3. The production approach

3.0 GDP according to the production approach

For 2003, the calculation of output-based GDP can be summarised as in the table below:

Table 3.1: GDP, production approach, 2003

	Value, DKK million	% of GDP
Output at basic prices	2 353 944	168
- Intermediate consumption	1 152 877	82
+ Taxes on products	218 279	16
- Subsidies on products	18 656	1
GDP	1 400 690	100

The aggregate estimate of value added is based on an estimate at the level of the national accounts' most detailed industry grouping. The estimates for the 130 individual industries are set out in Sections 3.7 - 3.22, which explain the calculations for each of the NACE subsections. The calculations of value added up to the initial output-based estimate of GDP are for most industries at a much more detailed level, namely the DK-NACE extremely detailed grouping of 810 industries. The national accounts are balanced at the 130-industry level in the supply and use tables. Balanced values for value added divided by industry appear in the final national accounts for 130 industries in prices for the year in question, in fixed 2000 prices and as time series of Laspeyeres chain indices based on estimates in the previous year's prices.

Table 3.2 is a cross table showing value added at basic prices in 2003 by industry (NACE A17) and institutional sector.

Table 3.2: Gross value added by industry and institutional sector, 2003

Nace		Sector	Mill. DKK	Percent
A	Agriculture, hunting and forestry	S.11	5.903	0,49
		S.13	364	0,03
		S.14	15.766	1,31
B	Fishing	S.11	900	0,07
		S.14	879	0,07
C	Mining and quarring	S.11	30.155	2,51
		S.14	63	0,01
D	Manufacturing	S.11	174.459	14,53
		S.14	6.126	0,51
E	Electricity, gas and watersupply	S.11	25.172	2,10
F	Construction	S.11	48.896	4,07
		S.13	2.268	0,19
		S.14	12.585	1,05
G	Trade and repair services	S.11	132.400	11,02
		S.14	13.801	1,15
H	Hotels and restaurants	S.11	11.832	0,99
		S.14	5.777	0,48
		S.15	-76	-0,01
I	Transport, storage and communication	S.11	90.782	7,56
		S.13	290	0,02
		S.14	9.223	0,77
J	Financial intermediation	S.121	354	0,03
		S.122	37.037	3,08
		S.123	8.397	0,70
		S.124	4.475	0,37
		S.125	14.189	1,18
K	Real estate, renting and business activities	S.11	123.258	10,26
		S.13	4.299	0,36
		S.14	90.342	7,52
L	Public adm. and defence, compulsory social security	S.11	2.227	0,19
		S.13	75.377	6,28
		S.14	1	0,00
M	Education	S.11	674	0,06
		S.13	67.578	5,63
		S.14	844	0,07
N	Health and social work	S.11	7.317	0,61
		S.13	115.615	9,63
		S.14	7.414	0,62
		S.15	1.585	0,13
O	Other community, social and personal service activities	S.11	29.606	2,47
		S.13	10.477	0,87
		S.14	4.312	0,36
		S.15	6.315	0,53
P	Private households with employed persons	S.14	1.807	0,15
	Total		1.201.067	100,00

Note: Based on internal non-published information

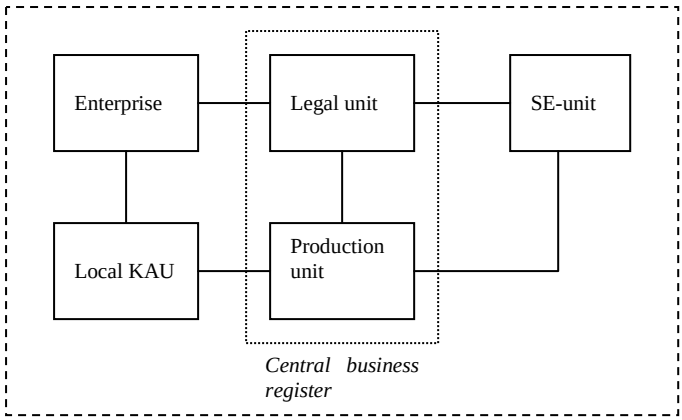
3.1 The reference framework

3.1.1 The business register

In Denmark only one Central business register exists. It is run by *Statistics Denmark*, *Skat* (Customs and Tax) and *Erhvervs- og selskabsstyrelsen* (Danish Commerce and Companies Agency).

The business register used in Statistics Denmark for statistical purposes is a copy of the Central business Register plus additional information, as shown in figure 3.1.

Figure 3.1: Business register, overveiw



For statistical purposes, Enterprise and Local KAU is used. The administrative units are the Legal unit and the Production unit. For VAT-purposes, the SE-unit is used.

All businesses receive a number related to the legal unit in the central business register (CVR-number) when they first register for business. In most cases, there is a one-to-one relationship between the Legal unit and the Enterprise. In some cases, if a legal unit covers more than one enterprise, Statistics Denmark decides in each case in which branches the enterprises are placed.

A legal unit can have one or more production units. The same goes for the enterprise, which can have one or more local KAUs. There is always a one-to-one relationship between the production unit and the local KAU.

The SE-unit is the level at which VAT is settled. It is possible for a legal unit to have more than one SE-unit, and therefore SE-number, and also for more than one legal unit to have only one SE-number.

All businesses have to register for VAT if their turnover exceeds 50.000 DKK during a 12 month period, which is a small amount. Registration for VAT automatically implies registration in the central business register, which therefore has a very high degree of coverage.

All administrative and statistical units are registered with the following information:

1. Identity number
2. History
3. Main and secondary branch
4. Owner and ownership-form
5. Name and address
6. Telephone number
7. Function-code which shows whether the unit is privately or publicly owned
8. Information on employment and turnover
9. Information on most recent update (when, who and what)

The central business register is automatically updated when new businesses start or old businesses close down. The above-mentioned three agencies are responsible for updating different parts of the central business register.

At the legal unit/enterprise level:
Government: *Statistics Denmark*
Private and public owned corporations: *Erhvervs- og selskabsstyrelsen*
Sole proprietorships: *Told og skat*

At the legal unit/enterprise level, *Erhvervs- og selskabsstyrelsen* can update name and address only, *Told og Skat* can update name, address and branch. However Statistics Denmark can overrule the branch.

At the production unit/local KAU level only Statistics Denmark can update the central business register.

The largest check is in relation to the so-called *Workplace Project*, which takes place once a year in November. When Told og Skat sends out information sheets to employers (to fill in information on paid wages to employees) additional information on *working places* is collected. This information is used by Statistics Denmark to update the production units/local KAUs in the central business register (among other things). When a correction is made to a production unit/local KAU, the correction is followed through to the legal unit. Often there is a one-to-one relation between the legal unit and the production unit. All cases are considered separately.

Within Statistics Denmark, the users of the business register can correct errors either directly in the central business register or via the division responsible for the business register. The users within Statistics Denmark are the producers of primary statistics.

Updates and corrections are only made in the central business register. The business register used for statistical purposes in Statistics Denmark is a copy of the central business register. Once a day Statistics Denmark gets a copy of the central business register.

3.1.2 Breakdown of the economy into sectors, sub-sectors and industries

The statistical unit for the estimate of output and value added in the ESA 95 is the local kind-of-activity unit (which in Danish is synonymous with the producer unit, the workplace). In the ESA 95, these units are grouped into industries. When discussing the estimate of GDP from the output side, it is therefore logical to proceed industry by industry. However, the primary statistics available - and thus the statistical methods relevant to use - will almost always be based on a grouping of the somewhat broader institutional units (firms) by main activity (a grouping into "sub-sectors", or "firm branches"). For example, the management of housing and business premises as part of the activity of pension funds will be subject to the requirements for the submission of accounts and statistical reporting which apply to pension fund activity, which means that all units, right down to the smallest, have to report. The letting of housing and non-residential property which is not hived off into a property company but is an integral part of the pension fund's investment activity is thus not included in the primary statistics for firms whose main activity is the letting of property. Throughout the process of estimating value added on the basis of primary statistics, we have to look out for and take account of the relationships between institutional producer units (firms) and local kind-of-activity units (producer units).

If we look at the statistical coverage of the economy in primary statistics in the form of accounting statistics, we see that there is a broad division into four sectors/subsectors:

1. Sectors with complete accounts and (virtually) full coverage of the population via administrative or statistical returns

S.13 General government
S.121 The central bank
S.122 Other monetary financial institutions
S.123 Other financial intermediaries, except insurance corporations and pension funds
S.125 Insurance corporations and pension funds

2. Sectors with complete accounts and partial coverage of the population via administrative or statistical returns

S.11 Non-financial corporations (other than agriculture and dwellings)
S.14 Households (other than agriculture and dwellings)
S.124 Financial auxiliaries

3. Sectors with a combination of physical and economic accounts

S.11 Agriculture and dwellings where the form of ownership is non-financial corporations
S.14 Agriculture and dwellings where the form of ownership is households (sole proprietorships)

4. Sectors with no accounting statistics

S.15 Non-profit institutions serving households.

This breakdown is fundamental. In group 1, there is, of course, no noticeable problem with sampling or grossing up, since virtually all producer units are covered by the ongoing estimates. The challenge here is basically to convert the primary statistics' accounts to the concepts of national accounts. The exception is S.123, where most of the institutions are covered but where a certain amount of grossing up is necessary. In group 2, which covers the vast majority of activity in the economy, much of the work of producing exhaustive and reliable estimates consists in ensuring that the samples used are representative and that the figures are grossed up to the total population.

For agriculture and dwellings (group 3), one particular point is that grossing up on the basis of employment is statistically unreliable and that using VAT sales is either difficult or impossible, either because the activity includes extensive sales of capital goods or because it is not liable for VAT. A far better basis for grossing up the figures is in this case physical quantities (areas). The national accounts estimates for these two sub-sectors of S.11 and S. 14 therefore take advantage of the existence of physical data.

Finally, for Sector S.15, Non-profit institutions serving households, there are no accounting statistics, but there is an annual total estimate of wages and salaries, which is the starting point for the national accounts calculation.

Table 3.3 shows a breakdown of gross value added (GVA) 2003 by the main type of accounts statistics.

Table 3.3 Gross value added based on various accounting statistics

Accounting statistics	**Gross value added based on the source**	**% of the gross value added of the economy**
Industrial accounts statistics	650 158	54
SLS-E statistics	47 911	4
Account statistics for industries predominated by public corporations	47 375	4
Industry-specific account statistics	187 802	16
General government	267 821	22
Total	1 201 067	100

Below, the four sectors and sub-sectors are discussed individually.

3.1.3 Sectors with complete accounts and full coverage

In 2003, these sectors together accounted for 27% of total gross value added in the economy. Of the 27%, 22% covers general government and the remaining 5% Financial Institutions except financial auxiliaries.

Below are descriptions of general government (3.1.3.1), financial institutions (3.1.3.2) and publicly controlled non-financial institutions (3.1.3.3).

3.1.3.1 General government

Delimitation of the sector
In Denmark, S. 13 covers only those institutional units that are government non-market producer units. All government-controlled market producer units are considered to constitute independent institutional units. If they are not corporations, they are treated in the national accounts as quasi-corporations with autonomy of decision-making and are included in the corporate sector. For example, all local government utilities (water supply, drain service etc.) are included in the non-financial corporations sector S.11 even though their accounts are often integrated in the local government accounts.

In the Danish national accounts, therefore, the institutional sector is identical with the population of government non-market producer units. This coincidence is very useful from the point of view of both the actual calculations and the analytical uses of national accounts.

This delimitation does not result directly from ESA 95 rules. The European System of Accounts allows government market producer enterprises to be assigned to Sector S.13. There may be units owned by government which are market producers but which do not meet the requirements for autonomy of decision-making or complete sets of accounts set out in ESA 95 paragraph 2.12 in order to constitute independent institutional units, and which therefore can not be included in the corporations sector. In ESA 95, such units are counted as market producer enterprises belonging to institutional units in general government. As already stated, Denmark has consistently chosen to avoid this treatment, although it is in principle possible.

It is in practice very useful to be able to avoid having market producer units in S.13, general government, because the whole output value of S.13 is then estimated by convention from the cost side The convention about estimating the value of the output of non-market producer units on the basis of costs places a great many constraints on the calculation systems (accounting identities) and in practice it is far easier to ensure that these constraints are met by not allowing S.13 to include both market producer units whose output value is estimated on the basis of sales and non-market units. In addition, the convention that the institutional sector for general government equals government non-market producer units is practical for the users of the figures.

A further point is that market output, where income from sales accounts for over 50% of production costs, can in fact occur - and to a large extent does occur - in S.13, but as the secondary activity of the producer units in question. The secondary market activity does not prevent total output of such producer units from being calculated from the cost side.

Those economic units which are considered to be government non-market producers but contain local kind-of-activity units that produce marked output are classified in the business register, to distinguish them from full market producers and private non-market producers, i.e. NPISHs. This classification is crucial to ensure that there are no units left out or double-counted. The business register also has ownership codes, to identify all government-owned corporations and quasi-corporations. Those units which are coded as government non-market producer units and those which are coded as government-owned market producer units are combined in the statistical system into *the public sector*, i.e. S.13, general government, and S.11001, public corporations.

Subsectors
In Denmark, the general government sector S.13 is divided into three subsectors:

S.1311: Central government
S.1313: Local government
S.1314: Social security funds.

Central government comprises central government institutions, "self-owning" institutions (i.e. institutions owning their own capital – for example universities, some kinder gardens and private schools), funded and controlled by central government and the Danish National Church ("*Folkekirken*"). Under the Danish constitution, the latter has special status compared with other religious communities and unlike them receives direct funding from central government. Local government consists of *primærkommuner* (district, i.e. "municipal", authorities), *amtskommuner* (counties), "self-owning" institutions funded and controlled by local government and local government organisations. Social security funds cover the *a-kasse*r (unemployment insurance funds) and *Lønmodtagernes Garantifond* (employees' wage guarantee fund).

Statistical sources
For central government, the main statistical source is central government accounts. For local government, the main source is local government accounts for all 275 municipalities and 14 counties. For the “self-owning” institutions, under both central and local government, annual accounts, assumed to cover the whole population, are collected. For the social security funds, the statistical source is their annual accounts, which are collected for all units concerned.

Links with the business register
As mentioned, the units included in the statistical system for public finance as producer units in S.13 and those units which are classified in the business register as government non-market units are exactly the same. The grouping of government units by purpose, COFOG, is only added in the public finance statistical system and not in the business register.

From primary public accounts data to national accounts statistics
The accounting plan in central government accounts is not the same as that used for local government accounts. All municipalities and counties are obliged to use the local government plan. When compiling national accounts, the accounts for central government, local government, “self-owning” institutions and social security funds are coded with national accounts classifications based on ESA95. Then they are stored in one compilation system, the *DIOR database* [*Databasen for integrerede offentlige regnskaber, i.e.* database for integrated public accounts]. All individual entries at the most detailed level of the primary accounting systems are given an ESA95 code. All entries are classified by type of transaction, by purpose and by industry.

Output of government non-market producer units
According to ESA 95, paragraph 3.53, the output value of government non-market producer units is the sum of:

Intermediate consumption (P.2)
Compensation of employees (D.1)
Consumption of fixed capital (K.1)
Other taxes on production (D.29) less other subsidies on production (D.39).

Government final consumption expenditure is calculated as follows: government income from sales (from both non-market output - "user payments" - and sales of market products produced as a secondary activity) and general government output of capital goods for own use are subtracted from output and social transfers in kind of market goods and services are added. In 2003, the only output of capital goods for own use was own-produced software. Social transfers in kind of market goods and services cover general government purchases on the market of health services (health insurance services) and facilities made available to households. These last products are not included as the intermediate consumption of non-market services by general government but are entered directly as final uses in a special category for government final consumption expenditure on market products.

Table 3.4 shows the relationship between general government output and government final consumption expenditure in 2003.

Table 3.4 Relationship between s.13 output and s.13 final consumption expenditure

	DKK million
+ Compensation of employees	252 471
+ Consumption of fixed capital	26 707
+ Intermediate consumption	117 573
+ Other taxes on production and –subsidies, net	-2 910
= Output	393 841
+ Social benefits in kind	20 075
+ Income from sales	-41 914
+ Own account software	-766
= Consumption expenditure	371 236

Breakdown of output by industry and product

In the *DIOR* database for government accounts, all producer units are recorded in terms of DK-NACE industry and COFOG code by purpose. The total output value of the general government sector is divided into the national accounts' 130 industries on the basis of the industry codes in *DIOR* which are the same as the industry codes for the units in the *CVR*.

The breakdown by product is based on the detailed *DIOR* industry codes. In 2003, general government output was divided in the national accounts product balance system over 109 products, 52 for output from various activities counted as public consumption expenditure, 56 for the corresponding public receipts from sales with uses other than public consumption expenditure and one product for own-produced software.

In the national accounts product classification, the individual products have seven characters, a letter followed by six digits. Products for government final consumption expenditure have Q as the first character. Products for public receipts from sales have S as the first character and, finally, own-produced software, like other products for capital goods produced for own account, has K as the first letter.

Intermediate consumption
DIOR contains all government accounts entries with national accounts classifications. Intermediate consumption divided into the national accounts' 130-industry grouping is obtained by simple aggregation.

Breakdown of inputs by product
The industry-level input structure for the individual general government branches was originally established for the year 1984, when the accounting plans in both central and local government accounts were considerably more detailed than in later years. The input structure established at that time was later modified, with annual balancing of resources and uses in the light of changes in supplies of the products in question and the use of products - estimated on the basis of the input target totals divided by industry - for the intermediate consumption of government non-market services.

Other taxes on production less other subsidies on production
Since the value of government non-market output is calculated from the cost side, other taxes less subsidies on production are relevant to the estimate of value added at basic prices and hence GNI. Other taxes on production in general government are calculated from government accounts, which include the necessary detail on the structure of costs.

3.1.3.2 Financial institutions

Credit institutions
The sectoral delimitation of the subsectors complies strictly with the ESA 95 rules. Subsectors S.121 and S.122 have complete accounts. For S.123, the figures are grossed up for units not covered by either the estimates of the Financial Supervisory Authority, *Finanstilsynet*, or Danmarks Statistik's financial primary statistics The sources and methods of calculation for the two national accounts industries which correspond to subsectors S.121, S.122 and S.123 are discussed in Section 3.16.

Insurance corporations and pension funds
This subsector is covered in full by *Finanstilsynet's* accounting estimates.

3.1.3.3 Publicly controlled non-financial corporations

Delimitation of the (sub)sector
Sector S.11001, "Public non-financial corporations", along with national private and foreign-controlled enterprises carrying out activities in the same branches as the public corporations, has a special status. Industries dominated by public corporations are normally covered by special ‘Accounts statistics for industries predominated by public corporations’ produced by Statistics Denmark’s Public Finances Division. The explanation is that it is particularly useful to cover public corporations, if only because they account for a large share of capital formation and the stock of fixed capital goods. The statistics in question are called "statistics for public enterprises", but in fact the statistics cover all producer units in the industries concerned. These are industries which have traditionally included a certain share - in many cases a dominant share - of public corporations and quasi-corporations.

The starting point is a sector delimitation of S.11001, where the units in that sector are grouped by industry in accordance with the main activity of the corporations in question. The resulting branches in which public corporations predominate are then covered in their entirety, regardless of ownership, and that coverage will not be reduced by any subsequent privatisations.

In 2003, the following industries in the national accounts' 130 grouping were included in whole or in part in the special treatment of industries where units belonging to S.11001 predominate:

401000	Production and distribution of electricity
402000	Manufacture and distribution of gas
403000	Steam and hot water supply
410000	Collection and distribution of water
601000	Transport via railways
602100	Other scheduled passenger land transport
602409	Freight transport by road and via pipelines
620000	Air transport
631130	Cargo handling, harbours, etc.: travel agencies
640000	Post and telecommunications
900010	Sewage removal and disposal
900020	Refuse collection and sanitation
900030	Refuse dumps and refuse disposal plants
920001	Recreational, cultural, sporting activities (market).

Statistical sources
For the above industries, the source for the national accounts estimate is "statistics for public enterprises", extended to cover all units in the industries in question. Section 11.1 describes these statistics. They are produced by the Public Finances Division in connection with general government statistics. As general government statistics are compiled in line with national accounts principles, the extended statistics for public enterprises are processed according to national accounts definitions and presented according to the accounting plan for non-financial corporations in the ESA 95. One of the reasons is the desire to be able to produce a national accounts estimate of the "public sector", which is a combination of general government (S.13) and public corporations (S.11001). The public sector is all producer units in the economy under public control.

Estimate of the production account by industry
Sections 3.7 to 3.23 describe the calculation of value added for the individual industries. Only the general sources and methods in "statistics for public enterprises" are mentioned, and these, as already stated, cover all industries.

a) The accounting figures used are:
b) central and local government accounts;
c) questionnaires with accounting information;
d) official annual accounts;
e) accounting figures from branch organisations.

The population of units comes from the business register, and all public units are covered directly. All large national private and foreign-controlled units are also covered directly but small non-public units are covered via grossing up.

Ad a): If public quasi-corporations are included in central and local government accounts, these accounts are used as the source.

Ad b): For public corporations and quasi-corporations not included in central and local government accounts, Statistics Denmark collects accounting information on the questionnaire shown in Annex 6. The same questionnaire is used for national private and foreign-controlled units in the industries in question.

Ad c): Official annual accounts are used in a few cases.

Ad d): For the electricity sector, the vast majority of electricity corporations report accounting information to the branch organisation *Dansk Energi*. These figures are used as the basis for the statistics instead of the usual questionnaire, since the figures provide information on purchases and sales from one electricity corporation to another, information which is crucial if we are to be able to calculate the value of electricity sold outside the electricity sector.

The statistical unit in these statistics is the economic unit, which in practice is defined as the legal unit, the firm. For the processing, secondary activity - principally construction and civil engineering and trading - is removed from the units in which it is carried out and transferred to the relevant national accounts industries.

For a good many industries, the "statistics for public enterprises" are exhaustive, i.e. they are based on accounts for all units in the industries in question according to the business register. In other industries with a large number of small units, total activity in the industry is covered via grossing up on the basis of the industry's VAT sales. Table 3.5 lists the detailed DK-NACE industries where the statistics are used as the source for the national accounts estimate, showing whether the estimate is based on all producers' accounts or whether the figures are grossed up, together with the percentage of any grossing up.

Table 3.5 Coverage in the accounts statistics for industries predominated by public corporations

DK-NACE industry	Text	National accounts industry	% grossed up
401100	Production of electricity	401000	Nil
401200	Transmission of electricity	401000	Nil
401300	Distribution and trade of electricity	401000	Nil
402100	Manufacture of gas	402000	Nil
402200	Distribution and trade with gaseous fuels through mains	402000	Nil
403000	Steam and hot water supply	403000	Nil
410000	Collection, purification and distribution of water	410000	61
601000	Transport via railways	601000	Nil
602110	Transport via busses	602100	4
602120	Transport via interurban, suburban and urban railways	602100	Nil
603000	Transport via pipelines	602409	Nil
632130	Operation of toll bar stations for roads, bridges and tunnels	631130	Nil
621000	Air transport	620000	Only SAS
632210	Harbours (traffic and fishing harbours)	631130	10
632230	Lighthouse and pilotage activities	631130	Nil
632300	Airports etc.	631130	2
641100	National post activities	640000	Nil
900100	Collection and treatment of sewage	900010	12
900210	Collection of other waste	900020	11
900220	Treatment of other waste	900030	1
900310	Collection of refuse in public places, snow and ice clearing etc.	900020	11
900320	Decontamination of soils and groundwater	900020	22
922010	Television activities	920001	3
922020	Radio activities	920001	68
926220	Yachting harbours (marinas)	920001	25
927100	Gambling and betting activities	920001	21

In industries with no total count, those enterprises which have the largest VAT sales are extracted until appropriate coverage of the branch's total VAT sales is obtained in the sample. This form of sampling is considered to be the most efficient, especially when it is possible to gross the sample up to the total population using VAT sales instead of employment, for example. The sample is grossed up to total VAT sales in the branch.

3.1.4 Sectors mainly calculated using grossed up industrial accounts statistics

Delimitation of the sectors and sub-sectors
The following sectors/sub-sectors do not have complete or virtually complete coverage of all institutional units carrying out productive activity:

S.11002 National private non-financial corporations
S.11003 Foreign-controlled non-financial corporations
S.123 Other financial intermediaries, except insurance corporations and pension funds (minor part)
S.124 Financial auxiliaries
S14 Households
S15 Non-profit institutions serving households.

Statistical sources
In the two financial subsectors S.123 and S.124, certain units are not covered by the financial accounts statistics collected by the supervisory authority, *Finanstilsynet*, or by Statistics Denmark. For S.123, those accounts which are available for the sector are grossed up to cover all units in that sector on the basis of employment. Enterprises in S.124 are covered by company accounts also grossed up on the basis of employment to cover the total population.

In the case of NPISH, total wages and salaries are estimated on an ongoing basis. This total figure is used to gross up the account of the country's largest trade union, whose costs structure is considered to be more or less representative of non-profit institutions. In any event, trade unions are by far the most important non-profit institutions in Denmark, with membership covering a very large percentage of employees.

The remaining (sub-) sectors, i.e. non-financial corporations other than the government-controlled and the household sector (sole proprietorships and households as owner-occupiers) together account for by far the largest share of market output in the economy. As a general rule, value added is calculated from the two sets of accounts statistics, namely:

a) the industrial accounts statistics, which is by far the most important, covering for 2003 all non-financial producer units other than general government and industries where public corporations traditionally predominate and

b) "SLS-E accounts statistics", which cover the remainder of the economy, mainly certain personal service industries. This is accounts statistics based on standardised accounts (SLS-E=*Statens Ligningssystem for Erhvervsdrivende)*, the government tax assessment system for businesses), which all firms, with certain exceptions, have to send in to the tax authorities together with their tax returns.

It should be borne in mind that information from the SLS-E statistics is used for the grossing up of the industrial accounts statistics as well as for compiling the industries mentioned under b) which are not covered by industrial accounts statistics.

Below the industrial accounts statistics and the SLS-E statistics and their use in the national accounts are described.

3.1.4.1 Industrial accounts statistics and SLS-E statistics

Annex 3 shows the questionnaire used for the industrial accounts statistics. Similarly, Annex 4 shows the SLS-E accounting form used to report standardised tax accounts for 2003. Annex 5 then shows the much more detailed SLS-E accounting form which was used in years 1988-1990, and whose more detailed plan is used to divide up the present more highly aggregated items into cost components.

The connection between the accounting plan in the questionnaire for industrial accounts statistics and the plan in the intermediate system is shown in table 3.15 in section 3.3.

The questionnaire for the industrial accounts statistics is designed to ensure that the accounts statistics can live up to the requirements of the Structural Business Statistics Regulation (SBS). By normal standards in this field, the degree of detail must be said to be very high. In the SLS-E statistics, there is much less detail, even when the basis is the more detailed layout which applied previously, where the structure of costs is still used for the detailed breakdowns. For the calculation of value added, the fewer details in the SLS-E statistics have no noticeable significance, but the lack of information on capital formation in this source is a handicap when it comes to the expenditure-based estimate of capital formation.

Coverage and method used for grossing up

Coverage and method used for grossing up, industrial accounts statistics

The data are based partly on the replies to the questionnaires sent to a sample of firms and partly on information from Statistics Denmark's business statistics register and from *Told&Skat*. The statistics are a legal requirement and non-response is not a serious problem. After reminders have been sent out, the response rate is as high as 97%. Non-response is usually due to death or bankruptcy. Firms which refuse to cooperate are prosecuted in accordance with the law.

From the business statistics register, information is extracted on all firms which have been active during the calendar year in question, including their branch, form of ownership and annual full-time equivalent (FTE) workforce (number of employees converted to full-time employment).

The firms are divided into groups ("strata") on the basis of their branch, form of ownership and employment. The breakdown into strata concentrates on balancing two points. On the one hand, it has to be so precise that the firms in one and the same stratum may reasonably be considered homogeneous from the accounting point of view, and on the other hand it has to be possible with the sampling method set out below to extract from each stratum as many firms as are necessary to give reliable and stable distribution figures which can be used to calculate accounting figures for the other firms in the stratum. The stratification is designed to ensure that at least five firms are selected from each stratum.

As a general rule, all firms with at least 50 FTEs are selected, 50% of those with 20-49 FTEs, 20% of firms with 10-19 FTEs and 10% of those with 5-9 FTEs. Firms with between 0 and 4 FTEs are usually not included in the sample, in order to minimise the administrative burden on very small

businesses. The sample rotates so that, over time, the burden of reporting is divided evenly over the firms in each FTE group.

For the 2003 accounting year (defined as including the account closed during the period 1 May 2003 to 30 April 2004), a sample was drawn of approximately 9 200 firms, including 2 500 manufacturing firms, 1 100 construction firms, 1 900 wholesale trade firms, 1 300 retail trade firms, 300 hotels and restaurants, 700 transport firms and 1 400 business services firms. These were all sent a questionnaire (Annex 3 shows the questionnaire). Each firm can choose either to complete and return the questionnaire or to send in specified accounts which include the same information. Around half the firms chose the latter possibility.

Pharmacists are not included in the sample. They send accounting information to *Lægemiddelstyrelsen* [the Medicinal Products Agency], which sends Statistics Denmark copies. The breakdown used for some of the items is not the same as that used in Statistics Denmark's questionnaire, but adjustments are estimated.

The accounting information received is checked and errors are corrected. Checks include ensuring that the accounts are internally consistent, as they should be, and that the information given by a firm is up to a certain point comparable with corresponding information from other firms in the same stratum and with any information given previously by the same firm. If it is considered necessary, the firm is contacted to ensure that incorrect information is corrected.

Statistics Denmark receives from *Told&Skat* copies of the standardised accounting information which corporations and the self-employed have to send in to the tax authorities and which is recorded in a special computerised register system (SLS-E). In addition to purely fiscal information, around 20 major items are reported from each firm's profit and loss accounts and balance sheets. Some firms, however, including those with annual turnover below DKK 0.5 million, companies quoted on the stock exchange and ordinary partnerships, do not have to report to the SLS-E. These "tax accounts" are the main source for the "SLS-E statistics", but are also important input for the industrial accounts statistics.

In addition to the firms included in the sample to which Statistics Denmark sent questionnaires, in 2003 accounting information was received from the SLS-E statistics covering around 67 900 firms, including 8 600 manufacturing firms, 14 200 construction firms 13 000 wholesale trade firms, 11 500 retail trade, 4 700 hotels and restaurants, 6 400 transport firms and 9 500 business service firms.

The aim of the processing is to produce accounting figures in the degree of detail on the questionnaire for each individual firm whose main activity is in manufacturing, construction or retail trade and which has been active during the calendar year.

The processing is in stages:

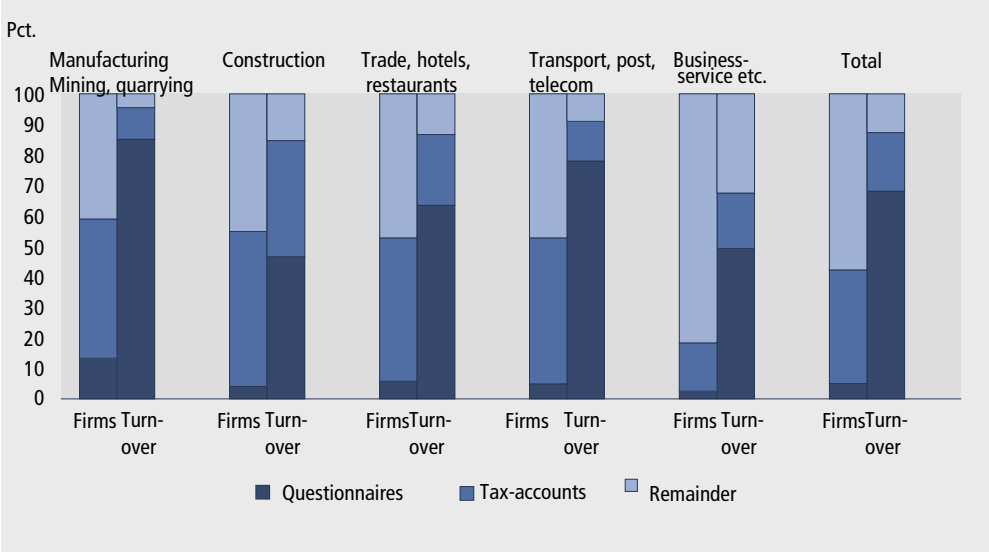
1) From the information reported at questionnaire level by the firms selected for the sample, distribution figures are worked out for each stratum, to be used to calculate accounting items for those firms for which only SLS-E statistics is available - cf. point 2.
2) In the case of those firms for which only SLS-E statistics is available, the main profit and loss items from that information are "frozen" for each individual firm and the extra

accounting items included on the questionnaire are imputed from stratified distribution figures based on those firms which have reported on the questionnaire.

3) On the basis of the above two groups, accounting figures are then calculated for each stratum per FTE for each accounting item on the questionnaire. The calculations are corrected for items such as the owners' input of labour in firms which are personally owned. These accounting figures are used to calculate the figures for the remaining group of firms which have to be included in the statistics but where only the branch, form of ownership and number of FTEs, VAT-liable turnover and duty on wage and salary cost are known. The turnover of firms with more than one FTE is mainly estimated on the basis of the number of FTE. When the number of FTEs in a firm is not more than one FTE, from the year 2000 and onward, another method is used, since FTE in the above calculations is replaced by turnover. The turnover for firms belonging to the remainder group with not more than one FTE is calculated based on these firms VAT-turnover or duty on wage and salary cost. This remainder group consists of around 105 800 firms, including 7 800 manufacturing firms, 12 600 construction firms, 9 800 wholesale trade firms, 11 200 retail trade firms and 49 200 business service firms. Virtually all of them are fairly small, for instance, approximately three-quarters of them have no paid employees.

The "questionnaire firms" account for 69% of turnover, "SLS-E firms" for 19% and "remainder group firms" for 12%.

Figure 3.2 Degree of coverage in the industrial accounts statistics. Number of firms and their turnover divided by source



As Figure 3.2 shows, Statistic Denmark's new industrial accounts statistics have extremely high coverage in the form of accounts which are actually observed. This is due to the combined use of questionnaires and the SLS-E tax accounts. One characteristic of manufacturing, transport, postal services and telecommunications is that the great majority of activity is carried out in firms with 50 or more employees, which all receive a questionnaire from Statistics Denmark. In non-manufacturing, small and medium-sized firms are much more important and the SLS-E tax-

accounts therefore carry considerably greater weight in the total accounting figures underlying the accounts statistics.

Taking together the main groups of industry which in 2003 were covered by the industrial accounts statistics for the Structural Regulation, only 12% of turnover has to be imputed. This high degree of coverage is achieved without sending questionnaires to firms with fewer than five annual FTEs, i.e. attaching great importance to not overburdening small-business respondents.

