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Documents

**National Accounts Supply and
Use Tables (SUT) in Current
Prices**

SNA-NT "SUT/STARTER"

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PART I. INTRODUCTION

1. MAIN OBJECTIVE

1.1. Main functions and methodology

The Supply and Use tables (SUT) serve both statistical and analytical purposes and should be fully integrated in the National Accounts system for a country, ref. SNA 93 chapter XV and ESA 95 chapter 9. By the methodology and software called "System of National Accounts- New Technology" (SNA-NT), a documented, verifiable and efficient set-up for compiling national accounts with integrated SUT has been created.

This document SNA-NT "SUT/STARTER" describes the routines for establishing, balancing, interactive correction and annually updating of detailed SUT in current prices.

The document SNA-NT "SUT/CONSTANT" describes the converting to SUT in constant prices and the final balancing of SUT in current and constant prices

SUT have at least the following main functions:

- *SUT represent an integral part of and check on the national accounts estimates produced for the economy.*
- *SUT are based on available economic statistics and different estimates derived from secondary data.*
- *SUT represent an important tool for constant price estimates (the double deflation technique) giving balanced SUT in both current and constant prices.*
- *SUT are important for analysing the effect of imports and exports on the economy.*
- *SUT are converted to Industry format Input-Output tables (IOT) in current and constant prices.*
- *SUT represent an important statistical database for econometric models and economic planning purposes.*

1.2. International recommendations

Integration of Supply and Use tables (SUT) as well as Input-Output tables (IOT), has also become a new key feature in the 1995 European System of Accounts (ESA 95), *see chapter 9.*

The Council Regulation © No 2223/96 of June 1996 defines the Program of National Accounts Delivery within the framework of the EAS 95.

According to the present data delivery programme, all EEA countries (EU countries, Iceland and Norway) have to provide the following tables (with a delay of 36 months):

Annually Supply and Use tables at current and constant prices. (60 industries and 60 products)

Every five years

Symmetric input-output tables at current prices (60 products)

or

Symmetric input-output tables at current prices (60 industries (homogeneous branches))

"The ESA95 Input-Output Manual" lists the following methodological advantages of SUT as an integral part of the national accounts system:

- Integration of GDP calculation

- Consistency of detailed commodity level
- Efficient confrontation of different primary sources
- Identification of gaps in primary sources
- Ideal framework for different value concepts
- Best framework for calculation of variables at constant prices (double deflation)

1.3. The design of SUT

This document gives a detailed description of "What happens in the black box" during the execution of the SNA-NT software for compiling Supply and Use tables. The different stages of the compilation process are explained by the equations applied when the SUT are compiled, corrected or updated.

This document explains the structure of the SUT with types of accounts and classifications and gives a description of:

- Formats for the classifications of Suppliers, Users and Products.
- Formats for Tables to be used for registering or transferring Input data (current prices) to SUT.
- Formats for Tables to be used for registering VAT rates and Trade and Transport margins percentages.
- Formats for Tables to be used for registering absolute figures for Product Taxes and Product Subsidies, specified as totals, distributed by products.

The SUT is first compiled and balanced in current prices. The SNA-NT application will establish, balance and update the detailed Supply and Use Tables (SUT) by different types of valuation, i.e. for basic values, producers' values, trade margins, transport margins, product taxes, product subsidies, VAT and purchasers' values.

The Term "Establish" refers to the process of creating and compiling a first set of SUT from scratch.

The Term "Correction" refers to the process of correcting one and one value after having a first set of SUT. By the interactive correction procedure built into the SNA-NT software, the whole SUT is recalculated and balanced each time one value is corrected.

The Term "Update" refers to the process of using new absolute data or applying indexes to one set of SUT to create another set, where the new values are projections of the first set.

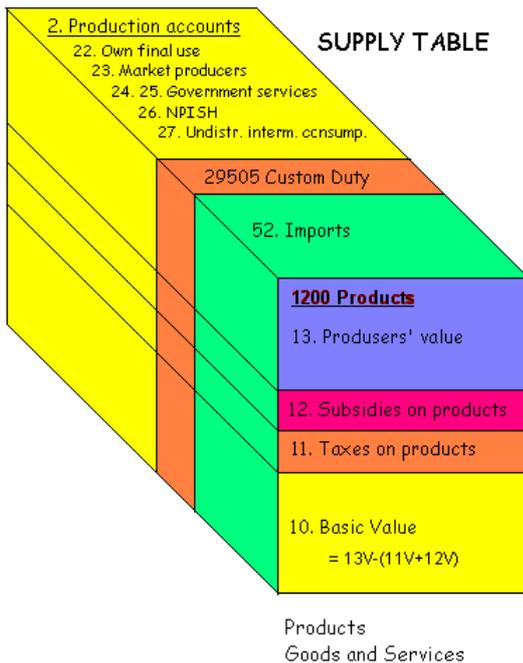
The Document SNA-NT "SUT/CONSTANT" gives a detailed description of the compilation procedure and the equations applied when calculating SUT in constant prices.

SUT is converted to constant prices (*prices of the previous year*) by use of different type of price indices. Following a correction of constant price figures for goods to Household consumption, the trade margins in current prices are recalculated and the SUT in current prices simultaneously corrected and balanced.

A description of the strategy developed in Statistics Norway for an integrated national accounts system with institutional sector accounts and supply and use tables is given in the Document SNA-NT "STRATEGY". This document gives also an overview of the implemented accounting structure. The structure and dimensions of the SUT are the same for the current price and the constant price versions.

A graphical user interface with a number of dialog boxes is developed for administrating and running the SNA-NT software, see the Document SNA-NT User's Guide. The User's guide gives in Chapter 1 an overview of the application SNA-NT developed for compiling the Norwegian National Accounts with integrated SUT.

Overview of the Supply Table



The Supply table is first established in Producers' value.

Time adjusted taxes, allocated to products, are distributed between domestic suppliers and imports of the products.

Time adjusted subsidies, allocated to products, are distributed between domestic suppliers of the products.

Finally, the Supply table is calculated in Basic values

The Supply Table gives detailed information about the supply of products (goods and services) from:

2. Production accounts

Account 22. Production accounts, Own final use

Account 23. Production accounts, Market producers

Account 24. Production accounts, Non-market producers, Central government services

Account 25. Production accounts, Non-market producers, Local Government services

Account 26. Production accounts, Non-market producers, NPISHs

Account 27. Aggregation accounts for trade margins & undistributed intermediate consumption (to facilitate the balancing)

Account 28. Aggregation accounts for fixed capital formation by type of asset.

Account 29. Technical accounts for Custom duty, Import tax and VAT

52. Imports

Account 52. Imports, specified by type of imports

The following account types show which value classes are used for the product flows:

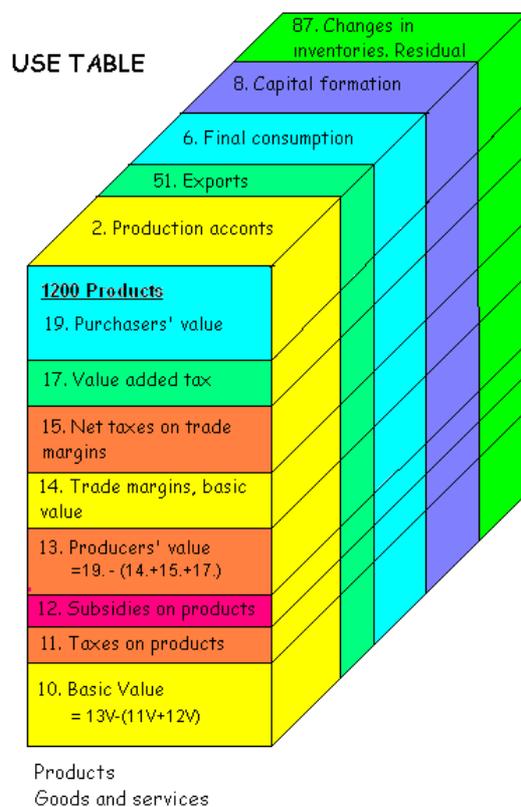
Account type 10. Basic value

Account type 11. Taxes on products (paid by the producers)

Account type 12. Subsidies on products (paid to the producers)

Account type 13. Producers' value

Overview of the Use Table



The Use table in Purchasers' value (19 value is decomposed into the different valuation matrices:

- Investment levies (Account type 18)
- Non-refundable VAT (Account type 17)
- Product subsidies to traders (Account type 16)
- Product taxes paid by traders (Account type 15)
- Retail and wholesale margins, basic value (Account 14 R)
- Transport margins (Account type 14T)
- Producers' value (Account type 13)

The producers' value is further decomposed into:

- Subsidies on products (Account type 12)
- Taxes on products (Account type 11)
- Basic value (Account type 10)

Balancing and correcting changes in inventories:

In the first phase of the balancing of supply and use of each product at producers' values, the change in inventories is residually determined. The residuals are then corrected to an acceptable level. The corrections are first made manually, based on an evaluation of data and statistical sources and finally by an automatic "RAS" method.

The Use Table gives intermediate use of products by industries and final use, specifying domestic final use and exports:

2. Production accounts

Intermediate use of products:

Account 22. Production accounts, Own final use, specified by industries
 Account 23. Production accounts, Market producers, specified by industries
 Account 24. 25. Production accounts, Non-market producers, Central and Local government, specified by industries
 Account 26. Production accounts, Non-market producers, NPISHs, by industries
 Account 27, 28, 29 Aggregation accounts

Final use of products:

Account 51. Exports, specified by type of exports
 Account 6. Final consumption expenditure, specified by the COICOP, COFOG and COPNI classifications
 Accounts 82-86. Fixed capital formation accounts, specified by industries
 Account 87. Change in inventories and Residuals, specified by products

The complete Use table shows the valuation matrices with the product flows:

- Account type 10. Basic value
- Account type 11. Taxes on products (paid by the producers)
- Account type 12. Subsidies on products (paid to the producers)
- Account type 13. Producers' value
- Account type 14R Retail and wholesale margins, basic value
- Account type 14T Transport margins
- Account type 15. Taxes on products (collected by retail or wholesale traders).
- Account type 16. Subsidies on products (paid to wholesale or retail traders)
- Account type 17. Value Added Tax (VAT)
- Account type 18. Investment levies (A special Norwegian tax)
- Account type 19. Purchasers' value

2. SUT IN CURRENT PRICES, ILLUSTRATED BY SYMBOLS.

2.1. Schematic outline of the Supply Table

Figure 1. SUPPLY TABLE (T1) *Suppliers x products, specified by all categories of value classes*

T1 SUPPLY OF PRODUCTS	Basic value <u>10-value</u> =13-value -11-value +12-value	Taxes on products <u>11-value</u> Subsidies on products <u>12-value</u>	Producers ' value <u>13-value</u> = 10-value + 11-value - 12-value	Retail and wholesale trade margins Basic value <u>14R-value.</u> Transport margins <u>14T-value</u>	Taxes on products collected by traders incl. in producers' value of trademarg <u>15-value</u>	Subsidies on prod. paid to traders, reducing producer value of trademarg <u>16-value</u>	Value added tax. Non deduct- able values <u>17-value</u>	Special value added type tax on invest- ment <u>18-value</u>	Total prod- uction
	<i>Product no</i>	<i>Product no.</i>	<i>Product no</i>	<i>Product no</i>	<i>Product no</i>	<i>Product no</i>	<i>Product</i>	<i>Product</i>	<i>Product</i>
Domestic production 22, 23, 24, 25, 26-accounts	$H^{10}_{d,p}$	$H^{11}_{d,p}$ $-H^{12}_{d,p}$	$H^{13}_{d,p}$						$T_{d,p}$
Aggregation accounts 27015-27292			$H^{13}_{d,p}$						$T_{d,p}$
Ret, Whols. tr. margins 27500				$H^{14R}_{d,p}$	$H^{15}_{d,p}$	$-H^{16}_{d,p}$			$T_{d,p}$
Transport margins 27600				$H^{14T}_{d,p}$					$T_{d,p}$
Types of fixed assets 28111-			$H^{13}_{d,p}$						$T_{d,p}$
VAT 29501 Investment tax 29502							$H^{17}_{d,p}$		$T_{d,p}$ $T_{d,p}$
Collect. custom duties 29505	$H^{10}_{z,p}$		$H^{13}_{z,p}$						$T_{z,p}$
Product tax import 29506		$H^{11}_{z,p}$	$H^{13}_{z,p}$						$T_{z,p}$
Imports 52XXX	$H^{10}_{z,p}$		$H^{13}_{z,p}$						$T_{z,p}$
Total	$S^{10}_{.p}$	$S^{11}_{.p}$ $S^{12}_{.p}$	$S^{13}_{.p}$	$S^{14R}_{.p}$ $S^{14T}_{.p}$	$S^{15}_{.p}$	$S^{16}_{.p}$	$S^{17}_{.p}$	$S^{18}_{.p}$	$T_{.p}$

NOTE: The presentation of the rows and columns of the Supply Table shown in Figure 1, has been transposed compared with table 15.1 in SNA 93. This format of the Supply table confirm with the Matrix presentation given in table 2.5 in SNA 93 and with a simplified combined Supply and Use table, shown in Table 9.3 in ESA 95.

The Supply table T1 can be illustrated by matrix H, defined by:

$$H = \left[h_{ip}^v \right]_{\substack{v \in \{1,2,\dots,a\} \\ i \in \{1,2,\dots,b\} \\ p \in \{1,2,\dots,c\}}} \quad (\text{Eq SUT 1})$$

v represents *Value Classes* (Account type 10, 11, 12, 13, 14R, 14T, , ,)

i represents *Suppliers* (**i= d+z**)

⇒ **d** Production accounts, Aggregation accounts, (Accounts from 22XXX to 29XXX)

⇒ **z** Import accounts (Accounts from 521XX to 529XX)

p represents *Products* (Accounts from 000015-999999).

- The maximum number of value classes in the Supply Table: **a** = 10, (Includes 10-, 11-, 12-, 13-, 14R-, 14T-, 15-, 16-, 17-, 18- values as in the Norwegian National Accounts (NNA))
- Number of Suppliers (Production, Aggregation and Import accounts), **b** (= 225 in the NNA).
- Number of Products, **c** (= 1200 in the NNA)

T_{dp} equals Supply from a Production or Aggregation account, labelled **d**, of the product **p**.

NOTE: 15-values, 16-values and 18-values are introduced in the Norwegian National Accounts, but are not required for using the SNA-NT methodology.

T_d equals total Supply from a Production or Aggregation account at producers' values, labelled d, defined in T1 by:

$$T_d = \sum_{p=1}^c h_{dp}^{13} + \sum_{p=1}^c h_{dp}^{14R} + \sum_{p=1}^c h_{dp}^{14T} + \sum_{p=1}^c h_{dp}^{15} + \sum_{p=1}^c h_{dp}^{16} + \sum_{p=1}^c h_{dp}^{17} + \sum_{p=1}^c h_{dp}^{18}, d \in (1,2,\dots,e) \quad (\text{Eq SUT 2})$$

d represents a Production or Aggregation account (Accounts from 22000 to 29999).

p represents Products (Accounts from 000015-999999).

