,2	0,2	-	-
	Total	4,8	5,0	0,2	-

4.65 In general, the estimation of compensation of employees is reviewed in relation to the compilation of employment figures. The employment figures of full-time equivalent employees and hours worked for employees have not been much revised from FNA to NNA for these industries. The W/FE ratio has been increased moderately in NACE 40.

		1990			
		Full-time equivalent employees. 1000		Hours worked employees. Million	
		FNA	NNA	FNA	NNA
40	Electricity, gas, steam and hot water supply	19,3	19,2	29,1	29,5
41	Collection, purification and distribution of water	0,8	0,8	1,2	1,2
	Total	20,1	20,0	30,3	30,7

		Wages and salaries per full-time equivalent employee	
		FNA	NNA
40	Electricity, gas, steam and hot water supply	206	207
41	Collection, purification and distribution of water	184	184

Sources

4.66 Main sources used are:

- Electricity statistics
- Wage statistics
- Register of Wages and Salaries (RWS)

Again, the Register of Wages and Salaries is mainly used as a source of reference, although a direct role in estimating the component of wages and salaries in kind.

Methods of estimation

4.67 Electricity statistics are utilized to estimate compensation of employees in the electricity activities and steam and hot water supply. Small deviations may occur to compensation of employees in order to maintain conceptual relationships between variables. For water supply,

local government accounts have been utilized. The corresponding data from the RWS Register data are fairly close, some 3 per cent lower.

	Wages and salaries Billion kroner	
	1990	1992
NNA estimates		
NACE 40	4,0	4,3
NACE 41	0,1	0,2
Reference data of RWS		
NACE 40	..	4,1
NACE 41	..	0,2

6. CONSTRUCTION - NACE F

Contents

4.68. In NNA, compensation of employees - as well as employment - is specified in 5 industries for NACE F, i.e. same industries as for output etc. In fact, there were 4 industries with explicit estimates for this period, as renting of construction or demolition equipment with operator has been distinguished later, starting from 1993 onwards.

4.69 In NNA, compensation of employees of NACE D is estimated at 24,9 billion kroner in 1990. It accounted for 7,0 per cent of total compensation of employees. Its share of GDP was 3,5 per cent.

4.70 The 1990 revision from FNA to NNA has reduced compensation of employees in construction from 25,9 to 24,9 billion kroner. Changes in nomenclature (regroupings) described elsewhere (also including in NNA municipal construction activities) contribute to a small increase, however.

		Billion kroner		Revision	
		FNA	NNA	Total	Definitional
45	Construction	25,9	24,9	-1,0	0,6

4.71 In general, the estimation of compensation of employees is reviewed in relation to the compilation of employment figures. The employment figures of full-time equivalent employees and hours worked for employees have been reduced by almost 10 per cent from FNA to NNA in construction. The W/FE ratio has been slightly increased.

		1990			
		Full-time equivalent employees. 1000		Hours worked employees. Million	
		FNA	NNA	FNA	NNA
45	Construction	117,2	106,5	190,3	172,9

		Wages and salaries per full-time equivalent employee	
		FNA	NNA
45	Construction	190	196

Sources

4.72 Main sources used are:

- Construction statistics
- Wage statistics
- Register of Wages and Salaries (RWS)

Again, the Register of Wages and Salaries is mainly used as a source of reference, although a direct role in estimating the component of wages and salaries in kind.

Methods of estimation

4.73 In general, data on compensation of employees from construction statistics and wage statistics (although a weaker coverage than for manufacturing, that cover 90 per cent of hours worked and all large units in civil engineering works, while 40 per cent in total for construction of buildings) have been considered a more reliable base for the NNA estimation than employment data which are available for this industry. 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 Labour Force Surveys (LFS). In scrutinizing the estimates to maintain conceptual and other relationships, the final estimates in construction are influenced by various divergent considerations. The RWS data are somewhat lower, but not disturbingly off the NNA estimates.

	Wages and salaries Billion kroner	
	1990	1992
NNA estimates	20,9	19,2
Reference data of RWS	..	18,5

7. WHOLESALE AND RETAIL TRADE; REPAIR OF MOTOR VEHICLES, MOTORCYCLES AND PERSONAL AND HOUSEHOLD GOODS

Contents

4.74 In NNA, compensation of employees is specified in 6 industries for NACE G as for output etc. Employment estimates are also prepared for the same NNA-industries.

4.75 In NNA, compensation of employees of NACE G is estimated at 49,5 billion kroner in 1990. It accounted for 13,9 per cent of total compensation of employees. It share of GDP was 6,9 per cent.

4.76 The 1990 revision from FNA to NNA has increased compensation of employees in these industries from 48,3 to 49,5 billion kroner. No definitional changes occur, except for the nomenclature change of the repair activities that are already accounted for.

		Billion kroner		Revision	
		FNA	NNA	Total	Definitional
50-52	Wholesale and retail trade	44,7	46,7	2,0	-
50/52	Repairs of vehicles etc.	3,6	2,8	-0,8	-
	Total	48,3	49,5	1,2	-

4.77 In general, the estimation of compensation of employees is reviewed in relation to the compilation of employment figures. The employment figures of full-time equivalent employees have just been slightly reduced in NNA for these industries, while total hours worked for employees of these industries have been increased by some 2 per cent.

		1990			
		Full-time equivalent employees. 1000		Hours worked employees. Million	
		FNA	NNA	FNA	NNA
50-52	Wholesale and retail trade	214,5	214,8	336,9	353,0
50/52	Repairs of vehicles etc.	15,9	13,3	25,4	21,4
	Total	230,4	228,1	362,3	374,4

		Wages and salaries per full-time equivalent employee	
		FNA	NNA
50-52	Wholesale and retail trade	179	182
50/52	Repairs of vehicles etc.	192	182

Sources

4.78 Main sources used are:

- Wholesale and retail trade statistics
- Wage statistics
- Annual surveys of car repair shops etc.
- Register of Wages and Salaries (RWS)

Again, the Register of Wages and Salaries is mainly used as a source of reference, although a direct role in estimating the component of wages and salaries in kind.

Methods of estimation

4.79 The annual wholesale and retail trade statistics contain employment data that are both used for constructing a benchmark estimate by multiplying with wage information from wage statistics, and for a volume indicator along with a price indicator based on wage statistics. The employment data include employees and self-employed combined; thus, the latter part has to be deducted. This is approached from the number of one-person establishments in wholesale and retail trade, respectively, with a small adjustment upwards. Furthermore, an overall adjustment upwards is made to the employees data to meet the level of the Labour Force Surveys (see also Chapter VII). The use of the VAT Register as a source from 1991 has had some influence on the level of adjustments.

4.80 The corresponding data from the RWS are somewhat higher, however. The W/FE ratio in NNA has been slightly adjusted upwards compared to FNA for wholesale and retail trade. The revised NNA estimate for wages and salaries is in fact reasonably close to the RWS level, when the latter is reduced by 2,5 per cent to correct for different contents (benefits from sickness in social insurance included in RWS, should not be included in NNA).

	Wholesale and retail trade Wages and salaries. Billion kroner	
	1990	1992
NNA estimates	39,2	42,0
Reference data of RWS (uncorrected)	..	43,4

4.81 The two industries of repair activities, wages and salaries data are obtained from the annual surveys of car repair shops etc. until late 1980s. For later years, wage statistics have been utilized with some other indications. The resulting level of wages and salaries are fairly close to that of RWS for these industries.