Coverage and method used for grossing up, SLS-E statistics
The main basis for these statistics is the standardised accounting information which corporations and the self-employed have to report to the tax authorities and which is recorded in a special computerised register system, *Statens LigningsSystem for Erhvervsdrivende* (SLS-E).

The reporting unit is the firm, i.e. the legal unit, as determined by form of ownership, i.e. corporations with share capital, private companies, cooperative associations, partnerships or sole proprietorships.

The obligation to submit returns took effect with the 1986 income year. Since then, various restrictions have been introduced, some reducing the amount of detail required and some cutting back the number of firms obliged to report.

The most important exemptions from the reporting obligation are:

- firms with net turnover below DKK 500 000 in the current or previous income year;
- companies quoted on the stock exchange;
- partnerships;
- financial intermediation [commercial and savings banks], and
- firms which started up or ceased trading during the income year.

The basic data for 2003 include SLS-E information on around 10 000 firms.

For industries not covered by industrial accounts statistics, Statistic Denmark's National Accounts Division receives from the Primary Statistics Division complete accounting figures at the level of individual firms (around 10 000 accounts) and then stratifies and grosses up the figures for national accounts purposes in its own calculation systems.

For this grossing up, the General enterprise statistics[2] is used, where VAT turnover are aggregated/split into legal units, i.e. firms, the units in the SLS-E statistics. VAT legislation allows firms/company groups to elect to remit VAT at a unit level which is either lower or higher than firm level. The two arrangements are called "partial registration" and "joint settlement". By far the most common option is for firms to register a special unit for their export sales, since they thus gain a liquidity advantage. In the General enterprise statistics (as in ordinary VAT statistics), these partial registrations are netted out and, in addition, units which settle VAT jointly are split into the individual firms.

[2] The Generel enterprice statistics integrate information from three other business statistics, which are compailed for different unit types. The three statistics comprise the Accounts statistics, which are compailed at the enterprise level, VAT statistics, which are compailed at the administrative level used by the Danish Central Customs and Tax Administration, and Establishment-related employment statistics, which are compailed at the local kind-of-activity level. The different unit types imply, that results from the three statistics are not strictly comparable. This is counterbalanced by the General enterprise statistics as the information is processed to the same unit level, the enterprise.

The accounting figures are stratified in the national accounts grossing-up by detailed DK-NACE industry, the institutional sector of the firm (S.11 or S.14) and two size groups measured in terms of VAT turnover. Within each DK-NACE industry, firms are split into four groups: a) large corporations, b) small corporations, c) large firms which are sole proprietorships and d) small firms which are sole proprietorships. "Large" and "small" are defined by reference to the median sales of corporations/sole proprietorships respectively in the Generel enterprise statistics. For each individual firm in the SLS-E accounting figures, the appropriate VAT turnover are obtained by matching with the Generel enterprise statistics register at firm number level. In this context, partnerships are classified as corporations, in accordance with the national accounts sectoral delimitation.

The figures for each stratum are grossed up by calculating the ratio:

$$A = \frac{VAT\ turnover\ in\ the\ population\ \ in\ the\ stratum}{VAT\ turnover\ in\ \ firms\ in\ the\ accounting\ \ figures\ in\ the\ stratum}$$

This "A ratio" is then used as the grossing factor for the aggregated firm accounts within the stratum, to gross the figures to the total population. One advantage of this grossing procedure is that the "net turnover" in the accounts, which correspond to turnover in the national accounts sense, are grossed up using VAT turnover as the raising variable. Experience has shown that net turnover and VAT turnover correlate very closely.

Periodisation

Periodisation, industrial accounts statistics

In the case of enterprises covered by the questionnaire survey, the statistics for year t cover firms whose accounting year closes between 1 May of year t and 30 April of year t+1. Firms whose SLS-E form is used for the statistics are included for year t if they close their accounts between 1 April of year t and 31 March of year t+1.

Questionnaire-based sales figures for 2003, broken down by month, are shown in Table3.6. If the main groups of industry covered are looked at as a whole, the 2003 distribution of sales would appear in itself to indicate a slight difference compared with the calendar year (minus just below one month). But the figures include a number of firms which were not operating throughout the year and which therefore tend to shift the average accounting year forward. The opposite case, namely firms which cease trading, is not included in the sample, for obvious reasons. Overall, the accounts statistics' questionnaire-based figures must be considered a good approximation to a calendar-year-based estimate.

Table 3.6 Closing month for accounts in the accounts statistics questionnaire-based survey

Month when accounts close	Number of firms	Sales
January	16	3.812.165
February	14	3.860.105
March	147	30.526.194
April	463	61.945.159
May	87	15.608.375
June	990	105.269.689
July	24	7.447.057
August	49	43.659.339
September	847	133.272.032
October	55	43.462.302
November	27	6.126.771
December	6.125	1.036.378.524

These statistics are not periodised for use in national accounts. For one thing, they are considered to approximate closely in practice to a calendar-year estimate, and for another there are two factors which speak against any attempt to produce an absolutely exact calendar year periodisation of accounts statistics. Firstly, there are a good many SLS-E forms on which the accounting period is not stated, and secondly more accurate periodisation would require accounts for both year t and year t+1 to be available when statistics for year t were produced, which would delay the calculation of the final national accounts.

For that share of the figures which comes from SLS-E forms, the breakdown of turnover by month when the accounting period ends is not known, since a good many firms have not filled in the accounting year box on the SLS-E form. Whilst the firms in question might possibly all have calendar-year accounts, this hypothesis would seem unlikely. For firms covered by the SLS-E, the accounting period for the accounts included is one month different from the period for the questionnaire-based firms.

If we take as the basis the known distribution by month of sales in the manufacturing, construction and retail firms covered by the questionnaire, as shown in Table 30, then the difference in the accounting period compared with the questionnaires would appear on the face of it to indicate a considerably larger shift away from the calendar accounting year in the SLS-E figures than in the questionnaire figures. However, we know from a survey for the 1987 accounting year that small and medium-sized firms are more likely than large firms to have calendar-based accounting years. Since it is mainly small and medium-sized firms which are covered in the statistics by SLS-E accounts, it may be assumed that the periodisation of the SLS-E share of the figures is in practice closer to the calendar year delimitation than Table 30 - viewed in isolation - would suggest.

As was the case with the questionnaire part of the accounting figures, it is also true that new firms which have calendar year accounts exert a pull in the opposite direction to the (slight) deviation compared with the calendar year which is indicated by the 31 March cut-off date for the accounts included.

Periodisation, SLS-E statistics

As is the case with the industrial accounts statistics, the cut-off date for the accounts which are included in the statistics, viewed in isolation, exerts a pull towards the previous calendar year in the

estimate of activity. However, this must be seen against the effect that new firms have on the accounting figures, which would normally lead to a shift forward in time compared with the calendar year.

It may be assumed that many new enterprises which have not been in operation throughout the year send in the SLS-E accounting form even though they are not obliged to do so, since the SLS-E accounts tie in so closely with the income tax returns of corporations and sole proprietors that they are in many cases filled in along with the income tax returns, purely as a matter of course - especially when firms of auditors are involved. For new enterprises with calendar year accounts, which are the most common, the inclusion of accounts for the first year of operation - on average, approximately the last six months' sales - in the calendar year in question will shift the average accounting period away from the calendar year. In this connection, new enterprises do not just mean "new economic activity". They may also be formed from the restructuring of established firms and company groups. There is no information available on the size of the amounts involved.

In view of the above two opposing shifts in the SLS-E figures compared with the calendar year, it was decided not to periodise the statistics. The view is taken that the accounts included in the statistics are, overall, the best possible estimate of the accounts on a calendar year basis. No more exact periodisation is possible, since a substantial share of the firms involved, as already mentioned, do not complete the accounting period field on the SLS-E accounting form.

There is also the practical point that accurate periodisation would require statistics for both year t and year t+1 to be available when the statistics were worked out for year t, and this would delay the estimate of the final national accounts.

3.1.4.2 National accounts processing of the grossed up industrial accounts statistics, consistency check and transition from firm branches to national accounts industries

Industrial accounts statistics received from primary statistics
In 2003 Industrial accounts statistics covers DK-NACE industries 140000-370000, 450000-550000, 602223-640000, 701109 and 710000-740000[3]. Within these areas, industrial accounts statistics covers firms, where the labour input is at least half the full year's work for one person[4]. In comparison with the 1995-situation described in the previous Danish GNP documentation this is a considerable extension to the coverage of service industries.

The population in the industrial accounts statistics is based on a business register extract from November 2003, plus units which were not found on the date when the data were extracted, but which were active during 2003.

The industrial accounts statistics is received from the Business Structure Division in three parts:

[3] For years 1995 to 1997, the statistics covered DK-NACE industries from 140000 to 370000, construction industries from 451100 to 455000 and retail trade and repair industries from 521110 to 527490. In 1998 wholesale trade, 510000, was included and in 2001 also air transport, 620000, and telecommunication, 640000, were included here. As a consequence these industries were removed from accounts statistics for publicly owned or controlled units.

[4] Industrial accounts statistics covered fewer industries from 1995 to 1998, but in these earlier years it had exhaustive coverage within the industries actually covered, which means that all enterprises which had been active during the calendar year were included.

- a firms file, which includes accounting information for firms with a firm branch within the industries covered;
- a workplace file, which consists of accounting information for workplaces (producer units) with kind-of-activity unit codes within the industries covered;
- a file with summary information on workplaces with kind-of-activity industries which are not covered by accounts statistics but which belong to firms with a firm branch within the scope of accounts statistics, referred to below as the "remainder file". This contains only information on the JUR number/workplace code, kind-of-activity industry, firm branch and FTEs for the workplaces in question.

The three parts are set out in Figure 3.3.

Figure 3.3: Overview of the coverage of workplaces in files from primary statistics

Workplace Firm	Workplaces within the scope of the accounts statistics	Workplaces outside the scope of the accounts statistics
Firms within the scope of the accounts statistics	1. Go into the firm file Go into the workplace file	2. Go into the firm file Go into the "remainder" file
Firms outside the scope of the accounts statistics	3. Go into the workplace file (FBRUDE units)	4.

Logically, it is the firms and workplaces in areas 1 and 2 which together make up the industrial accounts statistics supplied to the intermediate system in terms of both firms and workplaces. Area 3 includes workplaces which belong to firms outside the scope of the industrial accounts statistics, typically those which belong to the SLS-E system. In the case of these workplaces the information which can be compiled in the industrial accounts statistics system is considered more reliable than the information that can be found in SLS-E statistics. To avoid inconsistencies with the breakdown of the firms in question in the tax accounts statistics system, the accounting information calculated here is removed from the SLS-E system's firm-level information before the remainder is broken down by kind-of-activity branches outside the scope of the industrial accounts statistics. The units in question are called, technically, FBRUDE, which is explained later. However the number of such units has been significantly reduced since 1999 as the scope of the industrial accounts statistics has been widened to include most of the market production in service industries. In principle, area 4 should be blank. If there is anything here, it is because the branch allocation of some of the accounts statistics workplaces has been corrected.

The firm file contains the most information, with only the county and municipality codes omitted. Of course balance sheet items and items for property income transactions are missing from the workplace file, but information on wages and salaries etc. and indirect production costs is also missing from this file. Table 3.7 below shows which items occur in each of the files when they are received from the Business Structure Primary Statistics Division. The right-hand side of the table shows the MLS [intermediate system] code in those cases where the items translate directly to this coding.

Table 3.7 Industrial accounts statistics at firm level and workplace level

Label	Variable	# in firm record	# in work-place record	MLS-code	MLS-text
CVR number (also in "remainder")	CVRNR	1	1		
Workplace number(also in "remainder")	ARBNR		2		
DB93 branch (also in "remainder")	BRANCHE	2	4		
9-branch code	BRA009	3	5		
27-branch code	BRA027	4	6		
53-branch code	BRA053	5	7		
111-branch code	BRA111	6	8		
Firm's main branch (also in "remainder")	F_DB93		9		
Ownership code	VIRKFORM	10	10		
Combination code	KOMB	13	10		
County code	AMTKOD		12		
Municipality code	KOMKOD		13		
Post district	POSTNR		14		
Road code	VEJKODE		15		
Accounting period	PERIOD	14			
Record entry code	JKOD	15			
FTEs (also in "remainder")	VAERK		16		
FTEs	AARSV	16			
Number of employees	BESK	17			
Sales	OMS	18	17		
Own-account work	AUER	19	18	1012	Manuf. of plant and machinery for own use
Other operating income	ADR	20	19	1019	Other, secondary operating income
Changes in inventories (including holding gains)	DLG	21	20		
Purchases of goods, ancillary materials and packaging	KRH	22	21		
Purchases of energy (**excluding running of vehicles!**)	KENE	23	22	**2013**	Purchases (consumption) of fuel and power
Purchases of processing to order	KLOE	24	23	2014	Purchases of processing to order and subcontracting
Rental expenditure	UDHL	25		7020	Expend. on rentals excluding heating
Acquisitions of equipment etc. expensed	UASI	26		7025	Acquisitions of equipment etc. expensed
Temporary employment agencies	UDVB	27		7042	Temporary employment agencies
Operational leasing	ULOL	28		7024	Operational leasing
Losses on ordinary bad debts	OTDE	29		7026	Losses on ordinary bad debts
Other external expenditure (**incl. running of vehicles**)	EKUD	30		**7042**	Other external expenditure
Wages and salaries	LGAG	31		4015	Wages/salaries & employer contribs.
Expenditure on pensions	PUDG	32		4016	Expenditure on pensions
Other expenditure on social security	AUDG	33		4017	Other staffing expenditure
Writing off and writing down of tangible and intangible assets	ANMI	34		5100	Writing off and writing down of non-financial fixed assets
Writing down of current assets	NOAK	35		5200	Writing down of non-fin. current assets
Secondary expenditure	SEUD	36		7060	Other operating expenditure
Profit/loss before financial and extraordinary items	RFEP	37			
Income from lasting interests	INKI	38		4030	Income from lasting interests
Other return on financial fixed assets	UDFA	39		4032	Other interest and dividend income
Interest etc. received from financial fixed assets	RIFA	40		4032	Other interest and dividend income
Interest etc. received from current assets	RIOM	41		4031	Interest etc. rec. from current assets
Writing down of financial fixed and current assets	NFAO	42		5300	Writing down of financial assets

Interest paid etc.	RUDG	43		4040	Interest paid
Extraordinary income	EOI	44		1060	Extraordinary income
Extraordinary expenditure	EOU	45		7061	Extraordinary expenditure
Annual pre-tax profit/loss	ARFS	46			
Corporation tax on annual profit/loss	SSAR	47		4041	Corporation tax
Annual profit/loss	AARE	48		4043	Profit/loss for tax purposes
Consolidation, i.e. trans. to/from equity	KEGN	49			
Dividends	UDBY	50		4044	Distributed income
Intangible fixed assets, total	IAAT	51		8110	
Land and buildings	GRBY	52		8120	Land and buildings
Technical plant and machinery	ATAM	53		8121	Technical plant and machinery
Other plant, machinery and equipment	AADI	54		8122	Other plant, machinery and equipment
Advance payments and tangible fixed assets etc.	FMAA	55		8129	Other tangible fixed assets (e.g. advances)
Tangible fixed assets, total	MAAT	56			
Amounts outstanding	TILG	57		8130	Financial fixed assets
Holdings of shares and equity	ABAE	58		8130	Financial fixed assets
Holdings of bonds and other securities	ABOA	59		8130	Financial fixed assets
Financial fixed assets, total	FAAT	60		8130	Financial fixed assets
Fixed assets, total	AAT	61			
Raw materials, ancillaries, fuel and packaging (opening stocks)	PRHB	62	24	5060	Opening stocks of raw materials
Raw materials, ancillaries, fuel and packaging (closing stocks)	URHB	63	25	6060	Closing stocks of raw materials
Work in progress (opening stocks)	PVUF	64	26	5065	Opening stocks of finished goods
Work in progress (closing stocks)	UVUF	65	27	6065	Closing stocks of finished goods
Manufacture of finished goods (opening stocks)	ELPR	66	28	5065	Opening stocks of finished goods
Manufacture of finished goods (closing stocks)	ELUL	67	29	6065	Closing stocks of finished goods
Goods for resale (opening stocks)	HLPR	68	30	5061 / 5062 /	Opening stocks of goods for resale
Goods for resale (closing stocks)	HLUL	69	31	6061 / 6062 /	Closing stocks of goods for resale
Advance payments, purchased goods (opening stocks)	PFKV	70	32		
Advance payments, purchased goods (closing stocks)	UFKV	71	33	8149	Other current assets
Total inventories of goods (opening stocks)	PVBT	72	34	8141	Opening stocks
Total inventories of goods (closing stocks)	UVBT	73	35	8142	Closing stocks
Amounts outstanding from sales of goods and services	TSVT	74		8149	Other current assets
Work in progress on account of others	UIAF	75		8149	Other current assets
Other claims	ANTI	76		8149	Other current assets
Total claims	TGT	77		8149	Other current assets
Holdings of shares and equity	OBAE	78		8149	Other current assets
Holdings of bonds and other securities	OBAV	79		8149	Other current assets
Liquidity holdings	LIBE	80		8149	Other current assets
Securities and particip. interests, total	VKT	81		8149	Other current assets
Total current assets	OMAT	82		8149	Other current assets
Total assets	AT	83			
Equity, closing stocks	EGUL	84		8210	Equity
Provisions	HENS	85		8220	Provisions
Long-term debts to suppliers	LGL	86		8230	Long-term debts
Other long-term debts	ALG	87		8230	Long-term debts
Short-term liabilities to suppliers	KGL	88		8240	Short-term liabilities
Other short-term liabilities	AKG	89		8240	Short-term liabilities
Total liabilities	PAST	90			
Intangible fixed assets (additions)	TIAA	91		6102 / 6110	Software bought in/purchases of intang. assets, other and unspecified

Purchases of existing buildings (including land value)	KEB	92	36	6121	Purchases of existing buildings (including land value)
Construction expenditure, new building (excluding land)	OPNY	93	37	6123	Construction of new buildings (excluding land value)
Purchases of unbuilt land	KUBG	94	38	6122	Purchases of unbuilt land
Rebuilding and improvements to buildings and installations	OFBB	95	39	6124	Rebuilding and improvements to buildings
Roads, ports, open spaces, etc.	VHPK	96	40	6125	New layout and rebuilding of roads, ports, etc.
Total real estate (additions)	FET	97	41		
Technical plant and machinery (operating equipment)	DTAM	98	42	6134	Purchases of plant and machinery, other and unspecified
Other plant, machinery and equipment (additions)	TAAD	99	43	6134	Purchases of plant and machinery, other and unspecified
Total plant and machinery (additions)	TDRT	100	44		
Plant and equipment under construction	TFMA	101	45		
Total additions	ATIT	102	46		
Of this: Investment in plant and equipment for pollution control	IAFK	103	47		
Intangible fixed assets (disposals)	AIAA	104		6202 / 6210	Disposals of software/intangible assets, other and unspecified
Sales of buildings (including land value)	SABY	105	48	6221	Sales of existing buildings (including land value)
Sales of unbuilt land	SUBG	106	49	6222	Sales of unbuilt land
Sales of roads, ports, open spaces, etc.	SVHP	105	50	6223	Sales of roads, ports, open spaces, etc. (including land value)
Total real estate (disposals)	FEGT	108	51		
Sales of technical plant and machinery	STAM	109	52	6234	Sales of plant and machinery, other and unspecified
Sales of other plant, machinery and equipment	SADI	110	53	6234	Sales of plant and machinery, other and unspecified
Total plant and machinery (disposals)	ADRT	111	54		
Total disposals	AFAT	112	55		
Sales of own products	EOMS	113	56	1018	Other and unspecified net sales
Sales (goods for resale)	HOMS	114	57	1016	Sales of goods for resale
Purchases of raw materials, ancillaries and packaging	RKOB	115	58	2015	Other and unspecified purchases (consumption) of raw materials
Purchases (goods for resale)	HKOB	116	59	7019	Goods for resale, purchases
Real estate (financial leasing)	FLFE	117			
Technical plant and machinery (financial leasing)	FTAM	118			
Other plant, machinery and equipment (financial leasing)	FADI	119			

For the processing of the accounts statistics, it was decided to retain all information on the individual firms and workplaces up to the stage at which the processed statistics are put into a form such that they can be input into the intermediate system. The format and coding from the accounts statistics are also retained until this stage, to ensure that no information which might later be utilised for other purposes is lost. This means, for example, that the geographical coding in the processed accounts statistics could be used to compile regional accounts.

National accounts processing of the industrial accounts statistics

National accounts processing, correcting the workplace and firm file

The logical first stage in the processing is to input corrections to the records for firms and workplaces which are received from the Primary Statistics Division. All the figures in records from firm, workplace or remainder files can be corrected at this stage, and in practice most of the system for processing the accounts statistics will usually be run through a few times, as problems are identified and corrected.

National accounts processing, collection of firm and workplace information

For both firms and workplaces, a few items are calculated which were not originally in the files: opening and closing stocks of finished goods and approximate production value and acquisitions of buildings (the latter for use with the breakdown of various figures from the firm information into workplaces). In addition, the firm file information on the firm branch is moved to variable F_DB93, so that this variable overall indicates the firm branch. These items are kept in the files throughout the further processing.

Table 3.8: Items calculated to supplement the accounts statistics files

Label	Variable	# in the firm record	# in work-place record	MLS-code	MLS-text
Manufacture of finished goods and work in progress (opening stocks)	PFFV	New	New	5065	Opening stocks of finished goods
Manufacture of finished goods and work in progress (closing stocks)	UFFV	New	New	6065	Closing stocks of finished goods
Approximate production value	PROD	New	New		
Acquisitions of buildings, total	ABYGN	New	New		

The workplace file is divided into one part which has a firm in the firm file (i.e. where the firm to which the workplace belongs has a firm branch within the scope of the industrial accounts statistics) and a part which has a Firm BRanch outside (UDE) the firm file (FBRUDE part). For example, a manufacturing producer unit (workplace) belonging to a firm whose main activity is fire- and ambulance services occurs in the FBRUDE part. This is because fire- and ambulance service is not covered by the industrial accounts statistics.

The firm file is matched with the file that contains workplaces which has the firm branch covered by accounts statistics. The remainder of the firm file, which ought to consist of workplaces outside the scope of the industrial accounts statistics, is calculated as a residual, as the firm data minus the sum of workplace data for the same firm. Records with suspect residuals are printed out. Prior to the comparison, various workplaces (mainly independent cooperatives) have to be combined into a joint CVRNR, which is used in the firm file for these units. A file with these workplaces is received every year from the Business Structure Division (primary statistics), but the original CVRNR is also kept in the record.

The firm file remainders which are not found in the workplace file are matched with the "remainder" file from the primary statistics division. Those firm remainders which are not found here are printed out so that we can decide whether the firm information needs to be corrected. Once we have considered all cases where workplaces have a corresponding combined CVRNR in the firm

file, the remainder are mainly random differences with sales = 0. Conversely, we look for remainder workplaces which do not have a corresponding firm remainder. These are usually units with no FTEs - or very few. Warnings are also printed out if the firm file remainder has a number of FTEs which is different from the same firm's FTEs according to the "remainder" file, or if the firm's remainder sales are negative or the figure is otherwise suspect.
A test is made to detect cases where the firm's sales are lower in the firm statistics than in the workplace statistics. In such cases, it has mostly been the workplace figures which are the most credible. Cases of conflicting economic data may also come to light, along with cases where workplaces which has changed owners during the period come up several times under different CVR numbers.

It is important when compiling the final national accounts to establish the correct relationships between firms and the workplaces which belong to them, partly because many of the firm statistics items have to be divided up over workplaces and partly because - as was shown clearly during the work on the files - a number of errors are revealed during the process, often relating to some of the country's larger company groups. In 1995 when the statistics was new the number of errors that needed to be corrected was significant. Since then the problem has been diminishing.

Once input data have been corrected for obvious major errors, economic magnitudes can be allocated to the "remainder" file's workplaces. Where a firm has more than one "remainder" workplace, the figures calculated as residuals are divided up by unit on the basis of the FTEs in the "remainder" file. These workplaces are the accounts statistics' contribution to the intermediate system's industries outside the scope of the industrial accounts statistics (disregarding any subsequent corrections to the branch allocation of workplaces).

National accounts processing, recoding of workplace industries which conflict with firm branches
A check is made to reveal contradictory industry coding for units belonging to the same firm in firm- and workplace files. Even though in such cases it would have been less complicated to use the workplace file's branch coding, the firm file's branch coding can usually be assumed to be the more accurate and the one that most closely tallies with the industrial commodity statistics. The following checking and correction procedure is therefore carried out.

The branch coding in the firm file is checked for a match with the file with workplaces which have a firm branch covered by the industrial accounts statistics. On the basis of the workplace file, figures are worked out for kind-of-activity units, and for each firm (CVRNR) information is compiled on the composition of output value by DK-NACE industry (here, the variable previously worked out for approximate production value is used). The workplace information is combined with the firm file information. If a firm consists of a single kind-of-activity unit, the firm branch is transferred as the workplace branch for all the firm's workplaces. This is the most common situation. In other cases with conflicting branch coding, the workplace branch is corrected for the workplaces in the largest (or next largest) kind-of-activity unit if this is sufficient to produce consistency. In more complicated cases, automatic corrections of the industry allocations cannot be justified. Checklists are printed out, showing the firm with the breakdown by workplace before and after recoding. Where automatic recoding is considered improbable, the input data are instead corrected manually.

The problem with conflicting branch allocation in the firm and workplace files was - like other running-in problems - much greater in 1995 than in the following years.

National accounts processing, breakdown of firm entries by workplace
Some of the items for which there is information in the firm file only are considered in the national accounts to be workplace-related. These items are distributed over the firm's workplaces. Before that distribution, steps are taken to reconcile various items which occur in both the firm and the workplace files and which are to be used during the later calculation process. At this stage in the calculation it is assumed that the input data are corrected so that firm items can be calculated as the sum of the items for the workplaces which belong to them.

The following items are added to the workplace file:

Table 3.9 Accounting items divided over workplaces belonging to a given firm

Label	Variable	# in firm record	Divided up/grossed up in workplace record, preferably *pro rata* with:
Accounting period	PERIOD	14	Transferred
Record entry code	JKOD	15	Transferred
Number of employees	BESK	17	VAERK
Rental expenditure	UDHL	25	PROD
Acquisitions of equipment etc. expensed.	UASI	26	PROD
Temporary employment agencies	UDVB	27	PROD
Operational leasing	ULOL	28	PROD
Ordinary losses, bad debts	OTDE	22	OMS
Other external expenditure (including the running of vehicles)	EKUD	30	PROD
Wages and salaries	LGAG	31	VAERK
Expenditure on pensions	PUDG	32	VAERK
Other expenditure on social security	AUDG	33	VAERK
Acquisitions of intangible assets	TIAA	91	TDRT
Disposals of intangible assets	AIAA	104	ADRT
Total expenditure on financial leasing in the accounts	RSUF	109	PROD
Real estate (financial leasing)	FLFE	110	ABYGN
Technical plant and machinery (financial leasing)	FTAM	111	DTAM
Other plant, machinery and equipment (financial leasing)	FADI	112	TAAD

The calculation is in two stages, the first for those workplaces which belong to firms within the scope of the industrial accounts statistics. Here, the work consists in dividing up the entries relating to the individual firm among the firm's workplaces. Wherever possible the figures are distributed proportionally with the above-mentioned variables. If any of these variables is empty or zero and is therefore not suitable for breakdown, the program will use default solutions such as a distribution based on sales or FTEs. Checks are also made to ensure that no impossible figures arise, such as negative consumption of raw materials or goods for resale.

The missing items are then added to those workplaces which belong to firms outside the scope of the accounts statistics (FBRUDE units), wherever possible on the basis of the ratios in the supplemented workplace records belonging to the same DK-NACE industries. The workplaces are

allocated a share of the item which is used as the basis for the comparison, corresponding to the average from the records completed earlier for non-FBRUDE workplaces. Default solutions are used here, too, if the preferred basis for comparison is not available. If calculation based on the DK-NACE industry is impossible because the branch contains only FBRUDE workplaces, a comparison with the workplace's NR130 branch is used for the calculation instead.

National accounts processing, when trading activity is included
During the above stages, records are completed for all the accounts statistics workplaces. This edition of the workplace statistics cannot be transferred directly to the intermediate system, since trading activity is still scattered around in DK-NACE industries other than trade[5].

Each workplace outside the trade industries is now broken down into trade and other activity on the basis of the entries for trade sales and purchases and for opening and closing stocks of goods for resale. These are transferred in full to the trade part. A share of intermediate consumption is also transferred, along with shares to the BESK-, OTDE-, LGAG-, AUDG-, PFKV- and UFKV- as well as PRHB- and URHB- variables. Here, it is only the last two, opening and closing stocks of raw materials, which have any importance for the figures used during later stages.

The file with trade included, broken down into DK-NACE industries, is retained. For use in the SLS-E system and the intermediate system, a file is set up in which the trade included is as a rule recoded to branch 510008, but trade in branch 158120, bakers' shops, is allocated to branch 522410, sales of bread.

A new workplace file is set up, consisting of workplaces from which the trade element has been removed + the trade element separated out with a breakdown by workplace.

National accounts processing, grossing up for enterprises below threshold.
Since the statistics-year 1999 the Danish business register contains a marking of small firms – either firms which counts as hobby or inactive firms - which makes it possible to separate regular economic active firms in accordance with the recommendations of EU. The recommendations are that the statistics should cover only firms, whose labour input is at least half the full year’s work for one person. The effect of the criteria is that in 1999 about 220.000 firms out of roughly 500.000 firms were marked “small, inactive”. The turnover of these firms was in 1999 about 6 billion DKr. corresponding to 0,3 percent of total turnover at 2.100 billion DKr.

The firms marked as small or inactive have not been covered by the industrial accounts statistics since 1999. To take into account the turnover in active, but small and insignificant firms that can be estimated to around 0,1 percent of GDP a grossing up procedure has been established. Because this small amount of turnover is related to a huge number of firms it was decided to carry out the grossing-up at a more aggregated level instead of making detailed estimations of each firm. All variables in the Intermediate system has been grossed-up using turnover-based grossing-up factors. Based on the general enterprise statistics that contains turnover figures for all enterprises and includes information on whether each enterprise is covered by the industrial accounts statistic a grossing-up factor is calculated for each combination of DK-NACE-industry/ESA95-institutional-sector.

[5] In the Danish national accounts some industries are defined to include all production of products characteristic for the industry and to exclude the production of other products. Wholesale and retail trade are defined in this way.

National accounts processing, recoding to the intermediate system format

The intermediate system contains some information which refers to firm branches (institutional units grouped by industry on the basis of main activity), whilst the rest refers to kind-of-activity unit industries[6]. Each individual intermediate system [MLS] code refers to either firm branch or kind-of-activity industry information. Until now the files have contained records for each individual unit. With the conversion into files in the format used by the intermediate system, codes for individual units are removed, and the figures are aggregated to DK-NACE industries/ESA 95 sectors. The sector codes are based on the ownership code, VIRKFORM, with the following translation:

Table 3.10 Connection between ownership codes and ESA 95 institutional sectors

Virkform	Sektor	
010	S14	Sole proprietorship
020	S14	Estate of a deceased person
030	S11	Ordinary partnership
040	S11	Limited partnerships
050	S11	Jointly owned shipping firms
060	S11	Limited company
070	S11	Limited partnerships
080	S11	APS
090	S11	Foundation or "self-owning" institution (also S.15)
100	S11	Commercial foundation or "self-owning" institution
110	S11	Association (may also be S.15)
130	S11	Cooperative society (may also be S.12)
140	S11	Limited cooperative society (may also be S.12)
150	S11	Limited association or company (may also be S.15)
160	S11	European Economic Unit
170	S11	Branch of foreign limited company or units with similar legal ownership
180	S11	Branch of foreign APS or unit with similar legal ownership
190	S11	Branch of foreign limited enterprise
200	S11	Branch of foreign enterprise n.e.s.
210	S11	Other foreign enterprise
220	S11	Fixed business address of European Economic Unit
230	S13	Central government
240	S13	Counties [Amtskommuner]
250	S13	Municipalities [Primærkommuner)
260	S13	National Church parish councils
270	S99	Enterprise being set up
280	S13	Other owner n.e.s.
990	S99	Legal ownership not known

Those items that in the intermediate system will refer to the firm level are extracted from the accounts statistics firm file. The accounts statistics codes are transferred to the intermediate system, using the key shown here, and a file is printed out with firm data in the intermediate system format.

[6] For use in the compilation of institutional sector accounts, an alternative file is compiled with the accounts statistics' contribution to the intermediate system. Here, some extra MLS codes are added for property income transactions and items relating to kind-of-activity units appear with both firm and kind-of-activity branch.

