CENTRAL BUREAU OF STATISTICS
The Netherlands
National Accounts Department

A SUMMARY DESCRIPTION OF SOURCES AND METHODS USED IN COMPILING THE FINAL

ESTIMATES OF DUTCH NATIONAL INCOME 1986

Cor N. Gorter and others

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A SUMMARY DESCRIPTION OF SOURCES AND METHODS USED IN COMPILING THE FINAL ESTIMATES OF DUTCH NATIONAL INCOME 1986

The Own resources of the European Communities are partially dependent on the levels of Gross National Product in the Member States. In 1989, a GNP Management Committee was created in order to assist the Commission in the verification of the relevant statistical data submitted by the national authorities. This Committee urged each EC-country to furnish an inventory of the sources and methods used in compiling Gross National Product. This Occasional Paper is a translation of the summary inventory prepared by the Dutch Central Bureau of Statistics on that occasion. The description pertains to the sources and methods used to estimate definite figures before the extensive Revision with base-year 1986.

The full report on sources and methods for the national income estimates is available in the Dutch language. It equally refers to the situation before the 1986 Revision.

Contents

1. Introductory remarks

Before examining various aspects of the calculation of gross national income in the Netherlands, it is useful to describe some general aspects of the Dutch system of national accounts and its basic statistics. To this end, in this section first there will be a very brief examination of the similarities and differences between the Dutch system and the European system of Accounts (ESA). Attention will then be turned to the co-ordination of a major part of the basic statistics and to the Central Business Register. This register plays a major part in determining the quality of the national accounts. It prevents over-lapping of basic statistics and can be used as a basis for grossing up surveys. Finally, there will be a discussion of the two most important types of units in the basic statistics.

General characteristics

The definition of residency and the delimitation of the economic territory of the Netherlands is in accordance with the recommendations set out in paragraphs 204-211 of the ESA. Equally, the production boundary is defined as recommended internationally. In some minor cases, no estimates have been made for practical reasons. For example, produce from allotment gardens and the like have not been considered. The transaction categories of the Dutch system are for the most part identical to those of the ESA. Where the definitions differ, the figures can easily be corrected. One example of such a difference is that under the Dutch system property insurance premiums are recorded in net rather than gross terms. Also, import duties are not recorded directly as income of the European institutions but are routed via the Netherlands government instead. Where the Dutch system does differ from the ESA in its definition of transactions, this does not influence the level of the gross national income or of its major components.

The Dutch system of national accounts posesses a number of functional characteristics - as can be seen for example in the sectoral definitions. Production in partnerships, sole proprietorships and private non-profit institutions is assigned to the Enterprise sector. This is also true of the imputed output

of owner-occupied dwellings. Total private final consumption, i.e. including that of private non-profit institutions, is recorded in the Household sector. The provision of social security is functionally recorded in the sector Social security funds. For the most part, the units used are in the nature of 'establishments' (cf. the final part of this section).

Two other examples of the functional characteristics of the Dutch system concern the recording of capital formation and employment. The user criterion is applied to gross fixed capital formation (excluding dwellings). Maintenance costs on rented business and industrial premises are accordingly regarded as a charge on the tenant rather than on the owner. Agency staff is recorded with the companies which use their services and are supposed to pay their wages. The agency's percentage is listed as payment for a service.

Co-ordination and the Central Business Register

It is imperative that the sources used for the national accounts are carefully matched. Neither transactors nor transactions should be doubly counted or missed. Identical definitions make aggregation and integration easier. In the Netherlands, a considerable degree of co-ordination has been achieved due to the fact that most basic statistics used are compiled by the CBS itself. This co-ordination takes such forms as a the Central Business Register, the development of standard classifications and the requirement that identical definitions be used. A separate CBS department is entrusted with maintaining the business register and ensuring that the co-ordination rules are observed. Not all CBS statistics are subject to the co-ordination rules for that matter. They apply to the General industrial statistics, the statistics on investment in fixed assets, production statistics, the statistics on employed persons, and some wage statistics (see also section 4). Nor does the national accounts department comply completely with the co-ordinated classifications and definitions. One significant deviation from the norms of the co-ordinated statistics is the functional way in which trade is handled. For the purposes of the national accounts, subsidiary trading activity is always recorded separately from the other activities of an economic unit.

The Central Business Register (ABR, Algemeen bedrijfsregister) is of great assistance in ensuring consistent surveys of establishments and comprehensive estimates for the national accounts. The ABR comprises 706 000 establishments covering all economic activities, including general government but excluding agriculture[1] and some of the professions. The ABR therefore covers 95% of all discrete establishments in the Netherlands (the nature of an establishment will be explained later in this section).

Enterprises are not obliged to take steps to register with the CBS: the records are based on a register held by the Chambers of Commerce and Industry (650 000 separate legal entities). This is supplemented by units known to the executive bodies of the social security system (100 000 legal entities). The CBS also itself organizes specific counts of units engaged in particular activities. As a result of grouping there are 50 000 fewer establishments than legal entities. On the other hand, splitting has generated 6 000 more establishments than there are legal entities. The ABR includes i.a. the following characteristics: name and address, legal form, main activity as defined in the CBS standard industrial classification and the size category in terms of man-years. Changes in these characteristics are updated monthly (400 000 changes annually), additions and deletions are made once a year (each involving approximately 50 000 legal entities).

Units used in the basic statistics

The basic statistics for the national accounts distinguish between various types of unit in the enterprise sector. The most important of these is the establishment. Besides, the financial-administrative unit is used. These two types of units are discussed in turn below.

Statistics on the production process use the establishment as their statistical unit[2]. An establishment is taken to be an enterprise, a part of an enterprise or a number of enterprises grouped together which is as homogenous as possible in terms of its activity and which can be described in full. 'Homogeneity' is, of course, a relative concept. The benchmark for measuring the homogeneity of an establishment is the three-digit level of the 'Standaard

bedrijfsindeling' (SBI). The SBI is the standard industrial classification used by the CBS, and in drawing it up account was taken of both the activity classification of the European Community (NACE) and the United Nations industrial classification (ISIC). Originally, the SBI provided for four levels: economic branches, classes, groups and sub-groups. As time went on a fifth digit has been added. The criterion 'can be described in full' should be taken in this context to mean the availablity of all necessary data for the description of the production process.

In practice, establishments are first sought in enterprises - i.e. natural persons, legal persons or associations of such persons trading on their own account. Should an enterprise not meet the criteria for an establishment, because it exercises more than one activity, it will be split into two or more sections, each as homogeneous as possible, for which the necessary descriptive data is available. Splitting is in fact applied only where the activities are relatively extensive and with the co-operation of the respondent. For some enterprises it is not possible to describe the production process in full. If this is because such units are administered together with other enterprises, grouping is carried out. Such a group can sometimes be split again into homogeneous units. The establishment as it is made operational in the CBS statistics complies fully to the definition of 'establishment-type unit' in the UN System of national accounts (SNA). However, no account is taken of the regional aspect which is an element discussed in the SNA. Establishments are real organizational units and thus more institutional in character than the homogeneous production unit defined in section 265 of the ESA.

The criteria for distinguishing establishments in the general government sector are largely the same as for private enterprises. For the classification by sector in the system of accounts, and in determining the value added, it is important to make a distinction between the producers of government services and market enterprises. This is done in line with the standards set out in section 304 and seq of the ESA. In the Netherlands, state and non-state subsidized education is regarded as belonging to the general government sector.

