Quarterly National Accounts Inventory

**Sources and methods of the
Quarterly National Accounts for Denmark**

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1. Overview of the system of quarterly national accounts

1.1 Organisation and institutional arrangements

The Danish Quarterly National Accounts (QNA) and Quarterly Sector Accounts (QSA) are compiled and disseminated by Statistics Denmark as a service to the public. Statistics Denmark is an independent central government institution governed by a Board of Governors, of which the chairman is the Director General of Statistics Denmark. The Board makes decisions of major financial significance, on the nature of information to be collected and also on the working plans of Statistics Denmark. All statistics are collected and published according to section 6 of the "Act on Statistics Denmark" (Consolidated Act No. 15 12 January 1972 and later amended by Act No. 386 of 13 June 1990 and Act No. 1025 of 19 December 1992.

Statistic Denmark's organisation chart is attached in Appendix A. Statistics Denmark is divided into four directorates. The responsibility for national accounts falls to the Directorate for Economic Statistics. The QNA and QSA are compiled and published by the *National Accounts Division.* Part of the work is done in the two divisions: *Government Finances Division* and *External Trade and Balance of Payments Division*. The *Government Finances Division* calculates the general government sector accounts and the non-financial sector accounts for the financial sector. *External Trade and Balance of Payments Division* separately compiles and publishes the Balance of Payments and compiles the Rest of the World Account, which is consistent with the balance of payments. With a few exceptions all other data sources used in QNA are compiled and separately published by the other divisions at Statistics Denmark.

1.2 Publication timetable, revisions policy and dissemination of QNA

QNA are published 8 times each year. The first version of QNA is published 60 days after the end of the reference period. A revised version is published 30 days later and includes QSA, which are fully consistent with QNA.

QNA-data are released to all interested parties at 9:30 a.m. CET, by issuing the news release "Nyt fra Danmarks Statistik" at www.dst.dk and the detailed figures are made available at www.statbank.dk at the same time.

Statistics Denmark disseminates an advance release calendar that gives release dates one year in advance. It is available on Statistics Denmark's home page (http://www.dst.dk/HomeUK/Guide/Scheduled/News%20from%20Statistics%20Denmark.aspx).

The revision policy is coordinated with the compilation of ANA so that consistency with ANA is maintained. The final annual figures are published approximately three years after the statistical year in November. When a new final year is compiled the two preliminary years are re-estimated, and subsequently the quarterly figures are adjusted and updated to match the new annual totals through a time consistency procedure.

1.3 QNA compilation approach

The Danish quarterly accounts estimates are based on non-seasonally adjusted source data. The estimates are compiled in an integrated process where independent estimates from the production and the expenditure sides are balanced in a detailed supply-use system. The compilation level is more detailed than the publication level and is generally the same as for the provisional Annual National Accounts (ANA), i.e. 53 industries, 15 groups of Gross Fixed Capital Formation and 70 groups of Private Final Consumption Expenditure (in total roughly 1,700 series). In some cases,

calculations are made for divisions in relation to the aggregated annual level, especially calculations of domestic output, and to a certain extent, calculations of Private Final Consumption Expenditure and Gross Fixed Capital Formation. An aggregation has been made in a single case, as the 12 consumption groups for food are classified together as one main group.

The general method is to use the quarterly source data to extrapolate the latest unrevised quarter. Subsequent values for other components are calculated on the basis of identities, e.g. current price = constant price * price index, and on the assumption of various correlations, e.g. fixed IO coefficients or in the case of a few private consumptions groups, the development in the corresponding industry output.

1.4   Balancing, benchmarking and other reconciliation

QNA in current and constant prices are balanced and any discrepancy between supply and use is eliminated. Balance between the income approach and the supply use result is ensured because Operating Surplus and Mixed Income are calculated as a residual. Consistency between ANA and QNA is maintained. Whenever the ANA is revised, the Denton method is used to keep consistency between ANA and QNA.

1.5   Volume estimates

Traditional constant price values are compiled and balanced in an integrated supply-use based system. The balanced results in current and constant prices are used to calculate values in the previous year's average prices and chained values at constant 2000-prices based on Laspeyres chained volume indices. Quarterly value added at constant prices is compiled using double deflation.

1.6   Seasonal adjustment and working day correction

The compilation of the QNA estimates is based on non-seasonally adjusted source data in current and constant prices. Complementary seasonally adjusted estimates are produced for all published QNA series using the X12-ARIMA software package. The series in current and constant prices are seasonally adjusted by the indirect method and subsequently aggregated to the level of publishing. The discrepancies, which are created by the indirect method, are not balanced but published together with the unadjusted data.

1.7   Additional information

Quarterly National Accounts results are published in Statbank Denmark and are available at: http://www.statbank.dk/statbank5a/default.asp?w=1280
Press releases are only available in Danish and can be found at: http://www.dst.dk/Statistik/Nyt/Emneopdelt.aspx?psi=613

2. Publication timetable, revisions policy and dissemination of QNA

2.1 Release policy

QNA are published 8 times each year. The first version of QNA is published 60 days after the end of the reference period. A revised version is published 30 days later and includes QSA, which are fully consistent with QNA. Statistics Denmark disseminates an advance release calendar that gives release dates one year in advance. The calendar is available on Statistics Denmark's home page
(http://www.dst.dk/HomeUK/Guide/Scheduled/News%20from%20Statistics%20D enmark.aspx). The Quarterly National Accounts Data are released to all interested parties at 9:30 a.m. CET, by issuing the news release "Nyt fra Danmarks Statistik" at www.dst.dk and at www.statbank.dk. Embargo procedures are stated in the working plan of Statistics Denmark. All interested parties can obtain a copy or fax of the News Release on request. The revision policy is coordinated with the compilation of ANA so that consistency with ANA is maintained. The final annual figures are published approximately three years after the statistical year in November. When a new final year is compiled the two preliminary years are re-estimated, and subsequently the quarterly figures are adjusted and updated to match the new annual totals through a time consistency procedure. The following calculations of QNA will take these new figures as a starting point. Below, the revision policy for the Danish National Accounts followed by Statistics Denmark from May 2008 is illustrated. The revision policy is announced to the users so that they always know how many periods will be revised. An example of the published release calendar is shown in Appendix B.

Revision policy of the Danish NA, from 2008

Year	Month of publishing	Year T, Q1	Year T, Q2	Year T, Q3	Year T, Q4		Year T
T	End May	P					
	Begin. July	R					
	End August	R	P				
	Begin October	R	R				
	End November	R	R	P			
T+1	Begin. January	R	R	R			
	End February	R	R	R	P		P (SQ)
	Begin. April	R	R	R	R		R (SQ)
	End May	-	-	-	-		
	Begin. July	R	R	R	R		R (SQ)
	End August	-	-	-	-		
	Begin. October	-	-	-	-		-
	End November	R	R	R	R		R (AP1)
T+2	End November	R	R	R	R		R (AP2)
T+3	End November	F	F	F	F		F

P: First published   SQ: Sum of quarters
R: Revised   AP1: First preliminary annual calculation
F: Final   AP2: Second preliminary annual calculation
-: Figures are published unchanged compared to the earlier published figures.

The revisions of the quarterly figures at the end of November T+1, T+2 and T+3 are made in order to make the quarterly figures consistent with the annual figures. See also: '3.2.2 Benchmarking' below.

2.1.1 Reliability of the quarterly national accounts

Revision tables are published together with each 'revised' version of QNA. In order to analyse the extent to which the quarterly national accounts correlates with the final accounts, the deviations between the GDP growth in the first figures and in the latest figures are estimated. As a measurement of the deviations, the growth rate (at constant prices) is used according to the first quarterly accounts, less the growth rate according to the final quarterly accounts.

Reasons for the deviations Some of the most important reasons for the deviations can primarily be attributed to the circumstance that the final quarterly national accounts are verified against the far more well-founded final annual accounts. In this way, it is ensured that the higher quality level in the final annual accounts is incorporated into the final quarterly accounts. Such verification is, of course, not possible to conduct in the first quarterly accounts.

Secondly, the deviations occur as a consequence of the differences in the primary data material. The first quarterly accounts frequently make use of statistical primary data or indicators before these have been finally revised. To this can be added that in connection with the first compilation of quarterly accounts, more frequent situations arise in which the statistical coverage is missing altogether, and figures must consequently be based on assumptions or estimates.

Summary table 2 **Revisions of GDP growth rates**

	Latest 5 final years (2000-2004)	Latest 5 years (2003-2007*)
	pct.-point	
Average deviation	0.67	0.65
Bias	-0.11	-0.17
The 20 quarters divided by numerical size of the revision:	no. of quarters	
0.0 – 0.5 pct.-point	10	11
over 0.5 – 1.0 pct.-point	5	4
over 1.0 – 2.0 pct.-point	5	5
over 2.0 pct.-point	0	0

Note: The revisions are estimated as changes in the annual growth rates from the first publication to the most recent publication of statistical data.

2.2 Contents published

The QNA comprise the full system of accounts from The Goods and Services Account to Net Lending/Borrowing. The level of detail is reduced somewhat compared to the Final Annual National Accounts. An overview of the published variables can be found in Appendix C.

On the Goods and Services Accounts Production and Intermediate Consumption is published for 6 industries in the first version and 12 industries in the revised versions. Taxes less subsidies on products are published as a net value. Imports and Exporst are available for both goods and services. There is no national publishing of the country of destination or origin for import and export, but the figures are calculated for the ESA transmission programme.

On the Production Account the additional item Consumption of Fixed Capital is published as a total for the Economy and for the Institutional Sectors. No other level of detail is available.

On the Generation of Income Account Gross Value Added, Other Taxes less Subsidies on Production, Compensation of Employees and Gross Operating Surplus and Mixed Income are published for 6 industries in the first version and 12 industries in the revised version of QNA.

On the Allocation of Income Accounts, national totals are published for the transactions between Denmark and abroad.

On the Use of Disposable Income Account the Government Consumption Expenditure is published for individual and Collective Consumption Expenditure. Final Private Consumption Expenditure is published for Durability groups in the first version, and additionally for purpose according to COICOP in the revised version.

On the Capital Account, 8 categories of Gross Capital Formation are published together with Capital Transfers to and from the Rest of the World and Net Lending.

Together with the revised version of QNA, the QSA are also published. They include a full set of non-financial accounts for the Financial Corporations, Non-Financial Corporations, General Government, Household Sector including NPISH and the Rest of the World Account. All full matrices with Cross-Classification of Industry and Sector Accounts are also compiled. It should be mentioned that the QSA are only superficially treated in this paper as the focus here is on the QNA.

2.3   Special transmissions

All users get access to results at 09.30 on the day of publication. No one outside Statistics Denmark have access to results before that time. At the time of publishing, some users get transmitted to users who subscribe to QNA. In a few cases, more detailed information than the general published results is calculated to users on a service basis.

2.4   Policy for metadata

Documentation is available in the form of Declaration of Contents at: http://www.dst.dk/declarations/000912

Denmark subscribes to the SDDS, which can be found at: http://dsbb.imf.org/Applications/web/sddsctycatbaselist/?strcode=DNK&strcat=NAG00

3.   Overall QNA compilation approach

3.1   Overall compilation approach

3.1.1   Overview

The Danish quarterly accounts estimates are compiled in an integrated process where independent estimates from the production and the expenditure sides are balanced in a detailed supply-use system. The results are based on approximately 1,700 time series in the central database in the calculation system called **The Abase**. The compilation of the QNA is divided into 4 steps:

1. Primary stage systems transforming information into input data in an indicator data bank.
2. Production of quarterly data not balanced.