Table 3.11 Transfer of items to the intermediate system [MLS] at firm level

Label	Variable	%	MLS-code	MLS-text
Writing off and writing down of tangible and intangible assets	ANMI	100.00	5100	Writing off and writing down of non-financial fixed assets
Writing down of current assets	NOAK	100.00	5200	Writing down of non-financial current assets
Secondary expenditure	SEUD	100.00	7060	Other operating expenditure
Income from lasting interests	INKI	100.00	4030	Income from lasting interests
Other return on financial fixed assets	UDFA	100.00	4032	Other interest and dividend income
Interest etc. received from fin. fixed assets	RIFA	100.00	4032	Other interest and dividend income
Interest etc. received from current assets	RIOM	100.00	4031	Interest etc. received from current assets
Writing down of financial fixed and current assets	NFAO	100.00	5300	Writing down of financial assets
Interest paid etc.	RUDG	100.00	4040	Interest paid
Extraordinary income	EOI	100.00	1060	Extraordinary income
Extraordinary expenditure	EOU	100.00	7061	Extraordinary expenditure
Corporation tax on profit/loss for the year	SSAR	100.00	4041	Corporation tax
Profit/loss for the year	AARE	100.00	4043	Profit/loss for tax purposes
Dividends	UDBY	100.00	4044	Distributed income
Intangible fixed assets, total	IAAT	100.00	8110	Intangible fixed assets
Land and buildings	GRBY	100.00	8120	Land and buildings
Technical plant and machinery	ATAM	100.00	8121	Technical plant and machinery
Other plant, machinery and equipment	AADI	100.00	8122	Other plant, machinery and equipment
Advance payments and tangible fixed assets etc.	FMAA	100.00	8129	Other tangible fixed assets
Amounts outstanding	TILG	100.00	8130	Financial fixed assets
Holdings of shares and equity	ABAE	100.00	8130	Financial fixed assets
Holdings of bonds and other securities	ABOA	100.00	8130	Financial fixed assets
Total financial fixed assets	FAAT	100.00	8130	Financial fixed assets
Amounts outstanding from sales of goods and services	TSVT	100.00	8149	Other current assets
Work in progress on account of others	UIAF	100.00	8149	Other current assets
Other claims	ANTI	100.00	8149	Other current assets
Total claims	TGT	100.00	8149	Other current assets
Holdings of shares and equity	OBAE	100.00	8149	Other current assets
Holdings of bonds and other securities	OBAV	100.00	8149	Other current assets
Liquidity holdings	LIBE	100.00	8149	Other current assets
Securities and participatory interests, total	VKT	100.00	8149	Other current assets
Current assets, total	OMAT	100.00	8149	Other current assets
Equity, closing stocks	EGUL	100.00	8210	Equity
Provisions	HENS	100.00	8220	Provisions
Long-term debts to suppliers	LGL	100.00	8230	Long-term debts
Other long-term debts	ALG	100.00	8230	Long-term debts
Short-term liabilities to suppliers	KGL	100.00	8240	Short-term liabilities
Other short-term liabilities	AKG	100.00	8240	Short-term liabilities

Similarly, those items which are to be input at kind-of-activity industry level are transferred from the accounts statistics workplace section. Most of the intermediate system items can be worked out simply on the basis of the accounts statistics codes in accordance with the following key:

Table 3.12 Transfer of items to the intermediate system [MLS] at workplace level

Label	Vari-able	%	MLS-code	MLS-text
Sales of own products	EOMS	100.00	1018	Other and unspecified net sales
Own-account work	AUER	100.00	1012	Manu. of operating equipment for own use
Other operating income	ADR	100.00	1019	Other, secondary operating income
Purchases of raw materials, ancillary materials and packaging	RKOB	100.00	2015	Other and unspecified purchases (consumption) of raw materials
Purchases of energy (excl. running of vehicles)	KENE	100.00	2013	Purchases (consumption) of fuel and power
Purchases of processing to order	KLOE	100.00	2014	Purchases of processing to order and subcontracting
Rent expenditure	UDHL	100.00	7020	Expenditure on rent, excl. heating
Exp. on the acquisition of consumables etc.	UASI	100.00	7025	Exp. on consumables
Temporary employment agencies	UDVB	100.00	7042	Temporary employment agencies
Operational leasing	ULOL	100.00	7024	Operational leasing
Ordinary bad debts	OTDE	100.00	7026	Ordinary bad debts
Other external expenditure (incl. the running of vehicles)	EKUD		Distrib.	as in costs survey etc.
Wages and salaries	LGAG	100.00	4015	Wages/salaries and employer contributions
Expenditure on pensions	PUDG	100.00	4016	Expenditure on pensions
Other expenditure on social security	AUDG	100.00	4017	Other staffing expenditure
(1)Raw materials, ancillaries, fuel and packaging (opening stocks)	PRHB	100.00	5060	Raw materials, opening stocks
(2)Raw materials, ancillaries, fuel and packaging (opening stocks)	PRHB	100.00	2015	Other and unspecified purchases (consumption) of raw materials
(1)Raw materials, ancillaries, fuel and packaging (closing stocks)	URHB	100.00	6060	Raw materials, closing stocks
(2)Raw materials, ancillaries, fuel and packaging (closing stocks)	URHB	-100.00	2015	Other and unspecified purchases (consumption) of raw materials
Work-in-progress (opening stocks)	PVUF	100.00	5065	Finished goods, opening stocks
Work-in-progress (closing stocks)	UVUF	100.00	6065	Finished goods, closing stocks
Manufacture of finished goods (opening stocks)	ELPR	100.00	5065	Finished goods, opening stocks
Manufacture of finished goods (closing stocks)	ELUL	100.00	6065	Finished goods, closing stocks
(1) Opening stocks (goods for resale)	HLPR	100.00	5061/ 5062	Opening stocks of work-in-progress for resale
(2) Opening stocks (goods for resale)	HLPR	100.00	7019	Goods for resale, purchases
(1) Closing stocks (goods for resale)	HLUL	100.00	6060/ 6061	Closing stocks of work-in-progress for resale
(2) Closing stocks (goods for resale)	HLUL	-100.00	7019	Goods for resale, purchases
Advance payments, purchased goods (closing stocks)	UFKV	100.00	8149	Other current assets
Total inventories of goods (opening stocks)	PVBT	100.00	8141	Opening stocks
Total inventories of goods (closing stocks)	UVBT	100.00	8142	Closing stocks
Intangible fixed assets (additions)	TIAA	100.00	6110	Software bought in/purchases of intangible assets, other and unspecified
Purchases of existing buildings (inc. land value)	KEB	100.00	6121	Purchases of existing buildings (including land value)
Constr. expenditure, new building (excl. land)	OPNY	100.00	6123	Constr. of new buildings (excl. land value)
Purchases of unbuilt land	KUBG	100.00	6122	Purchases of unbuilt land
Rebuilding and improvements to buildings and installations	OFBB	100.00	6124	Rebuilding and improvements to buildings
Roads, ports, open spaces, etc.	VHPK	100.00	6125	New layout and rebuilding of roads, ports, etc.
Tech. plant and machin. (operating equipment)	DTAM	100.00	6134	Purch. of plant & machin., other & unspec.
Other plant, machinery and equipment (additions)	TAAD	100.00	6134	Purch. of plant & machin., other & unspec.
Intangible fixed assets (disposals)	AIAA	100.00	6210	Disposal of software/ intangible assets, other and unspecified
Sales of buildings (incl. land value)	SABY	100.00	6221	Sales of existing buildings (incl. land value)
Sales of unbuilt land	SUBG	100.00	6222	Sales of unbuilt land

Sales of roads, ports, open spaces, etc.	SVHP	100.00	6223	Sales of roads, ports, open spaces, etc. (including land value)
Sales of technical plant and machinery	STAM	100.00	6234	Sales of plant and machin., other and unspecified.
Sales of other plant, machinery and equipment	SADI	100.00	6234	Sales of plant and mach., other & unspec.
Sales of own products	EOMS	100.00	1018	Other and unspecified net sales
Sales (goods for resale)	HOMS	100.00	1016	Sales of goods for resale
Purchases of raw materials, ancillaries and packaging	RKOB	100.00	2015	Other and unspecified purchases (consumption) of raw materials
Purchases (goods for resale)	HKOB	100.00	7019	Goods for resale, purchases

In the early nineties financial leasing was often treated as current expenditure in Danish business accounts. In the national accounts, it was decided to assume that that the reported accounting figures to a large extent reflected the treatment in the enterprises' own accounts, but that accounting practice moved closer to the national accounts treatment over time. For this reason, the 1995 leasing correction (for services relating to financial leasing counted by the users as purchases of services) was scaled down. According to new legislation that came into force January 1st 2002 financial leasing contracts must now be shown as capital formation in business accounts. In 2002 annual accounts that covered a period starting in the previous year were not necessarily affected by the new law, but from 2003 it can be assumed that business accounts follow principles in accordance with the national accounts practice and that a correction for different treatment is no longer justified.

The accounts statistics item for "other external expenditure", EKUD, is split into a number of MLS codes. Within most manufacturing industries, the division can, as hitherto, be based on distributions compiled from surveys of the use of services. Some of these distributions dates back to a survey form 1992, but adjustments have been introduced over the years. Since the industrial accounts statistics have split expenditure on rent, acquisition of equipment treated as current expenditure in the accounts, expenditure on temporary employment agencies, operational leasing and ordinary bad debts, into independent items, which they were not previously, the distribution keys from the services enquiry have been revised so that the shares for these items are no longer included. At the same time, account has been taken of the fact that a share of the EKUD item is motor vehicle fuel. The revised distribution keys are compiled only for national accounts industries, and so for each DK-NACE industry the key for the national accounts industry in which it is included is used.

Table 3.13 Percentage shares of the EKUD item. Examples from manufacturing industries

MLS-code	National accounts industry:	140009	1510000	152000	153000	154000	155000
4046	Exp. on insurance	2,75	3,45	3,74	2,38	3,33	2,29
6102	Software bought in	0,39	2,91	0,53	2,96	0,30	1,34
6121	Purchases of existing buildings	0,46	0,55	0,17	0,24	0,18	0,05
7026	Renting and operational leasing	0,00	0,23	1,44	1,65	0,13	0,30
7027	Repair and maintenance of buildings	2,47	3,32	3,21	2,58	1,22	2,83
7028	Repair and maintenance of structures	1,08	0,53	0,65	0,55	0,49	0,68
7029	Repair and maintenance of transport equipment	3,38	1,40	1,41	0,96	0,45	5,57
7030	Repair and maintenance of machinery and equipment	25,16	12,30	15,18	12,91	11,39	15,93
7040	Contributions to trade organisations, input	1,30	2,94	1,67	1,00	0,40	1,94
7041	Expenditure on licences and royalties	0,13	0,06	0,11	0,18	0,19	0,00
7042	Other external expenditure which is input	61,25	70,86	70,62	73,76	80,30	68,73
7043	External expenditure n.e.c.	1,63	1,49	1,27	0,82	1,61	0,34
	Total	100.00	100.00	100.00	100.00	100.00	100.00

The industrial accounts statistics now cover a much wider range of industries than the manufacturing industries that have been covered by surveys of the use of services. For industries not included in the services surveys, distribution keys for the EKUD item have had to be based on the SLS-E system's basic register. These distribution-keys are available with a breakdown into both DK-NACE and national accounts industries[7].

Table 3.14 Percentages of the EKUD ["other external expenditure"] item. Examples from industries not included in the services enquiry:

MLS-code	DK-NACE industry:	524410	524430	524440	524450	524510	524520
4046	Expenditure on insurance	4,31	5,87	5,37	5,58	5,84	7,46
7024	Renting and leasing, n.e.c. and unspecified	2,92	2,00	2,71	3,46	3,33	3,01
7027	Repair and maintenance of buildings	2,88	0,47	1,18	0,85	0,95	0,88
7035	Repair and maintenance, n.e.c. and unspecified	1,75	1,12	1,87	2,07	1,63	1,67
7042	Other external expenditure which is input	88,16	90,53	88,87	88,05	88,25	86,98
		100.00	100.00	100.00	100.00	100.00	100.00

[7] It is evident that for many industries better and more up to data information on the use of services are needed. During 2006 Statistics Denmark has started a series of surveys that will improve our knowledge in this area.

National accounts processing, comparison of industrial accounts statistics and industrial commodity statistics

"Commodity statistics", i.e. product statistics for the extraction of raw materials (except crude oil and natural gas) and manufacturing, are not used directly to determine the enterprises' main economic magnitudes in the national accounts, but are used primarily for the breakdown of sales by product. For this use, too, the commodity statistics' information on the enterprises' output has to be assigned to the same industries as in the accounts statistics. It is usually assumed that the industry allocation in the accounts statistics is most likely to be correct, since it is decided at a later stage on the basis of knowledge of the composition of output in the accounting year in question, whereas the industry allocation in the commodity statistics shows the composition of output for a previous accounting year.

When the industrial accounts statistics was introduced in 1995 the firm accounts statistics were industry-allocated on the basis of an examination of the commodity statistics for that year. It is assumed that the accounts statistics still is the best source for industry allocation of firms. Since the workplace statistics is corrected to be consistent with the firm statistics, it must be assumed that it is still most logical, failing better information, to go by the accounts statistics if these conflict with commodity statistics.

The accounts statistics data on workplace sales of own products are first aggregated into kind-of-activity units. Since the kind-of-activity unit is not identified in the accounts statistics, a unit can be identified only as the sum of the firm's workplaces within a given DK-NACE industry. Thus the delimitation of workplaces can be effected for example by which version of the business register is used, and this can lead to difficulties for the comparison if the two statistics are not based on exactly the same register versions.

Attempts are made to combine the information in commodity statistics into kind-of-activity units which can be matched with those units which are compiled from accounts statistics. In this way most of the units can be compared with the corresponding units in the accounts statistics. There are obviously normally few and small problems in firms with only one kind-of-activity unit.In general, the majority of the matching problems seem to affect large units. In cases where the commodity statistics' kind-of-activity units appear to cover the same enterprise as in the accounts statistics to a reasonable extent, the accounts statistics' kind-of-activity industry is transferred automatically to the commodity statistics unit. Doubtful cases are examined more closely and in some cases the industry allocation in the accounts statistics may be corrected in the input data used for the final run[8].

An incomplete match can mean that a number of estimated corrections will have to be made to the breakdown of the industries' sales by product, which is otherwise based on the commodity statistics. When corrections are made it is usually seen too, that total sales in each of the national accounts' product balances should not be smaller than the sales which appear in the commodity statistics.

[8] It has also happened that the industry allocation was corrected in both accounting and commodity statistics, if information on the character of the enterprise's output was obtained from other sources.

3.1.4.3 Division between the industrial accounts statistics, the SLS-E statistics and other calculation systems

Ideally, the different accounting systems, i.e. the accounts statistics system, the SLS-E system, the systems for calculating on the basis of industry-specific accounts statistics and the calculation system for government non-market activity (OIMA) in S.13 should have clear dividing lines at firm level. Within each system, it should be possible to divide up the relevant firms into workplaces/kind-of-activity units which can be allocated to functional industries. In particularly simple cases, the firm branch and the kind-of-activity industry may be assumed to match so well that kind-of-activity units from one system do not have to be placed in industries belonging to another system. However, the situation may sometimes be more complicated, and there is a risk of double-counting or omitting units. When the final national accounts are compiled, therefore, a great effort is made to ensure that the allocation of firms and producer units (workplaces) by industry remains consistent.

I. FBRUDE
Until 1999 data for most service industries had to be based on the SLS-E statistics and workplaces covered by the industrial accounting statistics would often belong to firms within the scope of the SLS-E statistics. In general, the industrial accounts statistics must be assumed to be the more robust source. Their accounting plan is more specific and grossed up to the total population at a more detailed level. Therefore figures based on the industrial accounts statistics is usually preferred to figures based on other sources. However, the way in which firms are divided into kind-of-activity units must conform to the principle that the accounting items for a given firm's workplaces sum to the firm's accounting items (when these are estimated correctly in line with the chosen breakdown of the firm into kind-of-activity units.

After the industrial accounts statistics in 1999 was extended to cover most of the market producing service industries the borderline between industries based on this source and industries based on the SLS-E-statistics has become much clearer. Most of the complicated cases had been caused by firms with workplaces in manufacturing, wholesale trade or various business services that are now all within the scope of the industrial accounts statistics.

The FBRUDE workplaces are transferred to the intermediate system together with the other workplace information in the industrial accounts statistics. The firms in the SLS-E statistics should be divided up in a way which respects the accounting figures for these workplaces that have already been calculated. This happens by deducting the FBRUDE figures from the firm totals before the firm remainder is distributed over the other kind-of-activity units.

In practice an FBRUDE data set is worked out in the intermediate system format. This is the contribution of the same workplaces to the intermediate system, but it differs in being divided up into (the corrected) firm branches instead of kind-of-activity branches.

When the FBRUDE units are then separated out from the SLS-E statistics "firms", the items are recoded to the (reduced) accounting plan used here. The FBRUDE figures are compared with the corresponding accounting figures in the SLS-E statistics firms. If the separating out leaves the remainder with an invalid negative sign, the remainder is printed out in a warning list and the remainder item is entered as nil in the file which is then used for the breakdown into kind-of-activity units in the SLS-E system. No further action is taken with insignificant and probably

random differences of this kind. With larger differences there an explanation is looked for and in some cases, this may lead to corrections to the data input into the calculation systems.

II. The Generel enterprise statistics. Removal of dual coverage.
The Generel enterprise statistics which is the starting point for the SLS-E Statistics includes firms liable for VAT which at the same time may occur in public enterprises, government non-market activities or the industrial accounts statistics. For the national accounts estimate, it is vital that firm units be included once and once only, since otherwise there may be incomplete coverage or double counting. Therefore a system has been built into the national accounts calculation systems to separate out that part of the firms which would appear to belong to the calculations based on industry-specific accounts statistics, government non-market output (OIMA) in S.13 or the industrial accounts statistics, before the remainder is divided up in the SLS-E statistics.

Since the General enterprise statistics includes information on whether the source of information for each enterprise is the industrial accounts statistic or the accounts statistics for industries where public corporations predominate, these removals are straight-forward.

When it comes to public units these also has to be “cleaned out” from the Generel enterprise statistics. Those which are liable for VAT are picked out and divided up according to whether they have market or purely non-market activity, the basis for the split being a list of central and local government VAT units compiled by the Public Finances and Prices Division. Enterprises with no market activity are taken out. Checklists are printed out with the VAT sales and purchases of those units which have been removed/retained, as the case may be. Finally, a check is made on which large units with ownership codes 230: central government, 240: counties and 250: municipalities were still occurring in the file. The majority proved to be units we treat as being covered by non-market activity, and which were therefore also removed from the data.

Transition from firm branches to national accounts industries in the SLS-E statistics
A "control key" controls the choice of “system” used for compilation of each individual industries. This key maintains the borderline between the industrial accounts statistics and the SLS-E statistics. It has been adjusted every time industrial accounts statistics has been extended to cover service industries that previously were based on SLS-E statistics.

To avoid delimitation problems, as described in the previous section, units which are calculated in full in the industrial accounts statistics and, wherever possible, units included in OIMA or calculated on the basis of industry-specific accounts statistics or accounts statistics for industries where public corporations predominate are removed from the Generel enterprise statistics before it is used as the basis for grossing up in SLS-E statistics.

The FBRUDE data are separated out, as previously described, in such a way that the accounting figures which come from them are removed from the firm branch figures before the remainder is divided into kind-of-activity industries outside the scope of the industrial accounts statistics. This also means that total wages and salaries and employment relating to producer units within the scope of the questionnaire-based statistics are subtracted from the firm branch figures for distribution by kind-of-activity industry outside the scope of these statistics. As already mentioned, FBRUDE data are not allowed to remove more than the item's original value from any accounting item which should be positive. Otherwise, a good many cases of invalid negative items would occur.

The remaining part of firm branches are broken down into other kind-of-activity industries - for example, a wholesaling firm with combined wholesaling activity and engineering consultancy activity is divided up - in two stages. First of all, initial values are calculated for what has to be transferred to each kind-of-activity industry which receives something from the firm branch, on the basis of the breakdowns of the corresponding firm branches into accounting items. For example, the accounting items in a producer unit classified as engineering consultancy activity and which is to be transferred from the wholesale trade *firm* branch to the engineering consultancy kind-of-activity industry is initially estimated on the basis of the accounts observed in the engineering consultancy *firm* branch. The norms for these breakdowns of firms on the basis of the producer units which make up the firms are normally, and as the default, defined as the accounting item per krone (DKK) of wages/salaries. Information on total wages and salaries is available with a cross-distribution by firm branches and kind-of-activity industries and is therefore a generally useable and economically extremely meaningful basis for the split. These initial distributions are summed, and for each item the distribution is adjusted so that the contributions to the different kind-of-activity branches total the amount which is to be distributed. Account is thus taken of the ratios in both the industries which have values added to them and the firm branch which relinquishes value.

3.1.4.4 Sector-industry tables

Since the national accounts processing of accounts statistics includes a systematic double coding of both the accounts actually observed and the grossed up share by industry for the individual producer unit and institutional sector for the firm to which the producer unit belongs, sector-industry tables appear directly in the accounting system, including for those sectors where the accounting figures collected are grossed up.

3.1.5 Industries where output is calculated using price times volume

3.1.5.1 Agriculture, horticulture and the raising of fur animals

Delimitation and consistency vis-à-vis other industries
Agriculture, horticulture and the raising of fur animals covers national accounts industries 011009 agriculture and 011209 horticulture, orchards, etc. In agriculture, to which the raising of fur animals belongs, there is only market activity. Horticulture consists of both market and non-market activity, the non-market being landscape gardeners in the general government sector. For this share of output and value added, reference should be made to Section 3.1.2.2.1, general government. A certain percentage of government non-market activity in the DK-NACE classification comes under horticulture.

The following description refers to market activity. In the national accounts, this is defined by activity, i.e. "agriculture", for example, is the single activity of producing agricultural products. All productive activity on agricultural holdings which does not involve the production of agricultural products is transferred to the relevant industries. In practice, secondary activity on agricultural holdings is predominantly the letting of dwellings (including holiday homes) and non-residential premises. This secondary activity is transferred to the relevant industries (702009 the letting of dwellings or 702040 the letting of non-residential buildings etc.). The statistical producer units for agriculture, horticulture and the raising of fur animals are thus units of homogeneous production as

defined in the ESA 95, paragraph 2.112. If a given agricultural holding produces both agricultural and horticultural products, the holding is divided into an agricultural share and a horticulture share and output and value added are calculated separately for these two shares. The two shares are each units of homogeneous production whose output value is calculated as the sum of the value of the products in question.

Statistical sources
The statistical source for agriculture, horticulture and the raising of fur animals is Danmarks Statistik's agricultural statistics which, as already stated, are a national accounts estimate. The statistics comply with the guidelines in Eurostat's agricultural statistics manual. The calculations of intermediate consumption are based on 1) quantities of products used multiplied by the average selling price, 2) accounting information collected by the economic advisers for agriculture and 3) annual accounting statistics for agriculture and horticulture compiled by *Statens Jordbrugs- og Fiskeriøkonomiske Institut*.

Agricultural statistics are the statistical source in the national accounts for the estimate of national accounts industries 011009 agriculture and 011209 horticulture and orchards, etc.

However, the agricultural statistics estimates include machine pools, which in the national accounts come under 014000, agricultural services*. Since all the output of agricultural services is inputs for agriculture, this does not affect the estimate of value added. In the national accounts, agricultural services [machine pools] are calculated separately from tax-based accounting statistics and the activity is transferred to industry 014000, agricultural services.

For reference year 2003, the Danish agricultural statistics were compiled in line with EAA – Economic Accounts for Agriculture, the EU agricultural statistics manual. This is in line with the ESA 95, which requires internal deliveries within agriculture to be included in the estimate of gross output and intermediate consumption. According to the ESA 95, the statistical unit for the production account is the local kind-of-activity unit (producer unit) in agriculture as in all other industries. In the national accounts however, we have traditionally used a “national farm” principle and consolidated direct sales between agricultural holdings. Since introducing deconsolidation does have a considerable effect on production and intermediate production, but not the GNI, it has been decided to keep the consolidation in practice. In the next major revision of the national accounts, there will be opportunity to address this point and comply in full with the ESA 95 principles.

Method of calculation
The usual method of calculating output is to use prices multiplied by quantities (volumes). For the largest crop product, cereals, the yield of the individual kinds of cereal harvested is calculated first of all. These figures are then multiplied by the average selling prices for cereals collected from all the larger cereal merchants. For the largest animal product, i.e. pigs for slaughter, the sales value is calculated in a similar way on the basis of the total number of slaughterings at abattoirs and slaughterhouses as reported to *Fødevaredirektoratet* [the Danish Veterinary and Food Administration]. This quantity divided by the number of types of animals slaughtered is multiplied by the average settlement weights reported to the *Danske Slagterier* organisation. Thus a figure is arrived at for the number of kilograms of slaughter meat divided by category of pig. The price variable is calculated monthly on the basis of the official *Danske Slagterier* prices.

* The Danish translates literally as "machine pools, landscape gardeners, etc.".

Estimate of intermediate consumption
On the basis of the sources referred to in 3.1.2.4.1.2, total intermediate consumption is calculated by grossing up to the total population of agricultural holdings. The figures are grossed up separately for the very small holdings not covered by the annual agricultural censuses. A large share of intermediate consumption can be calculated extremely reliably on the basis of domestic supplies, either as physical quantities multiplied by an average price or as an estimate of total sales to agriculture. The source for that share of inputs to which the above does not apply is accounting information available either from accounts collected by economic advisers to agriculture or the annual sample-based accounting statistics for agriculture and horticulture which come from *Statens Jordbrugs- og Fiskeriøkonomiske Institut*.

Breakdown of output by product
Since agriculture, horticulture and the raising of fur animals are activity-defined on the basis of the products produced and the estimate of value added using a price times volume method, the product breakdown is self-evident.

Breakdown of intermediate consumption by product
In the agricultural statistics, the majority of intermediate consumption is broken down by product directly, usually on the basis of information on quantities of the products in question used (e.g. cereals for fodder) multiplied by average prices or from information on sales to agricultural holdings (feedingstuffs, fertilisers, pesticides). The remaining share of intermediate consumption - energy and services, for example - which is typically calculated from accounting statistics, is available in agricultural statistics in a breakdown by main type of product. For the compilation and balancing of the national accounts supply and use tables, national accounts statisticians divide these main types into individual products, generally using the most detailed accounting plan in the accounting statistics.

3.1.5.2 Dwellings

Delimitation and consistency vis-à-vis other industries
Industry 702009, dwellings, is activity-defined. The statistical units are units of homogeneous production which have no activity other than the letting of dwellings/own-account production of dwelling services. The industry covers both the production of dwelling services in the form of letting dwellings (actual rentals) and imputed rentals in owner-occupied dwellings.

The letting of dwellings is an important secondary activity for institutional units whose main activity is in other industries, especially banks, insurance corporations and pension funds. In the national accounts, this activity is in every case separated out into quasi-corporations in the non-financial corporations sector. In the calculations for the financial corporations, the return on their housing investments is recorded as property income (dividends).

Conversely, the letting of non-residential premises is an important secondary activity for many producer units which are primarily concerned with the letting of dwellings. A considerable proportion of housing in towns includes retail premises, and similarly there may be offices, workshops etc. in property which is primarily residential. The activity of letting non-residential

premises is separated out from the output of dwelling services and transferred to industry 702040 the letting of non-residential buildings etc.

In practice, the output value in the "dwellings" industry is estimated from a price times volume calculation where the stratified stock of dwellings is multiplied by appropriate average rentals, whilst the output value of industry 702040, the letting of non-residential buildings etc., is estimated from the expenditure side.

Statistical sources
The output value of dwellings is estimated every fourth year as a benchmark calculation of the price times volume type, based on the total stratified housing stock and comprehensive rental figures covering almost two-thirds of all dwellings in Denmark which are let. A description of the annual estimates of the housing stock and of the major four-yearly rental surveys can be found in Section 11.3. Both sources must be considered to be of high quality.

In years between the benchmark calculations, the latest benchmark is projected using price and volume indicators. The price indicator is rental information from the sample survey of rentals which is carried out every six months to provide information on changes in rentals in the consumer price index. Section 11.3 describes this source. The volume indicator is information from building statistics based on *Bygnings- og Boligregistret (BBR)* [the Register of buildings and dwellings] which gives the number of square metres constructed combined with an estimate of the number of dwellings demolished.

Method of calculating output
The benchmark calculation is particularly detailed and uses the stratification method which the GNP Committee approved as the preferred method. The stratification of the housing stock is much more detailed than the minimum requirements set out in the Commission Decision (95/309/EC, Euratom). Whilst this Decision requires a minimum of 30 strata, the Danish calculation of levels for 1999 uses roughly a thousand strata. A detailed account of the method of calculation can be found in Section 3.17.

Estimate of intermediate consumption
This is calculated separately for dwellings which are let and owner-occupied dwellings, using an input percentage (intermediate consumption/output) derived from accounting material for landlords/owners. The source for dwellings which are let is the accounts for all social housing corporations. These are market non-profit institutions which come in the non-financial corporations sector. They let housing which more often than not has been built with the help of public funds in the form of direct or indirect rent subsidies. This social housing makes up around 43% of all dwellings which are let, and there is no reason to assume that their costs structure (operating expenditure excluding interest expenditure) is not representative of the letting market as a whole. For owner-occupied housing, the accounting figures come from the FU [Survey on income and expenditure = household budget survey]. The respondents who are owner-occupiers are extracted. Stamp taxes on housing loans and financial intermediation services which are paid for directly* and which are inputs for the dwellings industry are calculated not from the above-mentioned accounting figures but from separate information from tax statistics and statistics on financial institutions.

* Please see note on the use of "paid for" in Chapter One.

Breakdown of input by product
The most important intermediate consumption item is ordinary repairs and maintenance. Information on these items can be found separately in the accounts for the social housing corporations and in the FU. The whole of expenditure on ordinary repairs and maintenance in corporations which let dwellings must by definition be considered as intermediate consumption. As regards expenditure on owner-occupied housing, that share of ordinary repairs and maintenance which would normally be paid for by the tenant if the dwelling were let, i.e. minor routine repair and maintenance work, is treated not as intermediate consumption but as private final consumption expenditure. Typically, this is internal maintenance in the form of painting, wallpapering and flooring maintenance. Such items are calculated from the detailed FU estimate of expenditure on craftsmen and materials.

The other intermediate consumption expenditure items, apart from stamp taxes on housing loans and fees to financial institutions, are generally divided by product on the basis of the summary breakdown of operating expenditure other than on repairs and maintenance by major type in the social housing corporation accounts.

3.1.5.3 Non-profit institutions serving households

Delimitation and consistency vis-à-vis other industries
In exactly the same way as Sector S.13, General government, by definition covers only government non-market producer units in the Danish national accounts, Sector S.15, Non-profit institutions serving households, by definition covers only private non-market producer units. All market producer units which belong to private non-profit institutions are treated as quasi-corporations and transferred to the non-financial corporations Sector S.11 or the financial corporations Sector S.12.

The only real delimitation and consistency problem which occurs with private non-market producers is the link between unemployment funds and trade unions. Unemployment funds are part of S.13 whereas trade unions come under S.15. In practice, many unemployment funds are administered by the trade unions to which they are linked, and the funds reimburse the trade unions for the relevant administration costs. This activity overlap is calculated on the basis of the accounts for the country's largest trade union HK [the Union of Commercial and Clerical Employees in Denmark], which is considered to be representative of this field. That share of trade union activity which is for the account of the unemployment funds is already included in the public accounts which are the basic data for the calculation of S.13, and therefore have to be stripped out from the calculation of activity in trade unions.

Statistical sources
By far the largest expenditure component in the case of private non-market output is the wage or salary bill. If, in this area where statistical coverage in the accounts is weak in virtually all countries, one can at least be certain that the total wage or salary bill is included, then one has gone a long way towards reliable and exhaustive estimates. This is the case in Denmark, where the ERE* statistics calculate the total wage or salary bill in all producer units in the economy, including in private non-profit institutions serving households. This is the main source for the calculation.

* *Erhvervsbeskæftigelsesstatistik*, translated into English in Danmarks Statistik publications as "Establishment-related employment statistics" (ERE). Please see Chapter 4.

For want of accounting statistics in this field, the other components in the estimate of output from the costs side, i.e. intermediate consumption, consumption of fixed capital and other taxes and subsidies on production, are calculated on the basis of the accounts for the largest trade union (HK). The ratio of, for example, intermediate consumption and total wages and salaries in this trade union is thus assumed to be representative of all private non-market producers. The validity of this assumption should be judged in the light of the fact that trade unions in Denmark make up by far the largest share of private non-market producers and that it is reasonable to take the HK costs structure to be representative of trade unions in general.

Method of calculation
The starting point is, as already mentioned, direct and complete coverage of the total wage bill. Since all employees are covered by the ERE statistics, there is no need for any grossing up on the basis of employment data etc, with the uncertainty that this would imply. The total wage bill in the ERE statistics is raised by 15% to cover the employer contributions to pension schemes etc, which are to be included in the national accounts compensation of employees. Intermediate consumption excluding repairs and maintenance are estimated, on the basis of HK's accounts, at 55% of total wages and salaries (excluding employer contributions). The repair and maintenance of buildings and machinery is put at 5%/1% respectively of total wages and salaries. On the basis of the national accounts capital stock estimates, the consumption of fixed capital is put at 49.4% of the wage bill. Finally, other taxes and other subsidies on production are calculated in the national accounts' special calculation system for taxes and subsidies.

Production in private, non-market producer units
Output value is estimated as the sum of the cost components intermediate consumption, compensation of employees, other taxes on production less other subsidies on production and the consumption of fixed capital.

Breakdown of output by industry and product
Private (other) non-market output occurred in the following national accounts industries in 1995:

853209	Social institutions etc. for adults
910000	Activities of membership organisations.

In addition to the private non-market output of NPISHs, these two national accounts industries include output in government non-market producer units. There are no market producer units in these two industries.

The total output value of NPISHs was DKK 10 596 million in 2003, divided into the following products which each correspond to an industry code at the most detailed industry grouping (DK-NACE):

Table 3.15: Output of NPISHs divided by product, 2003

Product number	Text	Output (DKK 1000
	Associations combating diseases and performing activities aimed at social work, etc.	1.736.220
853260	Charitable trusts and foundations	364.961
911200	Activities of professional organisations	950.175
912000	Activities of trade unions	5.250.994
913120	Activities of religious institutions and organisations	643.343
913200	Political parties	258.095
913310	Tenants' associations	88.378
913320	Outdoor organisations	130.122
913330	Other political and ideological organisations	482.981
913340	Other professional and cultural organisations and institutions	425.645
913390	Social associations, lodges, etc.	264.937
Total		10.595.851

Breakdown of intermediate consumption by product
The items "rentals" and "repair and maintenance" are estimated directly in HK accounts and these percentages are used for all NPISHs combined. For the other intermediate consumption, there is no accounts-based costs structure. The breakdown is based on the costs structure in similar activities within business services and on common sense considerations, such as the fact that a certain number of office staff equals a certain supply of window polish for the windows in the offices occupied.

3.1.5.4 Private households with employed persons

Delimitation
National accounts industry 950000, private households with employed persons, comprises private home help supplied by persons who do not invoice their customers for the work they do. The majority of the activity consists of some kind of hidden activity or work such as babysitting by children and young people who do not pay tax because their income is below the threshold. Regarding the regular "legitimate" activity, the majority of this consists of home help for disabled people employed by households, but treated as a social transfer in kind purchased by general government and made available to housholds. The remaining “legitimate” activity is small and of minor importance. This activity is included as market activity in national accounts industry 747000, industrial cleaning.

Choice of sources
Consumer surveys versus labour force surveys:
Apart from the activity of home help for disabled people where values are taken directly from government accounts, most of the activity is "concealed" and therefore tax information is obviously not useable here. *A priori*, it is likely that the FU [household budget survey] will be a suitable source, since it puts questions to the purchasers and not the vendors. Since it is only a minority of households which have help in the house to any noticeable extent, however, the sampling uncertainty in the FU is too high for it to be a realistic source. Instead, Statistics Denmark has now carried out two benchmark surveys linked to the labour force surveys for 1992 and 2004, in which the households were asked a series of questions on their untaxed activities. Interviewees were asked

about the number of hours worked and their income. On the basis of these figures, benchmark values were fixed for output by grossing up to the total population.