The sources used by the national acccounts with respect to the processes of income distribution and finance include the Company Finance Statistics (SFO,

Statistiek Financiën van Ondernemingen). The statistical unit used in the SFO is the smallest possible financial-administrative unit for which the financing and income process can be described in full. In the first instance individual companies are comprised, i.e. firms which are incorporated in the Netherlands and do not have a parent/subsidiary relationship with other firms. Secondly the financial-administrative unit pertains to composite companies, i.e. groups of corporate firms which are linked in a mutual parent/subsidiary relationship. However, enterprises with financial activities (banking and insurance, pension funds, etc.) are always separated out from such composite companies. These units are so different in their transactions from the non-financial institutions that they are assigned to a separate sector together with the simple financial companies. The financial-administrative unit can be compared with the 'enterprise' or 'family of enterprises' in the SNA but is larger than the institutional unit defined in section 212 of the ESA.

2. Successive estimates of GNP

2.1. The various versions

Initial indications of trends in gross value added are obtained from monthly industrial production figures - expressed at factor cost and in constant prices. The first estimate of the production index, published in somewhat more than a month after the end of the month under review, is still based on incomplete information. As more complete and more detailed information becomes available, the index figures are adjusted. Very detailed production and consumption data from the annual national accounts can bear corrections up to two and a half years after initial publication.

The first integrated information about the economic process becomes available in the quarterly accounts. These do not involve the entire economic process but rather transactions involving goods and services and the generation of income. The data comprise levels and volume changes in the macro-economic variables both before and after seasonal adjustments. The figures are published every quarter. The publication 'Kwartaalrekeningen' (quarterly accounts), first issued in 1986, contains series beginning in 1977. It is published 17 weeks after the end of the quarter under review. Each year the quarterly data are adjusted in the light of the yearly figures as these become available.

The yearly figures are published in July. The two most recent sets of annual data are provisional in nature: in receding order, these are entitled 'provisional' and 'adjusted provisional'. Full accounts in line with the national system are established for both years. Most detailed data is published at a level of detail equivalent to the economic branches of the SBI.

Two and a half years after the end of any given year, the definitive and most detailed estimates of the national accounts are published. The published definitive figures also include a number of input-output tables of the industry x industry type. These distinguish between 58 activities, each being an amalgamation of a number of SBI economic groups.

2.2. Estimation methods

In the quarterly and annual accounts alike the calculation of value added is associated with a detailed reconciliation of supply and demand for goods and services within the framework of an input-output table. So, at all times the same general method is used. However, the sources used for the definitive estimates are independent in nature, while non-definitive estimates are largely based on structural information contained in the data for the previous period. A key role is therefore played by the input-output table of the most recent year for which definitive figures are available. Compilation of the definitive input-output table is discussed in Section 3.

In order to calculate the domestic product for the provisional years, each element of a somewhat simplified version of the latest input-output table for a definitive year is extrapolated with the aid of volume and price data and supplemented with information on levels from direct sources. Where no trend indicators or independent data are available for a particular field, assumptions are made. The values thus obtained are then first of all integrated into an input-output table for the adjusted provisional year (t-2). The integration process employs all kinds of plausibility tests to ensure that the original estimates are mutually consistent. Next, the structure of the adjusted provisional year is used to obtain figures for the provisional year (t-1), using essentially the same method.

The quarterly figures are estimated in a similar manner, the basis in each case being the structure of the appropriate quarter of the previous year. The origin of this series is a division of the 1977 year figures into the various quarters. One particularity in the estimation process is that it must be ensured that the sum of the quarterly figures in any given year amouts to the same total as the estimate for the year as a whole. Obviously, the more recent the period being estimated, the fewer independent data are available and the more likely it is that the basic information used will have to be adjusted later.

2.3. Major revisions

General

At regular intervals (every five to ten years), the CBS carries out a major revision on the accounts and the input-output tables. The need for such revision arises from the fact that the data in the national accounts are required to be both up to date and continuous. The former requirement means that estimates must fit in with the most recent findings. Continuity means that the data from different reference periods must be mutually comparable. These two requirements come into conflict whenever definitions change, there is an alteration in the sources available or there is an improvement in the technical methods available for making estimates.

Changes in the sources may have a number of causes. One such case is the availability of new basic statistics for a particular field. Sometimes one source is no longer available and an alternative measurement must be used. Also, the statistical units on which observations are based may change (e.g. because the register of units is revised). There may be various reasons for altering the methods used to make estimates. It may be found that the method being used no longer meets requirements and thus has to be replaced or supplemented. Further computerization often offers the opportunity of improving statistical techniques.

In all cases, adoption of new definitions, changes in the source material available and the use of improved calculation methods result in up-to-date data that are correct with regard to level, but show year to year mutations that do not correspond to the real changes in these variables.

A compromise has been adopted to cope with this dilemma. In compiling the annual figures, the continuity aspect has been given priority - with the result that levels are not up to date in some cases. At intervals, however, the data are revised to bring the whole series into line with the updated level for a specific base year.

The most recent of such extensive revisions involved the base year 1977. Data for previous years back to 1969 were brought into line with that year. A similar revision is currently in preparation and will be based on the year 1986. Accordant continuous time series will be constructed starting from the year 1969.

Important aspects of the 1977 revision

The years prior to 1977 were ones of major extensions and improvements to the statistics on which the national accounts are based. The extensions primarily involved a number of new statistics in the services sector, while improvements particularly concerned the mutual co-ordination of existing statistics. The 1977 base-year revision involved:
- revising the data in the light of the availability of the above-named sources,
- improvement of a number of methods, including more consistent treatment of a number of goods and services transactions,
- revising data in the light of changes in the classification of statistical units by economic class.

This revision resulted in the gross domestic product at market prices being increased by 13.5 thousand million guilders, or 3.5 %. The most extensive re-adjustments were in the service-orientated economic classes.

The 1986 revision

The forthcoming revision with 1986 as benchmark year is characterized by greater emphasis on the institutional aspects of the system, particularly in the recording of goods and service transactions and in the generation of income. Starting with this revision, aggregation and integration of the basic data will be based on the use and make matrices, thus giving a more immediate link with the basic statistics. It will, for example, allow data about subsidiary activities of economic groups to be better more clearly expressed. The comparison and mutual balancing of data from different sources will be rendered much more sophisticated.

Over the period 1978-1986 a number of further new sources have become available and some existing sources have become more complete. In this respect it is worth mentioning that this revison will for the first time make direct use of data from CBS surveys on household consumption expenditure and gross fixed capital formation. It will also be the first occasion on which direct information on production statistics on trade activity will be exploited. Furthermore, use will be made of a number of new sources with regard to parts of the services sector.

In respect of income transactions, considerably more information has become available since the last revision. This particularly concerns the Business finance statistics (SFO, Statistiek Financiën van Ondernemingen) compiled over the years 1977-1985. The SFO provides detailed data on the profit and loss accounts and the balance sheets of non-financial enterprises with an independent legal personality. Higher quality estimates of incomes can be achieved by combining these data with information on sole proprietorships and partnerships obtained from production statistics, thanks to the development of new estimating techniques. This could considerably enhance the importance of reconciling income-derived value added figures with estimates obtained using other methods.

Two major changes in the 1986 revision concern the general government sector. Firstly, the national accounts will now fully observe the ABR typology for the units into which administrative government is divided. Secondly, central government transactions will now be classified in line with the basic statistics.

Finally, the 1986 revision has been the occasion for a critical examination of all kinds of existing estimating and recording methods. A range of adjustments will accordingly follow.

3. Main features of the method used to estimate the definitive year figures

3.1. General

There are in theory three ways of estimating Gross Domestic Product: based on production, final expenditure and income. GDP estimates for the definitive year figures in the Netherlands contain elements of all three. However, the dominant method is that of net production. Before the Second World War, some calculations were based on the income method (making use in particular of income-tax data), but since then it has always been felt that data on net production data were more reliable for the purposes of the national accounts.

