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Documents

**SNA-NT User's Guide for Supply  
and Use Tables in Current and  
Constant Prices**

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# 1 Introduction

SNA-NT is a client-server application developed for compiling the National Accounts. This User's Guide covers Supply and Use Tables (SUT) in current and constant prices, and the transformation of the SUT to an Input-Output Table (IOT). SNA-NT also includes modules for institutional sector accounts, but these are not described here.

The main functionality of SNA-NT application was developed between 1994 and 1997, using Microsoft Visual C++. For Data Management, SNA-NT uses the Oracle Relational Data Base Management System. During 1998 to 2000 SNA-NT was updated as needed for new Oracle versions, changed user requirements and with an improved graphical user interface.

The SNA-NT is developed as a Multi-User system consisting of one central Database Server and one or multiple SNA-NT Application clients connected to the Database Server. It is also possible to install both the Database Server and the SNA-NT Application on a stand alone PC as a Single User system. This is useful for training and demonstration of the SNA-NT methodology.

Each user of SNA-NT is connected via a client PC. The client PC requires Windows 2000 or Windows XP with Oracle Client software installed. The user interface consists of a number of dialog boxes. This "SNA-NT User Guide" describes the operation. The calculations that take place are described in detail in the SNA-NT Handbooks: SNA-NT "SUT / Starter" and SNA-NT "SUT/ Constant Prices". Microsoft Excel is used to prepare input tables and SUT and IOT tables at different levels of aggregation.

The set-up of the SNA-NT Oracle database, which is usually performed by a database administrator, is described in separate technical documents: Installing & Configuring a SNA-NT (server), and SNA-NT & Oracle Client Configuration. Presently, SNA-NT uses Oracle version 9.0.2.

Several versions of the Supply and Use tables and Input-Output tables are stored in the same database, identified by different Oracle data accounts. Typically, for each year there will be a set of at least four Oracle data accounts:

- Supply and Use Tables in current prices
- Supply and Use Tables in constant prices
- Input-Output Tables in current prices
- Input-Output Tables in constant prices

There may be several sets of tables for the same year, e.g. a preliminary and a final version.

In Statistics Norway the SUT in current prices for 2002 has the Oracle data account name SNA2002, while the constant price SUT is called SNAFA2002. The IO table in current prices has the name SNAMOD2002, and the constant price IO table is called SNAFAMOD2002. The Oracle database itself is called SNAN.

Access to the system is password protected. Each user has his or her personal signature and password.

The current version of SNA-NT offers the following functionality related to Supply and Use and Input-Output tables:

- SUT in current prices
  - Batch establishing of the SUT
  - Batch correction/updating of the SUT
  - Interactive correction/updating of the SUT
  - Automatic balancing of supply and use of services (simplified RAS)
  - Predefined reports

## Export of data to Excel

- SUT in constant prices
  - Batch establishing of the SUT
  - Predefined reports
  - Export of data to Excel
- IOT in current and constant prices
  - Automatic transformation of SUT to Industry X Industry IOT
  - Aggregation of IOT
  - Calculation of inverse matrix
  - Export of data to Excel

Chapter 2 of this User's Guide describes tasks that are usually performed by a systems administrator, such as installation of the client software and granting of access and passwords to users.

Chapters 3 to 7 describe the operation of SNA-NT from the point of view of a normal user and cover the compilation of Supply and Use Tables (SUT) in current and constant prices and the transformation of the SUT to Input-Output Tables (IOT).

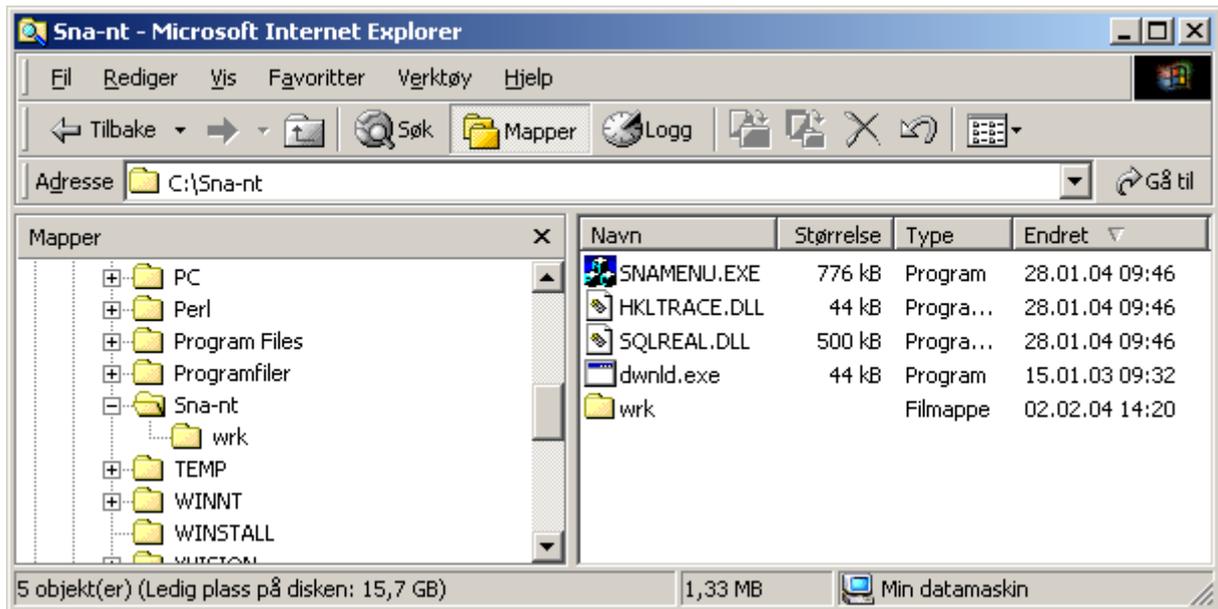
The Annex, chapter 8, describes the use of an Excel macro, written in Visual Basic for Applications, that can be used to convert input data from Excel spreadsheets to the standardised format used for input to the SUT.

## 2 Administration of the system

### 2.1 Installing the SNA-NT client

In order to run the SNA-NT application, it must first be installed on the user's PC. This is done by downloading it from the server database, using the following procedure:

1. Create a folder called e.g. *Sna-nt* on the hard drive, and a sub-folder called *Wrk*. (Reports and messages from a trace box will automatic be stored in the sub-folder *C:\Sna-Nt\Wrk\*.)
2. Get the file *dwnld.exe* from the SNA-NT administrator, and copy it to the *Sna-nt* folder.
3. Open a DOS box, move to the *Sna-nt* folder and run the following command:  
*dwnld sna\_logon langva snan*. This will download the latest version of the necessary files to the *Sna-nt* folder.



4. Create a short-cut to the main program *snamenu.exe*, and place it on the Windows desktop or in another convenient location.

The SNA-NT shortcut can be set so as to make your login easier.

## 2.2 *Shortcut parameters*

The parameters are:

**-nation**

If this option is not set, the Nation is set to "Norway". Any nation name is accepted. This option decides what handling, and what "magic codes" apply for the deflation for the 27500 and 27600 Ids. Currently this

**-nation SLOVENIA**

Change the default ("Norway"). This setting decides how 27500 and 27600 is calculated during the Deflation calculations

**-OC SNAN**

Setting the name of the Oracle database where the data are stored (also called DB-ID or ORACLE SID):

**-PW karlsen -OX sna\_logon**

Normally, OS authorisation is activated, and the default first-time-login is you're your personal Oracle-user. Installation default is SNA\_LOGON/LANGVA. Use this option to do first-time login to another Oracle Login-Name and Password

**-t xxx**

Set the test option, thereby disabling the rule that the local version of the SNA-NT SW must be equal to the version of the SNA-NT-SW stored in the SNA-NT database.

**-U SNA\_SUT2002**

Set the default SNA-NT-Account. Makes the Account-login-selection easier.

**-s STO**

Set the signature to default STO. Makes the Account-login-selection easier.

-f DEFLATE

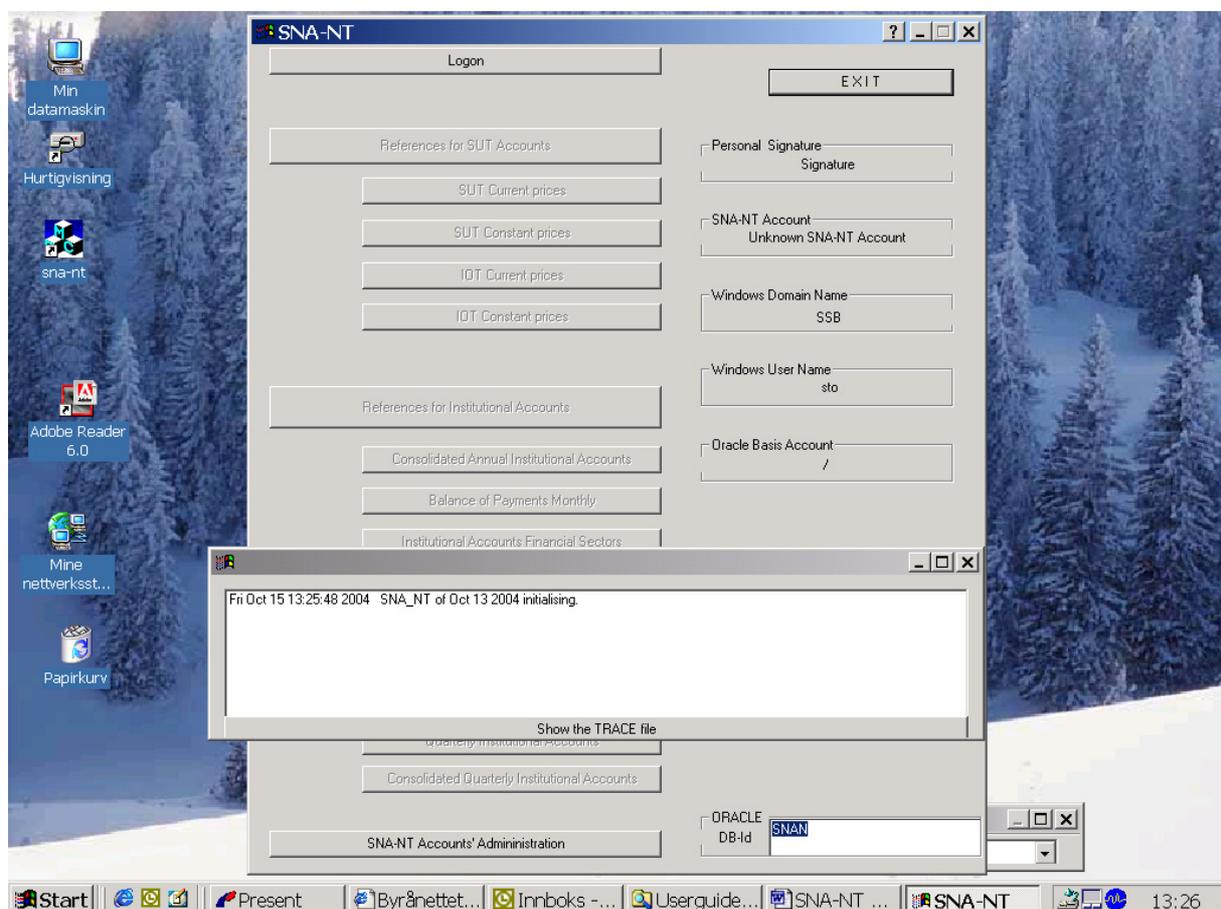
Set the default SNA-NT-Account-Type. Makes the Account-login-selection easier.

-IOT\_SCALE 736

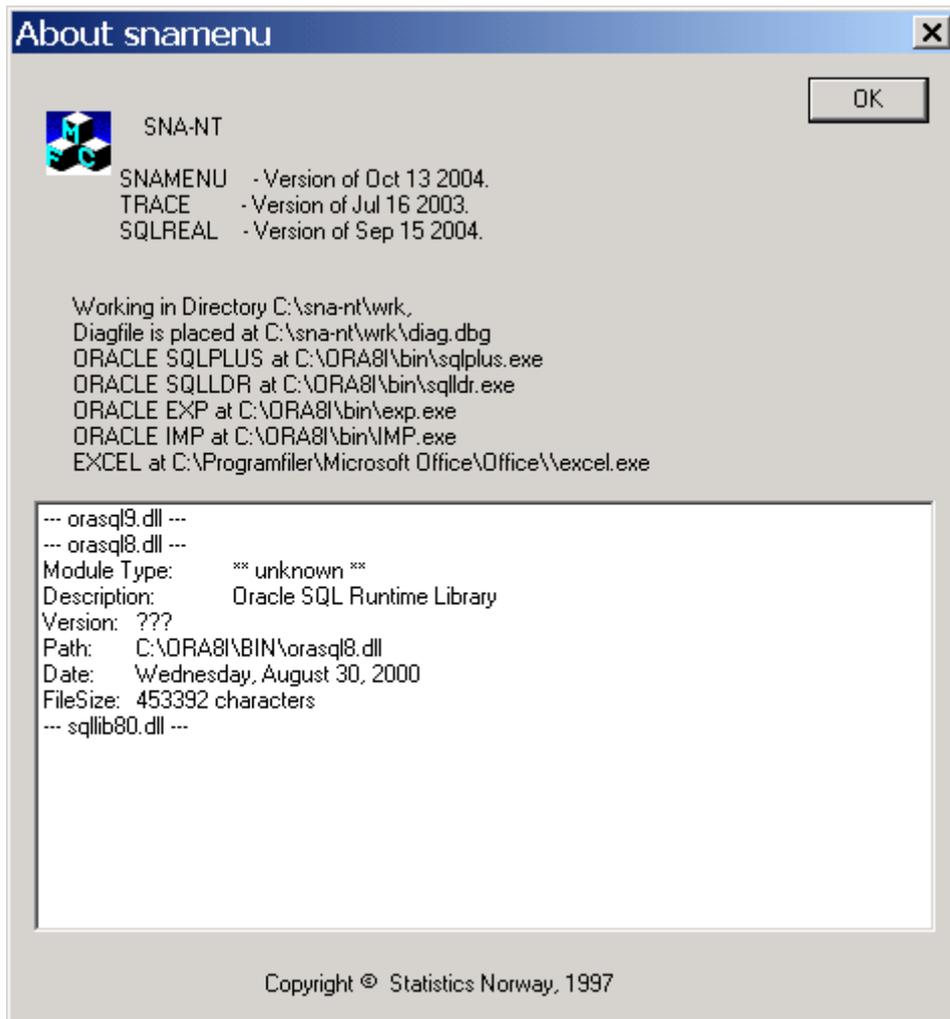
Change the default multiplying factor for deflation (1000,00) to something else. May be required in some cases.

## 2.3 Information about SNA-NT

To see information about which version of SNA-NT and the related Oracle software you are running, select “About snamenu...” from the menu in the upper left corner of the main dialog box.

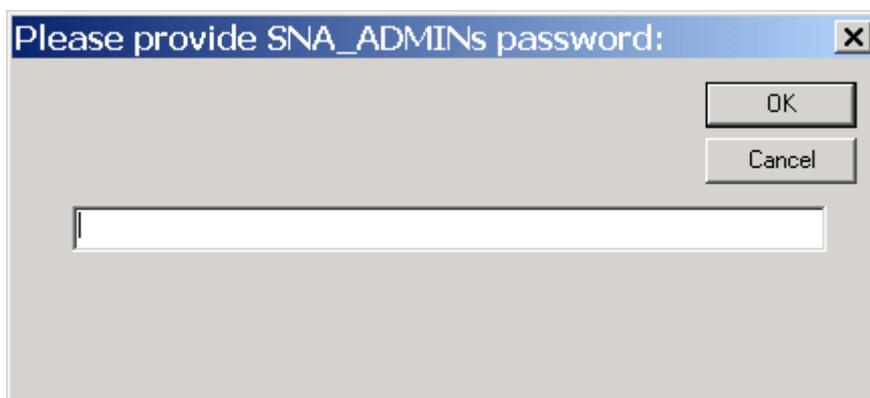


This information box will be displayed:

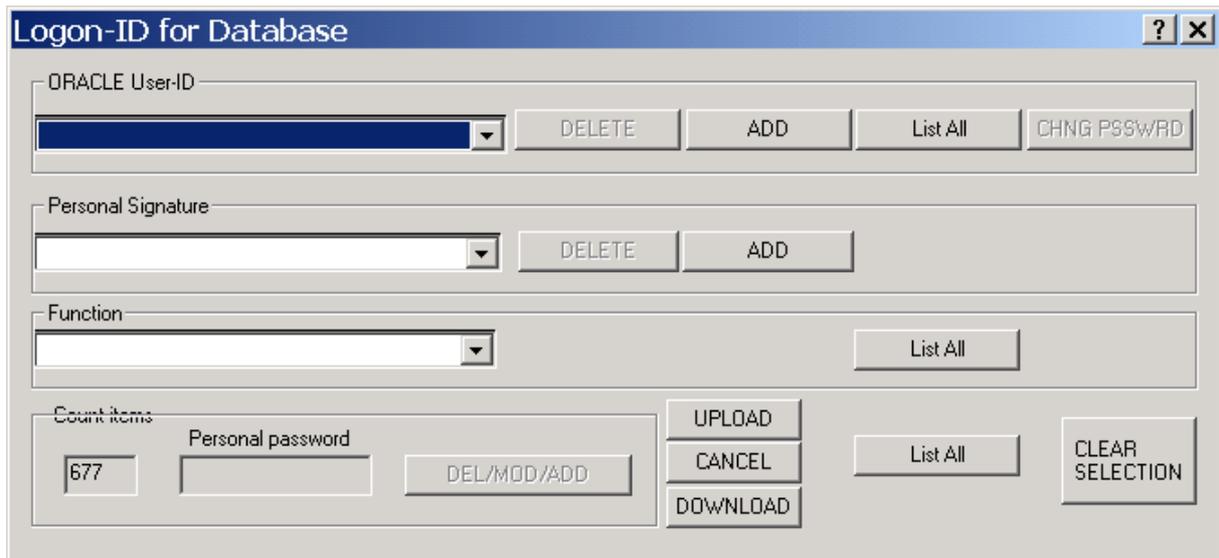


## 2.4 Adding Oracle data accounts, personal users and functions

The Administration dialog box is used by the system administrator to perform tasks such as register and remove Oracle data accounts, personal signatures, passwords etc. To access these functions, click the "SNA-NT Accounts Administration" button in the main SNA-NT dialog box. You will be asked to provide the administrator's password:



Then the Administration dialog opens up:

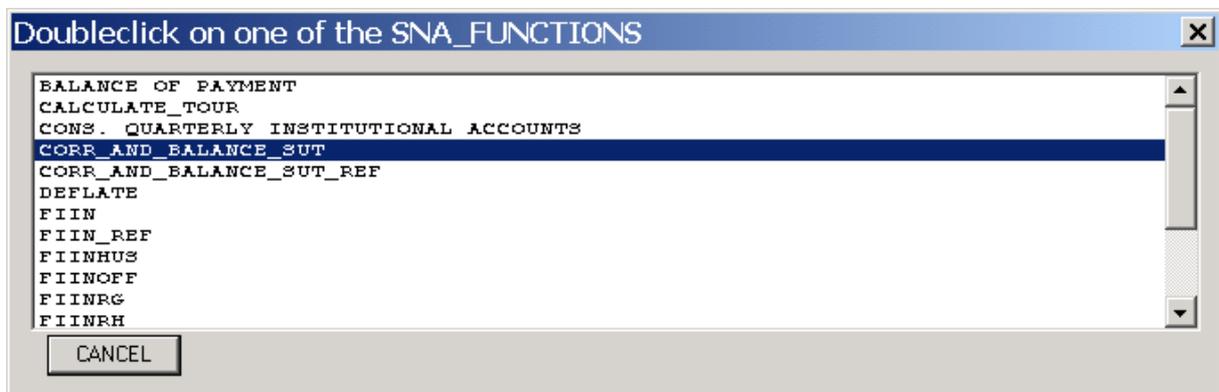


### 2.4.1 Adding Oracle data accounts and functions

To add a new oracle function, click on the "Add" button next to the "Oracle user ID" list box. In the next dialog box, choose the data account to be added by double-clicking it.