8. HOTELS AND RESTAURANTS - NACE H

Contents

4.82 In NNA, compensation of employees is specified in 2 industries for NACE H. Employment estimates are also prepared for the same NNA-industries.

4.83 In NNA, compensation of employees of NACE H is estimated at 8,2 billion kroner in 1990. It accounted for 2,3 per cent of total compensation of employees. Its share of GDP was 1,1 per cent.

4.84 The 1990 revision from FNA to NNA has slightly increased compensation of employees in hotels and restaurants from 8,1 to 8,2 billion kroner. There is a relatively small nomenclature change by regrouping catering units from manufacturing.

		Billion kroner		Revision	
		FNA	NNA	Total	Definitional
55	Hotels and restaurants	8,1	8,2	0,1	0,2

4.85 In general, the estimation of compensation of employees is reviewed in relation to the compilation of employment figures. The employment figures of full-time equivalent employees and total hours worked for employees have just been somewhat increased in NNA for hotels and restaurants, partly due to the increased contents. The W/FE ratio is not much affected by the revision.

		1990			
		Full-time equivalent employees. 1000		Hours worked employees. Million	
		FNA	NNA	FNA	NNA
55	Hotels and restaurants	40,0	40,8	61,6	63,5

		Wages and salaries per full-time equivalent employee	
		FNA	NNA
55	Hotels and restaurants	174	172

Sources

4.86 Main sources used are:

- Wage statistics
- Employment data from Statistics Norway's Business Register
- Register of Wages and Salaries (RWS)

Again, the Register of Wages and Salaries is mainly used as a source of reference, although a direct role in estimating the component of wages and salaries in kind.

Methods of estimation

4.87 For these industries, the estimation of compensation of employees has been based on a benchmark and indicators' approach. Benchmark for employment is primarily taken from the Statistics Norway's Business Register and the other two main sources for employment (Employers' Register and LFS) which are all at approximately same level. Catering units are added and one-person establishments (self-employed) are added and deducted for respectively. In combination with wage statistics data, the NNA estimate for wages and salaries in this case is approximately 1 billion above what is recorded in the RWS. Other indications, such as exhaustiveness considerations, tips, data from the accounting statistics and the wage ratio to value added, may support the higher NNA estimate. The W/FE is assumed to be the same in both industries. The wage statistics - data from the Confederation of Norwegian Business and Industry - are most important for constructing a price indicator for other years than benchmark.

	Hotels and restaurants Wages and salaries. Billion kroner	
	1990	1992
NNA estimates	7,0	7,7
Reference data of RWS	..	6,8

9. TRANSPORT, STORAGE AND COMMUNICATION - NACE I

Contents

4.88 In NNA, compensation of employees is specified in 14 industries, i.e. the same industries that are listed in section on NACE I above. Employment estimates are also prepared for the same NNA-industries.

4.89 In NNA, compensation of employees of NACE I is estimated at 35,2 billion kroner in 1990. It accounted for 9,9 per cent of total compensation of employees. Its share of GDP was 4,9 per cent.

4.90 The 1990 revision from FNA to NNA has slightly reduced compensation of employees in transport, storage and communication from 35,4 to 35,2 billion kroner. Definitional changes contribute to a slight increase, in particular in connection with the new treatment of foreign sailors in ocean transport. There are also small nomenclature changes, concerning supporting service activities in air transport (air transport in FNA, now in NNA-industry 631), in value offset by regrouping maintenance work on roads from NNA-industry 631 to public administration..

		Billion kroner		Revision	
		FNA	NNA	Total	Definitional
60	Land transport; transport via pipelines	9,3	8,8	- 0,5	-
61	Water transport	7,3	7,9	0,6	1,0
62	Air transport	3,9	3,4	- 0,5	- 0,6
63	Supporting and auxiliary transport activities; activities of travel agencies	5,4	5,3	- 0,1	0,0
64	Post and communications	9,6	9,7	0,1	-
	Total	35,4	35,2	- 0,3	0,4

4.91 In general, the estimation of compensation of employees is reviewed in relation to the compilation of employment figures. The employment figures of full-time equivalent employees and total hours worked for employees have been increased from FNA to NNA by some 3 and 5 per cent respectively, mostly because of definitional changes, in particular by increased employment from new treatment of foreign sailors in ocean transport. The W/FE ratio has been reduced in a majority of the industries, kept virtually unchanged in communication, while being increased in land transport.

		1990			
		Full-time equivalent employees. 1000		Hours worked employees. Million	
		FNA	NNA	FNA	NNA
60	Land transport; transport via pipelines	39,3	37,8	64,1	61,8
61	Water transport	40,8	47,3	73,4	87,1
62	Air transport	12,7	11,4	19,8	18,2
63	Supporting and auxiliary transport activities; activities of travel agencies	20,1	22,5	31,6	35,6
64	Post and communications	43,5	42,5	67.9	66,3
	Total	156,4	161,5	256,8	269,0

		Wages and salaries per full-time equivalent employee	
		FNA	NNA
60	Land transport; transport via pipelines	178	196
61	Water transport	158	148
62	Air transport	274	262
63	Supporting and auxiliary transport activities; activities of travel agencies	223	197
64	Post and communications	185	186

Sources

4.92 Main sources used are:

- Annual accounts of the State railway corporation (NSB)
- Annual scheduled motor bus transport statistics
- Annual reports of tramway and suburban transport companies
- Information from Norwegian Ship owners Association
- Annual maritime transport statistics
- Annual accounting statistics of air transport companies
- Annual accounts of the Postal Service
- Annual accounts and statistics of Norwegian Telecom
- Wage statistics
- Employment data from Statistics Norway's Business Register
- Register of Wages and Salaries (RWS)

Again, the Register of Wages and Salaries is mainly used as a source of reference, although a direct role in estimating the component of wages and salaries in kind.

Methods of estimation

Land transport

4.93 Compensation of employees in transport via railways is estimated on the basis of the annual accounts of the State corporation NSB. Amendments over the years in their accounting data create special problems, for which adjustments have been made. The split from 1990 in a traffic and roadway part is not carried through when estimating compensation of employees, but kept unsplit. RWS does not record free travel and the wage statistics not other wages in kind, thus the NNA estimate exceeds these two sources (when including 10 per cent addition for free travel). Employment data are considered weaker than wage bill and wage data for this industry.

4.94 Annual data from the scheduled motor bus transport statistics are utilized for the estimation in NNA-industry 602. The workshop activities belonging to manufacturing are adjusted for, while an addition for freight transportation activities in scheduled motor bus transport has been made while not covered by the main source. Another addition is made for Norway Bussekspress (see also output). Free travel estimate is also added (3 per cent). The RWS data are utilized - as for other industries - in estimating wages in kind. Also for this industry, wage statistics are considered the second source rather than employment data.

4.95 Main source for the estimation of compensation of employees in taxi transport is employment data of Statistics Norway's Business Register. See also output section for reasons behind the revision upwards for the taxi transport industry, e.g. the W/FE has been set considerably higher than in FNA. Wage statistics are not available in this case.

4.96 For other land transport, the employment data has been considered a basic source, in this case that of the Employers' Register. By combining these employment data with wage statistics from the Confederation of Norwegian Business and Industry and a cost index obtained from the Institute of Transport Economics, wages and salaries have been revised upwards, but still somewhat lower than the RWS data.

4.97 Annual reports of tramway and suburban transport companies contain data on compensation of employees that are used for this estimation. There are, however, activities that must be corrected for (bus transport, workshop activities). Free travel estimate (10 per cent) is also made in this case. Employment is implicit in the estimation of this industry.