The basis for calculating GDP in the Netherlands is the system of production statistics. The production statistics questionnaire includes among others questions relating to the operating account of the establishment. Value added can be calculated from these data. A different procedure is, of course, used to determine the output of banks, pension funds and life-insurance companies, of the producers of government services and of non-profit-making organizations. The value added in these instances is calculated in accordance with ESA recommendations. Compilation of the annual input-output table can be regarded as a way of checking the value-added data thus obtained. This reconciliation of 'supply' and 'demand' of goods and services groups at a low level of aggregation contains aspects of the expenditure method for determining value added.

A specification of output and intermediate consumption in the production statistics constitutes the starting point for the compilation of the input-output table. On the 'supply side', in first instance a total is made of production in the Netherlands and imports. On the 'demand side', consumption by financial organizations and producers of government services is also known for separate goods and services groups. This holds equally for exports. Changes in stocks can be estimated on the basis of information in the production statistics. The consumption of households and gross fixed capital formation (to the extent that this represents purchases) are determined in the first instance using the 'commodity flow' method but the figures are also compared with existing direct sources. Of major assistance in supply-demand reconciliation are data concerning changes in quantities and prices.

The data are reconciled in a number of ways with data concerning income. Wage and social-security data from the production statistics are reconciled in detail with data from other surveys and the returns from the executive bodies of the social security system. Reconciliation of (parts of) the operating surplus is more difficult in that the sources covering these categories of transactions usually relate to larger units than the economic units of the production statistics. No reliable way has yet been found to link these two types of unit in the Business Register. This problems does not, however, appear in the case of financial institutions and general government, where generally the information available covers the whole range from the production process to financial processes. With regard to non-financial enterprises, confrontation can usually cover only the evolution of flows and not their level. It is virtually impossible to carry out reconciliation with income-statistics data, given the considerable delay before the data concerned becomes available. The many differences in definitions with these taxe based statistics constitute a further handicap.

The data on output, consumption and income generation - estimated for the purposes of the input-output table - serve as the basis for the compilation of the system of accounts. Other than those described above, no data concerning institutional sectors are used in the Netherlands to calculate GDP.

3.2. The integration process

An important aspect of the compilation of the national accounts in the Netherlands is that the reconciliation of data from differing sources does not occur in a single stage at a more or less aggregated level. Instead, the data from the main sources are examined at intervals by various specialists at steadily higher levels of aggregation. This involves not only reconciliation with comparable data from secondary sources but also the equally vital assessment of the plausibility of the data themselves, for example by examining volume and price trends or production per worker. The following is a description of the main stages of the integration process.

Data on the production process drawn from the basic statistics are treated in the greatest detail by the 'branch specialists' (see Section 5.2). Plausibility checks may involve contacting the primary departments or even the survey respondents. The production statistics generally concern only companies with more than 10 employees (or, more accurately, man-years). Some specific data are requested only from companies with more than 50 employees. For the purposes of the national accounts these data must be extrapolated to provide figures for the relevant economic class as a whole. Differences arising from such factors as reclassification of units, changes in the questions etc. (as discussed in section 2.3) must be offset to ensure that the data are consistent with those from earlier periods. Subsidiary activities, particularly trade, must be separated out. Other adjustments concern the use of producers' prices for intermediate consumption, corrections for fraudulent returns, etc.

The branch specialists compile a number of statements to be used in the subsequent integration process. The statement of output comprises a number of data concerning a given product group such as production value, stock changes, various margins, exports of the product group concerned, and the relevant deflators. The raw and auxiliary materials statement contains similar information about intermediate consumption. The branch specialists also compile a statement of miscellaneous costs, one summarizing added value and a range of other necessary data including, for example, exports by Dutch companies. Such statements are also compiled for economic classes for which no production statistics are available. Here recourse must be had to other kinds of information. With regard to agriculture, examples include harvest estimates and the consumption of agricultural products by the foodstuffs industry.

The next phase of the integration process employs what are known as 'work tables'. A Work table is a table similar to an input-output table but supplemented by a number of auxiliary columns and rows. In the columns, 106 industrial groups are differentiated - considerably fewer than the some 200 groups used by the branch specialists. A total of about 250 rows are used, including the auxiliary ones. With a few exceptions, the rows are classified in accordance with the SBI. In respect of raw and auxiliary materials, the information compiled by the branch specialists is often a great deal more detailed. This does not apply to the 'miscellaneous costs'. Rows devoted to goods and services

include data on the output of resident companies and general government as well as imports related to the major products of these companies.

Five Work tables are used:
- a table for the year t-1, expressed in current prices
- a table for the year t, expressed in current prices
- a table with t/t-1 deflators
- a table with t/t-1 volume indices
- a table for year t, expressed in t-1 prices.

The last three tables play a major part in the analyses made during the integration process. The deflators and volume-index figures are of the Paasche and Laspeyres types respectively. They are determined on the basis of the most recent weighting coefficients.

At this stage, integration is done by 'block integrators'. A block integrator is responsible for a number of more or less interrelated rows of the work table and for the associated columns. There are 9 such blocks concerning particular kinds of economic activities. There is also a block for general reapportionment, i.e. goods and services consumed or produced by a large number of industrial branches. Moreover, a number of special transactions, such as import duties and indirect taxation, require reconciliation over the whole of the work table.

The block integrators verify in the first instance the information supplied by the branch specialists and carry out a number of standard operations. In assessing the plausibility of the data, particular attention is paid to volume trends. For each column of the Work table, the standard operations concern the breakdown of unspecified items, the conversion to net values of indemnity insurance transactions and a more functional treatment (see Section 1 on general characteristics) of real-estate rentals and expenditure on agency staff. In addition, a detailed breakdown into groups of goods is made for each row, to act as background information for subsequent integration. Once these operations have been carried out, there is consultation between the block integrators and the branch specialists.

Integration of a number of categories of goods and services which deserve particular attention and are quite separate from the rest is described as 'preliminary processing'. This concerns paid services supplied by one domestic estblishment to another, textile processing transactions with the Rest of the world, estimates of the import and export of services for each economic class and applying deflators to the export of goods. These data are then reconciled with data from other sources concerning wages, social security contributions and other income. In this last category, particular attention is paid to trade data.

The 'main integration stage' is the one in which a consistent overall picture is finally obtained of the production process, the generation of income and expenditure. Here too, the Work table is divided into blocks of mutually related rows and columns. In practice, the main integration stage concentrates in particular on the analysis of the data in the rows. Analysis of the columns has for the most part been completed during previous phases. In a nutshell, the main integration phase analyses and resolves discrepancies between supply and demand. This is done simultaneously in current prices and prices for the previous year.

4. Sources for the definitive year figures

4.1. Data on the production process

Most output data for non-financial enterprises are obtained from the production statistics prepared by the CBS. These annual production statistics include data on:
- number of employees
- operating figures such as net turnover, purchases of raw materials and semi-finished goods, labour costs, accommodations costs, stock and machine costs, vehicle costs, sales costs, general costs, depreciation, extraordinary income and expenditure
- breakdown by activity of a number of types of costs
- Indirect taxes and subsidies
- gross investment in fixed assets.

In general, large enterprises are fully surveyed, smaller companies being covered only by sample surveys. The most significant group of enterprises not covered by the production statistics are agricultural enterprises.

Given that volume and price trends are analysed at the same time as value trends in compiling of the input/output table, the data collected by the price statistics department of the CBS are very important. An overview of the major sources used in determining the value added of non-financial enterprises is given in part A1 of Annex.

Financial enterprises are quite unlike non-financial ones, not only with regard to the determination of value added but also in terms of the available sources. The CBS does not compile production statistics for financial enterprises. An overview of the data used to estimate the value added of financial enterprises and employers' pension contributions will be found in Annex, part A2.

Nor are production statistics produced for general government, given that the accounts of government bodies provide sufficient information from which to compile statistics of government income and expenditure. A disadvantage for the purposes of the national accounts is that recording is mostly on a cash basis.