3. Balancing.
4. Finalisation.

The compilation of the quarterly statistics is based on non-seasonally adjusted figures. Quarterly values are calculated for approximately 1,700 series, which are mostly grouped together in threes, in the form of series for current prices, constant prices and price indexes for the same factors, with the exception of transfer items, wages and salaries, hours worked and the employment series. In the following, the steps stated above will be briefly described. The figure below shows a schematic outline of the production process in the QNA.
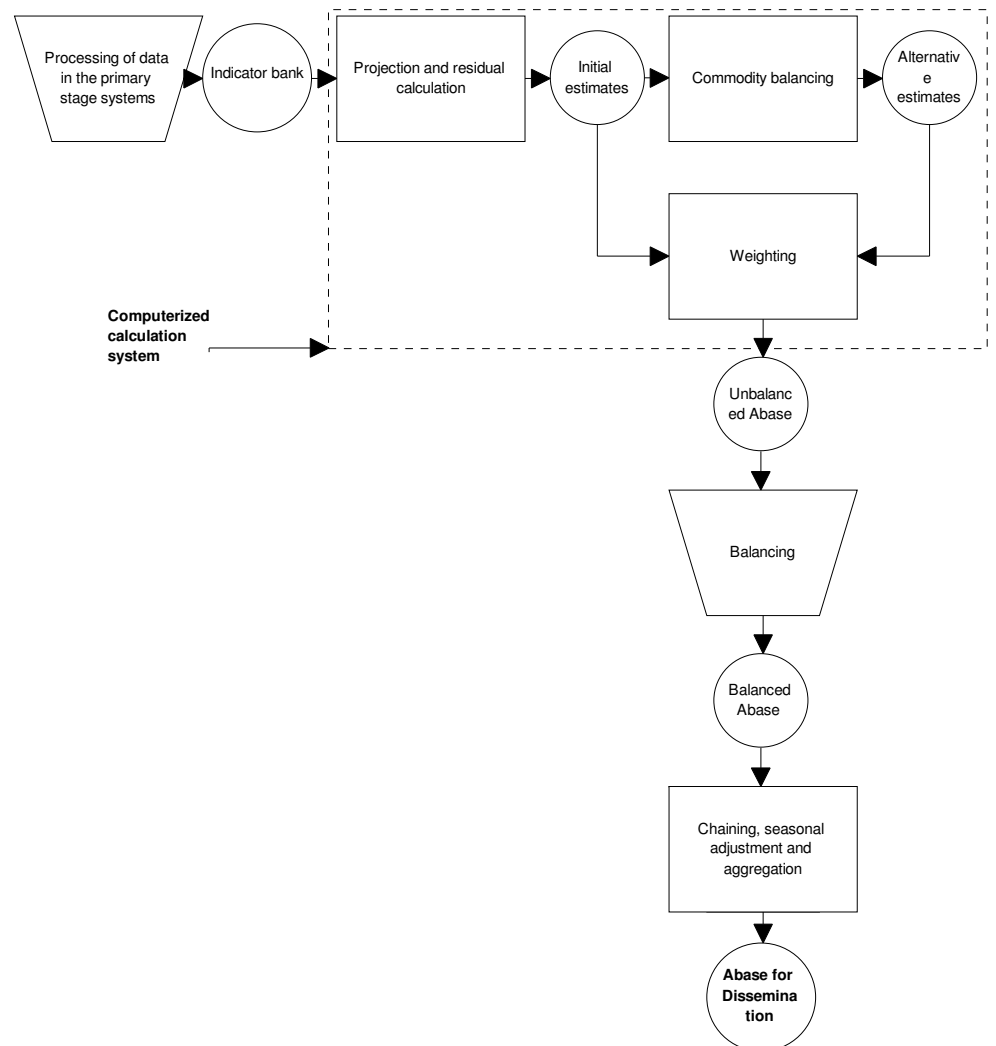
The process begins with processing of data in the primary stage systems, where data are collected and processed for use in the national accounts. An indicator bank with indicators for 1,154 of the 1,732 time series in the Abase is thus created. Compilation of indicators is described in further detail in sections 5-8.

The indicator bank is input data in the computerized calculation system and is intended for extrapolation of the national accounts values for the most recent unrevised quarter. For most data series there are always indicators for two of the three values: current prices (v), constant prices (q) and price indices (p). A computerized residual calculation of the variables to which indicator values are not linked, is conducted by means of the relationship value = price * quantity and a variety of other assumptions. Initial estimates are thus calculated for the entire Abase. From the initial estimates a computerised balancing of commodities is effected for domestic end-use at a detailed level. Subsequently, the balanced values are added together and used as alternative estimates. Initial estimates and alternative estimates

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for domestic end-use are thus weighted and are used as final estimates, and an unbalanced Abase is constructed.

3.1.2 Calculation of unbalanced estimates in the Abase

The Abase
The Abase with 1,723 time series constitutes the most detailed basic database for the 'functional system'. It contains all series needed for dissemination. The variables include: output and intermediate consumption corresponding to the 53 grouping, taxes on products and VAT specified by uses, other taxes on production specified by industries, imports and exports of goods and services specified by sub-groups, government consumption expenditure, private consumption expenditure classified to 62 groups, capital formation by 18 types and changes in stocks classified to 36 sub-groups. To this is added data series relating to compensation of employees and employment classified to 53 industries and data series relating to transfers, etc. for the Rest of the World Account. In connection with undertaking a normal calculation of a quarter, the Abase is calculated for 1-3 quarters: the new quarter and a recalculation of one or two of the most recent quarters within the same year for which data have been published.

Primary stage systems
The purpose of the primary stage systems is to create input data for an indicator data bank designed according to fixed guidelines. The systems are flexible, ensuring that changes, including any delays in the primary data can be easily adapted. Work on the systems is performed as the input data becomes available. The deadline for input data is 40 days for the first calculation and 70 days after the end of the quarter for the revised calculation, and work on the systems is concluded a couple of days later. If further source data are made available during the process phase, they will as far as possible be included. The indicator data bank contains 800 indicators.

Compilation procedures
In the following, given a more detailed account is given of the compilation procedures in section 2, which is based on the indicator data bank produce unbalanced quarterly figures for the 1,700 components. These procedures are, as stated, fully automated. The procedures are roughly be divided into 3 main steps:

1. Calculation of initial estimates.
2. Calculation of alternative estimates for domestic end-use at current prices.
3. Calculation of final unbalanced estimates.

Initial estimates
The calculation of the initial estimates is derived by extrapolating the values of the latest unrevised quarter, with the growth rates from the indicator data bank. On the basis of the approximately 800 series thus calculated a substantial number of series can be calculated residually, by using the relationship that price x quantity = value (the indicator data bank contains at most indicators for 2 of these series for each component). Some of the other series are calculated using various assumptions of correlations between the series. For a great part of the industries, the most essential correlation is the assumption that the percentages of raw material used in production at constant prices remain unchanged compared with the same quarter as the previous year. A close correlation between the growth in production and consumption of goods is also assumed for certain types of goods. Initial estimates are created for all 1,700 components based on the above assumptions and once again a »price x quantity = value« residual calculation.

Alternative estimates
On the basis of the initial estimates alternative estimates are thus calculated for domestic end-use, by constructing balances for 1,600 commodities and services. These calculations are only made at current prices. The first step of these calculations is a distribution of the supply, stock changes and exports by commodity groups. As regards the industrial output the distribution of commodities is obtained from the quarterly Purchases and Sales by Industry, (Varestatistik for industri) published in the series Statistics Service (Statistik service), which contains complete data on

industrial sales by commodities and industries. After conducting adjustments to also cover sales of enterprises with less than 10 employees, these statistics are used directly for distributional information. The initial estimates for the primary sector are, to a great extent, available at the single product level. For the remaining domestic output, the initial estimates are distributed over some 60 groups, and these are distributed over some 300 commodities and services proportionally with the distribution of the group concerned in the latest final accounts. Imports and exports of commodities are directly derived from the external trade statistics, whereas the distribution of services is contained in the initial estimates (derived from the balance of payments statistics). Changes in stocks are distributed over 1,300 commodities: For the manufacturing industry, data relating to changes in stocks of raw materials, stocks of finished goods and stocks of goods for resale are extracted from the quarterly statistics on changes in stocks. Each of these is distributed over 7 industries. Changes in stocks of raw material are distributed proportionally with the input composition of the industries, whereas stocks of finished goods and goods for resale are distributed proportionally with the output composition. The quarterly statistics of stock values also provide data on stock changes in wholesale trade distributed on 8 wholesale industries. These are distributed on commodities based on the distribution of commodities in the final accounts. Stock changes for the retail trade are estimated, and the totals are distributed on commodities. There are also data on stock changes for agricultural products and energy products.

Basic price values The second step of the calculation of the alternative estimates is a calculation of basic price values for the approx. 125 groups of domestic end-use (excluding increases in stocks). The initial estimates for these groups are available in purchaser's prices, and by deducting initial estimates of each group's VAT and excise duties, and subsequently utilize the relationship between the basic price value and the corresponding residual value of the latest final accounts the basic price value of the quarter can be estimated by further deducting the trade and transport margins.

At the third step, the 125 basic price values for domestic end-use are distributed on commodities. This distribution is effected proportionally with the distribution in the latest final accounts. However, price changes up to the latest provisional accounts have been taken into consideration.

At the fourth step, the domestic end-use (excluding stock changes) is added up for each of the 1,600 commodities and services. The value derived is compared to the value of supply less exports and stock changes, and the value of domestic end-uses of the item is adjusted proportionally, so that supply and end-use are balanced.

The fifth step constitutes an aggregation of the adjusted values to approx. 125 groups of domestic end-use, and a subsequent benchmarking to purchaser's price level. Alternative estimates have thus been created at current prices for each of the approx. 125 groups of domestic end-use. It is obvious that the calculations are made separately for each of the normally 1-3 quarters that are re-calculated.

Final unbalanced estimates The calculation of final unbalanced estimates at current prices is found by calculating a weighted average of the initial estimates and the alternative estimates. The weights used within each of the groups are here based on experience gained from the provisional accounts. Corrections to the initial estimates at current prices are conveyed to the fixed price values, maintaining the initial estimates of the price indexes.

Reconciliation and evaluation The quarterly figures in step 2 are not balanced, in the sense that total supply will not be identical with total use. This is ensured manually and is described in further detail in section 3.2.1. At the same time, the resulting figures are evaluated. The work with reconciliation and evaluations continues for a week and is described in section 3.2 below.

3.2 Balancing, benchmarking and other reconciliation procedures

3.2.1 Quarterly GDP balancing procedure

The final reconciliation of supply and uses totals is conducted manually. One economist in the national accounts is the 'coordinator' of the balancing process and is assisted by 3-4 Economists. The first step is a rough evaluation of the results. A printout of the total discrepancy and the totals of the goods and services account, without breakdowns of categories, is used to evaluate the calculations. As a rule of thumb, a discrepancy of approximately one percent of the total supply is regarded as acceptable for continued calculations. If the discrepancy exceeds two percent of the total supply the procedure will be to search the indicator databank for errors and to look for extreme and erroneous results in the preliminary estimates. In such cases, it is usually a human error somewhere in the preparatory stage and it is easily found. After undertaking corrections the system is recalculated. When the discrepancy is acceptable the manual balancing continues in two main steps. The data editing and adjustment phase and at last the final balancing phase.

Data editing and adjustment

Tables are printed showing at the level of publication and supplemented by analytical tables of domestic production aggregated to 27 industries. In these tables, GVA is calculated and the figures are combined with employment figures to calculate productivity and wage figures to calculate operating surplus and wage quotas for each industry. The figures are then controlled for errors (sometimes new corrections to the primary statistics are already available at this time), evaluated for plausibility, compared to other published results at different aggregation levels. Examples are comparison of the growth of total industrial production with the published index of total industrial production or comparison of the changes in the implicit index of private consumption with the changes in consumer price index etc. A list with the initial and alternative estimates for all use categories from the commodity flow procedure is applied to give directions whether to adjust a figure. If the difference between the initial and alternative estimate is large the result is generally more insecure and more open to adjustment. The differences can also give information on which way to adjust the figures. If the alternative estimate is higher than the initial estimate, the information from the commodity balancing procedure is that the initial estimate should most likely be higher. The economists involved each has a specific area of responsibility and makes suggestions for adjustments. These adjustments are partial in the sense that the direction of the discrepancy between total supply and use is not yet taken into account. Sometimes the suggested adjustments will even increase the discrepancy. The suggestions are finally discussed at a meeting and decisions are taken on which of the suggestions to apply. The meetings are important because they help to maintain discipline and prompt the economists to be conscious about the reasons for adjusting.

Final balancing

After the partial adjustment the estimates for imports, exports and domestic GVA are generally taken to be the most reliable. The final adjustment involves a 'global' evaluation of the supply and use and overall considerations about uncertainties in the primary statistical sources. Taking this and the arguments of the previous discussions of adjustments into account one or two persons conduct the final balancing. It is mainly final domestic uses that are affected in this process but all variables are principally still open for adjustment.

In the final balancing, the general expectations in the macroeconomic community are also considered. Are the results surprising compared to the various forecasts made by government institutions and other interest groups (or are they not, but should be)? At this stage, it is very important to be aware of the independent role of the statistical agency. It is a strict working rule not to adjust to any external estimation, but on the other hand it is important to evaluate whether a surprising result is founded in new statistical results or should be taken as an indication of misjudgement in the balancing process. In the former case, further investigations and discussions have to

be made either to give explanations of deviating results or to find causes to further adjustments. When finally balanced tables are printed again and the results are carefully examined in a final meeting with experienced national accountants. Questions are asked and explanations evaluated. Sometimes a final adjustment is decided and the full balancing consequences are usually determined at this stage.

4. Finalisation

The finalisation comprises compilation of level chain figures, annual calculations, seasonal adjustments, and printouts of tables, including tables for publication. As part of the finalisation, it is ensured that the quarterly figures of a given year add up to the figures of the year as a whole, which have been calculated in the final and provisional annual accounts. This is discussed further in sections 3.2.2 and 3.3 below.

3.2.2   Benchmarking of QNA and ANA

While the preliminary annual national accounts (ANA) are based on the quarterly national accounts QNA, the final ANA are compiled in more details. Besides, statistical information on an annual basis is generally more reliable than the quarterly information. To secure time consistency, every time series in the QNA is benchmarked to the ANA when a new final ANA is published. The purpose is, of course, to improve the QNA with new information about the annual development. At the same time, the benchmarking process must respect the development between quarters in the original series and be aware that the changes of two successive quarters must be as similar as possible to avoid breaks of data between the fourth quarter in one year and the first quarter in the next year.

Benchmarking by the Denton method

To secure especially the last criteria we use the Denton benchmarking method:
For all time series we minimize M with respect to the condition that for every year the sum of quarters must be equal to the annual figures:

$$(3.1) \quad M = \sum_q \left(\left(V_q - \tilde{V}_q \right) - \left(V_{q-1} - \tilde{V}_{q-1} \right) \right)^2 \quad ,$$

where V_q is the original value of the series in quarter q, and $\tilde{V}_q$ is the benchmarked value in quarter q.

Contrary to some other methods, the above-mentioned is easy to interpret, easy to use and secures that the benchmarked values still fulfil the identities of the national accounts. Another advantage of the method, is its ability to handle series with changes of signs (+/−) from one quarter to another.