4.98 Compensation of employees is quite small in NNA-industry 608 Transport via pipelines. The W/FE ratio was quite high in FNA, and has been revised downwards by some 25 per cent. The actual method used implies the use of employment data, combined with wage statistics for other oil and gas activities.

		Wages and salaries. Billion kroner		
		1990	1992	
			NNA	RWS
601	Transport via railways	2,2	2,5	2,4
602	Scheduled motor bus transport	2,0	2,0	2,4
603	Taxi transport	0,5	0,6	0,6
604	Other land transport	2,3	2,2	2,5
605	Tramway and suburban transport	0,3	0,3	0,3
608	Transport via pipelines	0,1	0,1	..

Water transport

4.99 Information from Norwegian Ship owners Association has been heavily utilized in the estimation of compensation of employees in ocean transport. Benchmark estimates were made for 1992 and extrapolated back to 1988 for Norwegian and foreign sailors respectively. The share of foreign sailors is around two-thirds 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 (see chapter VII on the NNA treatment in these cases). The NNA estimates show a much higher level for compensation of employees and employment (employees) than before the revision.

4.100 For inland water transport, compensation of employees is estimated on the basis of employment data and wage statistics. The employment data are taken from the maritime statistics based on the Maritime Register in the National Insurance Administration and expert judgement in the Ship owners Association, covering a good majority of total employment. The NNA estimate for wages and salaries is fairly close to that of the RWS for inland water transport.

		Wages and salaries. Billion kroner		
		1990	1992	
			NNA	RWS
611	Ocean transport and coastal water transport abroad	5,3	6,3	..
	of which:			
	Norwegian sailors	3,6	4,2	3,5
613	Inland water transport	1,7	1,9	2,0

Air transport

4.101 Accounting data from Scandinavian Airline System (SAS) and the other air transport companies constitute the main sources for the estimation of compensation of employees in this industry. An addition is made for foreign employees in Norway. Subsequently a split is made on employment and wages, in particular through direct use of wage statistics. Free travel is also estimated (10 per cent). The NNA estimate is close to wages and salaries according to the RWS.

		Wages and salaries. Billion kroner		
		1990	1992	
			NNA	RWS
620	Air transport	3,0	3,1	3,1

Supporting and auxiliary transport

4.102 Sources are scarce for NNA-industry 631. Employment and compensation of employees of FNA are basically kept unchanged, except for nomenclature regroupings. Employment data used are those of Statistics Norway's Business Register, also confirmed by the Employers' Register. No wage statistics are available; the wage level is set slightly above average wage level for all industries. RWS data are not quite comparable, but seems to be higher than the NNA estimate. The situation described above for NNA-industry 631 also seems to be basically the same for NNA-industry 632.

4.103 For travel agencies etc., employment data are available from register data, both Statistics Norway's Business Register and the Employers' Register. The largest travel agencies were contacted for expert judgement on wage level and the existence of part-time employment. Wage and salaries in NNA are close to that of the RWS Register.

		Wages and salaries. Billion kroner		
		1990	1992	
			NNA	RWS
631	Supporting activities of cargo handling and storage, other supporting land and air transport activities	2,2	2,2	..
632	Other supporting water transport activities	1,0	1,1	1,4
633	Activities of travel agencies etc.	0,6	0,7	0,7

Post and telecommunications

4.104 The accounts of the Postal Service are considered the main source in this industry. Various adjustments are made against the Postal Giro, the Post Office Savings Bank and the workshops activities. Wage statistics are second source, while employment data are not used directly. The RWS data are in good agreement with the NNA estimate in this case.

4.105 The accounting data and statistics of Norwegian Telecom are the main sources for the estimation of compensation of employees in the telecommunications industry. Second source is the wage statistics recalculated to a wage bill basis. The implicit employment estimate has been revised downwards as compared to FNA. As regard the estimation of the various components, it may be mentioned that the RWS data on imputed employers' social contributions has been adjusted upwards by 0,5 billion kroner in 1992. This industry is becoming more and more complicated as amendments are made in the source data, partly initiated from the institutional sector change in effect from 1993. Employment differ considerably between NNA and sources containing employment data.

		Wages and salaries. Billion kroner		
		1990	1992	
			NNA	RWS
641	Post and courier activities	4,4	4,8	4,8
642	Telecommunications	3,5	3,6	3,1

10. FINANCIAL INTERMEDIATION - NACE J

Contents

4.106 In NNA, compensation of employees - as well as employment - is specified in 7 industries for NACE J.

4.107 In NNA, compensation of employees of NACE J is estimated at 15,7 billion kroner in 1990. It accounted for 4,4 per cent of total compensation of employees. Its share of GDP was 2,2 per cent.

4.108 The 1990 revision from FNA to NNA has increased compensation of employees in these industries from 14,8 to 15,7 billion kroner. No definitional changes occur for NACE J as a whole.

		Billion kroner		Revision	
		FNA	NNA	Total	Definitional
65	Financial intermediation, except insurance and pension funding	10,8	10,3	-0,5	
66	Insurance and pension funding	3,8	4,8	1,0	-
67	Activities auxiliary to financial intermediation	0,2	0,6	0,4	
	Total	14,8	15,7	0,9	-

4.109 In general, the estimation of compensation of employees is reviewed in relation to the compilation of employment figures. The employment figures of full-time equivalent employees and hours worked for employees have not been significantly revised in NNA for financial intermediation, except for insurance and pension funding that have been revised upwards. The latter is caused by adopting more reasonable W/FE ratio in line with data obtained from wage statistics.

		1990			
		Full-time equivalent employees. 1000		Hours worked employees. Million	
		FNA	NNA	FNA	NNA
65	Financial intermediation, except insurance and pension funding	41,1	40,6	63,6	63,2
66	Insurance and pension funding	13,3	15,2	20,6	24,3
67	Activities auxiliary to financial intermediation	1,0	1,5	1,4	2,2
	Total	55,4	57,3	85,6	89,7

		Wages and salaries per full-time equivalent employee	
		FNA	NNA
65	Financial intermediation, except insurance and pension funding	226	204
66	Insurance and pension funding	259	242
67	Activities auxiliary to financial intermediation	208	372

Sources

4.110 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)

Again, the Register of Wages and Salaries is mainly used as a source of reference, for controlling purposes, apart from a direct role in estimating the components of wages and salaries in kind and employers' imputed social contributions. For the auxiliary industry, RWS data was used directly in lack of other information.

4.111 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.

Methods of estimation

Financial intermediation, except insurance and pension funding

4.112 Accounting data of the various parts of credit market statistics have been used to estimate compensation of employees in NNA. For the Central Bank, the accounting data are adjusted for certain manufacturing activities (printing notes and coins). 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 Labour Force Surveys and the Register of Employers.

		Billion kroner	
		1990	1992
Wages and salaries			
NNA estimates			
651/652	Central banking and other monetary intermediation	7,3	7,0
655	Other financial intermediation	1,0	1,0
Reference data of RWS			
651/652	Central banking and other monetary intermediation	..	7,2
655	Other financial intermediation	..	2,1

Insurance and pension funding

4.113 Accounting data of credit market statistics are used for the estimation of compensation of employees in life insurance, pension funding and non-life insurance. For life insurance, the implicit W/FE ratio is considerably higher than in FNA and close to what is recorded in the wage statistics. For non-life insurance, on the other hand, the W/FE ratio is lower than in FNA. Pension funding is quite a small industry, just about 2 per cent of total insurance and pension funding in terms of wages and salaries in 1990. The employment data are utilized with the assumption that the W/FE ratio is the same in all three insurance industries. The reference data of RWS are fairly close to the NNA estimates.