Benchmark years versus current years
From 1992 and onward values were projected in the current years using changes in the net price index (consumer price index excluding taxes on products and subsidies) for cleaning. And off course, the new benchmark value in 2004 gave an opportunity to make a minor revision of the figures in the years between the two benchmarks. From 2004 and onward values will again be projected in the current years using changes in the net price index (consumer price index excluding taxes on products and subsidies) for cleaning. This means assuming that hours of work remain constant. The price index reflects changes in cleaning rates charged by professional firms. A new benchmark will next be established when resources can be made available to extend the labour force surveys to include special questions on work in the black economy.

3.2 Valuation

According to ESA 95, output has to be valued at basic prices, and this concept is also used in the Danish national accounts.

Danish accounting and product statistics asks for turnover at basic prices, partly for national accounts purposes but also because Statistics Denmark has always considered that this was the price concept which firms could relate to best, since it corresponds to the income which goes into the firm's own till rather than to government coffers. The concept of "net sales" in the Danish legislation on the submission of annual accounts (the Annual Accounts Act) corresponds to the basic price concept, since it covers the sales value after deduction of discounts and VAT and other excise duties (and, conversely, additions for subsidies on products).

In Denmark's case, therefore, there is generally no need for any procedure to switch from observed prices such as producer prices to the ESA 95 concept of basic prices. The sales observed in the sources are sales at basic prices.

3.3 Transition from private accounting and administrative concepts to ESA95 concepts

Transition to common accounting plan
Intermediate system 1
After processing, all the accounting statistics underlying the national accounts calculations of value added are transferred to a common accounting plan, namely the plan used in the “intermediate system” shown in Table 3.16 The first version of the intermediate system is simply a file that contains the data from the four main systems after they are transformed to the common codes. In this file firms (institutional units) are broken down wherever necessary into producer units, so that the statistical unit for the calculation of value added, as required in the ESA 95, is the producer unit or a hypothetical unit of homogeneous production.

The industry classification used in the intermediate system follows the most detailed six-digit code in the Danish version of the NACE Rev. 1 classification of activities (DK-NACE) for market

production covered by the accounts statistics system and the tax-accounting system. A number of less detailed industries are used to include the results from other sources. The intermediate system contains the sector classification, thus a cross-classification by industry and sector is possible.

Table 3.16 Accounting plan in the intermediate system.

Text		Industrial accounts statistics
Resources :		
Output of originals	1003	----
Output of the hidden economy	1005	----
Fringe benefits, output	1007	----
0.1 FISIM, imputed financial services	1008	////
1.3 Manuf. of plant and machinery for own final use	1012	AUER
1.9 Other net sales of own products	*1013*	*OMS-HOMS (part of)*
2. Output for own final consumption	1014	----
Own-produced software	1015	----
3.1 Sales of goods for resale	1016	HOMS
3.2 Income from licences and royalties	1017	OMS-HOMS (part of)
3.9 Other and unspecified net sales	*1018*	----
4.1 Other, secondary operating income	1019	ADR
Other (services) sales (excl. 1017)	1059	OMS-HOMS (part of)
4.2 Extraordinary income	1060	EOI
4.3 Miscellaneous capital income	1061	----
Uses (inputs) :		
Intermediate consumption, government non-market activity	2010	----
5.1 Purchases (consumption) of fuel and power	2013	KENE
5.2 Purchases of processing-to-order work and subcontracts	2014	KLOE
5.9 Other consumption (purchases) of raw materials	*2015*	*KRH – (URHB – PRHB) –HKOB*
6. Consumption of goods for resale	7019	HKOB – (HLUL – HLPR)
7. Expenditure on rentals, excluding heating	7020	UDHL
8.1 Expenditure on the rental and leasing of machinery	7021	ULOL (part of)
8.2 Expenditure on the rental and leasing of motor vehicles	7022	ULOL (part of)
8.3 Expenditure on the rental and leasing of computer equipment	7023	ULOL (part of)
8.9 Expenditure on other rental and leasing	*7024*	*ULOL (part of)*
9. Acquisitions of equipment etc., expensed	7025	UASI
10. Ordinary losses, irrecoverable debts	7026	OTDE
11.1 Repair and maintenance of buildings	7027	EKUD (part of)
11.2 Repair and maintenance of structures	7028	EKUD (part of)
11.3 Repair and maintenance of transport equipment	7029	EKUD (part of)
11.4 Repair and maintenance of machinery	7030	EKUD (part of)
Repair and maintenance of buildings and structures	7031	EKUD (part of)
Repair and maintenance of machinery and transport equipment	7032	EKUD (part of)
11.9 Repair and maintenance unspecified or n.e.c.	*7035*	----
12.1 Contributions to professional organisations allocated to inputs	7040	EKUD (part of)
12.2 Expenditure on licences and royalties	7041	EKUD (part of)
12.3 Other external expenditure included in inputs	7042	EKUD (part of)
12.9 Other external expenditure	*7043*	---
Government fees as purchases of services	7044	EKUD (part of)
13 Financial intermediation services paid for directly	7050	RUDG (part of)
Insurance premiums (negative) correction	7055	----
Correction for gross taxes on leasing	7057	RSUF
Fringe benefits, IPC correction	7059	----
14.1 Other operating expenditure	7060	SEUD
14.2 Extraordinary expenditure	7061	EOU

14.2 Miscellaneous capital expenditure	7062	----
Indirect taxes:		
17.1 Property taxes	3112	EKUD (part of)
17.2.Motor vehicle taxes	3113	EKUD (part of)
17.3.Other taxes on production not linked to products	3114	EKUD (part of)
17.4 Subsidies not linked to products	3115	---
Inventories:		
20.1 Raw materials, opening stocks	5060	PRHB
20.2 Raw materials, closing stocks	6060	URHB
21.1 Goods for resale, wholesale, opening stocks	5061	////
21.2 Goods for resale, wholesale, closing stocks	6061	////
22.1 Goods for resale, retail, opening stocks	5062	HLPR
22.2 Goods for resale, retail, closing stocks	6062	HLUL
23.1 Other goods, opening stocks	5063	////
23.2 Other goods, closing stocks	6063	////
24.1 Finished goods, opening stocks	5065	PVUF + ELPR
24.2 Finished goods, closing stocks	6065	UVUF + ELUL
25.1 Goods for resale, opening stocks	5066	HLPR
25.2 Goods for resale, closing stocks	6066	HLUL
Changes in inventories (price-adjusted):		
20.3 Stocks of raw materials	2060	DEFL
21.3 Goods for resale, wholesale	2061	DEFL
22.3 Goods for resale, retail	2062	DEFL
23.3 Other goods	2063	DEFL
24.3 Stocks of finished goods	2065	DEFL
25.3 Goods for resale (manufacturing)	2066	DEFL
26.1 Total price adjustment, stocks of raw materials	2098	From MLS 1 to MLS 2
26.2 Total price adjustment, goods for resale	2099	From MLS 1 to MLS 2
Distributive transactions (and tax figures):		
Compensation of employees, government non-market activity	4010	////
Fringe benefits as wages/salaries	4013	----
30.1 Wages and employer contributions	4015	LGAG
31.2 Pensions expenditure	4016	PUDG
31.9 Other staffing costs	4017	AUDG
33.1 Income from holdings	4030	INKI
33.2 Interest etc. on current assets	4031	RIOM
33.9Other income in the form of interest or dividends	4032	RIFA + UDFA
34. Interest expenditure	4040	RUDG
35.1 Corporation tax (for corporations only, of course)	4041	SSAR
35.1 Corporation tax SLS-E	4042	----
36. Profit/loss for tax purposes	4043	AARE
37. Distributed income (dividends)	4044	UDBY
38. Tax adjustments	4045	----
39.1 Net insurance premiums	4046	EKUD (part of)
39.2 Contributions to fighting funds	4047	EKUD (part of)
Writing off and writing down:		
Consumption of fixed capital, government non-market activity	5000	////
40. Writing off and writing down of non-financial fixed assets	5100	ANMI
41. Writing down of non-financial current assets	5200	NOAK
42. Writing down of financial assets	5300	NFAO
Capital formation, RESOURCES, purchases of:		
Own-produced software (= output: 1015)	6101	----
Purchased software	6102	TIAA (part of)
Exploratory drilling	6104	----
50. Intangible assets	6110	TIAA (part of)
51.1 Real estate, existing buildings (including land value)	6121	KEB
51.2 Real estate, unbuilt land	6122	KUBG
51.3 Real estate, expenditure on construction, new buildings (excluding land value)	6123	OPNY
51.4 Real estate, rebuilding, improvement of buildings and installations	6124	OFBB
51.5 Real estate, new layout and rebuilding of roads, harbours, etc.	6125	VHPK

51.6 Breeding stock	6127	////
51.9 Other real estate	*6126*	////
52.1 Operating resources, plant and machinery	6131	----
53.1 Operating resources, transport equipment, vehicles	6132	----
53.2 Operating resources, other transport equipment	*6133*	----
54.1 Other operating resources	*6134*	*DTAM + TAAD*
55. Net acquisitions of valuables	2055	----
Capital formation, USES, sales of:		
Disposals of software	6202	AIAA (part of)
60. Intangible assets	6210	AIAA (part of)
61.1 Real estate, existing buildings (including land value)	6221	SABY
61.2 Real estate, unbuilt land	6222	SUBG
61.3 Real estate, roads, harbours, squares, etc.	6223	SVHP
61.4 Breeding stock	6227	////
61.9 Other real estate	*6226*	----
62.1 Operating resources, plant and machinery	6231	----
63.1 Operating resources, transport equipment, vehicles	6232	----
63.2 Operating resources, other transport equipment	*6233*	----
64.1 Other operating resources	*6234*	*STAM + SADI*
Balancing items (including inventories) ASSETS:		
70. Intangible fixed assets	8110	IAAT
71.1 Land and buildings	8120	GRBY
71.2 Technical plant and machinery	8121	ATAM
71.3 Other structures, working plant and equipment	8122	AADI
71.9 Other tangible fixed assets (e.g. advance payments)	*8129*	*FMAA*
72. Financial fixed assets	8130	ABAE + ABOA + FAAT + TILG
73.1 Opening stocks	8141	PVBT
73.2 Closing stocks	8142	UVBT
Balancing items, LIABILITIES:		
81. Own funds	8210	EGUL
82. Provisions	8220	HENS
83. Long-term debt	8230	ALG + LGL
84. Short-term liabilities	8240	AKG + KGL
73.9 Other current assets	*8149*	*ANTI + LIBE + OBAE + OBAV + OMAT + TGT + TSVT + UFKV + VKT + UIAF*

Key:

//// indicates that the item is not relevant or that it is fully covered in the other items included in the main group.

---- indicates that no breakdown is possible.

Sources:

- AUER, OMS, HOMS etc. are the variable names in the industrial accounts statistics, which for the year 2003 covers DK-NACE industries 140000-370000, 450000-550000, 602223-640000, 701109 and 710000-740000.
- EKUD = other external expenditure divided by ANVID [identity code for use] on the basis of the survey of costs.
- DEFL = Deflation division.

As mentioned earlier[9], the item "Other external expenditure", EKUD, from the accounts statistics have already in this stage been split between various items of which some should be included in intermediate consumption while others e.g. losses on bad debts or other taxes on production should be excluded.

It should also be noted that estimates for units under threshold value have already been included as part of the calculations in the accounts statistics system.

In spite of the level of detail, various accounting items still do not correspond to national accounts concepts in the first version of the intermediate system because information from accounts alone is insufficient to perform the full transition.

[9] In 3.123

Intermediate system 2
A second – and final – version of the intermediate system is the result of a number of corrections to the first version of the system. These corrections include:

On the supply side:

7) Production in the hidden economy.
8) Fringe benefits produced from own production.
9) Revenue from licenses and royalties.
10) Software produced on own-account.
11) Entertainment, literary and artistic originals
12) Price correction of changes in inventories of finished goods, work in progress and goods for resale.

On the uses side:

17) Fringe benefits purchased
18) Financial intermediation services paid for directly.
19) FISIM
20) Correction for net insurance premiums
21) Public fees
22) Expenditure on licences and royalties
23) Software produced on own-account
24) Purchased software
25) Price correction of changes in inventories of raw materials.
26) Small tools etc.

Ad 1) Production in the hidden economy:
A description of the calculation of production in the black economy can be found in chapter 7. In the intermediate system production in the black economy is broken down by the detailed industries used here.

Ad 2) Fringe benefits produced from own production.
A description of the calculation of the value of fringe benefits can be found in chapter 7. The correction on the supply side is done to take into account that fringe benefits that are produced inside the unit itself will not be recorded in the value of output according to the business accounts. An estimated value of the missing production will have to be added to the production value in these cases. It should be emphasized that this correction is irrelevant in the cases where fringe benefits consist of goods or services purchased from other units.

Ad 3) Revenue from licenses and royalties.
According to the ESA 95, payments for licences and royalties on patents etc. are payments for the provision of services which have to be included the estimate of output and intermediate consumption. In business accounts, they will in many cases be counted differently, as acquisitions of intangible assets, for example, even though all that has been acquired is permission to use an intangible asset for a given period and not the asset itself. In the national accounts, therefore, allowances are added in for licence and royalty payments as regards both intangible non-produced assets (patents etc.) and intangible produced assets (entertainment, literary and artistic originals, etc.). Licence payments for software are already covered elsewhere. These values are recorded in

intermediate system 2 and included in output and intermediate consumption when the MTM is compiled.

Experience shows that accounting practises vary from firm to firm. Many enterprises show revenue from royalties as part of their output value. In these cases estimated values of the revenues already included are subtracted from the total revenue from royalties when the correction is made.

Ad 4 and 13) Software produced on own-account.
In Danish business accounts, own-produced software is not normally capitalised but is considered as current operating expenditure (wages and salaries and the consumption of goods and services). If it is capitalized, “industrial accounts statistics” will usually show it as part of “intangible assets” where it cannot be distinguished from other kinds of intangible assets (some of which are not part of fixed capital). An allowance therefore has to be added to the business accounts' value of the output of capital goods for own use, to include the value of software (and large databases) produced on own account and for own use.

In the national accounts, own-produced software is calculated in a subsystem which, *inter alia*, includes a breakdown by industry. The calculation is based on total wages and salaries for highly-qualified IT staff, divided by industry. The values for own-produced software are input into the intermediate system and are thus included in the *Target Total Module (MTM)*. The calculation is performed for the industries used in the Danish supply and use tables. In the intermediate system the correction is blown up to the detailed industries used here. The estimated value of software produced at own-account is also coded as GFCF on the expenditure side.

Ad 5) Entertainment, literary and artistic originals.
In the business accounts of authors, artists etc, the value of the originals they create will usually not be counted as output of capital goods. To bring the accounts for these producers into line with the ESA 95 rules, own output of originals must be estimated separately and added to the business accounts output. Similarly, the amount calculated has to be added to GFCF on the expenditure side.

6 and 15) Price correction of changes in inventories.
The price correction for changes in inventories is made separately for the following five inventory categories:

(1) Finished goods and work-in-progress
(2) Inventories of raw materials
(3) Wholesale inventories
(4) Retail inventories
(5) Special inventories.

The starting point is the accounting statistics information on final stocks in the last year (= opening stocks in the present year) and final stocks in the present year. These inventory estimates use the firms'/producer units' own valuation, which in the majority of cases is based on historic cost. Changes in inventories in business accounts which are calculated as closing minus opening stocks will therefore, with inflation (or deflation), generally include an element of revaluation. When prices are rising, output (sales plus changes in inventories of finished goods) will be overvalued and the intermediate consumption of goods will be undervalued. Together these will lead to an overvaluation of value added if the changes in inventories as they appear in business accounts are not price-corrected. For trading industries, where output value is defined as gross margin (sales of

goods for resale minus consumption of goods for resale), output and value added will be overvalued if prices rise and inventories of goods for resale are not price-corrected.

The national accounts use the best possible approximation of the theoretically correct estimate of the national accounts changes in inventories and the price correction that goes with them according to the PIM. Owing to a lack of information on daily movements in inventories, the PIM can only be used in exceptional cases, in Denmark as in other countries. The Perpetual Inventory Method consists in compiling initial stocks and then monitoring all movements into and out of them.

Where information is available on physical quantities of goods in stock at the beginning and the end of the accounting period, the best possible approximation is obtained by multiplying the physical change in the inventory for the individual goods over the period in question by the mean prices for the year and then summing over all goods in the inventory in question. In Denmark, this information on physical quantities is available for agricultural and energy goods.

In all other cases, the only available information is the *value* of the enterprises' stocks at the end of the period in their annual accounts (quarterly accounts) and in the accounting statistics. Opening stocks are the same as the closing stocks of the previous accounting period. To calculate the national accounts changes in inventories, we make an *assumption* about the prices at which stocks are estimated at the end of the period and on this basis inflate the opening stocks to the year's average price level, likewise deflating closing stocks to the year's average price level. The national accounts change in inventories in current prices can then be calculated as the difference between opening stocks and closing stocks calculated at average prices for the year in question.

The price correction to the business accounts' changes in inventories, output and intermediate consumption is worked out as the difference between the change in inventories in business accounts and the change as estimated according to national accounts principles. In the Danish national accounts, closing stocks are assumed to be compiled at the latest noted end-of-year acquisition prices, which are assumed to be the mid-December prices. This method of estimating stocks is compatible with the Annual Accounts Act and is known to be used by many producer units because it is simple and practicable. Given this assumption, the figures are inflated from the price level in December t-1 to the mean price level for year t and deflated from the price level in the December of year t to the mean level in year t. The calculation is made at product level, with opening and closing stocks divided by product on the basis of a distribution key specific to each industry. For inventories of finished products, including work-in-progress, the distribution key is the distribution by product of sales in the latest final year (t-1). For inventories of goods for resale, a key is used which provides the link between wholesale and retail trade industries and the products in which they trade. Finally, the distribution key for stocks of raw materials is determined by the breakdown of intermediate consumption by product according to the balanced supply and use tables for the latest final year.

The following formulae show the calculation process for the change in inventories of individual products. The change for a given industry is then worked out by summing over products:

$$C = B - A$$

$$D = \frac{B}{p(t(12))} p(t) - \frac{A}{p(t-1(12))} p(t)$$

$$E = D - C$$

where A = value of opening stocks in line with business accounting principles
B = value of closing stocks in line with business accounting principles
C = value of change in inventories in line with business accounting principles
D = value of change in inventories in line with national accounts principles
E = price correction to change in inventories and output/intermediate consumption
p(t-1(12)) = price index for December year t-1
p(t) = mean price index for year t
p(t (12)) = price index for December year t.

The national accounts change in inventories, i.e. the product transaction P.52, is then obtained as P.52 = C + E. E is item K.11 in the revaluation account for asset category AN.12, inventories, apart from the price change between mid-December in year t and the end of December in the same year. When inflation is low and there is little fluctuation in the relative prices, this last figure can be ignored for practical purposes, so E can be considered as the revaluation or holding gain on the inventory during the year.

It is important to be aware of the risk of omissions and double counting when two methods of calculating inventories are used at the same time, one based on physical quantities of certain goods and another based on business accounts. For example, the calculated inventories of energy goods are posted in the accounts for producers of energy products (stocks of finished goods), distributors of energy products (stocks of goods for resale in wholesaling enterprises) and, finally, as stocks of raw materials.

The Danish national accounts calculation system for inventories includes a key which allocates those agricultural and energy products which are covered by the physical calculation to certain industries, from which they are subtracted in the calculation based on the value of inventories according to accounting statistics. This ensures consistency, i.e. all inventories and movements in inventories in the economy are included once and once only.

Finally, it may be noted in parentheses that the theoretical and practical problems which arise in the non-financial national accounts in connection with estimating changes in inventories and revaluing inventories have their counterpart in the financial national accounts, where the problem is how to split the change between opening and closing stocks of financial assets into a financial transactions share and a revaluation share, plus "other volume changes", i.e. bankruptcies etc.

Ad 7) Fringe benefits purchased.
The description of the calculation of the value of fringe benefits can be found in chapter 7. Where the value of fringe benefits consists of outlays for telecommunications services, subscriptions for

newspapers and the like that are purchased in the market, business accounts will include this expenditure in the purchases of goods and services. This expenditure should be removed from the value of inputs and added to compensation of employees. Estimates for fringe benefits are compiled for the industries shown in the Danish supply and use tables. In the intermediate system they are distributed over the detailed industries used in this system.

Ad 8) Financial intermediation services paid for directly.
In business accounts, fees, including commitment fees etc. paid to financial institutions, are normally counted under financing expenditure, along with interest expenditure etc. In the main, financing expenditure covers distributive transactions and should not be included in the estimate of intermediate consumption, which is a product transaction (P.2). In the national accounts, the financial expenditure item therefore has to be screened for purchases of services consisting of bank fees etc. and those purchases transferred to an accounting item which goes into the estimate of intermediate consumption.

In the national accounts calculation system for financial institutions, an estimate is made of financial intermediation services which are paid for directly, in a breakdown by certain types corresponding to the financial institutions involved - cf. Section 3.16. In this calculation system, the total is divided up among users on the basis of the available information, including the size of borrowing and lending from/to industry groups and households as consumers plus the rest of the world.

The values calculated for payments for bank services etc. are input into intermediate system 2, thus ensuring that they are included in the estimate of intermediate consumption when the target total module is calculated.

Ad 9) FISIM.
Intermediate consumption of FISIM is an imputation that obviously does not exist in business accounts. The method used for distribution of input of FISIM by industry is explained in chapter 9: FISIM.

Ad 10) Correction for net insurance premiums.
As discussed in Section 1.3.4.5, there is here, with good reason, a difference between the accounting principles in business accounts and in national accounts. In national accounts terminology, the insurance premium actually paid on a policy is called the "gross insurance premium". That share of the gross premium which goes to cover risks, i.e. the payment of claims and allocations to provisions, which are the policyholders' property, is referred to as the "net insurance premium". The difference consists of the actual payment for the services of the insurance corporation, a share known as the "services element in the gross premium". In addition to the premium *actually* paid, there is, however, a further component of the total premium, namely the returns which the insurance corporations earn from insurance technical reserves, which, as already stated, are money belonging to policyholders. These returns are known as "supplementary premiums". In the national accounts, the amount is counted as a flow of property income (D.44) to the insurance policyholders, who use the amount in question to buy insurance services in addition to those paid for via the actual insurance premium. The economic argument is that this is the way insurance corporations operate. One essential aspect of insurance business is that the corporations should have clients' funds at their disposal in the insurance technical reserves. The supplementary premiums are therefore included in the insurance corporations' output value.

The calculations for insurance corporations and pension funds are discussed in detail in Section 3.16. Here, therefore, we discuss only those corrections which are needed to work out intermediate consumption in those enterprises which are part of the population of policyholders.

In business accounts, the gross insurance premium is included in the accounting item "other external expenditure" (other overheads). To enable this to be used as the basis for an estimate of intermediate consumption, the net insurance premium has to be deducted and the supplementary premiums added.

In the national accounts insurance calculation system, gross premiums, claims paid out, net insurance premiums and supplementary premiums are estimated for each main type of insurance. After these have been aggregated by type of insurance, they are available in a breakdown over the national accounts 130 industries, plus households as consumers and the rest of the world. The net insurance premiums calculated plus the additions for supplementary premiums are input into intermediate system 2, and thus the treatment of insurance transactions is brought into line with the ESA 95 rules with the compilation of the target total module (MTM).

Ad 11) Government fees.
According to the ESA 95, paragraph 4.23 e), government fees and payments connected with checks carried out by government are to be considered as purchases of services unless the amount charged is out of all proportion to the costs of the check. In business accounts, they will normally be considered as direct taxes rather than purchases of services, and will thus not be included in intermediate consumption unless a correction is made. Information on government fees, taxes paid for checks etc. is obtained from tax statistics. In a special calculation system, the figures are then broken down by industry, with the result being input into the intermediate system and included in intermediate consumption for the estimate of the MTM.

Ad 12) Expenditure on licences and royalties.
According to the ESA 95, payments for licences and royalties on patents etc. are payments for the provision of services which have to be included the estimate of output and intermediate consumption. In business accounts, they will in many cases be counted differently, as acquisitions of intangible assets, for example, even though all that has been acquired is permission to use an intangible asset for a given period and not the asset itself. In the national accounts, therefore, allowances are added in for licence and royalty payments as regards both intangible non-produced assets (patents etc.) and intangible produced assets (entertainment, literary and artistic originals, etc.). Licence payments for software are already covered elsewhere - cf. f) above. These values are recorded in intermediate system 2 and included in output and intermediate consumption when the MTM is compiled.

Ad 14) Purchased software.
Some years ago, purchased software was not normally capitalised in Danish business accounts unless it was purchased in connection with investment in IT-hardware. Annual reports from recent years show considerable amounts of software as GFCF in intangible assets. Software that is not capitalized is probably included in acquisitions of equipment, expensed, and a small share will probably still be indistinguishable from other external expenditure. Part of the value of purchased software, which, according to the ESA 95, has to be counted as gross fixed capital formation, therefore has to be deducted from the operating expenditure items in the business accounts which

cover purchases of goods and services. As the industrial accounts statistics does not distinguish between investment in different types of intangible assets an independent estimate on GFCF in purchased software have been established.

In the national accounts, purchased software is calculated in a subsystem which, *inter alia*, includes a breakdown by industry. The calculation is made from the resources side on the basis of product statistics for the IT industries. The total domestic supply of purchased software for the industries thus calculated is distributed by industry on the basis of a key which, *inter alia*, depends on the number of computers in the individual industries. To some extent, the key is an approximation, for want of expenditure-based information on software purchases. The uncertainty about the distribution by industry within market industries does not, however, affect GNI, and the total for the economy as a whole may be said to be based on reasonably solid foundations.

The values in the subsystem are input into the intermediate system, with purchased software deducted from the business accounts' purchases of goods and services for the estimate of intermediate consumption in the target total module. In the intermediary system the correction is distributed by the detailed industries used here.

Ad 16) Small tools etc.
Acquisitions of equipment etc. that in business accounts is treated as current expenses or written off in the same accounting year will to a large extent consist of durable equipment that should be included in GFCF unless the purchases are below the threshold for “small tools” according to ESA 95.

According to ESA 95, paragraph 3.70 e), producers' purchases of durables with a (total) order value of under ECU 500 in 1995 prices should be treated as intermediate consumption and not as gross fixed capital formation.

The tax legislation includes an equivalent rule on consumables which may be posted as operating expenditure, i.e. written off immediately. It has been assumed for national accounts purposes that the accounting statistics information on expenditure on small tools and the like has usually been reported according to the tax rules in business accounts. (It must, however, be admitted that business accounts show numerous examples of expenses that are delimited in ways that do not at all follow the tax rules). Since tax rules are different from the ESA rules, the accounting item has to be split into that part which, according to the ESA rules, is small tools, and has to be counted as intermediate consumption, and the remaining share which goes to capital formation. In the Danish national accounts, a method has been developed for making this split on the basis of the tax rules and assumptions about the division of purchases by amount.

The limits for tax purposes on amounts spent on consumables which can be written off immediately were adjusted upwards several times. This meant that that share of the "acquisition of equipment, expensed" item which had to be counted as intermediate consumption in the national accounts had to be reduced and the capital formation share had to be increased. It must, however, be assumed that some of these acquisitions still will have to be treated as small tools according to ESA95. In 2003 small tools were assumed to account for 12% of these acquisitions.

3.4 The roles of direct and indirect estimation methods

A direct estimate of value added in a given industry is understood to mean that, on the basis of exhaustive accounting statistics for the industry in question, output and intermediate consumption, and thus value added, can be obtained via the statistical processing of the underlying business accounts.

Since 1995 the coverage of the industrial accounts statistics has increased. In 1999 and 2003 it covered 49% and 54% of value added respectively. This is to be compared with 27% coverage of value added in 1995.

The main industry for which an indirect estimate of value added is used is for NR [national accounts] industry 702040, the letting of non-residential buildings etc, where output is calculated from the expenditure side as the sum of the rental expenditure of all other industries and where intermediate consumption is calculated using the input percentage (intermediate consumption/output value) for the letting of dwellings (i.e. actual letting) in industry 702009, dwellings, for want of satisfactory accounting information on the letting of non-residential buildings. Since the two activities are closely related, the uncertainty regarding the calculation of value added is assumed to be minor.

Table 3.17, which is based on the process table in annex 9, shows that indirect estimation methods account for approximately 6 percent of gross value added.

Table 3.17 Share of gross value added, direct versus indirect methods of estimation

Method of estimation	Gross value added, DKK mill.	%
Direct estimation	1.134.117	94,4
Indirect estimation	66.954	5,6
Total	1.201.071	100,0

Note: Indirect estimation are from the coloumns “CFM and ratios”, “Other E&M” and “Other” from the process table.

3.5 The roles of benchmarks and extrapolations

"Direct estimates of levels" is understood to mean estimates of value added of industries where the level of both output and intermediate consumption is calculated each year as a level on the basis of accounting statistics or via an indirect calculation. Projections are taken to be estimates where output and intermediate consumption are calculated directly as levels for a benchmark year, whilst estimates for the current years are obtained by projecting output and intermediate consumption from the benchmark year using appropriate indicators. A more uncertain method of projection consists in assuming a constant ratio (input percentage) of intermediate consumption to output in either current or (better) constant prices and projecting output, intermediate consumption and implicitly value added using a single indicator.

In the final Danish national accounts, virtually all value added is based on current-year estimates produced directly as levels. In the final calculations, projections are used in only three areas:

1) housing (dwellings)
2) a minor share of value added in NPISHs
3) the allowance for underreporting etc. and for hidden activity ("work in the black economy").

Housing is an extremely important industry for the whole of the economy. In this area, an extensive benchmark calculation was carried out for 1999 which has been projected to 2003 - cf. description of the benchmark calculations in Section 3.17.

As regards the second point, i.e. non-profit institutions serving households, by far the largest share of value added, namely total wages and salaries, is calculated as a level every year, whilst projections are used only for the minor components, capital consumption and other taxes less subsidies on production.

Moving on to the third point, Denmark, like other countries, has neither the statistical sources nor resources to produce a new estimate of the hidden economy every year. In most cases, it has been decided to use a benchmark which is then projected. In Denmark's case, the benchmark year for the estimate of the hidden economy is 2004. The method then is to project output and value added linked to the black economy by assuming for each "product" in that economy that the changes run in parallel with domestic output in the corresponding "legitimate" product balance.

Table 3.18, which is based on the process table in annex 9, shows that projections from a benchmark account for approximately 9 percent of gross value added.

Table 3.18 Share of gross value added estimated as a level as opposed to being projected

Method of estimation	Gross value added, DKK mill.	%
Annual estimates, levels	1.088.733	90,6
Projected from benchmark	112.338	9,4
Total	1.201.071	100,0

Note: Projected from a benchmark are from the coloumns “Benchmark extrapolations”, “CFC(PIM) & imputed dwellings” and “Explicit exhaustiveness” from the process table.

3.6 The main approaches taken with respect to exhaustiveness

The main initiative aimed at ensuring that coverage is exhaustive consists primarily of the very important work being carried out to ensure that the business register is updated to include new producer units. This work is made easier by the fact that the threshold values in the VAT and tax systems are extremely low, so that all regular economic activity, apart from that which counts as a hobby and is insignificant, currently has to be registered in a public administrative register which feeds into the business register. It is difficult to overstate the importance of this rapid register updating for the quality and degree of coverage of the national accounts. It is estimated that all regular economic activity, apart from that which is in the form of a hobby and is insignificant, is captured via use of the business register. As regards employees in private households, who, by their very nature, are very seldom included in the business register, by far the largest share of this activity

is in the hidden economy, and all such activity is estimated via a special calculation not based on the business register.

Fringe benefits and irregular economic activity such as underreporting and hidden activity are covered by corrections which are explicit wherever possible. These are based on the principles of Commission Decision 94/168/EC, Euratom, the "exhaustiveness decision" and are described in detail in chapter 7.

In addition, Statistics Denmark includes for the purpose of the “fourth on resource” the value added resulting from illegal activity which according to ESA95 is part of the production boundary. The calculation and correction are described in chapter 7 and 8.

3.7 Agriculture, hunting and forestry (NACE rev. 1: A)

Introduction
NACE Section A is defined by function and comprises four of the national accounts' 130 industries, namely:

011009 Agriculture
011209 Horticulture, orchards, etc.
014000 Agricultural services*
020000 Forestry

It covers 23 industries at the most detailed DK-NACE level. In 2003, this NACE Section accounted for 1.8% of total value added of the Danish economy - cf. Table 3.19.

Table 3.19 NACE Section A's contribution to the gross value added of the economy

Industry	Output	Intermediate consumption	Value added at basic prices
011009 Agriculture	46 208	31 121	15 087
011209 Horticulture, orchards etc.	4 199	2 272	1 927
014001 Machine pools	6 749	3 495	3 254
014002 Landscape gardeners	785	479	306
020000 Forestry	2 934	1 474	1 460
Total NACE A	60 875	38 841	22 034
Percentage of the economy	2.6	3.4	1.8

Statistical sources
The primary statistical sources underlying the estimate of value added can be seen in the table 3.20.

* The literal translation would be "machine pools, landscape gardeners etc.".

Table 3.20 Statistical sources underlying the calculation of value added for NACE A

National accounts industry	Source
011009 Agriculture	Specific industry statistics: agricultural statistics
011209 Horticulture, orchards etc.	Specific industry statistics: agricultural statistics
014000 Agricultural services (part), machine pools	SLS-E statistics
014000 Agricultural services (part), landscape gardeners (market producers)	SLS-E statistics
014000 Agricultural services (part), landscape gardeners (non-market producers)	General government statistics
020000 Forestry	Specific industry statistics and SLS-E statistics

The statistical source for agriculture, horticulture and the raising of fur animals (national accounts industries 011009 and 011209) is Statistics Denmarks's agricultural statistics. This statistics follows the guidelines for compiling accounts for agriculture and forestry laid down in regulation 138/2004. This implies that the compilations are made at the level of local KAUs, which means that products for own use and internal sales within agriculture are included.

The national accounts uses the so-called "national farm" method, which implies that only sales from the agricultural sector, lumped together, and purchases which go to the agricultural sector are included in the estimate. Internal sales and purchases between agricultural enterprises are not included. Therefore corrections are made for internal use in the national accounts. This has no effect on value added.

According to paragraph 3.58 of ESA 95, the output of crop products should be estimated not at harvest time but continuously over the entire period of growth. In Denmark, the vast majority of crops are harvested in the year in which the crop grows. The exception is winter cereals (winter wheat and barley), which are sown the year before the harvest. However, plant growth up to the year end is so minimal that for practical purposes it can be ignored. In the annual accounts, there is therefore no need to correct stocks as estimated after the harvest.