3 years are benchmarked starting with the first quarter of year t-3

The QNA revision policy (see section 2.1) implies compilation of new revised ANA at the end of every year. The revisions involve preliminary ANA for year t-1 and year t-2 as well as final ANA for year t-3. ANA for earlier years are unchanged. Therefore, all these 3 years QNA must be benchmarked (again). Keeping the QNA of year t-4 unchanged has implication on the first quarter of year t-3, because the changes of successive quarters must be as similar as possible as mentioned above.

Therefore, the minimization of (3.1) must also be done with respect to the condition that the fourth quarter of year t-4 is unchanged, implying that the revision of the first quarter of year t-3 must be kept as close to zero as possible.

"Flexible fixation" of the last quarter in the benchmarking procedure

The last quarter included in the benchmarking procedure is the fourth quarter of year t-1. When the benchmarking procedure takes place, we have already compiled QNA for the first and second quarter of year t. After the benchmarking, the figures of these two quarters will be compiled again with respect to the newly revised fourth quarter of year t-1.

To allow real revisions of the last quarter of the benchmarking procedure without accepting to massive changes, we use a "flexible fixation" of the fourth quarter of year

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t-1. We benefit from the mentioned circumstance that we, at the time of the benchmarking procedure already know the preliminary QNA for the first and second quarter of year t.

We expand the benchmarking procedure by including these two quarters with respect to the condition that for each benchmarked series, the revised sum of the first two quarters of year t must not differ more from the original sum of the quarters than one third of the difference in year t-1 between the figures in the ANA and the sum of quarters before the benchmarking.

The reason why we don't accept one half, but only one third of the difference between ANA and the sum of quarters in year t-1, is that revisions in year t-1 can't be expected to fully influence the figures of year t, because the compilation is not only based on extrapolation by indicators, but also to some extent consists of actual values.

3.3 Volume estimates

3.3.1 General volume policy

Quarterly volume estimates are published at both constant 2000-prices and chain-linked volumes at 2000-price level.

Constant prices Data at every level of detail in the QNA are compiled for both current prices and constant 2000-prices. The relationship between values at current prices (V), volumes at constant price (Q) and prices (P) is then given by (3.2) below, where P must be a price index equal to one in the year 2000.

$$(3.2) \quad V = P \cdot Q$$

Data at constant prices are for the most part constructed by dividing each of the series at current prices with a price index at the most detailed level in the construction of data. These price indices are primarily obtained from producer and consumer price indices, foreign trade unit values and the input-output price calculation model. But for some series, quarterly data at constant prices are constructed with the use of quantity indicator series, and the price indices or current price values are then calculated as residuals. As mentioned above, the year 2000 is used as reference year, so the price indices equals one in this year, no matter which of the above methods are used.

The published volume series at constant 2000-prices are constructed by aggregating the detailed series at constant prices to a less detailed level. It follows that these aggregated series at constant prices are Laspeyres volume indices, and the aggregate price deflators obtained by dividing series at current prices with series at constant prices are Paasche price indices.

Chain-linking method The chain-linked volume series are constructed with use of the annual overlap Laspeyres method. The formula for a chain-linked volume series in the quarter q in the year t using the annual overlap method is

$$(3.3) \quad K_t^q = \overline{K}_{t-1} \cdot \frac{D_t^q}{\overline{V}_{t-1}},$$

where D is the value in previous years prices, V is the value at current prices and

$$\overline{X}_t = \sum_{q=1}^{4} X_t^q.$$

The annual overlap method is chosen, because we want the quarterly data to be consistent with the annual national accounts, while we, at the same time, want indirect seasonally adjusted chain-linked series. The last condition implies that we must be able to aggregate the chain-linked (seasonally adjusted) volume data. This

further implies that the chain-linked data cannot be directly benchmarked to the ANA, since the formula for aggregating chain-linked series stated below in (3.4) can only be used, when the chain-linked series have been constructed strictly according to formula (3.3). Since strict use of the annual overlap method ensures that the quarterly chain-linked data can be aggregated and is consistent with the annual data, when data in previous years and current prices are benchmarked to the ANA, this method ensures that both conditions are met. Because all series then are chain-linked strictly according to (3.3), problems can theoretically arise for series like changes in inventories which can get a value of zero, since the formula cannot handle zero observations. To avoid this problem in any such highly unlikely instance of a zero observation, we apply the rule of rounding away from zero. Since the values of, for example, the chain-linked changes in inventories are very arbitrary and not easily understood we only publish the chain-linked contributions to growth for these series in the publications cf. the formulas etc. below.

Aggregating chain-linked data

As mentioned above, the chain-linked volume indices created from (3.3) are rebased, so 2000 is the reference year for both the chain-linked and constant prices volume series. Quarterly series in previous years prices are constructed at the same level of detail as the series at constant prices by multiplying data at constant prices with the average price indices from the previous year (except data for taxes and change in inventories, where data in previous year's prices are constructed with the use of rules analogous to the annual national accounts). Data are then added together to a less detailed level, at which the chain-linked volumes are constructed cf. (3.3), and at which the chain-linked series are seasonally adjusted. Even though these chain-linked series lack the property of additivity, they can still be aggregated with the use of previous year's annual chain-linked price deflator. From the formula for the chain-linking method of annual overlap (3.3) and the property of additivity of data in previous year's prices follows, that the chain-linked volume series can be aggregated with the use of the formula (3.4) below. The formula shows how to aggregate the chain-linked components indexed by i to the aggregate at the left-hand side with the use of previous year's annual price deflators for both the components and the aggregate.

$$(3.4) \quad K_t^q = \frac{\sum_i \overline{P}_{t-1}^i \cdot K_t^{iq}}{\overline{P}_{t-1}} \quad , \quad where \quad \overline{P}_t^i \equiv \frac{\overline{V}_t^i}{\overline{K}_t^i}$$

Contributions to growth

It can also be shown that expressions for the contributions to growth from chain-linked series constructed with the annual overlap method can be deduced from the formula for aggregation (3.4). The contribution to the quarterly growth in the aggregate in (3.4) from the i'th component can thus be calculated with the use of the formula (3.5) below, but only regarding the quarterly growth in the 2nd, 3rd and 4th quarter.

$$(3.5) \quad VB_t^{iq} = \frac{\overline{P}_{t-1}^i}{\overline{P}_{t-1}} \frac{K_t^{iq} - K_t^{iq-1}}{K_t^{q-1}}, \quad for \quad q = 2,3,4$$

When calculating the contributions to growth for the quarterly growth in the first quarter and generally contributions to growth between quarters in two different years the more complex formula (3.6) below has to be used, because quarters from two different years demands the use of annual price deflators from two different years also.

$$(3.6) \quad VB_t^{iq} = \frac{\left(\overline{P}_{t-1}^i \middle/ \overline{P}_{t-1}\right) K_t^{iq} - \left(\overline{P}_{t-2}^i \middle/ \overline{P}_{t-2}\right) K_{t-1}^{iq-1}}{K_{t-1}^{q-1}}, \quad for \quad q = 1$$

Contributions to growth in GDP from changes in inventories are published regarding both the seasonally adjusted quarterly growth and the annual growth (growth from the same quarter(s) previous year) in the newsletters following every publication.

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3.3.2   Chain-linking and benchmarking

Benchmarking of data in previous year's prices

Quarterly data in previous year's prices are benchmarked to the annual national account. The benchmarking is done by calculating each quarter's quota of the annual total for every variable, and then distributing the annual differences between the annual and quarterly national accounts onto the quarterly data for the series according to each quarter's quota of the annual sum. This method corresponds to adjusting each quarter of a series with the same percent as the annual sum differs from the value of the series in the annual national accounts. After conducting this benchmarking procedure, supply-use will not be balanced in previous year's prices. The balance between supply and demand is obtained by adding the difference to a special balancing inventory change.

No need for benchmarking of chain-linked volumes

As mentioned in 3.3.1, the annual overlap method is used to derive the chain-linked values. From use of this method follows that the chain-linked volume series will have the same annual values as the chained-linked series in the annual national accounts, since values at both previous year's prices and current prices are benchmarked to the annual national accounts. Because of that, there is no need for further benchmarking of the quarterly chain-linked series, and it is possible to use the formula (3.4) above for aggregation of chain-linked values.

3.3.3   Chain-linking and seasonal adjustment

Indirect seasonally adjustment

It was mentioned in 3.3.1 that one of the reasons for using the annual overlap method cf. (3.3) is to avoid direct benchmarking of the chain-linked volume series, so these can be seasonally adjusted using an indirect approach. The chain-linked volumes are seasonally adjusted at the most detailed level at which they are constructed, and afterwards the seasonally adjusted chain-linked series are aggregated, including the main components with the use of the formula for aggregation in (3.4). This also means that no seasonally adjusted values at previous year's prices are produced, since the seasonal adjustments are done after construction of the chain-linked volumes.

Seasonally adjusted contributions to growth

Because the aggregation function (3.4) is used to produce the seasonally adjusted chain-linked volumes, the formulas for calculating contributions to growth cf. (3.5) and (3.6) can also be used to calculate contributions to growth for seasonally adjusted series. The contributions to the seasonally adjusted GDP growth from the change in inventories are, as mentioned in 3.3.1, published in the newsletter following every release of new quarterly national accounts data.

3.4   Seasonal adjustment and working day correction

3.4.1   Policy for seasonal adjustment

For seasonal adjustment the X12 Arima software is used. Seasonal adjustment is made at a detailed level implying the adjustment of some 600 series. All series, current, constant and chain linked series are adjusted using the indirect approach. By using the indirect approach it is ensured that all identities are preserved. As part of the seasonal adjustment the sum of the quarters is forced to sum up to the annual totals, using the Denton method. Before conducting the seasonal adjustment, the series are pre-adjusted for calendar effects (Easter and leap year), level shifts, additive outliers and temporary change and ramp effects. Once a year, all series are checked for signs of calendar effects and the model specifications for the series are updated to reflect the results.

For the series that enter into GDP, fixed models are used. The reason we use fixed models is twofold. First, it reduces the "noise" revisions in seasonal adjusted data by

avoiding changes in the model used. Experience has taught us that these revisions rather cause confusion than ad new information on the seasonal adjustment. Second, the use of fixed models ensures that we avoid using asymmetric filters.[1] Asymmetric filters might also lead to greater revisions in the seasonally adjusted series as new quarters are added because of the lack of forecasting.

As it is rather time-consuming to find the appropriate fixed model for a series, this is only done for series entering into GDP. For all other series it is left to the program to choose the appropriate model. The fixed models are checked once a year for plausibility and the models are updated.

The parameters used in the models are re-estimated with every new seasonal adjustment.

As part of the seasonal adjustment process the error tests are monitored and any problematic series are being investigated and a more appropriate model is sought. In case no fully satisfying model can be found a visual check of the adjusted series is made to determine the appropriateness of the seasonal adjustment.

Both the original and the seasonally adjusted series are published, whereas series only adjusted for calendar effects are not published.

3.4.2 Policy for working-day correction

At the time being no correction is made for working days. However, we are working towards implementing working-day correction in the future. Earlier attempts to adjust for working-days gave rise to implausible and counter-intuitive results and there are thus ongoing investigations into the most suitable implementation of the working-day correction.

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[1] Asymmetric filters are used by X12-Arima when no appropriate model can be found by the automatic model selection procedure

4. GDP components: The production approach

4.1 Gross value added, including industry breakdowns

Following the guidelines of IMF (2001), we derive the quarterly gross value added as the difference between output and intermediate consumption.

Compilation of output

Generally the initial estimates of each of the output/domestic production series are calculated with a simple extrapolation with the quarterly growth in the corresponding indicators (exceptions will be explicitly mentioned below). This implies, of course, the strong assumption that the indicator and the corresponding variable follow the same growth path in all circumstances.

The initial estimates are compiled simultaneously for current and constant (2000) prices. This enables us to use the connection between values, prices and volume described in section 3.3.1.

We always have indicators for two of the three values: current prices, constant prices and/or price indices (mainly the producers' price index), which enables us to residually calculate the variables to which no indicator values are linked.

For some areas of domestic production the calculation is more complicated, which will also be described more explicitly below.

Compilation of intermediate consumption

When it comes to intermediate consumption hardly any indicators are available for the non-financial market sector. The general principle is to calculate intermediate consumption at constant prices using the fixed coefficients from the same quarter last year. For each industry, the intermediate consumption is estimated as the same proportion of domestic production as in four quarters earlier.

Subsequently, the current price values for intermediate consumption are calculated by inflating the constant price volumes using the price indices from a special price calculation model.

Input price calculations are based on the I-O tables

Contrary to domestic production (and imports), almost no independently collected price information is available for intermediate consumption (as well as exports and gross fixed capital formation other than construction). To solve this problem a price model based on input-output tables for the latest final annual NA is applied to calculate price indices for the missing categories on the uses side in the QNA.

The annual NA-information is aggregated to the level of 130 industries for domestic production, 130 industries for imported goods and 100 specially selected categories of imported goods and services. The rows in the constant price industry x industry I-O table are each multiplied with a price index for the current quarter. The implicit price indices for the use categories are calculated as the column totals of these inflated values divided by the corresponding column totals for the constant price I-O table. In this way, price indices are calculated for 67 industries of Intermediate Consumption, 62 categories of Private Consumption, 8 categories of Consumption of General government, 17 categories of Gross Fixed Capital Formation, Imports and Exports of Goods and Services.

The method described for compiling intermediate consumption is used for all industries, therefore the following industry breakdowns are mainly focusing on the compilation of the production output.