		Billion kroner 1990	1992
Wages and salaries			
NNA estimates			
661/662	Life insurance and pension funding	1,2	1,1
663	Non-life insurance	2,5	2,6
Reference data of RWS			
661/662	Life insurance and pension funding	..	1,4
663	Non-life insurance	..	2,3

Activities auxiliary to financial intermediation

4.114 Accounting data are not yet available for this industry. Thus, in a way the indicators' approach is used for this relatively small industry. The W/FE ratio of financial services in FNA has been raised considerably, calculated from the RWS data and combined with employment data from the Register of Employers.

	Billion kroner 1990	1992
Wages and salaries		
- NNA approach	0,5	0,6
- Reference data of RWS	..	0,6

11. REAL ESTATE, RENTING AND BUSINESS ACTIVITIES - NACE K

Contents

4.115. In NNA, compensation of employees - as well as employment - is specified in 12 industries for NACE K. These are the ones listed in the output section above. Three of these industries also contain non-market activities of central government.

4.116 In NNA, compensation of employees of NACE K is estimated at 24,0 billion kroner in 1990. It accounted for 6,7 per cent of total compensation of employees. Its share of GDP was 3,3 per cent.

4.117 The 1990 revision from FNA to NNA has considerably increased compensation of employees in these industries from 17,0 to 24,0 billion kroner. Definitional changes are confined to nomenclature changes which are described elsewhere, explaining about half of the revision.

		Billion kroner		Revision	
		FNA	NNA	Total	Definitional
70	Real estate	0,5	1,8	1,3	-
71	Renting	0,2	0,7	0,5	0,1
72-74	Business activities	16,3	21,5	5,2	3,1
	Total	17,0	24,0	7,0	3,2

4.118 In general, the estimation of compensation of employees is reviewed in relation to the compilation of employment figures. The employment figures of full-time equivalent employees and hours worked for employees have been significantly revised upwards in NNA for these industries, while also adopting more reasonable W/FE ratio than in FNA. In fact, the former W/FE ratio of this industry has been radically amended for real estate and renting as a result of the overall revision.

		1990			
		Full-time equivalent employees. 1000		Hours worked employees. Million	
		FNA	NNA	FNA	NNA
70	Real estate	6,6	7,2	10,4	11,4
71	Renting	1,9	2,6	3,1	4,2
72-74	Business activities	68,3	81,6	106,6	126,9
	Total	76,8	91,4	120,1	142,5

		Wages and salaries per full-time equivalent employee	
		FNA	NNA
70	Real estate	57	214
71	Renting	90	212
72-74	Business activities	204	217

Sources

4.119 Main sources used are:

- Annual production statistics of business services
- R&D statistics every other year
- Wage statistics
- Register of Wages and Salaries (RWS)

Again, the Register of Wages and Salaries is mainly used as a source of reference, for controlling purposes, apart from a direct role in estimating the components of wages and salaries in kind and employers' imputed social contributions.

Methods of estimation

Real estate

4.120 Sources are weak for estimating compensation of employees in this industry. In the dwelling industry, employees consist of house porters. Benchmark estimate is made on the basis of information - number of house porters as well as average wage level - from the Norwegian Confederation of Dwelling Co-operatives which cover 90 per cent of the dwelling co-operatives. For the other real estate industry, employment data from the Employers' Register (adjusted for house porters in the other industry) have been combined with wage data

from the RWS Register. The estimated W/FE ratio (220 000) seems to be close to the implicit level contained in the production statistics of business services including other real estate activities (ISIC 8319).

	Real estate Wages and salaries. Billion kroner 1990	1992
NNA estimates	1,6	1,8
Reference data of RWS	..	2,0

Renting

4.121 Information is scarce for renting of transport equipment, the smallest of the two renting industries (one sixth of their combined output). For this industry, it is therefore assumed same W/FE ratio in the second industry (renting of machinery and equipment and household goods etc.). Compensation of employees in the second industry is mainly based on the production statistics of business activities also covering this renting industry, while certain adjustments are made to the employment data to establish a reasonable W/FE ratio.

	Renting Wages and salaries. Billion kroner 1990	1992
NNA estimates	0,6	0,5
Reference data of RWS	..	0,5

Business activities

4.122 The production statistics for business activities are used as the main source for estimating compensation of employees in business activities. While there was only one industry for business activities in FNA, business activities are now split on eight NNA-industries of NACE 72,73 and 74. Information on both compensation of employees and employment has now been utilized much more directly, while just indirectly utilized in FNA in waiting for a general revision to approach the proper levels. In the main source, data on compensation of employees are considered better than the employment data. Wage statistics are also available, but only for total business activities. Data with a breakdown on the new NACE -industries were available for 1992 exclusively, and thus had to be utilized for the previous years basically with the same distribution. A link between the former ISIC industries and the new NACE industries was established and utilized for the calculations. Wage bill estimates resulting from this work were used with the wage statistics. The alternative of calculating implicit wages from regrouped wage bill and employment data was rejected as the implicit W/FE ratio showed a considerable higher level than recorded in the wage statistics.

4.123 Having made the NNA-estimate for total business activities, the detailed estimates by industry are prepared by using the industry shares calculated from the preceding regrouping work. Adjustments are however made to these estimates, including also a direct estimation of employers' social contributions for these industries. The size of business activities makes these industries suitable for a role to play in the adaptation to overall totals.

4.124 For research and development, R&D statistics are available every other year and utilized as a main source for the estimation of compensation of employees. For non-market activities of central government - both in research and development and two of the business service industries - compensation of employees has been determined from the central government accounts.

4.125 RWS data on wages and salaries show a higher level than the NNA estimate. When correcting for different contents - i.e. reducing the RWS figure by 2,5 per cent - there is still a 1,3 billion deviation between the two figures in 1992.

	Business activities Wages and salaries. Billion kroner	
	1990	1992
NNA estimate, total	17,7	18,9
NNA estimate, market activities	16,6	17,4
NNA estimate, market activities less R&D	15,5	16,1
RWS data, market activities less R&D		
unadjusted	..	17,9
adjusted to NNA definition	..	17,4

12. PUBLIC ADMINISTRATION AND DEFENCE - NACE L

Contents

4.126 In NNA, compensation of employees - as well as employment - is specified in two industries of NACE L, i.e. public administration (central and local government) and defence.

4.127 In NNA, compensation of employees of NACE L is estimated at 31,6 billion kroner in 1990. It accounted for 8,8 per cent of total compensation of employees. It share of GDP was 4,4 per cent.

4.128 The 1990 revision from FNA to NNA has slightly increased compensation of employees in these industries from 31,1 to 31,6 billion kroner. This increase is due to definitional changes, however moderate in comparison to the 7,1 billion increase in output of NACE L.

		Billion kroner		Revision	
		FNA	NNA	Total	Definitional
75	Public administration and defence	31,1	31,6	0,5	0,5
	of which:				
	Defence activities	8,5	8,4	- 0,1	-0,1

4.129 In general, the estimation of compensation of employees is reviewed in relation to the compilation of employment figures. The employment figures of full-time equivalent employees and hours worked have been revised slightly upwards in NNA due to definitional changes (see above). The W/FE ratio has been moderately reduced. The reason for the low W/FE ratio in defence is that conscripts are included in the employment figures.