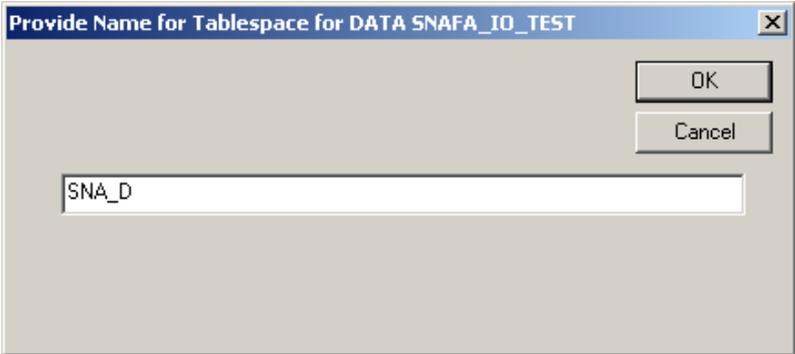
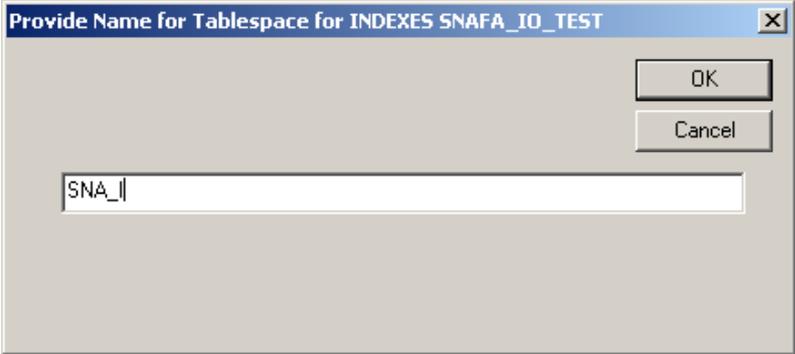


After entering the password for the selected user (provided by the oracle Database Administrator), you will be asked to select the current function. For the current price SUT, the correct function is "Corr\_and\_balance SUT"

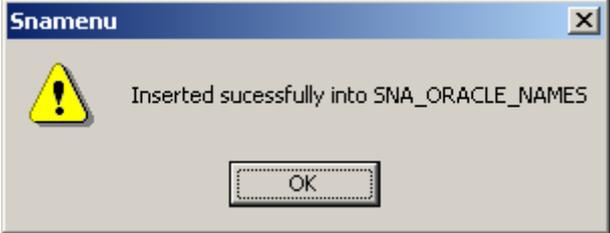


Double click the function to be used.

Next you need to enter the preferred tablespaces for this data account. In Statistics Norway we normally use SNA\_I as index tablespace, and SNA\_D as data tablespace. The oracle data administrator sets the tablespace for each data account.

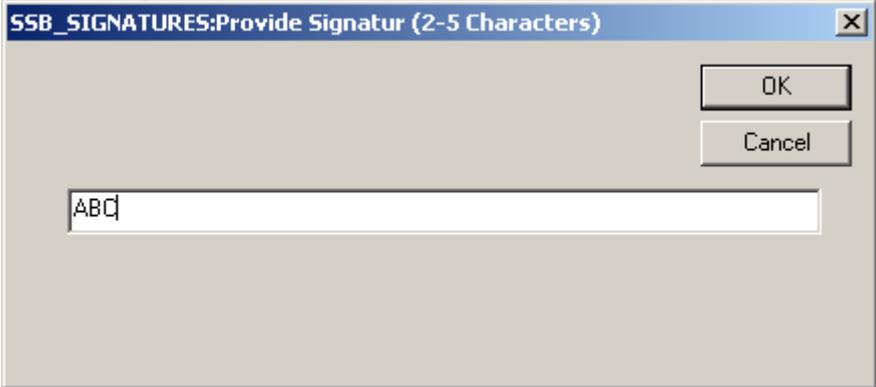


If everything went ok, you will get the message "Inserted successfully into SNA\_ORACLE\_NAMES"

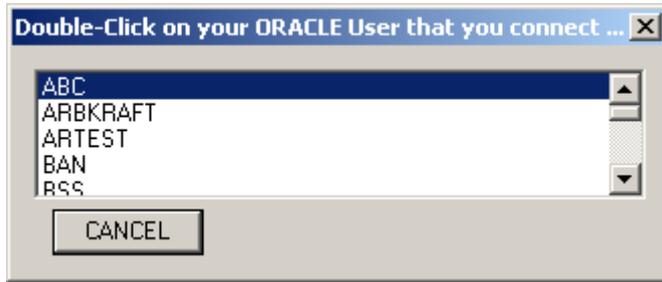


### 2.4.2 Adding personal users

To add a new personal user, click the "Add"- button next to the "Personal Signature" Combo box. Enter the signature to be used for this user.

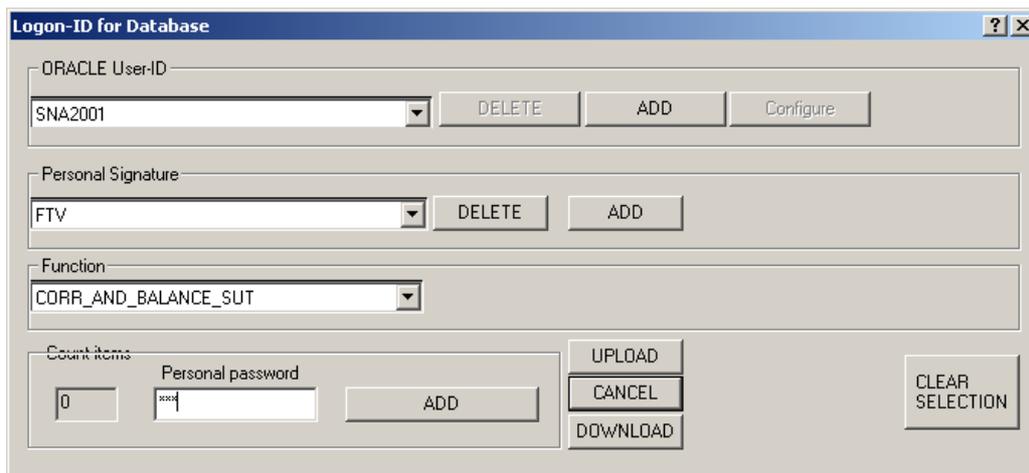


Next you have to select the oracle user name for this person (must be created in oracle by an oracle Database Administrator. See the sna-nt and oracle client configuration page 4 for details.).



### 2.4.3 Giving personal users the necessary access

Combining an oracle data account, a personal signature, a function,- and assigning a personal password -, controls the users access to the SNA-NT system. I.e. SNA2001, FTV, CORR\_AND\_BALANCE\_SUT plus password gives the user FTV access to create, balance and correct the real account of 2001 in current prices.



Type the password you wish to use, and then press the "Add" button next to the password Textbox. If you need to change the password, type the current password and the "Mod" button. When a password is selected, the button changes the text from "Add" to "Mod" (Modify)

### 2.4.4 Deleting user access, Oracle data account, personal user or function

To delete a user access select in the three list boxes the actual combination of oracle data account, personal user and function. Press the "DEL/MOD/ADD"-button next to the personal password. (Shows "Del" When you have selected Oracle data account ID, Personal signature and Function.)

Deleting oracle data account or personal user requires that all user accesses containing the oracle data account or personal user are deleted. Then select the oracle data account or personal user from the list box, and press the "delete"-button next to it.

#### The UPLOAD - Button

The upload button is used for uploading a new version of SNA-NT to all the users.

This is done when the new version is compiled and tested. All users will be asked if they would like to download the new version.

### The DOWNLOAD - Button

The Download - Button is used for manually downloading a new version of the program.

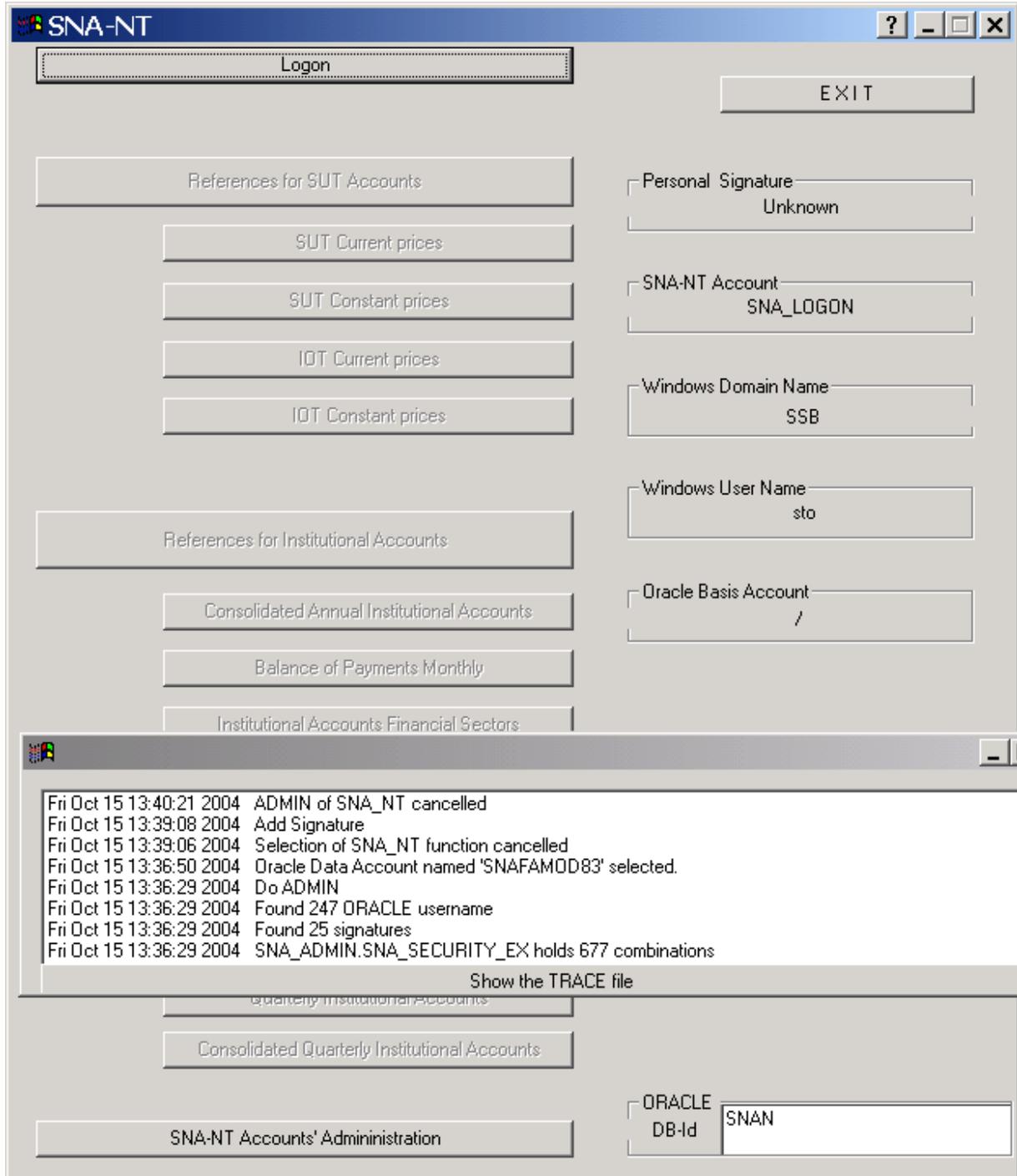
### 2.4.5 Behind the scenes - a listing of the sna\_admin users tables.

Any modification done in the admin window is put into different tables in the sna\_admin data account.

Table	Contents
CROSS_REFERENCE	Information on names of oracle data accounts that have internal connection. For instance the constant price SUT oracle data account SNAFA2001 is connected to a number of relevant oracle data accounts: <ul style="list-style-type: none"> <li>• The data account containing the codelists,</li> <li>• The data account with previous years current priced accounts,</li> <li>• The current price data account of the same year.</li> </ul>
DOWNLOAD_TABLE	Scripts, executables and other files that can be downloaded from the Oracle database to the client machine. Any time a SQL-Script is to be executed by SNA-NT, it is first downloaded ( to the wrk directory), and then executed. This ensures that all users use the most recent and the same version of all scripts.
SNA_DEFAULT_TSP	Names of data tablespace and index tablespace of the database.
SNA_FUNCTIONS	Names of available functions. All names of functions in this table are displayed in the function list of both the admin-window and the login-window of SNA-NT
SNA_ORACLE_NAMES	The oracle data account names.
SNA_SECURITY	Information of personal users different access rights
SNA_USER_TABLES	List of tables that are to be created for different oracle data account types.
SSB_SIGNATURES	List of personal signatures
STATUS_TABLE	Contains date of version of executable programs stored in the database. Used to verify that the SNA-NT-Clint SW is the same as the the copy stored in the SNA-NT database.

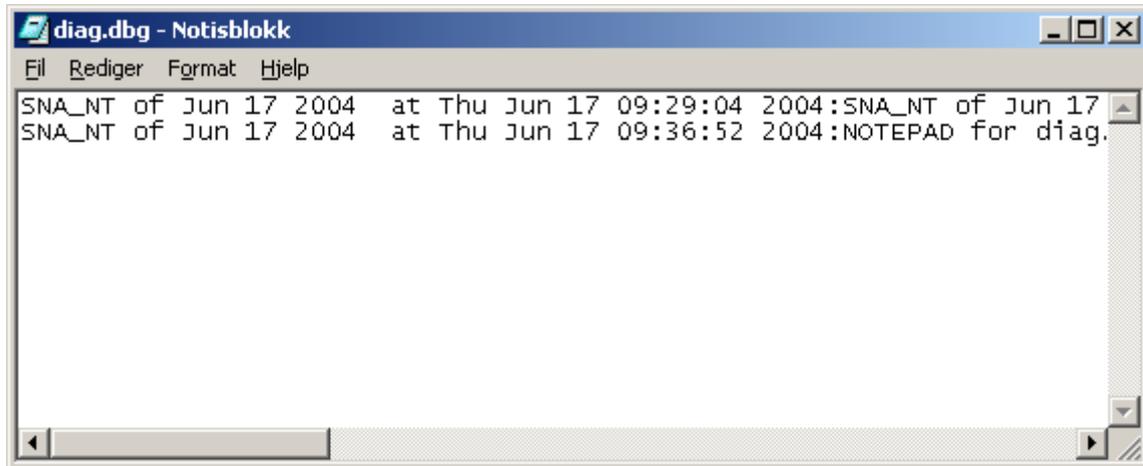
### 3 Starting SNA-NT

Double click the shortcut to the SNA-NT application. (The SNA-NT shortcut can be set so as to make your login easier, see chapter 2.1 for details.) The main SNA-NT dialog box will open up.



In addition to the main dialog box, another window is opened automatically. This window, which is called the trace box, contains information on the programs being run. Initially, the trace box is placed on top of the main dialog box, but it may be moved to another part of the screen.

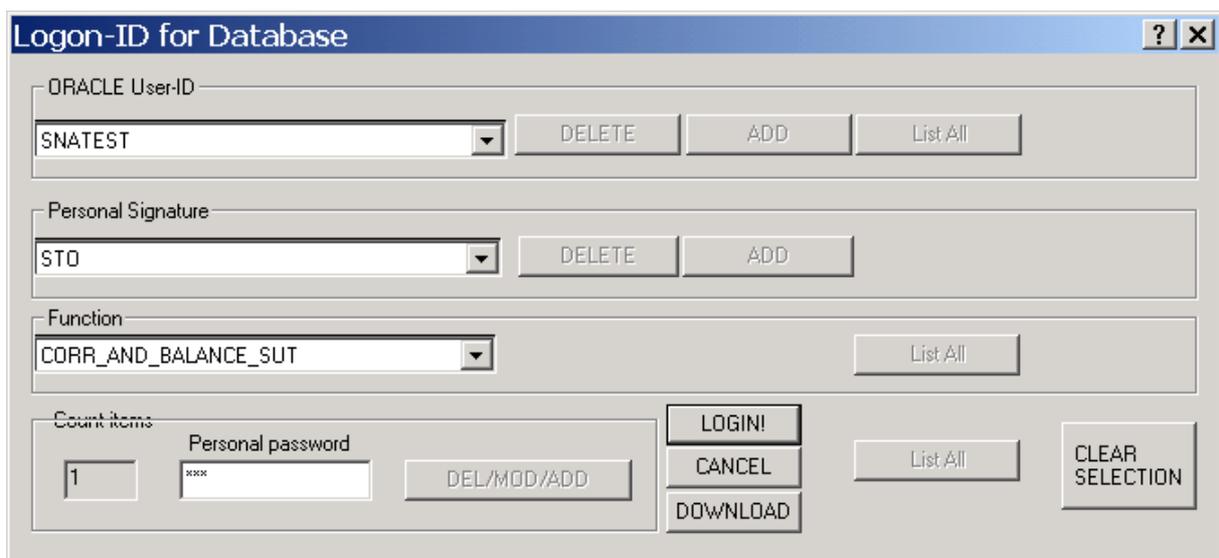
The messages in the trace box are also written to a file called *diag.dgb*, in the work folder *C:\Sna-Nt\Wrk\*. To open the file in the text editor Notepad, click on "Show the TRACE file" in the bottom part of the box. Over time, the *diag.dgb* file can get very big, so it is useful to delete it every now and then.



### 3.1 Logging on

Click the Logon-button on the SNA-NT dialog box. From the Logon dialog box, select the Oracle User-ID (i.e. data account) you would like to work with (called SNATEST), your Personal Signature (STO in this case) and Function (CORR\_AND\_BALANCE\_SUT) from the list boxes, and type in your password. Then click the LOGIN!-button. In the main window the button "SUT Current prices" will be enabled.

**Note: The Function (CORR\_AND\_BALANCE\_SUT) always corresponds to “Supply and Use Tables in current prices”!**



## 4 Code lists for the SUT

When the Supply and Use table is established for the first time, it is necessary to load the code lists for products, suppliers, users and components of value added. These tables are stored in a separate Oracle data account, in the example called KODER\_TR\_SNA.

In the Log-on box, select the Oracle data account, and your personal Signature. Then provide your personal password, and click “LOGIN”.

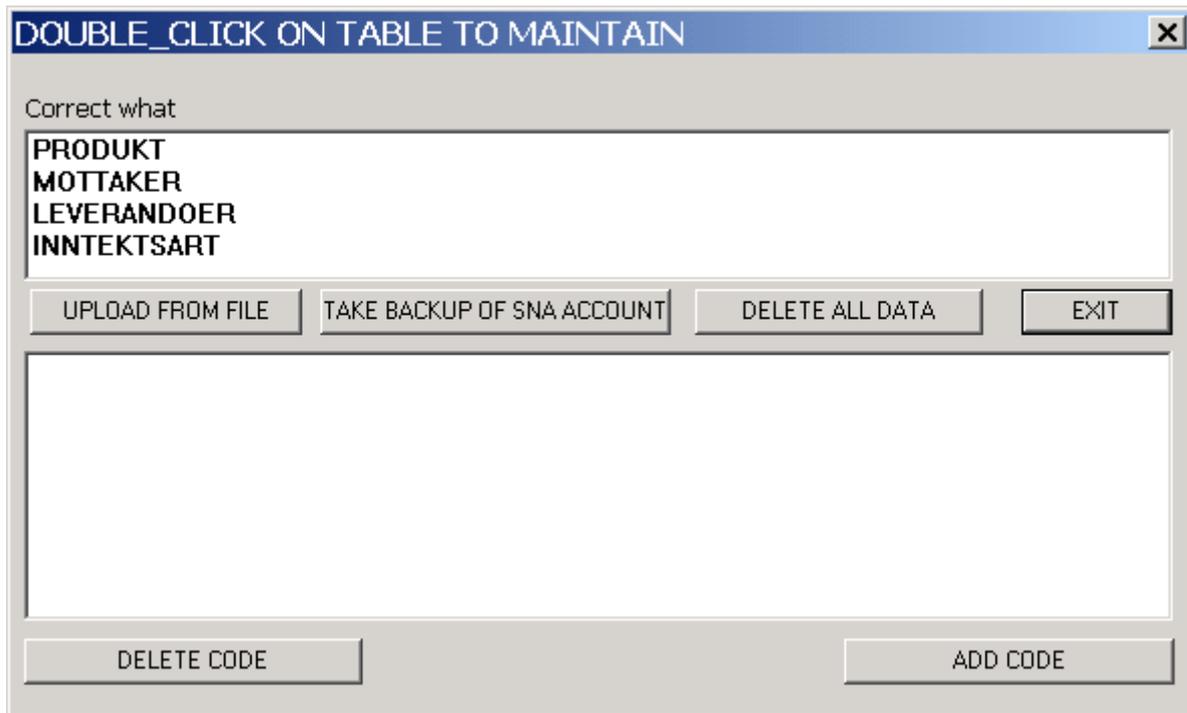
The entry in the “Function” list box, CORR\_AND\_BALANCE\_SUT\_REF shows that KODER\_TR\_SNA holds classification code lists for the SUT.