Number of Production and Aggregation accounts, **e** (= 200 in the NNA)

Number of Products, **c** (= 1200 in the NNA)

Total Domestic Supply: $T = \sum_{d=1}^e T_d, d \in (1,2,\dots,e)$ (Eq SUT 3)

T_z equals Supply of Products from one Import accounts, given in T1 by:

$$T_z = \sum_{p=1}^c h_{zp}^{13}, z \in (1,2,\dots,y) \quad (\text{Eq SUT 4})$$

z represents an Import account (Accounts 52xxx), **p** represents Products

- Number of Import accounts, **y** (= 25 in the NNA)

Total Import: $T = \sum_{z=1}^y T_z, z \in (1,2,\dots,y)$ (Eq SUT 5)

S is a row vector giving Total Domestic Supply and Imports, classified by Products in the different value classes, defined by:

$$S_P^v = \sum_{d=1}^e h_{dp}^v + \sum_{z=1}^y h_{zp}^v \quad (\text{Eq SUT 6})$$

v represents *Value classes*. **p** represents *Products*,

2.2. Schematic outline of the Use Table

Figure 2. COMPLETE USE TABLE (T2) Products x Users, specified by the different value classes:

T2 PRODUCTS <i>BY VALUE</i> <i>CLASSES</i>	Domestic Production 22, 23, 24, 25, 26-account	Undistributed input 27015-27292	Trade-Transp. margin 27500 27600	Types of fixed assets 28111-28990	VAT 29501 Inv tax 29502	Custom duties 29505 Prod tax import 29506	EXPORT	FINAL DOMESTIC USERS 61-69 82-86	Change in inventories	TOTAL
10. Basic v.	$N_{p,d}^{10}$	$N_{p,d}^{10}$	$N_{p,ds}^{10}$	$N_{p,ds}^{10}$	—	—	$N_{p,s}^{10}$	$N_{p,s}^{10}$	$N_{p,s}^{10}$	S_p^{10}
11. Taxes on products	$N_{p,d}^{11}$	$N_{p,d}^{11}$	$N_{p,d}^{11}$	$N_{p,d}^{11}$	—	—	$N_{p,s}^{11}$	$N_{p,s}^{11}$		S_p^{11}
12 Subsidies on products	$N_{p,d}^{12}$	$N_{p,d}^{12}$	$N_{p,d}^{12}$	$N_{p,d}^{12}$	—	—	$N_{p,s}^{12}$	$N_{p,s}^{12}$		S_p^{12}
13 Producers' value	$N_{p,d}^{13}$	$N_{p,d}^{13}$	$N_{p,d}^{13}$	$N_{p,d}^{13}$	—	—	$N_{p,s}^{13}$	$N_{p,s}^{13}$	$N_{p,s}^{10}$	S_p^{13}
14R. Retail wholesale margins, Basic value	$N_{p,d}^{14R}$	$N_{p,d}^{14R}$	—	—	—	—	$N_{p,s}^{14R}$	$N_{p,s}^{14R}$		S_p^{14R}
14T. Transp margins, Basic value	$N_{p,d}^{14T}$	$N_{p,d}^{14T}$	—	—	—	—	$N_{p,s}^{14T}$	$N_{p,s}^{14T}$		S_p^{14T}
15. Taxes products, by traders	$N_{p,d}^{15}$	$N_{p,d}^{15}$	—	—	—	—	?	$N_{p,s}^{15}$		S_p^{15}
16. Subsid. products, to traders	$N_{p,d}^{16}$	$N_{p,d}^{16}$	—	—	—	—	?	$N_{p,s}^{16}$		S_p^{16}
17. Value added tax	$N_{p,d}^{17}$	—	—	—	—	—	?	$N_{p,s}^{17}$		S_p^{17}
18. Tax on investment	$N_{p,d}^{18}$	—	—	—	—	—	—	$N_{p,s}^{18}$		S_p^{18}
19. Input	$N_{p,d}^{19}$	$N_{p,d}^{19}$	$N_{p,d}^{19}$	$N_{p,d}^{19}$	—	—	$N_{p,s}^{19}$	$N_{p,s}^{19}$	$N_{p,s}^{10}$	S_p^{19}
31. Value added	B_d	B_d	$B_d=0$	$B_d=0$	$B_d=0$	$B_d=0$	—	—	—	
TOTAL	T_d	T_d	T_d	T_d	T_d	T_d	T_s	T_s	T_s	T_s

The Use Table T2 without Value added (B_d), can be illustrated by matrix N, defined by:

$$N = \left[n_{pj}^v \right]_{\substack{v \in \{1,2,\dots,a\} \\ p \in \{1,2,\dots,c\} \\ j \in \{1,2,\dots,g\}}} \quad (\text{Eq SUT 7})$$

v represents *Value Classes*,

p represents *Products*,

j represents *Users* ($j = d+s$):

$\Rightarrow d$ *Production and Aggregation accounts*

$\Rightarrow s$ *Final Users* .

Maximum number of value classes in the Use Table T2, $a = 11$.

(Includes 10, 11, 12, 13, 14R, 14T, 15, 16, 17, 18 and 19 values in the NNA)

Number of Products, c (= 1200 in the NNA)

Number of Users, $g = e+\theta$ (= 715 in the NNA)

Production and Aggregation accounts, e (=275 in the NNA).

Final Domestic Users and Export accounts θ (= 440 in the NNA).

Domestic Supply specified by Production- and Aggregation accounts, T_d is given in T1, defined by equation (2).

Total intermediate consumption of products (p) at purchasers' value (19-Value) to a Production account labelled (d), can be expressed by:

$$\sum_{p=1}^c n_{pd}^{19}, d \in (1,2,\dots,e) \quad (\text{Eq SUT 8})$$

Value added (B_d), for a Production account at producers' value (13-Value), labelled d, is defined by:

$$B_d = \left[b_d^{13} \right] = T_d - \sum_{p=1}^c n_{pd}^{19}, d \in (1,2,\dots,e) \quad (\text{Eq SUT 9})$$

p represents *Products*,

d represents *Production and Aggregation accounts*

GDP = Total Value added: $B = \sum_{d=1}^e B_d \quad (\text{Eq SUT 10})$

Total final use T_s , given in T2, will be calculated at purchasers' value (19-value):

$$T_s = \sum_{p=1}^c n_{ps}^{19}, s \in (1,2,\dots,\theta) \quad (\text{Eq SUT 11})$$

p represents *Products*

s represents *Final Users*

S is a column vector giving Total Use aggregated over Users and classified by Products in the various value classes, defined by:

$$S = \left[S_p^v \right] = \sum_{j=1}^g n_{pj}^v, v \in \{1,2,\dots,a\} \quad (\text{Eq SUT 12})$$

$p \in \{1,2,\dots,c\}$

v presents *Value Classes*,

p represents *Products*,
j represents *Users*

The Use table T2, defined by matrix N, expressed by equation (Eq SUT 7) will, during the procedure of balancing SUT, be split into the matrices M and R. The relationship between the matrices N and M is defined by:

$$N = M : R \quad (\text{Eq SUT 13})$$

M is Use in T2, without the accounts for “Change in inventories and Residuals”, defined by:

$$M = \left[m_{pj}^v \right]_{\substack{v \in \{1,2,\dots,a\} \\ p \in \{1,2,\dots,c\} \\ j \in \{1,2,\dots,g\}}} \quad (\text{Eq SUT 14})$$

v represents *Value classes*,
p represents *Products*,
j represents *Users, but not Change in inventory/Residuals*

R is Change in inventories and Residuals, specified by products.

R is defined by: $R = \left[I_{p,87,XXX}^{13} \right] + \left[r_{p,27,XXX}^{13} \right]_{p \in \{1,2,\dots,c\}} \quad (\text{Eq SUT 15})$

I represents *Change in inventories*
r represents *Residuals*.

2.3. Schematic outline of the Value Added Table for the different Industries

Figure 3. VALUE ADDED TABLE (T3)

Income components and Production accounts. 31. VALUE ADDED AT PRODUCERS' VALUE Income components	22 ,23 , 24..., 25 , 26....,	"Aggregation" accounts:
311XX Compensation of employees	I _{kd}	
31211 Product taxes	I _{kd}	29503
31212 Product taxes on imports		29506
31220 Other taxes on production	I _{kd}	
31250 Customs duty		29505
31270 VAT (Value added tax)		29501
31280 Investment levy		29502
31310 Product subsidies	I _{kd}	29504
31320 Other subsidies on production	I _{kd}	
38000 Consumption of fixed capital	I _{kd}	
Balancing item: 31910 Operating surplus/Mixed income	D _{d'}	D _{d'} = 0
31000 Value added at producers' value	B _d	B _d

Figures for Total value added (B_d) (specified by the Production and Aggregation accounts) are transferred from the Use Table (T2) to the Table for value added (T3). See chapter 5 for more details.

Value added B_d for a production account is defined by Equation SUT 9.

Value added at basic values is calculated as Value added as producer's values minus account 31211 Product taxes plus 31310 Product subsidies

The total of income components (except operating surplus) for the industry d is given by:

$$I_d = \sum_{k=1}^f i_{kd}, \quad d \in (1, 2, \dots, e) \quad (\text{Eq SUT 16})$$

Operating surplus, D_d , for a Production account labelled d, is given by:

$$D_d = B_d - \sum_{k=1}^f i_{kd}, \quad d \in (1, 2, \dots, e) \quad (\text{Eq SUT 17})$$

k represents Income Components

d represents Production and Aggregation accounts

Number of Income components **f** (= 14 in the NNA).

PART II. CLASSIFICATION AND DATA

3. CLASSIFICATIONS REQUIRED FOR SUT

3.1. The structure of the integrated national accounts system

The Document SNA-NT "STRATEGY" explains the structure of the integrated Norwegian national accounts system with types of accounts and classifications for both the Institutional Sector Accounts and Supply and Use Tables (SUT).

3.2. The dimension of SUT

When starting a SUT project, a set of classification codes has to be established. Only then can it be verified that the input data is applicable. The classification codes used should preferably be kept unchanged for some years to facilitate use of value indices for updating the SUT from one year to the next year.

The catalogues for SUT have to cover NA-classification for Suppliers and Users with industry codes (aggregates of NACE) and types of final expenditure (based on SNA93/ ESA 95) and Product codes (aggregates of CPA). The SNA-NT application requires a fixed format for the NA-classification codes to be used. When the database is accessed for the first time, the database with classification codes have to be created.

To illustrate the format of the NA-classification with the codes for Suppliers and Users, the classification used in Norway to produce SUT, with English text, is attached to this document as an example, see Annex.

The classification codes may be entered directly in ASCII file format (DOS text) using an editor such as Notepad. Alternatively, the codes can be entered in an EXCEL spreadsheet, which is converted by an Excel macro to the required ASCII format.

The SNA-NT application is flexible concerning how detailed classification to use for compiling SUT. For reporting to international organisations (EU, UN, and OECD) a minimum classification is required for industries (A60 classification of SNA93/EU95), products (P60 classification of SNA93/ESA95) and types of final expenditure (SNA93/ESA95). For many purposes a more detailed breakdown for industries and products relevant for the country's economy are very useful

3.3. Classification of Industries in SUT

For SUT, the NA-classification standards should have 3-digit codes for the industries.

The classification used in the Norwegian SUT, distinguish between "Market producers", "Producers for own final use" and "Other non-market producers". Other non-market producers are further subdivided between "Producers of central government services", "Producers of local government services" and "Non profit institutions serving households" (NPISH). The industry classification used in the Norwegian SUT is an aggregated version of NACE rev.1 with three-digit codes, specifying 200 industries. The 200 industries are decomposed into 150 industries for Market producers and the same grouping of industries where it is relevant, for Producers for own final use and Other non-market producers, see Annex.

The classification of industries are found under the following types of accounts:

- *Account type 22-26. Production accounts with a distinction between "Market producers", "Producers for own final use" and "Other non-market producers" with a further subdivision by industries.*
- *Account type 82-86. Capital formation accounts with the same distinction between industries for all types of accounts as for the production accounts.*

ISIC-Rev 3

The principle followed for grouping activities in the UN classification ISIC, is a classification based on kind of commodities or services manufactured or sold, the raw material employed in the manufacturing process and the use to which the goods or services are generally put.

NACE rev.1

The statistical office of the European Union (EU), Eurostat has adopted NACE as EU's industrial classification. The first two digits of the codes for NACE rev.1 and ISIC rev.3 are identical. The third and fourth digits are different for certain activities where NACE is more detailed than ISIC. By aggregating the NACE-groups (at the fourth digit), direct links will be established to the ISIC's third and fourth digit groups.

3.4. Classification of Products in SUT

For the NA products, 6-digit codes are required for the SUT. An important starting stage for a SUT project is to decide the relevant product classification to be used.

One goal is to specify rather homogenous products. Another goal is to specify products to such detail that only one rate for product taxes and product subsidies apply to one type of use of the product. In the Norwegian SUT, about 1200 products, specified by six-digit codes, are defined with a link to the CPA-codes or as aggregates of the CPA-codes.

When deciding on the product codes, the need for specifications of products in the Tourism Satellite Accounts should also been taken into accounts where relevant.

HS.

The most common international commodity classification is the customs nomenclature *Harmonised commodity description and coding system* (HS 1988). The HS includes only goods (merchandise) and is used in most countries for external trade statistics. Goods are grouped according to the nature of the material of which they are made. The HS is the basis ("building block") for UN's commodity classifications like SITC, rev.3 and CPC, see below. HS covers about 5000 products at the most detailed 6-digit level. The first four digits of the HS relate to the grouping of the international customs tariff nomenclature. The two next digits give international statistical divisions. Further expansion of HS is nationally determined and therefore varies from country to country.

CPC

UN's Central Product Classification (CPC) is a standard product classification to be used for statistics classifying products (both goods and services) in detail. The building blocks of the CPC are "the transportable goods" element of the HS. The most detailed CPC groups follow a 5-digit code (1800 products). The aim has been to construct homogeneous product groups, concerning the production process, the use and the storing possibilities etc. CPC has its own codes with no direct link to ISIC Rev.3, but most CPC 5-digit codes can be linked to one ISIC Rev. 3 group as the main producer. For some CPC products, it is impossible to establish such a link because the principle of "main producer" has not been the leading principle for the HS goods.

CPA

EU's main product standard CPA, covers both goods and services and is a nomenclature for general use. As opposed to CPC, priority has been given to establish a link to the activity classification. Every CPA product is a characteristic product in only one NACE Rev.1 industry. The accounting structure of CPA (6-digits) is designed so that the first 4 digits give the NACE Rev.1 codes for the industry being the main producer/supplier of the product. The next two digits specify characteristic products for that industry. Each industry will have one or more characteristic products.

3.5. Conversion tables for products

Conversion tables (encode lists) have to be established to give a link between the NA-product classification being developed and the detailed goods classification (HS-groups) used for the External Trade Statistics. The conversion table should be constructed at the same time as the NA-product classification.

Conversion tables must also be established to define the relationship between the NA-product classification and the codes used in different types of Annual Economic surveys, Income statements, Other accounting or production statistics and Government finance statistics.

3.6. Fixed format for classification codes.

The Document SNA-NT "STRATEGY" explains the structure of the integrated national accounts system with types of accounts and classifications for both the institutional sector accounts and supply and use tables.

When starting a SUT project, a set of classification codes has to be established. Only then can it be verified that the input data is applicable. The classification codes used should preferably be kept unchanged for some years to facilitate use of value indices for updating the SUT from one year to the next year.

The SNA-NT application requires a fixed format for the different account types and classification codes to be used. When the database is accessed for the first time, the database with classification codes, tables and views

will have to be created. To illustrate the process of editing the Classification Codes for Suppliers and Users, the detailed standard classification codes (as used in Norway) with English text is attached, see Annex . All Classification are in the ASCII file format (DOS text). The classification codes may be entered directly in this format using an editor such as Notepad. Alternatively, the codes can be entered in an EXCEL spreadsheet, which is then converted to the required ASCII format.

3.7. Format for classification of Suppliers and Users.

The catalogue "USER.DAT" with code lists for Suppliers and Users, can be registered as an ASCII file (DOS text) using an editor such as Notepad or by EXCEL spreadsheet.

Both Codes and Short and Long text in English (or another language) have to be entered in or converted to the file format showed below:

THE CATALOGUE "USER.DAT" WITH CODES FOR SUPPLIERS AND USERS, SHOULD HAVE THE FOLLOWING FORMAT:

SUPPL/USER T1/T2	SHORT TEXT	LONG TEXT
Position	Position	Position
3 - 7	10-11	15 - 30
(2+3 digits)	(3 dig.)	(16 char.)
		(80 char.)

The following example gives an extract of the Catalogue "USER.DAT":

SUPPL/USER T1/T2	SHORT TEXT	LONG TEXT
23010 12	Agriculture	Agriculture
23020 12	Forestry, logg.	Forestry, logging and related service activities
----- --	-----	-----
61011 2	Flour, grits, bisc	Flour and grits, biscuits, cripsbread etc
61012 2	Bread & cakes	Bread and cakes
83010 2	Agriculture	Agriculture, hunting and related service activities
83010 2	Forestry, logg.	Forestry, logging and related service activities
87000 2	Change in inv.	Change in inventory, Residuals (goods)

Remember that the two first digits of the Codes for Supplier/User, give "Types of accounts". In the example above, **23** is the code for "Types of accounts" for Production accounts for market producers, **61** for Final consumption expenditure of households, **83** for Capital formation accounts for market producers, **87** for Change in inventories, Residuals.

The three next digits give the classification for industries or final use.

The second column, which is a technical supplement to the Supplier/User codes, shows with:

- the figure 1, that the codes are used in T1, the Supply Table
- the figure 2, that the codes are used in T2, the Use Table
- the figure 3, that the codes are used in T3, the Value added table, not relevant for USER.DAT

NOTE: Of technical reasons, all industries identified as 22XXX, 23XXX, 24XXX, 25XXX and 26XXX accounts have to be included in the catalogue "USER.DAT" as 23XXX accounts.

The Short text in English (or another language) entered in the format showed, is used for producing tables with text. The long text in English (or another language) is used as Catalogue documentation.

When starting a SUT project, a Catalogue with the different types of classification codes have to be established. To simplify the process of editing the classifications for Suppliers and Users, detailed standard classification codes (as used in Norway) with English text, are attached to this documentation, see Annex. If the short text is written in English for international use, a non -English speaking country can prefer to use the native language as the long text.

The classification codes established for the first year for Suppliers and Users, should by preference, be kept unchanged for some years to facilitate use of value indices for updating the SUT from one year to the next year. To be able to use value indices for updating to the next year, it is more important to retain the same classification for industries and final users than for products.