		1990			
		Full-time equivalent employees. 1000		Hours worked employees. Million	
		FNA	NNA	FNA	NNA
75	Public administration and defence	154,0	156,5	244,2	253,6
	of which:				
	Defence activities	55,7	54,7	97,8	99,4

		Wages and salaries per full-time equivalent employee	
		FNA	NNA
75	Public administration and defence	165	158
	of which:		
	Defence activities	126	124

Sources

4.130 Main sources used are:

- Central government accounts
- Local government accounts

Methods of estimation

4.131 Compensation of employees data from central government and local government are used for the estimation of compensation of employees in public administration and defence (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 defence activities when comparing wages and salaries.

	Public administration	
	Wages and salaries. Billion kroner	
	1990	1992
NNA estimates	18,0	21,4
Reference data of RWS	..	24,8

13. EDUCATION - NACE M

Contents

4.132 In NNA, compensation of employees - as well as employment - is specified in one education industry of NACE M (while compiled by four types of producer).

4.133 In NNA, compensation of employees of NACE M is estimated at 29,8 billion kroner in 1990. It accounted for 8,4 per cent of total compensation of employees. Its share of GDP was 4,1 per cent.

4.134 The 1990 revision from FNA to NNA has increased compensation of employees in these industries from 28,7 to 29,8 billion kroner. Research and development is included with the FNA estimate (while with NACE K in NNA), estimated at 1,9 billion kroner in 1990.

		Billion kroner		Revision	
		FNA	NNA	Total	Definitional
80	Education	28,7	29,8	1,1	- 1,9

4.135 In general, the estimation of compensation of employees is reviewed in relation to the compilation of employment figures. The employment figure of full-time equivalent employees have been revised slightly downwards in NNA due to definitional change (see above), while the W/FE ratio has been revised upwards by 5 per cent.

		1990			
		Full-time equivalent employees. 1000		Hours worked employees. Million	
		FNA	NNA	FNA	NNA
80	Education	128,6	126,6	195,7	196,5

		Wages and salaries per full-time equivalent employee	
		FNA	NNA
80	Education	185	195

Sources

4.136 Main sources used are:

- Central government accounts
- Local government accounts
- Register of Wages and Salaries (RWS)

Methods of estimation

4.137 Compensation of employees data from central government and local government are used for the estimation of compensation of employees in non-market education activities of government. Compensation of employees in NPISH (0,6 billion) is also mainly based on government accounts data, but in a more indirect way. For the market part - about 7 per cent of total education - compensation of employees is estimated on a weaker basis, in particular expert judgement 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 (198 000) than in central and local government, and dramatically higher than in FNA (which had a unreasonably low wage level for private education). RWS data still higher, but include non-government research and development below. In the area of private education, data do not quite match as regards the above mentioned sources used for the NNA estimates, the RWS data and Labour force survey data.

	Non-government education Wages and salaries. Billion kroner	
	1990	1992
NNA estimates	3,5	3,9
Reference data of RWS	..	5,6

14. HEALTH AND SOCIAL WORK - NACE N

Contents

4.138 In NNA, compensation of employees - as well as employment - is specified in 5 industries of NACE N (also compiled by different types of producer).

4.139 In NNA, compensation of employees of NACE N is estimated at 44,0 billion kroner in 1990. It accounted for 12,3 per cent of total compensation of employees. It share of GDP was 6,1 per cent.

4.140 The 1990 revision from FNA to NNA has increased compensation of employees in these industries from 40,7 to 44,0 billion kroner. Part of this increase (0,8 billion) is due to the regrouping of social work activities by disables workers from manufacturing.

		Billion kroner		Revision	
		FNA	NNA	Total	Definitional
85	Health and social work	40,7	44,0	3,3	0,8

4.141 In general, the estimation of compensation of employees is reviewed in relation to the compilation of employment figures. The employment figures of full-time equivalent employees and hours worked have been revised from FNA to NNA by 4 and 5 per cent for the two variables, mainly due to definitional change (see above).

		1990			
		Full-time equivalent employees. 1000		Hours worked employees. Million	
		FNA	NNA	FNA	NNA
85	Health and social work	213,7	221,6	311,0	327,5
		Wages and salaries per full-time equivalent employee			
		FNA		NNA	
85	Health and social work	163		166	

Sources

4.142 Main sources used are:

- Central government accounts
- Local government accounts
- Register of Wages and Salaries (RWS)

Methods of estimation

4.143 Compensation of employees data from central government and local government are used for the estimation of compensation of employees in non-market health and social work activities of government. Compensation of employees in NPISH (5,4 billion) is also mainly based on government accounts data, but in a more indirect way. The market part - about 8 per cent of total compensation of employees in health and social work activities - is estimated on a weaker basis, since no wage or production statistics are available. For health services, the W/FE ratio in non-market NPISH health services was set somewhat higher than in government health services (180 000 vs. 165 000 kroner), while even higher for market health services (192 000), again considerably higher than in FNA. Some representative wage level from the local government register is at 190 000 kroner for 1992. For social work services, however, the FNA wage level has been reduced somewhat after consultation with the Ministry of Social affairs on private child day-care services in particular. For wages and salaries, the RWS data are remarkably close to the NNA estimate for total non-government health and social work services.

	Non-government health and social work Wages and salaries. Billion kroner	
	1990	1992
NNA estimates	7,2	8,3
Reference data of RWS	..	8,4

15. OTHER COMMUNITY, SOCIAL AND PERSONAL SERVICE ACTIVITIES - NACE O

Contents

4.144 In NNA, compensation of employees - as well as employment - is specified in 7 industries of NACE O.

4.145 In NNA, compensation of employees of NACE O is estimated at 12,1 billion kroner in 1990. It accounted for 3,4 per cent of total compensation of employees. Its share of GDP was 1,7 per cent.

4.146 The 1990 revision from FNA to NNA has increased compensation of employees in these industries from 9,8 to 12,1 billion kroner. A small part of this increase is due to regroupings.

		Billion kroner		Revision	
		FNA	NNA	Total	Definitional
90	Sewage and refuse disposal, sanitation and similar activities	1,5	1,2	-0,3	-
91	Activities of membership organizations n.e.c.	3,3	3,6	0,3	-
92	Recreational, cultural and sporting activities	3,1	5,0	1,9	-
93	Other service activities	1,9	2,4	0,5	-
	Total	9,8	12,1	2,3	-

4.147 In general, the estimation of compensation of employees is reviewed in relation to the compilation of employment figures. The employment figures of full-time equivalent employees and hours worked have been revised downwards from FNA to NNA by about 9 and 7 per cent for these industries as a group. The significant increase in compensation of employees is mainly a result of introducing much higher W/FE ratios in NNA (in particular for NACE 90 and 92, the FNA ratios were very low).

		1990			
		Full-time equivalent employees. 1000		Hours worked employees. Million	
		FNA	NNA	FNA	NNA
90	Sewage and refuse disposal, sanitation and similar activities	14,4	5,3	20,6	7,8
91	Activities of membership organizations n.e.c.	15,9	15,2	24,5	24,0
92	Recreational, cultural and sporting activities	18,6	22,0	28,4	33,9
93	Other service activities	11,5	12,6	17,3	19,1
	Total	60,4	55,1	90,8	84,8

Non-government activities. 1990. 1000 kroner
Wages and salaries per full-time equivalent employee

		FNA	NNA
90	Sewage and refuse disposal, sanitation and similar activities	69	194
91	Activities of membership organizations n.e.c.	172	199
92	Recreational, cultural and sporting activities	114	204
93	Other service activities	145	161

Sources

4.148 Main sources used are:

- Central government accounts
- Local government accounts
- Other services production statistics
- Accounting data of the State Broadcasting Company (NRK)
- Wage statistics
- Register of Wages and Salaries (RWS)

Methods of estimation

4.149 Compensation of employees data from central government and local government in particular are used for the estimation of compensation of employees in non-market activities of government. Compensation of employees in NPISH (4,3 billion) is also mainly based on government accounts data, but in a more indirect way. The market part - in NACE O the major part by 70 per cent of the total - is generally estimated on a weaker basis, though the situation varies a lot among the industries.