The screenshot shows a window titled "Logon-ID for Database". It contains the following elements:

- ORACLE User-ID:** A dropdown menu with "KODER\_TR\_SNA" selected. Buttons: DELETE, ADD, List All.
- Personal Signature:** A dropdown menu with "STD" selected. Buttons: DELETE, ADD.
- Function:** A dropdown menu with "CORR\_AND\_BALANCE\_SUT\_REF" selected. Button: List All.
- Count items:** A text box with "1".
- Personal password:** A text box with masked characters "xxxx".
- Buttons:** DEL/MOD/ADD, LOGIN!, CANCEL, DOWNLOAD, List All, CLEAR SELECTION.

In the main window the button "References for SUT Accounts" will be enabled.

By clicking this button you will get the following window:



*It is possible to load codes from an input file, and also add, modify and delete user codes directly in the database. It is also possible to create a backup copy of the contents of the reference user, by clicking on the "TAKE BACKUP OF SNA ACCOUNT" button. See chapter 5.8 for more details on backups.*

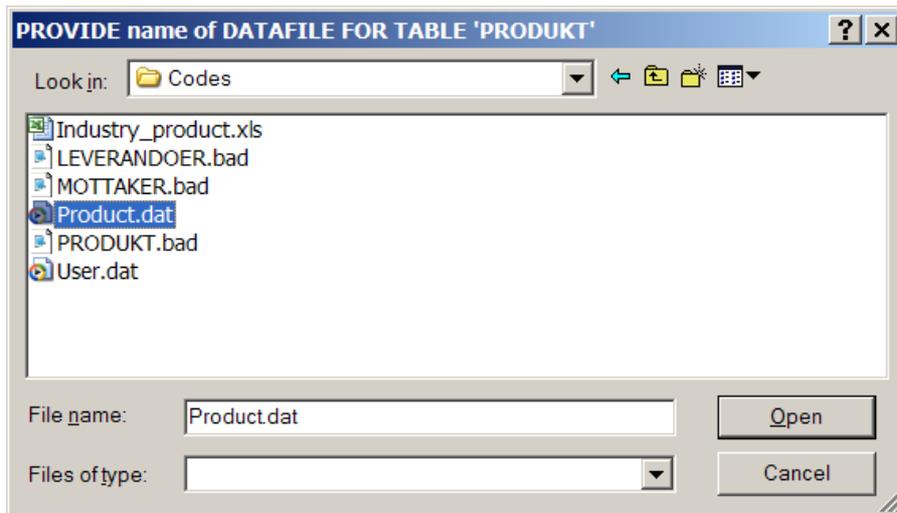
#### **4.1 Loading code lists from a file**

The codes and labels are loaded into four database tables, from two input files:

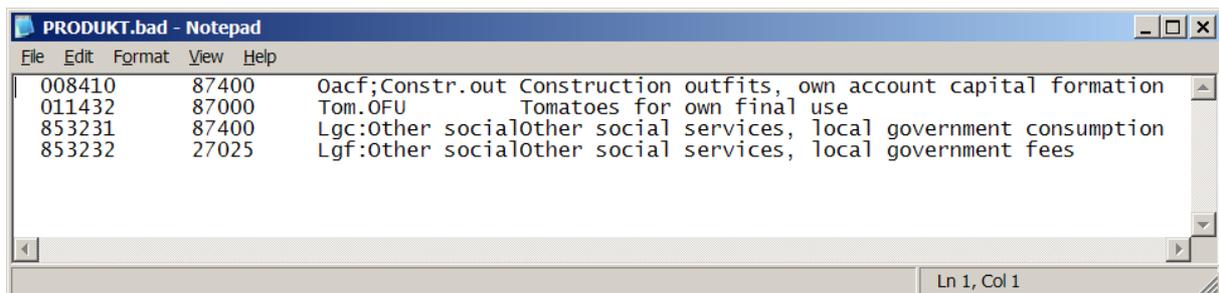
<b>Input file</b>	<b>Contents</b>	<b>DB table</b>
User.dat	User codes and labels	Mottaker (User)
	Supplier codes and labels	Leverandoer (Supplier)
	Components of value added, codes and labels	Inntektsart (Component of value added)
Product.dat	Product codes and labels	Produkt (Product)

The Mottaker (User) table should be the first table to be loaded. The procedure is the same for all four tables, in the example we load the product codes.

To load codes from an input file, select the table from the list in the upper part of the dialog box, and click the "UPLOAD FROM FILE" button. Select the file with the codes, and click on Open.



After the codes have been loaded, an Oracle log-file will open up, which contains information on how many rows were loaded, problems detected etc. If any data has been rejected, e.g. because the same code has been used more than once, another log-file, showing the rejected data, will appear after you have closed the first log-file.



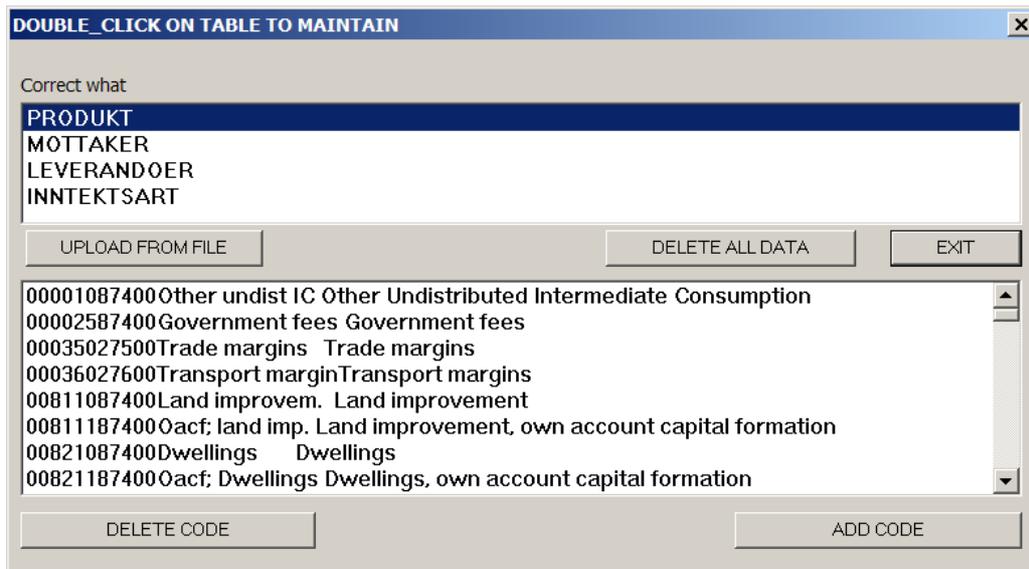
If this is the case, correct the input file (product.dat in the example above) and load it again.

## 4.2 Deleting all code lists

The button “DELETE ALL DATA” will delete all the codes from all four tables at once. You will have to provide the system administrator’s password to be allowed to do this. Note that if data has been added to supply and use tables that are linked to the reference tables, it will not be possible to delete the codes in the reference tables.

## 4.3 Editing the code lists

To change, add, or delete individual codes or labels directly in the database, click on the table you would like to work with in the upper part of the dialog box. The contents are shown in the lower part of the box. To see more of the table, use the scrollbar on the right side of the window.



When the code lists are updated you can start loading data into SUT.

## 5 Supply and Use Tables in current prices

Log on to a current price SUT user, as described in chapter 3 above.

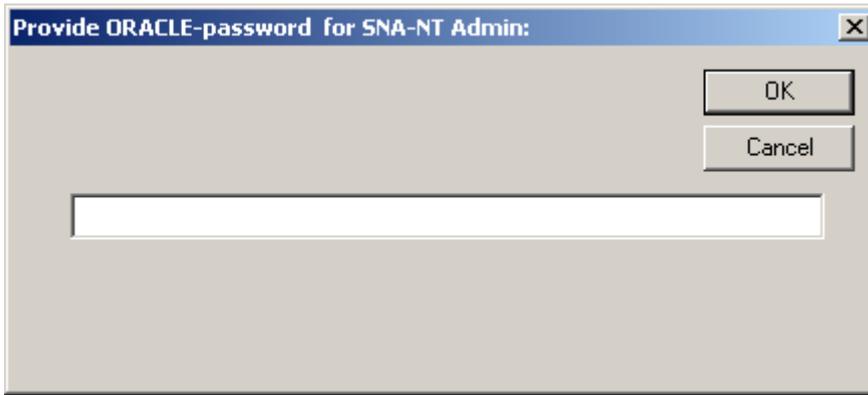
### 5.1 Creating the tables

After logging on, click the “SUT Current prices”-button in SNA-NT dialog box. One of two alternative dialog boxes will open up.

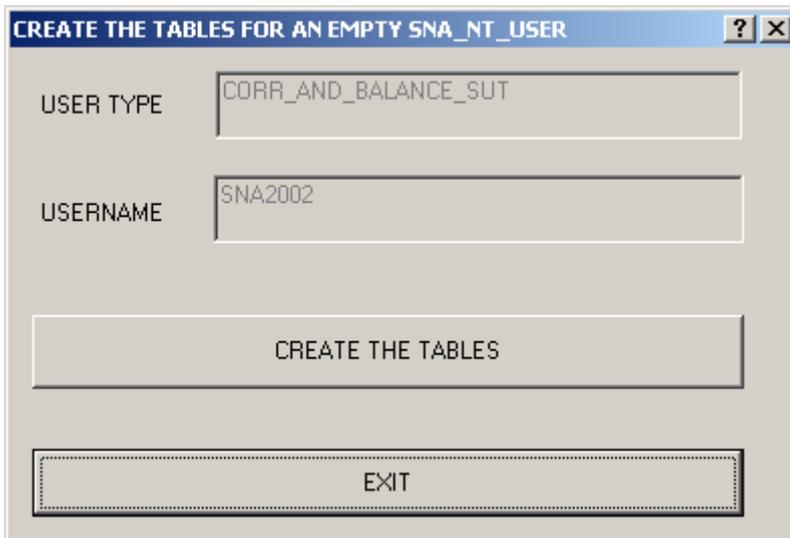
If the Oracle data account (SNA2002 in this case) is empty, tables and views will have to be created.



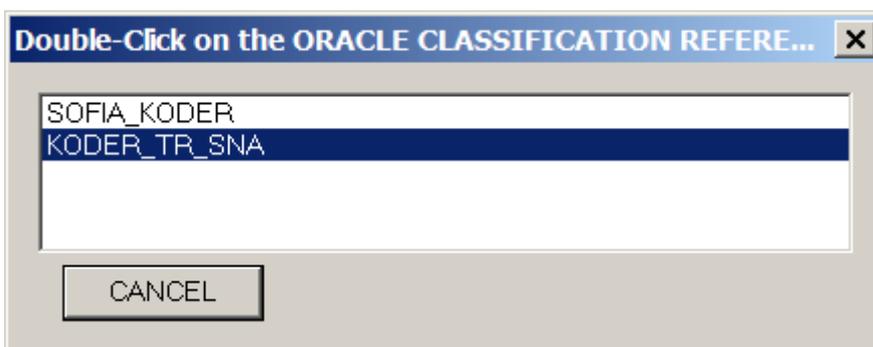
Click OK, and you will be asked to provide SNA-NT administrator password.



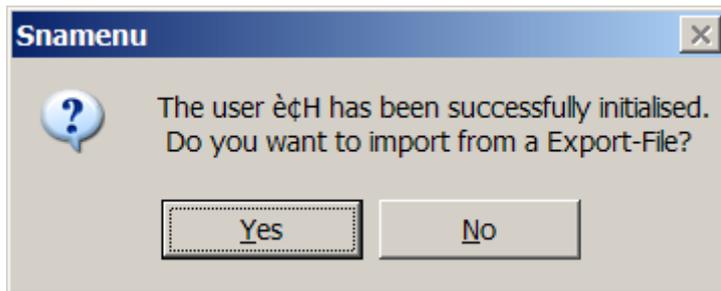
Type the password, and click OK. The "Create tables" dialog box will open.



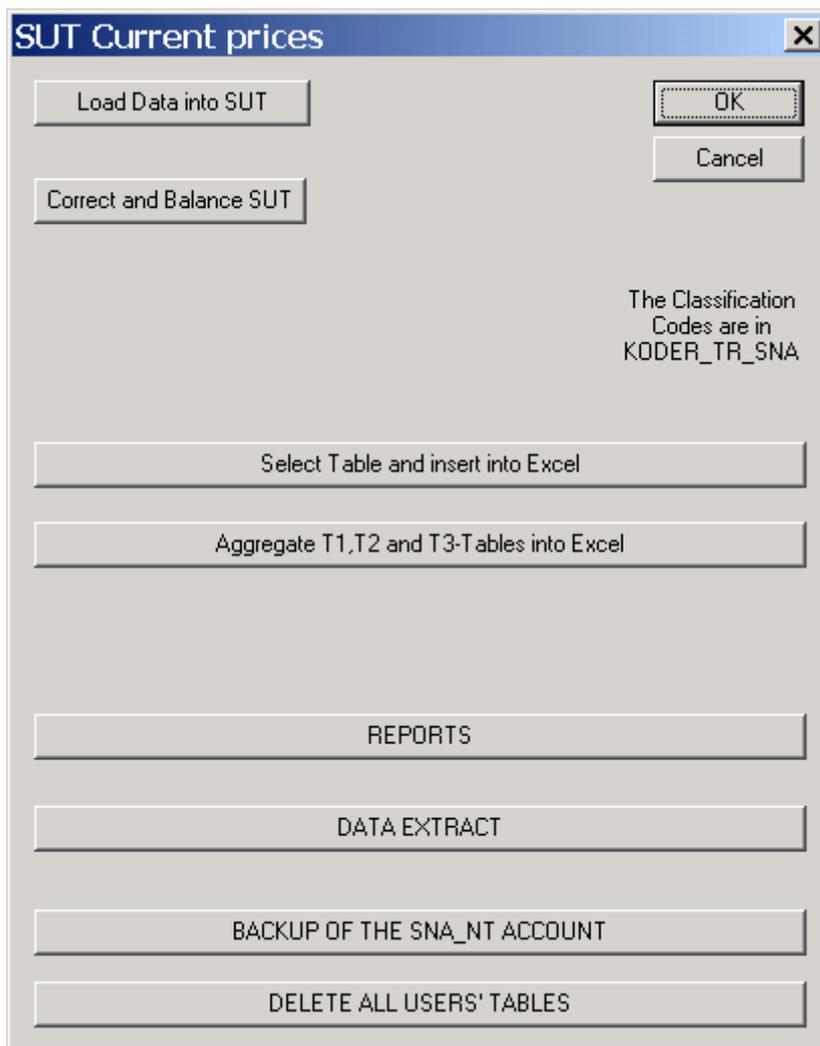
In the "Create tables" dialog box, click "CREATE TABLES" to create the framework. In the next dialog box, double-click on the user containing the classification tables (product and industry codes etc.)



You will then be asked if you like to import data from a backup file (called an export file in Oracle terminology). If you don't want to import data, click No.



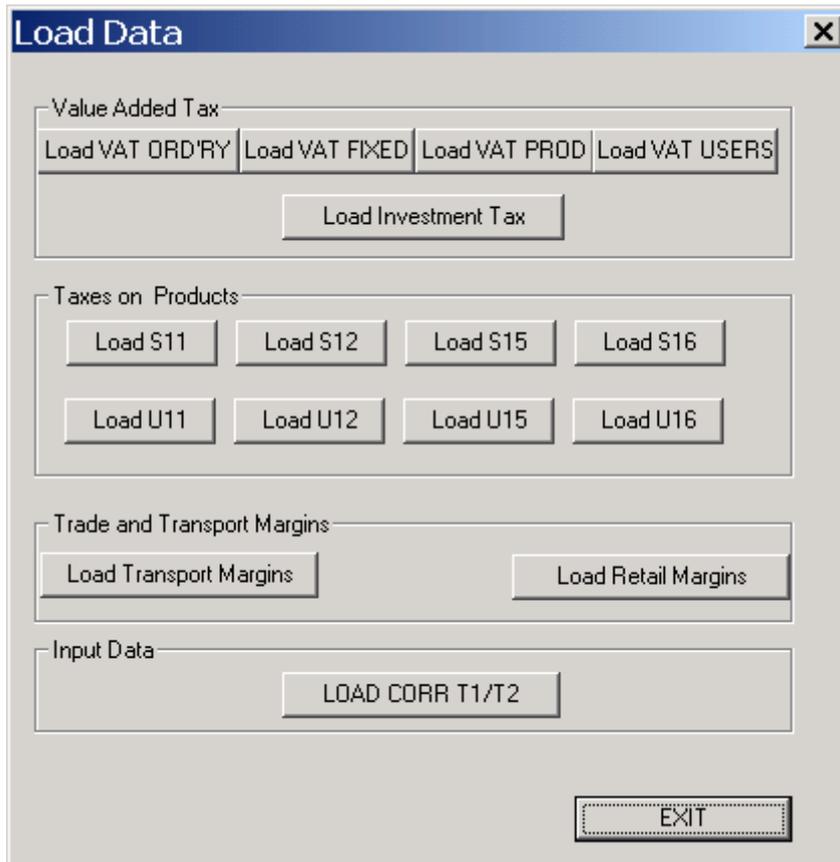
If the tables in the database already exist, the SUT dialog box for loading and correcting the SUT will appear instead:



## 5.2 Load Data into SUT

Inputs to the Supply and Use Tables are loaded into the database from ASCII-files with specified layouts. See the handbook SNA-NT "SUT / Starter" for details of the specifications. Chapter 8. The Annex to this User's Guide describes the use of an Excel macro that can be used to prepare the various input files.

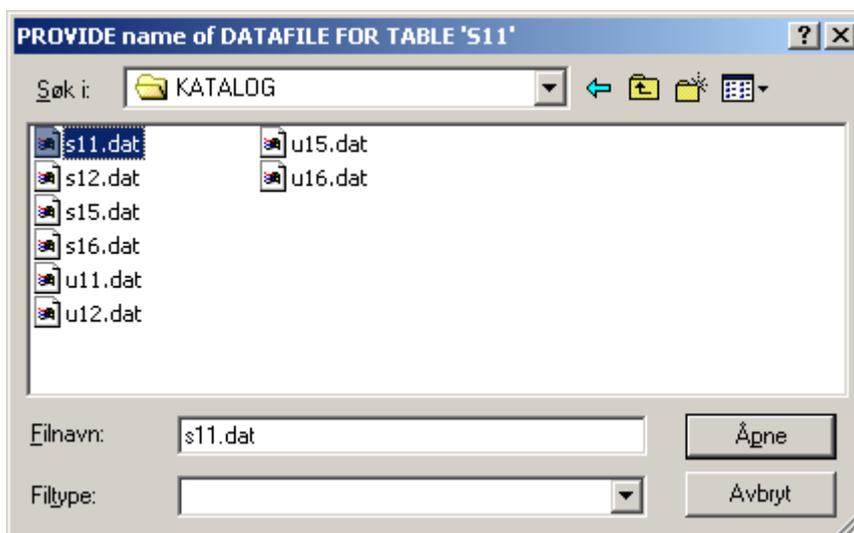
From the "*SUT Current prices*" dialog box, click the "*Load Data into SUT*"-button. The Load Data dialog box opens up.



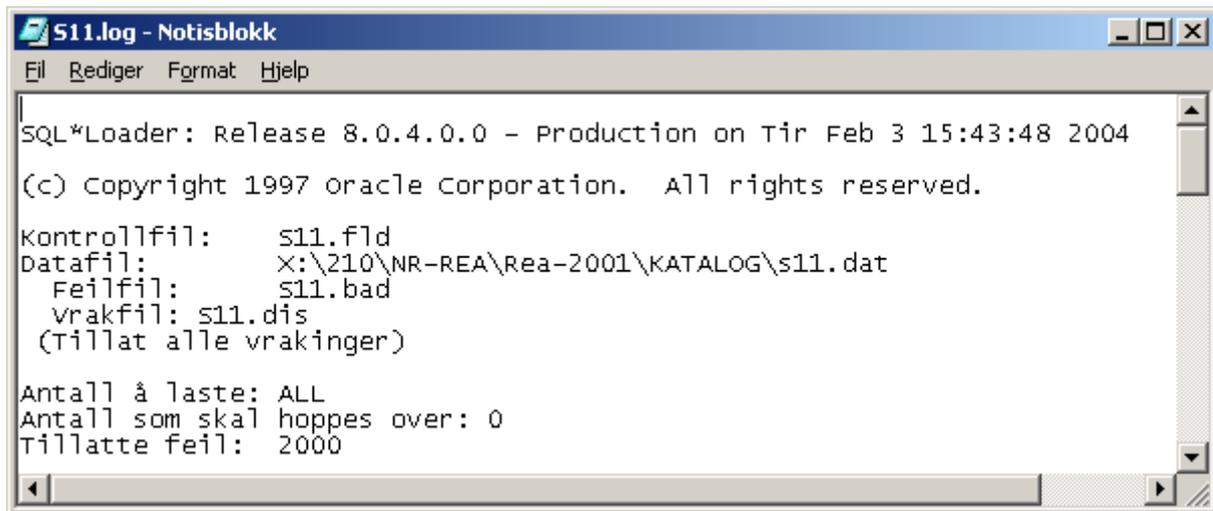
### 5.2.1 Load tax rates and trade margins

The loading of the different tax rates and trade margins all follow the same procedure. In the example we use the table containing taxes on products paid by producers, called S11 in SNA-NT.