4.1.1 Agriculture, hunting and forestry (NACE A)

The statistical source for agriculture is Statistics Denmark's agricultural statistics. The output of animal products at both current and constant prices is extrapolated by indicators based on surveys from the agricultural statistics. The output of crop products (7 types of cereal) at both current and constant prices are compiled on basis of an estimation of the annual production (harvest) and a distribution on quarterly values in proportion to inputs through the changes in stocks of "work in progress".

For forestry, the production output at current prices is extrapolated by indicators from a sales survey undertaken by the Danish Forest and Nature Agency. The output at constant prices is estimated by deflating the output at current prices with the wholesale price index for wood.

4.1.2   Fishing (B)

The statistical source for fishing is the Ministry of Food, Agriculture and Fisheries statistics of landings. It covers landings by type of fish. The production output at current as well as constant prices is extrapolated by indicators based on the total landings.

4.1.3   Mining and quarrying (C)

The production output of extraction of crude petroleum etc. at constant prices is extrapolated by quantity indicators based on data from the Danish Energy Authority. The current prices are calculated by inflating with the foreign trade unit value indices.
The output at constant prices of the extraction of gravel, clay, salt etc. is assumed to be the same as in the similar quarter of the year of the last preliminary ANA. The output at current prices is calculated by deflating with the wholesale price index for salt etc.

4.1.4   Manufacturing (D)

The statistical source for manufacturing is Statistics Denmark's industrial accounts statistics. For all manufacturing industries the production output at current prices is extrapolated by indicators, while the output in constant prices found by deflating the current price values by the industrial output price indices. The only exception to this method is the output of the mineral oil industry. At both current and constant prices, it is extrapolated by indicators based on survey information from the Danish Energy Authority.
For the remaining sectors of the manufacturing industries, the first compilation of data is based on turnover indices from the industrial production and new orders statistics and the compilation of revised data is based on Industrial Commodity Statistics.

4.1.5   Electricity, gas and water supply (E)

The production output of the electricity and water supply are being extrapolated on basis of data from the Energy Board and inflation/deflation is based on the relevant net prices index. The production output of gas at current as well as constant prices is being extrapolated by indicators from the gas enterprises corporation.

4.1.6   Construction (F)

The construction industry covers all construction and civil engineering activities in the Danish economy. The production output (as well as the intermediate consumption) of construction at both current and constant prices is compiled in a comprehensive system based on detailed information of produced square meters of different kind of buildings (complete coverage). Therefore, no extrapolation by indicators is taking place.

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

The production output at current prices of wholesale and retail trade is compiled by extrapolation of indicators based on the monthly VAT statistics (see box 5.1.2), which is based on assessments to the tax authorities and has a complete coverage.

The only exception from this approach is the repair of motor vehicles etc. Here, the output is being extrapolated by traffic indicators from the Danish Road Directorate.

The output at constant prices for the wholesale and retail trade is calculated by deflating the output at current prices with the indices of average earnings (see box 6.1.1.1), while the output at constant prices for the repair of motor vehicles etc. is calculated using the relevant net price index.

4.1.8 Hotels and restaurants (H)

The production output of hotels and restaurants is also based on the turnover of the enterprises in the industry. The output at current prices is compiled by extrapolation of indicators based on the VAT statistics, while the output at constant prices is calculated using the relevant net price index.

4.1.9 Transport, storage and communication (I)

The production output of transport, storage and communication are at the most detailed level compiled for 10 industries. The export of production of water transport at current prices is based on information from the Balance of Payment (BOP) statistic. The calculation of output at constant prices is made using the freight rate index (adjusted for exchange rates) for deflator. The Intermediate Consumption of the industry is also being calculated on the basis of information from the BOP statistic.

The output of the remaining sectors of the industries is being extrapolated by indicators based on the VAT statistics in combination with a deflator or inflator based on the relevant net price index.

4.1.10 Financial intermediation (J)

The production output of financial intermediation at current prices is compiled for Institutional Sector Accounts by Statistics Denmark's Government Finance Division based on accounting information for the financial sector.

Output of insurance and pension funding at current prices is compiled by extrapolation of an indicator based on the number of employees in the industry.

For the activities auxiliary to financial intermediation, output at current prices is compiled by extrapolation of an indicator based on the VAT statistics.

Output at constant prices for all three industries is calculated by using the relevant index of average earnings for deflator.

4.1.11 Real estate, renting and business activities (K)

The production output of real estate, renting and business activities at current prices is compiled by extrapolation of indicators based on the VAT statistics.

Output at constant prices is calculated by using the relevant net price index for deflator, except for the real estate industry, where we use the index of average earnings for deflator.

The exceptions from the approach mentioned above are dwellings and the non-market part of research and development.

The compilation of output of dwellings is at current prices extrapolated by an indicator based on information from the Statistics of Rent, while output at constant

prices is extrapolated by an indicator based on information from the Statistics of construction and housing.

For the compilation of output for the non-market part of research and development, see section 4.1.13

4.1.12 Public administration and defence; compulsory social security, Education, Health and Social Work, Other community, social and personal activities and Private households (NACE L-P)

The output of the industries in these sectors is mainly non-market production. For the method of compilation, see section 4.1.13 below.

For the market part of the production, we assume that the output development is similar to the non-market output development.

4.1.13 Government production

Data based on government accounts

For the revised compilation, data are based on information on quarterly public finances. A brief description of the quarterly public finances can be found in box 5.2.2.1. Price indices are calculated as described in the first compilation of data. Constant price values are residuals.

Box 4.1.13.1 Quarterly public finances

The basic idea behind the quarterly accounting system is that the same principles and methods of calculation should be used as those used to compile annual accounts for general government. Production and final consumption expenditure is calculated using the following variables:

1. Compensation of employees
2. Consumption of fixed capital
3. Intermediate consumption
4. Other taxes on production and other subsidies on production, net
5. Production (1+2+3+4)
6. Social benefits in kind
7. Sales of goods and services
8. Final consumption expenditure (5+6+7)

In the text below, the principles used for the compilation of these variables are explained.
1.1 The central government sector
1st step
Monthly data sets from the Agency for Governmental Management (Økonomistyrelsen) are combined to form a quarterly data set. All expenditure and revenue with identical account numbers is aggregated into an account showing a value corresponding to the sum of the amounts in the monthly accounts under that account number.

2nd step
All expenditure and revenue items are sorted at the most detailed accounting level into a national accounts classification. The first stage is to transfer the national accounts classification from the same year's budget statistics to account numbers which are identical. The use of budget statistics means that classifications may be added to new accounts introduced during the year (since the accounts in question are included in the budget). The remainder, e.g. account numbers set up after the budget was approved, are extracted and their classification estimated. Amounts for this remainder group are insignificant.

3rd step
The figures are validated by comparing the quarterly calculation with the budget statistics for the same year, the previous year's accounts-based annual versions and the latest quarters. Validation is at the level of areas of ministerial responsibility. It may reveal incorrect classifications and missing entries, and corrections are made wherever possible.

4th step
Consumption of fixed capital and employers' imputed social contributions are calculated using annual figures from our budget statistics, divided by quarter using the Denton algorithm.

5th step
An estimate from the latest budget statistics is used to include institutions subsidised by central government. This estimate is based on a extrapolation of the most recent year for which accounting figures are available. The annual figure is divided by quarter using the Denton algorithm.

6th Step
For the calculation of the fourth quarter, information is also available on entries during the supplement period. These are evened out so that most of them are posted in the first quarter and the remainder in the other three quarters. For central government, amounts for the supplement period are fairly small.

1.2 The local government sector
1st step
Data are received from the municipalities and counties each quarter. Data are subject to error detection and are subsequently corrected.

2nd step
For the municipal sector, there is no information available on the supplement period and this therefore has to be calculated as a residual, i.e. the difference between the entries in the first to the fourth quarters and the final accounts. The supplement period entries have to be divided up over the previous four quarters. This cannot be done, of course, until the final annual account is available. The supplement period figures therefore have to be estimated even when the first quarter is worked out. This is based on information on the previous year's supplement period, the total budget for the year and the entries available for the first quarter. The estimate of the supplement period figure is revised continually as figures are worked out for new quarters. The supplement period figure is adjusted for the final time once the final accounts are available. Thus, corrections may be made at any time to previous quarters as a result of new and improved estimates of supplement period figures, and again when the annual accounts are available and the supplement period can thus be calculated.

Some of the entries in the supplement period refer to the fourth quarter and should therefore be transferred to that period. Some of the entries made in the fourth quarter refer to the third quarter and should therefore be transferred to the third quarter. The same applies to the other quarters with the exception of the first, where the previous year's supplement period captured late records. There will be entries referring to other than the previous quarter, but they are ignored, since they are assumed to be of insignificant amounts. A complete and correct transfer of entries between quarters is not possible, however, since there are no sources which can provide information on this "overflow" between quarters. It is therefore assumed that the "overflow" remains constant from one quarter to the next and that it is therefore sufficient to transfer an amount corresponding to the estimated "overflow" from the supplement period to the first quarter. The share of the supplement period, which is deemed not to be "overflow" from the previous quarter, is divided equally over the remaining quarters.

3rd step
Consumption of fixed capital is calculated using annual figures from our budget statistics, divided by quarter using the Denton algorithm.

1.3 Individual/collective consumption
The split.-up of final consumption into the individual and collective part is calculated using the ratio from the newest annual figures. This method is used due to the fact that the quarterly figures are not classified by COFOG, which is the basis for the spilt-up into individual and collective final consumption.

The price indices for the subcomponents of government production are as follows:

- Compensation of employees

Constant prices are derived using the Indices of average earnings in the public sector, central and local government.

- Consumption of fixed capital/Depreciation

Constant prices are found by deflating current prices with the price index for investments obtained form the input-output price model

- Intermediate consumption

The price index for intermediate consumption follows the price indices for intermediate consumption in industries dominated by public sector activity

- Taxes less subsidies on production

Constant price values are calculated in the same way as for consumption of fixed capital/depreciation. Current prices are assumed to be the same as constant prices

- Transfers in kind

Constant price estimates are found by deflating values at current prices with the price index for out-patient services from the net price index

No timely data on government production are available for the first compilation of data. Instead, information on the growth in employment in the public sector, the growth in wages and salaries in the public sector and various price indices are used as proxies for the growth in the subcomponents of government production.

4.2   FISIM

FISIM occurs as the indirect payment for intermediation service to the financial institutions, which is paid by their customers through an interest rate on loans which is higher than the reference rate and an interest rate on deposits which is lower than the reference rate. The supply of FISIM is produced in the financial institutions and imported by residents who pay interest for loans abroad and by residents who have deposits abroad. The demand for FISIM is used for Intermediate Consumption, Final Consumption Expenditure and Export. In QNA the production of FISIM is a part of the production in financial institutions as described in above section 4.1.10. The source in the revised version is accounting statistics. In the early version an extrapolation of the total production in the industry by employment indicators is used. The consumption of FISIM is determined by extrapolation with the production as mentioned in section 5 below. Intermediate consumption of FISIM is regarded as a service similar to other services in the Intermediate Consumption and is thus part of the fixed coefficient estimation of Intermediate Consumption. For import and exports of FISIM it is assumed that FISIM has the same share of interests to and from abroad as in the last final NA. Four types of FISIM to and from the RoW is estimated.

4.3   Taxes less subsidies on products

Detailed information from the tax authorities classified according to type of product tax and subsidy are distributed for National Accounts commodities using the structure from the latest final years Supply and Use Table in a Tax type * Use category matrix to aggregate the Taxes less subsidies on products for use categories in the Abase. For constant price calculation the 'Tax-percentages' from the base year for each use category is applied to the constant price value for each use category and finally aggregated to a total for the constant price value for Taxes less subsidies on products. For the first calculation of QNA the detailed tax information is not available so a procedure similar to the one for constant prices is used to estimate Taxes less Subsidies on product at current prices.

Even though there are great similarities in the method of compilation of the different types of taxes and subsidies on products, they will be explained separately below.

4.3.1   Value Added Tax

First compilation of data For the first compilation of data, Value Added Tax (VAT) at current as well as constant prices is calculated at a detailed level. For each type of use, we multiply the new output data compiled with the VAT coefficients of the last final QNA. The new VAT's for each type of use are afterwards aggregated to calculate the total VAT at current and constant prices.

Compilation of revised data For the compilation of revised data, VAT at constant prices is calculated the same way as mentioned above. For the VAT at current prices we base our calculations on the Government Finance Division's compilation of the total VAT based on information from the from the Central Customs and Tax Administration, Ministry of Taxation, Ministry of the Interior as well as general government budgets and accounts .
We benchmark the VAT at current prices to the new total, without changing the relatively distribution between the types of use.

4.3.2   Taxes on imports

In contrast to the VAT, we only compile the total taxes on imports – but off course still at both current and constant prices. Besides that, the method of compilation are almost similar to the one used for the VAT.

For the first compilation of data we multiply the total taxes on imports coefficient from the last final QNA at current as well as constant prices with the new data of total imports from the Balance of Payment Statistic to calculate the new total taxes on imports.

For the compilation of revised data at constant prices, the method is similar to the one used to compile the VAT: The revised taxes on imports at constant prices are compiled by the Government Finance Division based on information from the Central Customs and Tax Administration.

4.3.3   Other taxes and subsidies on products

For other taxes and subsidies on products, we only compile net values at the detailed level (for all types of use). At constant prices we also just compile the net value for the total economy, while we compile both the total taxes and the total subsidies at constant prices.