3.8. Format for classification of Value added with Income components

The catalogue "INCOME.DAT" with code lists for Income components can be registered as DOS text (ASCII-file) using an editor as Notepad or by EXCEL spreadsheet. Both Codes and Short and Long text in English (or another language) have to be entered in (or converted to) the format showed below:

THE CATALOGUE WITH CODES FOR INCOME COMPONENTS OF VALUE ADDED, SHOULD HAVE THE FOLLOWING FORMAT:

INCOME	T1/T2/T3	SHORT TEXT	LONG TEXT
Position	Position	Position	Position
3 - 7	10 - 12	15 - 30	31 - 110
(2+3 digits)	3 digits	(16 char.)	(80 char.)

The following example gives an extract of the catalogue "INCOME.DAT":

INCOME	T1/T2/T3	SHORT TEXT	LONG TEXT
31000	2, 3	Value added	Value added
31111	3	Wages,salaries, cash	Wages,salaries, cash
-----	-----		
31220	3	Taxes on production	Other taxes on production

38100	3	Capital depreciation	

In the example above **31** is the code for "Types of accounts" for income components of value added.

The three next digits give the classification codes for the income components.

The second column, which is a technical supplement, shows with:

- the figure 2, that the codes are used in T2, the Use Table
- the figure 3, that the codes are used in T3, "Value added table with income components".

3.9. Format for the classifications of Products

The Catalogue "PRODUCT.DAT" with code lists for Products can be registered manually as DOS text (ASCII-file) using an editor as Notepad, or by EXCEL spreadsheet.

Both Codes, Short and Long text in English (or another language) have to be entered in (or converted to) the required format showed below:

THE CATALOGUE "PRODUCT.DAT" WITH CODES FOR PRODUCTS SHOULD HAVE THE FOLLOWING FORMAT:

PRODUCTCOD	USER	SHORT TEXT	LONG TEXT
Position 3 - 8 (6 digits)	Position 15-19 (5 digits)	Position 25 - 40 (16 char.)	Position 41 - 110 (70 char.)

The following example gives an extract of the Catalogue "PRODUCT.DAT":

PRODUCTCOD	USER	SHORT TEXT	LONG TEXT
011111	87000	Durum wheat	Durum wheat
011115	87000	Barley	Barley
701000	87400	Life insurance.ser.	Life insurance services
702011	87400	Pens.fund.serv	Pension funding services
351121	87910	Cruise ships, ferry	Cruise ships, ferry boats and the like
060003	87930	Changes in livestock	Changes in livestock

Note: 6-digits codes have to be used for the detailed Product codes.

The second column, which is a technical supplement to the PRODUCT codes, called "the User" gives links between codes for products and codes for categories of "Changes in inventories/Residuals" used for the automatic balancing between supply and use of each product.

The Short text in English (or another language) entered in the format showed, is used for producing tables with text. The long text in English (or another language) is used as Catalogue documentation.

Products (goods), which can be stored, are "linked" to the "USER" code 87000. This means that during the automatic balancing process of the product flows, the difference between Supply and Use of products (goods) that can be stored, are allocated to account 87000.

Products (services), which cannot be stored, are linked to the "USER" code 87400. This means that during the automatic balancing process of the product flows, the difference between Supply and Use of products (services) which can not be stored, are allocated to account 87400, for further manual and interactive RAS corrections.

Products as "Cruise ships, ferry boats" where we have a long production period (products under processing) are allocated to "Work in progress " linked to the "USER" code 87910.

Products as "Change in livestock", "Change in stocks in fish farming", "Change in stocks, growth in planted forest" are linked to the "USER" code 87930

4. DATA REQUIREMENTS AND STRUCTURE OF THE SUT ACCOUNTS.

4.1. Introduction

This chapter gives an overview and illustration of the structure of the Production accounts and Capital Formation accounts for the different industries.

Output has to be registered at producers' value defined as:

	Sales of goods and services, specified by NA-products
plus	Produced for own account (Construction work etc. for own account, also included in gross fixed capital formation), specified by NA-products
plus	Change in stocks, finished goods and work in progress
plus	Income from secondary activities (e.g. Contract work; Trade margins calculated as income from sale of goods, bought for resale, minus use of goods for resale)
plus	Income from rental of buildings, machinery, equipment etc.

Output has to be registered as CORRT1-files, which is the file format used for registering values for production and imports (cif), specified by supplier and product at producers' values (13-Values), see chapter 5.1.

Intermediate consumption has to be registered at purchasers' value, defined as:

	Cost of used goods and services
	Use of raw materials at purchasers' values by main products.
plus	Other main inputs as electricity, water, fuel, telephone etc.,
plus	Rental of buildings, machinery, equipment etc.
plus	Cost of operating transport vehicles
plus	Repairs and maintenance

Intermediate input has to be registered as CORRT2-files, which is the file format used for registering use of products, specified by industries at purchasers' values (19-Values), see chapter 5.2.

Gross fixed capital formation has to be registered at purchasers' value defined as:

	Purchases of new and second hand assets, specified by type of assets
	Value of sold assets (Most important for cars)

Gross fixed capital specified by type of assets and industry, has to be recorded in purchasers' value as CORRT2-files, which is the file format used for registering use of products at purchasers' values (19-Values), see chapter 5.2.

Imports specified by products have to be registered as CORRT1-files specified by products at c.i.f values for external trade and for other imports as basic values and exports as CORRT2-files at f.o.b. values for external trade and for other exports as purchasers' values.

Other final use has to be registered as CORRT2-files at purchasers' values (19-Values), see chapter 5.2. The automatic compilation of income components of value added is explained in chapter 6.

Value added at producer's value for the different industries will be calculated as a residual, defined as:

*Total output at producer's value
minus Total intermediate input at purchaser's value.*

Wages and salaries in cash and kind and Consumption of fixed capital, paid by the different industries have to be registered as CORRT3-files., see chapter 6.

4.2. Production accounts for Market producers.

Data to be registered are:

23602. Production accounts. Scheduled motor bus transport, An example.

<u>19. Intermediate exp. at purchasers' values</u>	<u>13. Output at producers' values</u>
000020 Office equipment	602214 Public passenger transport by road
000036 Post, bankservices	602212 Rental services of buses and coaches with driver
230000 Petroleum products	
251100 Rubber, tyres, tubes	
502010 Repair of motor cars	
633010 Travel agency and tour operator services	
660100 Insurance services	
703110 Real estate services.	
741100 Legal services	
<u>Total input at purchasers' values</u>	
▪ 31000 Value added at producers' value (Residual)	
Output at producers' value (Calculated automatic)	Output at producers' value (Calculated automatic)

4.3. Production accounts for Non-market producers: Central and Local government services and Non-profit institutions serving households (NPISHs)

Main sources are central and local government accounts, which should cover all units of the general government. Government finance statistics should be compiled using the same definitions and classifications as in the national accounts system or with a direct link to these classifications. This would facilitate an efficient and integrated data flow from the government accounts to the national accounts system and also to the IMF Government Finance statistics.

In accordance with SNA93, the value of the output of services from general government have to be calculated as the sum of the expenditure components: intermediate consumption, consumption of fixed capital and compensation of employees. On the output side, gross output is equal to the sum of the government fees (sales of goods and services) and government final consumption expenditure (the residual). To be able to insert separate compiled constant price figures for Consumption of fixed capital for each of the government industries, Consumption of fixed capital has been given a separate product number .

Both revenue and expenditure should be defined and classified by economic type and at least for expenditure also by the SNA/ESA COFOG groups.

In many countries, estimation of intermediate consumption by products for the government is difficult, as the government accounts normally do not provide a standardised breakdown of purchases of goods and services. The example in Table 2 below gives suggested aggregated product groups, which could be used to facilitate the compilation of a detailed and standardised breakdown of products for both the Supply Table and the Use Table within the SUT framework.

24751. Production accounts. Central government. Public administration, An example.

19. Intermediate expenditure at purchasers' values:	13. Output at producers' values
000020 Office equipment, cleaning material.	751061 Administration. Central government consumption of fixed capital,
000022 Food used in government institution	751161 Administration, Central authorities, Central government consumption (excl. consumption of fixed capital)
000032 Business travel	
000120 Repair non-residential buildings	751171 Administration, Central authorities, Central government fees
401016 Electrical energy	752461 Administration, Police services, Central government consumption (excl. consumption of fixed capital)
19.Total intermediate expenditure at purchasers' value:	752471 Administration, Police services, Central government
(Total wages and Consumption of fixed capital have to be calculated to estimate total output at producers' value.)	
Output at producers' value (Calculated automatic)	Output at producers' value (Calculated automatic)

Central government accounts will also be the data source for the different types of taxes and subsidies (Taxes on products, incl. custom duties, Subsidies on products, Other taxes on production and Other subsidies on production), see chapter 5.

4.4. "Aggregation accounts" or "Technical accounts"

4.4.1. "Undistributed intermediate consumption"

An aggregation account for "Undistributed intermediate consumption" (accounts in the interval 27015-27292) are introduced to limit the details needed for specifying services as intermediate input to the government and certain service industries etc. An aggregation account will receive the detailed NA-products, but supply only one "Aggregation product".

The number of accounts for "Undistributed intermediate consumption" will depend on the details of the product accounts and the details for intermediate consumption in the different industries.

The SNA-NT software requires at least one account in the interval 27015-2729

REMEMBER: Don't register Supply from the 27-accounts. From each of the 27-accounts, supply of one product is created automatically, named after the supplying Aggregation account.

Useful "Aggregation Accounts" are :

27020 "Office equipment, cleaning material, tools etc" (supplying one product 000020)
 27022 "Food consumed in government institutions" (supplying one product 000022)
 27080 "Repair, buildings" (supplying one product 000080)

27020. Undistributed intermediate consumption Office equipment, cleaning material etc.

Simplified example.

19. Input at purchasers' values:	13. Output at producers' values:
222212 Trade advertising material	000020 Office equipment, cleaning material etc.
245132 Detergents and washing products	
252428 Other plastic products	
401000 Electricity , water	
641000 Post , Telephone etc	
<i>19. "Total intermediate expenditure at purchasers' value" is identical to " Output at producers' value"</i>	
<i>Value added equal to zero !</i>	
Output at producers' value (Calculated automatic)	Output at producers' value (Calculated automatic)

27033. Hotel services, business travel expenditure, domestic. Simplified example.

19. Input at purchasers' values:	13. Output at producers' values:
551000 Hotel services	000033 Hotel services, domestic personal travel
601010 Transport of passengers by long distance trains	
602210 Taxi services and rental services of passengers	
611011 Coastal water transport, passengers	
621010 Passenger transport by air	
<i>19. "Total intermediate expenditure at purchasers' value" is identical to " Output at producers' value"</i>	
<i>Value added equal to zero !</i>	
Output at producers' value (Calculated automatic)	Output at producers' value (Calculated automatic)

27035. Other business travel expenditure, abroad. Simplified example.

19. Input at purchasers' values:	13. Output at producers' values:
005068 Resident industries business travel abroad	000035 Other travel expenditure
602210 Taxi services and rental services of passengers	
632122 Toll road, bridges and and tunnel operation services	
632124 Car parking services	
<i>19. "Total intermediate expenditure at purchasers' value" is identical to " Output at producers' value"</i>	
<i>Value added equal to zero !</i>	
Output at producers' value (Calculated automatic)	Output at producers' value (Calculated automatic)

For the conversion from the ordinary SUT to "Tourist satellite accounts" (TSA ,essential accounts are 27033. Hotel services, business travel expenditure, domestic and 27035. Other business travel expenditure, abroad. These accounts should cover all kind of the different industries intermediate consumption related to business travel. In the TSA this expenditure is defined as tourist consumption.

27500. Trade margins, Simplified example.

19. Input at purchasers' values:	14. Trade margins at basic values:
401035 Sale of electrical energy to households	Trade margins as 14- values specified by all products
501000 Trade margins on motor vehicles	(goods), which have been distributed to users with a
505000 Trade margins on motor fuel	trade margin.
510100 Trade margins on wholesale trade	
521100 Trade margins on retail trade	
<i>19. "Total intermediate expenditure at purchasers' value" is identical to " Output at producers' value"</i>	
<i>Value added equal to zero !</i>	
Output at producers' value (Calculated automatic)	Output at basic value (Calculated automatic)

4.4.2. "Capital formation distributed by types of fixed assets

28119. Types of fixed assets Holiday homes, cottages Simplified example.

19. Input at purchasers' values:	13. Output at producers' values:
451100 Site preparation	008119 Holiday homes, cottages
452110 General construction work	
452290 Roof framing work	
453100 Electrical installation work	
<i>19. "Total intermediate expenditure at purchasers' value" is identical to " Output at producers' value"</i>	
Output at producers' value (Calculated automatic)	Output at producers' value (Calculated automatic)

The SNA-NT software requires at least one 28XXX account

REMEMBER: Don't register Supply from the 28-accounts. From each of the 28-accounts, supply of one product is created automatically, named after the supplying Types of fixed assets account.

4.4.3. "Technical accounts for VAT, product taxes, subsidies

The SNA-NT software requires all the 29 accounts.

REMEMBER: NO SUPPLY FROM THE 29-accounts EXCEPT FROM 29505 Custom duties.

Custom duties should be specified by products (same as for imports)

For the other 29-accounts, automatic production is created.

The input format for registering VAT, product taxes and subsidies and trade and transport margins are explained in chapter 5.2.

VAT should be recorded according to theoretical VAT by using VAT rates by products and type of use. The product taxes and subsidies should be cash receipts time adjusted, so that the cash is attributed when the activity take place to generate tax liability. In the Norwegian National Accounts the time adjustment is based on the average time difference between the activity and the cash tax receipt (approximately two months).

Custom duties from the External trade statistics are registered as basic value, specified by products.

Cash values for other taxes and subsidies should be specified by industry or, if possible at estimated accrual values.

PART III. METHODOLOGY, ORGANISATION OF INPUT DATA AND COMPLETE SET OF EQUATIONS

5. ESTABLISHING SUT IN CURRENT PRICES FOR THE FIRST YEAR

5.1. First stage, the Supply Table (T1) at producers' value (13-value).

The Supply table T1 can be illustrated by matrix H, defined by:

$$H = \left[h_{ip}^v \right]_{\substack{v \in \{1,2,\dots,a\} \\ i \in \{1,2,\dots,b\} \\ p \in \{1,2,\dots,c\}}} \quad (\text{Eq SUT 1 repeated from chapter 2.1})$$

v represents *Value Classes* (Account type 10, 11, 12, 13)

i represents *Suppliers* (i= d+z)

⇒ d Production and Aggregation accounts (Accounts from 22000 to 29999)

⇒ z Import accounts (Accounts from 52000 to 52900).

p represents *Products* (Accounts from 000000-999999).

H_{ip}^{13} is the matrix defining the product flows (p) from domestic suppliers and imports (i), **at producers' values (13-Values)**.

Data are loaded into the database from ASCII (text) files with a fixed layout and format. The User manual describes how input data can be converted from Excel worksheets

CORRT1-FILE

A CORRT1-file is the file format used for registering values for production and imports (cif), specified by product at producers' values (13-Values).

Supply of specified products: CORRT1-file

CORRT1	SUPP CODE	VALUE/PRODUCT CODE	VALUE
Position	Position	Pos.Position	Position
1 - 6	21-25	29/3031- 36	41 - 51
CORRT1	23211	13XXXXXX	2000
CORRT1	23211	13XXXXXX	4000

Position 1- 6: CORRT1 is a technical name for all records in a CORRT1-file.

Position 21- 25: show 5-digit codes for the Supplying industries (as 23211 for Manufacture of pulp).

Position 29-30 plus 31-36 are 8 digit codes where the first 2-digit codes show type of valuation (13 for producers' value) and the next 6-digits codes show the product codes.

Note: Totals should not be recorded. Total supply from an industry (as 23211) or total import for an import group, will by the SNA-NT software be calculated automatic as a sum.

To be able to keep records of the different input files, the file name should be written according to a given standard. For the illustrated file, we could write 12321113.CT1, where the first digit (1) represents the year, 200(1), the next five digits give the Supplier code (23211), the next two digits (13) represent producers' value of the data. The "extension" has always to be written CT1, for a CORRT1 file.

SPREADT1-FILE (NOT REQUIRED FOR THE SOFTWARE TO WORK)

A SPREADT1 file can be used, when one knows the total production for an industry (as 23211) in absolute values, but only relative distribution of the industry's production by products. **NOT REQUIRED**

Supply / relative distribution of products: SPREADT1 file

SPREADT1	SUPPLY.CODE	VALUE/PROD.CODE	SHARE
Position	Position	Pos. Position	Position
1 - 8	21-25	29/3031- 36	41 - 51
SPREADT1	23211	13XXXXXX	5
SPREADT1	23211	13XXXXXX	10
SPREADT1	23211	13TOTAL	600

The record in a SPREADT1 file with the code TOTAL in positions 31 - 35 will by SNA-NT software be taken to represent the "sum " of total Supply (production) from a Supplier. The code for the Supplier (domestic industry or import) is given in the positions 21 - 25. By the SNA-NT software, the SPREADT1 file will be transformed to a CORRT1 file, where the TOTAL specified in the SPREADT1 file, will be distributed according to the given shares of the total, between the registered Supplier x Product code combinations.