Click "Load S11" in the "Load data" dialog box. Choose the file containing the data you wish to add, in this case s11.dat. Then click Open.



After the data have been loaded, a log file, s11.log, will appear. This gives information about the data that has been loaded, possible errors etc. The log file is stored in the C:\Sna-nt\wrk\ folder. In this folder there is also a file called s11.bad, which contains any lines from the input file that have been rejected by the program, e.g. because of an error in the product code.



```
SQL*Loader: Release 8.0.4.0.0 - Production on Tir Feb 3 15:43:48 2004
(c) Copyright 1997 Oracle Corporation. All rights reserved.
Kontrollfil:    s11.fld
Datafil:       X:\210\NR-REA\Rea-2001\KATALOG\s11.dat
Feilfil:       s11.bad
vrakfil:       s11.dis
(Tillat alle vrakinger)

Antall å laste: ALL
Antall som skal hoppes over: 0
Tillatte feil: 2000
```

The table below gives a description of the data being loaded using the various buttons.

<b>Button</b>	<b>Description</b>	<b>Input file</b>	<b>Database table</b>
Load VAT ORD'RY	The general VAT rate	moms_almenn.dat	moms_alemenn
Load VAT FIXED	Exceptions to the general VAT rate	moms_fast.dat	moms_fast
Load VAT PROD	Exceptions to the general VAT rate	moms_pro.dat	moms_pro
Load VAT USERS	Exceptions to the general VAT rate	moms_mot.dat	moms_mot
Load S11	Taxes on products paid by producers, by product	s11.dat	s11
Load S12	Subsidies on products paid to producers, by product	s12.dat	s12
Load S15	Taxes on products paid by retailers, by product	s15.dat	s15
Load S16	Subsidies on products paid to retailers, by product	s16.dat	s16
Load U11	Combinations of users and products exempt from taxes on products paid by producers	u11.dat	u11
Load U12	Combinations of users and products exempt from subsidies on products paid to producers	u12.dat	u12
Load U15	Combinations of users and products exempt from taxes on products paid by retailers	u15.dat	u15
Load U16	Combinations of users and products exempt from taxes and subsidies on products paid at retail	u15.dat	u15
Load Investment Tax	Investment tax rates, by product and user	invest.dat	invest
Load Transport Margins	Transport margins, by product and user	transport_margin.dat	transport_margin
Load Retail Margins	Trade margins or retail and wholesale, by product and user	retail_margin.dat	retail_margin
LOAD CORR T1/T2	Input data for supply and use, by product and user/supplier (CORRT1 and CORRT2)	all_cards.dat	T1 and T2

***About the input files:***

The name and location of the input files are not fixed by SNA-NT, but may be selected by the user. However, in order to keep track of the many input files used by the system, it is very important to be systematic when the names of files and folders are selected. It is recommended use the names shown in the table above.

Neither the file name nor the name of the folders the file is stored should contain a space. As an example, 'xxx yyy.dat' is not a valid file name.

The input data for supply (CORRT1-cards) and use (CORRT2-cards) should be stored in separate folders, called corrt1 and corrt2 respectively. There should be one file for each user or supplier. The first character in the file name should be the year the data refer to, e.g. 1 for 2001. The file ending should be .ct1 for the supply data and .ct2 for the use data.

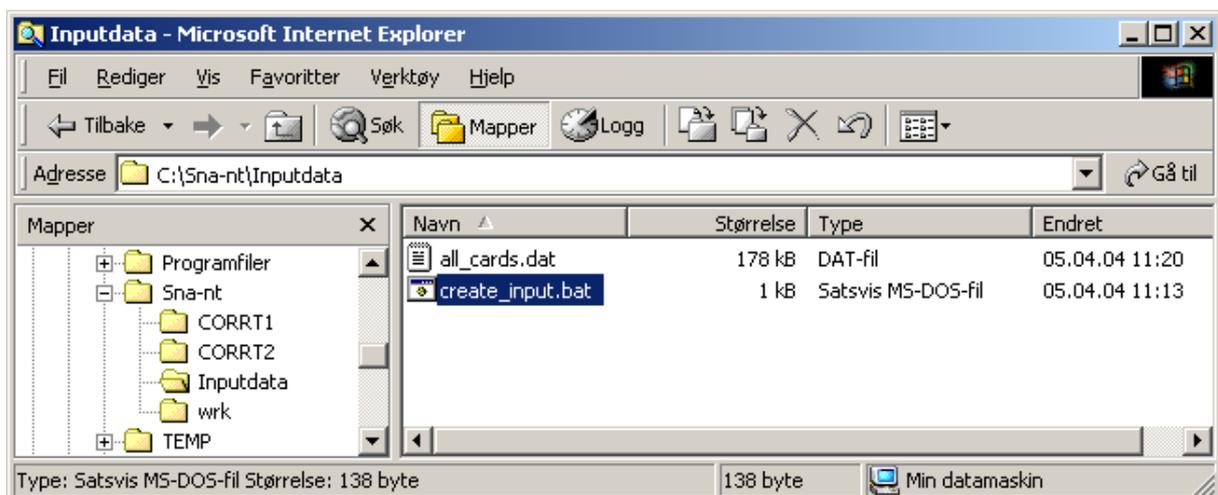
In order to establish the supply and use tables, all the CORRT1 and CORRT2 cards have to be combined into one large file, all\_cards.dat. This can be done by cut and paste, or alternatively by running the batchfile create\_input.bat, shown below.

```

type ..\corrt1\1*.ct1 | findstr /I "CORR" > all_cards.dat
type ..\corrt2\1*.ct2 | findstr /I "CORR" >> all_cards.dat
  
```

A batch file is a small program, written in a text editor (e.g. Notepad). It is run by double-clicking on the file in Windows Explorer.

The command types the content of all the files that match the name given. The command findstr /I selects those lines that contain the text CORR or corr. The command > sends these lines to a new file called all\_cards.dat. The command >> adds new lines to the already existing file.

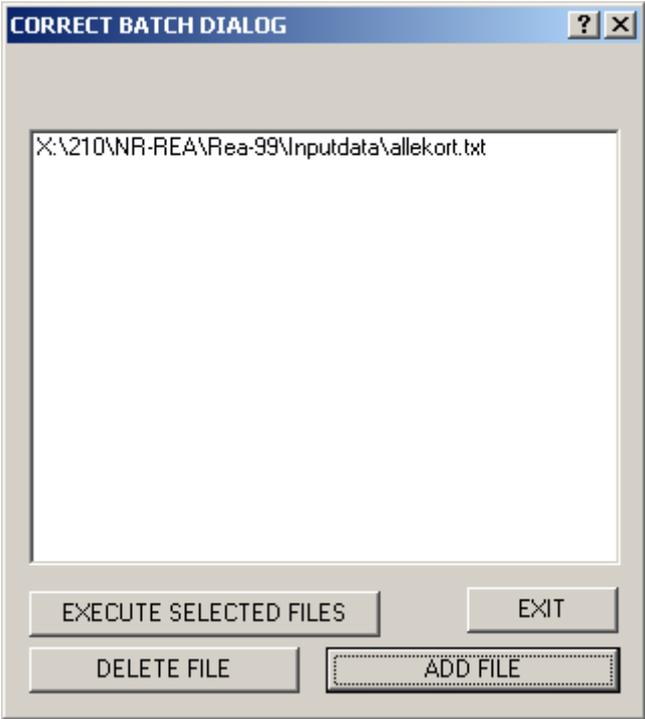


### 5.2.2 Load CORR-files with Supply and Use data

To load data in producers' and purchasers' value from a CORR-file, click the "LOAD CORR T1/T2" button. The Correct Batch Dialog box opens up. Click "ADD FILE" and select the file from the File Open dialog box. ("Provide name of datafile for generated cards")

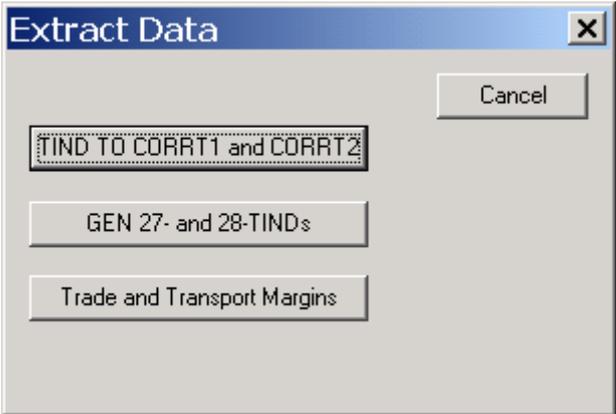
Back in the Correct Batch Dialog, click "EXECUTE SELECTED FILES" to start the process. After the data have been loaded into the database, taxes, trade margins, basic values and commodity

residuals are calculated automatically. This ensures that the Supply and Use Tables are consistent at all times. The procedure might take several minutes, depending on the computer's speed.



### 5.3 Extract data from a previous SUT

In the "SUT Current Prices" dialog box, click the button "DATA EXTRACT". This dialog box gives access to three procedures where input files to the current year's supply and use tables are created, based on the SUT of a previous year.



#### 5.3.1 GEN 27- and 28 TINDs

This procedure generates value index data for the aggregate accounts for intermediate consumption and GFCF by asset type. You will have to provide the Oracle data account of the previous year's supply and use tables.

The TIND-file is used as input to the "TIND TO CORRT1 and CORRT2" procedure. See below for details.

### 5.3.2 TIND TO CORRT1 and CORRT2

**NB! You have to be logged on to the previous year's Oracle data account to run the procedure. To switch user, go back to the main dialog box and click on the Logon button, see chapter 3.1.**

This procedure is used to generate CORRT1- and CORRT2-input data from a file with value index data (called TIND-files), based on the current price supply and use tables of the previous year.

The CORRT1 and CORRT2 files are loaded into the database with the "Execute CORRTx-CARDS" procedure. See chapter 5.4.1 for details. Before the CORR-files are loaded, **remember to switch the connection to the current year's Oracle data account.**

### 5.3.3 Trade and Transport margins

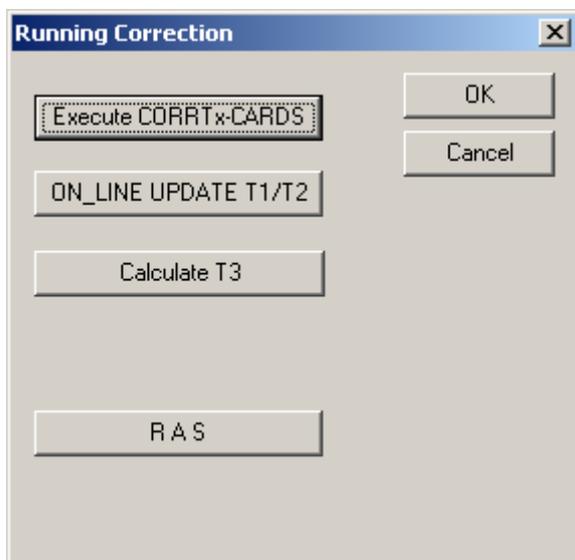
**NB! You have to be connected to the previous year's Oracle data account to run the procedure.**

This procedure generates two ASCII-files, one with retail and wholesale trade margins and one with transport margins, based on the values in the previous year's use table. The files, called retail\_margin.dat and transport\_margin.dat, are placed in the folder C:\Sna-nt\wrk\.

The two files may be edited and used as input to a new SUT, as described in chapter 5.2.1. Before the files are loaded, **remember to switch the connection to the current year's Oracle data account.**

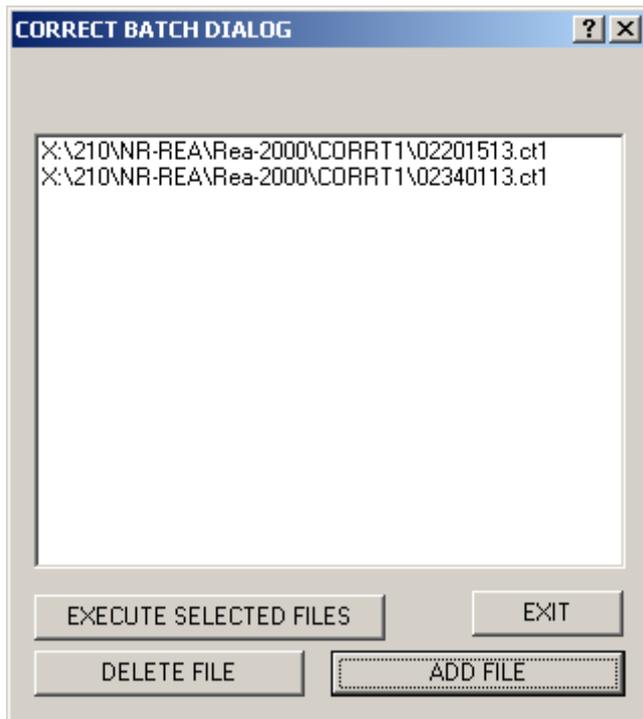
## 5.4 Correct and Balance SUT

To make corrections to the Supply and Use Tables, click the button labelled "Correct and Balance SUT". Correction can take place in two different ways, either by loading a CORR or SPREAD-file or interactively.



### 5.4.1 Loading CORRT1 and CorrT2-files with corrections

To load data in Producers' and Purchasers' value from a CORR-file, click the "Execute CORRTx-CARDS" button, then "ADD FILE" and select the file from File Open dialog. To add another CORR-file to the list, click "ADD FILE" again and select the new file from File Open dialog. To remove a CORR-file from the list, select it and click "DELETE FILE".



When the appropriate input files have been added to the list, click “EXECUTE SELECTED FILES” to start the process. After each input file has been loaded, a message box appears.

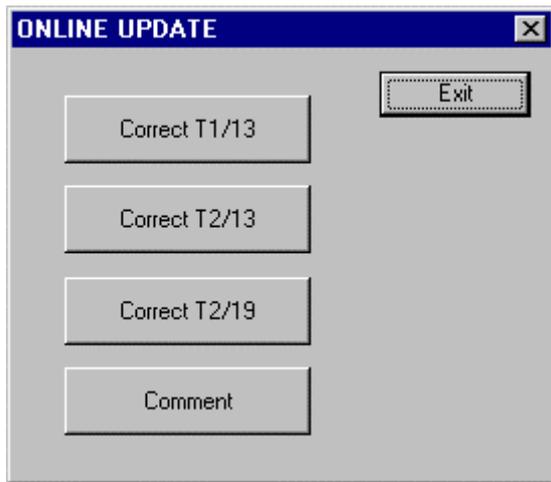


Click "OK" to continue with the next input file. When the last input file has been loaded, the dialog box will be empty. Click "EXIT" to return to the previous menu.

After the data has been loaded into the database, the product taxes and subsidies, trade and transport margins, basic values and commodity residuals are recalculated automatically. This ensures that the Supply and Use Tables are consistent at all times.

### 5.4.2 Interactive corrections

To start the application for interactive corrections, click the "ON\_LINE UPDATE T1/T2" button. A new dialog will appear. It is possible to make corrections to the Supply table T1 in Producers' value (Correct T1/13), and the Use table T2 in Producers' (Correct T2/13) value or Purchasers' value (Correct T2/19)



#### 5.4.2.1 The comment - button

Before you start correcting you may use the comment - button to set the Comments for all data changes that are executed thereafter. By resetting the Comment, changes thereafter will not be commented.

If you decide to do this, any values changed in the database will be commented with the text you type in the comment -label. The comment - functionality is meant to keep order of corrections made in the database.



To stop commenting, simply select "comment" again, and clear the comment text.

#### 5.4.2.2 Corrections

By clicking the Correct T2/19 button, this window will appear:

Choose either a product or a user to work with. The product code may be entered directly or selected from a list. (Click the Browse button to see a list of all products.) In the example, we choose product 232001 (gasoline). The name appears under the Product label. If an illegal product code is entered, a warning appears instead.

Click the OK button to open a new dialog with the entries for the product in the Use table (T2).

Handle table T2.Value19 PRODUCT = 232001

Sum residuals (87000) as stored in DB is -96

Selected Item's

New Sum  DB's sum  Sum altogether as stored in DB

23010	67	Agriculture
23014	17	Agric. & anim
23020	21	Forestry, logg
23024	29	Forestry, servic
23051	19	Fishing
23052	18	Operat.fish hatc
23112	16	Serv. act.oil,gas
23130	1	Mining of metal
23140	2	Oth.mining
23151	8	Prod.pres.meat
23152	2	Proc.pres. fish.
23153	1	Proc.pres. veget
23154	2	Vegetable,fat
23155	2	Dairy products
23158	3	Oth.food product
23159	6	Beverages
23160	2	Tobacco prod.
23170	3	Textiles
23180	2	Wearing apparel
23201	2	Saw,plan;wood
23203	2	Build.carpentry
23204	3	Wooden container
23211	2	Pulp
23212	2	Paper and paperb
23213	2	Articles of cane

UPDATE DB CANCEL

The three columns in the list box show the codes of the users of the product, the purchasers' value in million NOK, and the names of the users. In order to make changes to the Use table, select one or more entries. The sum of the selection will appear next to DB's sum.

Handle table T2.Value19 PRODUCT = 232001

Sum residuals (87000) as stored in DB is -96

Selected Item's

New Sum  DB's sum  Sum altogether as stored in DB

23010	67	Agriculture
23014	17	Agric. & anim
23020	21	Forestry, logg
23024	29	Forestry, servic
23051	19	Fishing
23052	18	Operat.fish hatc
23112	16	Serv.act.oil,gas
23130	1	Mining of metal
23140	2	Oth.mining
23151	8	Prod.pres.meat
23152	2	Proc.pres. fish.
23153	1	Proc.pres. veget
23154	2	Vegetable,fat
23155	2	Dairy products
23158	3	Oth.food product
23159	6	Beverages
23160	2	Tobacco prod.
23170	3	Textiles
23180	2	Wearing apparel
23201	2	Saw,plan;wood
23203	2	Build.carpentry
23204	3	Wooden container
23211	2	Pulp
23212	2	Paper and paperb
23213	2	Articles of cane

UPDATE DB CANCEL

Enter the new value (400 in the example) in the field called "New Sum". It will be distributed proportionally. It is also possible to add or subtract a specified value to/from the original value. To add 20 to the original value of 40 for example, type 40+20 in the "New Sum" field.

Handle table T2.Value19 PRODUCT = 232001

Sum residuals (87000) as stored in DB is -96

Selected Item's

New Sum  DB's sum  Sum altogether as stored in DB

23010	67		Agriculture
23014	17		Agric. & anim
23020	210	(21)	Forestry, logg
23024	29		Forestry, servic
23051	19		Fishing
23052	18		Operat.fish hatc
23112	160	(16)	Serv.act.oil,gas
23130	1		Mining of metal
23140	2		Oth.mining
23151	8		Prod.pres.meat
23152	2		Proc.pres. fish.
23153	10	(1)	Proc.pres. veget
23154	20	(2)	Vegetable,fat
23155	2		Dairy products
23158	3		Oth.food product
23159	6		Beverages
23160	2		Tobacco prod.
23170	3		Textiles
23180	2		Wearing apparel
23201	2		Saw,plan;wood
23203	2		Build.carpentry
23204	3		Wooden container
23211	2		Pulp
23212	2		Paper and paperb
23213	2		Articles of cane

To update the database with the new Purchasers' values, click "UPDATE DB". At the same time, the product taxes and subsidies, trade and transport margins, basic values and commodity residuals are recalculated, to ensure consistency in the Supply and Use Tables. If you don't want to update the database, click CANCEL.

### Insert a new entry

In order to insert a new entry into the SUT (i.e. a new combination of user and product) enter the codes and the purchasers value in the "Handle table" dialog box. Click "UPDATE" to update the SUT in the database.