The agricultural statistics do not cover landscape gardeners, the market share of which is instead covered by SLS-E statistics, with the non-market share taken from general government statistics.

The estimates in the agricultural statistics include machine pools, which in the national accounts come under 014000, agricultural services. A correction is therefore made so that this activity is excluded. In the national accounts, agricultural services (machine pools) are calculated separately on the basis of the SLS-E statistics.

The statistical sources for agricultural services and landscape gardeners (014000) are the SLS-E statistics and general government statistics.

For forestry (020000) the statistical sources for calculating output are the forest census and a sample-based national forest inventory undertaken by Statistics Denmark and the Danish Forest and Nature Agency. For intermediate consumption, the input structure from the SLS-E statistics is used.

Method of calculation
In agriculture and horticulture output is normally calculated using a price times volume method. For the largest crop product, namely cereals, the harvest yield of the individual kinds of cereal is calculated first of all, and this is then multiplied by the average selling prices collected from all the larger cereal merchants. For animal products, sales value is calculated in a similar way by multiplying the quantities sold by the average selling prices obtained by the producers. The value of changes in inventories and livestock numbers, as well as output for own use, is added.

Expenditure on intermediate consumption in agriculture and horticulture is total expenditure on the raw and auxiliary materials used in production, including purchases from dealers and the like, expenditure on the repair and maintenance of the production apparatus and various expenditure on services from other industries. If information is available on the quantities and prices of the raw and auxiliary materials used, the expenditure is calculated on the basis of total purchases and average prices paid for the individual raw and auxiliary materials, whilst for the other expenditure items, information from the available accounting estimates and various special estimates is used.

In forestry, output is also calculated using a price times quantity method. The value of production of timber is the value of annual rise in volume of standing timber, i.e. in addition to the fellings, we also account for the net natural growth in the volume of standing timber. In forestry, intermediate consumption is calculated using the input structure from the SLS-E statistics.

Breakdown of output by product
Since agriculture, horticulture and the rearing of fur animals are activity-defined on the basis of the products produced and the estimate of output value using a price times volume method, the product breakdown is self-evident. Output in agriculture and horticulture, other than landscape gardeners, is divided into 49 product balances in the national accounts supply and use tables.

For forestry, the breakdown by product follows the calculation of the annual rise in volume of standing timber and is therefore based on the breakdown in the sample-based forest inventory.

Breakdown of intermediate consumption by product
In the agricultural statistics, the vast majority of intermediate consumption is allocated directly by product, in most cases on the basis of information on quantities of the products used (e.g. fodder cereals) multiplied by average prices or information on sales to agricultural holdings (feedingstuffs, fertilisers and pesticides).

3.8 Fishing (B)

Introduction
NACE Section B is defined by group of producer units and covers one of the national accounts' 130 industries, namely 050000 fishing. It covers two industries at the most detailed DK-NACE level, namely:

050100	Fishing
050200	Operation of fish hatcheries and fish farms.

This section accounted for 0.1% of value added of the Danish economy in 2003 - cf. Table 3.21.

Table 3.21 NACE Section B's contribution to the gross value added of the economy

Industry	Output	Intermediate consumption	Value added at basic prices
050000 Fishing	3 936	2 157	1 779
Total NACE B	3 936	2 157	1 779
Percentage of the economy	0.2	0.2	0.1

Statistical sources
The primary statistical sources underlying the estimate of value added can be seen in Table 3.22.

Table 3.22 Statistical sources underlying the calculation of value added for NACE B

National accounts industry	Source
050000 Fishing (value added)	SLS-E statistics
050000 Fishing (product breakdown)	Ministry of Fisheries: fish landings

Method of calculation
Value added is calculated by the standard method for industries covered by the SLS-E statistics - cf. Section 3.1.4.

Breakdown of output by product
The output value calculated is broken down by type of fish on the basis of the Fisheries Ministry's catch statistics, which cover landings in both Danish and foreign ports. The output value according to the national accounts calculations is much higher than the value of the quantities of fish landed. The difference can be explained partly by internal deliveries of fish in the fishing industry (in fact, a trading activity) and partly, perhaps, by avoidance of the fish quotas by means of unofficial landings. Estimated internal deliveries are posted as inputs for the fishing industry itself when the supply and use tables are compiled.

Breakdown of intermediate consumption by product
There are no continuous cost structure surveys for fishing. The input structure is based on information on the structure of costs which can be found in the SLS-E accounting plan up to 1990 and annual information on the consumption of energy in energy statistics.

3.9 Mining and quarrying (C)

Introduction
NACE Section C is defined by grouping of producer units and covers two of the national accounts' 130 industries, namely:

110000 Extraction of crude petroleum etc.
140009 Extraction of gravel, clay, salt, etc.

These in turn cover 16 industries at the most detailed DK-NACE level. In 2003, this section accounted for 2.5% of value added of the Danish economy - cf. Table 3.23.

Table 3.23 NACE Section C's contribution to gross value added of the economy

Industry	Output	Intermediate consumption	Value added at basic prices
110000 Extraction of crude petroleum etc.	33 864	4 757	29 108
140009 Extraction of gravel, clay, salt etc.	2 416	1 306	1 110
Total NACE C	36 280	6 063	30 218
Percentage of the economy	1.5	0.5	2.5

Statistical sources
The primary statistical sources underlying the estimate of value added can be seen in Table 3.24.

Table 3.24 Statistical sources underlying the calculation of value added for NACE C

National accounts industry	Source
110000 Extraction of crude petroleum etc.	Business accounts (all units) and industrial accounts statistics
140009 Extraction of gravel, clay, salt etc.	Industrial accounts statistics

Industry 110000, the extraction of crude petroleum etc, covers all activity relating to the production of crude petroleum and natural gas, which is concentrated in the Danish sector of the North Sea. The output of petroleum and gas is estimated ex-North Sea, i.e. the value of pipeline transport is included in the output value. Pipeline transport is operated by a single publicly owned and controlled corporation, DORAS, which is part of national accounts industry 602409, freight transport by road and via pipelines. No further distribution or processing is included in the output value. The pipeline tax of 5% of the value of the oil transported, which has to be remitted to the government, is considered as a product tax on pipeline transport services. The output value of DORAS, plus the pipeline transport tax, is posted as intermediate consumption in the "extraction of crude petroleum etc." industry.

The industry covers *Dansk Undergrunds Consortium* (DUC) and other licence holders and Statistics Denmark collects very detailed accounting information from them. In addition, the industry covers technical service activity related to the extraction of crude petroleum. This activity is covered by industrial accounts statistics.

Industry 140009, the extraction of gravel, clay, salt etc, is covered by industrial accounts statistics.

Method of calculation
The output value of 110000, i.e. the value of the volume of oil and gas produced, is taken directly from the accounts divided into these two products. Exploratory drilling for own account is also taken from the accounts.

Exploratory drilling by the units in the industry on their own account is included in the industry's output value. This output is not transferred to construction. Exploratory drilling etc. which is purchased comes either from domestic suppliers in the construction industry or is imported. All exploratory drilling is capitalised, i.e. is treated as gross fixed capital formation in the national accounts.

The output value of 140009 is taken directly from the industrial accounts statistics, which is grossed up to cover all producer units in the industry. Intermediate consumption is calculated by the standard method for the transition from the accounting statistics accounting plan to the target total module via the intermediate system.

Breakdown of output by product
The output of the extraction of crude petroleum etc. is broken down directly into four products: crude petroleum, unprocessed natural gas, technical service activity and exploratory drilling. The extraction of gravel, clay, salt etc. industry is covered by product statistics for manufacturing. The output calculated is divided by product on the basis of the breakdown in the industrial commodity statistics. In addition, the industry produces fringe benefits and own account software.

Breakdown of intermediate consumption by product
In the extraction of crude petroleum etc, operating expenditure is divided in the accounts into input of pipeline transport services (DORAS + oil pipeline tax), repair and maintenance and other operating expenditure. These first two together cover by far the greater share of intermediate consumption. In the national accounts supply and use tables, the remainder is broken down by product, using rough figures in some cases.

3.10 Manufacturing (D)

Introduction
NACE Section D is defined by group of producer units and covers 55 of the national accounts' 130 industries - cf. Table 3.24. In the detailed DK-NACE, manufacturing consists of 322 industries, each of which is calculated separately when the primary statistics are processed.

In 2003, this section accounted for 15.0% of value added of the Danish economy - cf. Table 3.25.

Table 3.25 NACE Section D's contribution to the gross value added of the economy

Industry	Output	Intermediate consumption	Value added at basic prices
151000 Production etc. of meat and meat products	37 319	28 215	9 105
152000 Processing etc. of fish and fish products	9 539	7 626	1 913
153000 Processing etc. of fruit and vegetables	3 920	3 015	905
154000 Manufacture of vegetable and animal oils and fats	2 695	2 323	372
155000 Manufacture of dairy products	24 005	19 676	4 329
156009 Manufacture of starch products	23 032	17 978	5 054
158109 Manufacture of bread, cake and biscuits	5 261	3 318	1 943
158120 Bakers' shops	3 761	1 836	1 925
158300 Manufacture of sugar	2 685	1 938	748
159000 Manufacture of beverages	10 045	6 721	3 324

160000	Manufacture of tobacco products	4 340	2 226	2 114
170000	Manufacture of textiles	7 559	4 898	2 661
180000	Manufacture of wearing apparel	4 090	2 967	1 124
190000	Manufacture of leather and leather products	722	541	181
200000	Manufacture of wood and wood products	13 352	8 218	5 135
210000	Manufacture of pulp, paper and paper products	10 170	6 323	3 847
221200	Publishing of newspapers	7 445	4 349	3 096
221309	Publishing activities, excluding newspapers	12 281	7 657	4 624
222009	Printing activities, etc.	12 765	6 902	5 864
230000	Manufacture of refined petroleum products etc.	14 752	14 477	274
241109	Manufacture of industrial gases and inorganic basic chemicals	904	457	447
241209	Manufacture of dyes, pigments and organic basic chemicals	5 342	3 411	1 931
241500	Manufacture of fertilisers	938	813	125
241617	Manufacture of plastics and synthetic rubber	483	353	130
242000	Manufacture of pesticides and other agro-chemical products	2 194	1 510	684
243000	Manufacture of paints, printing ink, etc.	3 103	2 302	801
244000	Manufacture of pharmaceuticals, etc.	32 932	17 509	15 423
245070	Manufacture of detergents and other chemical products	9 842	6 601	3 241
251122	Manufacture of rubber products and plastic packing goods	10 260	6 209	4 051
252300	Manufacture of builders' ware of plastic	2 119	1 331	788
252400	Manufacture of other plastic products n.e.c.	8 984	4 490	4 494
261126	Manufacture of glass and ceramic goods etc.	2 748	1 629	1 119
263053	Manufacture of cement, bricks, tiles, flags, etc.	2 424	1 307	1 117
266080	Manufacture of products of concrete, cement, asphalt, etc.	11 948	6 867	5 081
271000	Manufacture of basic ferrous metals	1 333	1 236	96
272030	First processing of iron and steel	2 472	1 724	748
274000	Manufacture of basic non-ferrous metals	2 834	2 088	747
275000	Casting of metal products	1 493	827	666
281009	Manufacture of construction materials of metal etc.	21 960	11 816	10 144
286009	Manufacture of hand tools, metal packaging etc.	14 816	8 010	6 807
291000	Manufacture of marine engines, compressors, etc.	19 757	11 527	8 230
292000	Manufacture of other general purpose machinery	19 654	11 830	7 823
293000	Manufacture of agricultural and forestry machinery	5 203	3 535	1 668
294009	Manufacture of machinery for industries etc.	15 541	9 108	6 433
297000	Manufacture of domestic appliances	3 729	2 333	1 396
300000	Manufacture of office machinery and computers	2 590	1 747	843
310000	Manufacture of electrical machinery and apparatus	29 279	20 917	8 362
320000	Manufacture of radio and communication	12 139	8 276	3 863

	equipment			
330000	Manufacture of medical and optical instruments etc.	17 701	8 448	9 254
340000	Manufacture of motor vehicles, etc.	6 791	4 500	2 290
351000	Building and repairing of ships and boats	6 551	4 214	2 337
352050	Manufacture of transport equipment excluding ships, motor vehicles etc.	2 246	1 421	825
361000	Manufacture of furniture	19 994	12 059	7 935
362060	Manufacture of toys, gold and silver articles etc.	4 331	2 522	1 809
370000	Recycling of waste and scrap	1 301	962	339
Total NACE D		515 675	335 093	180 585
Percentage of the economy		21.9	29.1	15.0

NACE Section D covers a much greater share of the national accounts' 130 industries than its share of value added of the economy because the input percentage, i.e. the ratio of intermediate consumption to output, is greater in manufacturing than in most other industries. This is due largely to specialisation, i.e. in many cases manufacturing enterprises buy semi-finished products from other manufacturing enterprises and concentrate on those parts of the total process where they have comparative advantages. Manufacturing thus accounts for a greater share of output (gross), of intermediate consumption and thus of the product flows in the economy than is the case if value added is the criterion.

For an optimum description of product flows in the economy in the supply and use tables and in the symmetrical input-output tables, manufacturing should be allocated a share of the number of industries covered by the calculation system which is greater than its share of value added.

Statistical sources

By far the most important primary statistics source underlying the estimate of value added is the industrial accounts statistics, the use of which in the national accounts was described in Section 3.1.4. Below, therefore, we discuss only statistical sources and the corresponding calculations which are not connected with the industrial accounts statistics. Table 3.26 gives an overview of manufacturing industries where the industrial accounts statistics are supplemented by other information for the national accounts' estimate of value added.

Table 3.26 Statistical sources underlying the calculation of value added for NACE D

National accounts industry	Source
151000 (part: coverage of all slaughtering)	Information from the Meat Inspectorate, Agricultural statistics
151000 (part: back payments)	Agricultural statistics
155000 (back payments)	Agricultural statistics
Other NACE D industries	Industrial accounts statistics

Method of calculation

The method of calculation for by far the largest share of manufacturing is the standard method for use of the industrial accounts statistics described in Section 3.1.4 Below is therefore only discussed the methods used for the sources listed in Table 3.25.

In 151000*, production etc. of meat and meat products, a correction is made first of all for slaughtering at public slaughterhouses [*slagtehuse*] which are not classified as *slagterier* and home slaughtering. Where value added is concerned, this correction is extremely modest, since the value added consists only of the cost of the actual slaughtering. As regards the total output of meat, however, it is not insignificant, and is therefore important for the adjustment of the product balances for meat.

Much more important for value added is the other correction in the production etc. of meat, namely for the treatment of "back payments" to agriculture for the supply of animals for slaughter. In 2003, this correction amounted to DKK 1 363 million, which is the amount subtracted from the industrial accounts statistics' uncorrected value added in the production etc. of meat when the figures were processed for national accounts purposes.

Many slaughterhouses [*slagterier*] in Denmark are organised on a cooperative basis, members of the cooperative being the farmers who supply to the slaughterhouses. When agriculture supplies animals to cooperative slaughterhouses, the farmers receive a payment on account based on the official prices for pigs, cattle, etc. When the slaughterhouses' accounting results are worked out, a substantial share of the surplus is distributed to the suppliers as back payment over and above the original settlement price paid on account. It is these price adjustments to the suppliers' settlement prices which are known as "back payments". In agricultural statistics, the amounts in question are considered as part of the basic price and are therefore included in the output value of slaughter animals from the agricultural industry. In the slaughterhouses' accounts and in the industrial accounts statistics, however, they are not counted as payment for goods, i.e. as intermediate consumption, but as profit, i.e. property income to the members of the cooperative. The national accounts' correction for back payments corrects for the inconsistent accounting in the two sets of primary statistics. The national accounts comply with the agricultural statistics accounting and consider back payments as part of agricultural selling prices. The value added which they represent is therefore included in the national accounts under agriculture and not under meat production [*slagterier]*. Without the correction, agricultural back payments would be counted twice in total value added. The correction consists of reclassifying back payments in the accounts for the slaughterhouses [*slagterier*] from profit to intermediate consumption.

The correction for back payments in 155000, the manufacture of dairy products, is made in exactly the same way. There are a large number of cooperatives in the dairy industry, too, operating with back payments to suppliers, in this case the milk producers. The correction for back payments in the manufacture of dairy products was DKK 652 million in 2003.

Breakdown of output by product

For manufacturing, there are particularly comprehensive and detailed product statistics, namely the industrial commodity statistics (VS). These cover all producer units within manufacturing which have 10 or more employees. However, certain new units above this threshold will in many cases not be included in the statistics during the first year of their existence. On the other hand, they are always included in accounting statistics, either directly in the sample or indirectly through the grossing up on the basis of employment. Their output value is covered in full, but the breakdown by

* A literal translation of the Danish for 151000 would be simply "slaughterhouses etc.". But two words are used in this paragraph for "slaughterhouses". It would seem that there is a distinction between "*slagterier*", which are allowed to export, and "*slagtehuse*", which may not.

product is not known in every case and therefore has to be estimated on the basis of the product distribution for other producer units in the same industry.

The product classification in the industrial commodity statistics is the Combined Nomenclature, which has some 10 000 headings. These are aggregated with the help of the national accounts' product file, which is a continuously updated key between the CN commodity codes and national accounts products (around 2 350 goods and services). From the national accounts products, there is a clear-cut link to the 4-digit level CPA.

For the vast majority of turnover in a given manufacturing industry, the breakdown by product is observed directly in the VS. For the remaining share up to total sales according to national accounts, two different methods are used for the product breakdown. In those cases where the enterprises not included in the VS must be assumed to produce the same kinds of goods as enterprises which are covered, the figures are simply grossed up on the basis of the VS product structure. In certain other cases, where the enterprises not covered are primarily small ones with less than 10 employees, a special product breakdown is used instead, which is more representative of small enterprises in the industry in question. These breakdowns are made at the most detailed level in the industry classification, i.e. corresponding to 322 manufacturing industries.

What turnover includes:
Code 1010 in the functional target total module, MTM, shows total turnover in each of the national accounts 130 branches.

In manufacturing industries, total turnover consists of:

net turnover according to industrial accounts statistics
\+ output of plant and machinery for own use
\+ own account output of software
\+ fringe benefits, output

where net turnover according to industrial accounts statistics will be exclusive of sales of goods for resale, which are picked out and transferred to wholesale.

Coding of turnover in the intermediate system:

In the intermediate system, the different parts of sales are coded as follows:

MLS-code	**MLS-code text**	
1007	Fringe benefits, output	
1012	Manufacture of plant and machinery for own use	
1015	Own output of software	
1017	Income from licences and royalties	(part of net sales)
1018	Other net sales, excluding 1017 and excluding 1059	(part of net sales)
1059	Other (services) sales, excluding 1017	(part of net sales).

Product definitions
When the national accounts product balances are compiled, total sales are divided over detailed products, which in the case of goods are defined on the basis of HS (Harmonised System) groups and for services are based on the CPA (Central Production Classification by Activity).

Products are allocated codes consisting of an initial letter followed by 6 digits. The initial letter characterises the product as follows:

E	Output for own consumption
F	Fringe benefits
H	"Hidden" output (black economy)
K	Plant and machinery (capital goods), plant for own use
L	Processing to order
M	Repairs and installation work in manufacturing
N	Services, in non-profit organisations
Q	Government non-market services for consumption
S	Public sales income
T	Services, market
U	Non-HS goods
V	HS goods.

Breakdown of output by product:
Those parts of output which are coded in the intermediate system as 1007, 1012 or 1015 are allocated directly to F and K products.

Licensing income and other (services) sales, which in the intermediate system are coded 1017 or 1059, are then calculated in special subsystems. These shares are allocated to two specific T products.

Remaining net sales (MLS code 1018) are divided up by product with the help of the industrial commodity statistics and a DK-NACE industry-specific key for minor manufacturing activity. The breakdown and the basis for it can be seen in the following tables, 3.27 and 3.28. For much the largest share of sales in this manufacturing industry, the product breakdown is directly observed, and for this reason there is very little uncertainty about the product composition. This is characteristic of virtually all national accounts industries within manufacturing.

Table 3.27: Extract from the 2003 intermediate system for NACE 320000

MLS code text	MLS code	National accounts industry	Basic price
Fringe benefits, output	1007	320000	15 185
Manufacture of plant and machinery for own use	1012	320000	4 428
Own output of software	1015	320000	63 875
Income from licences and royalties	1017	320000	28 073
Other and unspecified net sales (excl. "other sales" and excl. licences and royalties)	1018	320000	**11 650 581**
"Other sales", excluding licences and royalties	1059	320000	492 903
Total turnover	1010	320000	**12 255 045**
Inventories of finished goods	2065	320000	-238 144
Output value		320000	**12 016 901**

Table 3.28: Breakdown of turnover in NACE 32 by product

National accounts industry	DK-NACE industry	Turnover of own products in the MLS (own products from sales input into MLS excluding other sales P.63 from VS	Industrial Commodity Statistics (VS) (Total P.01 Excluding goods for resale P.43 and excluding other sales P.63)	Differences MLS-VS	Corrections due to MLS<VS	For the Breakdown with the VS for year t VM2003DB.txt	For the breakdown with "craft industries" year t-1 HÅ_NGL.03
320000	321010	1.187.777	1.077.589	110.188	0	1.077.589	110.188
320000	321090	748.354	352.366	395.988	-290 446	352.366	105.542
320000	322010	4.383.441	4.461.335	-77.894	77.894	4.461.335	0
320000	322020	607.410	590.476	16.934	0	590.476	16.934
320000	323010	2.744.208	2.956.760	-212.552	212.552	2.956.760	0
320000	323020	1.147.581	912.040	235.541	0	912.040	235.541
320000	323030	831.810	805.472	26.338	0	805.472	26.338
Total		11 650 581	11 156 038	494 543	0	11 156 038	494 543

Breakdown of intermediate consumption by product

For that part of intermediate consumption of manufacturing which consists of *goods*, including energy and packaging, there are particularly comprehensive and detailed costs structure statistics. Energy consumption is obtained from a special annual survey.

Information on the consumption of goods other than energy is obtained from periodic - as from 2000 annual - costs structure surveys. These have traditionally been referred to as "raw materials censuses", a term which today, however, may be considered misleading, since the inputs of goods cover raw materials as well as semi-manufactured products, intermediary products and packing costs. From 2000 the annual surveys also includes information on purchase of services in the

manufacturing industries[10]. These surveys of the structure of the consumption during the production process cover manufacturing only and, as a general rule, all manufacturing kind-of-activity units belonging to firms with 50 employees or more. Enterprises with more than 20 but under 50 fulltime-employees can be added to the population in industry groups with only a few firms with at least 50 employees. The cut-off sample covers app. 73 percent of total net turnover of all manufacturing Enterprises. The statistics is not enumerated to cover all manufacturing enterprises.

The commodity classification in the costs structure surveys is based on the CN classification and has six digits. The first four digits in the commodity coding system are identical in the external trade and the commodity statistics and in the raw materials statistics. Most important is, however, that the classification used in the raw material statistics corresponds to the product classification used in the supply and use matrices in the national accounts.

Before 2000 the surveys were collected with five or six years' intervals. A considerable extra effort was made to incorporate the data into the supply and use matrices for these years. When data from the surveys from 1991 and 1997 were entered into the uses side of the national accounts supply and use matrices, it was done in a separate phase that preceded the ordinary balancing of the system[11].

Since 2000 annual surveys have been available. As the survey was renewed into its present form in 2000, the data from this year had a higher than normal uncertainty, and it was decided that data from this survey should not be allowed more or less automatically to replace the input structures based on the balanced supply and use matrices from the previous year. Instead a technique was developed where data form the raw material survey were added to the file used by the people who were working on the manual balancing of the system. The person who was balancing a specific product would always work on spreadsheet data, in which intermediate consumption by industry would be shown together with the input values that had actually been reported in the raw materials survey. It was the responsibility of the "balancer" as far as possible to incorporate the information from the survey in the balanced supply and use matrices. As a result the survey data could be incorporated where they seemed plausible without the loss of information based on experience from earlier years. From 2001 the quality of the survey data has improved, but the system used for entering the information into the initial version of the supply and use matrix -file has essentially been the same as in 2000, as it has proved to be an efficient way to incorporate the annual surveys without the need of an extra, labour intensive, first round of balancing every year. Hence the input structure in the national accounts and the input-output tables for 2003 is based on the cost structure survey for 2003 and information from the structure in the balanced supply and use matrices from 2002 inflated to 2003-prices.

Recently it has been decided to introduce surveys of cost structures for industries outside manufacturing. Data will be collected for input in the construction industries, financial industries

[10] The costs structure in the intermediate consumption of *services* was before 2000 covered by periodic surveys, the latest of which refers to 1992. This survey covered manufacturing firms with at least 200 employees and coverage is therefore much less good than in the costs structure surveys for the consumption of goods. The results were grossed up to cover all manufacturing enterprises and were incorporated into the supply and use tables following the same guidelines as the costs surveys relating to the consumption of goods.

[11] The figures were first of all grossed up to cover all units in manufacturing. Then a systematic comparison with the values estimated from the technical coefficients in the supply and use tables from the previous year was made. A probability check was carried out: the technical coefficients from the current survey were compared with those from previous surveys. Finally, the plausibility of the information was assessed on the basis of the total supply and use of the products in question in the economy and changes in the industries' output structure since the last "raw materials survey". The grossed up "raw materials survey" value for the intermediate consumption of a given good in a given manufacturing industry was incorporated directly into the supply and use unless in contradiction to other information. Otherwise, the technical coefficients were fixed on the basis of an overall assessment of the information referred to in the paragraph above.

and marketing industries. For general government a rolling five-year survey has already started by collecting data for primary and secondary schools. During the five year period the whole general government is expected to be covered. Information on input structures in service industries has for some time been relatively meagre compared to the importance of these industries, and it can be foreseen that in some industries the new information may lead to significant changes in the representation of the input structure. The appropriate method for incorporation of completely new input structures will probably be to have extra first round of balancing like the method used for incorporation of the survey data from 1991 and 1997.

For the costs structure surveys, it is vital to ensure that respondents comply with accounting stringency and discipline. If the questionnaire does not relate to well-defined items in the enterprises' own accounts and in the accounting statistics questionnaire, there is a serious risk of low-quality replies owing to failure to observe the fundamental constraints on totals. This in turn is crucial for the supply and use tables and the symmetrical input-output tables in the Danish national accounts, and one of the factors contributing to their solid statistical foundation.

3.11 Electricity, gas and water supply (E)

Introduction
NACE Section E is defined by function and includes four of the national accounts' 130 industries, namely:

401000 Production and distribution of electricity
402000 Manufacture and distribution of gas
403000 Steam and hot water supply
410000 Collection and distribution of water.

It covers seven industries at the most detailed DK-NACE level. In 2003, NACE E accounted for 2.1% of the value added of the Danish economy – cf. Table 3.29.

Table 3.29 NACE Section E's contribution to the gross value added of the economy

Industry	Output	Intermediate consumption	Value added at basic prices
401000 Production and distribution of electricity	20 203	7 634	12 569
402000 Manufacture and distribution of gas	9 675	7 337	2 338
403000 Steam and hot water supply	13 577	4 575	9 002
410000 Collection and distribution of water	3 184	1 921	1 263
Total NACE E	46 639	21 468	25 172
Percentage of the economy	2.0	1.9	2.1

Statistical sources
The statistical source underlying the estimate of value added in all four industries is accounting statistics for industries where publicly controlled units predominate, which for these industries are based partly on questionnaires and partly on local government accounts. The accounts from public units which are included in local government accounts are collected from these local government accounts statistics. The calculations for electricity and district heating works are based on

accounting information collected and published by *Dansk Energi* and *Danske Fjernvarmeværkers Forening*.

Table 3.30 Statistical sources underlying the calculation of value added for NACE E

National accounts industry	Source
401000 Production and distribution of electricity	Accounting statistics for industries where public corporations predominate
402000 Manufacture and distribution of gas	Accounting statistics for industries where public corporations predominate
403000 Steam and hot water supply	Accounting statistics for industries where public corporations predominate
410000 Collection and distribution of water	Accounting statistics for industries where public corporations predominate

Method of calculation

All four industries are defined by activity. All output of electricity, gas, district heating and water is assigned to the respective industries. This is important, particularly for the combined production of electricity and district heating. The output of district heating and the intermediate consumption that goes with it are transferred from the electricity supply industry to the district heating industry. This is feasible in practice because in 2003 electricity prices were subject to public control, which obliged the electricity producers to break down costs for the combined production of electricity and district heating into two parts.

The output value in the national accounts is the output for supply outside the industry, i.e. it excludes internal deliveries. The figures are therefore recorded net, i.e. internal supplies of energy from one unit to another in the industry are netted out. In the case of electricity and district heating, there are very large deliveries between production companies and distribution companies. The national accounts' output values for electricity and district heating are therefore much below the sales values which occur in other statistics. The main argument for net treatment of supply activity is that the supply and use tables are much more useful as a basis for the compilation of provisional national accounts when output and intermediate consumption are not inflated by large internal deliveries, which may fluctuate markedly.

For *the production and distribution of electricity*, accounting statistics from *Dansk Energi* and municipal accounts cover all electricity utilities apart from some production units. These units are calculated from accounting statements from the corporations. The accounting statistics and municipal accounts do not cover the output of electricity other than from actual power stations, such as that produced by private windmills and small decentralised heat and power plants. This output (other than electricity for the producer's own use during production) is included on the basis of information on quantities of electricity produced and an average kilowatt-hour price. Some of the electricity produced by private windmills, for example, is used for the owners' own consumption and some is sold to power stations which are obliged to take the power and distribute it via the general grid. The production of electricity using renewable energy sources such as wind is subsidised. For the estimate of output value, this product subsidy is added to the sales income reported. In 2003, the subsidy was DKK 233 million.

For the *manufacture and distribution of gas*, accounting statistics are based on accounts from all units in the industry, which is dominated by the distribution of natural gas. The industry includes the cleaning and processing of the natural gas which comes to the mainland from the North Sea gas fields. In the product balance system, there are three types of natural gas: natural gas I is the raw gas from the North Sea which is an input for the supply of gas. Natural gas II is that share of output which goes to "general" natural gas customers, i.e. all uses other than as an input in electricity power stations or district heating stations or as an export. Natural gas III is that share of output which goes to these last-named uses.

In *the supply of district heating*, the accounting statistics cover all units' accounts either via questionnaires or via local government accounts. No grossing up is therefore needed. In addition to the accounting information, annual information from *Danske Fjernvarmeværkers Forening* on total purchases of heat in district heating plants (internal deliveries) is used, along with information from energy statistics on the total expenditure on fuel for all production of district heating in the country. Thus the netting out discussed above is possible in this industry, and the link with the physical energy balances is retained.

For *the collection and distribution of water*, the accounting figures collected for accounting statistics for industries predominated by public corporation do not cover all units and are therefore grossed up to the total population of producer units. In 2003, the raising factor was 1.61. The figures are grossed up on the basis of VAT sales. The great majority of accounting figures in the accounting statistics come from local government accounts.

Breakdown of output by product

All output of electricity is included in a single product balance. Economic theory, however, considers the various supplies of electricity to be very different products, and this is reflected in large differences in electricity prices per kilowatt-hour at basic price level, i.e. pre-tax, from one use to another. Large manufacturing users, for example, pay a much lower price than private consumers. The fact that there is only one product balance for electricity does not cause any problems for national accounts at current prices or for supply and use tables, since energy statistics can be used to estimate each individual use of electricity separately. For the estimate of volume changes, however, it is important to deal correctly with changes in the composition of the uses of electricity. For the national accounts constant price calculations, the product balance for electricity, like that of all other energy products, is deflated from the uses side, taking into account the different economic values of the individual deliveries of electricity and individual deliveries of other energy products.

The output of gasworks is, as already mentioned, divided into three products, namely gasworks gas, natural gas II and natural gas III.

The output from district heating works and the collection and distribution of water are shown in separate product balances.

In addition to the primary products referred to above, nace E produces software for own use and fringe benefits for employees.

Breakdown of intermediate consumption by product
By far the largest input in the supply industries is, of course, energy, and this part of intermediate consumption is established directly. Another large input is repair and maintenance, information on which is available from accounts statistics. There are no costs structure surveys which provide information on the distribution by product of the remaining, minor share of intermediate consumption consisting, for example, of services which come under business services. In the supply and use tables, this residual input is divided over product balances in the light of the known cost structure in related manufacturing industries, together with common sense considerations.

3.12 Construction (F)

Introduction
NACE Section F is defined by function and comprises four of the national accounts 130 industries, namely:

450001 Construction of new buildings
450002 Repair and maintenance of buildings
450003 Civil engineering
450004 Construction materials.

This section accounted for 5.3% of value added of the Danish economy in 2003 – cf. Table 3.31.

Table 3.31 NACE Section F's contribution to the gross value added of the economy

Industry	Output	Intermediate consumption	Value added at basic prices
450001 Construction of new buildings	49 689	28 472	21 218
450002 Repair and maintenance of buildings	51 530	22 259	29 272
450003 Civil engineering	44 929	31 669	13 260
450004 Construction materials	20 982	20 982	0
Total NACE F	167 130	103 381	63750
Percentage of the economy	7.1	9.0	5.3

The industry covers all construction and civil engineering activity in the Danish economy. The construction activity of Danish construction firms abroad is counted as output by a foreign institutional unit (notional resident unit) owned by the Danish firm, and does not give rise to any value added in Denmark but solely to transfers of wages and salaries and property income to and from the rest of the world. The reverse applies to the activity of foreign construction firms in Denmark.

NACE F covers 20 industries at the most detailed DK-NACE level. There is, however, no connection between the industries in the DK-NACE and the national accounts four construction industries. Whilst the breakdown into the 20 industries in the area of construction and civil engineering in the DK-NACE is based on *specialisation or trade*, e.g. bricklaying or carpentry, the national accounts breakdown is *functional*, i.e. based on the final product.

As for all other industries in the economy, the national accounts calculations of value added in construction are based on accounting data for the individual, detailed DK-NACE industries and subsequent aggregation. In the case of construction, however, this aggregation is not to the four sub-industries for construction activity in the national accounts' 130 grouping, but to the single division 45000, construction. Output, intermediate consumption and thus value added for all construction and civil engineering activity in the economy are then distributed over the four function-defined sub-branches: construction of new buildings, repair and maintenance of buildings, civil engineering and construction materials.

The national accounts for construction and civil engineering are the exception in running counter to Danmarks Statistik's industry grouping, primarily because of the supply and use tables and hence the balancing of the product balance system. There is, of course, a much closer, technology-driven connection between the output of various types of construction and civil engineering and certain kinds of construction materials than there is between the output value of the various specialisations and the input of construction materials. Building and civil engineering contractors, who are the largest single specialisation, may, for example, carry out new building work, repair and maintenance and civil engineering work, and the shares of these three activities may vary considerably over time. It is clear that, for example, the input of cement per krone of output is very different in the three activities mentioned. By using a functional breakdown of construction and civil engineering activity into sub-branches instead of a breakdown by trade or specialisation, the national accounts make effective use of information on the technical connection between construction activity and construction materials in the balancing of supplies and uses of goods and services.