Constant prices For both the first compilation of data and the compilation of revised data we calculate the taxes less subsidies at constant prices on basis of the net tax coefficient of the last final QNA. The detailed net values are afterwards aggregated to calculate the total taxes less subsidies at constant prices.

Current prices For the first compilation of taxes less subsidies at current prices, the detailed calculations are based on the net tax coefficients of the last final QNA. The detailed net values are afterwards aggregated and differences from the total net value of the previous quarter are distributed proportionally on the total taxes and the total subsidies at constant prices. The revised taxes and subsidies at current prices are compiled by the Government Finance Division based on information from the Central Customs and Tax Administration, Ministry of Taxation, Ministry of the Interior as well as general government budgets and accounts.

5. GDP components: The expenditure approach

5.1 Household final consumption

Final domestic consumption of the Danish households is at the most detailed level compiled for 70 different consumption groups (excluding tourism), which are consistent with the two-digit COICOP and for the most part are at least as detailed as the three-digit COICOP. The calculation of quarterly data for household consumption in these groups is based on extrapolation with the quarterly growth from indicator series, where several different statistics are used to create these indicators. The different sources and methods used to extrapolate the values and volumes of the consumption growth are explained below for each of the consumption groups. At the level of aggregation where data at both current, constant and previous year's prices are calculated, the 12 consumption groups containing food are aggregated to one group, so only 59 consumption groups exist at this level.

Data for the resident households' consumption in the ROW and non-resident households' consumption on the economic territory (expenditure on and income from tourism) are based on data from the Balance of Payments Statistics and are only constructed as aggregates.

Consumption goods with current price indicators

As mentioned above, several statistics are used as indicators to extrapolate the quarterly growth in the Danish households' final domestic consumption for 70 different consumption groups. The two most important statistics are the Retail Trade Index and the VAT statistics. Both of these statistics measure the current price value of the sales of businesses, and they are described below in boxes 5.1.1 and 5.1.2. Because these two statistics are constructed for sectors, plans of distribution between sales in sectors and consumption groups are used to construct sales indices for the part of the above-mentioned 70 consumption groups, which these statistics cover. For most consumption groups containing goods an index is constructed as the average of the indices from these two statistics, and the growth in this index is then used to extrapolate the quarterly growth in the current price consumption. This method is used for all consumption groups containing semi-durable goods, these groups are 'Garments and clothing materials etc', 'Footwear', 'Household textiles', 'Glass, tableware and household utensils', 'Tools and equipment for house and garden', 'Recording media for pictures and sound', 'Other recreational items and equipment', 'Stationary and drawing materials etc.', 'Appliances, articles and products for personal care' and 'Other personal effects'. The non-durable goods the method is used for are 'Food', 'Non-durable household goods', 'Medical and pharmaceutical products' and 'Books, newspapers and periodicals', and the groups of durable goods the method is used for are 'Furniture, furnishings, carpets etc.', 'Major household appliances', 'Therapeutic appliances and equipment', 'Radio and television sets etc.', 'Photographic equipment etc.', 'Data processing equipment', 'Other major durables for recreation and culture' and 'Jewellery, clocks and watches'.

Indices from the Consumer Price Index described in box 5.1.3 below are used to extrapolate the quarterly growth in the price deflators for each of the above-mentioned consumption groups, and the constant price consumption is calculated as a residual. The Consumer Price Index is at disposal at the same level of detail as the household consumption is compiled at, that is the 70 or 59 consumption groups as mentioned earlier, so there is a direct correspondence to the consumption groups in the QNA. The growth in the price deflator for 'Data processing equipment' is, however, not calculated with the use of the Consumer Price Index. Instead, the geometric mean of the wage index for business activities cf. box 6.1.1 and a hedonic computer import price index from the US Bureau of Labor Statistics are used due to the large impact of the quality component.

Box 5.1.1 Retail Trade Index

The Retail Trade Statistics show the development in turnover at current prices. The turnover index is published for all 49 sectors of the retail trade and for the 3 main commodity groups: "Food and Other Basic Commodities", "Clothing etc." and "Other Consumption Goods".

The enterprises in the Retail Trade Index are all legal units. In the Central Business Register of Statistics Denmark (CBR) the legal units are known by their CVR number. Those units, which have their main or secondary activity within the sectors of retail trade, constitute the population. The total number of enterprises in the sectors of the retail trade is estimated to be approximately 31,000. Those 31,000 enterprises are delimited to approximately 9,000 enterprises with a turnover in excess of DKK 2.5 mio. From this population a sample is made, which is used as a frame for the calculations of the Retail Trade Index.

In the survey the enterprises are asked about their sales, VAT included, to private households. Sales to private households are defined as retail trade. In the national publications the index for each sector of retail trade is stated as turnover index.

The delimitation of the population is based on the Central Business Register of Statistics Denmark and DB03. The starting point is enterprises with their main activities within retail trade. In addition, the enterprises with their main activity outside retail trade, but with their second line of business within retail trade are included. For the latter a recalculation is carried out, so that only the part of the turnover connected to the retail trade is included. Furthermore, bakers are also included in the retail trade statistics, even though their sector in the trade classification belongs to the production industry.

The total turnover of the sectors included in the Retail Trade Index accounts for approximately 96 per cent of the total turnover in the whole retail trade sector. Some retail trade sectors are not included in the statistics, partly due to insignificant sales and partly due to some specific conditions in certain sectors. Since the survey is compulsory and the remaining procedure is intensive, the response rate is approximately 99 per cent, measured in terms of turnover in final figures.

Box 5.1.2 VAT statistics

The statistics give a complete picture of most business sectors in Denmark. For each kind of activity group (industry, trade etc.) information is available regarding purchases and sales broken down into domestic and foreign-trade components.

Just over 400,000 VAT-liable units (businesses) form the basis of the statistics, which cover all Denmark except the Faroe Islands and Greenland. The statistical reference unit is the legal unit (corporation/enterprise/firm) identifiable through its code number (CVR number) in the Danish Business Register. In Denmark a business must register for VAT if its annual turnover is expected to exceed DKK 50,000.

Sales consist of domestic sales of goods and services and exports of goods and services. The Danish VAT system covers trade in new and used goods as well as electricity, water and heating. Nearly all market services are subject to VAT as well, but there are major exceptions concerning passenger transportation and travel agencies, banking, financial and insurance services, medical and dental services and education. As regards real estate, VAT is payable on building and construction activities and on agents fees, whereas the actual property or rental values are normally exempt. Apart from energy and water supply, transport of goods and refuse collection, public (government) services are only liable to VAT if the activity is done in competition with private enterprises.

Consumption goods with volume indicators

The only groups of consumption goods which current price growth are not extrapolated according to the above-mentioned method using the Retail Trade Index and VAT statistics are the groups containing beverages, tobacco, vehicles, electricity, gas and other fuels, because volume indices are available or can be calculated for these groups. These volume indices are then used to extrapolate the quarterly growth at the constant price consumptions, and the relevant price indices from the Consumer Price Index cf. box 5.1.3 are used to extrapolate the price inflators. The consumption at current prices is then calculated as a residual.

Beverages and tobacco

Tobacco and many beverages are imposed with excise duties per item, so the volumes of the sales of tobacco and beverages can be found with the use of data from the Danish tax authority (named "SKAT" in Danish). For the consumption group

'Tobacco' the exact number of sold cigarettes is obtained. For beverages the tax revenues are used to make volume indicators for the different types of beverages, which consumption groups exist for. These are 'Coffee, tea and cocoa', 'Mineral waters, soft drinks and juices', 'Wine and spirits' and 'Beer'. Both 'Tobacco' and the three groups containing beverages are categorized as non-durable goods.

Purchase of vehicles

The volume indicator for 'Purchase of vehicles', which is a durable good, is the number of new registered passenger cars plus vans for private use, both of which are obtained from the Carregister described below in box 5.1.4. The number of cars and vans also include an estimation of used cars sold from businesses to households.

Electricity, gas and other fuels

The domestic supply of electricity measured in kilowatt hours is used as the volume indicator for the consumption group 'Electricity'. Sales of heating oil and similar and sale of petrol both in cubic metre are used to construct volume indicators for 'Liquid fuels' and 'Fuels and lubricants' respectively. The data for these three volume indicators are all obtained from the Danish Energy Authority. The volume indicator for 'Gas' is also from the Danish Energy Authority and is an annual number for the actual consumption of natural gas. But since this indicator is annual and is only published once a year, the number of degree days is used to distribute the consumption at quarters and extrapolate the indicator until the end of the year, when the annual number for the year is published. The constant price consumption of 'Hot water, steam etc.' for heating are extrapolated using the growth in the corresponding industry output cf. 4.1, because the production must be almost exclusively for the Danish households. All the above-mentioned consumption groups containing electricity, gas and other fuels are categorized as non-durable goods.

Box 5.1.3 Consumer Price Index

The consumer price index shows the development of prices for goods and services bought by private households in Denmark. Thus, the index also covers foreign households' consumption expenditure in Denmark, but not Danish households' consumption expenditure abroad. The index shows the monthly changes in the costs of buying a fixed basket of goods, the composition of which is made up in accordance with the households' consumption of goods and services.

The consumer price index can best be characterised as a fixed weight index of a Laspeyres-type. The prices that are included in the consumer price index are the prices paid by the consumers, i.e. including VAT and taxes and after deduction of any subsidies. The only exception to this is rent payments, where the total rent, i.e. the share of rent payments plus any housing benefits, is included.

The weights are calculated on the basis of data from the national accounts on final consumption expenditure of households in Denmark, distributed among 70 commodity groups. For each of these, a further division is made by using the detailed information on consumption expenditure of Danish households from the Household Budget Survey.

The population consists of the goods and services, which are included in the consumption expenditure of domestic households and private foreign visitors to Denmark. The structure of the sample implies that it is as representative as possible in relation to geographic location, population, commodity groups, and types of shops.

The consumer price index consists of the following variables. Prices of the goods and services that are included in the index. Shop weights for specific shops, chain stores, etc. from which prices are collected, based on information about market shares, etc. Unit weights for some well-defined goods/services, based on information about market shares, etc. Elementary aggregate weights used for weighting the elementary aggregate indices, which are then used for compiling sub-indices and an aggregate consumer price index.

The different goods and services, which are included in the consumer price index, are first grouped according to approx. 500 elementary aggregates for which elementary aggregate indices are calculated. The elementary aggregate indices are mainly calculated as geometric indices. The elementary aggregate indices are weighted together into sub-indices that are in turn aggregated into the total consumer price index.

> The grouping of data and calculations take place in accordance with COICOP (Classification of Individual Consumption by Purpose).

Box 5.1.4 Carregister

The Carregister contains data accumulated since January 1992 for all vehicles that have been or still are in use (i.e. registered in the Central Register of Motor Vehicles according to the Danish Act on Registration of Motor Vehicles). This implies that both historical and new data are available for individual vehicles.

The register does not contain vehicles that do not have to be registered, for example, contractors' supplies or military vehicles. Certain other vehicles that have to be registered are, however, not included in the register, for example, some of the vehicles belonging to the police and vehicles only used within closed areas such as harbours and airports. The most important variables used to describe the individual vehicle are type (private car, van, bus, lorry, etc.), manufacturer, model and variant, weight and fuel type, ownership and geographic location.

The main source of data in the register is the Central Register of Motor Vehicles (operated by the Danish tax authorities), from which transaction data concerning both new and existing vehicles are supplied monthly. The registration of these transactions is based on the forms submitted to the offices of the Central Register of Motor Vehicles / tax centres, typically when the owner or the retail firm wants to perform a transaction (for example a new registration, a change in ownership or a technical alteration). The source of most of the technical data of the vehicles is the (standard) type approval, of which there are two main forms; one that is uniform for the EU (and for all similar vehicles) and one that is individual for a smaller group of vehicles or a single vehicle.

Services with indicators based on VAT

For most of the consumption groups containing services which are subject to VAT the sales growth from the VAT statistics is used to extrapolate the growth in the current price consumption. These consumption groups are 'Laundry, dry cleaning etc.', 'Refuse collection etc.', 'Repair of major household appliances', 'Other services relating to personal transport', 'Repair of a/v and data processing equipment', 'Recreational and cultural services', 'Catering', 'Hairdressing salons etc.' and 'Other services n.e.c.'. For these consumptions groups, indices from the Consumer Price Index are used to extrapolate the growth of the price deflators, and the constant price consumption is then calculated residually.

Services with output indicator

The method used to estimate the growth in most of the consumption groups containing services who are not subject to VAT is use of the production growth for a relevant sector, which implies the assumption that consumption is a fixed percentage of the production. This assumption is in general reasonable, if the production sector corresponds well to the consumption group, or the consumption group can be assumed to be a constant per cent of the sector output, because domestic production of these services is almost exclusively used for consumption of the resident households. Some of the groups are, however, estimated this way because there are no other good indicators available, primarily services produced mainly by the public sector where no sales data are available. With regard to the consumption groups, this method is used for 'Out-patient services', 'Hospital services', 'Retirement homes, Day-care centres etc.', 'Kindergartens, crèches etc.', 'Education', 'Domestic services and home care services', 'Communications', 'Water supply and sewage services', 'Insurance' and 'Financial services n.e.c.'. For all these groups growth in the constant price consumption volume is estimated as the growth in the constant price volume of output in the relevant sector cf. 4.1, except for 'Education' where the current price growth is estimated from the growth in output value instead. The current price consumption (constant price for 'Education') can then be calculated as a residual, when the price index is calculated. Growth in the price index is extrapolated with use of the growth in the Consumer Price Index for the corresponding consumption group. Except for 'Insurance', where a wage index for finance and insurance is used, and for 'Retirement homes, day-care centres etc.' and 'Kindergartens, crèches etc.', where a wage index for local governments social institutions etc is used, cf. box 6.1.1.