The file should be written according to the given standard. For this file, we should write 12321113.ST1, where the first digit (1) represents the year 200(1), the next five digits (as 23211) indicate a supply industry code, and the next two-digit (13) represent producers' value of the data. The "extension" has to be written ST1, for the SPREADT1-file.

5.2. Second stage, the Use Table (T2) from purchasers' values to producers' values

5.2.1. The T2 Matrix at purchasers' values (19-Values)

The Use Table (T2) can be expressed by the matrix M, defined by equation Eq 14, illustrating Use of Products without the accounts for "Changes in inventories/Residuals".

M is Use in T2, without the accounts for "Change in inventories/Residuals", defined by:

$$M = \left[m_{pj}^v \right] \quad \begin{matrix} v \in \{1, 2, \dots, a\} \\ p \in \{1, 2, \dots, c\} \\ j \in \{1, 2, \dots, g\} \end{matrix} \quad \text{(Eq SUT 18A)}$$

v represents Value classes,

p represents Products,

j represents Users, but not Change in inventory/Residuals

M_{pj}^{19} is the matrix defining the product flows (p) to intermediate and final consumption, fixed capital formation and exports (j) at purchasers' values (19 values).

USE TABLE (T2) at purchasers' values (19-values)

Data are loaded into the database from ASCII (text) files with a fixed layout:

I. CORRT2-file

A CORRT2-file is the file format used for registering absolute values for intermediate use, domestic final consumption and exports (fob) of products at 19 values (purchasers' values).

Use of specified products (absolute values): CORRT2-file

CORRT2	VALUE/PR.	CODE USE	CODE VALUE
<i>Position</i>	<i>Position</i>	<i>Position</i>	<i>Position</i>
<i>1 - 6</i>	<i>19/20 21 -26</i>	<i>31-35</i>	<i>41 - 51</i>
CORRT2	19XXXXXX	23211	400
CORRT2	19XXXXXX	23211	500
CORRT2	19XXXXXX	23211	-8
CORRT2	19XXXXXX	23211	100

Position 1- 6: CORRT2 is a technical name for all records in a CORRT2-file.

Position 19-20 plus 21-26 will show 2-digit codes for type of valuation (19 for purchasers' value) and 6-digits product codes (together 8 digit code).

Position 31- 35 will show 5-digit codes for the Users (as 23211 for Manufacture of pulp).

The file name should be written according to the given standard. For this file, we should write 81923211.CT2, where the first digit (8) represents the year (199)8, the next two digits (19) represent purchaser' value, the next five digits (23211) give users code. "Extension" is always written CT2, meaning CORRT2-file.

REMEMBER: NEED TO SPECIFY USE BY ALL ACCOUNTS AS CORRT- 2 FILE.

ALSO USE BY THE SPECIAL AGGREGATION ACCOUNTS 27 AND 28.

The software requires at least one account in the interval 27015 -27270 and at least one product to and from this account

ALL ACCOUNTS STARTING WITH 87 ARE COMPILED AUTOMATIC DURING THE BALANCING OF THE SUPPLY AND USE TABLE.

TWO 87* ACCOUNTS ARE ALWAYS REQUIRED:**

87000 Change in stocks and residuals for goods

87400 Change in stocks and residuals for services

87xxx

II. SPREADT2-FILE (NOT REQUIRED FOR THE SOFTWARE TO WORK)

A SPREADT2 file can be used when e.g. the absolute value of an industry's total intermediate consumption is known and only the relative distribution of the industry's intermediate consumption, specified by products.

Use / relative distribution of products: SPREADT2 file

SPREADT2	VALUE/PROD.CODE	USER.CODE	PROPORTION
<i>Position</i>	<i>Position</i>	<i>Position</i>	<i>Position</i>
<i>1 - 8</i>	<i>19/20 21 -26</i>	<i>31-35</i>	<i>41 - 51</i>
SPREADT2	19XXXXXX	23211	8
SPREADT2	19XXXXXX	23211	2
SPREADT2	19TOTAL	23211	1000

The record in a SPREADT2 file with the code TOTAL in positions 21 - 26 is by SNA-NT procedure taken to represent the "sum " of total input to a User. The code for the User (input to an industry or type of final consumption) is given in the positions 31 - 35. By the SNA-NT software, a SPREADT2 file will be transformed into a CORRT2 file, where the TOTAL specified in the SPREADT2 file, will be distributed by the registered Products x User code combinations.

The file name should be written 81923XXX.ST2, where the first digit (8) represents the year, the next two digits (19) represent purchasers' value, and the next five digits give user code (23211). The "extension" is always written ST2, meaning SPREADT2-file.

From the initial Use Table (T2) with the product flows recorded in Purchasers' values, other valuation components are calculated in the following stages, as explained in the following chapters.

5.2.2. Calculating T2. Matrix for investment tax (18-Values) (

The Norwegian investment tax is a special type of tax levied on products to capital investment In Norway the investment tax, which has a lower rate than VAT, is replacing the value added tax. The current investment tax rate for a year (specified by product and industry) has to be recorded from the governments accounts and been expressed as a fixed per cent of the purchasers' value minus investment tax.

Investment tax (18-values) are not required for the software to work.

M^{18} is the calculated investment tax (18-Values), specified by Products and Users.

$$M^{18} = [m_{pj}^{18}] = \begin{bmatrix} \frac{Y_{11}}{1+Y_{11}} m_{11}^{19} & \dots & \frac{Y_{1j}}{1+Y_{1j}} m_{1j}^{19} \\ \dots & \dots & \dots \\ \frac{Y_{p1}}{1+Y_{p1}} m_{p1}^{19} & \dots & \frac{Y_{pj}}{1+Y_{pj}} m_{pj}^{19} \end{bmatrix} \quad \text{(Eq SUT 18B)}$$

where Y gives rates of Investment tax and is of the same order as the matrix M^{19} purchasers' values and each element of matrix M^{19} is multiplied by the corresponding element of matrix Y .

Matrix Y , which gives investment tax rate for a year, is taken from the following FILE:

FILE WITH 18-VALUES FOR INVESTMENT TAX (specified with 4 decimals):

PRODUCT	USER.CODE	INVESTRATE
<i>Position</i>	<i>Position</i>	<i>Position</i>
<i>1 - 6</i>	<i>8 - 12</i>	<i>15 - 20</i>
(6 digits)	(2+3 digits)	0,1200 (Example of presentation of 12,00 %)

A value (INVESTMENT TAX rate) is entered only when the rate is different from zero.

The rates of investment tax are calculated for the flow of investment products (from investment by type) to the accounts for fixed capital formation for the different industries. (In the Norwegian case, investment tax is also levied on some products that are delivered to intermediate consumption in the national accounts system.)

5.2.3. Calculating T2. Matrix for value added tax VAT (17-Values)

The SNA-NT methodology follows the SNA93 recommendation with "net system of value added tax".

Only non-deductible VAT is recorded as theoretical VAT.

M^{17} is the calculated VAT (17-Values), specified by Products and Users.

$$M^{17} = [m_{pj}^{17}] = \begin{bmatrix} \frac{K_{11}}{1+K_{11}} m_{11}^{19} & \dots & \frac{K_{1j}}{1+K_{1j}} m_{1j}^{19} \\ \dots & \dots & \dots \\ \frac{K_{p1}}{1+K_{p1}} m_{p1}^{19} & \dots & \frac{K_{pj}}{1+K_{pj}} m_{pj}^{19} \end{bmatrix} \quad (\text{Eq SUT 19})$$

where \mathbf{K} gives rates of VAT and is of the same order as the matrix \mathbf{M}^{19} , and each element of matrix \mathbf{M}^{19} is multiplied by the corresponding element of matrix \mathbf{K} .

The matrix \mathbf{K} is compiled from information stored in four different tables. The information about the current VAT rates for a year (specified by product and users) have to be recorded from the governments accounts and been expressed as a fixed per cent of the purchasers' value minus VAT:

- ⇒ Certain products might not to be levied with VAT, regardless of use.
- ⇒ Certain products might have a rate of VAT that differs from the general rate.

Information about the combinations of Products and Users for which VAT has to be calculated and which rate to use, have to be recorded in different TABLES

Note: The VAT rates are given as a per cent of purchasers' value (19-value) exclusive of VAT (17-value) i.e. 20% VAT is written 0.2000.

In the Norwegian adaptation of the SNA-NT, the following general rules applies for all products:

No VAT on exports (51 account) and changes in inventories (87-account)

The following shows the TABLES introduced in the SNA-NT system.

TABLE I. VAT-ORD ("MOMS-ALMEN") SHOWS THE ORDINARY VAT-RATE:

VAT RATE:

Position

8 - 13

0.2000 (Example of presentation of 20.00 % VAT as 5 digits rates as a percentage of producers' values.)

TABLE ii. VAT FIX ("MOMS FAST") SHOWS PRODUCTS, WHICH REGARDLESS OF USERS, WILL HAVE THE ORDINARY VAT-RATE (VAT-ORD) LISTED IN TABLE i:

PRODUCTS:

Position

1 - 6

6 digits product codes

This is a list of products for which ingoing VAT cannot be deducted. In the Norwegian case, we find 6 products as Restaurant meals etc. listed in TABLE i, where the ordinary VAT-ORD rate ("moms-almen") is used, independent of type of user.

For all products not listed in TABLE ii, the rules listed in TABLE iii and TABLE iv will apply:

TABLE iii. VAT PROD ("MOMS PRO") LISTING PRODUCTS, WHICH REGARDLESS OF USERS ARE NOT TO BE LEVIED WITH VAT OR WILL HAVE A DIFFERENT VAT-RATE:

PRODUCTS	VAT RATE
Position	Position
<u>1 - 6</u>	<u>8 - 13</u>
(6 digits product codes)	0 (Example of 0 % VAT)
	0.1000 (Example of 10 % VAT)

In the Norwegian case we find about 400 products on this list of products with non-standard VAT tax rate. Among these products are output from Central and Local government. For most of these products, the VAT rate is zero. For some products, as electricity for domestic use, an alternative rate is used in the northern regions of Norway. For the National Accounts, an average of rates for different regions have to be estimated.

In the Bulgarian case we find a very high threshold for registering in the VAT register (50.000 levy = 250.000 NOK). In Norway we have had no threshold, but from the year 2004 the threshold for being able to register in the VAT register is a turnover more than 50.000 NOK

For products not listed in any of the other tables, the ordinary VAT rate will be used, but always checked against the users.

TABLE iv. VAT USER ("MOMS MOT") LISTING USERS WHICH ARE NOT TO BE LEVIED WITH VAT OR PAY A DIFFERENT VAT RATE:

USERS	VAT RATE
Position	Position
<u>1 - 5</u>	<u>8 - 13</u>
(2+3 digits)	0 (If % = 0)
	0,5500 (Example of presentation mode for 55% of the ordinary VAT rate)

Note:

- The procedure presented in **TABLE ii VAT-FIX** concerning Products for which VAT-ORD is to be levied regardless of Users, will be dominant for most products, compared with the procedure presented in **TABLE iv**.
- The procedures presented for **Products in TABLE iii and Users in TABLE iv** are used in combination:
 - ⇒ For products listed in **TABLE iii**, the VAT will be compiled with the given VAT rate
 - ⇒ For products not listed in **TABLE iii**, the VAT on the product will be compiled with the ordinary rate (VAT-ORD), i.e. 20.00 %.

⇒ **TABLE iv** will then be checked. For Users listed in this TABLE, the ordinary VAT rate will be multiplied by the VAT rate in this TABLE.

EXAMPLE with VAT-ORD equal to 0.2000:

TABLE	TABLE ii	TABLE iii	TABLE iv	RESULT
:	VAT FIX	VAT-PROD	VAT-USERS	
	<i>product code</i>	<i>percentage</i>	<i>percentage</i>	<i>percentage</i>
-	<found>	not found	not found	0.2000
	<not found>	0.1000	0.55	0.0550
	<not found>	0		0
	<found>	<not found>	0.9	0.2000
	<not found>	0.1000	0	0

By combining the TABLES ii, iii and iv, the VAT rate K_{pj} is compiled for the various Product x User combinations.

NOTE: Products x User combinations, which are not listed in any of the TABLES, will have the ordinary VAT rate VAT-ORD ("MOMS-ALMEN").

5.2.4. Calculating T2. Product taxes collected by Retail and Wholesale Traders (15-Values.) and Subsidies on products paid to Retail and Wholesale Traders (16-Values)

5.2.4.1. Matrix for product taxes collected by Retail and Wholesale traders (15-Values)

M^{KE} is an auxiliary matrix, defined as Purchasers' value less VAT (and investment tax in Norway):

$$M^{KE} = M^{19} - M^{18} - M^{17} \quad (\text{Eq SUT 20})$$

M^{15} is the Product taxes collected by Retail and Wholesale Traders, given by:

$$M^{15} = [m_{pj}^{15}] = m_{pj}^{KEU15} \times \frac{S_p^{15}}{\sum_{j=1}^g m_{pj}^{KEU15}} \quad (\text{Eq SUT 21A})$$

where S^{15} is a column vector (c x 1) giving absolute values for the "Sum of Product Taxes collected by Traders", classified by relevant products. Taxes are registered as positive values.

M^{KEU15} is of dimensions (c x g) given by:

$$M^{KEU15} = [m_{pj}^{KEU15}] = \begin{bmatrix} u_{11}^{15} m_{11}^{KE} & \cdot & \cdot & u_{1j}^{15} m_{1j}^{KE} \\ & \cdot & \cdot & \cdot \\ & \cdot & \cdot & \cdot \\ u_{p1}^{15} m_{p1}^{KE} & \cdot & \cdot & u_{pj}^{15} m_{pj}^{KE} \end{bmatrix} \quad (\text{Eq SUT 21 B})$$

U^{15} with elements from 0 to 1000 is of the same order as M^{KE} , and each element in matrix U^{15} is multiplied by the corresponding element in matrix M^{KE} .

S15 AND U15 ARE TAKEN FROM THE FOLLOWING Files:

FILE WITH VALUES FOR S 15:

PRODUCT	VALUE
Position	Position
<u>1 - 6</u>	<u>8 - 12</u>
(6 digits)	Absolute value

Note: S15 specifies absolute values for product taxes, classified by product.

TABLE WITH VALUES FOR U 15:

PRODUCT	USER	VALUE
Position	Position	Position
<u>1 - 6</u>	<u>8 - 12</u>	<u>15 - 17</u>
(6 digits)	(2+3 digits)	(3 digits)

NOTE: Combinations of Product (p) x User (j) where taxes are not to be calculated, are registered with 0. Combinations of Product (p) x User (j) where taxes are to be calculated with a reduced rate, are registered with values from 1 to 999. All other combinations of Product (p) x User (j) where no value is registered, will by the SNA-NT software be given a value = 1000.

Value = 0 indicates where product taxes are not to be calculated, and these combinations will be eliminated.

Values from 1 to 999 indicates where product taxes are to be calculated with a different rate than the normal full rate. The value X, where $0 < X < 1000$, indicates the % $((X/1000)*100)$ of the normal full rate.

Value = 1000 indicates where product taxes are to be calculated with the normal full rate.

5.2.4.2. Matrix for product subsidies paid to Retail and Wholesale Traders (16-Values)

M^{16} is Product subsidies paid to Retail and Wholesale traders, given by:

$$M^{16} = [m_{pj}^{16}] = m_{pj}^{KEU16} \times \frac{S_p^{16}}{\sum_{j=1}^g m_{pj}^{KEU16}} \quad (\text{Eq SUT 21C})$$

where S^{16} is a column vector ($c \times 1$) giving absolute values for the "Sum of Subsidies paid to Traders ", classified by relevant products. Subsidies are registered as negative values.

M^{KEU16} is of dimension ($c \times g$) given by:

d

$$M^{KEU16} = [m_{pj}^{KEU16}] = \begin{bmatrix} u_{11}^{16} m_{11}^{KE} & \cdot & \cdot & u_{1j}^{16} m_{1j}^{KE} \\ \cdot & \cdot & \cdot & \cdot \\ \cdot & \cdot & \cdot & \cdot \\ u_{p1}^{16} m_{p1}^{KE} & \cdot & \cdot & u_{pj}^{16} m_{pj}^{KE} \end{bmatrix} \quad \text{(Eq SUT 21D)}$$

U^{16} with elements from 0 to 1000 is of the same order as M^{KE} , and each element in matrix U^{16} is multiplied by the corresponding element in matrix M^{KE} .

S16 AND U16 ARE TAKEN FROM THE FOLLOWING File:

FILE WITH VALUES FOR S 16:

PRODUCT	VALUE
Position	Position
<u>1 - 6</u>	<u>8 - 12</u>
(6 digits)	Absolute value

Note: S16 specifies absolute values for product subsidies, classified by product.