It is usually hardly possible to convert these data to a transaction basis. The coverage of available data on the government sector is excellent, with the exception of some quasi-governmental bodies, the receipts and expenditure associated with education at municipal level and some other elements in the budgets of municipalities. An overview will be found in section A3 of Annex.

Social security data are important not only for the value added of social security itself but also for the employers' social contributions component of the compensation of employees. This information is predominantly obtained from the annual reports of the executive bodies concerned. See Annex, second part of section A3.

4.2. Expenditure and import/export data

The commodity flow method is predominantly used for household consumption and fixed capital formation. In the Netherlands, final household consumption also contains the consumption of private non profit institutions. Supplementary sources for determining the consumption figure comprise retail trade data and the Continuous Budget Survey. Imports and exports of goods are recorded in the external trade statistics. Data on the import and export of services are largely based on the cash-basis balance of payments figures compiled by the Central Bank. This does not apply to data on the export of transport services and the import/export of services by general government, which are covered by CBS sources.

4.3. Income data

Wage and salary sources can be best discussed at the same time as those for employment. Estimates of wages and salaries per economic activity are based on data from the various production statistics. These are reconciled with and supplemented by data from the diverse labour statistics. One problem is that these often record the number of jobs rather than the number of man-years. For the most recent revision year (1977) the connection between these two variables was established, since when the available data on labour and wages has been used to

calculate series of consistent annual changes for each economic activity. An
overview of sources will be found in section B of Annex.

An important source of data about other income of companies is the Business
Finance Statistics (SFO, 'Statistiek Financiën van Ondernemingen'). Prepared by
the CBS, these are based on a survey of non-financial enterprises with legal
personality and assets of at least 10 million guilders (excluding rented dwel-
lings). The unit for these statistics is the financial-administrative unit (see
section 1) but the data must relate only to the part established in the Nether-
lands. The survey comprises a detailed breakdown of the profit-and-loss account
and the balance sheets. One worrying aspect is the valuation principles, which
deviate in some respects from the norms of the national accounts.

In addition to the SFO, statistics on quoted companies and the annual
reports of individual major firms are used to arrive at an estimate of business
income.

The cash-basis balance of payments figures, compiled by the Central Bank,
are the basis for recording the compensation of employees and the other primary
income flows from and to other countries.
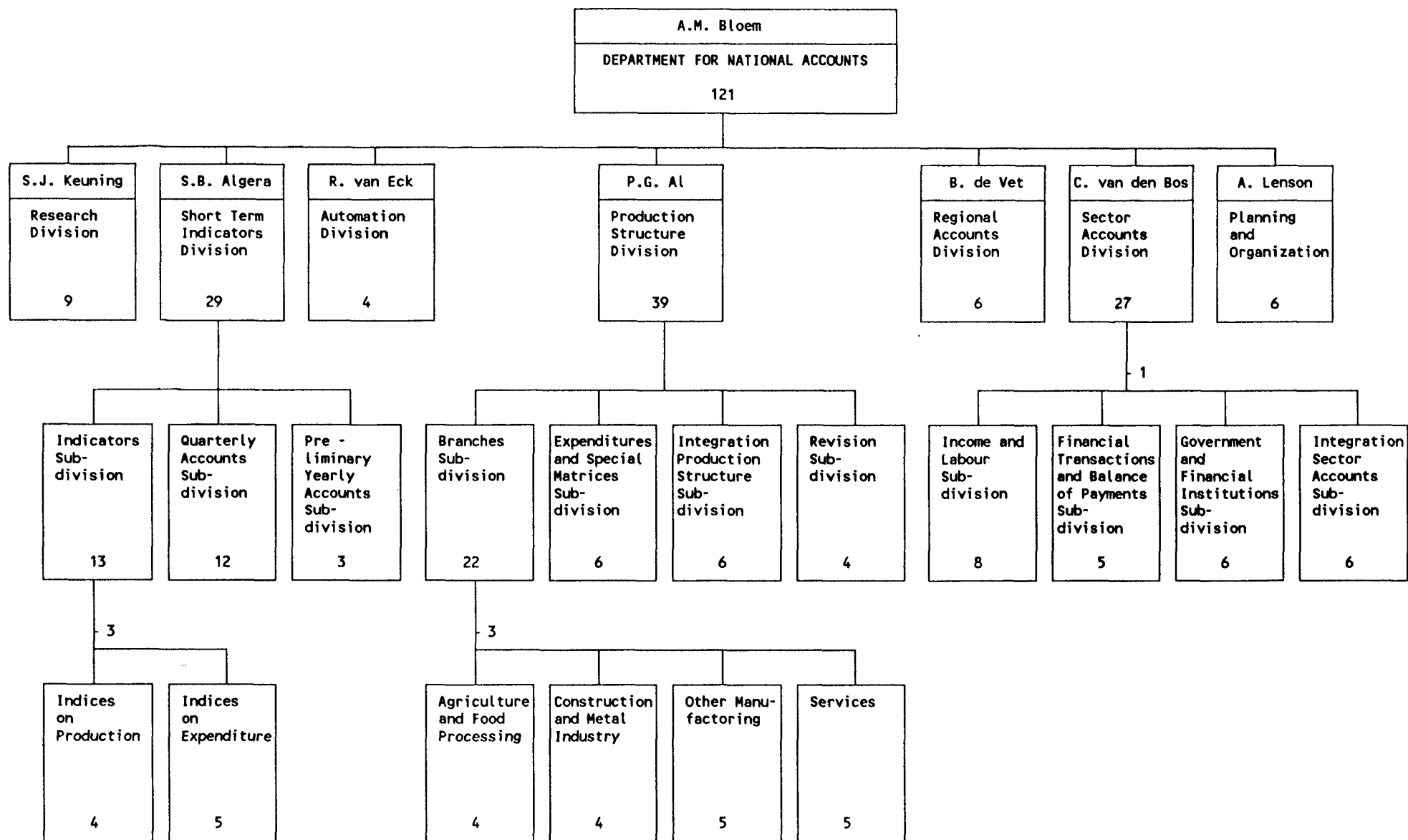
5. Organization

5.1. Source material

As mentioned above, most of the sources used in estimating gross national income are compiled by the CBS itself. This is particularly true of the annual production statistics, which cover the major part of output in the Netherlands. The interests of the national accounts are safeguarded in two ways. On the one hand, these statistics are subject to the co-ordination provisions, thus ensuring that the surveys carried out are systematic - in terms of both the coverage and the formulation of the questions. On the other hand, and this is true of all surveys carried out by the CBS which have links with the national accounts, the questions (and any changes in them) are submitted to the National Accounts Department for comments. With regard to the way data collection is organized, it is important that enterprises be obliged by law to co-operate in the compilation of production statistics.