Housing The method using output as indicator is also used for 'Actual rentals for housing', 'Imputed rentals for housing' and 'Regular maintenance and repair of the dwelling'. But for these three consumption groups concerning housing, the quarterly growth for both the current and constant price consumption (and therefore also the price deflator) are extrapolated using output indicators. For actual and imputed rentals the output group 'Dwellings' is used, and for maintenance and repair the output group 'Repair and maintenance of buildings' is used.

Other services The growth in four consumption groups containing services are not estimated with either of the above two methods (VAT or output indicator). The constant price consumption growths of these four groups are instead extrapolated according to the growth in individual volume indicators. The growth in the price deflators are for all four groups estimated using indices from the Consumer Price Index, and the current price consumptions are calculated as residuals. For the consumption group 'Maintenance and repairs of motor vehicles' an index for the car traffic compiled by the Danish Road Directorate is used. The number of Danish charter tourists travelling from Copenhagen Airports are used as the volume indicator for 'Package holidays'. An average of three separate indices measuring respectively the number of persons travelling by bus, the number of persons travelling by train and the weight of the freight traffic by train is the volume indicator used to estimate the growth in 'Transport services'. For 'Accommodation services' the number of nights spent at hotels and holiday resorts is used as the volume indicator.

Tourism The current price value of both the consumption of non-residents on the economic territory (income from tourism) and the consumption of resident households in the ROW (expenditure on tourism) are updated with the same values as the corresponding series from the exports and imports part of the QNA cf. 5.5, which is based on information from the Balance of Payments Statistics. The price deflator for income from tourism is extrapolated using the Consumer Price Index adjusted to reflect the goods and services that tourists normally buy. For examples purchases of vehicles and purchaces of goods and services relating to housing are excluded. A weighted average of the Consumer Price Index from eight foreign countries is used to extrapolate the growth in the price deflator for the expenditure on tourism. The constant price volume of both expenditure on and income from tourism are calculated as residuals.

5.2 Government final consumption

For the revised compilation data are based on information on quarterly public finances. A brief description of the quarterly public finances can be found in Box 4.1.13.1 . Price indices are calculated as described below. Constant price values are residuals.

Price indices The price indices for the subcomponents of government consumption are as follows:
- Transfers in kind
Constant prices are found by deflating current prices with the price index for out-patient services from the net price index
- Sales fees
Sales fees at constant prices are extrapolated with the quarterly growth rate of the production value at constant prices. Constant prices are found by deflating current prices with the price index for sales fees, which are extrapolated with the growth in price index for the production value of the general government.
- Individual consumption
Constant prices are found by deflating current prices with the price index for individual consumption, which is extrapolated with the growth in the price index for the production value of the general government.
- Collective consumption

Collective consumption at both constant and current prices is calculated residually as the production value plus transfers in kind less sales fees and individual consumption.

No timely data on government consumption is available for the first compilation of data. Instead information on the growth in employment in the public sector, the growth in wages in the public sector and various price indices are used as proxies for the growth in the subcomponents of government consumption.

5.3 NPISH final consumption

For the NPISH the quarterly growth of both the current and constant price consumptions is extrapolated using the growth in the output of the NPISH cf. 4.1, and therefore the growth in the consumption price deflator is also extrapolated with the same growth as the output price deflator. This means that the NPISH final consumption is implicitly assumed to be a constant per cent of production of the NPISH.

5.4 Gross capital formation

5.4.1 Gross fixed capital formation

For the compilation of gross fixed capital formation of Machinery and Equipment, the source-data from The Industrial Commodity Statistics and The Foreign Trade Statistics are classified according to the HS-system. Information from the detailed Annual Supply-Use tables is used to classify the HS-numbers which includes capital-goods of Machinery and Equipment in these source statistics. The aggregated values are used to calculate an indicator as:

Domestic supply = Import + Danish production – Export.

The indicator for Domestic Supply is used to extrapolate the current price QNA-value of Machinery and Equipment from the previous quarter. Constant prices are calculated by deflating the value in current prices by a price index for Machinery and Equipment calculated by the IO price calculation model.

The gross fixed capital formation of construction at current as well as constant prices is compiled in the same comprehensive system as the production output. The system is based on detailed information of produced square meters of different kind of buildings (complete coverage).

The gross fixed capital formation of transport equipment is compiled on basis of registrations.

5.4.2 Changes in inventories and valuables

For compilation of changes in inventories in the manufacturing industry at current as well as constant prices, data are extracted from the quarterly statistics of stock relating to changes in stocks of raw materials, stocks of finished goods and stocks of goods for resale, each distributed on 11 industries.
Changes in stocks of raw materials are distributed proportionally with the input composition of the industries; while stocks of finished goods and stocks of goods for resale are distributed proportionally with the output composition.
The quarterly statistics of stock values also provide data on stock changes in wholesale trade distributed on 12 industries. These are distributed on commodities based on the commodity classification in the final accounts.

Stock changes for the retail trade are estimated, and the totals are distributed on commodities.
These are also used on stock changes for agricultural products and energy products at current as well as constant prices.

The acquisitions less disposals of valuables at current prices are estimated from the supply side using the commodity flow based on development in turnovers in the industries of Retail sale of jewellery, Art shops and galleries and Antique shops. Constant prices are calculated using the total consumer price index for deflator.

5.5 Imports and exports

Current prices   Exports and imports of goods and services at current prices in the national accounts are based on information from the balance of payment statistic (BOP). However, the delimitation of goods and services in the balance of payment statistic and national accounts does not coincide. For the imports of goods a correction for cif/fob is made. Travel expenditures in the BOP are split up into travel expenditures by households and business travels in national accounts. Travel expenditures by households also include expenditures for embassies. When the before mentioned corrections are made the data are used directly in the national accounts.
Imports and exports can be found by country in the Danish BOP statistics. Hence, it is possible to make the aggregations needed, be it the euro area or the EU as a whole.

Box 5.5 The balance of payments statistics and the external trade statistics

The main source for the balance of payments statistics trade in goods is the external trade statistics. The external trade statistics in goods are compiled in two systems: Intrastat (trade with EU countries) and Extrastat (trade with non-EU countries). The information for the statistics on Denmark's external trade in services is included in the raising procedure, which consists of two separate parts. Monthly data reports by Denmark's approximately 350 largest services enterprises covering about 70 pct. of all trade in services, while quarterly data reports from a sample of about 1,200 enterprises, which represent, in principle, more than 20,000 small and medium-sized enterprises covering the remaining 30 pct. of trade in services. The enterprises in the sample are stratified according to industry and size to ensure that all types of services and enterprises are covered in a representative manner by the statistics. The sample is updated annually.

Information on travels is based on several sources For the item of earnings on the travel account, VisitDenmark compiles statistics on the basis of information from interviews with foreign visitors in Denmark concerning their daily spending habits. This information is supplemented by information from the statistics on nights spent in hotels, etc. and from special surveys of bed-nights, which are not covered by the statistics. To this is added more summary information on students, one-day visitors and commuters, where the statistics on commuters between Skåne and Sjælland (Øresund region) are used. The item of expenditure on the travel account has until now been primarily based on information from the statistics on holiday and business trips obtained from telephone based interviews with households concerning, e.g. trips made abroad.

Several corrections are made to the trade statistics to make it tally with the delimitation of the BOP statistics. In table 1 below, the transition between the external trade statistics is shown

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Table 1: Transition between external trade and balance of payments statistics

Credit	Debit
External trade exports (fob)	External trade imports (cif)
+ repairs etc.	+ procurements
- goods returned	+repairs
	- goods returned

	- freight etc.
=Balance of payments exports of goods (fob)	= Balance of payments imports of goods (fob)
	+ freight
= NA exports of goods (fob)	= NA imports of goods (cif)

Price indices and constant prices

For all import and export series the constant prices are calculated residually using various price indices as described below. the only exception is the service imports of Danish ships expenses in foreign harbours where the price index is residual.

Imports and exports of goods

For imports and exports of goods we have two estimates of the price movements, one from the input-output based price-model and another from the foreign trade unit values. Our aim is to keep the movement of the price indices of imports and exports in goods between the movements of the two indices.

Imports and exports of services

Regarding services the net price index is used to deflate the following import series: Air travel and postal services & telecommunication and the export series for air travel, audio & cultural services, transportation services and postal services & telecommunication. The price indices for the service exports of software & film etc., insurance services, public services and shipping agents, and service exports and imports of banking services (FISIM) and consultancy & research & development are extrapolated with the growth in weighted averages of the indices of average earnings described in section 6.1.1. The price indices for imports of software & film etc. and audio & cultural services are extrapolated with the growth in American hourly earnings. The price index for the import of transportations services is extrapolated with a weighted average of net price index for public transportation and lorry transport. The price indices for the import of business travels, household expenditure on tourism and wholesales trade are extrapolated with the growth in the weighted average of the consumer price indices of Norway, Sweden, Germany, UK, Italy, France, US and Spain. The price index for exports of household expenditures on tourism is extrapolated with the growth in the consumer price index. The price indices for imports and exports of non-classified goods and exports of activities connected to the extraction of oil in The North Sea and wholesales trade are extrapolated with the growth in price index for domestic supply. The price index for imports of insurance services is extrapolated with a weighted average of the indices of average earnings and the net price index. The price index for imports and exports of ship and plain repairs is extrapolated with an index based on Lloyd's shipping Economist. The price index for imports of bunkering is extrapolated with the growth in the price of heavy fuel from the price index for domestic supply.

The price index for service exports of shipping companies is extrapolated with the growth in the service price index for shipping. Service imports of Danish ships expenses in foreign harbours at constant prices follow the growth in service exports of shipping companies in constant prices. The price index for the service imports of oil exploration is extrapolated with a weighted average of the price index for total domestic supply and the weighted average of the indices of average earnings.

6. GDP components: The income approach

6.1 Compensation of employees

6.1.1 First compilation of quarterly data

Source statistics for extrapolating compensation of employees

In the first compilation of data our source for wages and salaries are *Indices of average earnings in the private sector, Indices of average earnings in the public sector* and *Indicators of aggregate payroll costs* (IAPC). The *Indices* are published on industries covering NACE C-P, although on a more detailed breakdown; 27 industries. For covering the industries in NACE A-C the *Statistics on Wages and Salaries* collected by

the Danish Employers' Confederation is used. These statistics are very similar to *Indices of average earnings in the private sector* described in the box below. The IAPC gathers data at a very detailed level (111 industries). Before using them for extrapolating wages and salaries they are aggregated to 53 industries. Because of the more detailed data the IAPC should be preferred over the *Indices.*

There are a couple of shortcomings of the IAPC making it less useful. Firstly, it becomes available only at a very short time prior to the compilation of the quarterly NA, making it difficult to incorporate in time. Secondly, using the IAPC to extrapolate wages and salaries tends to give implausible results when compared to employment, e.g. negative annual growth in earnings per employee in some industries. Because of these limitations more often than not the *Indices* are used instead.

Box 6.1.1.1 Indices of average earnings and Indicators of aggregate payroll costs

The indices for the private sector are based on data collected quarterly from a sample survey comprising business enterprises in the private sector. The indices of earnings comprise all employees, salaried employees, and wage-earners as well as apprentices and young people under 18 years employed in a business enterprise with 10 persons or over in the private sector.

The indices for the public sector are compiled on the basis of data relating to all government employees. The data are reported from the public pay transfer systems and relate to earnings in the second month of a quarter. In this context the public sector is defined by those employees who are covered by a public pay transfer system. Consequently, a small number of government employees are excluded from the statistics, while some employees engaged in, e.g. non-profit institutions are covered by the statistics.

The concept of the indices is total earnings, including employees' or employers' share of any pension contributions, excluding payment for days not worked due to holidays etc. and other irregular payments. Total earnings are related to the number of hours worked. In calculating average hourly earnings, a weight corresponding to the person's degree of employment is included in each job. The indices of earnings are calculated as quarterly chain-linked indices. That is, the indices are based on quarterly increases for identical business enterprises, i.e. enterprises which are included in the quarter under survey as well as in the previous quarter.

The index calculations do not cover all jobs. Persons employed in accordance with the various employment schemes as well as persons receiving fees and a number of special groups, e.g. conscripts and town councillors are also excluded.

Summary averages form the basis for calculating the indices, unlike averages which are calculated on the basis of a population with a fixed structure. This implies that the indices will be influenced by quarter-by-quarter changes in the distribution of employees according to sex, age, seniority, salary grade, work function, industry, geographic location, etc.

The statistics are compiled on the basis of employers' payments of wage and salary earners' labour market contributions withheld (AM contributions). The labour market contributions make up a fixed percentage of the employees' basis for contributions, the aggregate payroll wage and salary costs are thereby calculated by enumerating this percentage to 100 percent. The employers report the labour market contributions for each employer's registration code number (SE-number), and the aggregate payroll costs are grouped by industry and sector. Information on industry and sector is obtained by means of the SE number from the Central Business Register. The basis for contributions comprises all taxable income of employees, who are fully taxable and socially secured in Denmark, irrespective of whether, the work is performed for Danish or foreign employers in Denmark or abroad.

As the payment of labour market contributions is made by means of the business enterprises registration code number (SE-number), the grouping by industry of aggregate payroll costs is not as exact as other labour market statistics. This is due to the circumstance that one SE-number may be the main registration code number for several workplaces (kind of economic activity) engaged in different activities. The enterprise is then grouped by industry according to the main activity of the registration code number (SE-number) in question.