The dialog box titled "Handle table T2.Value19" has the following fields and buttons:

- Product: 232001 (with a "Browse..." button), Motor spirit (gasoline)
- User: 23111 (with a "Browse..." button), Extraction of crude petroleum and natural gas
- Value field: 5
- Buttons: OK, UPDATE, CLEAR

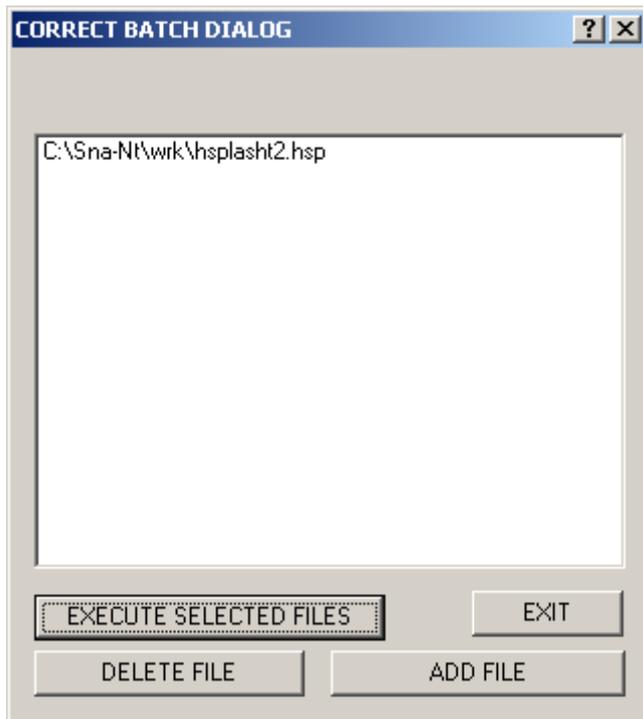
### 5.4.3 Automatic balancing of services etc.

To automatically balance services, as well as the aggregation accounts for intermediate consumption and GFCF by asset type (the 27xxx and 28xxx accounts) by a simplified RAS procedure, click the button labelled RAS. Before the adjustments are made, copies are made automatically of the T1 and T2 tables. The copies are called T1\_FØRRAS and T2\_FØRRAS, and are stored in the same database user as T1 and T2. They can be used to check what changes have been made by the automatic adjustment procedure.

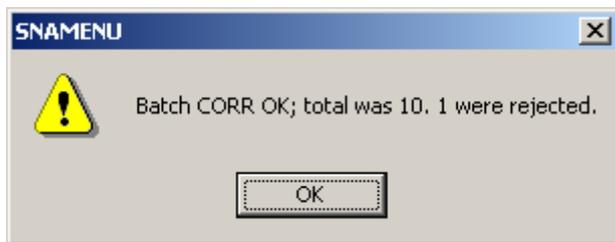
The CORRECT BATCH DIALOG box opens up, with an input file called hspasht2.hsp already selected. The input file is generated automatically, and is stored in the folder C:\Sna-Nt\Wrk\. It looks like this:

Service	Residual
HSPLASHT2 13000379 51230	U
HSPLASHT2 13000379 1387xxx	0
HSPLASHT2 13401013 51110	U
HSPLASHT2 13401013 1387xxx	0
HSPLASHT2 13401014 1387xxx	0
HSPLASHT2 13401016 1387xxx	0
HSPLASHT2 13510100 1387xxx	0
HSPLASHT2 13510900 51230	U
HSPLASHT2 13510900 1387xxx	0
HSPLASHT2 13713110 1387xxx	0

Executing this file will set the residuals of the listed services to 0, by proportional adjustment of intermediate consumption in industries and of the aggregation accounts for intermediate consumption and gross fixed capital formation.



Click "EXECUTE SELECTED FILES" to proceed. When the input file has been executed, a message box appears. In this case, 10 records were processed, and a 1 record (the blank line at the beginning of the file) was rejected:



Click OK to return to the dialog box, and then EXIT to continue the RAS procedure.

This cycle is repeated three more times, with automatically generated input files called *corrt2.ct2*, *vsplasht2.vsp* and *vsplinvt2.vsp*

CORRT2	13000016	23331	13
CORRT2	13000016	23334	2
CORRT2	13000016	23340	3
CORRT2	13000016	23351	6
CORRT2	13000016	23352	16
CORRT2	13000016	23354	1
CORRT2	13000016	23361	7
CORRT2	13000016	23363	1
CORRT2	13000016	23401	63
CORRT2	13000016	23402	45
CORRT2	13000016	23403	10
CORRT2	13000016	23405	4
CORRT2	13000016	23452	21
CORRT2	13000016	23453	6
CORRT2	13000016	23454	20
CORRT2	13000016	23455	2

The corr2.ct2 is used to balance the aggregate products for intermediate consumption, while vsplasht2.vsp is used to return total intermediate consumption in each industry to its original value, by adjusting the use of goods. The vsplintv2.vsp balances the accounts for capital by type.

VSPLASHT2	19000036	23291	U
VSPLASHT2	19000040	23291	U
VSPLASHT2	19000042	23291	U
VSPLASHT2	19000076	23291	U
VSPLASHT2	19000110	23291	U
VSPLASHT2	19000120	23291	U
VSPLASHT2	19000131	23291	U
VSPLASHT2	19000143	23291	U
VSPLASHT2	19000150	23291	U
VSPLASHT2	19000371	23291	U
VSPLASHT2	19401014	23291	U
VSPLASHT2	19510900	23291	U
VSPLASHT2	19702012	23291	U
VSPLASHT2	19725000	23291	U
VSPLASHT2	19748410	23291	U
VSPLASHT2	19TOTAL	23291	13383

VSPLASHT2	194 524 00	28111	U
VSPLASHT2	194 525 00	28111	U
VSPLASHT2	194 531 00	28111	U
VSPLASHT2	194 532 00	28111	U
VSPLASHT2	194 533 00	28111	U
VSPLASHT2	194 534 00	28111	U
VSPLASHT2	194 541 00	28111	U
VSPLASHT2	194 542 00	28111	U
VSPLASHT2	194 543 00	28111	U
VSPLASHT2	194 544 10	28111	U
VSPLASHT2	194 544 20	28111	U
VSPLASHT2	194 545 00	28111	U
VSPLASHT2	19701000	28111	U
VSPLASHT2	19703000	28111	U
VSPLASHT2	19742012	28111	U
VSPLASHT2	19TOTAL	28111	16300

When the automatic balancing is finished, the message RAS: OK! appears in the trace box:

```

Mon Jun 21 14:02:30 2004 RAS: OK!
Mon Jun 21 14:02:30 2004 End list of filenames
Mon Jun 21 14:02:30 2004 C:\sna-nt\wrk\vsplinv2.vsp
Mon Jun 21 14:02:30 2004 CORR completed successfully
Mon Jun 21 14:02:29 2004 Batch CORR OK; total was 391. 2 were rejected.
Mon Jun 21 14:02:29 2004 Invalid Cardtype in Card:
Mon Jun 21 14:02:29 2004 Invalid Cardtype in Card:
Mon Jun 21 14:02:29 2004 Batch run starting now
Mon Jun 21 14:02:29 2004
  
```

Show the TRACE file

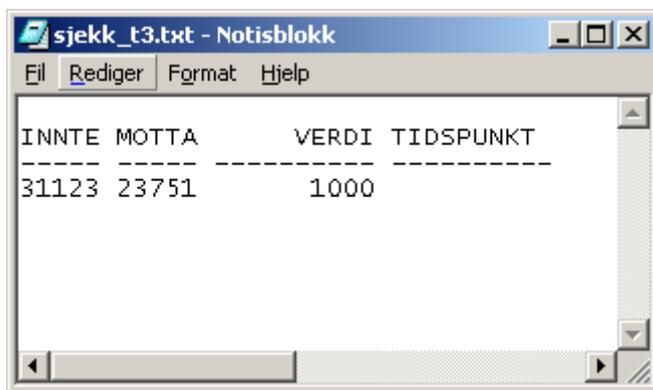
#### 5.4.4 Calculate value added and operating surplus

The table T3 contains value added at basic prices and its components, classified by industry. Some elements, i.e. compensation of employees, other taxes and subsidies on production and consumption of fixed capital are loaded from CORRT3-files, as described for CORRT1- and CORRT-files in chapter 5.4.1.

Gross value added and gross and net operating surplus by industry are then calculated by clicking the "Calculate T3" button. Taxes and subsidies on products are transferred automatically to from T1 to T3.

There is also another table, T3\_13, which contains the same data as the standard T3, except that value added is in producers' prices rather than basic prices

After the calculations have finished, a check of the T3 table is run automatically. The check is to see if any data for wages, taxes etc, has been entered for industry codes that do not have any value added, i.e. industry codes that are not in use. The result of the test is written to the file sjekk\_t3.txt, and displayed on the screen.

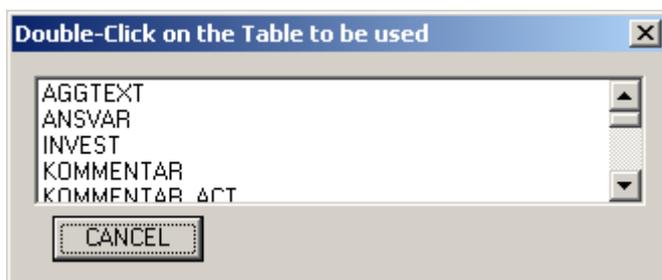


The column labelled INNTE shows the income components, the column MOTTA shows the industry codes, and VERDI is the value.

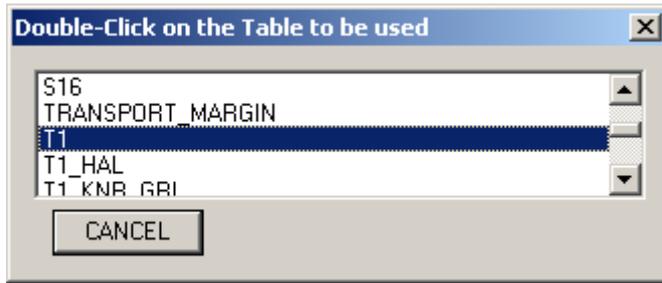
#### 5.5 Transfer data to Excel

Use this function to insert a copy of the complete Database table into EXCEL.

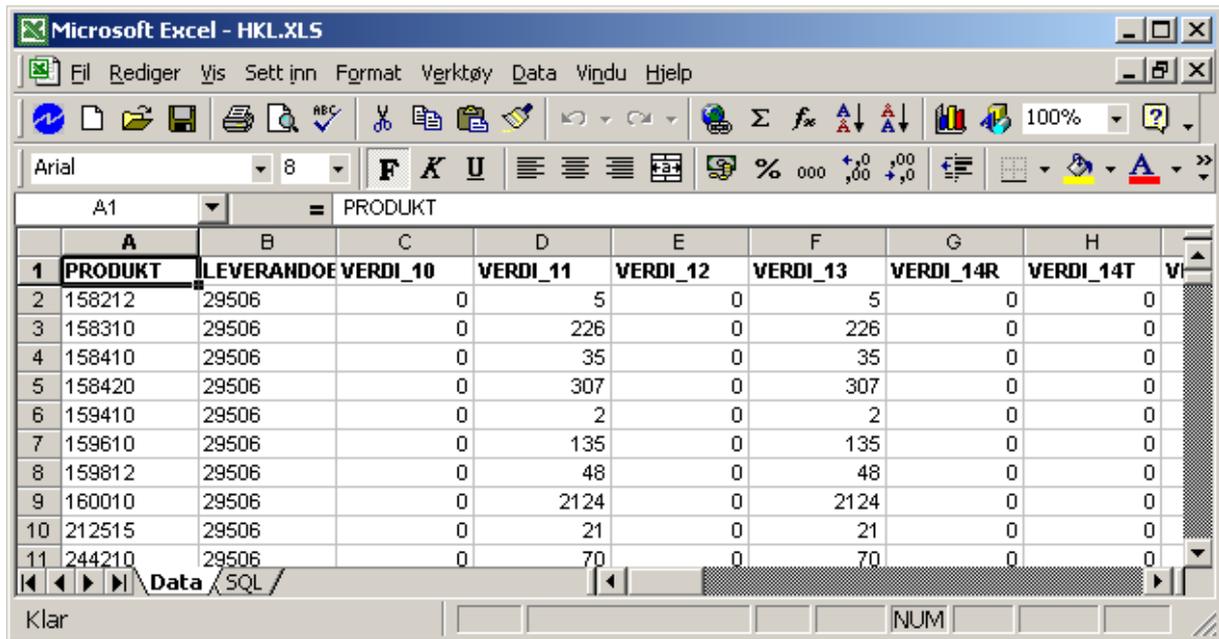
Click the button "Select Table and insert data into Excel". A list box showing all the database tables for the user you are logged on to opens up.



Select the table you would like to extract to Excel (the supply table T1 un the example), and double-click.



After a few seconds, Excel starts up, and displays the table in a Excel sheet named HKL.XLS, in the sheet called Data. The file can be saved under a different name using the normal Excel commands (File, Save As...)



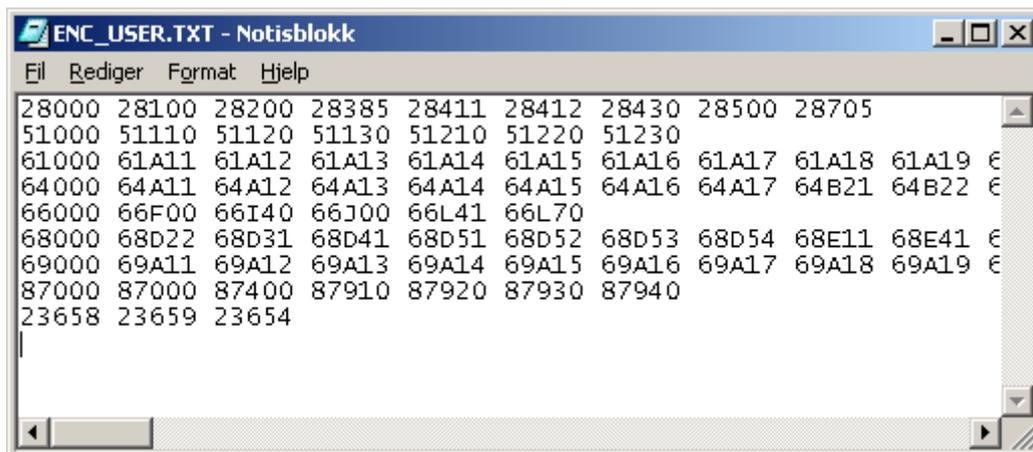
NB: To extract data from another table, it is **required to close** HKL.XLS, and before you use the button "Select Table and insert data into Excel" again.

### 5.6 Aggregate T1, T2 and T3 and transfer results to Excel

The supply and use tables are aggregated with the help of four aggregation files that define the relationship between the detailed and aggregate codes.

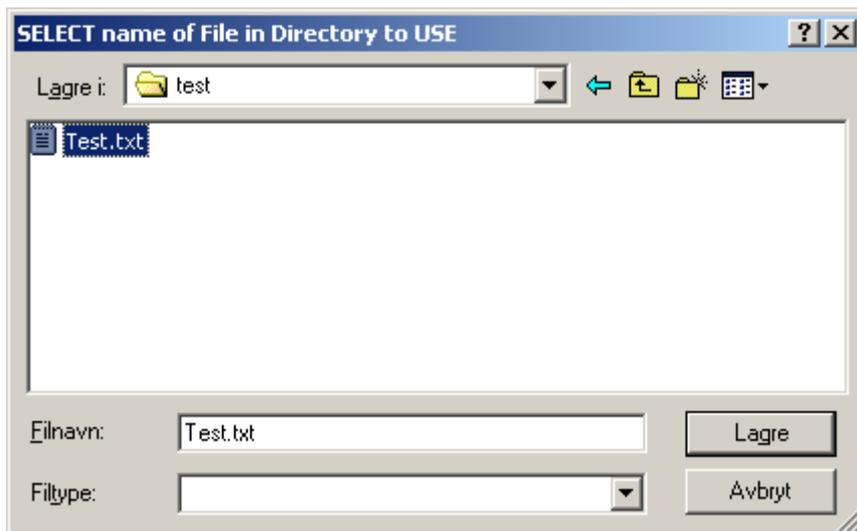
ENC_SUPPLIER.TXT	Suppliers
ENC_USER.TXT	Final use categories
ENC_PRODUCT.TXT	Products
ENC_INCOME.TXT	Income components

The aggregation files are text files, and all have the same format. The example shows the encoding for final uses:



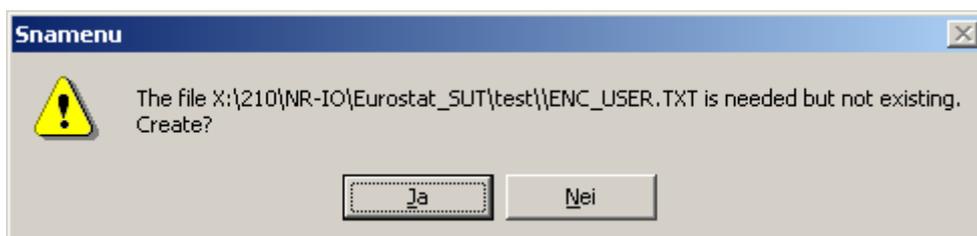
There is one line for each aggregate. The first entry is the code for the aggregate, e.g. 61000, and the following entries on the same line are the detailed codes that are included in the aggregate.

These files can be edited with a text editor, or by using a function in SNA-NT. To start the aggregation, click the button “Aggregate T1, T2 and T3-tables into Excel”. A file open dialog box opens up. Use this to select a file in the directory (folder) where the aggregation files are (or will be) stored, and click on the Save button (in Norwegian the button is called Lagre). It does not matter which file is selected, the objective is just to define the directory that is to be used.

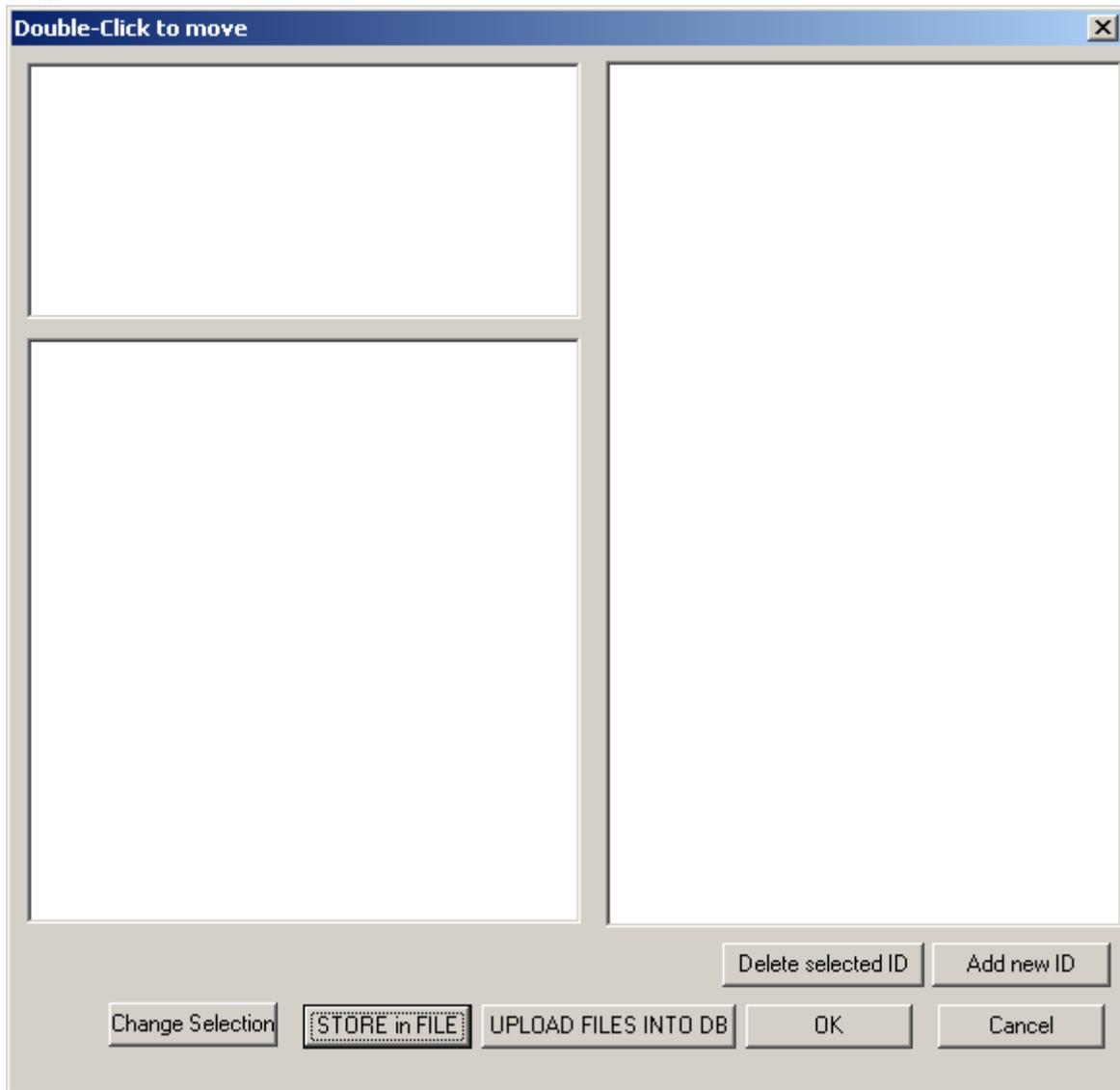


### 5.6.1 Defining the aggregation files with SNA-NT

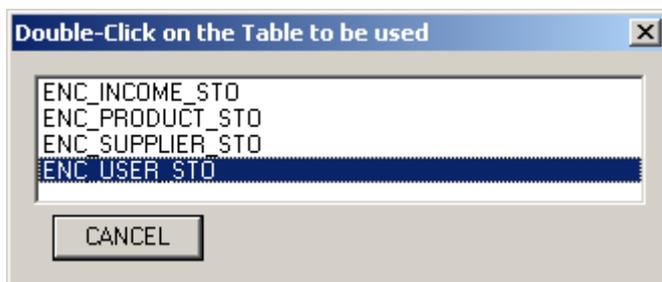
If the one or more of the aggregation files do not exist in the directory selected, you will be asked if you like them to be created. Click on Yes (Ja) in the dialog box to create an empty file with the appropriate name. If all the aggregation files have been prepared in advance, go to the next section, to see how the files are loaded into the database.