FILE WITH VALUES FOR U 16:

PRODUCT	USER	VALUE
Position	Position	Position
<u>1 - 6</u>	<u>8 - 12</u>	<u>15 - 17</u>
(6 digits)	(2+3 digits)	(3 digits)

NOTE: Combinations of Product (p) x User (j) where subsidies are not to be calculated, are registered with 0. Combinations of Product (p) x User (j) where subsidies are to be calculated with a reduced rate, are registered with values from 1 to 999. All other combinations of Product (p) x User (j) where no value is registered, will by the SNA-NT software be given a value = 1000.

Value = 0 indicates where product subsidies are not to be calculated, and these combinations will be eliminated.

Values from 1 to 999 indicates where product subsidies are to be calculated with a different rate than the normal full rate. The value X, where $0 < X < 1000$, indicates the % $((X / 1000) * 100)$ of the normal full rate.

Value = 1000 indicates where product taxes / subsidies are to be calculated with the normal full rate.

5.2.5. Calculating T2. Matrix for Retail and wholesale trade margins at basic values (14R-Values).

M^{KT} is an auxiliary matrix, defined as Purchasers' value (19) less (Investment tax in Norway 18), VAT (17), Subsidies on products paid to Traders (16), Taxes on products collected by Traders (15).

$$M^{KT} = M^{19} - M^{18} - M^{17} - M^{16} - M^{15} = M^{13} + M^{14R} + M^{14T} \quad (\text{Eq SUT 22 A})$$

We define retail and wholesale trade margins as $TRM = \frac{M^{14R}}{M^{13}}$

TRM: The Trade Margin rates is "the total absolute value of retail and wholesale margins (M^{14R}) as a percentage of Producers' values (M^{13}) and is of the same order as M^{KT} .

Note: The Transport Margins are not known at this stage in the production process.

TRM is taken from the following input file for TRADE MARGIN RATES:

File with (14R) FOR TRADE MARGIN RATES (TRM) (specified with 4 decimals):

PRODUCT	USER	MARGIN RATE
Position	Position	Position
1 - 6	8 - 12	15 - 20
(6 digits)	(2+3 digits)	0,2600 (Example of presentation of 26,00 %)

A value (trade margin rate) is entered only when the rate is different from zero. The trade margin rates have to be estimated by products and users and are difficult to estimate.

M^{14R} (of dimensions $c \times g$) is the calculated *Retail and wholesale trade margins at Basic Value*, is:

$$M^{14R} = [m_{pj}^{14R}] = \begin{bmatrix} \frac{trm_{11}}{1+trm_{11}+ttm_{11}} m_{11}^{KT} & \dots & \frac{trm_{1j}}{1+trm_{1j}+ttm_{1j}} m_{1j}^{KT} \\ \dots & \dots & \dots \\ \frac{trm_{p1}}{1+trm_{p1}+ttm_{p1}} m_{p1}^{KT} & \dots & \frac{trm_{pj}}{1+trm_{pj}+ttm_{pj}} m_{pj}^{KT} \end{bmatrix} \quad (\text{Eq SUT 22B})$$

5.2.6. Calculating T2. Matrix for Transport margins at basic values (14T-Values)

Note: The producers' values of the Trade Margins are not known at this stage in the production process.

We define transport margins rates as $TTM = \frac{M^{14t}}{M^{13}}$.

Transport margin rates are taken from the following file for TRANSPORT MARGIN RATES:

File with 14T-Values for TRANSPORT MARGIN RATES (TTM) (specified with 4 decimals):

PRODUCT	USER	MARGIN RATE
Position	Position	Position
1 - 6	8 - 12	15 - 20
(6 digits)	(2+3 digits)	0,2600 (Example of presentation of 26,00 %)

A value (transport margin rate) is entered only when the rate is different from zero.

The transport margin rates have to be estimated by products and users and are difficult to estimate.

M^{14T} (of dimensions $c \times g$) is the calculated *Transport Margins at Basic Value*, given by:

$$M^{14T} = [m_{pj}^{14T}] = \begin{bmatrix} \frac{ttm_{11}}{1+trm_{11}+ttm_{11}} m_{11}^{KT} & \dots & \frac{ttm_{1j}}{1+trm_{1j}+ttm_{1j}} m_{1j}^{KT} \\ \dots & \dots & \dots \\ \frac{ttm_{p1}}{1+trm_{p1}+ttm_{p1}} m_{p1}^{KT} & \dots & \frac{ttm_{pj}}{1+trm_{pj}+ttm_{pj}} m_{pj}^{KT} \end{bmatrix} \quad (\text{Eq SUT 22C})$$

$$TRM = \frac{M^{14T}}{M^{13}}$$

TRM gives the Transport Margin rates (M^{14T}) as a percentage of Producers' values (M^{13}) and is of the same order as M^{KT} .

Note: The producers' values of the Transport Margins are not known at this stage in the production process.

Each element in matrix M^{KT} is multiplied by the corresponding element in matrix: $\frac{b_{pj}}{1+a_{pj}+b_{pj}}$.

5.2.7. Calculating T2. Matrix at producers' values (13-Values)

$$M^{13} = M^{19} - M^{18} - M^{17} - M^{16} - M^{15} - M^{14R} - M^{14T} \quad (\text{Eq SUT 23})$$

The Supply Table (T1) and the Use Table (T2) are first balanced at producers' value during a later stage when also the first estimates for Change in inventories, specified by products are compiled, see chapter 4.4.

After calculating M^{13} the following value set could have been calculated:

M^{12} product subsidies (12-Values), M^{11} product taxes (11-Values) and M^{10} basic values (10-Values).

By introducing certain Aggregation accounts (27-accounts) as residual accounts, the calculations of basic values (10-Values) can first be carried out after balancing the residual accounts (Changes in Inventories etc). For the 27-accounts for services, 19-Values are always equal to 13-Values, while 10-Values will diverge from 13-Values when there are product taxes/subsidies on the services that are delivered to the 27-accounts.

5.3. Computing the complete Supply Table

5.3.1. Balancing product taxes and subsidies

T1 is expressed by **Matrix H**, defined in chapter 2.1 by Equation 1.

In T1, S is a row vector giving total Supply, specified by products, in the various value classes, defined by Equation 6.

In T1, the row vector (column sums) S_p^{11} , S_p^{12} , S_p^{14R} , S_p^{14T} , S_p^{15} , S_p^{16} , S_p^{17} and S_p^{18} , will be determined as identical to the column vector (row sums) S_p^{11} , S_p^{12} , S_p^{14R} , S_p^{14T} , S_p^{15} , S_p^{16} , S_p^{17} and S_p^{18} , computed in T2, as illustrated by Figure 1 and Figure 2 in chapter 2.

S_p^{11} , S_p^{12} , S_p^{15} and S_p^{16} are taken from the TABLES S11, S12, S15 and S16

In T1, the following rows will be created in this phase:

⇒ S_p^{14R} is entered as row 27500 x 14RXXXXXX (Retail and wholesale margins, basic value)

⇒ S_p^{14T} is entered as row 27600 x 14TXXXXXX (Transport margins, basic value)

⇒ S_p^{15} is entered as row 27500 x 15XXXXXX (Taxes on products, collected by traders) NOT REQUIRED

⇒ S_p^{16} is entered as row 27500 x 16XXXXXX (Subsidies on products paid to traders) NOT REQUIRED

⇒ S_p^{17} is entered as a row 29501 x 17XXXXXX (VAT)

⇒ S_p^{18} is entered as a row 29502 x 18XXXXXX (Investment tax) NOT REQUIRED

⇒

⇒ ***Note: Product taxes and product subsidies allocated to transport will be treated as ordinary product taxes (11-Values) and product subsidies (12-Values).***

5.3.2. Calculating T1. Matrix for product subsidies (S12) distributed by domestic suppliers.

The total figure for Subsidies on products S_p^{12} is identical in T1 and T2 and is taken from the TABLE S12.

$H^{23/12}$ denotes subsidies on products from Domestic supply accounts.

$$\underline{\mathbf{H}^{23/12} \text{ is given by:}} \quad h_{ip}^{23/12} = \left(\frac{S_p^{12'}}{23999 \sum_{i=23001} h_{ip}^{23/13}} \right) \times h_{ip}^{23/13} \quad (\text{Eq SUT 24})$$

Note: $i = 23XXX$ indicates that product subsidies are only paid to Domestic market producers (23 accounts).

5.3.3. Calculating T1. Matrix for product taxes (S11) distributed between domestic suppliers and imports.

The total figure for "Taxes on products" S_p^{11} is will be decided from administrative data and will be identical in T1 and T2.

The sum of custom duties (account 29505) and imports according to external trade statistics (account 52110), is expressed by $H^{1A/13}$:

$$H^{1A/13} = [h_p^{1A/13}] = [h_p^{29505,13} + h_p^{52110,13}] \quad (\text{Eq SUT 25})$$

Domestic production minus exports (according to the external trade statistics (account 51110) of products recorded in producers' values (13-values) is expressed by $H^{PA/13}$:

$$H^{PA/13} = [h_p^{PA/13}] = \left[\sum_{i=23001}^{23999} h_{ip}^{23,13} - m_p^{13,51110} \right] \quad (\text{Eq SUT 26})$$

Note: $i = 23$; (23001-23999) shows that product taxes on domestic production only are paid by Market producers (23 accounts).

Product taxes on imported products, $h_p^{29506/11}$ is expressing "import taxes".

$h_p^{29506/11}$ is computed for the vectors 29506 x 11 in the Supply table (T1)

The following equation SUT 27 is based on the assumption that product taxes related to the import of a product ($h_p^{29506/11}$) represents the same share of the total product taxes (S_p^{11}) as import tax ($h_p^{29506/11}$) plus the sum of custom duties and imports ($H^{IA/13}$) represents of import tax ($h_p^{29506/11}$) plus the sum of custom duties and imports ($H^{IA/13}$) plus domestic supply of the product minus exports of the product (H^{PA}) i.e.:

$$\frac{h_p^{29506/11}}{S_p^{11}} = \frac{h_p^{29506/11} + H^{IA/13}}{h_p^{29506/11} + H^{IA/13} + H^{PA/13}} \quad (\text{Eq SUT 27})$$

This equation has import tax $h_p^{29506/11}$ as the unknown variable. The solution of this equation is equation (28).

$$h_p^{29506} = -1/2(H^{IA/13} + H^{PA/13} - S_p^{11}) + \sqrt{[H^{IA/13} X S_p^{11}] + [1/2(H^{IA/13} + H^{PA/13} - S_p^{11})]^2} \quad (\text{Eq SUT 27})$$

Equation 27 calculate product taxes distributed by imported products (the vector 29506 x 11xxxxxx) expressed by $h_p^{29506/11}$ in the Supply table.

Note: If for a product, exports according to external trade statistics (account 52110) is larger than or equal to domestic production from account 23, H^{PA} will be less or equal to zero.

$h_p^{29506/11}$ will then be defined equal to S_p^{11} . This means that for the product, the total product tax S_p^{11} will be allocated to imports as "import tax":

5.4. Balancing the Supply table and the Use Table at producers' values

Matrix N, defined in Chapter 3.2., equation (7), expresses T2 without Value added (B_d):

Matrix N contains, in addition to matrix M (equation 14), also matrix R.

The relationship between matrices N and M is defined by Equation 13.

R denotes residuals, specified by changes in inventories and residuals.(and selected aggregation accounts).

Total supply of a product in producers' value: S_p^{13} is calculated in T1 as column sums (row vector), **(1 x c)**, see chapter 3.1, Figure 1. COMPLETE SUPPLY TABLE (T1).

R^{13} is of dimensions $c \times r$. Change in inventories/residual in producers' values, which results from the balancing of all products. T1 gives Supply of a product in 13 value and T2 gives Use of a product in 13 value.

$$r_{p,87XXX}^{13} = S_p^{13} - \sum_{j=1}^g m_{pj}^{13} \quad (\text{Eq SUT 31})$$

87XXX represents the residual accounts 87000, 87400, 87900 (and part of 27XXX):

87000 Residual - Balancing account for the balancing, in 13-Values, of Supply and Use of goods (products that can be stored)

87400 Residual - Balancing account for the balancing, in 13-Values, of Supply and Use of services (products that can not be stored).(Will be removed during the balancing process)

879XX Residual - Balancing account for the balancing, in 13-Values, of Supply and Use of special specified products, like change in livestock (products that can be stored).

NOTE:

By the automatic product balancing at producers' values, the catalogue for products will decide the allocation of products between the different 87 accounts .Changes in inventories (87-accounts) at basic values (10-Values) and at purchasers' values (19-Values) will always be equal to change in inventories at producers' values (13 values).

5.5. Calculating the complete Use Table with subsidies on products and taxes on products at basic values.

5.5.1. Calculating T2. Matrix with product subsidies (12-Values)

M^{13} (of dimensions $c \times g$) gives Use of products at producers' values (13-Values) classified by users, see equation 23.

Total Use in producers' value, classified by product and aggregated over all users,

is given by: $\sum_{j=1}^g m_{pj}^{13}$ (Eq SUT 32)

M^{12} is of dimensions $(c \times g)$, gives subsidies levied on products (only negative values), (12-Values):

$$M^{12} = [m_{pj}^{12}] = m_{pj}^{13u12} \times \frac{S_p^{12}}{\sum_{j=1}^g m_{pj}^{13U12}} \quad (\text{Eq SUT 33})$$

where S^{12} is a column vector $(c \times 1)$ which gives Total absolute values for subsidies classified by products.

M^{13U12} is of dimensions $(c \times g)$, decided by:

$$M^{13U12} = [m_{pj}^{13U12}] = \begin{bmatrix} u_{11}^{12} m_{11}^{13} & \cdot & \cdot & u_{1j}^{12} m_{1j}^{13} \\ & \cdot & \cdot & \cdot \\ & \cdot & \cdot & \cdot \\ u_{p1}^{12} m_{p1}^{13} & \cdot & \cdot & u_{pj}^{12} m_{pj}^{13} \end{bmatrix} \quad (\text{Eq SUT 34})$$

where U^{12} has the same dimension as M^{13} and the possible values are between 0 and 1000. Every element in matrix U^{12} is multiplied by the corresponding element in matrix M^{13} .

S12 AND U12 ARE TAKEN FROM THE FOLLOWING FILES:

File with Values FOR S12

PRODUCT	VALUE
Position	Position
1 - 6	8 - 14
(6 digits)	Absolute value

Note: S12 specifies total absolute values for product subsidies (registered as negative values), classified by products.

File with Values FOR U12

PRODUCT	USER	VALUE
Position	Position	Position
1 - 6	8 - 12	15 - 17
(6 digits)	(2+3 digits)	(3 digits)

NOTE: Combinations of Product (p) x User (j) where subsidies are not to be calculated, are registered with 0. Combinations of Product (p) x User (j) where subsidies are to be calculated with a reduced rate, are registered with values from 1 to 999. All other combinations of Product (p) x User (j) where no value is registered, will by the SNA-NT software be given a value = 1000.

Value = 0 indicates where subsidies are not to be calculated, and these combinations will be eliminated.

Values from 1 to 999 indicates where subsidies are to be calculated with a different rate than the normal full rate. The value X, where $0 < X < 1000$, indicates the % $((X / 1000) * 100)$ of the the normal full rate.

Value = 1000 indicates where product taxes are to be calculated with the normal full rate.

5.5.2. Calculating T2. Matrix for product taxes (11-Values)

M^{11} is of dimensions (c x g), gives taxes levied on products (positive values), (11-Values)

The procedure for compiling taxes on products is analogous with the methodology described above for subsidies

S11 AND U11 ARE TAKEN FROM THE FOLLOWING FILES:

FILE WITH Values FOR S11:

PRODUCT	VALUE
Position	Position
1 - 6	8 - 14
(6 digits)	Absolute value

Note: S11 specifies absolute values for product taxes (positive values), by products):

FILE WITH Values FOR U11:

PRODUCT	USER	VALUE
Position	Position	Position
1 - 6	8 - 12	15 - 17
(6 digits)	(2+3 digits)	(3 digits)

NOTE: Combinations of Product (p) x User (j) where taxes are not to be calculated, are registered with 0. Combinations of Product (p) x User (j) where taxes are to be calculated with a reduced rate, are registered with values from 1 to 999. All other combinations of Product (p) x User (j) where no value is registered, will by the SNA-NT software be given a value = 1000.

Value = 0 indicates where product taxes are not to be calculated, and these combinations will be eliminated.

Values from 1 to 999 indicates where product taxes are to be calculated with a different rate than the normal full rate. The value X, where $0 < X < 1000$, indicates the % $((X / 1000) * 100)$ of the the normal full rate.

Value = 1000 indicates where product taxes are to be calculated with the normal full rate.

5.5.3. Calculating T2. Matrix at basic values (10-Values)

Total Use in basic value, classified by product and aggregated over all users, is given by:

$$\sum_{j=1}^g m_{pj}^{10} = \sum_{j=1}^g m_{pj}^{13} + \sum_{j=1}^g m_{pj}^{12} - \sum_{j=1}^g m_{pj}^{11} \quad (\text{Eq SUT 35})$$

6. CREATING THE INCOME COMPONENTS OF VALUE ADDED

Value added (B_d) is defined by equation (9) in chapter 2.2.