The following comments can be made about major sources not compiled by the CBS:
- In respect of agriculture, external data used include that obtained from the Landbouw-economisch Instituut (Agricultural Economics Research Institute), on which the Department of National Accounts has no direct influence. Data on individual units are not required.
- With regard to the external sources covering the bank and insurance sector, the suggestions of the CBS are generally followed. Data covering individual units are generally available, with the exception of the data collected by the Nederlandsche Bank under the Banking Supervision Act.
- Data on the wage and salary totals obtained from the industrial insurance boards are beyond the CBS's control. Nevertheless, data on individual units are available.
- The CBS is represented on the working parties responsible for drafting the accountancy provisions for public-law bodies. Here too, data on individual units are available.
- The CBS has no influence over the data obtained from the executive bodies of the social-security system. Nevertheless, data on individual units are available.
- The balance of payments figures compiled by the Nederlandsche Bank comprise a

Table 1. Organization of the National Accounts Department

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                          DEPARTMENT FOR NATIONAL ACCOUNTS
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S.J. Keuning	S.B. Algera	R. van Eck	P.G. Al	B. de Vet	C. van den Bos	A. Lenson
Research Division	Short Term Indicators Division	Automation Division	Production Structure Division	Regional Accounts Division	Sector Accounts Division	Planning and Organization
9	29	4	39	6	27	6

- 1

Indicators Sub-division	Quarterly Accounts Sub-division	Pre-liminary Yearly Accounts Sub-division	Branches Sub-division	Expenditures and Special Matrices Sub-division	Integration Production Structure Sub-division	Revision Sub-division	Income and Labour Sub-division	Financial Transactions and Balance of Payments Sub-division	Government and Financial Institutions Sub-division	Integration Sector Accounts Sub-division
13	12	3	22	6	6	4	8	5	6	6

- 3 (Indicators Sub-division)
- 3 (Branches Sub-division)

Indices on Production	Indices on Expenditure	Agriculture and Food Processing	Construction and Metal Industry	Other Manu-factoring	Services
4	5	4	4	5	5

number of subdivisions designed to bring them into line with the national accounts. The CBS has, however, neither direct influence over the nature of the data nor access to data on individual units (with the exception of the import/export of merchandise).

5.2. Internal organization

In the Netherlands, the body responsible for compiling the national accounts is the National Accounts Department of the CBS. This department has some 120 employees, over 40 of whom are graduates. Table 1 is an organization plan. There are 7 divisions, with Automation and Planning and Organization having a supporting rôle.

The divisions

The 'Kortlopende indicatoren' (short term indicators) division is responsible for monthly and quarterly data where these are compiled by the Department. This division also estimates reconciled figures for resources and uses for the provisional and adjusted-provisional years. The work of the 'Produktiestructuur' (production structure) division includes preparation of the input-output tables for the definitive year. Output data for non-financial enterprises is the responsibility of branch specialists in the subdivision 'Bedrijfstakken' (branches). Estimates of household consumption, investment and depreciation are the work of the subdivision 'Bestedingen & Speciale Matrices' (expenditure and special matrices). The major tasks of the subdivision 'Revisie' en 'Integratie Produktiestructuur' (revision and integration production structure) are self-explanatory. The 'Rekeningenstelsel' (sector accounts) division comprises a number of sector specialists (general government, financial institutions, balance of payments) and specialists in the field of specific transaction categories (income and labour, financial transactions). The subdivision 'Integratie rekeningenstelsel' (integration sector accounts) plays a co-ordinating rôle in the compilation of the accounts, the publication National accounts and in reporting to international organizations. In the 'Regionale rekeningen' (regional accounts) devision, the goods and service transactions from the national accounts are broken down by region. The 'Studiedienst' (research) division

carries out a range of research activities in the field of national accounts. This particularly includes the unofficial economy, the constuction of historic time series, certain input-output studies, conceptual issues, etc.

The processing of the data

The first data on economic trends is produced by the 'Indicatoren' (indicators) subdivision of the Short Term Indicators division. The duties of this subdivision include the compilation of annotated monthly economic reports. The estimations for the quarterly GNI are also made by the Short Term Indicators division.

The calculations for the determination of the GNI of the adjusted provisional and the provisional years are the responsibility of the Short Term indicators division. However, this division cooperates very closely with the branches sub-division and the Sector Accounts division. The latter both furnish much of the basic material and comment the initial estimation outcomes. The construction of the full accounts for the two most recent years is done by the Sector Accounts division.

Each year, three successive versions of the input-output table are made in respect to both the adjusted provisional year and the provisional year. This means that the other sub-divisions have ample opportunity to comment on the estimates. Moreover, it is possible to analyse the results before all the material to be processed becomes available. A confrontation of supply and disposition of goods and services in its near-final state for both provisional years is submitted for comments to the Central Planning Bureau (i.e. the government body for macro- and meso economic studies that uses extensively National Accounts figures).

The calculations for the definitive year's GNI is made by the subdivision Integration production structure of the Production structure division. The major part of the information to be integrated is supplied by the branch specialists of the subdivisions Branches, Financial transactions and balance of payments (banks and insurance) and Government and other institutions. For administrative purposes, the branch specialist for Transport is a member of the

CBS Traffic and Transport department. Information is also received from the subdivisons Expenditures and Special Matrices, Income and labour and (with reference to transactions with the Rest of the world) Financial transactions and balance of payments.

It is not, however, the case that all information passes through the subdivision Integration production structure. Data are also exchanged, and results harmonized, between the other subdepartments. One example is the subdepartment Income and labour. At an early stage, it supplies the branch specialists with data from the industrial insurance boards, and among the data it receives are analytical overviews of wages and salaries (compiled by the branch specialists) and data on social contributions provided by the Government subdivision.

Information concerning the definitive year's figures begins to flow between the various subdepartments around mid-October. Towards the end of March, the Integration production structure subdivision has reached the point where figures for the operating surplus can be reconciled with the subdivision Income and labour. The final Work table is completed during the first half of April. Much of the data flow is then channeled to the Integration sector accounts subdivision, which takes steps to ensure that complete accounts for each sector can be compiled. Early in June, the input-output tables are ready for publication in 'Nationale rekeningen' and 'De produktiestructuur van de Nederlandse volkshuishouding'. All the data from the publication 'Nationale rekeningen' are usually available to users by mid-July.

ANNEX. LIST OF SOURCES

PART A1 : MAJOR SOURCES FOR THE VALUE ADDED OF NON-FINANCIAL ENTERPRISES

Agriculture, animal husbandry and fisheries

No production statistics are compiled for agriculture. The output value is estimated in a functional, direct manner: consumption estimates may be direct (e.g. energy) or indirect (e.g. compound feeds). Sources used are:
- annual CBS agricultural survey, from which : estimates of harvests, changes in livestock numbers, energy data
- commodity-board data
- production statistics of purchasers (e.g. consumption of potatoes by the starch industry)
- branch organizations (e.g. for seeds)
- prices quoted by the Agricultural Economics Research Institute
- slaughter statistics (functional CBS statistics based on number of inspected carcasses)
- dairy statistics/supply of milk, CBS
- statistics on artificial fertilizers, produced by the Agricultural Economics Institute.

Parks departments, gardening companies, Agricultural service enterprises
Production statistics are compiled for all size classes of the above enterprises, sometimes by means of sample surveys.

Forestry
Where classifed under general government, see part A3. Otherwise, figures from the Agricultural Economics Institute.

Fisheries
There are no production statistics. One source is the data on grossings collected by the Agricultural Economics Institute.

Extractive industries

Oil and natural gas extraction and exploration
Production statistics are not available. There is, however, a quarterly survey, various annual reports and the publication 'Aardgas en aardolie' (Natural Gas and Oil) produced by the Ministry of Economic Affairs.

Extraction of sand, gravel and marl
CBS monthly surveys

Salt production
Some production statistics, some monthly surveys

Other extractive industries
In part a quarterly survey, together with the annual report of the Ultracentri-fugeproject Nederland (Netherlands Ultracentrifuge Project).

Food industry

As far as possible, the production statistics serve as the starting point. However, these cover only the larger companies. For the smaller ones there are only very limited production statistics based on sampling. Given the close links between this industry and agriculture, which is estimated on a functional basis, adjustments are often made on the basis of other statistics and/or commodity-board or branch data.

Levies and subsidies are important and are attributed to transactions on the basis of data from the 'Landbouw egalisatie fonds' (LEF - Agricultural Equalization Fund).

Slaughterhouses and the meat-products industry

Based on production statistics with major adjustments on the basis of the 'Slachtingenstatistiek' produced by the CBS on the basis of inspected carcasses. Commodity-board data are also used.