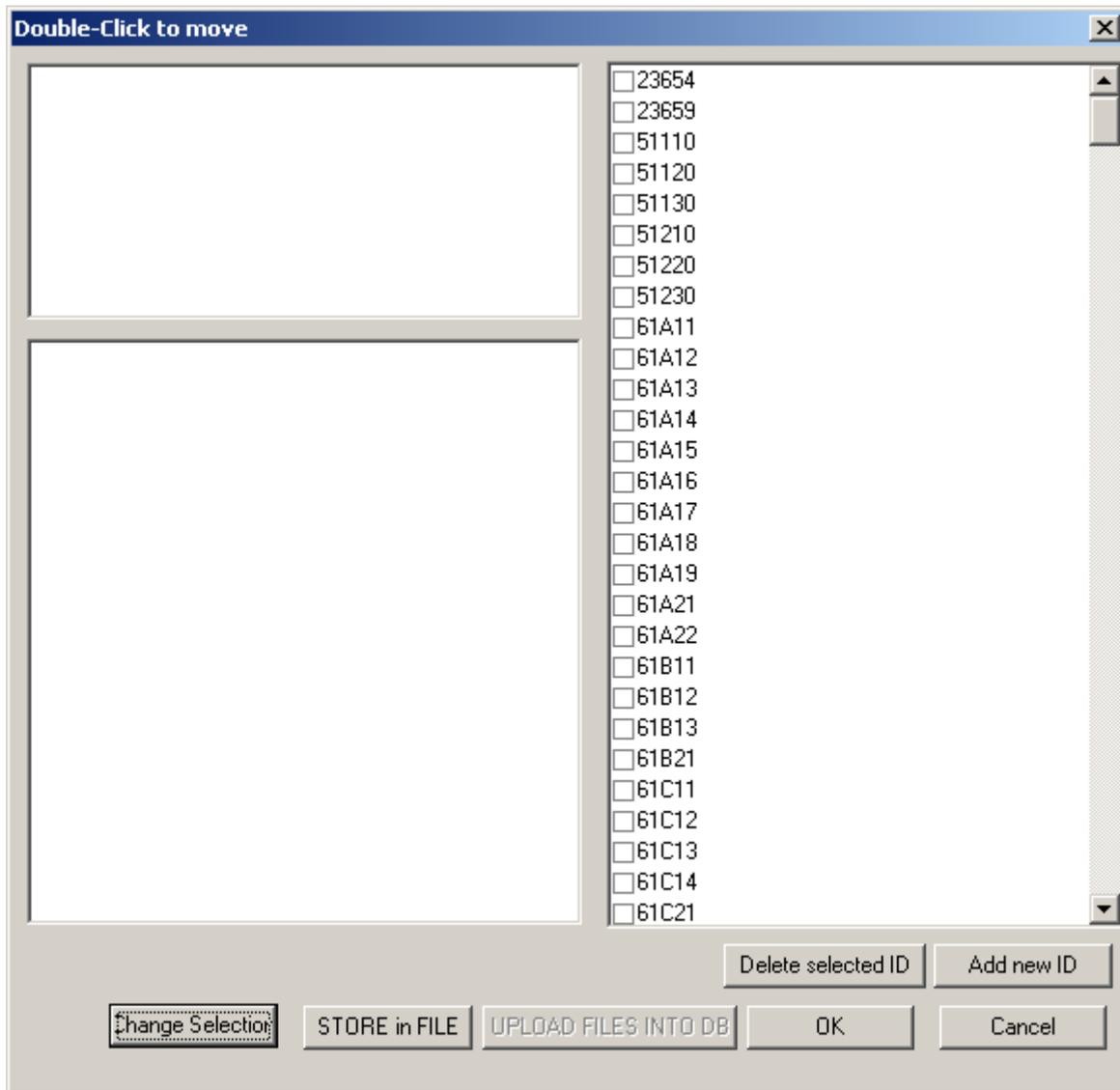


When the files are in place, another dialog box opens up. This can be used to define the aggregation files.

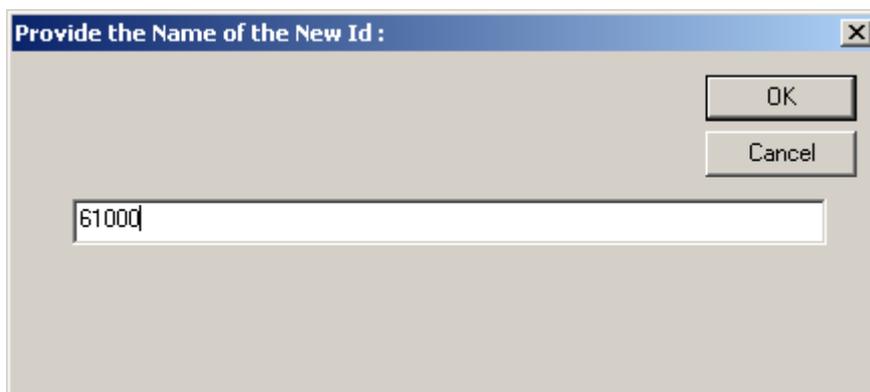


Click on "Change Selection" and double-click to select the codes you would like to aggregate. In the example we select ENC\_USER\_STO, i.e. the final use categories. (The final part of the name, \_STO, shows the logon name of the person who is working on the aggregation.)

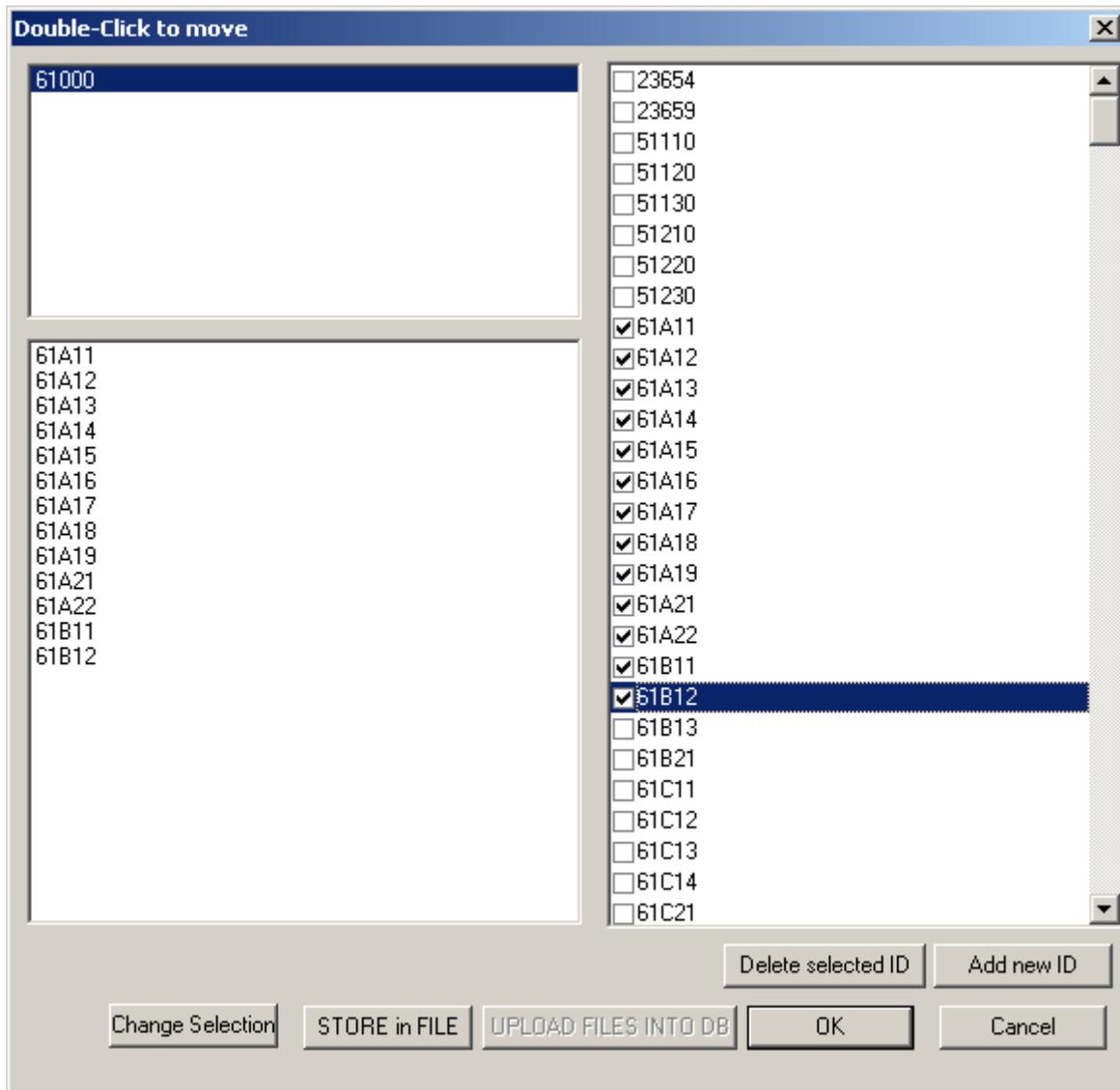




The dialog box now shows all the final users in the T2 table in the right-hand column. To create an aggregate, click "Add new ID", type in a name, e.g. 61000, and click OK.



Select the code in the top left pane, and select the codes that are to go into this aggregate by clicking in the right-hand column, in the small square to the left of each code.



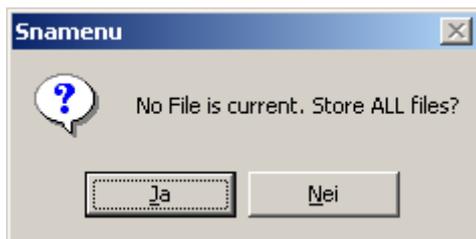
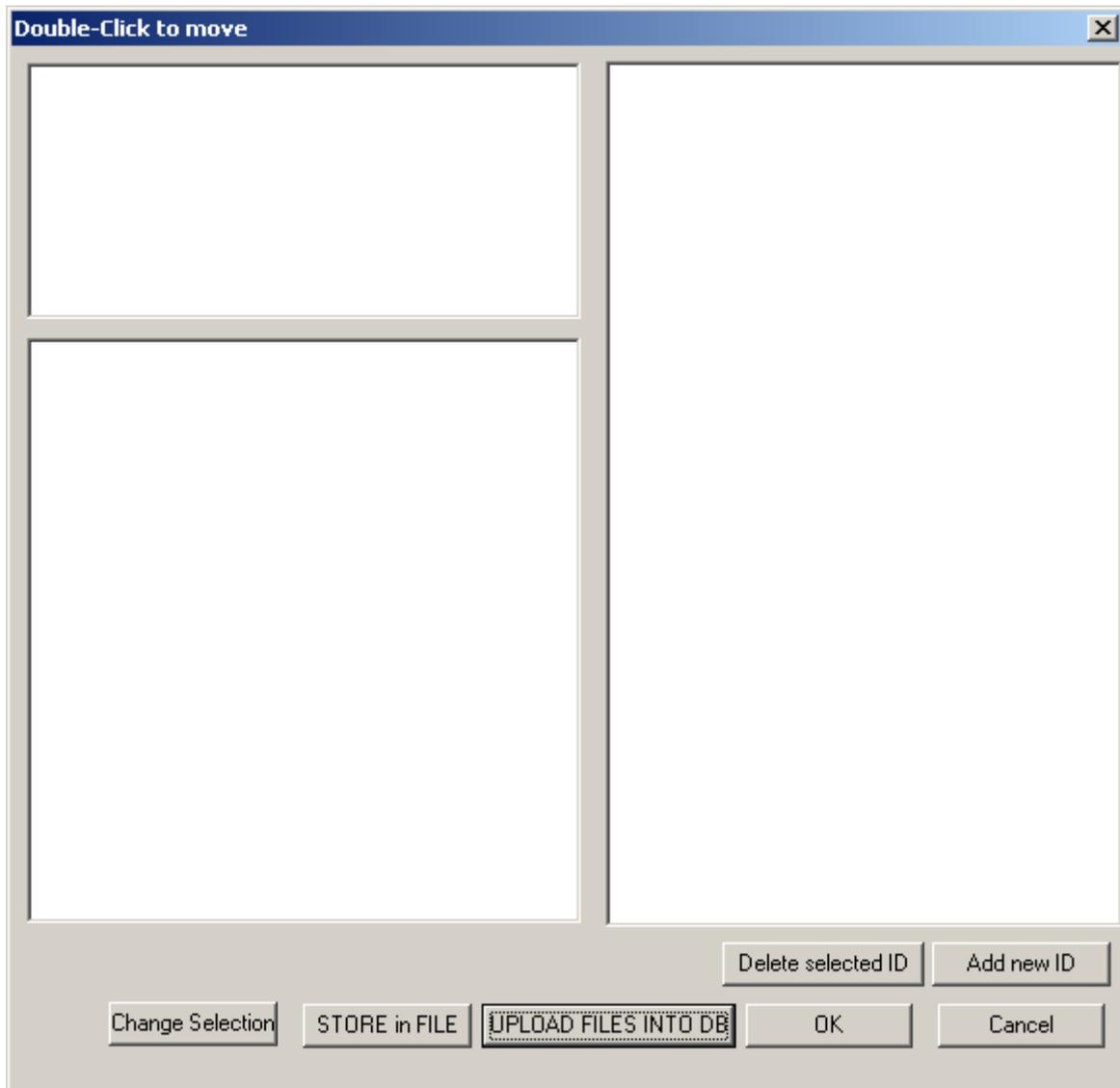
You can click "STORE in FILE" to save your work in the file ENC\_USER.TXT at any time during the process. Repeat the process until all the detailed codes are part of an aggregate category.

When the first aggregation file is finished, click "Change Selection" again, and repeat the process for the other three aggregation files.

### 5.6.2 Loading the aggregation files into the database

Click "STORE in FILE" and answer Yes to Store ALL files.

**NB: You can only extract aggregated data into EXCEL if you have uploaded the aggregate directives into the database!**

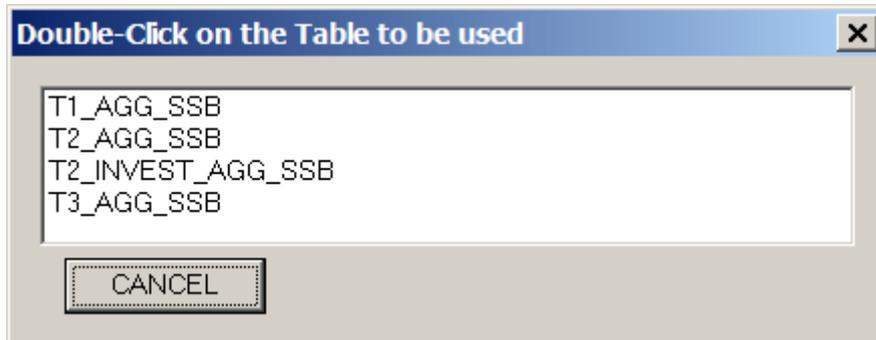


After that, click the button "UPLOAD FILES INTO DB". If there are aggregation codes in the database already, you will be asked if you like these to be overwritten. Click Yes to continue.

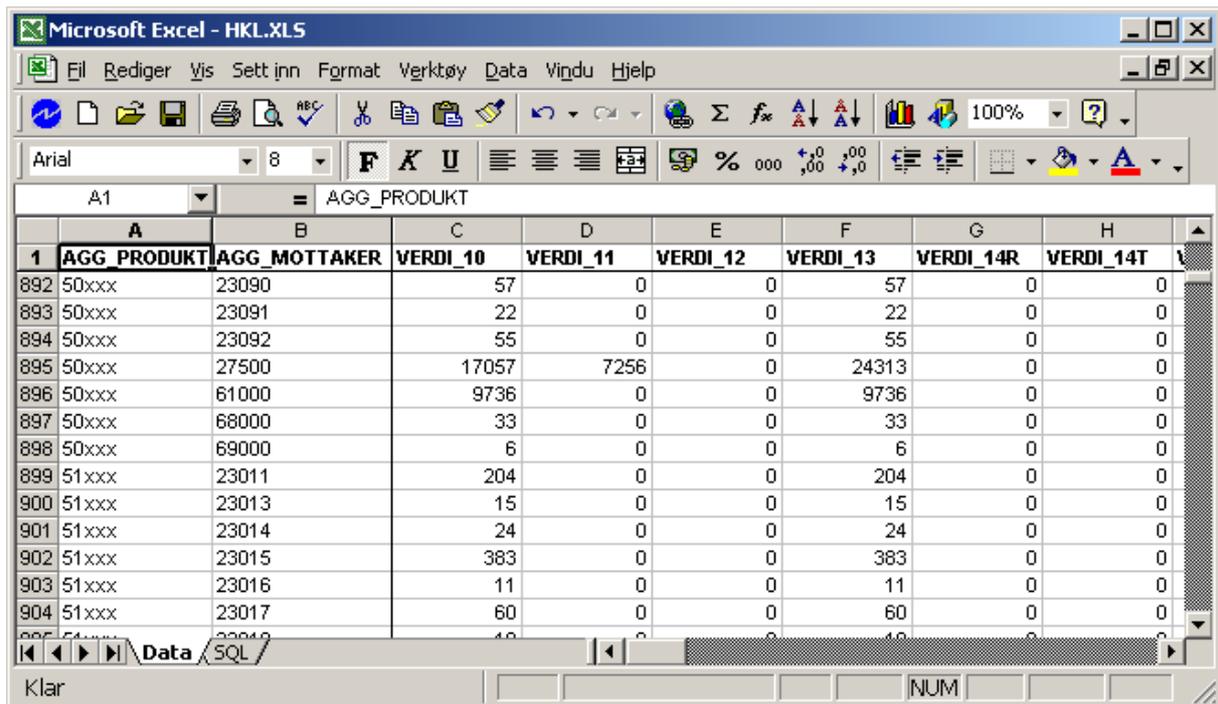


### 5.6.3 Extracting aggregated data to Excel

We are now ready to extract the aggregated data into Excel. Click OK in the aggregation dialog box, and double-click the table you would like copy to Excel. In the example we select the aggregated use table, T2\_AGG. Again the final part of the table name shows the logon name of the SNA-NT user.



After a few seconds, Excel starts up, and displays the table in a file called HKL.XLS, in the sheet called Data. The file can be saved under a different name using the normal Excel commands (File, Save As...) To extract another table, close the HKL.xls file, and double-click on the name of the table you like to extract. When you are finished extracting the tables, click CANCEL to exit. The tables and views used in the aggregation process will then be deleted.