4.150 In NACE 90, a benchmark for compensation of employees is available from the 1988 production statistics of other services. In lack of wage statistics, the NNA wage level has been set approximately at average for the total economy. In NACE 91, the former wage statistics has been utilized, although narrower in coverage. The revision has given higher estimates, partly as also output has been revised upwards from FNA to NNA.. In NACE 92, the basic information is quite variable, from accounting data for radio and television services to lacking any relevant information in other parts. For entertainment and cultural activities, wage statistics are not available and expert judgement on wage level etc. had to be obtained. The NNA estimates on compensation of employees, with employment and W/FE ratio introduced are rather consistent, while RWS register data seem to be unlikely low in this case. Finally, in NACE 93, wage statistics are available and revision has been moderate.

	Non-government activities Wages and salaries. Billion kroner	
	1990	1992
NNA estimates		
NACE 91	3,0	3,3
NACE 92	3,0	3,6
NACE 93	2,0	2,2
Reference data of RWS		
NACE 91	..	3,4
NACE 92	..	3,0
NACE 93	..	1,5

16. PRIVATE HOUSEHOLDS WITH EMPLOYED PEOPLE - NACE P

4.151 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.

C. OTHER TAXES ON PRODUCTION

Other taxes on production amount to 17,7 billion kroner or 2,4 per cent of GDP in 1990, down from 2,8 per cent in FNA. Other taxes on production account for 16 per cent of total taxes on production and imports, almost unchanged from FNA. Most other taxes on production (85 per cent) are income to central government - estimated from some 100 items of central government accounts - and paid by various market industries and to a small extent producers for own final use. Other taxes on production as income for local government - estimated from local government accounts - are confined to tax on real property and some concession taxes.

Introduction

4.152 In NNA, other taxes on production consist of taxes on production and imports other than taxes on products which are described above in Chapter II, sections R (Value added tax) and S (Other taxes on products). In terms of ESA 1995, 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.

D 29 Other taxes on production

4.153 Borderline cases between taxes on products and other taxes on production have been described in II.S above. In particular, five such items were mentioned, among which registration duty on motor vehicles, kilometre tax, duties on documents and tax on concentrated feeds have been allocated to the category of other taxes on production (see below).

4.154 In NNA, other taxes on production amount to 17,7 billion kroner or 16,0 per cent of total taxes on production and imports in 1990. Its share of GDP is 2,4 per cent. In FNA, the corresponding shares were approximately at the same level, i.e. 16,5 per cent of total taxes on production and imports and 2,8 per cent of GDP.

4.155 Virtually the whole amount of other taxes on production is related to market activities (16,8 billion kroner in 1990), while the remaining is related to production for own final use (0,8 billion) and an insignificant amount from non-market production of government.

Sources

4.156 Main sources used are:

-	Central government accounts (the fiscal accounts)
-	Other central government accounts (government funds etc.)
-	Local government accounts

The contents of other government accounts are described in I.C.10 above.

Methods of estimation

4.157 Central government accounts, including other central government accounts, are used to estimate most other taxes on production since 85 per cent of the total amount is allocated as income to central government. The remaining 15 per cent is income for local government, estimated from local government accounting data. In terms of valuation and time of recording, all items are actual receipts as recorded in the central and local government accounts.

4.158 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. The largest items - those above 100 million kroner threshold - are listed and illustrated by 1990 figures below. The source reference is given, and with an indication of the allocation made to relevant industries in each case. The items listed add to 14,5 of 15,1 billion total for central government.

Royalty excise on extraction of petroleum

1990 value:	8 472 million kroner
Source:	Item 5507, sub-item 73 of central government accounts
Paying industry:	111 Extraction of crude petroleum and natural gas

Kilometre tax etc.

1990 value:	1 695 million kroner
Source:	Item 5536, sub-item 74 of central government accounts
Paying industries:	Distributed on 32 NNA-industries, the largest among which are in land transport (793 million) and in wholesale trade (422 million)

Duties on documents

1990 value:	1 107 million kroner
Source:	Item 5565, sub-item 70 of central government accounts
Paying industries:	Distributed on 9 industries, the largest among which are in business activities (742 million), real estate (277 million) and in financial intermediation and insurance

Registration duty on motor vehicles

1990 value:	939 million kroner
Source:	Item 5536, sub-item 75 of central government accounts
Paying industries:	501 Sale of motor vehicles

Surplus of the Concentrated Feeds Monopoly

1990 value:	767 million kroner
Source:	Item 4150, sub-item 80 of central government accounts
Paying industries:	510 Wholesale trade and commission trade

Special tax administered by the Trade Council

1990 value:	607 million kroner
Source:	Item 5973, sub-item 71 of other central government accounts
Paying industries:	510 Wholesale trade and commission trade

User tax on road motor vehicles paid by producers

1990 value:	377 million kroner
Source:	Part of item 5536, sub-item 72 of central government accounts
Paying industries:	Distributed on 23 industries, the largest among which are wholesale trade (196 million) and in land transport (57 million). At first, the main part of the source item (1 789 million) - as user tax on road motor vehicles paid by households - has been deducted and recorded as current taxes on income, wealth, etc.

Area excise on extraction of petroleum

1990 value:	258 million kroner
Source:	Item 5507, sub-item 74 of central government accounts
Paying industry:	111 Extraction of crude petroleum and natural gas

Special tax for fishermen administered by the National Insurance Administration

1990 value:	185 million kroner
Source:	Part of item 5700, sub-item 71 of central government accounts
Valuation:	Amount adjusted upwards using accruals basis
Paying industry:	051 Fishing

Special import tax on agricultural products

1990 value:	107 million kroner
Source:	Item 5962, sub-item 70 of other central government accounts
Paying industry:	Distributed on food manufacturing industry and wholesale trade

4.159 Other taxes on production as income for local government are confined to three items of local government accounts. Two items are related to electricity production and consist of concession taxes (0,3 billion kroner), while the largest item is tax on real property (2,3 billion). 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 704 Dwelling service production of owner-occupiers is a main payment industry (665 million kroner), along with the electricity industry (620 million) and other energy intensive manufacturing industries.

D. OTHER SUBSIDIES ON PRODUCTION

Other subsidies on production amount to 24,9 billion kroner or 3,4 per cent of GDP in 1990, down from 5,9 per cent and 39,2 billion kroner in FNA. A number of definitional changes have contributed to this substantive downward revision from FNA to NNA, affecting subsidies on products, social benefits, government consumption expenditure, capital transfers and current transfers to NPISH and other sectors.. Other subsidies on production account for 75 per cent of total subsidies, down from 98 per cent in FNA. Most other subsidies on production (85 per cent) are paid by central government - estimated from some 560 items of central government accounts - and received by various market industries and to a small extent producers for own final use. Other subsidies on production paid by local government - estimated from some 60 items of local government accounts - consist mainly of grants for transportation and housing and amenity purposes.

Introduction

4.160 In NNA, other subsidies on production consist of subsidies other than subsidies on products which are described in Chapter II, section T. In terms of ESA 1995, other subsidies on production include one single item, 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.