Daily and milk-products industry (including ice cream)

Although production statistics do exist, there is a drawback in terms of intra-company deliveries. Other sources include:
- dairy statistics (compiled by the CBS in cooperation with the commodity board)
- prices: 'Commissie voor de Nederlandse zuivelnoteringen' (Commission on Dutch Dairy Prices), published by LEI/CBS
- monthly CBS surveys of the consumption of ice-cream mix

Fish-processing plants

Production statistics

Grain processing

Production statistics supplemented by data from the commodity board.

Sugar industry

Production statistics - associated, however, with a problem because of divergent financial and calendar years. Other sources are data on duty from the Ministry of Finance and a monthly CBS survey of stocks.

Margarine, oils and fats industry

Production statistics and data from the commodity board

Fruit and vegetable processing industry

Production statistics, purchase details are drawn from a monthly survey.

Flour-processing industry

Data from the commodity board and production statistics.

Cocoa, chocolate and confectionery industry

Production statistics.

Starch and related products

Production statistics and company data.

Compound feed industry
Product breakdown is found in a CBS monthly survey. The production statistics are used to establish consumption figures, estimates being made on the basis of supply (indirect observation).

Other food industries
Production statistics and data supplied by the commodity board and the relevant branch organizations.

Alcohol factories and distilleries
Data on duties are used to determine production. Production statistics also exist.

Breweries and malting plants
Production statistics and data from the commodity board.

Soft-drinks industry
Production statistics; CBS monthly surveys are used to provide a calendar-year breakdown of production figures.

Tobacco-processing industry
Production statistics and CBS monthly surveys are used for conversion to calendar-year figures. Fiscal statistics are also used.

Industry other than the food industry

Production statistics are available for this large group. Data for smaller companies are estimated with the aid of data on the volume of work done. In the case of the petroleum and coal products industry, the only source used is the CBS quarterly survey 'Algemene industriestatistiek' (AIS - general industrial statistics).

Public utilities

Annual records are kept which are comparable with production statistics.

Construction and installation enterprises

Production statistics, sometimes on the basis of sample surveys, are available for all enterprises. There is no consumption breakdown but this is compiled partly using secondary incidental sources and partly using indirect methods.

Trade, hotels and restaurants, enterprises repairing consumer goods

Wholesale trade
Production statistics and supplementary surveys on groups not covered by the production statistics.

Hotels, restaurants, cafés
Production statistics

Repair of consumer goods
Production statistics for shoemakers and companies repairing cars and bicycles.
Figures for other repair companies in this class are estimated with the aid of
trends in the volume of work done and the price data collected by the CBS. The
estimates are checked against data from the CRK and the 'Economisch Instituut
voor het Midden- en Kleinbedrijf' (EIM - Economic Institute for Small and
Medium-Sized Businesses), and branch data supplied by banks.

Transport, storage and communications enterprises

The production statistics are supplemented by data for individual enterprises
(annual reports from the Dutch railways and Postal and Telegraph Service).

Business services, etc.

Operation of dwellings
Numbers are drawn from the CBS statistics on dwellings. Data are also used from
the annual CBS rent survey and trends in the CBS 'maximum reasonable rent'
index.

Real-estate agents
Data from the National Association of Real-Estate Agents and the Industrial
Insurance Board.

Business services
With effect from 1987, production statistics are available except for enginee-
ring, architecture and other technical design and consultancy bureaux (for
which production statistics will soon appear). Such companies are currently
assessed using cost and financing data.

Hire of machines and other moveable property
Production statistics.

Concern tops and ancillary concern organizations
Trends in the volume of work done and prices.

Other services

Religious organizations, etc.
Statistics compiled by the industrial insurance boards, various price statis-
tics and the biennial church statistics.

Other education (non-subsidized)
Data from the industrial insurance boards, various CBS price statistics, the
correspondence-schools statistics (biennial), data from the Central Office for
driver testing and production statistics for driving schools.

Health and veterinary services
Statistics on the costs and financing of health care, financial statistics from
the National Hospital Institute (NZI), industrial insurance board data, price
data collected by the CBS. Other data used concerns the number of practitio-

ners, number of patient contacts, the Continuous Budget Survey and changes in livestock levels (with reference to vets). Health survey.

Social services
Statistics on old peoples' homes and data from the industrial insurance boards.

Socio-cultural and cultural organizations
In general, statistics on the income and expenditure of general government on culture, recreation and social welfare, data from the industrial insurance boards and CBS price data.
With regard to individual economic groups, use is also made of the statistics on public libraries, museum statistics, visitors to leisure facilities, the report of the government commissioner for radio, the annual report of the 'Nederlandse Bioscoopbond' (National Association of Cinema Operators) and statistics on music and theatre.

Sport and recreation
The same general sources are used as in the previous subsection and are supplemented by the annual report of the racing and trotting authorities. Production statistics do exist for sport.

Employer and employee organizations, research bodies, other social organizations
Industrial insurance board data, CBS prices, data supplied by research bodies, R & D statistics.

Other service enterprises
Partly production statistics and partly industrial insurance board data and CBS price information.

Private households employing wage-earning staff
DETAM (Industrial Insurance Board for Retailers and Tradesmen) annual report, Continuous Budget Survey and CBS consumer prices.

PART A2 : MAJOR SOURCES FOR CALCULATING THE VALUE ADDED OF FINANCIAL ENTERPRISES

Banking Sector

The following annual CBS data are used:
- statistics on mortgage banks and building societies
- statistics on finance companies
- statistics on investment organizations
An important external source is the data that banks are required to forward to the Central Bank under the Banking Supervision Act. Use is also made of the annual reports of many financial bodies including the Central Bank.

Insurance sector

The following annual CBS statistics are used:
- financial data from industry pension funds
- financial data from company pension funds
- financial data from other pension funds

- financial data from life-insurance companies
- financial data from indemnity-insurance companies
External sources comprise:
- survey of the operating data of insurance agents, carried out by Amsterdam
  University on behalf of the Dutch Association of Insurance Intermediaries
- Annual reports of the Verzekeringskamer (Insurance Board)
- Annual reports from various bodies involved with insurance

PART A3 : MAJOR SOURCES FOR DETERMINING THE VALUE ADDED OF GENERAL GOVERNMENT

Data on government activities are based on information from the following
sources.

Central government	Government accounts
Provinces	Accounts
Water management boards	Accounts
Joint administrative structures	Accounts
Operational organizations under public law	Accounts
Quasi-state bodies	Annual reports from the Agricultural Development and Rationalization Fund and the organization for Small and Medium-sized enterprises
Municipalities	Municipal accounts
	Capital expenditure and receipts of municipalities and provinces
	Overview of indebtedness of municipalities and provinces
	Data from the social-security monthly statistics with regard to the National Assistance Act, index figures on minimum wages for adult workers, municipal employees
	Data from the monthly statistics for the construction industry with regard to new buildings, conversion of government buildings: breakdown by subsector of on-going and planned output
	Statistics on electricity supply in the Netherlands
	Statistics on gas supply in the Netherlands
	Opinion on the municipal fund budget issued by the Council on Municipal Finances
	Data from the monthly statistics on the finance sector concerning municipal development corporations, housing corporations and housing associations
Public and state subsidized education	Government accounts
	University accounts
	Survey of income and expenditure in respect of education by municipalities
	Accounts of joint administrative structures in the field ofeducation

Social security	Annual reports of industrial insurance boards

Social security   Annual reports of industrial insurance boards
Annual Report of the Joint Administration Office
Annual Report of the Joint Medical Service Data drawn
from overviews published by the:
- Social Security Council
- Central Administration Office for Exceptional
  Medical Expenses Compensation Act
- Social Insurance Bank
- Labour Councils
- Risk Funds
- Early retirement (VUT) funds
- Building Trade Social Fund
- Compensation Fund for the Graphical Industry
- Police Medical Service, Public Service Health
  Insurance Institute, Provincial Authorities Health
  Insurance Scheme
Annual Report of the General Unemployment Fund
Annual Report of the Redundancy Funds
Annual Report of the General Disablement Insurance
Fund
Annual Report of the Disablement Insurance Fund
Health Insurance Fund Council
General Fund for Exceptional Medical Expenses

PART B: MAJOR SOURCES FOR VOLUME OF WORK DONE AND WAGES AND SALARIES

Statistics on paid working days and total wages and salaries, based on data
   from the industrial insurance boards
Statistics on employed persons
General industrial statistics
Annual data on the contractual number of working hours, average number of jobs
   and the total volume of work done by employees (from 1977)
Production statistics and statistics on government activities
Annual CBS survey of wages and salaries earned
Statistics based on wage and salary surveys

Notes

1) The Ministry of Agriculture and Fisheries has a register of farmers.
2) Results by region are based on the local establishment.