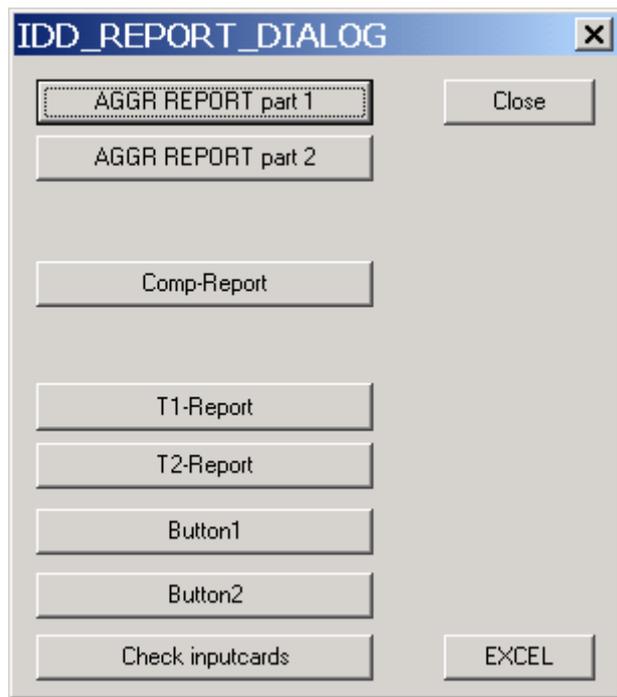


	A	B	C	D	E	F	G	H
1	AGG_PRODUKT	AGG_MOTTAKER	VERDI_10	VERDI_11	VERDI_12	VERDI_13	VERDI_14R	VERDI_14T
892	50xxx	23090	57	0	0	57	0	0
893	50xxx	23091	22	0	0	22	0	0
894	50xxx	23092	55	0	0	55	0	0
895	50xxx	27500	17057	7256	0	24313	0	0
896	50xxx	61000	9736	0	0	9736	0	0
897	50xxx	68000	33	0	0	33	0	0
898	50xxx	69000	6	0	0	6	0	0
899	51xxx	23011	204	0	0	204	0	0
900	51xxx	23013	15	0	0	15	0	0
901	51xxx	23014	24	0	0	24	0	0
902	51xxx	23015	383	0	0	383	0	0
903	51xxx	23016	11	0	0	11	0	0
904	51xxx	23017	60	0	0	60	0	0

## 5.7 Reports

*SNA-NT has a number of predefined reports (tables) that are useful during the balancing process.*

Click the "Reports" button in the "SUT Current prices" dialog box to enter the Reports dialog box.



### **Comp-Report**

Calculates work reports containing sums of users and suppliers for various variables and also intermediate input in 19- values in percentage of output in 13 values and value added for the different industries.

These tables will be currently updated and should be used as a quick check of the SUT during the balancing process. The tables are opened automatically in Notepad, and are stored in the work folder, C:\Sna-nt\Wrk\.

### **T1-report**

Generates a text file listing all the details of the supply table T1 sorted by products. The file is called T1.SNA2002 (where SNA2002 is the Oracle data account). It is stored in the work folder, C:\Sna-nt\Wrk\.

### **T2-report**

Generates a text file listing all the details of the use table T2 sorted by products. The file is called T2.SNA2002 (where SNA2002 is the Oracle data account). It is stored in the work folder, C:\Sna-nt\Wrk\.

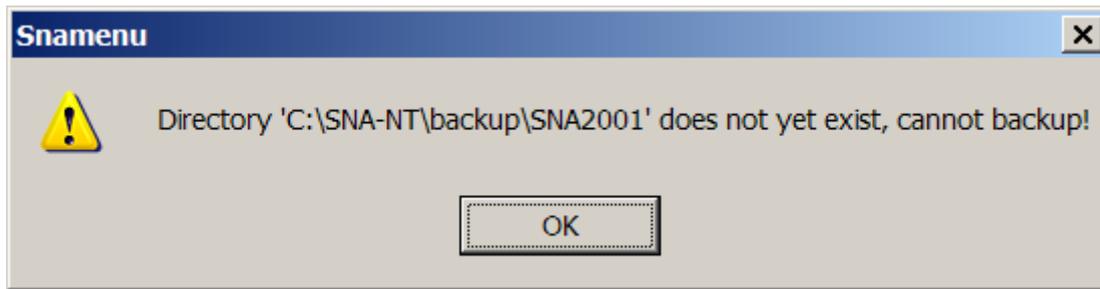
**NOTE: The other buttons in this dialog box are not in use.**

## **5.8 Backup**

### **5.8.1 Creating a backup file**

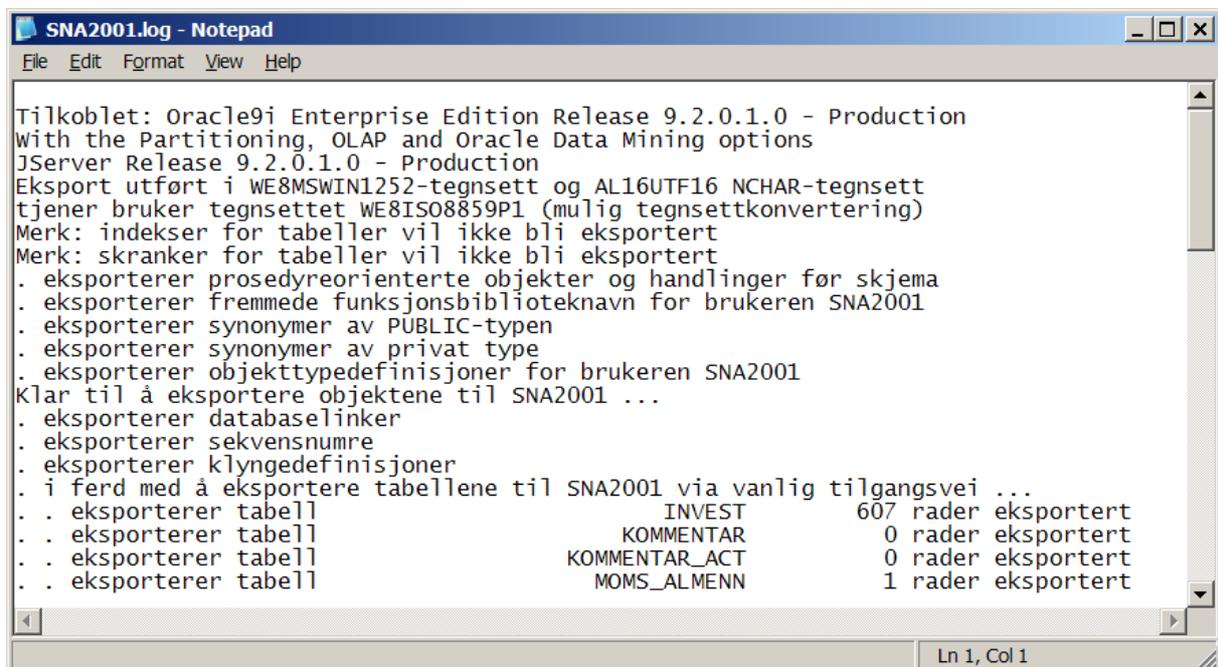
To create a backup file with the data in the SNA-NT account you are logged on to, click on the button called "BACKUP OF THE SNA\_NT ACCOUNT" in the "SUT Current prices" dialog box.

The program checks if there is a folder available where the backup file can be stored. If this is not the case, this message is displayed:

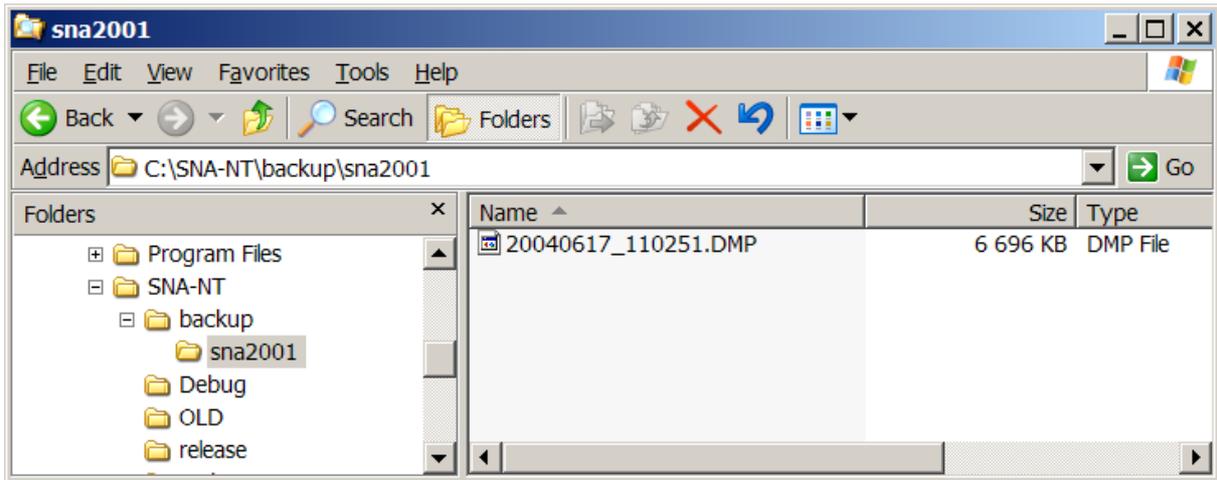


Create a folder with the name displayed, using e.g. Windows Explorer, and click the " BACKUP OF THE SNA\_NT ACCOUNT" button again. (In the example SNA2001 is the name of the SNA-NT account.)

When the backup is finished, a log file describing the process is displayed.

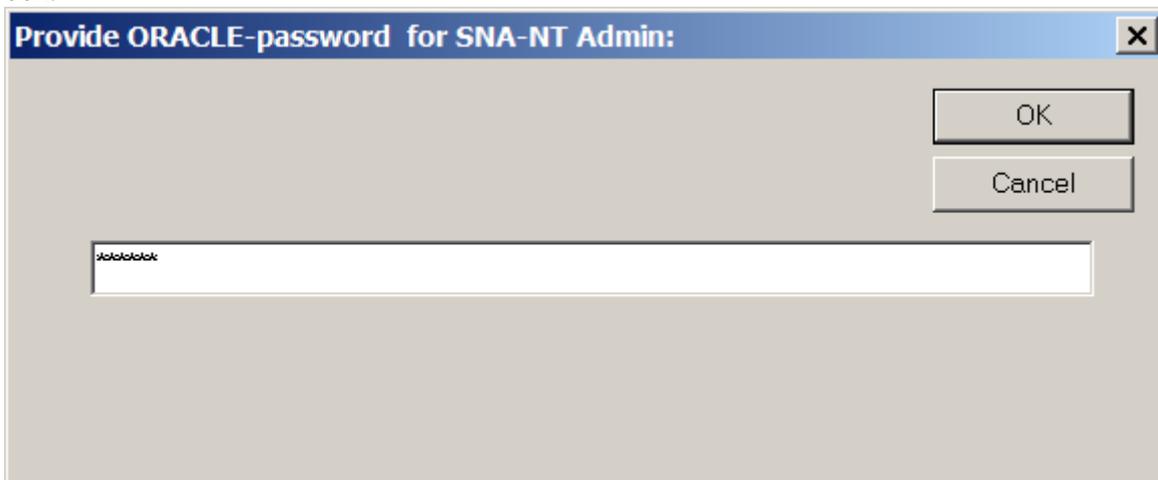


The backup file is automatically named according to the date and time it was created, in the format year, month, day, hour, minute, second (yyyymmdd\_hhmmss.dmp). In the example below, the file is called 20040617\_110251.dmp, because it was created 17 June 2004, at 11:02:51.

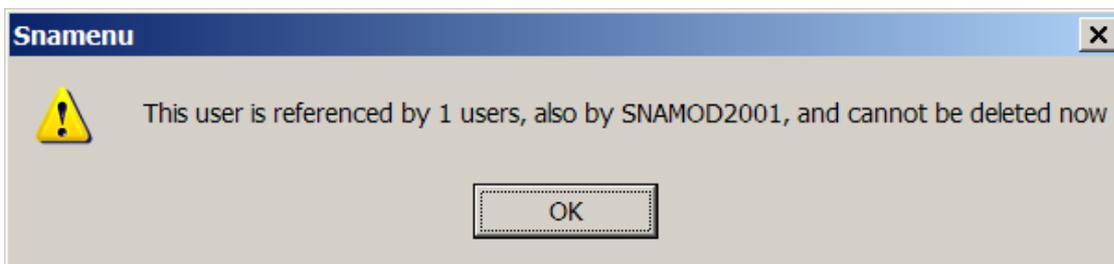


### 5.8.2 Restoring from a backup file

In order to restore a sna-nt account from a backup file, the tables in the account must first be deleted. To delete, click the “DELETE ALL USER’S TABLES” button in the "SUT Current prices" dialog box.



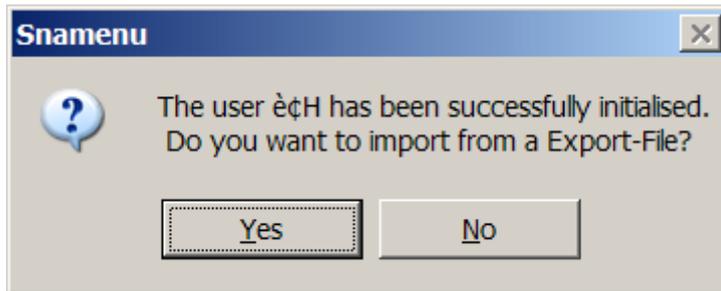
Other sna-nt accounts that depend on the account that is to be restored (such as the accounts for constant prices and for input-output tables), will have to be deleted first. This is in order to avoid problems with inconsistent data in the database. If there are dependent users, this message will appear:



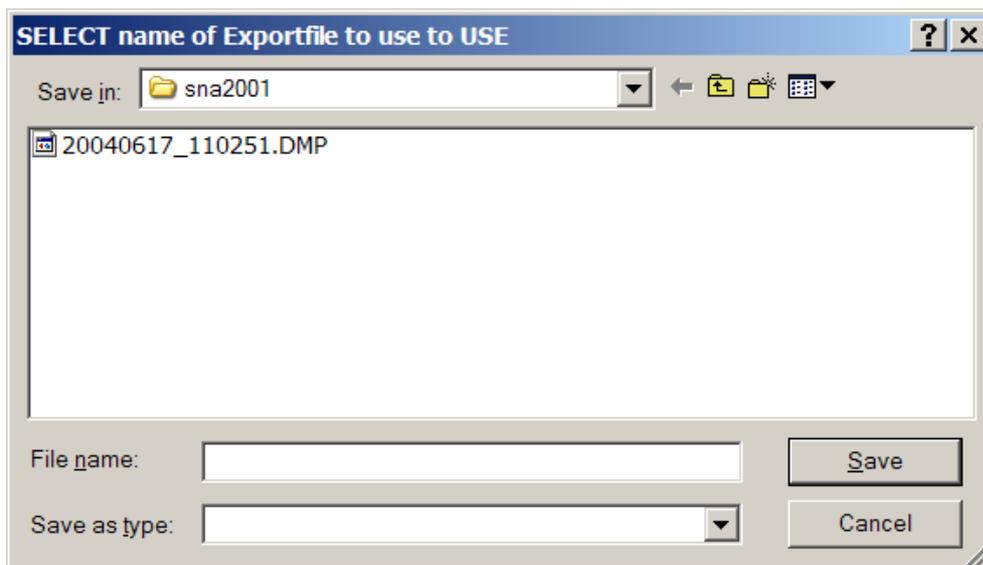
Log on to these users, and click the “Delete tables” button in each. Then log on again to the user that is to be restored and click “DELETE ALL USER’S TABLES” again.

Then the user has to be established again. See chapter 5.1 for details.

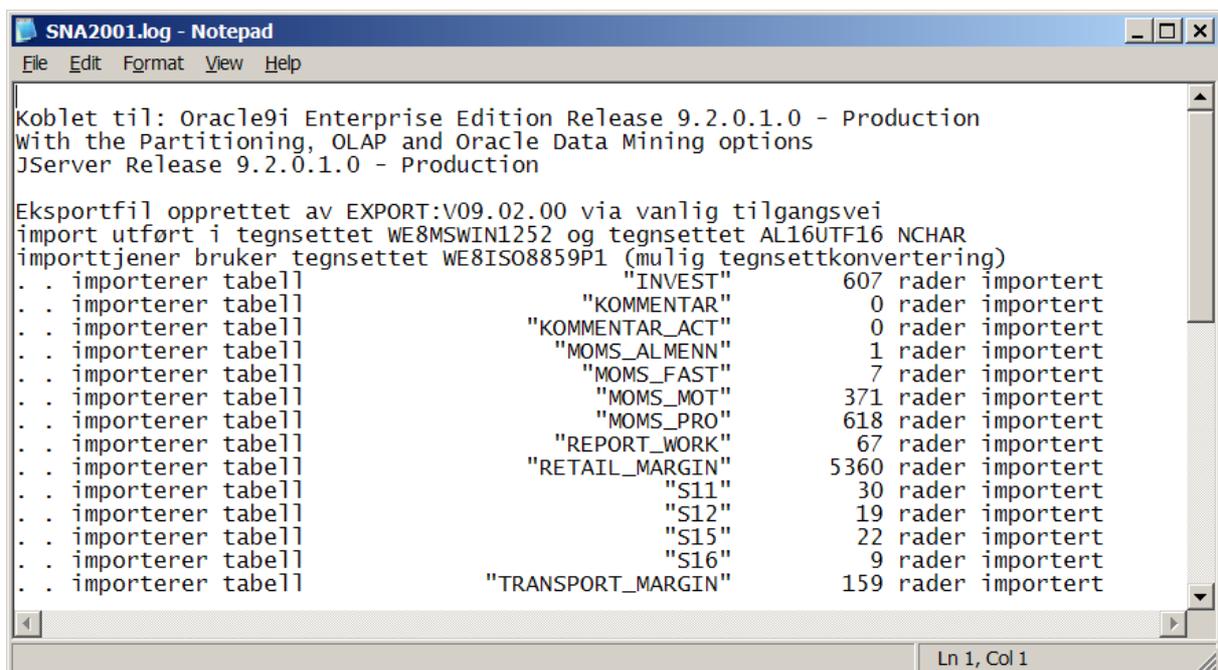
When you get to import data dialog box, click Yes.



Then select the backup file, and click Save.



After the data have been imported, a log file describing the process is displayed.



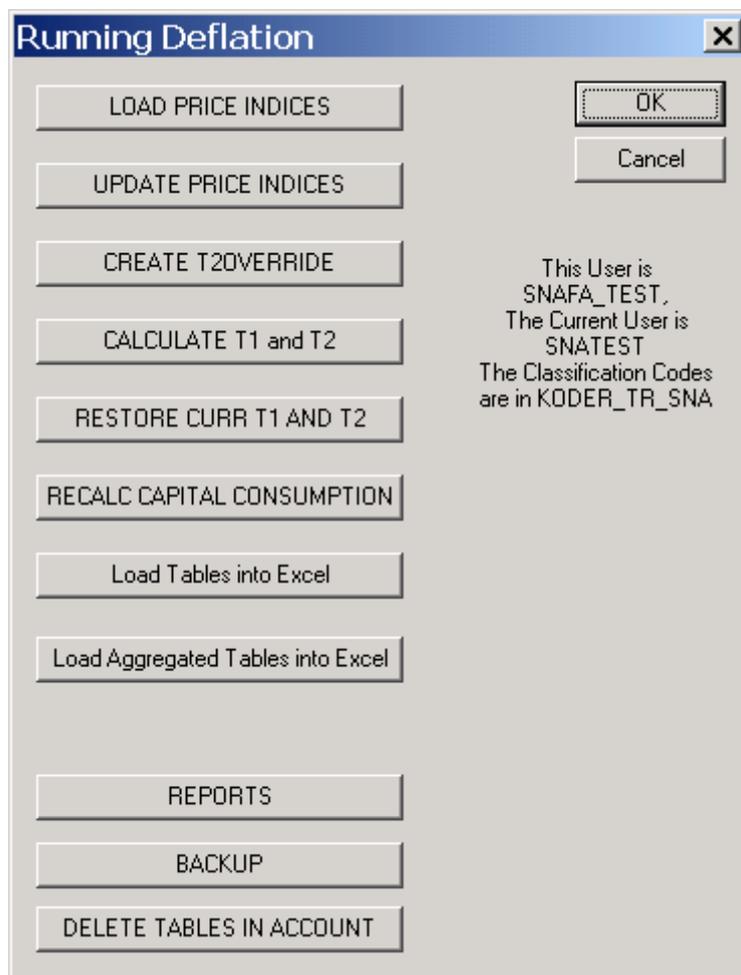
## 6 Supply and Use Tables in constant prices (DEFLATE)

The constant price Supply and Use Tables are calculated by applying price indices to the current price SUT. The constant price tax rates and trade margins are calculated from the SUT of the base year, normally the previous year.