Industry 450004 is an "artificial" industry, created for reasons of calculation, through which construction materials for own account construction activity are channelled. For example, instead of being allocated directly to the two uses - intermediate consumption in the "dwellings" industry, or capital formation in construction of dwellings - purchases by owner-occupiers and tenants of construction materials for ordinary repairs and maintenance (excluding the part that is considered household final consumption[12]) or major repairs (capital formation) count in the product balance system as inputs to an artificial industry, "construction materials", the output of which is by definition equal to the value of the industry's intermediate consumption at purchasers' prices[13]. This output is then distributed over the two categories of use referred to above.

Statistical sources

As already mentioned the industry is defined by function and covers all construction and civil engineering activity in the economy. Materials used for own-account construction activity in producer units classified in industries other than construction is transferred to the construction industry with the possible exception of some small repairs, for which the expenses cannot be distinguished from expenses on other intermediate consumption. Hence if some own-account production of ordinary repairs to buildings and structures in other industries are not transferred to branch 45000, construction, it is due to the lack of information on the value. Obviously, the lack of any imputation for that share of the value of ordinary repair and maintenance activity which is in excess of the expenditure on materials does not affect GNI, since the same value, if there had been

[12] Repair and maintenance of the type that in rented dwellings would typically be carried out by the tenants is treated as household final consumption in COFOG 4300, vb. ESA95 3.76.c,(1).

[13] There is no non-deductible VAT on inputs in the artificial industry. Non-deductible VAT is shown in the uses side of the supply and use matrices where output from the artificial industry is distributed by user. Hence, as in all other industries, the production value does not include VAT.

one, would simply have been allocated to output value and intermediate consumption for the economy as a whole. It would simply have been a question of a different distribution of value added by industry. As always when branches are defined by function, the components transferred are output, intermediate consumption, compensation of employees, capital formation and employment.
A practical consequence of the introduction of a virtual industry for building materials used for own account construction is, that the inputs in this industry merge a large number of products used for input into a few output-products that can be distributed by industry based on information on the use of repair and maintenance. Alternatively each of these building materials would have had to be distributed by industry, an exercise that would have to be based merely on assumptions as statistical evidence is unavailable at this level of detail. For instance, agricultural consumption of paint and wood preservative for the maintenance of buildings on own account is treated in the national accounts as an input into a minor, secondary auxiliary activity in agriculture, which in practice cannot be separated out with any degree of statistical certainty. The paint is included as an input in the artificial materials branch 450004, and agriculture receives an input of building repairs that includes the expenditure on the paint. Own-account ordinary repairs and maintenance are of minor importance for all industries other than dwellings, where the values concerned are substantial and the same model is used as has just been described using agriculture as an example.

Substantial secondary construction output for capital formation occurs in a number of industries, particularly in the public utilities industries, transport and communications. There is in these cases an output of construction of buildings and civil engineering on own account, which is capitalised in the companies' accounts. The value of the materials used and expenditure on wages and salaries are reported in the annual reports of these companies. Imputations are made to cover the value of gross operation surplus to ensure that the value of GFCF corresponds to the basic value of similar construction purchased in the market. These imputations are shown separately in the supply and use matrices.

The statistical source for the estimate of value added in genuine construction and civil engineering enterprises is the industrial accounts statistics – cf. Section 3.1.4. These statistics are grossed up from the outset to the total population when incorporated into the national accounts. As already mentioned, the figures are calculated separately for each of the 20 construction industries in the detailed DK-NACE.

Table 3.32 Statistical sources underlying the calculation of value added for NACE F

National accounts industry	Sources
450001 Construction of new buildings	Industrial accounts statistics + estimate for own account GFCF transferred to 450001
450002 Repair and maintenance of buildings	Industrial accounts statistics + estimates for hidden economy and own account GFCF
450003 Civil engineering	Industrial accounts statistics + estimate for own account GFCF transferred to 450003
410000 Construction materials	By definition no value added

For the national accounts estimate of construction, the secondary construction activity which takes place in other industries must, as described above, be estimated and transferred to the construction branch. Information on such activity is found in the accounts statistics, more particularly in statistics for industries where publicly controlled units predominate - the public utilities industries (electricity

etc.), railways, harbours, airports etc. - and where there is substantial output of civil engineering work for own account.

Conversely, the activity of Danish construction firms in the economic area of the rest of the world has to be separated out and subtracted. The main source here is VAT statistics, which provide information on the tax-free exports of construction and civil engineering firms. This export income is divided into the following components: 1) exports of construction materials to the firms' building sites in other countries; 2) payment for construction materials supplied directly from the ROW to construction sites in the ROW; 3) the compensation of employees on construction sites in the ROW and 4) gross operating surplus and mixed income (property income from the ROW). This breakdown, which is used for the calculations of construction activity, is also used in the ROW account and in balance of payments statistics, so that consistency is guaranteed. The breakdown is based on an estimate which in turn is based on the structure of costs in new building work.

The construction activity of foreign construction firms in the Danish economic area is covered via grossing up, with the relevant wages and salaries and employment recorded in Denmark and thus included in the employment to which the accounting statistics are grossed up.

Construction - more particularly, building repair work - is one of the areas in the economy where there is most "black" economic activity. In the Danish national accounts, there is a substantial allowance added in for building repairs in the black economy. The sources and methods are described in Section 7.1. The whole of this black-economy activity is treated in the Danish national accounts as "work in the black economy" of the type "VAT evasion with the collusion of the buyer". The allowance for work in the black economy does not give rise to any allowance for "VAT fraud in connection with underreporting", as in the catering industry, for example. The rationale is that, in the case of construction, the buyers and sellers negotiate a price for each individual project and that it appears to have become the practice for purchasers to be offered work in either the legitimate (white) or the black economy, i.e. work either with or without an invoice. In every case, the allowance for work in the black economy is determined on the basis of the prices which the purchasers pay, so that the effect on GNI is the same whether the above assumption applies or not.

Method of calculation

Even though the value added of construction is basically calculated from accounting statistics in exactly the same way as for other industries, there is a crucial difference as regards output and intermediate consumption. In other industries, output, intermediate consumption and value added are calculated from the same source, namely the processed accounting statistics. In construction, value added is first calculated from the processed accounting statistics, output is subsequently calculated from other sources and finally intermediate consumption is calculated as a residual.

The other sources for the estimate of output are firstly those underlying the estimate of capital formation in construction – cf. the description in Chapter 5.

In principle the sources for that share of output which is professional non-black repairs to buildings for the account of others have been based the quarterly employment censuses for the construction industry and estimated output values pr. employed person. In the employment censuses, employed workers and master craftsmen are divided up by activity on the census date, a distinction being made between new building, repair and maintenance and civil engineering. From these statistics, a list is compiled of firms engaged mainly in repair and maintenance work. When such a list has been

available, their VAT sales have been extracted from VAT statistics. Next, turnover per person in employment in these firms is calculated and multiplied by total employment in construction. While this system worked well in times with low activity in the construction of new buildings, it has its limitations in periods, where it is almost impossible to find enough enterprises that specialise in repair and maintenance. In the later years the initially estimated value pr. employee has mainly been based on extrapolation from the preceding year by means of a price index for repair of buildings. Based on information from the household budget surveys and the estimate for supply of professional repair and maintenance is split into three parts: Direct household final consumption (COFOG 4300), ordinary repair and maintenance and capital repairs and supplements are added for materials used in own-account construction, gross value added in the hidden economy and gross value added in own-account GFCF in dwellings cf. the description in Chapter 5.

All initial estimates for repair and maintenance are confronted in the subsystem for repair and maintenance, where supply- and use of each product is balanced, before it is entered into the initial supply and use matrix files. Repair and maintenance of civil engineering works is here estimated from the uses side based on information from accounts statistics. In practice repair and maintenance of buildings is also adjusted to values that are in accordance with the information on the uses side, for instance the value for repair and maintenance of dwellings that is the result of the calculation of input in the housing industry.

In this way, we obtain a figure for the total output of construction. Together with the estimated capital formation in buildings and structures, a figure is thus obtained for the actual output of construction and civil engineering. In addition, there is the artificial construction materials branch, which is included in output and intermediate consumption with the same value. An initial estimate prior to balancing for this is fixed on the basis of changes in the output of repairs and maintenance for the account of others – cf. above. The construction materials branch is included in the balancing process, and the values initially fixed will generally be amended as part of the balancing of supplies and uses in the product balance system.

The argument behind the calculation method described above is that, in the absence of exhaustive product statistics for construction, we have to estimate the output of the individual types of building, civil engineering and repair work from other sources. To ensure that value added is firmly anchored in accounting statistics, intermediate consumption has to be calculated as a residual.

When the output of construction and civil engineering products estimated from these other sources is compared with output according to accounting statistics corrected for subcontracting, it emerges that the former set of statistics has regularly higher figures than the latter. The most likely explanation is that the output of capital formation in structures is calculated from the expenditure side and will include machinery and equipment which is not in all cases purchased and installed by the building contractor but may often be purchased and installed by the client without the contractor’s being involved. One example is machinery in a power station. This problem affects only the dividing line between capital formation in machinery on the one hand and construction and civil engineering on the other, and does not affect GNI. The method of calculation chosen for the Danish national accounts means that all (or virtually all) capital formation in a power station, for example, is classified as being in civil engineering, even though the customer has purchased buildings and machinery separately. The consequence in the product balance system is that the relevant quantity of machinery is posted as an input in civil engineering and is included in civil engineering output value.

In the Danish national accounts, all construction and civil engineering activity carried out in the rest of the world by Danish construction firms is considered to be an activity taking place in an ROW quasi-corporation (notional resident unit) owned by the Danish construction firm, and not as an export of Danish construction and civil engineering activity. The value added therefore arises in the rest of the world and not in the Danish economy. This treatment is in line with footnote 4 to paragraph 2.09 b) in the ESA 95. In Denmark's case, the activity in question is almost always one which gives rise to gross fixed capital formation in the rest of the world – as opposed to the ordinary repair and maintenance of buildings and structures. This is the criterion in the relevant paragraph of the ESA 95. In the accounts for construction and civil engineering firms with activity on foreign building sites, the activity in other countries will, however, be included. To bring the calculation of value added into line with the geographical delimitation described above, output and intermediate consumption corresponding to the activity in the rest of the world have to be extracted from these business accounts, as described above. The source for this is VAT statistics information on the tax-free export sales of construction and civil engineering firms.

The calculation also includes an allowance for self-built or partially self-built housing, i.e. the fairly common case in which the customer himself is responsible for some of the painting of a new house, for example. On the output side, the allowance is incorporated into the imputed value of the output of the black economy. The calculation provides for a self-built/partially self-built allowance to be added to intermediate consumption, over and above the figures in business accounts.

The calculation of output, intermediate consumption and value added for the construction industry is shown in tables 3.33, 3.34 and 3.35 below:

Table 3.33 Corrections to the accounts statistics output values, 2003

	AS = accounting statistics	DKK million
	Market output in AS (plus work in the black economy and imputed gross value added in market own-account GFCF)	157 176
+	Government non-market output	7 809
-	Subcontracts imputed	22 716
+	Construction and civil engineering activity in power stations	1 013
+	Own-account structures in telecommunications	784
+	Own-account structures in integrated public corporations	358
+	Own-account structures in the "operation of toll bridges"	0
-	Tax-free exports according to VAT statistics	2 912
+	Imports of contractors' services relating to investments in the North Sea	917
=	Output value according to corrected accounting statistics	142 428

Table 3.34 Corrections to accounts statistics intermediate consumption, 2003

		DKK million
	Intermediate consumption in AS (market)	95 591
+	Intermediate consumption (government non-market)	5 539
-	Subcontracts imputed	22 716
+	Construction and civil engineering activity in power stations	91
+	Own-account structures in telecommunications	523
+	Own-account structures in integrated public corporations	184
+	Own-account structures in "operation of toll bridges"	0
-	Input corresponding to tax-free exports	1 789
+	Allowance for self-build	327
+	Imports of contractors' services relating to investments in the North Sea	917
=	Intermediate consumption according to corrected accounting statistics	78 667

Table 3.35 Determining value added and the initial estimate for intermediate consumption, construction and civil engineering as a whole, 2003

		DKK million
	Output value according to corrected AS	142 428
-	Intermediate consumption according to corrected AS	78 667
=	Value added according to corrected RS	63 762
	Output according to product balances	167 130
	of which construction materials branch	*20 982*
-	Value added according to corrected AS	63 762
=	Initial estimate for intermediate consumption	103 369
-	Intermediate consumption after balancing	103 381
=	Difference between initial estimate and balanced input total	-12

Construction and civil engineering is one of those industries where the initial estimate of intermediate consumption has traditionally been amended during the balancing process. One reason is that the industry includes many small enterprises, and thus the grossing up percentage is consequently greater than in manufacturing, for example. In addition, the correction for construction materials corresponding to construction and civil engineering activity in the economic area of the rest of the world is hedged with a certain amount of uncertainty. For these reasons, the input target total for construction and civil engineering is considered to be one of the initial estimates likely to be amended during the balancing process.

Breakdown of output by product

As previously mentioned, there are at present no (direct) product statistics for construction corresponding to the industrial commodity statistics, for example. However, accounting statistics include information on purchases of subcontracting, extremely important information in this industry, where the subcontracting of parts of projects is particularly common. In the absence of any direct product statistics, indirect statistics have been compiled for national accounts calculations,

based mainly on expenditure-side information on kinds of construction and civil engineering work other than repair and maintenance. Resources of repairs and maintenance are calculated using the method described in Section 3.12.3.

For construction of buildings, the output side makes a distinction between housing, private non-residential construction, public construction for commercial purposes (to market producers) and government non-market construction (to non-market producers). Civil engineering is broken down into private structures, public commercial structures and public non-commercial structures. Each of these components (apart from repairs and maintenance) is estimated from the expenditure side as described in Section 5.10. For the repair and maintenance of buildings, the initial estimate prior to balancing assumes 45% for ordinary repairs and maintenance (intermediate consumption) and 55% for major repairs (gross fixed capital formation). These percentages are based on information on kinds of expenditure on craftsmen and expenditure on materials connected with housing in the household budget survey.

In addition to the above genuine products from construction and civil engineering, the industry, in common with the other industries in the economy, produces fringe benefits and capital goods, including software for own use. Table 3.36 below shows the breakdown of output from construction and civil engineering in 2003. Construction resources come from both industries 450001 New buildings and 450002 Repair and maintenance of buildings. This latter addition is major repairs and improvements which in the national accounts are considered to be capital formation.

Table 3.36 Breakdown by product of output from construction, 2003

Sub-industry	Product	Text	Value (DKK mill)
450001	F711000	Fringe benefits, free car	82
450001	F713310		3
450001	K450000	Plant and machinery/structures for own use in the construction industry	360
450001	K454012	Imputed gross operating surplus, own account GFCF in public commercial buildings.	7
450001	K722000	Software produced on own-account	28
450001		Royalties (excl. software)	18
450001	U454010	Construction, dwellings	23 875
450001	U454011	Construction, private non-residential buildings	16 725
450001	U454012	Construction, public commercial buildings	2 484
450001	U454013	Construction, public non-commercial buildings	6 069
450001	U454015	Construction, buildings for military GFCF	37
450001 Total new building			49 689
450002	F711000	Fringe benefits, free car	124
450002	F713310		5
450002	H454001	Output in the black economy, building repairs	2 842
450002	H454010	Output in the black economy, construction of dwellings	671
450002	K454010	Imputed gross value added, own account GFCF in dwellings	1 563

450002	K722000	Software produced on own-account	27
450002	M454001	Building repairs (ordinary)	20 953
450002	U454010	Construction, dwellings	16 776
450002	U454011	Construction, private non-residential buildings	6 514
450002	U454013	Construction, public non-commercial buildings	1 776
450002	U454015	Construction, buildings for military GFCF	128
450002	U454018	Construction, military buildings, repair and non-GFCF	152
450002 Repair and maintenance of buildings, total			51 530
450003	F711000	Fringe benefits, free car	29
450003	F713310		1
450003	K450000	Plant and machinery/structures for own use in the construction industry	160
450003	K454022	Imputed gross operating surplus, own account GFCF in public commercial structures.	112
450003	K722000	Software produced on own-account	24
450003	M454005	Repairs to structures	11 649
450003	Q454005	Repairs to structures, government non-market	6 705
450003	S454005	Repairs to structures, public sales revenue	846
455003	S980990	Internal supplies between public bodies	258
450003	U454021	Private new structures	5 740
450003	U454022	Public new structures, commercial	15 192
450003	U454023	Public new structures, non-commercial	4 012
450003	U454025	Construction, structures for military GFCF	177
450003	U454028	Construction, military structures, repair and non-GFCF	24
450003 Civil engineering, total			44 929
450004	M454001	Building repairs	14 243
450004	U454010	Housing construction	6 739
450004 Construction materials, total			20 982
450000 Construction and civil engineering, total			167 130

Breakdown of intermediate consumption by product

There are no regular costs structure surveys for intermediate consumption in construction. The information which it has been possible to collect over the years from ad hoc surveys has gradually been incorporated into the input structure as expressed in the supply and use tables. The industry's consumption of energy is available annually from energy statistics.

For subcontracting and services, the input structure is based on information on certain kinds of costs such as subcontracting and rentals, which are found in accounting statistics. Subcontracting is netted out – cf. the description of the method of calculation in Section 3.12.3. Intermediate consumption which is counted under the accounting statistics item "other external expenditure" is

divided up by product on the basis of the structure of costs in certain manufacturing industries and common sense considerations about the connection between the number of employees and services such as telephones and cleaning. The construction industry incurs considerable costs for the transport of the building materials used for its output. In the national accounts, this input of services will partly be a "transport margin", i.e. a margin lying between the basic price of the construction materials ex-producer and the purchase price including margins and taxes which the construction enterprise pays overall for the acquisition of the materials. In the Danish national accounts, transport margins are not shown explicitly, since this would overload the supply and use tables with a large number of empty cells. Instead, they are included in wholesale trade margins[14].

In the balanced supply and use tables for 2003, there is approximately DKK 14 700 million wholesale trade margins (including formal transport) and DKK 3 200 million retail trade margins on intermediate consumption in the construction industry, when the materials branch is included. Of this input in the material branch accounts for DKK 6 400 million wholesale and DKK 3 000 million retail trade margins. These figures illustrate the importance of distribution services in the total intermediate consumption of the construction industry. The retail trade margins on inputs, of which most is trade margins on inputs in the materials branch, reflects the considerable production value in retail trade in building materials.

Even though there are at the moment no actual costs structure statistics for the composition of intermediate consumption in the construction industry, the input structure in the industry may be said to be established with a reasonable degree of certainty. The reason is the connection between the technical properties of the goods and their use, in this case as inputs in construction. Goods such as cement and prefabricated building components have few real uses other than as inputs in construction or as exports (or as changes in inventories). When supplies to the domestic market are fixed on the basis of industrial output statistics, external trade statistics and calculations of inventories, the remaining use is more or less bound to be as inputs in the construction industry. In this situation the detailed system of supply and use matrices will provide most of the information used to determine the input structure of the industry[15].

[14] Transport paid by the purchasers of goods which is not separately invoiced is allocated in the national accounts first of all to inputs in the wholesaling industry. The output value of wholesaling is increased by the same amount, so that the total wholesaling margins are increased by the transport expenditure on goods which is defrayed by the purchasers. In this way, transport is channelled through the wholesaling industry, without affecting that industry's value added. This way of posting transport margins in the Danish national accounts has traditionally been referred to as "formal transport"

[15] A new comprehensive questionnaire based survey of the input of materials and services in the construction industry is stating up in 2006.

3.13 Wholesale and retail trade; repair of motor vehicles, motorcycles and personal and household goods (G)

Introduction
NACE Section G is defined by function and covers nine of the national accounts' 130 industries, as shown in Table 3.37, which also shows that this section accounted for 12.2% of value added in the Danish economy in 2003:

Table 3.37 NACE Section G's contribution to the gross value added of the economy

Industry	Output	Intermediate consumption	Value added at basic prices
501009 Sale of motor vehicles, motorcycles, etc.	16 421	5 666	10 755
502000 Repair and maintenance of motor vehicles	16 776	11 462	5 314
505000 Service stations	1 457	493	964
510000 Wholesale and commission trade, except of motor vehicles	161 632	77 457	84 174
521090 Retail sale of food etc.	21 759	8 066	13 693
522990 Department stores	10 394	4 904	5 490
523000 Retail sale of pharmaceutical goods, cosmetic articles, etc.	3 371	786	2 586
524190 Retail sale of clothing, footwear, etc.	9 430	4 209	5 221
524490 Other retail sale, repair work	30 255	12 367	17 889
Total NACE G	271 496	125 410	146 087
Percentage of the economy	11.5	10.9	12.2

NACE G covers all trading activity in the Danish economic area. Secondary trading activity in producer units classified under other industries is separated out and transferred to the relevant trade industry, normally 510000, wholesale and commission trade except of motor vehicles. Secondary trading activity occurs particularly in manufacturing and transport. All motor vehicle repair activity is collected together under industry 502000.

This section covers 159 industries at the most detailed DK-NACE level. As for all other industries in the economy, the national accounts' calculations of value added in trade and repair are based on accounting data for the individual detailed DK-NACE industries and subsequently aggregated.

Statistical sources
NACE 50, sale and repair of motor vehicles, etc, NACE 51, wholesale trade and commission trade except of motor vehicles, and NACE 52, retail trade except of motor vehicles etc., are all covered by the industrial accounts statistics as shown in table 3.38:

Table 3.38 Statistical sources underlying the calculation of value added for NACE G

National accounts industry	Source
501009 Sale of motor vehicles, motorcycles, etc.	Industrial accounts statistics
502000 Repair and maintenance of motor vehicles	Industrial accounts statistics
505000 Service stations	Industrial accounts statistics
510000 Wholesale and commission trade, except of motor vehicles	Industrial accounts statistics
521090 Retail sale of food etc.	Industrial accounts statistics
522990 Department stores	Industrial accounts statistics
523000 Retail sale of pharmaceutical goods, cosmetic articles, etc.	Industrial accounts statistics
524190 Retail sale of clothing, footwear, etc.	Industrial accounts statistics
524490 Other retail sale, repair work	Industrial accounts statistics

Method of calculation

Since the whole of NACE G is covered by industrial accounts statistics, the method of calculation is the standard method for use of these statistics, as described in Section 3.1.4. The only particular point to be mentioned is that, in line with ESA 95, the output of trade services in wholesale and retail trade is calculated as the sum of the trade margins obtained, i.e. the selling price of goods resold minus their acquisition price. In practice, the consumption of goods for resale is calculated from purchases during the period in question plus changes in inventories of goods for resale between the start and the end of the period, with the national accounts price correction described in Section 3.3.

Breakdown of output by product

NACE 50 includes both trade in and repairs to motor vehicles etc, in both the national accounts industries and at the most detailed DK-NACE industry level. For example, a very large share of the total motor vehicle repair activity in the economy is carried out not in producer units classified under NACE class 50.20, maintenance and repair of motor vehicles, but in those classified under DK-NACE 50.10.20, retail sale of motor vehicles. The first stage in the breakdown of products is therefore to divide the output of NACE 50 into the three main components:

1) trade margins on vehicle-related products
2) trade margins on consumables sold at service stations
3) motor vehicle repairs.

The statistics “Distribution of sales in the motor vehicles branches”, covering latest the year 2000, break down sales in NACE 50 enterprises. Following this stage, the output of NACE 50 is divided up into trade margins on the one hand and motor vehicle repairs on the other.

Similarly, the output of NACE 52 has to be divided up into trade margins and repair services. This breakdown is, however, simple, since there is much less overlap between trade and repair activity than in NACE 50. In practice, producer units in the detailed DK-NACE industries within groups 52.1-52.6 are considered to be purely retail enterprises whose output (other than fringe benefits and capital goods for own account) consists solely of retail margins, whilst units classified in industries within group 52.7 are considered to be purely repair enterprises whose output is repair services.

The national accounts supply and use tables operate with two types of margin, namely wholesale and retail. The whole of the trade margin in NACE 51 is by definition a wholesale margin and,

similarly, the whole margin in NACE 52 is a retail margin. NACE 50 covers both wholesale and retail trading activity, and in the national accounts the total trade margin in NACE 50 is divided up into wholesale and retail on the basis of information in the product statistics for the motor vehicles branches, "Distribution of sales in the motor vehicles branches," and information on margin percentages at product level.

For the compilation of the supply and use tables, the wholesale and retail totals calculated are divided up over the 2000 or more national accounts goods balances. The breakdown is based on the previous year's adjusted wholesale and retail margins. The margin total obtained using the previous year's percentages is compared in the current year with the margin totals by individual product group for the detailed trading industries which distribute the product groups in question, and the margins are adjusted to the given totals. This comparison of two independently calculated sets of margins for the individual product groups is in itself a valuable check on the margins calculated from product statistics which for the trade industries in most cases are identical with the accounting statistics at the most detailed level of the DK-NACE industry classification.

Breakdown of intermediate consumption by product
There are no regular costs structure statistics for the trade industries other than energy statistics. The input structure in these industries is established in the national accounts on the basis of the summary cost specifications in accounting statistics - rentals and repair and maintenance, for example - in conjunction with ad hoc information from branch organisations and the competition authorities. The breakdown into the individual products is to some extent based on estimates which are in turn based on common sense considerations. It should be stressed, however, that a good deal of the cost structure is determined very reliably from supply information in conjunction with information on manufacturing. Examples would be packaging and advertising agency services. Once the supply to the domestic market of the relevant products has been determined along with their use as inputs in manufacturing their use in the trading industries can be worked out via a residual calculation.

3.14 Hotels and restaurants (H)

Introduction
NACE Section H is defined by function and comprises two of the national accounts' 130 industries. These two industries are illustrated in Table 3.39, which also shows that NACE H accounted for 1.5% of the value added of the Danish economy in 2003:

Table 3.39 NACE Section H's contribution to the gross value added of the economy

Industry	Output	Intermediate consumption	Value added at basic prices
551009 Hotels etc.	9 650	5 211	4 439
553009 Restaurants etc.	29 122	15 913	13 208
Total NACE H	38 772	21 125	17 647
Percentage of the economy	1.6	1.8	1.5

NACE H covers all hotel and restaurant activity in the Danish economic area with the exception of restaurant activities connected with passenger vessels and aircraft which are not outsourced to another enterprise. This last activity is an inseparable part of transport activity. The running of

canteens in other industries is separated out and transferred to 553009 restaurants etc., as are employers' subsidies to canteens, an important fringe benefit for employees which is considered to have been produced in the restaurant industry and included in that industry's value added. In 2003, the amount was DKK 4 245 million.

NACE H covers 15 industries at the most detailed DK-NACE level. As for all other industries in the economy, the national accounts calculations of value added in the hotel and restaurant industries are based on accounting data for the individual detailed DK-NACE industries and subsequent aggregation.

Statistical sources
Coverage is provided by industrial accounts statistics, which are the statistical source for all primary activity. Secondary canteen activity is compiled as the sum of employees own payments and employers' subsidy. The source for employees' own payments is the household budget survey. Employers' subsidy is equal to the compiled fringe benefits related to canteens calculated from the labour costs surveys.

Table 3.40 Statistical sources underlying the calculation of value added for NACE H

National accounts industry	Source
551009 Hotels etc.	Industrial accounts statistics
553009 Restaurants etc.	Industrial accounts statistics

Method of calculation
Since the whole of this section is covered by the industrial accounts statistics, the method of calculation is the standard method for the calculation of value added from the industrial accounts statistics via the intermediate system and the target total module, as described in Section 3.1.4 and 3.3.

Breakdown of output by product
In addition to the fringe benefit "free cars" and "own-produced software", output is divided into 16 products. The basis for the product distribution is the breakdown of the sales of the two national accounts industries into the detailed DK-NACE industries. The explicit allowances for underreporting and gratuities plus the VAT fraud associated with them are shown in separate product balances, so that there is always a complete overview of these explicit allowances, in both national accounts calculation systems and directly in the supply and use tables.

In connection with the breakdown by product, a minor share of sales in units classified as hotels is transferred to restaurant services to take account of the fact that hotels may run their own restaurants.

Breakdown of intermediate consumption by product
There are no regular costs structure statistics for the hotels and restaurants industries other than energy statistics. The input structure in these industries is established in the national accounts on the basis of the summary cost specifications in accounting statistics - rentals and repair and maintenance, for example - in conjunction with ad hoc information from branch organisations and the competition authorities. The breakdown into the individual products is to some extent based on

estimates which are in turn based on common sense considerations concerning inputs of cleaning and laundry services, for example. The input of food and beverages, which is, of course, by far the largest input, is calculated as a residual.

3.15 Transport, storage and communication (I)

Introduction
NACE I is defined on the basis of a grouping of producer units and covers nine of the national accounts' 130 industries. These are shown in Table 3.41, which also shows that NACE I accounted for 8.4% of the value added of the Danish economy in 2003.

Table 3.41 NACE Section I's contribution to gross value added of the economy

Industry	Output	Intermediate consumption	Value added at basic prices
601000 Transport via railways	9 381	3 738	5 643
602100 Other scheduled passenger land transport	10 061	5 789	4 271
602223 Taxi operation and coach services	6 236	2 215	4 022
602409 Freight transport by road and via pipelines	37 701	21 051	16 651
610000 Water transport	93 231	76 755	16 476
620000 Air transport	16 376	11 262	5 114
631130 Cargo handling etc.	21 522	10 120	11 402
634000 Activities of other transport agencies	14 400	6 376	8 023
640000 Post and telecommunications	58 942	30 249	28 693
Total NACE I	267 849	167 554	100 295
Percentage of the economy	11.4	14.5	8.4

This section covers 36 industries at the most detailed DK-NACE level. As for all other industries in the economy, the national accounts' calculations of value added of transport, post and telecommunications are based on accounting data for the individual detailed DK-NACE industries and subsequent aggregation.

Statistical sources
The most important sources are industrial accounts statistics and accounts statistics for industries predominated by public corporations. In addition, there are special industry-specific accounts statistics for the most important industry, water transport - cf. Section 11.1. Use is also made of information from transport statistics on the value of package tours and from balance of payments statistics on the expenditure of Danish vessels in the rest of the world.

With two of the national accounts industries, one set of accounting statistics is used for some of the detailed DK-NACE industries covered and another set for other industries. The following table of statistical sources refers in such cases to the national accounts' most detailed industry grouping and shows the source used for each of the very detailed DK-NACE industries.

Table 3.42 Statistical sources underlying the calculation of value added for NACE I

National accounts industries/DK-NACE industries	Source
601000 Transport via railways	Accounts statistics for industries predominated by public corporations
602100 Other scheduled passenger land transport	Accounts statistics for industries predominated by public corporations
602223 Taxi operation and coach services	Industrial accounts statistics
602409 Freight transport by road and via pipelines	Industrial accounts statistics
610000 Water transport	Industrial accounts statistics
620000 Air transport	Industrial accounts statistics
631130 Cargo handling, harbours etc.	
631100 Cargo handling	Industrial accounts statistics
631132 Government non-market output	Statistics for general government
631200 Storage and warehousing	Industrial accounts statistics
632110 Operation of stations and terminal facilities for the handling of goods	Industrial accounts statistics
632120 Operation of parking lots or garages	Industrial accounts statistics
632130 Operation of tollbar stations for roads, bridges and tunnels	Accounts statistics for industries predominated by public corporations
632210 Harbours (traffic and fishing harbours)	Accounts statistics for industries predominated by public corporations
632230 Lighthouse activities and pilotage activities	Accounts statistics for industries predominated by public corporations
632240 Towing and lifeboat service	Industrial accounts statistics
632300 Airports, etc.	Accounts statistics for industries predominated by public corporations
633010 Tourist agency activities	Industrial accounts statistics
633020 Travel agencies, tour operators	Industrial accounts statistics
633030 Travel agencies, furnishing tickets	Industrial accounts statistics
633040 Tourist guide activities	Industrial accounts statistics
634000 Activities of other transport agencies	Industrial accounts statistics
640000 Post and telecommunications	Industrial accounts statistics

Method of calculation

The whole of this section is covered by the industrial accounts statistics and accounts statistics for industries predominated by public corporations. The method of calculation here is the same as the standard method for the calculation of value added based on the industrial accounts statistics via the intermediate system and the target total module as described in 3.1.4 above.

Breakdown of output by product

In addition to the products for “fringe benefits” and "own-produced software", output is divided into 39 products. The basis for the product distribution is the breakdown of the sales of the nine national accounts industries into the detailed DK-NACE industries. The explicit allowances for underreporting associated with them are shown in separate product balances, so that there is always a complete overview of these explicit allowances, in both national accounts calculation systems and directly in the supply and use tables.

Breakdown of intermediate consumption by product

There are no regular cost structure statistics for the transport industries, but a very large share of input is covered by the information found in annual energy statistics on the industries’ consumption of energy. By far the largest input in water transport is the expenditure of Danish vessels in ports in

the rest of the world, expenditure on time charters and on energy. The primary statistics give annual information on these major expenditure items.

The breakdown by product of the remaining share of intermediate consumption, on which there is no annual information in primary statistics, is based to some extent on estimates, the starting point being the technical coefficients in the supply and use tables from previous years.

3.16 Financial intermediation (J)

Introduction
NACE J is defined on the basis of a grouping of producer units and covers five of the national accounts' 130 industries, as shown in Table 3.43, which also shows that this section accounted for 5.4 % of the value added of the Danish economy in 2003.

Table 3.43 NACE J's contribution to the gross value added of the economy

Industry	Output	Intermediate consumption	Value added at basic prices
651000 Monetary intermediation	49 467	13 708	35 759
652000 Other financial intermediation	21 715	11 686	10 029
660102 Life insurance and pension funding	7 644	4 657	2 987
660300 Non-life insurance	18 950	7 748	11 202
670000 Activities auxiliary to financial intermediation	8 782	4 307	4 475
Total NACE J	106 558	42 105	64 452
Percentage of the economy	4.5	3.5	5.4

The division covers 27 industries at the most detailed DK-NACE level. Where NACE 65 and 66 are concerned, the national accounts' calculation system does not exactly match the detailed industries in the DK-NACE, in that the calculations are based on the grouping in the available sources, primarily the annual reports of *Finanstilsynet* [the Danish Financial Supervisory Authority]. One example where the industry grouping in the calculation systems differs from DK-NACE is pension funds, where the national accounts' sources make a distinction between non-company-specific pension funds and company pension funds, whilst the DK-NACE does not have this distinction.