Literature

Central Bureau of Statistics, 1990, Methodenbeschrijving van de berekening van het Nationaal inkomen (bruto, marktprijzen) over 1986 in Nederland (the full report on the sources and methods used for the estimation of national income submitted to the GNP Management Comittee, in Dutch). BPA-nr 9904-90-STD.E8/Intern. (Central Bureau of Statistics, Voorburg).

Janssen, R.J.A. and S.B. Algera, 1988, The methodology of the Dutch system of Quarterly accounts. National Accounts Occasional Paper nr. 25. (Central Bureau of Statistics, Voorburg).

Eurostat, 1980, European System of Integrated Economic Accounts (ESA). (Office for official publications of the European Communities, Luxembourg).

United Nations, 1968, A System of National Accounts (SNA). Studies in Methods, Series F No.2 Rev.3 (United Nations, New York).

NA/01   Flexibility in the system of National Accounts, Van Eck, R.,
         C.N. Gorter and H.K. van Tuinen (1983).
         This paper sets out some of the main ideas of what gradually developed
         into the Dutch view on the fourth revision of the SNA. In particular
         it focuses on the validity and even desirability of the inclusion of a
         number of carefully chosen alternative definitions in the "Blue Book",
         and the organization of a flexible system starting from a core that is
         easier to understand than the 1968 SNA.

NA/02   The unobserved economy and the National Accounts in the Netherlands,
         a sensitivity analysis, Broesterhuizen, G.A.A.M. (1983).
         This paper studies the influence of fraud on macro-economic
         statistics, especially GDP. The term "fraud" is used as meaning
         unreporting or underreporting income (e.g. to the tax authorities).
         The conclusion of the analysis of growth figures is that a bias in the
         growth of GDP of more than 0.5% is very unlikely.

NA/03   Secondary activities and the National Accounts: Aspects of the Dutch
         measurement practice and its effects on the unofficial economy,
         Van Eck, R. (1985).
         In the process of estimating national product and other variables in
         the National Accounts a number of methods is used to obtain initial
         estimates for each economic activity. These methods are described and
         for each method various possibilities for distortion are considered.

NA/04   Comparability of input-output tables in time, Al, P.G. and
         G.A.A.M. Broesterhuizen (1985).
         It is argued that the comparability in time of statistics, and input-
         output tables in particular, can be filled in in various ways. The
         way in which it is filled depends on the structure and object of the
         statistics concerned. In this respect it is important to differentiate
         between coordinated input-output tables, in which groups of units
         (industries) are divided into rows and columns, and analytical input-
         output tables, in which the rows and columns refer to homogeneous
         activities.

NA/05   The use of chain indices for deflating the National Accounts, Al,
         P.G., B.M. Balk, S. de Boer and G.P. den Bakker (1985).
         This paper is devoted to the problem of deflating National Accounts and
         input-output tables. This problem is approached from the theoretical
         as well as from the practical side. Although the theoretical argument
         favors the use of chained Vartia-I indices, the current practice of
         compilating National Accounts restricts to using chained Paasche and
         Laspeyres indices. Various possible objections to the use of chained
         indices are discussed and rejected.

NA/06   Revision of the system of National Accounts: the case for
         flexibility, Van Bochove, C.A. and H.K. van Tuinen (1985).
         It is argued that the structure of the SNA should be made more
         flexible. This can be achieved by means of a system of a general
         purpose core supplemented with special modules. This core is a fully
         fledged, detailed system of National Accounts with a greater
         institutional content than the present SNA and a more elaborate
         description of the economy at the meso-level. The modules are more
         analytic and reflect special purposes and specific theoretical views.
         It is argued that future revisions will concentrate on the modules and
         that the core is more durable than systems like present SNA.

NA/07   Integration of input-output tables and sector accounts; a possible
         solution, Van den Bos, C. (1985).
         The establishment-enterprise problem is tackled by taking the institu-
         tional sectors to which the establishments belong into account during
         the construction of input-output tables. The extra burden on the
         construction of input-output tables resulting from this approach is
         examined for the Dutch situation. An adapted sectoring of institu-
         tional units is proposed for the construction of input-output tables.

NA/08   **A note on Dutch National Accounting data 1900-1984, Van Bochove, C.A.** (1985).
        This note provides a brief survey of Dutch national accounting data for 1900-1984, concentrating on national income. It indicates where these data can be found and what the major discontinuities are. The note concludes that estimates of the level of national income may contain inaccuracies; that its growth rate is measured accurately for the period since 1948; and that the real income growth rate series for 1900-1984 may contain a systematic bias.

NA/09   **The structure of the next SNA: review of the basic options, Van Bochove, C.A. and A.M. Bloem** (1985).
        There are two basic issues with respect to the structure of the next version the UN System of National Accounts. The first is its 'size ': reviewing this issue, it can be concluded that the next SNA must be 'large ' in the sense of containing an integrated meso-economic statistical system. It is essential that the next SNA contains an institutional system without the imputations and attributions that pollute present SNA. This can be achieved by distinguishing, in the central system of the next SNA, a core (the institutional system), a standard module for non-market production and a standard module describing attributed income and consumption of the household sector.

NA/10   **Dual sectoring in National Accounts, Al, P.G.** (1985).
        Following a conceptual explanation of dual sectoring, an outline is given of a statistical system with complete dual sectoring in which the linkages are also defined and worked out. It is shown that the SNA 1968 is incomplete and obscure with respect to the links between the two sub-processes.

NA/11   **Backward and forward linkages with an application to the Dutch agro-industrial complex, Harthoorn, R.** (1985).
        Some industries induce production in other industries. An elegant method is developed for calculating forward and backward linkages avoiding double counting. For 1981 these methods have been applied to determine the influence of Dutch agriculture in the Dutch economy in terms of value added and labour force.

NA/12   **Production chains, Harthoorn, R.** (1986).
        This paper introduces the notion of production cains as a measure of the hierarchy of industries in the production process. Production chains are sequences of transformation of products by successive industries. It is possible to calculate forward transformations as well as backward ones.

NA/13   **The simultaneous compilation of current price and deflated input-output tables, De Boer, S. and G.A.A.M. Broesterhuizen** (1986).
        A few years ago the method of compiling input-output tables underwent in the Netherlands an essential revision. The most significant improvement is that during the entire statistical process, from the processsing and analysis of the basic data up to and including the phase of balancing the tables, data in current prices and deflated data are obtained simultaneously and in consistency with each other.

NA/14   **A proposal for the synoptic structure of the next SNA, Al, P.G. and C.A. van Bochove** (1986).

NA/15   **Features of the hidden economy in the Netherlands, Van Eck, R. and B. Kazemier** (1986).
        This paper presents survey results on the size and structure of the hidden labour market in the Netherlands.

NA/16   **Uncovering hidden income distributions: the Dutch approach, Van Bochove, C.A.** (1987).

NA/17   **Main national accounting series 1900-1986, Van Bochove, C.A. and T.A. Huitker** (1987).
        The main national accounting series for the Netherlands, 1900-1986, are provided, along with a brief explanation.