D 39 Other subsidies on production

4.161 Borderline cases between subsidies on products and other subsidies on production have been described in II.T 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. It is emphasized once again that the revision from FNA to NNA have had a sizeable effect on subsidies on products, social benefits, government consumption expenditure, capital transfers and current transfers to NPISH and other sectors.

4.162 In NNA, other subsidies on production amount to 24,9 billion kroner or 75 per cent of total subsidies in 1990. Its share of GDP is 3,4 per cent. In FNA, both shares were considerably higher, the share of total subsidies close to 98 per cent, while the GDP share was at 5,9 per cent.

4.163 Other subsidies on production is distributed to various NNA-industries of market producers and producers for own final use. The respective shares of other subsidies on production in 1990 for the two types of producers are approximately 90 and 10 per cent. Other subsidies on production are not allocated to non-market industries of government and NPISHs in NNA.

Sources

4.164 Main sources used are:

- Central government accounts (the fiscal accounts)
- Other central government accounts (government funds etc.)
- Local government accounts

The contents of other government accounts are described in I.C.10 above.

Methods of estimation

4.165 Central government accounts, including other central government accounts, are used to estimate most other subsidies on production since approximately 85 per cent of the total amount is paid by central government. The remaining 15 per cent is paid by local government, estimated from local government accounting data. In terms of valuation and time of recording, all items are actual outlays as recorded in the central and local government accounts.

4.166 Some 460 detailed items of central government accounts are treated and coded as other subsidies on production. The largest items - those above 100 million kroner threshold - are listed and illustrated by 1990 figures below. The source reference is given, and with an indication of the allocation made to relevant industries in each case. The 19 items - listed in order of size - add to 16,9 of 21,3 billion total for central government (i.e. about 80 per cent).

Grants according to Agreement for Agriculture

1990 value:	10 040 million kroner, of which 6 292 million as other subsidies
Source:	Item 1150, sub-items 70, 73 and 74 of central government accounts
Receiving industry:	Agriculture for part of sub-items 73 and 74 (3 509 million), manufacture of food products for part of sub-items 73 and 74 (1 460 million) and wholesale trade for part of all three sub-items (1 323 million)

These sub-items are distributed by categories as follows:

	1990. Million kroner
Subsidies on products (adjusted upwards accruals basis, see above)	3 702
Other subsidies on production	6 292
Transfers to other central government sector	46

Government measures to promote employment

1990 value:	3 249 million kroner, of which 1 095 million as other subsidies
Source:	Item 1542, sub-items 70, 71 and 73 of central government accounts
Receiving industries:	Distributed to 6 industries within manufacturing (643 million), construction (346 million) and hotels and restaurants (106 million)

These sub-items are distributed by categories as follows:

	1990. Million kroner
Other subsidies on production	1 095
Transfers to local government	959
Social benefits to households	805
Intermediate consumption	390

Interest grants to the State Housing Bank

1990 value:	2 195 million kroner
Source:	Item 2412, sub-item 72 of central government accounts
Receiving industry:	Dwelling service production industry

Special employment measures for disabled persons

1990 value:	1 021 million kroner, of which 937 million as other subsidies
Source:	Item 1543, sub-items 70 and 71 of central government accounts
Receiving industries:	Distributed to some 30 industries (mostly manufacturing industries)

These sub-items are distributed by categories as follows:

	1990. Million kroner
Other subsidies on production	937
Transfers to local government	44
Social benefits to households	40

Transfers to traffic part of the State Railway Corporation

1990 value:	959 million kroner
Source:	Item 1351, sub-item 70 of central government accounts
Receiving industry:	601 Transport via railways

Grants according to Agreement for Fisheries

1990 value:	913 million kroner
Source:	Item 1040, sub-item 70 of central government accounts
Receiving industries:	Fishing (mostly) and fish farming (small amount)

Remission of accountable loan (named producer)

1990 value:	833 million kroner
Source:	Item 957, sub-item 71 of central government accounts
Receiving industry:	271 Manufacture of iron, steel and ferro-alloys

Interest grants to manufacture of ships and modules

1990 value:	724 million kroner
Source:	Item 1634, sub-item 71 of central government accounts
Receiving industries:	Building and repairing of ships and boats, - oil platforms and modules

Interest grants and support to named financial institution

1990 value:	615 million kroner
Source:	Item 2413, sub-items 73 and 75 of central government accounts
Receiving industries:	Distributed to 8 industries (mostly to manufacturing for sub-item 73, to other financial intermediation for sub-item 75)

Grants to ferry transport

1990 value:	533 million kroner
Source:	Item 1329, sub-item 70 of central government accounts
Receiving industry:	613 Inland water transport

Grants to named financial institution

1990 value:	342 million kroner
Source:	Item 1633, sub-item 70 of central government accounts
Receiving industry:	655 Other financial intermediation

Travel allowance to physicians (use of own cars etc.)

1990 value:	237 million kroner
Source:	Item 2750, sub-item 71 of central government accounts
Receiving industry:	851 Human health activities

Development grants to establishments

1990 value:	226 million kroner
Source:	Item 551, sub-item 71 of central government accounts
Receiving industries:	Distributed to 11 industries (mostly manufacturing industries)

Grants to Hurtigruta

1990 value:	216 million kroner
Source:	Item 1330, sub-item 70 of central government accounts
Receiving industry:	613 Inland water transport

Apprentice grants to establishments

1990 value:	192 million kroner, of which 189 million as other subsidies
Source:	Item 234, sub-item 70 of central government accounts
Receiving industries:	Distributed to 7 industries (approximately half to construction), after deduction of small amount for social benefits to households

Grants to domestic airlines etc.

1990 value:	185 million kroner
Source:	Item 1330, sub-item 71 of central government accounts
Receiving industry:	620 Air transport

Grants for loss covering to named financial institution

1990 value:	156 million kroner
Source:	Item 2415, sub-item 77 of central government accounts
Receiving industry:	655 Other financial intermediation

Production grants to publishers of newspapers

1990 value:	133 million kroner
Source:	Item 820, sub-item 71 of central government accounts
Receiving industry:	221 Publishing

Grant to named mining producer

1990 value:	115 million kroner
Source:	Item 963, sub-item 70 of central government accounts
Receiving industry:	130 Mining of metal ores

4.167 In addition (but included in the 21,3 billion total for central government above), central government pay out subsidies from government funds etc., estimated from some 100 recordings of other central government accounts.

4.168 Other subsidies on production paid by local government amount to 3,5 billion kroner in 1990. Some 60 recorded items involve other subsidies on production in local government accounts. Three items are above the threshold value of 100 million kroner in 1990. They are transport grants to scheduled motor bus transport (1,7 billion) and to tramway and suburban transport (0,4 billion), and to the dwelling service production industry as payments for housing and community amenity purposes (0,4 billion).

E. GROSS OPERATING SURPLUS

Gross operating surplus (including gross mixed income) is estimated at 286,6 billion kroner or close to 40 per cent of GDP in 1990. The 1990 revision from FNA to NNA has increased total gross operating surplus by 39,2 billion kroner, of which 15 billion is due to definitional changes which to a large extent have been influenced by revised treatment of subsidies. Like in FNA, gross operating surplus is calculated as GDP, less compensation of employees, less taxes on production plus subsidies on production. Later consumption of fixed capital will be deducted and arriving at operating surplus (including mixed income) as a balancing item of the generation of income account.

4.169 In NNA - as was also the method used in FNA - 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. As explained in section IV.G below on consumption of fixed capital, the current situation in NNA is that operating surplus is calculated gross for the time being, but will be brought into net terms by end of 1996.