The calculations of value added for financial intermediation are made in terms of the individual detailed industries and subsequently aggregated to national accounts' industries.

Statistical sources
The great majority of financial institutions in NACE 65 and 66 are subject to extremely close public supervision out of concern for the security of the money belonging to depositors and policyholders. The Danish supervisory authority is *Finanstilsynet*, which comes under the Ministry of Economic and Business Affairs. *Finanstilsynet's* reports (based on the mandatory submission of standardised accounts) are normally the preferred source. An important exception is Denmark's mortgage credit institutes in DK-NACE 652230. In this case, the information in *Finanstilsynet's* report is much less detailed than it is for banks and insurance corporations etc. Since there were only 8 mortgage credit corporations in 2003, Danmarks Statistik decided to base the calculations directly on the 8 annual accounts, which include much more detailed information.

There are minor parts of NACE 65 which are not subject to *Finanstilsynet* control. One such is financial leasing, where the source is statistics for large financial corporations. For DK-NACE 65.22.60 - consumer credit institutions – the information is based on primary statistics for consumer credit institutions. Finally, for NACE 65.23, Other financial intermediation n.e.c., the accounts of *Arbejdsmarkedets Feriefond, Den Særlige Pensionsopsparing, Lønmodtagernes Dyrtidsfond* and *Arbejdernes Kooperative Finansieringsfond* are used.

NACE 67, Activities auxiliary to financial intermediation, is covered by company accounts grossed up on the basis of employment to cover the total population.

The following table gives an overview of the sources used for the national accounts' calculations for NACE J.

Table 3.44 Statistical sources underlying the calculation of value added for NACE J

National accounts industry/DK-NACE industry	Source
651000 Monetary intermediation	
651100 *Danmarks Nationalbank*	*Nationalbank* annual report and accounts
651200 Other monetary intermediation*	Report from *Finanstilsynet*
652000 Other financial intermediation	
652100 Financial leasing	Statistics for large financial corporations
652230 Mortgage credit institutes	Annual accounts for all corporations
652240 Other credit institutes	Accounts
652260 Financing companies	Statistics for large financial corporations
652295 Other lending activities	Statistics for large financial corporations and accounts grossed up on the basis of total balance
652310 Unit trusts**	Report from *Finanstilsynet*
652320 Investment companies***	Accounts grossed up on the basis of total balance
652330 Security dealing activities	Accounts grossed up on the basis of total balance
632340 Financial holding companies	Accounts grossed up on the basis of total balance
652395 Other financial intermediation n.e.c.	Accounts
660102 Life insurance and pension funding	Report from *Finanstilsynet*
660300 Non-life insurance	Report from *Finanstilsynet*
670000 Activities auxiliary to financial intermediation	Accounts grossed up on the basis of employment

Method of calculation

The output of NACE 65 is calculated as the sum of financial intermediation services paid for directly (charges and fees, commissions, margins on the trading of securities and foreign exchange) and financial intermediation services paid for indirectly (FISIM) other than in a few cases where output is established from the costs point of view as the sum of production costs. These cases are *Danmarks Nationalbank, unit trust, Venture companies and financial holding companies.*

* Literally: banks, savings banks and savings and loan associations.

** "Investeringsforeninger" translates "mutual funds" in the ESA 95.

*** "Investeringsselskaber" translates "investment trusts" in the ESA 95.

The method of calculation for NACE 65, as regards output, intermediate consumption and value added, and the breakdown of output into services which are directly/ indirectly paid for, is illustrated using the activity which is by far the most important, namely 651200, Other monetary intermediation:

Table 3.45 Calculation of the output value of monetary intermediation

	FPI: *Finanstilsynet's* report – monetary intermediation	DKK million
	NB: *Nationalbank* annual report	
	Financial intermediation services paid for indirectly (FISIM)	
	FISIM on deposits	8 754
	FISIM on loans	19 767
=	FISIM, monetary intermediation, total	28 521
	Financial intermediation services paid for directly	
	FPI: Fees and charges	15 785
+	FPI: Ordinary income	2 531
=	Services paid for directly, according to accounts	18 316
+	Mark-up for savings banks under 100 million	187
+	Mark-up for savings banks and loans associations under 100 million	9
+	ROW monetary intermediation, branches in Denmark	1 466
-	Greenland banks	32
-	Danish monetary intermediation, branches in the ROW	905
=	Monetary intermediation services paid for directly, total	19 041
	FISIM, monetary intermediation, total	28 521
+	Monetary intermediation services paid for directly, total	19 041
+	NB: Output from the costs side	553
+	Own-produced software in industry 651000	1 348
+	Other	
=	Output of the *Nationalbank* and monetary intermediation, total	49 467

Table 3.46 Intermediate consumption, monetary intermediation

	FPI: *Finanstilsynet's* report – monetary intermediation	DKK million
	NB: *Nationalbank* annual report	
	FPI: Other administrative costs	10 774
+	FPI: Other operating expenditure	311
+	FPI: Fees etc. paid	2 625
+	Mark-up for savings banks under 100 million	125
+	Mark-up for savings and loan associations under 100 million	13
+	ROW monetary intermediation, branches in Denmark	359
-	Greenland banks	27
-	Danish monetary intermediation, branches in the ROW	762
=	Intermediate cons. excl. *Nationalbank* before software	13 418
+	NB: Intermediate consumption, *Nationalbank*	228
-	Correction for software purchased by industry 651000	608
-	Other taxes on production	135
+	Other subsidies on production	168
+	FISIM	903
=	Int. cons., *Nationalbank* and monetary intermediation, total	13 708

The method of calculation for NACE 66 is shown for both of the national accounts industries, since there are essential differences in the estimates for life insurance and pension funds on the one hand and non-life insurance on the other.

For *life insurance and pension funding*, output value is calculated from the costs point of view, with the addition of a profit element for net operating surplus of 1.5% of own funds. This percentage is low because the total return on own funds in life insurance corporations, in addition to net operating surplus, consists of property income and holding gains etc. which are not allocated to insured persons and are not included in bonus equalisation provisions. Bonus equalisation provisions in life and pension insurance are the funds of the policyholders and not part of the corporation's own funds. In contrast to life insurance provisions, they are not broken down by policyholder but are owned by the policyholders jointly. Their function is to avoid major fluctuations in the corporations' "account interest", i.e. the percentage interest which the policyholders receive in a given year on the funds they have saved with the corporation.

The reason for choosing this method of calculation is that the insurance corporations achieve very large holding gains on the funds invested, which are largely allocated to the accounts of insured persons in the form of life assurance provisions or to the policyholders jointly in the form of bonus equalisation provisions. Given that that share of the increase in provisions which comes from the allocation of holding gains cannot be identified and shown separately in the accounts, use of the formula in the ESA 95 paragraph 3.63 J would produce results which were economically meaningless, at least if the insurance corporations' portfolios included shares. Where shares are concerned, the major part of returns to investors often comes in the form of revaluation gains rather than dividends. Insurance corporations and pension funds take this into account when devising their policy for the allocation of earnings to their customers.

Table 3.47 illustrates the estimate for life insurance corporations. An identical estimate is made for pension funds, ATP and burial funds.

Table 3.47 Output of life insurance and pension funding

	FLI: *Finanstilsynet's* report – life insurance corporations	DKK million
	Life insurance corporations	
	Intermediate consumption, excl. FISIM	3 797
+	FLI: Wages and salaries	1 460
+	FLI: Contribution to dividends (R44) from wages, salaries and fees	8
+	FLI: Depreciations	305
+	Taxes (lønsumsafgift)	165
+	Return on own capital	713
=	Output of Life insurance corporations	6 448
+	Corresponding calculation for general pension funds	852
+	Corresponding calculation for company pension funds	92
+	Corresponding calculation for ATP	227
+	Corresponding calculation for burial funds	5
+	Other	20
=	Output of industry 660102	7 644

Table 3.48 estimates the intermediate consumption of life insurance corporations. For pension funds, ATP and burial funds, the estimates are made in exactly the same way.

Table 3.48 Intermediate consumption of life insurance and pension funding

	FLI: *Finanstilsynet's* report – life insurance corporations	DKK million
	Life insurance corporations	
	FLI: Administration fees	830
-	FLI: Other ordinary income	53
+	FLI: Rentals	71
+	FLI: Other staffing expenditure	1 027
+	FLI: Costs associated with investment activity	715
+	FLI: Other acquisition and administrative costs	1 838
+	FLI: Commissions to own sales staff	300
+	FLI: Other ordinary expenditure	13
-	FLI: Wages and salaries	1 450
-	FLI: Contribution to dividends (R44) from wages and salaries and fees	8
-	Purchase of computer software	47
+	Government fees which are sales of services	32
+	FLI: Commissions to other insurance corporations	529
=	Intermediate consumption in life insurance corporations	3 797
+	Corresponding calculation for general pension funds	658
+	Corresponding calculation for company pension funds	77
+	Corresponding calculation for ATP	117
+	Burial funds	3
+	FISIM in 660102	5
=	Intermediate consumption in industry 660102	4 657

Wages and salaries are deducted from the estimate of intermediate consumption because they are already included in certain other cost components. The rules for this are laid down unambiguously in *Finanstilsynet's* rules on reporting.

For *other insurance* (non-life), output value is calculated in accordance with the rule in the ESA 95 paragraph 3.63 J. In this case, those problems which the rule runs up against in the case of life insurance and pension funding do not apply to any noticeable extent, since the corporations do not noticeably increase insurance technical reserves as share prices rise. Property income allocated to policyholders (supplementary premiums) is calculated here (in contrast to life insurance and pension funding) by calculating the return on the corporations' portfolio of bonds and then using this percentage for the insurance technical reserves.

Where the calculation for life insurance and pension funding is a pro rata calculation based on the assumption that the policyholders' funds and the corporation's own funds are invested in the same portfolio of securities, this is not the case with the calculation for other insurance. Here, it is assumed that the insurance technical reserves are invested in (safe) bonds, whereas more risky investments in shares are considered to be financed by the corporations' own funds. There is therefore a different link between financial assets and insurance technical reserves on the one hand and own funds on the other. The reason is that the investment of insurance technical reserves has a much shorter time horizon for non-life than for life insurance.

The calculation of output for large non-life insurance corporations is illustrated in Table 3.49. Output for other non-life insurance corporations is measured the same way.

Table 3.49 Output, other insurance

	FLI: *Finanstilsynet*'s report – large non-life insurance corporations	DKK million
	FLI: Premium income	35 987
-	FLI: Expenditure on claims	24 204
-	FLI: Increase in equalisation provisions	328
+	Supplementary premiums	2 668
+	Grossing up addition to supplementary premiums	510
-	Grossing up addition to increase equalisation provisions	57
+	FLI: Reinsurance commissions	866
+	Other ordinary income (deconsolidation)	1 583
+	Own-produced software	289
=	Output for large non-life insurance corporations	17 313
+	Corresponding calculation for other non-life insurances	1 948
+	Other	-311
=	Output of industry 660300	18 950

Intermediate consumption is calculated as shown in table 3.50:

Table 3.50: Intermediate consumption, other insurance

	FLI: *Finanstilsynet's* report – non-life insurance corporations	DKK million
	FLI: Administration fees	558
+	FLI: Rentals	412
+	FLI: Other staffing expenditure	5 029
+	FLI: Costs connected with investment activity	115
+	FLI: Other acquisition and administration costs	464
+	FLI: Commissions to own sales staff	1 366
+	FLI: Other ordinary expenditure	638
-	FLI: Wages and salaries	6 386
-	FLI: Contrib. to divid. (R.44) from wages, salaries and fees	10
-	Purchases of computer software	31
+	Public fees which are sales of services	250
+	FLI: Reinsurance premiums	5 485
-	Reinsurance share of claims	1 755
+	Grossing up addition to supplementary premiums	510
-	Grossing up addition to increase in equalisation provisions	57
+	Commissions to other insurance corporations	613
=	Intermediate consumption for large non-life insurance corp.	7 202
+	Corresponding calculation for other non-life insurance corporations	532
+	FISIM	14
=	Intermediate consumption of industry 660300	7 748

Breakdown of output by product
In the supply and use tables, the output of NACE J is divided into 14 products, one of which is own-produced software. The product breakdown is based on the breakdown of the financial corporations sector into sub-sectors and of the producer units which belong to them into industries. Industry 660300, non-life insurance, produces services connected with life insurance and pension funding, since non-life insurance corporations carry out administrative services for life insurance corporations and pension funds.

Breakdown of intermediate consumption by product
There are no regular costs structure statistics for the financial industries other than the summary costs structure included in the accounting plan in *Finanstilsynet's* Order on Accounting. The input structure in the financial industries has been based on this. The breakdown into individual products is to a certain extent based on estimates which in turn are based on common sense considerations. For the current year, an initial estimate is worked out for the input structure on the basis of the technical coefficients in the supply and use tables from previous years.

3.17 Real estate, renting and business activities (K)

Introduction
With the exception of industries 702009, dwellings, and 702040, the letting of non-residential buildings, NACE K is defined on the basis of a grouping of producer units. The above two industries are the exception, being defined by function and combining all letting of real estate, i.e. dwellings or non-residential premises, regardless of the legal or producer units in which the activity takes place. NACE K covers 14 of the national accounts' 130 industries, as can be seen in Table 3.51, which also shows that in 2003 NACE K accounted for 18.1% of value added of the Danish economy.

Table 3.51 NACE Section K's contribution to the gross value added of the economy

Industry		Output	Interm. cons.	Value added
701109	Real estate agents etc.	7 991	4 072	3 918
702009	Dwellings	121 130	30 933	90 198
702040	Letting of non-residential buildings.	39 931	14 267	25 664
710000	Letting of machinery and equip. etc.	13 870	8 175	5 695
721009	Computer activ. excl. software	11 459	6 939	4 519
722000	Software consultancy and supply	32 892	16 376	16 517
730001	Research and development (market)	5 038	3 088	1 950
730002	Rese. and devel. (other non-market)	3 697	1 140	2 557
741100	Legal activities	7 514	1 856	5 658
741200	Accounting, book-keeping, auditing	11 159	2 786	8 373
742009	Consulting engineers, architects, etc.	37 824	19 284	18 540
744000	Advertising	16 282	11 916	4 366
747000	Industrial cleaning	11 421	3 285	8 135
748009	Other business activities	37 790	15 983	21 807
Total NACE K		357 998	140 099	217 899
Percentage of the economy		15.0	11.8	18.1

The section covers 72 industries at the most detailed DK-NACE level. In all cases except one the calculations are made at that detailed level. The exception is the letting of dwellings, where the national accounts calculation system lumps three detailed DK-NACE industries together and combines the calculation with the calculation of the imputed rental value of owner-occupied housing.

Statistical sources

Apart from the two major industries, dwellings and the letting of non-residential buildings, where special sources and methods are used, the primary statistics source is in the vast majority of cases SLS-E statistics. Table 3.52 shows the primary statistics used.

Table 3.52 Statistical sources underlying the calculation of value added for NACE K

National accounts industries/DK-NACE industries		Source
701109	Real estate agents etc.	SLS-E statistics
702009	Dwellings	Housing censuses, rent surveys, the accounts of housing corporations, consumer surveys
702040	Letting of non-residential buildings	Calculated from the expenditure side: the sources underlying the calculations for all other industries
710000	Letting of machinery and equipment etc.	SLS-E statistics
721009	Computer activities excluding software consultancy and supply	SLS-E statistics
722000	Software consultancy and supply	SLS-E statistics
730001	Research and development (market)	SLS-E statistics
730002	Research and development (other non-market)	Central and local government accounts
741100	Legal activities	SLS-E statistics
741200	Accounting, book-keeping, auditing etc.	SLS-E statistics
742009	Consulting engineers, architects, etc.	Market: SLS-E statistics
		Government non-market: central government accounts etc.
744000	Advertising	SLS-E statistics
747000	Industrial cleaning	SLS-E statistics
748009	Other business activities	SLS-E statistics
		Government non-market: central government accounts etc.

Method of calculation

In all cases where the statistical sources are either SLS-E statistics or general government accounts, the standard method is followed for the estimate of output, intermediate consumption and value added, on the basis of these general sources. Below, we therefore describe only the two special, but exceptionally important, calculations for dwellings and the letting of non-residential buildings.

The calculations for *dwellings* comply with the method set out in Commission Regulation 1722/2005. As Table 3.51 shows, in 2003 dwellings accounted for 7.5% of the total value added of

the Danish economy. It is therefore clear that the reliability of the estimate of value added in this industry is crucial for the overall accuracy of the GNI estimate.

The most important principle in the Commission Regulation is that the countries have to use the stratification method to calculate the imputed rental value of owner-occupied dwellings. Denmark has always used this method. In short, it means that the total housing stock is divided into a number of strata on the basis of various stratification criteria. The criteria which are mandatory under the above Regulation are size and location. First of all, the average actual rental rate (yearly payment per square meter) is calculated for rented dwellings in each stratum and this average stratum rental rate is then used for owner-occupied dwellings within the same stratum to estimate the imputed rental value of owner-occupied housing.

The Regulation requires countries to operate with a minimum of 30 strata generated by at least three size classes and two types of location. In Denmark's case, the sources enable a much more detailed calculation to be made. For the 1999 benchmark calculation roughly a thousand strata were used effectively.

To estimate the output of both rented dwellings and owner-occupied dwellings in the Danish national accounts, a very thorough and detailed calculation of levels is made every 4-5 years, when large-scale rent surveys are carried out. The levels are projected during the intervening period using appropriate price and quantity indices. Thanks to the unique *Bygnings- og Boligregister* (BBR) annual information is available on the total housing stock divided according to numerous criteria. It is therefore not the quantity component in the price x quantity calculation formula which is missing on an annual basis but the price component. The large-scale 4-5 yearly housing survey – cf. Section 11.3 – is an extremely robust statistical source. It is carried out to provide an objective basis in the form of price information for the public assessments of real estate values. These public assessments are used both for the calculation for tax purposes of the rental value of owner-occupied housing, which is subject to income tax, and as a basis for the collection of property taxes. The rent surveys cover all property which is let comprising three or more tenancies. They therefore have an extremely high degree of coverage of rented housing in blocks of flats and of terraced, linked and semi-detached houses, whereas the degree of coverage for detached, single-family houses which are let is much lower. Compared with the information on rents which is available from the population and housing censuses used in Denmark until 1970, and which are still an important source of data in many countries, the quality of rent survey data must be assumed to be much higher because the information is collected from professional landlords as opposed to households which rent property, which are presumably more likely to misunderstand what has to be included in answers to questions and what should be omitted – for example, heating bills etc. which are included with actual rents. The rent survey covers only dwellings which are occupied all year round.

For the 4-5 yearly calculations of levels, rentals (actual and imputed) are compiled using the stratification method as a price x quantity calculation. Since the rent survey does not have 100% coverage, the figures have to be grossed up to the total population of rented dwellings. The grossing up also uses the stratification method. Simplified speaking, for each stratum, the average annual stratum rent according to the rent survey is multiplied by the annual average number of square metres let in the stratum in question. At the same time, the imputed rental value of owner-occupied housing is calculated by multiplying the annual average number of owner-occupied square metres in each stratum by the same annual average stratum rent. Finally, a separate calculation is made for holiday homes (weekend cottages etc.) and garages, carports, etc.

The estimate of output in "dwellings" in the Danish national accounts for 2003 is based on an estimate of levels for 1999 projected to 2003.

Below, the main principles behind the calculation of levels for 1999 are shown before discussing the projection to 2003. No validation of these figures is available as no rent survey has been conducted since 1999 with which to compare these projected figures for 2003.

The Danish estimate of levels for 1999 uses the following stratification criteria:

Table 3.53 Stratification criteria for the calculation of levels, 1999

Factors	Factor levels
Location: degree of urbanisation	1. HT- area 1
	2. HT- area 2
	3. HT- area 3
	4. Århus
	5. Other towns with at least 100 000 inhabitants
	6. Towns with 10 000-99 999 inhabitants
	7. Towns with 1 000-9 999 inhabitants
	8. Other areas
Rental status	1. Rented
	2. Used by owner, owner-occupied flats
	3. Used by owner, other dwellings
	4. Not known
Type	1. Farmhouses and detached houses
	2. Terraced, linked and semi-detached houses
	3. Dwellings in blocks of flats
	4. Dormitories, etc.
	5. Other
Quality	1. Group 1
	2. Group 2
	3. Not known
Size	1. –49 m^2
	2. 50-59 m^2
	3. 60-79 m^2
	4. 80-99 m^2
	5. 100-119 m^2
	6. 120-139 m^2
	7. 140-159 m^2
	8. 160-179 m^2
	9. 180-199 m^2
	10. 200 m^2 and [over]
	11. Not known
Year of construction	1. –1939
	2. 1940-1959
	3. 1960-1969
	4. 1970-1974
	5. 1975-1979
	6. 1980-1984
	7. 1985-1989
	8. 1990-1994
	9. 1995-1999
	10. 2000-
	11. Not known

The following should be noted as regards the individual stratification criteria:

Where the ***location factor*** is concerned, special attention should be paid to the HT [Copenhagen Transport Corporation] area. Around one-third of the population of Denmark lives in the region around Copenhagen, which for practical reasons is delimited as the geographical area covered by HT, which serves the actual city, the suburbs and other municipalities with a large number of commuters to and from the capital. This HT area consists of the Copenhagen municipality [*Københavns Kommune*], the Frederiksberg municipality and all municipalities within Copenhagen county [*Københavns Amt*], Frederiksborg county and Roskilde county. For stratification, the area is divided into three sub-areas, HT-1, HT-2 and HT-3, since it was assumed that there was a significant difference in the average level of rents, HT-1 being the most expensive and HT-3 the least expensive. The breakdown is based on the breakdown used by the country's leading estate agents and newspapers for the marketing of owner-occupied housing. There is no doubt that this breakdown is significant for the prices at which owner-occupied dwellings change hands, and it is assumed that the same applies to the levels of rent in rented housing. HT-1 consists of the following municipalities: Birkerød, Dragør, Gentofte, Hørsholm, Lyngby-Tårbæk, Søllerød and Værløse. HT-2 consists of: Allerød, Ballerup, Brøndby, Farum, Fredensborg, Frederiksberg, Gladsaxe, Glostrup, Greve, Helsingør, Herlev, Hillerød, Hvidovre, Karlebo, København, Ledøje, Lejre, Roskilde, Rødovre, Solrød, Stenløse, Tårnby and Vallensbæk. HT-3 comprises: Albertslund, Bramsnæs, Frederikssund, Græsted-Gilleleje, Gundsø, Helsinge, Hundested, Hvalsø, Høje-Taastrup, Ishøj, Jægerspris, Køge, Ramsø, Skibby, Skovbo, Skævinge, Slangerup, Valsø and Ølstykke.

The calculation confirms that there is a significant difference in the levels of rents in these three sub-areas in and around Copenhagen.

Århus, the country's second largest city, is a factor level on its own, because rent levels in the city and its suburbs are noticeably different from the level in the other provincial towns in Denmark and are more or less on a par with rents in the Copenhagen area.

As regards the ***quality factor***, quality group 1 comprises dwellings with water, drainage, own toilet, own bath, district heating or central heating from their own system and, for single family houses, with electric stoves or electric panel heating. Quality group 2 comprises dwellings which do not have one or more of the above facilities.

As regards the ***year of construction***, the smaller intervals during the period 1960-1979 are due to the fact that there was a great deal of new housing built during that period, which, in view of the relatively high inflation at that time, had very different nominal construction costs. Since there is significant inertia in the establishment of rents, in which the nominal construction costs play a part, it is appropriate to work with smaller intervals of time during that period. For later years we have continued to use the five-year intervals.

In the housing census, there are a small number of dwellings where the rental status, type and quality group are not known. For all dwellings without an estimated rent from the stratified model, the average rental rate was used to compute their annual rents.

Disregarding rental status, which is not a significant stratification criterion for the actual calculation of total rents, we then have the following theoretical number of strata: 8 x 4 x 2 x 10 x 10 = 6 400. However, the actual number of significant strata used is perhaps only a sixth of this figure, roughly speaking a thousand strata. Which of course is still vastly in excess of the 30 required by the Decision.

For 1999 figures we continued to use rents from apartments multiplied by 1.02 also for detached houses, as motivated and explained in the 2002 GNP-inventory.

This calculation is supplemented by a calculation of total rents for holiday homes etc, which was carried out in exactly the same way as for all-year-round dwellings, but on the assumption that the rent for a holiday home in a given stratum was half of the rent for an all-year-round dwelling in the same stratum. Finally, a calculation was made for garages, carports, etc, covering garages which were not part of the actual dwelling and therefore included in the area of the dwelling. This latter (minor) share of garages is already covered by the calculation of rents for all-year-round dwellings.

The calculation for (external) garages, carports etc. for 1992 was as follows: the average construction costs per m^2 for garages and carports were calculated together with the corresponding construction costs for single-family houses. The ratio of these two figures multiplied by the ratio of the average size of garages etc. on the one hand to single family houses on the other and again multiplied by the average rent in single family houses was the calculated rental value of garages etc.

The rent survey for 1999 refers to the level of rents in January 1999. In order to obtain an estimate of price levels for all of 1999, an adjustment is made of the January price level to a mid-year level, taking into account the empirical pattern of rent increases over the months of the year. The quantity variable, i.e. the housing survey, relates to the housing stock as of 1 January of each year. In order to have total rents which represent the average stocks of the year 1999, we average over two sets of total rent figures, one set relating to the beginning-of-year stocks, and another set relating to end-of-year stocks.

After the corrections referred to above, we have total rents for 1999 for all dwellings in the economy, based on the average level of rents for the period and the average stock of dwellings. To obtain the national accounts estimate of total rents, however, there has to be various additional corrections for items included in the observed rents from the rent survey, items which are not to be considered as rents. The following items are excluded from the observed rents:

- payments for cold water delivery (fixed and variable fees)
- drainage charges
- refuse collection
- chimney sweeping
- insurance

These amounts are instead counted as household consumption expenditure under the relevant consumption expenditure categories. Concerning insurance, only the service element in the gross premiums is included.

There is also a correction for ***vacant dwellings***. In accordance with the principles in the Commission Regulation on dwellings, no output value is assigned to dwellings which are vacant.

The figures thus calculated for total rents for all of 1999 are divided into two parts, one part which relates to the first half of 1999 and the rest relating to the second half of 1999 using separate adjustment factors for the owner occupied dwellings, the rented dwellings respectively and the holiday homes. This way we take account of the price increases between the first and the second half of the year under the restriction that, the sum of rent for the two parts exactly match the year total.

The level thus calculated for the first half of 1999 constitutes the benchmark which is then projected using a price and a quantity index until the next level calculation can be incorporated into the national accounts. The next time this will happen is unknown as the benchmark source of rents is not available. Between benchmark years we use the percentage distribution of total rents into actual rents and imputed rents in the benchmark calculation to distribute total rents into these two categories.

The benchmark for the first half of 1999 has the following values:

Table 3.54 Total rents for the first half of 1999 divided by type of dwelling

	DKK 1000
All-year-round dwellings	48 066 815
of which	
rented dwellings	16 883 648
owner-occupied dwellings	31 183 167
Holiday homes	1 464 455
Total rents for actual dwellings	49 531 270
Garages etc.	1 500 448
Total rents	51 031 718

The total rent is then projected from one six-month period to the next, starting with the projection from the first to the second half of 1999. The projections are made on a six-monthly basis because Statistics Denmark's rent surveys which are used for the calculation of the housing item in, for example, the consumer price index previously were (ended with 2001) six-monthly surveys. The projection from the first to the second half of 1999 is shown in Table 3.54 for all-year-round owner-occupied dwellings. The projection for the other types of dwellings is exactly the same. The value for garages etc. is projected on the basis of the calculated change in total rentals for all-year-round owner-occupied dwellings. Statistics Denmark's small-scale annual rent surveys, which are used for the consumer price index in particular, cover a sample of around 4 200 rented dwellings.

Table 3.55: Projection of the calculation of levels from the first half of 1999 to the second half of 1999, owner-occupied dwellings, all-year-round dwellings

		DKK 1000
(1)	Rents for stock in first half-year before correction for water, drainage, etc.	33 602 279
(2)	Rents for stock in first half-year after correction for water, drainage, etc.	31 181 167
(3)	Six-monthly increase in rents (first half of 1999 – second half of 1999)	1.784 %
(4)	Rents for the second half of 1999 of stock in previous half-year (1)x(1+(3))	34 201 861
(5)	Addition for new dwellings coming into use	275 273
(6)	Dwellings demolished	17 538
(7)	Total growth in the half-year (5)-(6)	257 735
(8)	Rents, stock in the second half of 1999 before correction for water etc. (4) +(7)	34 459 596
(9)	Water paid for via rents	1 238 039
(10)	Drainage charges paid for via rents	1 000 899
(11)	Deduction for vacant dwellings	181 970
(12)	Pure rents in the second half of 1999 (8)-(9)-(10)-(11)	32 037 688

The projection to 2003 uses exactly the same method as that shown in Table 3.55.

The *intermediate consumption* of dwellings is calculated separately for owner-occupied and rented dwellings. The calculation uses four sub-groups:

1. (ordinary) repair and maintenance expenditure
2. other intermediate consumption apart from stamp taxes and financial intermediation services paid for directly
3. stamp taxes
4. financial intermediation services paid for directly.

Expenditure on *ordinary repair and maintenance* in dwellings which are let refers solely to the expenditure defrayed by landlords. The tenants' expenditure on repairs and maintenance is counted as private consumption expenditure in consumption group 4300, and is normally limited to certain internal maintenance work such as painting and floor polishing when there are changes of tenants. The source for the calculation of landlords' repair and maintenance expenditure is accounts from the non-profit (social) housing associations, which represent in total around half a million rented dwellings and can reasonably be considered to be representative of the rental sector as a whole.

For owner-occupied housing, expenditure on minor, routine repairs and maintenance is counted as private consumption in the households under group 4300, by analogy with the treatment of the corresponding expenditure of tenants. Major expenditure items, which in the case of rented dwellings should normally be defrayed by the landlord, are considered to be intermediate consumption when the dwellings are owner-occupied. Major repair and improvement work is not included in the estimate of intermediate consumption but counts as capital formation in housing construction. For owner-occupied dwellings, the source for the estimate of repair and maintenance expenditure is the household budget survey (FU) – cf. Section 11.3. A further element of the total

repair and maintenance expenditure is that paid for by insurance companies. Half of the claims due, received by the housing industry, are assumed to relate to repair and maintenance expenditure.

For *other intermediate consumption apart from stamp taxes and financial intermediation services paid for directly*, the sources are the same as for expenditure on repair and maintenance. In the nature of things, this item is a minor one in the case of owner-occupied dwellings, where it must include, for example, administrative expenditure relating to owners' associations in owner-occupied flats.

Expenditure on refuse collection, chimney sweeping, insurance services etc. will normally be included in the observed rent. For the national accounts calculations for dwellings, the calculated total rental is reduced by the amount of these items, which are transferred to private household consumption of the services in question, instead of being considered as the private consumption of rents. Consequently, the expenditure in question is not included in the estimate of intermediate consumption for dwellings. Counting the figures this way in accordance with the international classification of the consumption of households, COICOP, does not, of course, affect the estimate of GNI, but relates solely to the breakdown of private consumption into consumption groups.

Stamp taxes, which count as intermediate consumption in dwellings, relate to loans for the financing of investments in housing and thus the output of dwelling services. Like other transaction costs connected with the transfer of real estate, stamp taxes on the transfer of property rights (deeds etc.) are treated - in line with ESA 95 paragraph 4.20 b) - as gross fixed capital formation. Stamp taxes on loans for the financing of investments in housing are estimated on the basis of the stamp tax rates laid down in the legislation, statistics for monetary financial institutions and the total revenue from stamp taxes taken from general government statistics.

The *financial intermediation services paid for directly* which are included in intermediate consumption in dwellings are fees etc. connected with mortgages taken out to finance purchases of dwellings. In Denmark, the vast majority of housing loans are "*realkreditlån*" [mortgage loans] granted by a special type of monetary financial institution known as a "*realkreditselskab*" [mortgage corporation]. These monetary financial institutions are funded almost entirely by the issue of bonds and take mortgages on the property for which they issue loans. The institutions demand "contributions" from borrowers, typically a percentage of the remaining debt. These contributions, which are invoiced to the borrowers, are treated as financial intermediation services paid for directly. In addition, there are financial intermediation services on the bank loans customarily taken out to partly finance housing purchases. The amount allocated to intermediate consumption in the "dwellings" industry is calculated on the basis of the total contributions to mortgage credit institutions and the total amount paid for bank services in the light of the outstanding debt on dwellings. *Financial intermediation services paid for indirectly (FISIM)* allocated to the dwellings industry is relatively low for reasons described above. The calculation and allocation of FISIM is described in chapter 9.

The figures for industry *702040, the letting of non-residential buildings*, are calculated as described from the expenditure point of view. The industry's output is estimated as the sum of non-residential rent expenditure in all other industries in the economy. These figures are estimated separately in the intermediate system at the most detailed DK-NACE level and are available separately in the target total module under code 2020, cf. the table of the functional target total module in Section 1.3.9.1.1.

This ensures that the output of non-residential rentals and rentals which are posted as inputs in other industries are consistent. It is difficult to ensure this if output is calculated from the supply side, owing to the widespread *secondary* activity connected with the letting of non-residential premises, on which there is no direct information available in the detailed accounting information from the corporations involved.

Intermediate consumption is calculated from the ratio of intermediate consumption to output in the "letting of dwellings" industry. The reasoning is that the aggregate accounting figures underlying the calculations for the letting of dwellings are on the whole more representative of the letting of non-residential premises than the available accounts from corporations whose primary activity is non-residential letting. But since the letting of dwellings and of non-residential buildings are related activities, the input percentage, i.e. the ratio of intermediate consumption to output, may be considered to have been determined with a good degree of certainty.

Since 1999 the industry has been covered by industrial accounting statistics. However, on the output side the industrial accounting statistics gives rather unstable results and a lower turnover compared to the compilation from the expenditure point of view. This is a rather strong indication that a compilation from the expenditure side is preferable. On the input side, a comparison of the input percentage from the letting of dwellings, which is used, has been made with the input percentage from the industrial accounts statistics for the years 1999-2001. It was concluded at the time, that it was not necessary to make any corrections to the input percentage used. Table 3.56, shows input percentages from the industrial accounts statistics. It can be seen that, apart from the obvious problems with 1999, the input percentage is about 25 percent. The input percentage used is 26.8.

Table 3.56: Input in industry 702040 Letting of non-residential buildings. 1000 DKK.