NA/18 The Dutch economy, 1921-1939 and 1969-1985. A comparison based on revised macro-economic data for the interwar period, Den Bakker, G.P., T.A. Huitker and C.A. van Bochove (1987).
A set of macro-economic time series for the Netherlands 1921-1939 is presented. The new series differ considerably from the data that had been published before. They are also more comprehensive, more detailed, and conceptually consistent with the modern National Accounts. The macro-economic developments that are shown by the new series are discussed. It turns out that the traditional economic-historical view of the Dutch economy has to be reversed.

NA/19 Constant wealth national income: accounting for war damage with an application to the Netherlands, 1940-1945, Van Bochove, C.A. and W. van Sorge (1987).

NA/20 The micro-meso-macro linkage for business in an SNA-compatible system of economic statistics, Van Bochove, C.A. (1987).

NA/21 Micro-macro link for government, Bloem, A.M. (1987).
This paper describes the way the link between the statistics on government finance and national accounts is provided for in the Dutch government finance statistics.

NA/22 Some extensions of the static open Leontief model, Harthoorn, R. (1987).
The results of input-output analysis are invariant for a transformation of the system of units. Such transformation can be used to derive the Leontief price model, for forecasting input-output tables and for the calculation of cumulative factor costs. Finally the series expansion of the Leontief inverse is used to describe how certain economic processes are spread out over time.

NA/23 Compilation of household sector accounts in the Netherlands National Accounts, Van der Laan, P. (1987).
This paper provides a concise description of the way in which household sector accounts are compiled within the Netherlands National Accounts. Special attention is paid to differences with the recommendations in the United Nations System of National Accounts (SNA).

NA/24 On the adjustment of tables with Lagrange multipliers, Harthoorn, R. and J. van Dalen (1987).
An efficient variant of the Lagrange method is given, which uses no more computer time and central memory then the widely used RAS method. Also some special cases are discussed: the adjustment of row sums and column sums, additional restraints, mutual connections between tables and three dimensional tables.

NA/25 The methodology of the Dutch system of quarterly accounts, Janssen, R.J.A. and S.B. Algera (1988).
In this paper a description is given of the Dutch system of quarterly national accounts. The backbone of the method is the compilation of a quarterly input-output table by integrating short-term economic statistics.

NA/26 Imputations and re-routeings in the National Accounts, Gorter, Cor N. (1988).
Starting out from a definition of 'actual' transactions an inventory of all imputations and re-routeings in the SNA is made. It is discussed which of those should be retained in the core of a flexible system of National Accounts. Conceptual and practical questions of presentation are brought up. Numerical examples are given.

NA/27 Registration of trade in services and market valuation of imports and exports in the National Accounts, Bos, Frits (1988).
The registration of external trade transactions in the main tables of the National Accounts should be based on invoice value; this is not only conceptually very attractive, but also suitable for data collection purposes.

NA/28 The institutional sector classification, Van den Bos, C. (1988).
A background paper on the conceptual side of the grouping of financing units. A limited number of criteria are formulated.

NA/29 The concept of (transactor-)units in the National Accounts and in the basic system of economic statistics, Bloem, Adriaan M. (1989).
Units in legal-administrative reality are often not suitable as statistical units in describing economic processes. Some transformation of legal-administrative units into economic statistical units is needed. This paper examines this transformation and furnishes definitions of economic statistical units. Proper definitions are especially important because of the forthcoming revision of the SNA.

NA/30 Regional income concepts, Bloem, Adriaan M. and Bas De Vet (1989).
In this paper, the conceptual and statistical problems involved in the regionalization of national accounting variables are discussed. Examples are the regionalization of Gross Domestic Product, Gross National Income, Disposable National Income and Total Income of the Population.

NA/31 The use of tendency surveys in extrapolating National Accounts, Ouddeken, Frank and Gerrit Zijlmans (1989).
This paper discusses the feasibility of the use of tendency survey data in the compilation of very timely Quarterly Accounts. Some preliminary estimates of relations between tendency survey data and regular Quarterly Accounts-indicators are also presented.

NA/32 An economic core system and the socio-economic accounts module for the Netherlands, Gorter, Cor N. and Paul van der Laan (1989).
A discussion of the core and various types of modules in an overall system of economy related statistics. Special attention is paid to the Dutch Socio-economic Accounts. Tables and figures for the Netherlands are added.

NA/33 A systems view on concepts of income in the National Accounts, Bos, Frits (1989).
In this paper, concepts of income are explicitly linked to the purposes of use and to actual circumstances. Main choices in defining income are presented in a general system. The National Accounts is a multi-purpose framework. It should therefore contain several concepts of income, e.g. differing with respect to the production boundary. Furthermore, concepts of national income do not necessarily constitute an aggregation of income at a micro-level.

NA/34 How to treat borrowing and leasing in the next SNA, Keuning, Steven J. (1990).
The use of services related to borrowing money, leasing capital goods, and renting land should not be considered as intermediate inputs into specific production processes. It is argued that the way of recording the use of financial services in the present SNA should remain largely intact.

NA/35 A summary description of sources and methods used in compiling the final estimates of Dutch National Income 1986, Gorter, Cor N. and others (1990).
Translation of the inventory report submitted to the GNP Management Committee of the European Communities.

NA/36 The registration of processing in make and use tables and input-output tables, Bloem, Adriaan M., Sake De Boer and Pieter Wind (1990, forthcoming).
The registration of processing is discussed primarily with regard to its effects on input-output-type tables and input-output quotes. Links between National Accounts and basic statistics, user demands and international guidelines are examined.

NA/37 A proposal for a SAM which fits into the next System of National Accounts, Keuning, Steven J. (1990).
This paper shows that all flow accounts which may become part of the next System of National Accounts can be embedded easily in a Social Accounting Matrix (SAM). In fact, for many purposes a SAM format may be preferred to the traditional T-accounts for the institutional sectors, since it allows for more flexibility in selecting relevant classifications and valuation principles.

NA/38 Net versus gross National Income, Bos, Frits (1990).
In practice, gross figures of Domestic Product, National Product and National Income are most often preferred to net figures. In this paper, this practice is challenged. Conceptual issues and the reliability of capital consumption estimates are discussed.

NA/39 **Concealed interest income of households in the Netherlands; 1977, 1979 and 1981**, Kazemier, Brugt (1990).
The major problem in estimating the size of hidden income is that total income, reported plus unreported, is unknown. However, this is not the case with total interest income of households in the Netherlands. This makes it possible to estimate at least the order of magnitude of this part of hidden income. In this paper it will be shown that in 1977, 1979 and 1981 almost 50% of total interest received by households was concealed.

NA/40 **Who came off worst: Structural change of Dutch value added and employment during the interwar period**, Den Bakker, Gert P. and Jan de Gijt (1990).
In this paper new data for the interwar period are presented. The distribution of value added over industries and a break-down of value added into components is given. Employment by industry is estimated as well. Moreover, structural changes during the interwar years and in the more recent past are juxtaposed.

NA/41 **The supply of hidden labour in the Netherlands: a model**, Brugt Kazemier and Rob van Eck (1990).
This paper presents a model of the supply of hidden labour in the Netherlands. Model simulations show that the supply of hidden labour is not very sensitive to cyclical fluctuations. A tax exempt of 1500 guilders for second jobs and a higher probability of detection, however, may substantially decrease the magnitude of the hidden labour market.

NA/42 **Benefits from productivity growth and the distribution of income**, Keuning, Steven J. (1990).
This paper contains a discussion on the measurement of multifactor productivity and sketches a framework for analyzing the relation between productivity changes and changes in the average factor remuneration rate by industry. Subsequently, the effects on the average wage rate by labour category and the household primary income distribution are studied.

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