The contributions withheld are linked to the time of payment of wages and salaries. The size of the contributions depends on the wages and salaries paid out during the previous month. This implies that contributions withheld relate to wages and salaries paid out during the

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> monthly period as regards the calendar, and not wages and salaries paid out for the monthly period.

Below, you will find a summary description of which indices are used for specific industries

NACE A-C	Statistics on wages and salaries
NACE D-K	Indices of average earnings in the private sector
NACE L and M	Indices of average earnings in the public sector, weighted averages of local government and central government
NACE N and O	Indices of average earnings in the public sector, local government
NACE P	Weighted averages of indices of average earnings in the public sector, local government and Indices of average earnings in the private sector

As is the case with employment there is a special series for the general government's wages and salaries. No indicator is available in time for the first compilation of data. Therefore, an indicator is constructed using the growth in employment in the sector multiplied by the weighted growth rate in the *Indices of average earnings in the public sector* adjusted for seniority. This figure is then used directly in levels. It is not possible to distinguish between wages and social contributions and it is therefore assumed that social contributions are a fixed part of total compensation of employees. The share is set equal to the share the same quarter the previous year. This is done at the 53-industry level.

6.1.2 Compilation of revised quarterly data

When extrapolating wages and salaries for the revised compilation the main source for the calculations is the quarterly Working Time Accounts (WTA). The WTA make use of the indicator for aggregate payroll costs when calculating wages and salaries. Because the WTA constitute integrated statistics covering both employment, hours worked and wages and salaries there has already been a reconciliation of data. The WTA estimates of wages and salaries are used directly in the extrapolation of NA variables. For the extrapolation in NA, the WTA are available on 53 industries. Wages and salaries in the general government sector are based on accounts data from the central government, municipalities, counties and social security funds. These data are used directly in level. Please refer to 4.1.13 for a description of data on the general government sector. As with the first compilation of data it is not possible to distinguish social contributions and therefore the same procedure as described in 6.1.1 is used.

6.2 Taxes less subsidies on production

Data on taxes and subsidies on production are received from the Danish tax authorities on a monthly basis. For the breakdown by industries the relative distribution from the latest final year is used. At constant prices Taxes less subsidies on production is assumed to be unchanged because the stock underlying the tax is largely unchanged. No timely data are available for the first compilation of data. The taxes and subsidies on production are thus assumed to be growing half a percent per quarter.

6.3 Gross operating surplus and mixed income

The gross operating surplus is calculated residually by subtracting compensation of employees and taxes less subsidies on production from gross value added

7.   Population and employment

Coherence between annual and quarterly data

As is generally the case, the quarterly figures for employment, wages and hours worked are consistent with annual data i.e. the sum of quarters (average of quarters for employment) equal the annual figures. In essence, this means that adjustments made when calculating annual figures are also reflected in the quarterly data. As there are no quarterly indicators for most of the adjustments made in annual accounts and because of the inherently more summary treatment of quarterly figures, this implies that the adjustments are constant as a share of the total in the various industries.

Domestic and national concept

The description below covers domestic employment. To go from domestic to national employment the non-residents must be subtracted and residents working in non-resident firms added. In both cases the calculation is based on the *Compensation of employees, current receipts* from the balance of payments statistics divided by the average earnings of all employees.

7.1   Population

The population concept used in national accounts is in accordance with the concept of population used in the demographic statistics, which is based on register data. The population variable in national accounts is the average of the value at the beginning of the quarter and at the end of the quarter of the population in the demographic statistics for the reference period i.e. for the 1st quarter it would be the average of the population as of 1st of January and 31st of March.

7.2   Employment

7.2.1   First compilation of quarterly data

7.2.1.1   Employees

Indicator for employees in employment is used for extrapolations

In the first compilation of quarterly data, employment is based on the *Indicator for employees in employment.* This statistics which cover employees only are based on the payment of social contributions. The i*ndicator for employees in employment* is a register-based statistics covering all employees working in Denmark hence- there is no sample error. The fact that the statistics are register-based and cover all employees facilitates a very detailed breakdown by industries.

There are several shortcomings though, when using these statistics in national accounts.

- Firstly, the employment is measured in full-time equivalents as opposed to the concept in the national accounts. Only to the extent to which the growth or decline in employment is different from the total employment in terms of the composition of part-time and full-time employed is there a problem in using the *Indicator for employees in employment.* This is considered a minor problem as the statistics are only used to extrapolate employment one quarter.
- The second problem when using the *Indicator for employees in employment* to extrapolate employment is the seasonal pattern in the statistics. The seasonal pattern is influenced by the timing of payment of social contributions by the employers. The contributions are supposed to be paid every quarter, but there is no penalty as long as payment is made before the end of the year. As a consequence, there are many payments in the 4th quarter. To avoid this anomaly influencing the national accounts employment, the *Indicator for employment of employees* is not used directly. Instead, an artificial indicator is constructed by using the annual growth rates of the *Indicator of employees in employment* to extrapolate the national accounts employment. The quarterly

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growth in this artificial indicator is used to extrapolate the national accounts employment. This corresponds to adjusting the quarterly growth rate in the *Indicator for employment of employees* in the present quarter with the ratio of the quarterly growth rates of national accounts employment and the indicator in the same quarter of the previous year.

- A last problem when using the *Indicator for employees in employment* stems from the fact that the definition of industries is not fully in accordance with the national accounts definitions. This especially holds true for industries heavily dominated by public sector employment. The *Indicator for employees in employment* has a special indicator for the growth in the public sector employment. This indicator is used as a benchmark when adjusting industries dominated by public sector employment.

Employment is calculated at a quite detailed level, using 53 industries, and then aggregated to the A6-level.

Correction for non-residents in resident firms

One of the main differences between the scope of the indicator and national accounts is with respect to foreigners working in Denmark. As a consequence of the increasingly open borders and the internal market, and because the Danish labour supply at the moment is scarce, there has been a marked increase in the number of foreigners working in Denmark. Therefore, a special indicator has been introduced to describe the trend in foreign labour. The source for this indicator is *Compensation of employees, current expenditure* from the Balance of Payments Statistics. The number of non-residents is extrapolated with the quarterly growth in *Compensation of employees abroad* corrected for the wage inflation in the same quarter as measured by the *Indices of average earnings.* This only gives an estimate of the total growth in non-residents. Data from the ministry of employment on the number of green cards issued is used to disaggregate the total to, in principle, 27 industries. In case no data are available on *Compensation of employees abroad* the growth rate from the same quarter the previous year is used. Due to the choice of methodology, the calculation of a supplement for diplomats is included in this number. Moreover, the concept of non-residents is full-time equivalents as opposed to the rest of employment.

7.2.1.2   Self-employed

No source available describing self-employed

There is no source for the growth in the number of self-employed when publishing our first data on a quarter. Because of the lack of indicators for self-employed an arithmetic average of the growth in self-employed for the particular quarter for the last four years is used to extrapolate the number of self-employed. This method is obviously not satisfactory. Hitherto, we have refrained from using the Labour Force Survey because of the major uncertainty in their data. Starting in 2007 the survey has been expanded greatly and we are now examining the possibility of using the Labour Force Survey when extrapolating the number of self-employed.

7.2.1.3   Persons on leave

Newborns as indicator

The indicators for employees and self-employed do not include persons on leave. The number of persons on leave is based on the growth in the number of babies born and the number of people on leave (other than maternity) from the Labour Market Policy Measures (AMFORA) statistics. If these statistics are not available for the most recent quarter a extrapolation is made using data from the Central Register for Labour Market Statistics (CRAM). The growth rates are weighted together using their share of the total number of persons on leave in the same quarter of the previous year.

7.2.2   Compilation of revised quarterly data

The Working Time Account

In the compilation of revised data, the main source for extrapolating employment is the quarterly WTA (Working Time Accounts). A brief description of the employment in the quarterly WTA can be found in the box below.

Box 7.2.2.1 Employment in the Quarterly Working Time Accounts

The Working Time Accounts use register-based labour force statistics (end November) to represent 4th quarter employment. For employees the employment is extrapolated over the course of the year by means of another administrative source, namely the monthly reports of earnings (Månedlig indberetning af A-indkomst, abbreviated MIA).

MIA is a new source describing the number of jobs (receiving wage) held by employees during a month. These figures are made to quarterly averages before entering the Working Time Accounts. The quarterly trends in the MIA are in the WTA incorporated as short-term data source for describing the quarterly trends in jobs as well as in the employment data series for employees at detailed industry level. For the period after the most recent end-November statement MIA is used when extrapolating employment and jobs.

For self-employed, the employment level is calculated as a straight line from one-end-November statement from the register-based labour force statistics to the next. For the period after the most recent end-November statement, rolling year from the labour force surveys (containing data on the last four quarters) is applied for extrapolating average employment and average jobs for self-employed persons and assisting spouses.

7.2.2.1 Employees

As the Working Time Accounts use the same concept of industries as the national accounts[2], it is possible to use the WTA straightforward in the extrapolation of national accounts employment. The extrapolation takes place at the same detailed level as the extrapolation in our first compilation, i.e. 53 industries. As is the case with the *Indicator for employees in employment* the WTA have a special indicator for employment in the public sector, and this indicator is again used as a benchmark when adjusting employment in industries dominated by public sector employment.
The separate estimate for non-residents working in resident firms is the same as in our first compilation of data. (Please refer to 7.2.1.1 Employees for details)

7.2.2.2 Self-employed

The extrapolation of the number of self-employed is based on data from the WTA. The definition of industries is broadly the same in the WTA and NA. The WTA therefore can be used directly when extrapolating employment. As is the case with employees the extrapolation is made on 53 industries and thereafter aggregated to A6.

7.2.2.3 Persons on leave

The same procedure and sources are used as in our first compilation of data. Please refer to 7.2.1.3 Persons on leave for further information.

7.3   Employment: Total hours worked

7.3.1   First compilation of quarterly data

The Labour Force Survey as indicator

At the time being no data are published on total hours worked for the most recent quarter when first publishing quarterly national accounts data. Hitherto, there has been no indicator deemed sufficiently accurate to use for extrapolations. This applies to both employees and self-employed. As is the case with employment of self-employed we are considering using the enlarged Labour Force Survey as an indicator for total hours worked for both employees and self-employed. If the LFS is used it will

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[2] There are some differences between the WTA and NA. The most important are: owners of partnerships are categorized as self-employed in WTA whereas they are employees in NA. Relocation of all retail trade from other industries to the retail trades industry. By using the WTA directly when extrapolating employment one implicitly assumes these corrections are a constant share of total employment in the affected industries

probably not be possible to go below the industry level A6 when extrapolating total hours worked.

7.3.2 Compilation of revised quarterly data

Here again the WTA is used for extrapolations. For a brief description of the estimation of hours in the WTA please refer to the box below.

Box 7.3.2.1 Estimation of WTA hours worked

The annual working time accounts are the basis for the quarterly working time accounts. In the annual working time accounts the number of hours worked are calculated on the basis of information on the number of jobs during the course of the year and the number of paid hours of work performed, which were, on average, actually worked in a given job during the course of the year. Paid hours of work performed are defined as hours paid by employers, including paid overtime and excluding paid hours of absence. Paid meal breaks are regarded as hours of availability and are included in hours worked. Paid hours of overtime are defined as the number of paid hours that are worked in excess of normal paid hours (i.e. contractual hours) and include extra hours of work for part-time employed without additional overtime pay. Unpaid overtime hours and black work are excluded from the calculation of hour of work performed in the WTA

When calculating hours worked by self-employed the WTA use data from employees working full time, adjusted by the amount self-employed report they work extra compared to employees. This method accounts for the fact that people working longer hours tend to over-report more than people working fewer hours. The method on the other hand does not take into account that self-employed tend to over-report more than employed persons.

For the description of the quarterly development in the numbers of hours worked by employees the Labour Force Surveys are applied. Likewise- the Labour Force Surveys are used to analyse the quarterly development in the number of hours worked by self-employed persons and assisting spouses.

7.3.2.1 Total hours worked: Employees

The extrapolation of hours worked takes place at the 53-industries level. No adjustments are made to the WTA data before using them for the extrapolation. For non-resident employees there is no indicator available as to describe the development in their working hours. Instead, it is assumed that the average working hours are the same for residents and non-resident employees. Thus, the total hours worked by non-residents are extrapolated with the quarterly growth in non-resident employment times the quarterly growth in average hours worked by resident employees. This too is done at the 53-industry level. The only exception is for the constructions industry where average hours worked by self-employed is used.

7.3.2.2 Total hours worked: Self-employed

The total hours worked by self-employed is extrapolated by using the quarterly growth rates from the WTA directly at the 53-industry level. Finally, the figures are aggregated to the A6-level.

7.4 Reconciliation

Minor adjustments are made to ensure the consistency between employment, hours worked and wages. This especially holds true for the first compilation of data, where sources for employment and wages and hours worked are from different statistics. All adjustments are made at the most detailed level, i.e. the 53-industry level.

8. From GDP to net lending/borrowing

All series mentioned below from the balance of payment statistic enter the national accounts statistic in levels

8.1 Primary income from/to the ROW, gross national income

Compensation of employees

Compensation of employees to and from the rest of the world (ROW) is based on information from the BOP statistic. Compensation of employees to the ROW in the BOP statistic for quarters where no information on the actual amount of compensation of employees is available is based on the number of non-residents working in Denmark from labour statistics (MIA). There is no information available for the latest quarters for compensation of employees from the ROW. The latest monthly data are therefore used for subsequent months.