In T2, value added for each industry (B_d) is calculated as the "Balancing item 31000". The Balancing item is transferred to T3, see Figure 3.

Value added (B_d) in producers' value (alternatively .basic value), distributed by Production and Aggregation accounts, are transferred from T2.

Note: For the technical "Aggregation accounts" 27 and 28, Value Added, expressed by B_d should be equal to zero.

T3. VALUE ADDED and INCOME COMPONENTS

31. VALUE ADDED at producer's value Income components	PRODUCTION ACCOUNTS	AGGREG. ACCOUNTS
New data to be registered:		
31111 Wages and salaries in cash	22,23,24,25,26	
31112 Wages and salaries in kind	22,23,24,25,26	
31121 Employers' social contributions, actual	22,23,24,25,26	
31123 Employers' social contributions, imputed	22,23,24,25,26	
Data from Government Accounts (to be registered):		
31220 Other taxes on production	22,23,24,25,26	
31320 Other subsidies on production	22,23,24,25,26	
SNA-NT software transferring automatic from T1:		
31211 Product taxes	22,23,24,25,26	
31212 Product taxes, Import		29506
31250 Customs duty		29505
31270 VAT		29501
31280 Investment levy		29502
31310 Product subsidies	22,23,24,25,26	
Balancing item:		
31900 Gross operating surplus/Gross mixed income	22,23,24,25,26	27,28,29
38000 Consumption of fixed capital(to be registered):	22,23,24,25,26	
New balancing item:		
31910 Operating surplus / Mixed income.	22,23,24,25,26	27,28,29
31000 Value added at producers' value. From T2	22,23,24,25,26	27,28,29

Note: Value added at basic value by industries are calculated by deducting 31211 and 31212 Product taxes and adding 31310 product subsidies all specified by industries.

Data which are registered in T3:

Establishing individual objects (absolute figures): CORRT3-file

A CORRT3 file is used for registering those income components that are not being calculated in T1 or T2. 31XXX indicates components of the value added (31) and a 3-digit code representing form of income.

Example of a CORRT3 file:

CORRT3	VALUE ADDED	USE CODE	VALUE
Position	Pos. Position	Position	Position
1 - 6	19/2021 - 23	31-35	41 - 51
CORRT3	31XXX	23211	400
CORRT3	31XXX	23211	500
CORRT3	31XXX	23211	-8
CORRT3	31XXX	2XXX	
CORRT3	38XXX	23211	400

The file name should be written according to the given standard. We should write 83123XXX.CT3 where the first digit (8) will represent the year 199(8), the next 2 digits (31) will give value added components, and the next 5 digits give user codes. "Extension" will always be written CT3, meaning CORRT3-file.

Data which are transferred from T1:

Income components transferred from T1.

For each industry the Income components will be added up:

31211. Product taxes by:

- 31211 x 22*** in T3 = 22*** x S 11***** from T1,
- 31211 x 23*** in T3 = 23*** x S 11***** from T1,
- 31211 x 24*** in T3 = 24*** x S 11***** from T1,
- 31211 x 25*** in T3 = 25*** x S 11***** from T1,
- 31211 x 26*** in T3 = 26*** x S 11***** from T1,
- 31211 x 27500 in T3 = 27500 x S 15***** (pos. values)

NOTE: product taxes are registered as positive values.

31310. Product subsidies by:

- 31310 x 22*** in T3 = 22*** x S 12***** from T1,
- 31310 x 23*** = 23*** x S 12***** from T1,
- 31310 x 24*** = 24*** x S 12***** from T1
- 31310 x 25*** = 25*** x S 12***** from T1
- 31310 x 26*** = 26*** x S 12***** from T1
- 31310 x 27500 = 27500 x S 16***** (neg. values)

NOTE: Product subsidies are registered as negative values.

31212. Taxes on products from import will be transferred

(31212 x 29506 in T3) = (29506 x S 11***** from T1)

31250. Custom Duty will be transferred

(31250 x 29505 in T3) = (29505 x S 10***** from T1) (Alternatively sum 13-Values)

31270. VAT will be transferred

(31270 x 29501 in T3) = (29501 x S 17***** from T1)

31280. Investment tax will be transferred

(31280 x 29502 in T3) = (29502 x S 18***** from T1)

Calculation of 31900 Gross Operating Surplus

Gross operating surplus, D_d , is given by: $D_d = B_d - \sum_{k=1}^f I_{k,d}$, $d \in (1,2,\dots,e)$ (Eq SUT 36)

k represents Income components.

d represents Production accounts

Gross Operating Surplus will be calculated for all the industries/aggregation accounts (i.e. from account 22010 to account 29506 inclusive).

Operating Surplus 31910 for an industry will be calculated as the difference between Gross operating surplus 31900 and Consumption of Fixed Capital 38000, i.e. for industry 23010:

$$\underline{31910 \times 23010} = (31900 \times 23010) - (38000 \times 23010).$$

7. CORRECTING SUT IN CURRENT PRICES

7.1. Introduction

After having established the first version of the SUT-tables for a base year, there is need for manual controls and correction runs as described in this chapter.

Corrections can take place in two different ways, either by loading a CORR-file or by interactive corrections.

During the process of balancing and correcting the SUT-tables, the persons responsible for the various industries or types of final use, have the possibility to correct their data within the same database on the PC (under Windows). See User's guide to SNA-NT.

A general rule are:

Where CORRT1- and CORRT2-files are used, the input files should be checked before establishing and later updating of SUT

The results of the calculations (which are based on SPREADT1-file, SPREADT2-file and TINDT1-file and TINDT2-file) must also be checked.

When the Supply and Use tables are established, the following types of checks are important:

- Check the total figures for production, intermediate consumption, value added and gross capital formation for the different industries.
- Check the total figures for final consumption, product taxes, product subsidies, import and export.

The first estimates for Households final consumption must be evaluated in relation to the first computed figures for Trade margins and Change in inventories/residuals. The calculated figures for product taxes and subsidies and VAT (if relevant) must also be evaluated and compared with the government figure for taxes and subsidies.

For products where Change in inventories cannot be accepted (delivery of electrical power, trade margins and all services) the production or use must be changed.

T1 is always corrected in 13-Values (producers' values).

T2 is normally corrected in 19-Values (purchaser's values)

T2 might also be corrected directly in 13-Values (producer's values) (only for Product X User combination where we don't have 15- and 16-values.

In T2, corrections will also be carried out for 14R-values and 14T-values (trade margins and transport margins).

7.2. Correction of T1 at producers' values (13-Values)

The following formats can be used:

I Correction of individual objects: CORRT1-file, see chapter 4.1.

II: Group corrections: SPREADT1-file, see chapter 4.1.

III: Total-correction. TINDT1-file:

TINDT1-file:

TINDT1	Supply code	VALUE/PRODUCTCODE	VALUE
Position	Position	Pos. Position	Position
1 - 6	21-25	29/3031 - 35	41 - 48
TINDT1	23211	13TOTAL	1,1600

A TIND1-file will be used to register value indices for the Supplier industry, without product specification. The file name should be written according to a given standard. If we write, 123XXX13.TT1, the first digit (1) always indicates year, the next 5 digits indicate Supply code, the next 2 digits (13) indicate the value and "extension" has to be written TT1 for a TIND1-file.

The first step is that the TIND1-file is used to generate a CORRT1-FILE. By using a value index for an industry, the CORRT1-FILE will show that supply from the industry of all products are changed proportionally to the supply from that industry in the previous version of T1.

Note: All corrections that are carried out in T1, result in a new total balancing of T1 and T2.

7.3. Correction of T2 at purchasers' values (19-Values)

The following formats can be used:

I. Single object correction (absolute number): CORRT2-file, see chapter 4.2.

II. Group corrections : SPREADT2-file, see chapter 4.2.

III. TOTAL-CORRECTIONS TINDT2-file

TINDT2- FILE

Total-corrections TINDT2-file:

TINDT2	VALUE/PRODUCT.CODE	USE.CODE	VALUE
Position	Position	Position	Position
1 - 6	19/2021 - 25	31-35	41 - 51
TINDT2	19TOTAL	23211	1,1000

With these corrections, a value index in 19-Values is given for the user, without product specification (possibly a new total transformed into a value index). When using a value index, the use of all products in the version under compilation (t+1) will be changed proportionally to the use of the products in the previous version (t).

The file name should be written according to a given standard.

If we write 81923XXX.TT2, the first digit (8) always indicates the year, the next 2 digits (19) always indicate value set, and the next 5 digits indicate user code and "extension" is always written TT2 meaning TINDT2-file.

The first step is that the TIND2-file is used to generate a CORRT2-FILE. By using a value index for an industry, the CORRT2-FILE will show that the use of all products in the version under compilation (t+1) will be changed proportionally to the use of the products in the previous version of T2.

IV. GROUP CORRECTIONS: VSPLASHT2-19-FILE

<u>VSPLASHT2</u>	<u>VALUE/PRODUCT code</u>	<u>USE code</u>	<u>VALUE</u>
Position	Position	Position	Position
1 - 9	19/2021-26	31- 35	41- 51
VSPLASHT2	19020211	23211	U
VSPLASHT2	19020112	23211	U
VSPLASHT2	19TOTAL	23211	3200

The file name is written according to a given standard. If we write 81923XXX.VSP, the first digit (8) always represents the year, the next 2 digits (19) indicate value set, and the next 5 digits indicate the user codes and "extension" is always written VSP meaning VSPLASHT2-19-file.

A VSPLASHT2-file can be used when one wants to register a value for total supply to a user equal to the value, which is given in position 41-51 in the row with value/product.code 19TOTAL.

For the specified use, the difference between the given value and the previous value, is calculated. The difference is allocated to all the products, which have values from before, with exception of those that are identified with the code U in the file, and then added to the existing values. The distribution on products is proportional to the original values.

When corrections are carried out in T2 in 19-Values, the complete set of matrices in 18- to 10- values will be calculated automatic.

7.4. Corrections of trade margins (14R-Values)

The trade margins can be corrected by introducing new trade margin rates for the combination of products and users, which need to be corrected.

The following format has to be used:

PERCT2R-file:

Single object's correction (percents): PERCT2R-file

<u>PERCT2</u>	<u>VALUE/PRODUCT.CODE</u>	<u>USE.KODE</u>	<u>SHARE</u>
Position	Pos.Position	Position	Position
1 - 6	19/2122 - 27	31-35	41 - 51
PERCT2R	14RXXXXXX	23211	0,2200
PERCT2R	14RXXXXXX	23211	0,1234
<u>PERCT2R</u>	14RXXXXXX	23211	0,2000

The trade margin rates have to be given as percents with 4 decimals.

7.5. Corrections of transport margins (14T-Values)

The transport margins can be corrected by introducing new transport margin rates for the combination of products and users, which need to be corrected.

The following format has to be used:

PERCT2T-file:

Single object's correction (percents): PERCT2T-file

PERCT2	VALUE/PRODUCT.CODE	USE.KODE	SHARE
Position	Pos.Position	Position	Position
1 - 6	19/2122 - 27	31-35	41 - 51
PERCT2T	14TXXXXXX	23211	0,0220
PERCT2T	14TXXXXXX	23211	0,0123
PERCT2T	14TXXXXXX	23211	0,0200

The transport margin rates have to be given as percents with 4 decimals.

7.6. Corrections of T2 at producers' value (13-value)

The following formats can be used:

I. Single object correction (absolute figures): CORRT2-13-file

II. Group corrections: SPREADT2-13-file

III. TOTAL CORRECTIONS: TINDT2-13-file

In these corrections, a value index in 13-Values is given for the use sector without product specification (possibly a new total that is transformed into a value index). When using a value index, the consumption of all products in the version under consideration (t+1) will be changed proportionally to the consumption of the products in the previous version (t).

Example of a TINDT2-13-file:

TINDT2	VALUE/PRODUCT.CODE	USE.CODE	VALUE
Position	Position	Position	Position
1 - 6	19/2021 - 25	31-35	41 - 51
TINDT2	13TOTAL	23211	1,1000

With these corrections, a value index in 13-Values is given for the user, without product specification (possibly a new total transformed into a value index). When using a value index, the use of all products in the version under compilation (t+1) will be changed proportionally to the use of the products in the previous version (t).

The file name should be written according to a given standard. If we write 81323XXX.TT2, the first digit (8) always indicate year, the next two digits (13) indicate value set, the five next digits represent use code, and the "extension" is always written TT2, meaning a TINDT2 file.

When T2 is changed in 13-Values, T2 will also be changed in all other value classes by the SNA-NT routines. First new 14- and 19-Values are calculated.

New 12-, 11- and 10-Values will be calculated after balancing the Supply and Use table and connecting Residuals/changes in inventories.

IV. Residual corrections: HSPLASHT2-13-file

HSPLASHT2	VERDI/PRODUKTKODE	MOTTAKERKODE	VERDI
HSPLASHT2	13742020	23454	U
HSPLASHT2	13742020	23744	U
HSPLASHT2	13742020	87XXX	0

HSPLASHT2-13 VALUE/PROD.CODE VALUE

The file name is written according to a given standard. Say we write 81334100.HSP, then the first digit always indicate year, the next two digit always indicate value set, the next five represent product code (five first digits) and "extension" is always written SPL, meaning a HSPLASHT2-13-file.

A HSPLASHT2-file can be used when one WISHES TO put the value for residual/changes in stocks equal to the value of the figure which is given in 41 - 51 in the row or with use code 87XXX.

NOTE: This method can of technical reasons (temporary) not be used on products that have fees or subsidies on trade margin (15-value).

For the product which is specified, the difference between the existing value on the residual and the wanted value will first be calculated. The difference is allocated to all the users which have values from before, with the exception of those given with the code U in the file, and thereafter allocated to the values, which already exist. Changes in stocks/residual item will then changed accordingly. The distribution on uses is made proportionally on the basis of the original values.

7.7. Automatic balancing of products

The main purpose of this "RAS" method is to remove residuals for services and to balance the "aggregation products" to intermediate consumption and fixed capital formation by type of assets.

The starting point is a Use table T2 where the Total for each User (e.g. intermediate consumption by industries) is assumed to be correct. The adjustment takes place in four steps:

1. Fixed capital formation

Proportional adjustment of the product flows to the Fixed capital formation by type of asset accounts in the Use table, so the totals are equal to the corresponding value in the Supply table.

2. Balancing of Supply and Use of products which are services

The use of each service is adjusted proportionally, to ensure that the residual is removed. Only the Supply to intermediate consumption and the "Aggregation accounts" for intermediate consumption and fixed capital formation by asset type, are adjusted.

The HSPLASHT2 input type is used for this purpose (see below). ????

The adjustment will change the totals for each user. They will be corrected in step 4.

3. Aggregation accounts for intermediate consumption

Balanced by adjusting the value for the 27-accounts in T1 to the new total in T2. The corresponding products in T2 are adjusted accordingly.

4. Adjustment of the Users

Finally, the Total for each User is returned to its original value by adjusting the flows of **goods** proportionally. The service flows are left unchanged.

Intermediate consumption by industry is adjusted to the value before the start of step 1. The Aggregation accounts for Capital instrument by type are returned to values from step 1. The Aggregation accounts for services are not adjusted.

The VSPLASHT2 input type is used for this purpose (see below).

he result of this adjustment is to move the computed Residuals for services to Changes in inventories for goods.

5. The input types

In order to perform the automatic balancing, two special input types to the CORR-program have been developed.

HSPLASHT2	Used to give the residual for a Product a certain value, e.g. 0. The difference between the actual and the desired value of the residual is distributed proportionally on some or all of the existing users.
VSPLASHT2	Used to give the total for a User a certain value. The difference between the actual and the desired value of the residual is distributed proportionally on some or all of the existing products.

The input files to the CORR-program are generated automatically.

8. UPDATE TO A NEW YEAR

After having finalised the first base year in current prices, the updating to the next year in both current and constant prices can take place.

The SUT has first to be updated in current prices. t

The updating can take place in two different ways, either by loading CORR-files or by using a TIND-files. Manual controls and correction runs are described in chapter 7.

After having completed two years. the constant price compilation converting the current year in the previous years prices can take place.

A general rule are:

T1 is always updated in 13-Values (producers' values).

T2 is normally updated in 19-Values (purchaser's values)

T2 might also be updated in 13-Values (producer's values) (only for Product X User combination where we don't have 15- and 16-values.

Where CORRT1- and CORRT2-files are used, the input files should be checked before updating of SUT.

The results of calculations based on SPREADT1-file, SPREADT2-file and TINDT1-file and TINDT2-file, must also be checked.

The first estimates for Households final consumption can be updated from the previous year by using TINDT2-files. The first estimated figures must be evaluated in relation to the first computed figures for Trade margins and Change in inventories/residuals. The first theoretical calculated figures for product taxes and product subsidies and VAT (if relevant) must also be evaluated and compared with the government figure for taxes and subsidies.

For products where Change in inventories cannot be accepted (delivery of electrical power, trade margins and all services) the production from the industry supplying the service or use must be changed.