	Output	**Input**				**Value added**
Year		Goods and services	Repair and maintenance	Other indir. prod. costs	Total	
1999	21.543.598	7.706.753	481.118	1.118.690	9.306.561	12.237.037
2000	14.944.555	1.034.482	849.860	1.875.365	3.759.707	11.184.848
2001	19.523.031	1.496.060	901.498	2.186.516	4.584.074	14.938.957
Input percentages						
1999		35,8	2,2	5,2	43,2	
2000		6,9	5,7	12,5	25,2	
2001		7,7	4,6	11,2	23,5	

Breakdown of output by product

For the industries in NACE K other than dwellings and the letting of non-residential buildings, output is primarily broken down by product in such a way that products are defined on the basis of the most detailed industries in the DK-NACE so that the total output value in one of these detailed industries is allocated to a product with the same name as the industry.

The output of the "dwellings" industry in 2003 was divided by product as shown in Table 3.57.

Table 3.57: Breakdown of output in the "dwellings" industry by product

Product number	Text	Value DKK 1000
F702000	Fringe benefits, free housing	155 263
F711000	Fringe benefits, free car	14 777
F713310	Fringe benefits, free pc	2 716
K722000	Own-produced software	37 809
T000005	Royalties and license payments, excluding software	5 622
T702001	Letting of dwellings	39 952 155
T702002	Imputed rental value of owner-occupied dwellings	77 411 145
T702003	Garages etc. not an integral part of the dwellings	3 550 730
Total dwellings		121 130 217

The output of the "letting of non-residential buildings" industry covers five products. All non-residential letting is one product and there are also small amounts of output of the fringe benefits "free car" and “free pc” as well as of Royalties, ex. software and of own-account software in the relevant product balance.

Breakdown of intermediate consumption by product

Industries other than dwellings and the letting of non-residential buildings

There are no regular costs structure statistics for these industries other than the summary costs structure included in the SLS-E accounting plan. The input structure is based on this. The breakdown into individual products is to a certain extent based on estimates which in turn are based on common sense considerations. For the current year, an initial estimate of input structure is worked out from the technical coefficients in the supply and use tables from previous years.

Dwellings

The breakdown by product is self-evident in three of the four expenditure categories referred to in Section 3.17.3. The fourth – other intermediate consumption apart from stamp taxes and financial intermediation services paid for directly – is broken down by product on the basis of information in the accounts of non-profit housing corporations and, if this is not sufficiently detailed, on the basis of common sense considerations concerning, for example, the input of cleaning services in blocks of flats.

Letting of non-residential buildings

The same applies to this industry as to dwellings.

3.18 Public administration and defence; compulsory social security (L)

Introduction

NACE L is defined on the basis of a grouping of producer units. It covers five of the national accounts’ 130 industries. In 2003, virtually the whole group consisted of government (other) non-market output, the exception being the national accounts industry 752001 Security services, which produces market output. As shown in Table 3.58, NACE L accounted for 6.5% of value added of the Danish economy in 2003.

Table 3.58 NACE L's contribution to the gross value added of the economy

Industry	Output	Intermediate consumption	Value added at basic prices
751100 General (overall) public service activities	40 842	12 421	28 421
751209 Regulation of public service activities exc. for business	17 893	5 790	12 103
751300 Regulation of and contribution to more efficient operation of business	16 893	5 473	11 420
752001 Rescue Services	3 465	1 237	2 228
752002 Defence, police and justice	38 523	15 090	23 432
Total NACE L	117 617	40 012	77 606
Percentage of the economy	5.0	3.5	6.5

Statistical sources

In all cases other than the market output of 752001 rescue services, the source is the accounts in *Databasen for Integrerede Offentlige Regnskaber (DIOR)* [the database for integrated public accounts] – cf. Section 11.1. This database covers central government, local government and social security fund accounts, plus all other units included in national accounts S.13. The source for the calculations of 752001 rescue services, is the SLS-E statistics – cf. Section 3.1.4.

Table 3.59 Statistical sources underlying the calculation of value added for NACE L

National accounts industry/DK-NACE industry	Source
751100 General (overall) public service activities	Central government accounts, local government accounts, etc.
751209 Regulation of public service activities exc. for business	Central government accounts, local government accounts, etc.
751300 Regulation of and contribution to more efficient operation of business	Central government accounts, local government accounts, etc.
752001 Rescue services	SLS-E statistics.
752002 Defence, police and justice	Central government accounts, local government accounts, etc.

Method of calculation

The calculations use the standard methods for general, transversal sources in the form of *Databasen for Integrerede Offentlige Regnskaber (DIOR)* and the SLS-E statistics.

Breakdown of output by product

The output of government non-market services is divided by product on the basis of the various uses of the products. For each national accounts branch, a distinction is made at least between the output of government non-market services for government consumption, for external sales income other than from canteen sales, sales income relating to canteens and sales income relating to internal supplies between public institutions. In addition, there is own-produced software. The market output in 752001 Rescue services is for a single product, namely rescue services.

Breakdown of intermediate consumption by product
The input structure for general government is generally based on the breakdown in central and local government accounts, which was much more detailed in the mid-1980s than it is now. The detailed breakdown of intermediate consumption was originally based on these detailed accounts from the 1980s. In the current year, the input structure is estimated on the basis of the technical coefficients from previous years. This is also the case for 2003. For the coming years, Statistics Denmark is undertaking cost structure surveys for general government. The surveys intend to cover the whole general government sector in the course of five years.

3.19 Education (M)

Introduction
NACE M is defined on the basis of a grouping of producer units comprising five of the national accounts' 130 industries. In Denmark 2003, virtually the whole group consisted of government (other) non-market output, the exception being 804001 Adult and other education (market) In Denmark, what is known as “private schools” for children are without exception part of S.13, and are thus government non-market producers in that over 50% of production costs are met by public funds and the public authorities to a large extent control these institutions via the rules for award of grants. As shown in Table 3.60, NACE M represented 5.8% of the value added of the Danish economy in 2003.

Table 3.60 NACE M's contribution to the gross value added of the economy

Industry	Output	Intermediate consumption	Value added at basic prices
801000 Primary education	44 426	9 591	34 834
802000 Secondary education	18 407	5 164	13 243
803000 Higher education	17 420	4 822	12 598
804001 Adult and other education (market)	2 525	1 007	1 518
804002 Adult and other education (non-market)	9 747	2 845	6 902
Total NACE M	92 525	23 429	69 095
Percentage of the economy	3.9	2.0	5.8

Statistical sources
In all cases other than market output in industry 804001 Adult and other education (market), the source is the accounts in *Databasen for Integrerede Offentlige Regnskaber (DIOR)*. This database covers central government, local government and social security fund accounts, plus all other units included in national accounts S.13. The source for the calculations of the market activity in 804001 is the SLS-E statistics – cf. Section 3.1.4.

Table 3.61 Statistical sources underlying the calculation of value added for NACE M

National accounts industry/DK-NACE industry	Source
801000 Primary education	Central government account, local government accounts, etc.
802000 Secondary education	Central government account, local government accounts, etc.
803000 Higher education	Central government account, local government accounts, etc.
804001 Adult and other education (market)	SLS-E statistics
804002 Adult and other education (non-market)	Central government account, local government accounts, etc.

Method of calculation
The calculations use the standard methods for general, transversal sources in the form of *Databasen for Integrerede Offentlige Regnskaber (DIOR)* and the SLS-E statistics.

Breakdown of output by product
The output of government non-market services is broken down by product on the basis of the various uses of the products. For each national accounts branch, a distinction is made at least between the output of government non-market services for government consumption, for external sales income other than from canteen sales, sales income relating to canteens and sales income relating to internal supplies between public institutions. In addition, there is own-produced software. The market output in 804001 covers three products, namely driving schools etc., other market education and "black" education.

Breakdown of intermediate consumption by product
The input structure for general government is generally based on the breakdown in central and local government accounts, which was much more detailed in the mid-1980s than it is now. The detailed breakdown of intermediate consumption was originally based on these detailed accounts from the 1980s. In the current year, the input structure is estimated on the basis of the technical coefficients from previous years. This is also the case for 2003. For the coming years, Statistics Denmark is undertaking cost structure surveys for general government. The surveys intend to cover the whole general government sector in the course of five years.

3.20 Health and social work (N)

Introduction
NACE N is defined on the basis of a grouping of producer units. It covers seven of the national accounts' 130 industries. As Table 3.62 shows, it accounted for 11.0% of the value added of the Danish economy in 2003.

Table 3.62 NACE N's contribution to gross value added of the economy

Industry		Output	Intermediate consumption	Value added at basic prices
851100	Hospital activities	55 332	18 644	36 688
851209	Medical, dental, veterinary activities etc.	25 686	7 376	18 310
853109	Social institutions etc. for children	42 904	9 885	33 019
853209	Social institutions etc. for adults	57 250	13 337	43 913
Total NACE N		181 172	49 242	131 930
Percentage of the economy		7.7	4.3	11.0

Statistical sources

For government, non-market output, the source is the accounts in *Databasen for Integrerede Offentlige Regnskaber (DIOR)*, which covers central government, local government and social security fund accounts, plus all other units included in national accounts S.13. For market output, the source is SLS-E statistics. The sources can be seen in the table below:

Table 3.63 Statistical sources underlying the calculation of value added for NACE N

National accounts industry/DK-NACE industry		Source
851100	Hospital activities	
851101	Private market	SLS-E statistics
851102	Government non-market	General government accounts (DIOR)
851209	Medical, dental, veterinary activities.	
851202	Government non-market output	General government accounts (DIOR)
Other DK-NACE industries in 851209		SLS-E statistics
853109	Social institutions etc. for children	General government accounts (DIOR)
853209	Social institutions etc. for adults	General government accounts (DIOR)

Method of calculation

The calculations use the standard methods for general transversal sources in the form of *Databasen for Integrerede Offentlige Regnskaber (DIOR)* and the SLS-E statistics.

Breakdown of output by product

The output of government non-market services is divided by product on the basis of the various uses of the products. For each national accounts branch, a distinction is made at least between the output of government non-market services for government consumption, for external sales income and sales income related to internal supplies between public institutions. In addition, there is own-produced software. The output of market producers in NACE N is divided into six products plus fringe benefits and own-produced software.

Breakdown of intermediate consumption by product

The input structure for general government is generally based on the breakdown in the central and local government accounts, which was much more detailed in the mid-1980s than it is now. The detailed breakdown of intermediate consumption was originally based on these detailed accounts from the 1980s. In the current year, the input structure is estimated on the basis of the technical coefficients from previous years. This is also the case for 2003. For the coming years, Statistics Denmark is undertaking cost structure surveys for general government. The surveys intend to cover the whole general government sector in the course of five years.

3.21 Other community, social and personal activities (O)

Introduction

NACE O is defined on the basis of a grouping of producer units and consists of seven of the national accounts' 130 industries. As Table 3.64 shows, it accounted for 4.2% of value added of the Danish economy in 2003.

Table 3.64 NACE O's contribution to the gross value added of the economy OK ATH 03/01

Industry	Output	Intermediate consumption	Value added at basic prices
900010 Sewage removal and disposal	6 298	3 005	3 293
900020 Refuse collection and sanitation	7 111	4 651	2 460
900030 Refuse dumps and refuse disposal plants	3 889	2 467	1 422
910000 Activities of membership organisations	19 606	5 275	14 331
920001 Recreational, cultural, sporting activities (market)	31 569	14 297	17 272
920002 Recreational, cultural, sporting activities (non-market)	10 165	4 010	6 155
930009 Other service activities	8 975	3 197	5 778
Total NACE O	87 613	36 902	50 711
Percentage of the economy	3.7	3.2	4.2

Statistical sources

The statistical sources underlying the national accounts calculations for NACE O can be seen in the table below:

Table 3.65 Statistical sources underlying the calculation of value added for NACE O

National accounts industry/DK-NACE industry	Source
900010 Sewage removal and disposal	Accounts statistics for industries predominated by public corporations
900020 Refuse collection and sanitation	Accounts statistics for industries predominated by public corporations
900030 Refuse dumps and refuse disposal plants	Accounts statistics for industries predominated by public corporations
910000 Activities of membership organisations	
910001 Private institutions	Statistics on wages and salaries, trade union accounts
910002 Government non-market	Government accounts (DIOR)
920001 Recreational, cultural, sporting activities (market)	
921100 Motion picture and video production	SLS-E statistics
921200 Motion picture and video distribution	SLS-E statistics
921300 Motion picture projection	SLS-E statistics
922010 Television activities	Account statistics for industries predominated by public corporations
922020 Radio activities	Accounts statistics for industries predominated by public corporations
923110 Live theatrical presentations, concerts and opera production	SLS-E statistics
923120 Activities of individual artists	Statistics on wages and salaries, numbers of artists, statistics on culture
923200 Operation of arts facilities	SLS-E statistics
923300 Fair and amusement park activities	SLS-E statistics
923400 Other entertainment activities n.e.c.	SLS-E statistics
924000 News agency activities	SLS-E statistics
925200 Museum activities etc.	SLS-E statistics
925300 Botanical and zoological gardens	SLS-E statistics
926110 Sports centres and public swimming baths	SLS-E statistics
926190 Other sports facilities	SLS-E statistics
926210 Sports clubs	SLS-E statistics
926220 Yachting harbours (marinas)	Accounts statistics for industries predominated by public corporations
926290 Other sporting activities n.e.c.	SLS-E statistics
927100 Gambling and betting activities	Accounts statistics for industries predominated by public corporations
927200 Other recreational activities n.e.c.	SLS-E statistics
930002 Recreational, cultural, sporting activities (non-market)	General government accounts (DIOR)
930009 Other service activities	SLS-E statistics

Method of calculation

The calculations for all DK-NACE industries other than 923120 Activities of individual artists comply with the standard methods for general transversal sources in the form of *Databasen for Integrerede Offentlige Regnskaber* (DIOR), SLS-E statistics and the accounts statistics for industries predominated by general government. For industry 923120, activities of individual artists, the calculation is divided in two. First of all, the output of paintings, lithographs and sculptures etc. is calculated using a price x quantity calculation. Next, the much greater value of royalties and artistic originals is calculated from the information on royalties in statistics on culture.

The calculation of the output value of paintings, lithographs and sculptures etc. is based on average earnings per employee in the whole of NACE 92 taken together, as found in the ERE statistics. This figure is multiplied by the total number of members of *Billedkunstnernes Forening* [the Pictorial Artists Association], the association of Danish designers and the association of Danish craftsmen-designers. It is thus assumed that the artists' average *sales* correspond to the earnings of an employee in the same field.

For the output of royalties (services output) information from statistics on culture which refers to royalty payments for art and culture is used directly (information from KODA, NCB (Nordic Copyright Bureau), COPY DAN and Gramex). In the absence of statistics on the value of original works produced, in each period this is considered to be equal to the royalty income for the period.

Intermediate consumption is calculated using an input percentage derived from SLS-E figures. Creative artists constitute a field which, by its very nature, will almost always have scant coverage in the form of accounts. In Denmark's case, many fall below the turnover threshold of DKK 500 000 for the SLS-E returns. There is not considered to be any intermediate consumption corresponding to royalties and the output of artistic originals in branch 923120. The intermediate consumption connected to those product transactions is assumed to be included as expenditure in publishers, music publishers, recording companies, film and video production companies etc. which have made facilities available to the artists with whom they are working.

Breakdown of output by product
The output of NACE O is divided into 79 products, 63 of which represent market activity and 16 government non-market output. In addition, there is production of fringe benefits, own account software and "black economy".

Breakdown of intermediate consumption by product
There are no regular costs structure statistics on the market output of these industries other than the summary costs structure included in the SLS-E accounting plan and in the accounting statistics for industries where public corporations predominate. The input structure is based on those statistics. The breakdown into individual products has to a certain extent been based on estimates which in turn were based on common sense considerations. For the current year, an initial estimate is made for the input structure on the basis of the technical coefficients in the supply and use tables from previous years.

The input structure for general government (non-market output) is generally based on the breakdown in the central and local government accounts, which was much more detailed in the mid-1980s than it is now. The detailed breakdown of intermediate consumption was originally based on these detailed accounts from the 1980'es. In the current year, the input structure is estimated on the basis of the technical coefficients from previous years. This is also the case for 2003. For the coming years, Statistics Denmark is undertaking cost structure surveys for general government. The surveys intend to cover the whole general government sector in the course of five years.

3.22 Private households with employed persons (P)

Introduction
NACE P, which is defined on the basis of a grouping of producer units, consists of only one of the national accounts' 130 industries. As Table 3.66 shows, it accounted for 0.2% of the value added of the Danish economy in 2003.

Table 3.66 NACE P's contribution to the gross value added of the economy

Industry	Output	Intermediate consumption	Value added at basic prices
950000 Private households with employed persons	1 807	0	1 807
Total NACE P	1 807	0	1 807
Percentage of the economy	0.1	0	0.2

Statistical sources
The majority of the activity in this industry is linked to tax-free income either in the form of genuine work in the black economy or because the persons involved have income which falls below the income tax limit and who therefore do not report any income to the tax authorities. Regular "legitimate" economic activity in this industry consists mainly of home help for disabled people employed by households, treated as a social transfer in kind purchased by general government and made available to households. These values are taken directly from government accounts. The remaining “legitimate” activity is small and of minor importance and is projected with the same percentages as the black activity.

The level is calculated on the basis of EU-harmonised labour force survey (LFS), which in Denmark is now called *Arbejdskraftundersøgelsen* (AKU), extended to include various questions on activity in the black economy. The questions covered information on both the number of hours worked and the relevant income. One-third of the LFS respondents (some 6 000) took part in the ad hoc survey, which was partly financed by the EU. The survey was grossed up to the total population.

Table 3.67 Statistical sources underlying the calculation of value added for NACE P

National accounts industry/ DK-NACE industry	Source
950000 Private households with employed persons	periodically surveys, net price index, government accounts

Method of calculation
The benchmark values for the years 1992 and 2004 are both used and the figures in the years between the two benchmarks years are stipulated. From 2004 and onwards values will be projected in the current years using changes in the net price index (consumer price index excluding taxes on products and subsidies) for cleaning. This means assuming that hours of work remain constant. The price index reflects changes in cleaning rates charged by professional firms. A new benchmark will next be established when resources can be made available to extend the labour force surveys to include special questions on work in the black economy.

Breakdown of output by product
The output value is allocated to two different products. One product covering the black activity and one product covering the regular economic activity.

Intermediate consumption by product
By definition, there is no intermediate consumption in this industry.

3.23 Treatment of extra territorial organisations and bodies (Q)

International organisations within the borders of the Kingdom of Denmark are not part of Denmark's economic territory. The output of these organisations is not included in Danish GDP. The wages and salaries which they pay to Danish residents are included in Denmark's GNI via the balance-of-payments items for wages and salaries from the rest of the world.

3.24 Taxes on products, excluding VAT

Table 3.68 shows total taxes on products excluding VAT which amounts to 5.9 percent of GDP. Of total taxes excluding VAT of 83 191 mill. DKK, 2 341 mill. DKK go to the EU (duties and import taxes). Table 3.69 shows taxes on products excluding VAT by type of tax. All large taxes are shown by type while minor taxes are lumped together in *other*.

Table 3.68 Taxes on products excluding VAT, 2003. Total.

DKK million	To general government	To the EU	Taxes on products excluding VAT, total
Taxes on products excluding VAT	80 850	2 341	83 191
Percentage of GDP			5.9

Table 3.69 Taxes on products excluding VAT, 2003. By type of tax.

DKK million	
Taxes on products excluding VAT, total	83 191
of which:	
Petrol	10 445
Car registration	13 052
Chocolate	7 678
Beer	1 181
Wine	1 474
Alcoholic beverages	1 166
Electricity	1 439
Certain oil products	8 455
Coal	7 435
Carbondioxod (CO2)	1 679
Piped water	4 826
Natural gas	1 417
Stamp duties	3 622
Third party liability insurance on cars	6 169
Oil pipeline Other	1 946
Other	10 064

As required by ESA 95 paragraphs 4.26-4.27, taxes on products are recorded when the activities etc. occur as the amount which the general government sector or the EU has a *claim on*, i.e. tax liability or tax assessed. Tax assessments are recorded by the tax authorities, *Skat*, with an indication of the period of the transactions to which they relate. Taxes on products excluding VAT are therefore recorded on an accrual basis. Denmark thus bases its figures for taxes on products excluding VAT on tax assessments and does not need to have recourse to corrections for "cash data", i.e. figures for taxes actually paid compiled on the date of payment.

In contravention of the fundamental principle of accruals in SNA 93 and ESA 95, in 2000 the Council approved an amendment to the ESA 95 Regulation which prevents countries from including the tax revenue which gives rise to provisions for losses on bad debts or is written-off as a result of bankruptcies, etc. in the estimate of the "government deficit", i.e. net lending/net borrowing of general government (2516/2000). The amendment gives countries a certain amount of flexibility, however, as regards the way in which uncollectable taxes are accounted for in the accounting system, provided the effect on the "government deficit", i.e. the net lending/net borrowing of Sector S.13, general government, remains the same. The solution, which Denmark applies, is simply to count the tax revenue, which has not been collected, as a capital transfer from general government to the debtor sectors. In this way, the change in the national accounts may be limited to a simple entry in the capital account and the accrual principle remains intact in all other respects.

3.25 VAT

The underlying principles for estimation and periodisation of VAT are the same as for taxes on products excluding VAT as described in section 3.24.

As mentioned in Chapter 8, the Danish national accounts differ from ESA 95 regarding the treatment of EU's own resources from VAT, the "third own resource". According to ESA 95, paragraph 4.14, this value should be recorded as a tax collected directly by the EU from residents in Member States (D.211). In the Danish national accounts the *total* VAT revenue is considered to be paid to the national general government sector S.13. The EU's VAT-based own resource is then recorded as a current transfer (D.74) from central government to the EU.

Table 3.70 shows total VAT revenue in 2003 which amounts to 135 billion DKK and 9.6 percent of GDP.

Table 3.70: VAT 2003

DKK million	To general government	To the EU	Taxes on products excluding VAT, total
VAT	135 088	0	135 088
Percentage of GDP			9.6

Compared with some countries, the Danish VAT system is very simple in that there are only two rates, a standard rate of 25 % in 2003 and a 0% rate for certain product groups such as passenger transport and newspapers. In addition, some activities (producer units) do not have to register for VAT, i.e. they do not collect outgoing VAT on their sales and conversely cannot deduct incoming VAT from their purchases. The only significant case of this for market output is financial services and property administration. In practice, all non-financial market activity except a few service activities, of which passenger transport is far the most important, has to register for VAT in Denmark.

One standard way of validating the degree of coverage in the national accounts is to compare the theoretical VAT resources as established in the national accounts with actual VAT revenue. This check works particularly well when there is a simple VAT structure as there is in Denmark, where the uncertainty resulting from the use of differential rates is virtually absent[16]. Theoretical VAT resources are defined as the VAT revenue which would be produced if all actors in the economy paid VAT according to the legislation. The calculation is as follows: The rate for non-deductible VAT which would apply if everybody complied in full with the VAT legislation is linked to each individual use of each of the 2 350 or so products in the (supply and) use tables. Actual VAT revenue is equal to VAT assessed on an accrual basis, as described in Section 3.25.2. VAT in the Danish national accounts is adjusted to this amount. The total VAT actually in the cells of the supply and use tables with around 2 350 product balances is equal to actual VAT resources.

[16] Even with 2 350 product balances some product classifications will cover services with both 25% and 0% VAT-rates. The choice of average VAT-rate for such product groups relies on assumptions that may be more or less correct. In specific circumstances certain uses are VAT-exempt. Identification of these circumstances will also to some degree rely on assumptions. A VAT-system with differentiated rates will of course add to this kind of problems. However the estimated VAT must be assumed to be more accurate when it can be based on a high level of detail compared to a calculation based on less detail.

When theoretical VAT resources are estimated, it is often the case that the statutory rate is used as the theoretical rate. This is not, however, the actual theoretical rate if, for the estimate of VAT liability, VAT is deductible in the case of bad debts. The Sixth VAT Directive allows such deductions, which apply in Denmark. The deduction is as follows: an enterprise which is registered for VAT may, for the estimate of outgoing VAT, deduct the outgoing VAT imputed during previous periods but which has never been paid to the enterprise by its debtors as a result of bankruptcy, for example. The actual theoretical rate is therefore lower than the statutory rate.

The tax authorities do not collect information on the size of the deduction for outgoing VAT connected with bad debts. Based on, *inter alia*, banks' provisions and losses, Statistics Denmark has cautiously estimated those bad debts at just under 2 % of VAT revenue. Due to lack of more precise information, this percentage has remained unchanged year after year for the calculation of theoretical VAT resources. For product groups with the statutory standard rate of 25 %, a rate of 24.54% is used, a cautious estimate about which there is a substantial degree of uncertainty. Actual deductions may well be considerably greater, in which case the theoretical rate in the calculation should be lower. The central government credit risk involves not only VAT revenue but the gross amount of outgoing VAT, which is much greater. Bad debts may arise anywhere in the chain from the original producer to the final purchaser.

To make the following comparison of theoretical and actual VAT comparable with the results in other countries, the comparison has been made using the theoretical rate calculated both as the statutory rate and as the estimated actual theoretical rate following legal deductions for bad debts. In the following table, the first calculation of the percentage discrepancy is marked I and the second as II.

Table 3.71 Comparison of theoretical and actual VAT revenue, 1995-2003

Year	Theoretical VAT revenue, with statutory rate (1)	Theoretical VAT revenue with deduction for debtors (2)	Actual VAT revenue (VAT assessments) (3)	Percentage difference between theoretical and actual VAT I ((1)-(3))/(3) x 100	Percentage difference between theoretical and actual VAT II ((2)-(3))/(3) x 100
1995	103 980 327	102 067 089	96 316 451	7,96	5,97
1996	109 650 975	107 633 397	103 320 000	6,13	4,17
1997	116 407 666	114 265 765	109 340 000	6,46	4,50
1998	121 004 020	118 777 546	113 832 000	6,30	4,34
1999	125 566 033	123 255 618	118 975 799	5,54	3,60
2000	132 210 834	129 778 155	123 776 600	6,81	4,85
2001	136 574 634	134 061 661	128 549 636	6,24	4,29
2002	141 069 830	138 474 145	132 394 335	6,55	4,59
2003	144 306 533	141 651 293	135 087 823	6,82	4,86

The figures shown are based on the national accounts after the “data-revision” mentioned in chapter 2. For all years from 1995 to 2000 where a comparison with data from before the revision is possible, the differences between theoretical and actual VAT -revenue have been reduced in the revised figures.

Except in 1995 with a higher than normal difference[17] and 1999 where the difference is low, the percentage difference between theoretical and actual VAT has remained reasonably constant.

The Commission Decision (98/527/EC, Euratom) on the treatment for national accounts purposes of VAT fraud (discrepancies between theoretical VAT receipts and actual VAT receipts) obliges Member States to *compare* theoretical and actual VAT and to *analyse* the difference to ensure that the effect which the treatment of VAT fraud has on GNP is correct. In all cases where an enterprise registered for VAT has collected VAT from the customer but does not remit it to the tax authorities (for example, when sales do not pass through the cash register), with output-based GDP there has to be an allowance for this fraudulently retained VAT to ensure that the estimate includes all value added. The expenditure-based estimate in principle records the purchaser's actual payment and thus in principle automatically includes the VAT withheld (the evasion). The problem here, of course, is to observe such purchases in practice. In the Commission Decision, VAT which is not remitted is referred to as "evasion without complicity". The opposite is "evasion with complicity", e.g. work done in the black economy and not invoiced. In this latter case, of course, there should be no allowance for VAT not remitted, since the price the purchaser has paid does not include any VAT.

The total difference between theoretical VAT when the rates required by law are applied, ignoring deductions for VAT connected with bad debts, and actual VAT revenue was DKK 9 219 million in 2003. The national accounts estimate of deductions for bad debts of just under 2% may account for DKK 2 655 million of this difference. In addition, VAT corresponding to the explicit allowances for work in the black economy and underreporting etc. account for DKK 2 201 million. Of these DKK 2 201 million, DKK 642 million is explicit allowances for VAT fraud connected with underreporting - what the Commission Decision refers to as "evasion without complicity". In such cases, the Danish national accounts add an allowance to value added in the industries in question (including the imputed underreporting) to take account of further underreporting by producers who fraudulently collect VAT and fail to remit it.

After deduction of the above amounts, there was a difference of DKK 4 363 million for 2003. There are several possible reasons for this residual amount:

1) larger deductions for bad debts than estimated;
2) inaccuracies in estimation of the black economy and underreporting;
3) VAT evasion in industries where hidden activity is covered indirectly by a price x quantity calculation;
4) implicit correction for VAT evasion in certain sole proprietorships;
5) inaccuracies in the national accounts supply and use tables;
6) inaccuracies in the national accounts interpretation of VAT legislation.

[17] Part of the difference in 1995 may be explained by difficulties with the conversion into accrual data when Austria, Sweden and Finland joined the EU on 1 January 1995. The change from the rules for VAT on imports from third countries to the general VAT on goods imported from the three countries in question, change the transaction date on which the central government claim arises, from the date of import to the date of sale of the final product. In 1995, Austria, Sweden and Finland together accounted for around 16% of Denmark's imports of goods.

It is important to note that the residual should not be interpreted as meaning that the allowances added in for VAT fraud without complicity are insufficient. The criterion for deciding what should be included in the estimate of GDP is the amounts which the purchasers have actually paid. There are no reasons for claiming that the explicit allowances made for the underreporting of sales in retail trade, restaurants, hairdressers, etc., have been undervalued.

Below, we discuss the above factors individually.

1) As already stated, we cannot rule out the possibility that the deductions for bad debts are larger than the estimated just under 2%, particularly in years when the economy is depressed.

2) There is of course a considerable statistical uncertainty in the estimates of the black economy. It is however most likely that the benchmarks that have been based on surveys of black labour conducted as telephone interviews will tend to undervalue the real value of hidden activity rather than the opposite. Short term movements in the black economy are, however, difficult to asses and the growth rates used to join the benchmarks may not give a correct picture.
3) In a few industries, underreporting and work in the black economy are not covered via explicit allowances but are implicitly included in that the output is estimated as price times quantity. The most important examples are agriculture etc. and the letting of dwellings, but the latter is not liable for VAT, and so it is only agriculture that is relevant here. The black economy in agriculture etc, which is implicitly covered in the national accounts, may help to explain part of the residual.

4) In addition, in industries where there are explicit allowances for the black economy, it may happen that the national accounts *implicitly* capture some of it if, for example, the owners of businesses route some of their private consumption through the business's accounts so that it appears to the tax authorities to be intermediate consumption. This kind of tax swindle must be assumed to occur primarily in small, one-man businesses. The incentive is obvious, since in such cases the owner avoids both income tax and VAT on part of his own private consumption. The SLS-E figures, which are typically used as a basis for the calculations for small enterprises – if not directly, then indirectly through the use of these figures as source for the industrial accounts statistics -, do not cover those which have annual turnover of under DKK 500 000 or those which have not been operating throughout the year. According to the tax legislation, such enterprises do not have to submit the SLS-E form. In the national accounts calculations, these exempt businesses are represented via a grossing up of the accounts of enterprises in the same stratum. To the extent that intermediate consumption is more likely to be overstated in those enterprises for which there is grossing up than in those for which there are accounts available, the national accounts implicitly capture this tax swindle and give an accurate picture of the value added created. It seems likely that this factor is one reason for the residual.

5) Inaccuracies in the national accounts supply and use tables may be another reason for the residual difference. This may happen if, for example, the values for the most important private uses on which VAT is payable, namely household final consumption and the construction of dwellings, are too high, so that the theoretical VAT imputed is too high as well. There is, however, no other indication that the two demand components have been over-estimated.

6) The national accounts supply and use matrices include separate VAT matrices which are thoroughly analysed and balanced every year. When these matrices, which are used as a basis for the calculation of theoretical VAT revenue, are worked out, care is taken to ensure that the

calculation reflects VAT legislation right down to the smallest detail. In doubtful cases, Statistics Denmark has consulted the Ministry of Taxation about the interpretation of special rules in the legislation. But the possibility cannot be ruled out, that subtleties in the VAT legislation have created difficulties for the modelling of the calculation of VAT that is the basis for estimation of the theoretical VAT revenue. However, the special rules in the VAT legislation relating to expenditure on the acquisition, running and maintenance of passenger cars, non-deductibility of accommodation cost, cost in connection with representation and a number of other exceptions from the general rules are as far as possible implemented at the most detailed level in the national accounts.

3.26 Subsidies on products

Tables 3.72 and 3.73 show total subsidies on products and subsidies on products by scheme. Subsidies on producs amount to 18.6 bill. DKK and 1.3 percent of GDP in 2003.

Table 3.72 Subsidies on products 2003

DKK million	From general government	From the EU	Subsidies on products, total
Subsidies on products	11 710	6 946	18 656
Percentage of GDP			1.3

Table 3.73 Subsidies on products, 2003, by scheme

Subsidy scheme	DKK million
EU-schemes, total	6 946
Export subsidy schemes	1 795
Net loss on products, connected with intervention	2
Subsidy on the production of skimmed milk, etc.	685
Aid per hectare	4 464
Danish schemes, total	11 710
Municipal housing for pensioners, etc.	15
Refuse disposal and incineration	335
Municipal theatres, orchestras, cinemas, etc.	659
Statsskovvæsenet [Danish Forestry Commission]	64
DSB (*De Danske Statsbaner)* [Danish State Railways]	6 761
Municipal buses and other transport	1 543
Other subsidies on products to public enterprises	1 134
Central government subsidies to regional theatres	68
Consultants to associations, agriculture	99
Other subsidies on products to private enterprises	1 033
Subsidies on products, total	18 656

Subsidies on products are recorded as required by the ESA 95 paragraph 4.39 on an accrual basis, i.e. when the product transaction which gives rise to the subsidy occurs.

According to ESA 95 paragraph 4.35 c), government subsidies to public corporations to cover their deficits are treated as subsidies on products. For the calculation of subsidies to public corporations such as *De Danske Statsbaner* (DSB), an estimate of the consumption of fixed capital is included, to arrive at the deficit covered by central government. This deficit coverage is not directly observable in central government accounts, since total central government payments to the DSB include both a subsidy (D.31) and an injection of capital into a quasi-corporation (F. 513) to finance capital formation etc. To pick out the subsidy share, therefore, we have to calculate the net operating deficit, i.e. we add depreciation on the capital stock as well as imputed pension contributions of civil servants. The latter also represents a subsidy to public corporations with this type of employees. Whereas there is a certain amount of uncertainty about the estimate of the subsidy as a result of the assumptions made when the consumption of fixed capital and the imputed pension contributions of employees having the status of civil servants are calculated, there is no corresponding uncertainty about GDP/GNI, which depends solely on estimates of the income from tickets etc, about which there is virtually 100% certainty.