4.170 Total gross operating surplus is calculated as GDP, less compensation of employees, less taxes on production plus subsidies on production. For a particular industry, gross 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). From such a balancing item 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.

4.171 In NNA, gross operating surplus is estimated at 286,6 billion kroner in 1990. Its share of GDP was 39,7 per cent, in other words, close to 40 per cent of GDP.

4.172 The 1990 revision from FNA to NNA has increased gross operating surplus considerably from 247,4 to 286,6 billion kroner. This 39,2 billion increase in 1990 means that total gross operating surplus is 15,8 per cent higher in NNA than estimated in FNA. Part of the increase is due to definitional changes - 15 billion kroner - i.e. 6 of almost 16 per cent total increase in 1990. Subsidies seem to play a major role behind this result. This is illustrated by 1990 figures in the table below.

	Billion kroner		Revision	
	FNA	NNA	Total	Definitional
GDP	660,6	722,1	61,5	6,2
Compensation of employees	342,0	357,2	15,2	1,0
Taxes on production	111,1	110,9	- 0,2	-
- Subsidies on production	40,0	32,5	- 7,5	- 9,8
Gross operating surplus	247,4	286,6	39,2	15,0

F. GROSS MIXED INCOME

Gross mixed income is a new income concept introduced in NNA - for the remuneration of labour and capital combined - related to production activities in the household sector. Gross mixed income is estimated at 46,9 billion kroner or 6,0 per cent of GDP in 1992. It accounts for nearly 44 per cent of combined gross operating surplus / gross mixed income in the household sector, and about 15 per cent of the corresponding balancing item for the total economy. Gross mixed income is estimated from the accounting statistics of self-employed, which from 1991 have enabled an improved and direct estimation approach to the household part of total gross operating surplus.

4.173 In the preceding section it was referred to gross operating surplus as the balancing item of the generation of income account. From the new terminology adopted in the new system, gross operating surplus in this respect is actually to be termed in two parts, i.e. gross operating surplus (proper) and gross mixed income. In fact, the correct use of these terms is not gross operating surplus for the total, but for the segment that is not covered by gross mixed income.

4.174 Gross 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 labour 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 (gross or net) operating surplus. Moreover, mixed income is not generated in other sectors than the household sector.

4.175 The compilation of production and generation of income accounts is a new feature introduced in NNA. It was linked to the improved source situation which came about through accounting statistics of self-employed as a means to evaluate a tax reform taken place in Norway from 1992. The accounting statistics of self-employed as a source was available for

the first time in 1991 and 1992 and is described in section I.C among the main sources used for the national accounts. Before 1991, production and complete income generation accounts have not yet been compiled for households in NNA. The description on gross mixed income is therefore most adequately referred to 1992 as a year of illustration.

4.176 In NNA, gross mixed income is estimated at 46,9 billion kroner in 1992. Its share of GDP is 6,0 per cent. It accounts for 43,6 per cent of the combined balancing item gross operating surplus / gross mixed income in the household sector. Its share of the corresponding balancing item for the total economy in 1992 is just over 15 per cent.

	1992. Billion kroner
Total gross operating surplus / gross mixed income	308,8
of which:	
in households	107,6
- gross mixed income	46,9
- gross operating surplus of owner-occupiers	60,7

4.177 In FNA, a complete compilation of these accounts did not take place. However, gross operating surplus (including the part of mixed income) was distributed on the various sectors including households by using the approach of distribution keys.

4.178 In NNA, however, 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:

(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 the whole chapter II and chapter IV.

(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 independently from the accounting statistics of self-employed.

It follows from this that:

(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).

4.179 The utilization and transformation of the accounting statistics for the gross mixed income estimation may be described in terms of two phases. In the first phase, accounting items have been given conversion codes to transaction categories used in NNA. Second, adjustments have been made for conceptual deviations. Two types of adjustments or transformations are particularly important, and leads to the NNA production account of self-employed.

- Transformation from sales data of the accounts to NNA output data
- Transformation from accounting data on gross terms for turnover and purchases in wholesale and retail trade to NNA trade (and transport) margins

4.180 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-a-vis the NNA industry estimates for agriculture. In terms of output and intermediate consumption, farming / 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.

G. CONSUMPTION OF FIXED CAPITAL

In NNA, consumption of fixed capital has not yet been estimated in a global way. Just in the cases where output is determined fro total costs of production, provisional NNA estimates have been determined for this concept. The 1995 revision thus resorted to gross income estimates - such as gross operating surplus and gross disposable income - waiting for a supplementary and second NNA estimation phase in 1996 to include consumption of fixed capital as well as gross and net stock values of fixed assets. Having completed this compilation, net income estimates could be deduced. The perpetual inventory method would be the basic approach, like in FNA but somewhat refined. A supplement to this inventory documentation will be submitted when revised estimates are made.

4.181 In NNA, consumption of fixed capital has not yet been estimated, except for what is needed for output estimation in activities measured from total costs of production. The latter estimations concern non-market output of central government, non-market output of local government and non-market output of the NPISHs, for which output is determined as the sum of intermediate consumption, compensation of employees, other taxes on production, less other subsidies on production, and finally, consumption of fixed capital.

4.182 The NNA estimation of consumption of fixed capital is to be carried out in a second phase of the switch over from FNA to NNA, also including revised estimates of non-financial assets, in particular fixed assets. This work is to be completed by late 1996 and consequently not to be documented before later. The approach taken is however the same as in FNA, i.e. by applying the perpetual inventory method (PIM). In Norway, the calculations are organized within a computer programme called BERKAP. 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.

4.183 The revised computer programme would produce estimates for consumption of fixed capital, as well as gross and net stock values of tangible and intangible fixed assets. The estimates would be computed by the standard breakdowns for industries and types of assets in NNA. Subsequently, the estimates are to be distributed by institutional sectors. The computations require long time series of revised GFCF estimates as input, as well as parameter

information on average service lives etc. The FNA average serve lives of the various fixed assets have to be revised and adapted to new specifications of NNA-industries and types of fixed assets. In some cases, such as for ships, power plants and oil platforms and the like, special treatment seem necessary, otherwise average services lives from international studies might be drawn upon. Survey results from Canada adapted to the calculations in Sweden might well be considered in Norway as well as a basic foundation for the revised service lives. In FNA, average service lives were differentiated to a large extent and had a range from 90 years for residential buildings to 1 year for non-successful oil drilling. In general, the service lives of machinery and equipment tended to be relatively high and are expected to be reduced considerably in NNA. As to choice of survival function, the FNA linear straight-line solution might be replaced by a geometrical one in NNA. The assumption of simultaneous exit is used as a preliminary method (like in FNA), but might be amended later (e.g. using a kind of bell-shape solution).

4.184 A special treatment is necessary on acquisitions less disposals of existing fixed assets. In Norway, in particular the component of net disposals of existing ships has caused special problems in the calculation of consumption of fixed capital, since the computations are normally adapted to acquisitions of new fixed capital.

4.185 When revised estimates are published, a more detailed description should be made available.

4.186 The NNA calculations on consumption of fixed capital for non-market activities, have been based on FNA estimates for total consumption of fixed capital for producers of central government services and producers of local government services, respectively, and regrouped for the NNA specifications. For new items, among which the item of roads is the dominant one, the method used was to apply the ratio in FNA of consumption of fixed capital to GFCF for total structures, with separate ratios for central and local government. Consumption of fixed capital is also estimated - with insignificant values, however - as component of the new output estimates for the NPISHs.

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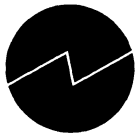

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