In T2, corrections will also be carried out for 14R-values and 14T-values (trade margins and transport margins).

9. INDUSTRY FORMAT INPUT-OUTPUT TABLES.

Input-output tables (IOT) describe how the industries depend upon each other and on imports.

The SNA-NT application contains procedures for converting the Supply table (Suppliers x Products) and the Use table (Products x Users), at basic value, to an "Industry format" Input-Output table (IOT) by distributing the supply and use of products. For each product, domestic use of the product (intermediate consumption, final consumption, capital formation, changes in inventories) and exports will be linked directly to the domestic suppliers (industries) of the product and to import of the product.

By "the market share assumption", the principle is the assumption that export of a product primarily is supplied from domestic industries. Distribution of the exports of a product by supplying industries, are assumed proportional to the different industries production of the product. Imports, custom duty and the remaining part of domestic production of the product is then subsequently distributed proportional to the different domestic users of the product. This means that the same import share applies to all domestic use categories of a product, and that all industries that supply a product, have the same market share for all types of use of that product.

In the SUT, imports are distributed by the NA-CPC product classification and not by an industry classification. In the IOT tables, imports distributed by the product classification are allocated to the same NA-ISIC industry classification that is used for domestically produced products.

In the IOT tables, import will also be split into the two main categories: "Imports of competitive products" and "Imports of non-competitive products". and further distributed by industries.

10. Tourist Satellite Accounts

Within the standardised concepts and standards in the SNA93, important economic transactions, such as transactions related to tourism cannot easily be identified. Satellite accounts were introduced in SNA93 to expand the analytical capacity of national accounting for selected areas in a flexible manner, without overburdening or disrupting the central system.

The Norwegian system for "*Tourism satellite accounts*" are developed with a direct link to the SUT. For countries where income from tourism is important for the economy, the classifications introduced for the National Accounts with SUT should illuminate transactions related to tourism. Both industries and products of particular interest for tourism should be detailed in the National Accounts classification for the country. As a result *Non-resident tourism consumption* should be specified and separated from *Final domestic household consumption expenditure*

From other business expenditure, it should be possible to specify business and professional travelling, which is recorded as tourism consumption expenditure in the Tourism Satellite Accounts.

By the SNA-NT methodology, the Tourism Satellite Accounts are directly diverted from the SUT. The accounting structure and methodology is fully integrated into the National Account's SUT format. The Tourism Satellite Accounts in SUT format will give estimates for tourism consumption according to purpose and spread by products used for tourism consumption. The SUT format can also be converted into an "Industry format" Input-Output Table (IOT) as described in chapter 4.3. Based on the IOT, the contribution of tourism consumption to GDP and employment can be calculated. The IOT can also be used to study the direct effects on the economy of changes in tourism demand (given the assumption of a stable relationship between different industries, import and final demand).

The methodology of the Tourism Satellite Accounts follows the recommendation given in the new manual "Tourist Satellite Account (TSA): Methodological References", developed by Eurostat, OECD, UN and the World Tourism Organisation (WTO). The TSA focuses on the concept of the *visitor* and on measuring her or his demand for goods and services.

ANNEX Classification for SUT. Suppliers and users

Example from the Norwegian National Accounts

Account type 2. Production accounts

Own final use

22010	Agriculture
22015	Hunting, trapping and game propagation including related service a
22051	Fishing
22452	General construction of buildings etc.
22454	Building installation and completion
22704	Dwelling service production, for own final use
22705	Dwelling service production, housing co-operative
22950	Paid domestic services for private households

Market producers

23010	Agriculture
23014	Agricultural and animal husbandry service activities, except veter
23020	Forestry and logging
23024	Forestry, related service activities
23051	Fishing
23052	Operation of fish hatcheries and fish farms
23100	Mining of coal and lignite; extraction of peat
23111	Extraction of crude petroleum and natural gas
23112	Service activities incidental to oil and gas extraction excluding
23130	Mining of metal ores
23140	Other mining and quarrying
23151	Production, processing and preserving of meat and meat products
23152	Processing and preserving of fish and fish products
23153	Processing and preserving of fruit and vegetables
23154	Manufacture of vegetable and animal oils and fats
23155	Manufacture of dairy products
23156	Manufacture of grain mill products, starches and starch products
23157	Manufacture of prepared animal feeds
23158	Manufacture of other food products
23159	Manufacture of beverages
23160	Manufacture of tobacco products
23170	Manufacture of textiles
23180	Manufacture of wearing apparel; dressing and dyeing of fur
23190	Tanning and dressing of leather; manufacture of luggage, handbags,
23201	Sawmilling and planing of wood, impregnation of wood
23202	Manufacture of veneer sheets; manufacture of plywood, laminboard,
23203	Manufacture of builders' carpentry and joinery
23204	Manufacture of wooden containers and other products of wood
23211	Manufacture of pulp
23212	Manufacture of paper and paperboard
23213	Manufacture of articles of paper and paperboard

23221	Publishing
23222	Printing and service activities related to printing
23223	Reproduction of recorded media
23231	Manufacture of coke oven products
23232	Manufacture of refined petroleum products
23241	Manufacture of basic chemicals, excl. fertilizers and nitrogen com
23242	Manufacture of fertilizers and nitrogen compounds, pesticides and
23243	Manufacture of paints, varnishes and similar coatings, printing in
23244	Manufacture of pharmaceuticals, medicinal chemicals and botanical
23245	Manufacture of soap and detergents, cleaning and polishing prepara
23246	Manufacture of other chemical products
23247	Manufacture of plastics and synthetic rubber in primary forms and
23250	Manufacture of rubber and plastic products
23261	Manufacture of glass and glass products
23262	Manufacture of ceramic products, bricks, tiles etc.
23265	Manufacture of cement, lime and plaster
23266	Manufacture of articles of concrete, cement and plaster, non-metal
23271	Manufacture of iron, steel and ferro-alloys
23273	Aluminium production
23274	Manufacture of other non-ferrous metals
23275	Casting of metals
23281	Manufacture of structural metal products, tanks, reservoirs, steam
23286	Manufacture of cutlery, tools and general hardware
23287	Manufacture of other fabricated metal products etc.
23291	Manufacture of machinery of mechanical power and other general pur
23293	Manufacture of machine-tools and special purpose machinery
23296	Manufacture of weapons and ammunition
23297	Manufacture of domestic appliances n.e.c.
23300	Manufacture of office machinery and computers
23311	Manufacture of electric motors, generators, transformers, and elec
23313	Manufacture of insulated wire and cable
23314	Manufacture of lighting equipment, electric lamps and other electri
23321	Manufacture of television and radio transmitters, communication eq
23323	Manufacture of television and radio receivers, sound or video recor
23331	Manufacture of medical and precision instruments
23334	Manufacture of optical instruments, watches and clocks
23340	Manufacture of motor vehicles, trailers and semi-trailers
23351	Building and repairing of ships, boats and pleasure and sporting b
23352	Building and repairing of oil-platforms and modules. Installation a
23353	Manufacture of railway and tramway locomotives and rolling stock
23354	Manufacture of aircraft and spacecraft
23355	Manufacture of other transport equipment, incl. motorcycles and bi
23361	Manufacture of furniture
23362	Manufacture of jewellery and related articles
23363	Manufacture of musical instruments, sports goods, games and toys et
23371	Recycling of metal waste and scrap
23372	Recycling of non-metal waste and scrap
23401	Production of electricity
23402	Distribution of electricity, renting
23403	Distribution of electricity, sales
23404	Manufacture and distribution of gaseous fuels through mains

23405	Steam and hot water supply
23410	Collection, purification and distribution of water
23451	Site preparation
23452	General construction of buildings etc.
23453	Construction of civil engineering works
23454	Building installation and completion
23455	Renting of construction or demolition equipment with operator
23501	Sale of motor vehicles, incl. parts and accessories
23502	Maintenance and repair of motor vehicles and motorcycles
23505	Retail sale of automotive fuel
23510	Wholesale trade and commission trade
23521	Retail trade
23527	Repair of personal and household goods
23551	Hotels and other accommodation
23553	Restaurants, canteens and catering
23601	Transport via railways
23602	Scheduled motor bus transport
23603	Taxi operation
23604	Land transport, n.e.c.
23605	Tramway and suburban transport
23608	Transport via pipelines
23610	Ocean transport and coastal water transport abroad, goods transport
23611	Ocean transport and coastal water transport abroad, n.e.c.
23612	Ocean transport and coastal water transport abroad, passenger
23613	Inland water transport
23620	Air transport
23631	Supporting activities of cargo handling and storage, other support
23632	Other supporting water transport activities
23633	Activities of travel agencies etc.
23641	Post and courier activities
23642	Telecommunications
23651	Central banking
23652	Other monetary intermediation
23654	Monetary intermediation indirectly measured
23655	Other financial intermediation
23659	Financial intermediation indirectly measured
23661	Life insurance
23662	Pension funding
23663	Non-life insurance
23669	Adjustment item, insurance
23670	Activities auxiliary to financial intermediation
23700	Real estate activities
23704	Dwelling service production, for own final use
23711	Renting of transport equipment
23713	Renting of machinery and equipment and household goods etc.
23720	Computer and related activities
23730	Research and development
23741	Legal, accounting, book-keeping and auditing activities; tax consultancy
23742	Architectural and engineering activities and related technical consultancy
23744	Advertising
23745	Labour recruitment and provision of personnel; investigation and security

23747 Industrial cleaning
 23748 Miscellaneous business activities n.e.c.
 23751 Public administration and compulsory social security activities
 23752 Defence activities
 23800 Education
 23851 Human health activities
 23852 Veterinary activities
 23853 Social work activities
 23854 Combined nursing activities
 23859 Social work activities by disabled workers
 23900 Sewage and refuse disposal, sanitation and similar activities
 23910 Activities of membership organizations
 23921 Motion picture and other entertainment, new agency and cultural ac
 23922 Radio and television activities
 23926 Sporting activities and other recreational activities
 23927 Gambling and betting activities
 23930 Other service activities
 23950 Paid domestic services for private households

Central government services

24453 Construction of civil engineering works
 24601 Transport via railways
 24631 Supporting activities of cargo handling and storage, other support
 24632 Other supporting water transport activities
 24670 Activities auxiliary to financial intermediation
 24730 Research and development
 24742 Architectural and engineering activities and related technical con
 24745 Labour recruitment and provision of personell; investigation and s
 24751 Public administration and compulsory social security activities
 24752 Defence activities
 24800 Education
 24851 Human health activities
 24852 Veterinary activities
 24853 Social work activities
 24921 Motion picture and other entertainment, new agency and cultural ac

Local government services

25410 Collection, purification and distribution of water
 25453 Construction of civil engineering works
 25751 Public administration and compulsory social security activities
 25800 Education
 25851 Human health activities
 25853 Social work activities
 25854 Combined nursing activities
 25900 Sewage and refuse disposal, sanitation and similar activities
 25921 Motion picture and other entertainment, new agency and cultural ac

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26800 Education
 26851 Human health activities
 26853 Social work activities
 26854 Combined nursing activities
 26910 Activities of membership organizations

26921 Motion picture and other entertainment, new agency and cultural ac
26926 Sporting activities and other recreational activities

Aggregation accounts

27015 Business traveling, business entertainment, and catering services
27016 Business traveling and business entertainment
27017 Catering services for internal canteens etc.
27018 Safety equipment, canteen equipment, tools etc.
27020 Offices equipment, cleaning material
27022 Food used in institution, ships, etc.
27025 Government fees
27030 Transport of goods, loading and storage
27032 Hotell services, personal tours, travel expenses, etc
27033 Hotell services, domestic personal tours
27034 Telephone and telefax services
27035 Travel expenses, not otherwise specified
27036 Postal- and bank services, education etc.
27040 Hiring/Renting
27042 Public administration and compulsory social security activities
27045 Contractor
27050 Removal costs for oil and gas equipment
27076 Packing
27080 Uspesifisert vareinnsats (FIIN)
27110 Repair of residential buildings
27120 Repair of non-residential buildings
27131 Repair of constructions
27132 Repairin of roads
27138 Repair of oil-platforms and riggs
27139 Repair of pipelines for oil and gas
27141 Repair of ships and boats
27142 Repair of aircraft
27143 Repair of motor cars mv.
27144 Repair of rolling stock
27150 Repair of other machinery and equipment
27250 Military buildings and constructions
27290 Military equipment, product
27291 Military equipment, services
27292 Military equipment, U-submarines and F15-aircraft
27500 Trade margins
27600 Transport margins

Types of fixed assets

28111 Detached houses, Houses with two dwelling units, Row- and terraced
28112 Multi dwelling houses
28118 Dwellings, Own account capital formation
28119 Holiday home/cottages
28190 Used housing, transaction costs
28195 Transaction costs, sites and plots
28210 Non-residential buildings for agriculture, Own account capital for
28218 Non-residential buildings for agriculture
28220 Commercial buildings
28225 Government property abroad

28228 Office and Business buildings, Own account capital formation
 28230 Buildings for education and research
 28240 Buildings for health services
 28250 Buildings for manufacturing industry
 28258 Buildings for manufacturing industry. Own account capital formatio
 28260 Buildings for hotels and restaurants
 28268 Buildings for hotels and restaurants, Own account capital formatio
 28270 Other buildings
 28290 Used industry buildings, transaction costs
 28301 Land improvement of agriculture and forestry
 28305 Land improvement affairs and services n.e.c.
 28308 Land improvement of agriculture and forestry, Own account capital
 28310 Railway, including suburb track and bridges. Own account capital f
 28318 Railway, including suburb track and bridges
 28321 Electricity constructions, (overføringslinjer)
 28322 Electricity constructions, pound construction, tunnel, power stati
 28328 Electricity constructions. Own account capital formation
 28330 Other constructions
 28338 Other constructions, own account capital formation
 28340 Roads and streets
 28348 Roads and streets. Own account capital formation
 28370 Production wells of oil and gas extraction
 28378 Production wells of oil and gas extraction. Own acct capital forma
 28380 Oil production platforms, drilling rigs and modules.
 28388 Oil production platforms, drilling rigs and modules. Own account c
 28390 Pipelines for oil and gas
 28398 Pipelines for oil and gas. Own account capital formation
 28410 Ships and boats
 28420 Aircraft and helicopter
 28431 Passenger cars and station wagons
 28432 Buses
 28433 Vans, lorries, cranes, special purpose vehicles etc.
 28434 Renting of motor cars for occupation
 28440 Engine, passenger- and goods wagon
 28510 Agricultural and forestry machinery and equipment
 28518 Agricultural and forestry machinery and equipment. Own account cap
 28520 Machinery and equipment for mining and quarrying, and manufaturing
 28528 Machinery and equipment for mining and quarrying, and manufaturing
 28530 Machinery and equipment in electricity plants and gas works
 28538 Machinery and equipment in electricity plants and gas works. Own a
 28540 Machinery and equipment in construction
 28550 Machinery and equipment in construction. Own account capital forma
 28558 Machinery and equipment in other kind of activity. Own account cap
 28560 Computers equipment and office machinery
 28570 Equipment for telecommunication
 28578 Equipment for telecommunication, Own account capital formation
 28580 Equipment for welfare purposes
 28610 Change in breeding stock, dairy cattle and the like
 28650 Change in stock of fruit trees
 28710 Oil, gas and mineral exploration
 28718 Oil, gas and mineral exploration. Own account capital formation

28740	Software
28748	Software, Own account capital formation
28760	Literary-artistic work
28790	Other intangible fixed assets
28990	Antiques and other art objects
VAT, Product taxes, Product subsidies etc.	
29501	Collection of value added tax
29502	Collection of investment levy on fixed capital formation
29503	Collection of taxes on products
29504	Payment of product subsidies
29505	Collection of customs duties
29506	Collection of taxes on imports
29900	Imputed net gain at constant prices for product taxes and product subsidies from price discrimination

Account type 3. Components of value added

31000	Value added
31100	Compensation of employees
31110	Employer` contributions to private pension, family allowance, health
31111	Wages and salaries in cash
31112	Wages and salaries in kind
31121	Employer` contributions to the national insurance schemes
31122	Employer` contributions to other social security systems
31123	Employer` estimations to other social security systems
31124	Extraordinary vacation fund allocation
31211	Taxes on products,
31212	Taxes on imports
31220	Other taxes on production
31250	Customs duty
31270	Value added tax
31280	Investment levy
31310	Subsidies on products
31320	Operating subsidies
31900	Operating surplus, gross
31910	Operating surplus, net (deducted consumption of fixed capital)
38000	Consumption of fixed capital

Account type 5. Exports and imports

Exports

51110	Goods as recorded in external trade statistics
51120	Ships, drilling and modules
51130	Goods not recorded in external trade statistic
51210	Gross receipts from shipping
51220	Direct purchases in Norway by other non-resident
51230	Other services

Imports

52110	Goods as recorded in external trade statistics
52120	Ships, drilling and modules

52130	Goods not recorded in external trade statistic
52210	Current expenditure abroad for shipping
52220	Direct purchases abroad by other norwegians
52230	Other services