Property income

Quarterly data on property income to and from the ROW in the BOP statistic are based mainly on financial data from the Danish Central Bank. **Periodicity** of interest payments follows the accrual principle.

Taxes on production and imports and subsidies

Quarterly data on taxes on production and imports to the ROW and subsidies from the ROW in the BOP statistics are based on information from the central government accounts.

Gross national income

Gross national income is derived by adjusting the gross domestic product for the net flows of the above-mentioned items.

8.2 Consumption of fixed capital, net national income, acquisitions less disposal of non-financial non-produced assets

Consumption of fixed capital

There is no quarterly data available on consumption of fixed capital. Instead, it is assumed that consumption of fixed capital in constant terms equals consumption the period before plus 2.34 pct. of the net change in the capital stock from the last quarter:

$$D_t = 0,0234 * (I_t - D_{t-1}) + D_{t-1}$$

where D_t is consumption of fixed capital in period t and I_t is investment in period t
The growth in the price index for total investments is used to extrapolate the price index for consumption of fixed capital. The current price is calculated residually.

Net national income

Net national income is found by subtracting from gross national income consumption of fixed capital.

Non-financial non-produced assets

Information an acquisitions less disposal of non-financial non-produced assets is obtained from the balance of payments statistics. These data are gathered as part of the questionnaire regarding trade in services described in Box 5.5.

8.3 Current transfers from/to the ROW, net national disposable income

Taxes on income, wealth etc

D.5 current taxes on income, wealth, etc. to and from the ROW in the BOP are based on information from the tax authorities. When no data from the tax authorities are available, it is assumed that the tax revenues are constant, except for taxes on income where the tax percent is assumed to be constant and the revenue is derived by multiplying *Compensation of employees, current expenditure* by the tax percent

Social contributions and benefits

D.61 social contributions and D.62 social benefits other than social transfers in kind to and from the ROW in the BOP are based on information from the central government accounts

Other current transfers	D.7 other current transfers to and from the ROW in the BOP are based on information from central government accounts for the public sector transfers and for private sector transfers information are obtained from the service trade questionnaires (REF).
Net national disposable income	Net national disposable income is derived by subtracting from net national income, net current transfers to and from the ROW

8.4 Adjustment for the change in net equity, net saving

Changes in net equity	Changes in net equity of households in pension fund reserves are based on information from the general government accounts.
Net savings	Net savings are derived by subtracting final consumption expenditures at current prices and changes in net equity from net national disposable income.

8.5 Capital transfers, net lending/borrowing

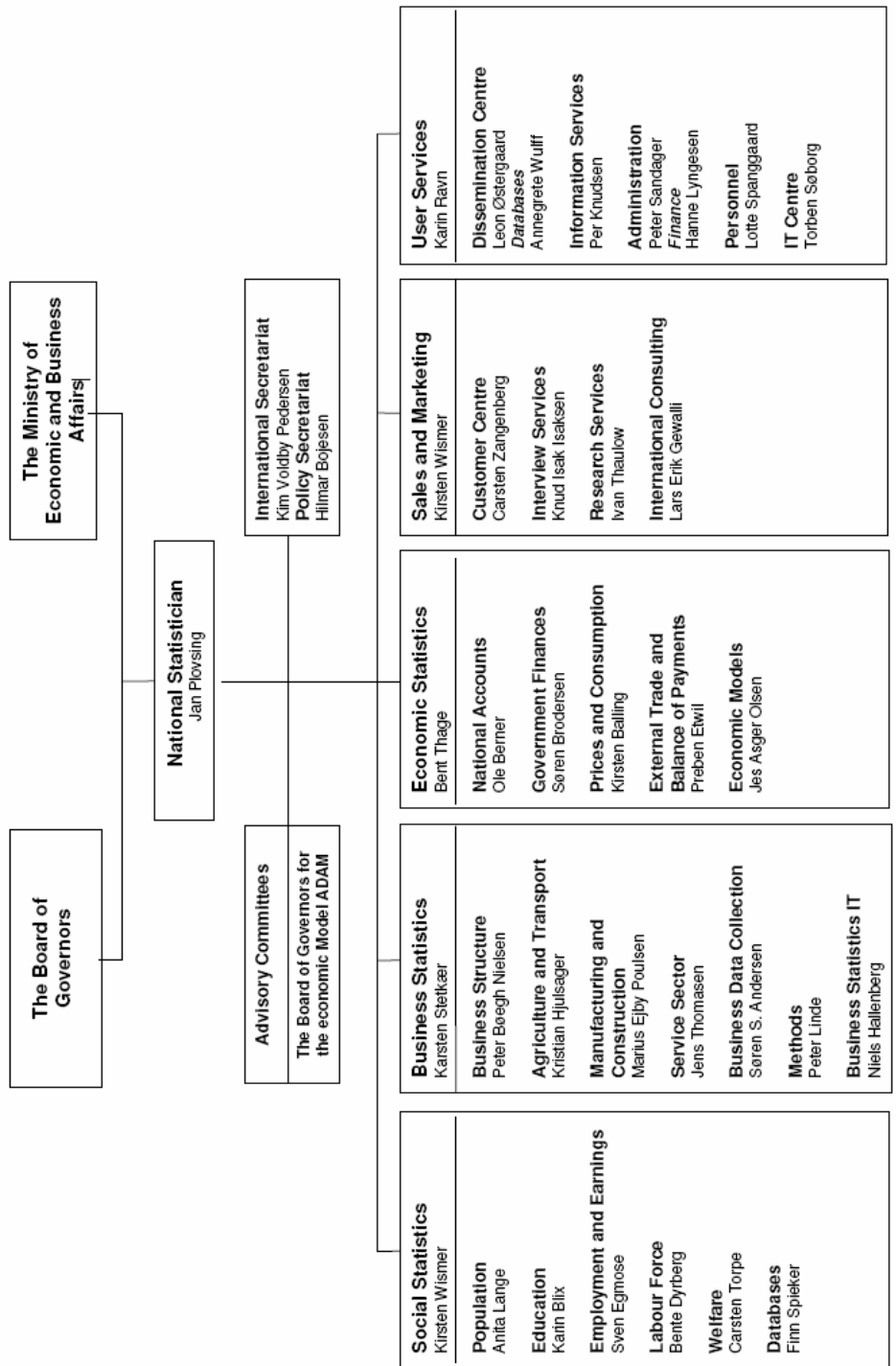|	
Capital transfers	As is the case for other current transfers to and from the ROW, capital transfers in the BOP are based on information from central government accounts for public sector transfers and information obtained from the service trade questionnaires for the private sector.
Net lending/ borrowing	Net lending/borrowing is found by subtracting from net savings net capital transfers, net capital formation and acquisitions less disposal of non-financial non-produced assets.

9. Flash Estimates

As mentioned earlier the Danish QNA is published as an early estimate 60 days after the end of the quarter and a revised version 90 days after the end of the quarter. Flash estimates are not compiled.

Appendix A: Statistics Denmark's Organisation

Statistics Denmark's Organisation 1 April 2008

The Ministry of Economic and Business Affairs|

The Board of Governors

National Statistician
Jan Plovsing

International Secretariat
Kim Voldby Pedersen
Policy Secretariat
Hilmar Bojesen

Advisory Committees

The Board of Governors for the economic Model ADAM

Social Statistics
Kirsten Wismer

Population
Anita Lange

Education
Karin Blix

Employment and Earnings
Sven Egmose

Labour Force
Bente Dyrberg

Welfare
Carsten Torpe

Databases
Finn Spieker

Business Statistics
Karsten Stetkær

Business Structure
Peter Bøegh Nielsen

Agriculture and Transport
Kristian Hjulsager

Manufacturing and Construction
Marius Ejby Poulsen

Service Sector
Jens Thomasen

Business Data Collection
Søren S. Andersen

Methods
Peter Linde

Business Statistics IT
Niels Hallenberg

Economic Statistics
Bent Thage

National Accounts
Ole Berner

Government Finances
Søren Brodersen

Prices and Consumption
Kirsten Balling

External Trade and Balance of Payments
Preben Etwil

Economic Models
Jes Asger Olsen

Sales and Marketing
Kirsten Wismer

Customer Centre
Carsten Zangenberg

Interview Services
Knud Isak Isaksen

Research Services
Ivan Thaulow

International Consulting
Lars Erik Gewalli

User Services
Karin Ravn

Dissemination Centre
Leon Østergaard
Databases
Annegrete Wulff

Information Services
Per Knudsen

Administration
Peter Sandager
Finance
Hanne Lyngesen

Personnel
Lotte Spanggaard

IT Centre
Torben Søborg

Appendix B: Planned publishing of the National Accounts

Planned publishing of the National Accounts

Quarterly/ Annual Compilation	Scope of calculations	Publishing		
		Newsletter and Databanks	Statistical Bulletin	Annual Publication
Quarterly Compilation 1. quarter 2008, revised	1st quarter 2007- 1st quarter 2008	Beginning of July 2008	Beginning of July 2008	
Annual Compilation 2007 (June Version)	Preliminary figures for 2007	Beginning of July 2008	Beginning of July 2008	
Quarterly Compilation 2nd quarter 2008	2nd quarter 2008	End of August 2008		
Quarterly Compilation 2nd quarter 2008, revised	1st-2nd quarter 2008	Beginning of October 2008	Beginning of October 2008	
Annual Compilation 2007 (November version)	Final figures for 2005 Preliminary figures for 2006-2007	Beginning of November 2008	Beginning of November 2008	March 2009
Quarterly Compilation 3rd quarter 2008	1st quarter 2005- 3rd quarter 2008	End of November 2008		
Quarterly Compilation 3rd quarter 2008, revised	1st quarter 2008- 3rd quarter 2008	Beginning of January 2009	Beginning of January 2009	
Quarterly Compilation 4th quarter 2008	4th quarter 2008	End of February 2009		
Quarterly Compilation 4th quarter 2008, revised	1st-4th quarter 2008	Beginning of April 2009	Beginning of April 2009	
Annual Compilation 2008 (April version)	Preliminary figures for 2008	Middle of April 2009	Middle of April 2009	
Quarterly Compilation 1st quarter 2009	1st quarter 2009	End of May 2009		
Quarterly Compilation 1st quarter 2009, revised	1st quarter 2008- 1st quarter 2009	Beginning of July 2009	Beginning of July 2009	
Annual Compilation 2008 (June version)	Preliminary figures for 2008	Beginning of July 2009	Beginning of July 2009	

Appendix C: Overview of the contents published in QNA

DKK mio., current prices 4th quarter 2007, non-seasonally adjusted	
Account 0: Goods and services	
P.1 Total output	780.781
+ D.21-D.31 Taxes less subsidies on products	69.485
+ P.7 Imports of goods and services	229.907
Resources of goods and services	**1.080.173**
P.2 Intermediate consumption	405.219
+ P.3 Government consumption expenditure	114.363
+ P.3 Final private consumption	224.676
+ P.6 Exports of goods and services	233.524
+ P.51+P.53 Gross fixed capital formation	105.714
+ P.52 Changes in inventories	-3.321
Uses of goods and services	**1.080.173**
Account 1: Production	
P.1 Total output	780.781
+ D.21-D.31 Taxes less subsidies on products	69.485
Resources from Denmark	**850.266**
- P.2 Intermediate consumption	405.219
B.1*g Gross domestic product	**445.048**
- K.1 Consumption of fixed capital	70.410
B.1*n Net domestic product	**374.637**
Account 2.1.1: Income	
B.1*g Gross domestic product	445.048
- D.21-D.31 Taxes less subsidies on products	69.485
B.1g Gross value added	**375.562**
- D.29-D.39 Other taxes less subsidies on production	-3.758
Gross domestic product at factor cost	**379.320**
- D.1 Compensation of employees	240.257
B.2g+B.3g Gross operating surplus and mixed income	**139.063**
Account 2.1.2: Allocating of primary income	
B.2g+B.3g Gross operating surplus and mixed income	139.063
+ D.1 Compensation of employees, from resident producers	235.619
+ D.1 Compensation of employees, from ROW	1.262
+ D.2 Taxes on production and import	79.190
- D.3 Subsidies	10.149
+ D.4 Property income from ROW	51.500
- D.4 Property income to ROW	40.908
B.5*g Gross national income	**455.579**
Account 2.2: Allocating secondary income	
B.5*g Gross national income	455.579
+ D.5-D.7 Other current transfers from ROW, net	-10.304
B.6g Gross national disposable income	**445.274**
Account 2.4: Use of disposable income	
B.6g Gross national disposable income	445.274
- P.3 Government consumption expenditure	114.363
- P.3 Final private consumption	224.676
B.8g Gross saving	**106.236**
Account 3.1: Capital account	
B.8g Gross saving	106.236
+ D.9 Capital transfers from ROW	694
- D.9 Capital transfers to ROW	505
- P.51+P.53 Gross fixed capital formation	105.714
- P.52 Changes in inventories	-3.321
B.9 Net lending	**4.032**
Account 4: Denmark and abroad	
P.6 Exports of goods and services	233.524
+ D.1-D.4 Compensation of employees, taxes and property income from ROW, net	10.531
+ D.5-D.7 Other current transfers from ROW, net	-10.304
- P.7 Imports of goods and services	229.907
B.12 Current external balance	**3.843**
+ D.9 Capital transfers from ROW, net	189
B.9 Net lending	**4.032**

Source: Statistics Denmark