Account type 6. Final consumption expenditure

Resident household final consumption expenditure (not tourism)

61A11	Bread and flour products
61A12	Meat and meat products
61A13	Fish products
61A14	Milk, cream, yoghurt, cheese, mv. and eggs
61A15	Oils and fat; Buter, margarine, edible oil etc.
61A16	Fruits and berries
61A17	Vegetables and Potatoes
61A18	Sugar, ice cream, chocolate and confectionery
61A19	Spices, and other food
61A21	Cofee, tea and cocoa
61A22	Mineral water, soft drinks etc.
61B11	Spirits
61B12	Wine
61B13	Beer
61B21	Cigaretts, smoking tobacco and other tobacco/tobacco
61B31	Narcotics
61C11	Fabrics, textileproducts and yarn
61C12	Shirts, nightwear, underwear, coats, dresses, suits, etc
61C13	Hats, scarves, tie etc.
61C14	Repair and hire of clothing
61C21	Footwear
61C22	Repair of footwear
61D11	Actural rental paid by tenants
61D21	Imputed rental for housing
61D22	Other imputed rentals
61D31	Materials for the maintenance and repair of the dwelling
61D32	Services for the maintenanc and repair of the dwelling
61D41	Other goods and services related to dwelling
61D51	Electricity
61D52	District heating, gas etc.
61D53	Liquid fuels
61D54	Firewood, peat, coal and coke
61E11	Furniture, lamps, decorative ariticles
61E12	Carpets and other floor coverings
61E13	Repair of furniture
61E21	household textiles and other furnishing
61E31	Major household appliances whether electric or not
61E32	Small electric household appliances
61E33	Repair of electric households appliances
61E41	Glassware, tableware and household utensils
61E51	Major tools and equipment for house and garden
61E52	Small tools and miscellaneou accessories
61E61	Washing powder, other cleaning materials and other household goods

61E62	Paid domestic services
61F11	Medical products, appliances and equipment
61F13	Glasses and orthopedic equipment
61F21	Medical services
61F22	Dental services
61F23	Other medical services outside institutions
61F31	Hospital services
61G11	Motor cars
61G12	Motor cycles and bicycles
61G21	Spare parts, tyres, tubes etc./Spare parts and accessories for pe
61G22	Petrol and oils/Fuels and lubricants for personal transport equipm
61G23	Repair shop services
61G24	Other services in respect of personal transport
61G31	Passenger local transport
61G32	Passenger long distance transport
61G36	Moving expenses and freight
61H11	Postal services
61H21	Telecommunication equipment and accessories
61H31	Telephone services
61I11	Equipment for the reception, recording and reproduction of sound a
61I12	Photographic and cinematographic equipment and optical instrument
61I13	Information processing equipment
61I14	Recording media
61I15	Maintenance and repair of other major durables for recreation and
61I21	Musical instruments and major durables for recreation
61I31	Games, toys and hobbies
61I32	Equipment for sports, camping and open-air recreation
61I33	Gardens, plants and flower, pets and related products
61I35	Veterinary and other services related to pets
61I41	Cultural, sporting and recreational services
61I42	Broadcasting services
61I43	Lottery, and other games of chance
61I51	Books
61I52	Newspaper, magazines and periodicals
61I54	Stationery and drawing materials
61I61	Package tour/All-inclusive tour
61J11	Pre-primary and primary education
61J21	Secondary education
61J31	Adult education
61J41	Tertiary education/ Universities and colleges
61J51	Educational material
61K11	Expenses for restaurants, cafés and the like
61K21	Expenses for accommodation services
61L11	Hairdressing and beauty treatment
61L12	Electrical appliances for personal care
61L13	Cosmetic articles and toiletries
61L21	Prostitution
61L31	Watches and jewellery
61L32	Other personal goods
61L41	Social work
61L51	Insurance of all types

61L62 Financial institutions
 61L71 Other personal services, incl. legal services
 61L91 Direct purchases abroad by resident households
 61L92 Direct purchases in Norway by non-resident households

Central government services

64A11 Government services other than police and justice
 64A12 Foreign economic aid
 64A13 General services
 64A14 Fundamental research affairs and services
 64A15 R&D general public services
 64A16 General public services n.e.c.
 64A17 Public debt transactions
 64B21 Military defence
 64B22 Civil defence
 64B23 Foreign military aid
 64B24 R&D military administration and operation
 64B25 Defence affairs n.e.c.
 64C31 Police protection
 64C32 Fire protection
 64C33 Law courts
 64C34 Prison administration and operation
 64C35 R&D public order and safety affairs
 64C36 Public order and safety affairs n.e.c.
 64D41 General industrial economy affairs and services
 64D42 Agriculture, forestry and fishing
 64D43 Energy and fuel
 64D44 Mining, manufacturing and construction
 64D45 Transport
 64D46 Post and telecommunication
 64D47 Other industry
 64D48 R&D industrial economy affairs and services
 64D49 Industrial economy affairs and services, n.e.c.
 64E51 Waste management
 64E52 Run-off water management
 64E53 Pollution prevention
 64E54 Land and species conservation
 64E55 R&D environmental protection
 64E56 Environmental protection, n.e.c.
 64F61 Housing and community amenity
 64F62 Housing and community development
 64F63 Water supply affairs and services
 64F64 Street lighting affairs and services
 64F65 R&D housing and community amenities
 64F66 Housing and community amenities, n.e.c.
 64G71 Medicine and medical appliances and equipment
 64G72 Out-patient / Clinic services
 64G73 Hospital institution services
 64G74 Public health affairs and services
 64G75 R&D Health affairs and services

64G76 Health affairs and services n.e.c.
 64H81 Recreation and sports
 64H82 Cultural services
 64H83 Broadcasting and publication services
 64H84 Religious and other community activities
 64H85 R&D recreational, cultural, and religious services
 64H86 Recreational, cultural, and religious services, n.e.c.
 64I91 Primary and pre-primary education
 64I92 Secondary education
 64I93 Adult education
 64I94 Tertiary educations / Universities and colleges
 64I95 Education independent of level
 64I96 Services related to education
 64I97 R&D education services
 64I98 Education, n.e.c.
 64J01 Illness and disability welfare services
 64J02 Social security affairs and service
 64J03 Surviving relatives/bereaved services
 64J04 Child and family services
 64J05 Unemployment services
 64J06 Housing support
 64J07 Social support, n.e.c.
 64J08 R&D social services
 64J09 Social services, n.e.c.

Local government services

65A11 Government services other than police and justice
 65A12 Foreign economic aid
 65A13 General services
 65A14 Fundamental research affairs and services
 65A15 R&D general public services
 65A16 General public services n.e.c.
 65A17 Public debt transactions
 65B21 Military defence
 65B22 Civil defence
 65B23 Foreign military aid
 65B24 R&D military administration and operation
 65B25 Defence affairs n.e.c.
 65C31 Police protection
 65C32 Fire protection
 65C33 Law courts
 65C34 Prison administration and operation
 65C35 R&D public order and safety affairs
 65C36 Public order and safety affairs n.e.c.
 65D41 General industrial economy affairs and services
 65D42 Agriculture, forestry and fishing
 65D43 Energy and fuel
 65D44 Mining, manufacturing and construction
 65D45 Transport
 65D46 Post and telecommunication
 65D47 Other industry

65D48 R&D industrial economy affairs and services
 65D49 Industrial economy affairs and services, n.e.c.
 65E51 Waste management
 65E52 Run-off water management
 65E53 Pollution prevention
 65E54 Land and species conservation
 65E55 R&D environmental protection
 65E56 Environmental protection, n.e.c.
 65F61 Housing and community amenity
 65F62 Housing and community development
 65F63 Water supply affairs and services
 65F64 Street lighting affairs and services
 65F65 R&D housing and community amenities
 65F66 Housing and community amenities, n.e.c.
 65G71 Medicine and medical appliances and equipment
 65G72 Out-patient / Clinic services
 65G73 Hospital institution services
 65G74 Public health affairs and services
 65G75 R&D Health affairs and services
 65G76 Health affairs and services n.e.c.
 65H81 Recreation and sports
 65H82 Cultural services
 65H83 Broadcasting and publication services
 65H84 Religious and other community activities
 65H85 R&D recreational, cultural, and religious services
 65H86 Recreational, cultural, and religious services, n.e.c.
 65I91 Primary and pre-primary education
 65I92 Secondary education
 65I93 Adult education
 65I94 Tertiary educations / Universities and colleges
 65I95 Education independent of level
 65I96 Services related to education
 65I97 R&D education services
 65I98 Education, n.e.c.
 65J01 Illness and disability welfare services
 65J02 Social security affairs and service
 65J03 Surviving relatives/bereaved services
 65J04 Child and family services
 65J05 Unemployment services
 65J06 Housing support
 65J07 Social support, n.e.c.
 65J08 R&D social services
 65J09 Social services, n.e.c.

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66F00 Health
 66I40 Cultural and recreational services
 66J00 Education
 66L41 Welfare
 66L70 Religious and humanitarian puposes

Tourism final consumption expenditure by Residents

68A11	Bread and flour products
68A12	Meat and meat products
68A13	Fish products
68A14	Milk, cream, yoghurt, cheese, mv. and eggs
68A15	Oils and fat; Buter, margarine, edible oil etc.
68A16	Fruits and berries
68A17	Vegetables and Potatoes
68A18	Sugar, ice cream, chocolate and confectionery
68A19	Spices, and other food
68A21	Cofee, tea and cocoa
68A22	Mineral water, soft drinks etc.
68B11	Spirits
68B12	Wine
68B13	Beer
68B21	Cigaretts, smoking tobacco and other tobacco/tobacco
68B31	Narcotics
68C12	Shirts, nightwear, underwear, coats, dresses, suits, etc
68C13	Hats, scarves, tie etc.
68C21	Footwear
68D22	Other imputed rentals
68D31	Materials for the maintenance and repair of the dwelling
68D41	Other goods and services related to dwelling
68D51	Electricity
68D52	District heating, gas etc.
68D53	Liquid fuels
68D54	Firewood, peat, coal and coke
68E11	Furniture, lamps, decorative ariticles
68E21	household textiles and other furnishing
68E41	Glassware, tableware and household utensils
68F11	Medical products, appliances and equipment
68F21	Medical services
68G22	Petrol and oils/Fuels and lubricants for personal transport equipm
68G23	Repair shop services
68G24	Other services in respect of personal transport
68G31	Passenger local transport
68G32	Passenger long distance transport
68H11	Postal services
68H31	Telephone services
68I14	Recording media
68I15	Maintenance and repair of other major durables for recreation and
68I21	Musical instruments and major durables for recreation
68I31	Games, toys and hobbies
68I32	Equipment for sports, camping and open-air recreation
68I33	Gardens, plants and flower, pets and related products
68I41	Cultural, sporting and recreational services
68I52	Newspaper, magazines and periodicals
68I54	Stationery and drawing materials
68I61	Package tour/All-inclusive toure
68K11	Expenses for restaurants, cafès and the like
68K21	Expenses for accomodation services

68L11	Hairdressing and beauty treatment
68L13	Cosmetic articles and toiletries
68L31	Watches and jewellery
68L32	Other personal goods
68L51	Insurance of all types
68L62	Financial institutions
68L92	Direct purchases in Norway by non-resident households

Tourism final consumption by Non-residents

69A11	Bread and flour products
69A12	Meat and meat products
69A13	Fish products
69A14	Milk, cream, yoghurt, cheese, mv. and eggs
69A15	Oils and fat; Butter, margarine, edible oil etc.
69A16	Fruits and berries
69A17	Vegetables and Potatoes
69A18	Sugar, ice cream, chocolate and confectionery
69A19	Spices, and other food
69A21	Coffee, tea and cocoa
69A22	Mineral water, soft drinks etc.
69B11	Spirits
69B12	Wine
69B13	Beer
69B21	Cigarettes, smoking tobacco and other tobacco/tobacco
69B31	Narcotics
69C12	Shirts, nightwear, underwear, coats, dresses, suits, etc
69C13	Hats, scarves, tie etc.
69C21	Footwear
69D22	Other imputed rentals
69D54	Firewood, peat, coal and coke
69E11	Furniture, lamps, decorative articles
69E21	household textiles and other furnishing
69E41	Glassware, tableware and household utensils
69F11	Medical products, appliances and equipment
69F21	Medical services
69G22	Petrol and oils/Fuels and lubricants for personal transport equipment
69G23	Repair shop services
69G24	Other services in respect of personal transport
69G31	Passenger local transport
69G32	Passenger long distance transport
69H11	Postal services
69H31	Telephone services
69I14	Recording media
69I31	Games, toys and hobbies
69I33	Gardens, plants and flower, pets and related products
69I41	Cultural, sporting and recreational services
69I52	Newspaper, magazines and periodicals
69I54	Stationery and drawing materials
69I61	Package tour/All-inclusive tours
69K11	Expenses for restaurants, cafés and the like
69K21	Expenses for accommodation services
69L11	Hairdressing and beauty treatment

69L13	Cosmetic articles and toiletries
69L31	Watches and jewellery
69L32	Other personal goods
69L51	Insurance of all types
69L62	Financial institutions
69L92	Direct purchases in Norway by non-resident households

Account type 8. Capital formation accounts

Own final use

82452	Building construction etc.
82704	Dwelling services

Market producers

83010	Agriculture
83020	Forestry and logging
83024	Forestry, related service activities
83051	Fishing
83052	Operation of fish hatcheries and fish farms
83100	Mining of coal and lignite; extraction of peat
83111	Extraction of crude petroleum and natural gas
83112	Service activities incidental to oil and gas extraction excluding
83130	Mining of metal ores
83140	Other mining and quarrying
83151	Production, processing and preserving of meat and meat products
83152	Processing and preserving of fish and fish products
83153	Processing and preserving of fruit and vegetables
83154	Manufacture of vegetable and animal oils and fats
83155	Manufacture of dairy products
83156	Manufacture of grain mill products, starches and starch products
83157	Manufacture of prepared animal feeds
83158	Manufacture of other food products
83159	Manufacture of beverages
83160	Manufacture of tobacco products
83170	Manufacture of textiles
83180	Manufacture of wearing apparel; dressing and dyeing of fur
83190	Tanning and dressing of leather; manufacture of luggage, handbags,
83201	Sawmilling and planing of wood, impregnation of wood
83202	Manufacture of veneer sheets; manufacture of plywood, laminboard,
83203	Manufacture of builders' carpentry and joinery
83204	Manufacture of wooden containers and other products of wood
83211	Manufacture of pulp
83212	Manufacture of paper and paperboard
83213	Manufacture of articles of paper and paperboard
83221	Publishing
83222	Printing and service activities related to printing
83223	Reproduction of recorded media
83231	Manufacture of coke oven products
83232	Manufacture of refined petroleum products
83241	Manufacture of basic chemicals, excl. fertilizers and nitrogen com

83242	Manufacture of fertilizers and nitrogen compounds, pesticides and
83243	Manufacture of paints, varnishes and similar coatings, printing in
83244	Manufacture of pharmaceuticals, medicinal chemicals and botanical
83245	Manufacture of soap and detergents, cleaning and polishing prepara
83246	Manufacture of other chemical products
83247	Manufacture of plastics and synthetic rubber in primary forms and
83250	Manufacture of rubber and plastic products
83261	Manufacture of glass and glass products
83262	Manufacture of ceramic products, bricks, tiles etc.
83265	Manufacture of cement, lime and plaster
83266	Manufacture of articles of concrete, cement and plaster, non-metal
83271	Manufacture of iron, steel and ferro-alloys
83273	Aluminium production
83274	Manufacture of other non-ferrous metals
83275	Casting of metals
83281	Manufacture of structural metal products, tanks, reservoirs, steam
83286	Manufacture of cutlery, tools and general hardware
83287	Manufacture of other fabricated metal products etc.
83291	Manufacture of machinery of mechanical power and other general pur
83293	Manufacture of machine-tools and special purpose machinery
83296	Manufacture of weapons and ammunition
83297	Manufacture of domestic appliances n.e.c.
83300	Manufacture of office machinery and computers
83311	Manufacture of electric motors, generators, transformers, and elec
83313	Manufacture of insulated wire and cable
83314	Manufacture of lighting equipment, electric lamps and other electri
83321	Manufacture of television and radio transmitters, communication eq
83323	Manufacture of television and radio receivers, sound or video recor
83331	Manufacture of medical and precision instruments
83334	Manufacture of optical instruments, watches and clocks
83340	Manufacture of motor vehicles, trailers and semi-trailers
83351	Building and repairing of ships, boats and pleasure and sporting b
83352	Building and repairing of oil-platforms and modules. Installation a
83353	Manufacture of railway and tramway locomotives and rolling stock
83354	Manufacture of aircraft and spacecraft
83355	Manufacture of other transport equipment, incl. motorcycles and bi
83361	Manufacture of furniture
83362	Manufacture of jewellery and related articles
83363	Manufacture of musical instruments, sports goods, games and toys et
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