The constant price tables are stored under a separate Oracle data account (SNAFA2001 in the example below).

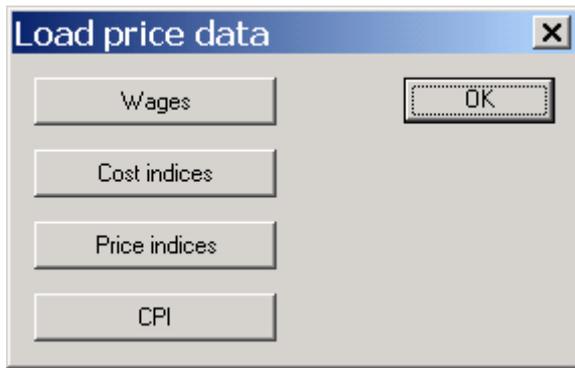
The SNA\_NT-Account in constant price SUT, has been defined with the ORACLE FUNCTION "Deflate". Log on to that user and click the "SUT Constant prices" button in the main dialog box, to open the "Running Deflation" dialog box. The logon procedure is described in chapter 3.1.

If the constant price Oracle data account is empty, you will be asked to establish the user. During the procedure you will be asked to provide the name of the Oracle data account that contains the current price data that are to be deflated, and also the account that contains the previous year's current price data (to be used for tax rates and trade and transport margins, see chapter 5.1).



### 6.1 Load price indices

Click "LOAD PRICE INDICES" to open the dialog box for loading the following four input files with price indices and related data:



The loading of the input files all follow the same procedure. In the example we use the table containing wages.

Click “Wages” in the dialog box, choose the file containing the wage rates, and click OK. Then select the corresponding log-file and click OK. The wage rates will be loaded into the database. When the loading is finished, the log file will appear on screen. The log file contains information about errors etc. Close the log file. The table below gives a description of the data being loaded using the various buttons.

Button	Description	Input file	Database table Fixed names !
Wages	Compensation of employees, million NOK and percentage growth rates, by industry	wages.dat (lonnskost.dat)	lonnskost
Cost indices	List of products where cost indices will be used, and the industry that is the main producer of each product	cost_ind.dat (kost_ind.dat)	kost_ind
Price indices	Price indices for domestic production, exports and imports, by product.  Created by executing the batchfile create_prices.bat	all_prices.dat	indeks_valg
CPI	Consumer price indices, by product	cpi.dat (kpi.dat)	kpi

***About the input files:***

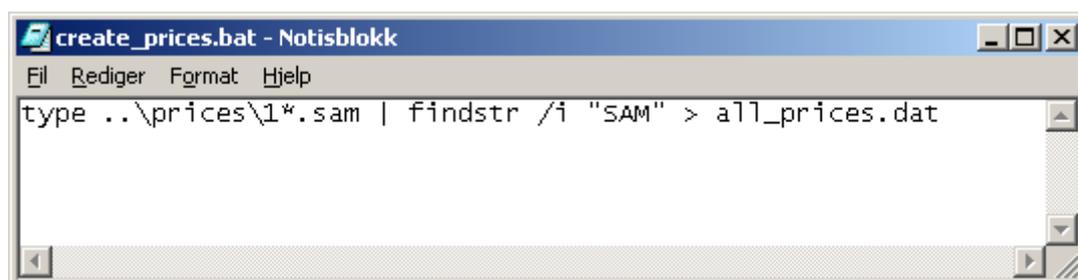
The name and location of the input files are not fixed by SNA-NT, but may be selected by the user. However, in order to keep track of the many input files used by the system, it is very important to be systematic when the names of files and folders are selected. It is recommended use the names shown in the table above.

Neither the file name nor the name of the folders the file is stored in should contain a space. As an example, 'xxx yyy.dat' is not a valid file name.

The price indices should be stored in a separate folder, called "prices". There should be one file for each product group. The first character in the file name should be the year the data refer to, e.g. 1 for 2001. The file ending should be .sam.

In order load the price indices, all the price index files have to be combined into one large file: **all\_prices.dat**.

This can be done by cut and paste, or alternatively by running the batchfile create\_prices.bat, shown below.



```
type ..\prices\1*.sam | findstr /i "SAM" > all_prices.dat
```

A batch file is a small program, written in a text editor (e.g. Notepad). It is run by double-clicking on the file in Windows Explorer.

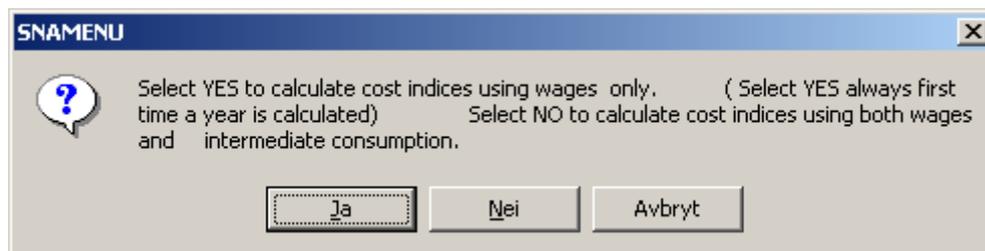
The command type types the content of all the files that match the name given. The command findstr /I selects those lines that contain the text SAM or sam. The command > sends these lines to a new file called *all\_cards.dat*.

## 6.2 Update price indices

Click "UPDATE PRICE INDICES" to calculate cost indices and select the indices to be used in the calculations.

The cost indices may be calculated using wages indices only, or using both wage indices and the implicit price index for intermediate consumption. The first time a year is calculated at constant prices, the implicit price index for intermediate consumption are not yet available, so wage indices can only be used.

The Oracle table "*FAST-INDEKSER*" contains all the price indices which are selected.



A test is performed to check if all products in the SUT have a price index.

If no price index is registered for export or import of a product, the price index will be taken from the producer price index.

**NOTE: Each time a deflation is run, a report of the database table " indeks\_valg" with all price indices is generated automatically and placed in the c:\sna-nt\wrk\ folder. The file is called "valgind.lst". The input price indices registered in the column "PRO\_LO" will be currently updated.**

PRODUKT	BESKRIVELSE	IMP_I	U	IMP_U	U	PRO_LO	U	PRO_10	U	PRO_13	U	KPI_13	U	KPI_19	U	EKSP_I	U	EKSP_U	U
000350	Good;resale;Tr.m			1026	1	1026	1											1026	1
000371	Paym.contr.w;min			1046	1	1046	1											1046	1
000374	Rep.work;min/man			1046	1	1046	1											1046	1
000375	Instal.w;min/man			1046	1	1046	1											1046	1
000379	Fees;various ser			1042	1	1042	1											1042	1
000382	Oacf;Mac;min/man			1046	1	1046	1											1046	1
000383	Oacf;Const;min			1046	1	1046	1											1046	1
000384	W.in prog;min/ma			994	1	994	1											994	1
000385				1042	1	1042	1											1042	1
000389	Eg.inva.komf.			1065	1	1065	1											1065	1
000390	Val.adj;prod;min			1000	1	1000	1											1000	1
005046	Adj;inv;forei.ow			1070	1	1070	1											1070	1
005048	Adj;cur;forei.ow			1070	1	1070	1											1070	1
005053	Cea;shipping			999	1					999	1							999	1
005055	Cea;air transpor			1096	1	1096	1											1096	1
005056	Cea;oil/gas dril			1054	1	1054	1											1054	1
005057	Cea;oil/gas pip			1061	1	1061	1											1061	1
005059	Imp;fees;vario s			1046	1	1046	1											1046	1
005060	Impg;oil/gas pro			1070	1	1070	1											1070	1
005061	Oth imp.of goods	975	1											911	1				
005062	Impg;oil/gas pip			1070	1	1070	1											1070	1
005063	Imps;oil/gas pro			1070	1	1070	1											1070	1
005064	Imps;oil/gas pip			1070	1	1070	1											1070	1
005065	Imps;cent gover			1070	1	1070	1											1070	1
005066	Tr.tour;res.hous			951	1	951	1											951	1
005067	Tr.tour;res.cons			951	1	951	1											951	1
005068	Tr.busi;res ind.			951	1	951	1											951	1
005069	Tr.settlm.tr.age			951	1	951	1											951	1
005076	Tr.tour;no-res.h			1010	1	1010	1											1010	1
005077	Tr;oth.con;exp			1010	1	1010	1											1010	1

**NOTE: Each time a deflation is run, a file with the input data for compiling the input price indices called "prodkost.XXXX" is also generated automatically and placed in the c:\sna-nt\wrk\ folder. The file will also be currently updated. XXXX refers to the Oracle user, snafa2002 in the example below.**

NAER	LONN_V	LONN_L	LONN_F	PIN_L	PIN_F	TOT_LØP	TOT_FAST	INDEKS
22705	7,9	400	370,7	720	697	1120	1067,7	1049
22950	6,8	1381	1293,1			1381	1293,1	1068
23010	5,5	2967	2812,3	12476	11801	15443	14613,3	1057
23014	5,5	224	212,3	211	210	435	422,3	1030
23020	5	729	694,3	1310	1273	2039	1967,3	1036
23024	5,2	166	157,8	274	294	440	451,8	974
23051	1,4	2636	2599,6	4003	4259	6639	6858,6	968
23052	7	851	795,3	9853	9322	10704	10117,3	1058
23100	3,2	133	128,9	469	473	602	601,9	1000
23111	7	13969	13055,1	34598	35931	48567	48986,1	991
23112	5,4	8518	8081,6	12161	12259	20679	20340,6	1017
23130	3,2	164	158,9	322	346	486	504,9	963
23140	3,2	1272	1232,6	3302	3299	4574	4531,6	1009
23151	5,1	4040	3844	30148	29354	34188	33198	1030
23152	4	3422	3290,4	20339	21648	23761	24938,4	953
23153	7,9	534	494,9	2082	2073	2616	2567,9	1019
23154	7,9	339	314,2	2069	2085	2408	2399,2	1004
23155	5,1	2092	1990,5	11625	11462	13717	13452,5	1020
23156	7,9	263	243,7	2114	2132	2377	2375,7	1001
23157	7,9	776	719,2	8816	8568	9592	9287,2	1033
23158	7,9	3587	3324,4	8294	8287	11881	11611,4	1023
23159	7	2068	1932,7	5103	5252	7171	7184,7	998
23160	7	185	172,9	758	758	943	930,9	1013
23170	4,3	1196	1146,7	2397	2467	3593	3613,7	994
23180	4,3	313	300,1	757	784	1070	1084,1	987
23190	4,3	102	97,8	284	297	386	394,8	978
23201	4,9	1303	1242,1	5170	5371	6473	6613,1	979
23202	4,9	492	469	1312	1328	1804	1797	1004
23203	4,9	2253	2147,8	5176	5267	7429	7414,8	1002
23204	4,9	253	241,2	488	491	741	732,2	1012

### **6.3 Calculate tax rates and trade margins for new entries**

Click "CREATE T2OVERRIDE" to calculate product tax and subsidy rates and trade and transport margins for products in the Use table (T2) that don't appear in the base year SUT. In this case, the rates and margins from the current year are used instead.

Click "CALCULATE T1 and T2" to calculate the Supply and Use tables at constant prices.

### **6.4 Restore current price SUT**

During the calculations of household consumption of goods at constant prices, some changes are made to the **basic SNA-NT-Accounts values** and trade margins on these entries in the current price Use table. This is related to corrections made to the price indices at purchasers' values, to ensure consistency with the Consumer price index. If the constant price SUT is to be recalculated, e.g. because the price indices have been revised, the current price SUT should first be restored to its original state. Clicking the "RESTORE CURR T1 AND T2" button performs this task.

**NB: If DEFLATE is performed more than once, only those CURRENT-USER-values saved in the last DEFLATE will be kept.**

### **6.5 Load consumption of fixed capital in constant prices for government**

In the Norwegian SUT, consumption of fixed capital (CFC) for the government is recorded as separate products. CFC is calculated in both current and constant prices in a PIM model (not part of SNA-NT), and in order to ensure consistency, the constant price CFC figures are entered directly in the constant price SUT as a final step.

Click "RECALC CAPITAL CONSUMPTION" in the dialog box "running deflation".

The constant price figures for Capital consumption are loaded from an ASCII file in the Correct batch dialog. Select the file containing the input data (called CAPSTANT1 - cards), and click OK. The CFC data are loaded into the Supply table T1, and then the total supply of each CFC product is distributed on the users in T2 in proportion to the current price CFC data.

(CFC in current prices is loaded using CORRT1, CORRT2 and CORRT3 files.)

### **6.6 Backup, reports, aggregation, transfer to Excel**

These functions are similar to the functions for the current price SUT tables, see chapter 5.5 to 5.8 for details. After the deflation, click the "Reports" button in the "Running Deflation" dialog box

#### **Comp-Report**

Calculates work reports containing sums of users and suppliers for various variables and also intermediate input in 19- values in percentage of output in 13 values and value added for the different industries in constant prices.

These tables will be currently updated and should be used as a quick check of the SUT during the constant price compilation. The tables are opened automatically in Notepad, and are stored in the work folder, C:\Sna-nt\Wrk\.

#### **T1-report**

Generates a text file listing all the details of the supply table T1 in constant prices, sorted by products. The file is called T1.SNAFA2002. It is stored in the work folder, C:\Sna-nt\Wrk\.

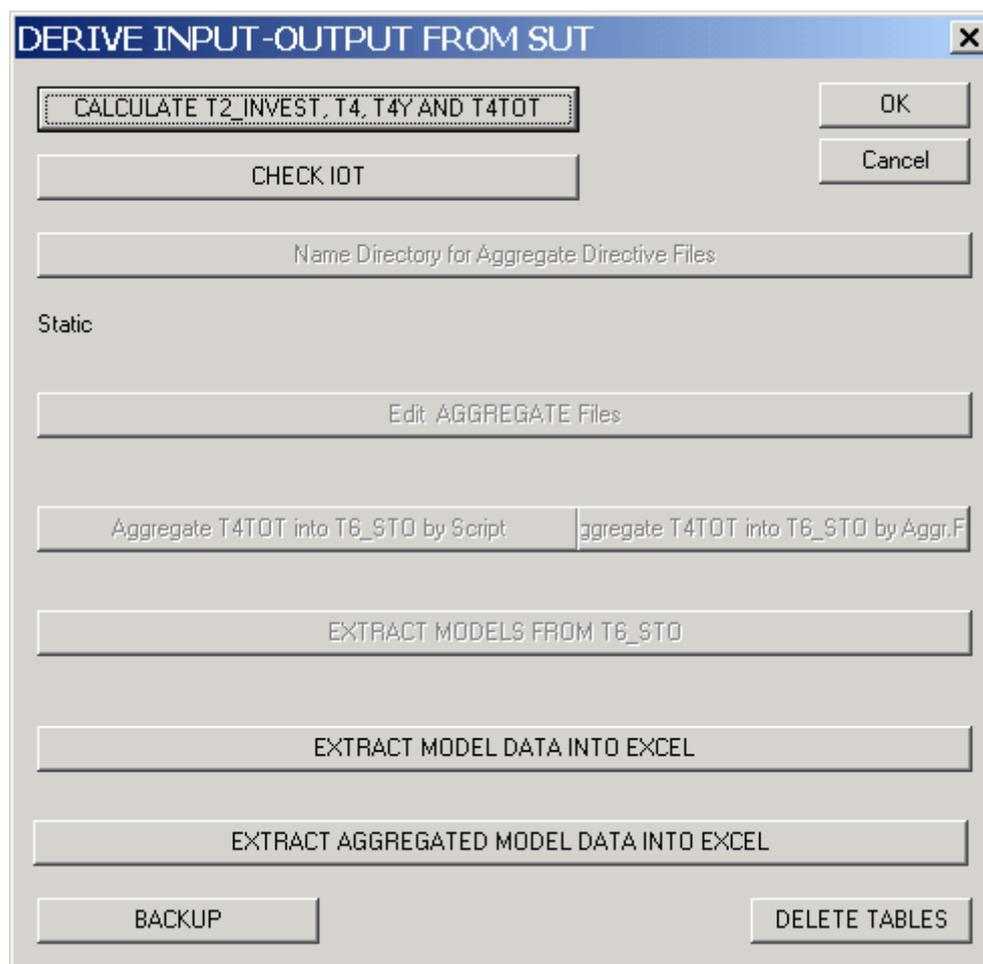
#### **T2-report**

Generates a text file listing all the details of the use table T2 in constant prices, sorted by products. The file is called T2.SNAFA2002. It is stored in the work folder, C:\Sna-nt\Wrk\.

## 7 Input-Output Tables

The Input-Output Tables (T4, T4Y and T4TOT) are calculated from the Supply and Use Tables (T1 and T2) I either current or constant prices.

Log on to the IOT user and click on the "IOT Current Prices" or "IOT Constant Prices" in the main dialog box. This dialog box opens up.



When the database tables for the SNA-NT-account of type Input-Output Tables is created, the name of the SNA-NT account with the corresponding Supply and Use Tables (e.g. SNA2000) has to be provided. This name is stored in the CROSS\_REFERENCE table in the data administrator account SNA\_ADMIN. The reference is deleted with the "DELETE TABLES" function together with the structure and all tables.

The data of the source SNA-NT-Account (of type Supply and Use Tables (T1 and T2)) are transformed into an Industry X Industry Input-Output table using the assumption of industry technology<sup>1</sup>. The calculations are performed at the most detailed level of industries and products.

Input-Output tables may be calculated at both current and constant prices, by specifying the source SNA-NT-Account of the corresponding type.

<sup>1</sup> See e.g. the 1968 SNA, Chapter III for an explanation of the assumptions.

The result of the transformation is a disaggregated IO-Table called T4TOT. The tables T4 and T4Y are auxiliary tables that are used during the transformation

The IO-Table T4TOT is then aggregated in order to present grouped views of the information in an efficient manner. This aggregated IO-Table is called T6\_XXX, where XXX is the user's personal signature. For the current price tables, the table T3, showing components of value added, is also aggregated.

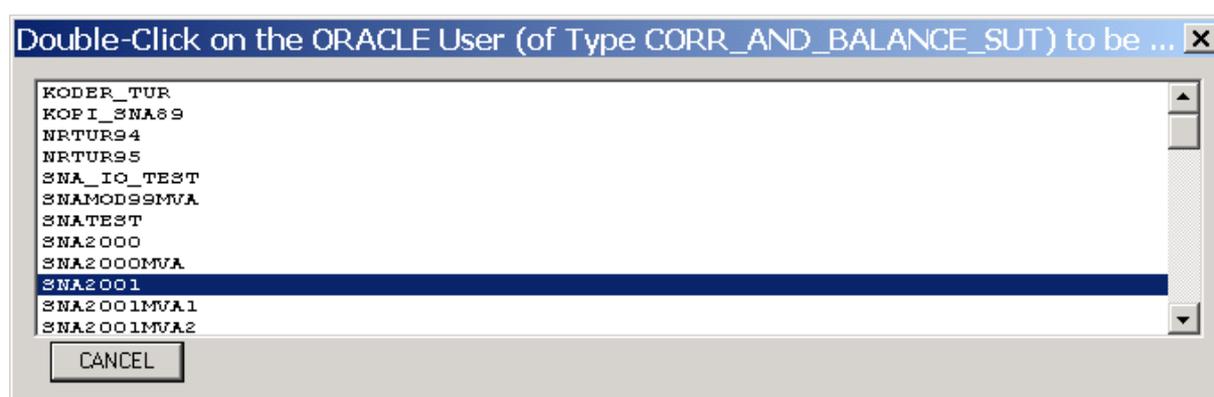
The grouping is performed by a table "OMKOD\_XXX", which shows the detailed industry and user codes, and the corresponding aggregate codes.

(Since each user of SNA-NT uses a unique Signature, each user can work with only one aggregate view of T4TOT at a time).

### **7.1 Create new (empty) tables in an empty IOT Data Account**

When you access an empty IOT account, you will be asked to create the empty tables. The procedure is similar to the creation of empty SUT tables, see chapter 5.1.

Click the "Create Tables" button to create the empty database tables. You will be asked to name the "Reference SUT Data Account", i.e. the account of the Supply and Use tables that will be the basis for the Input-Output tables.



### **7.2 Delete the contents of the IOT Data Account**

Click the Button "DELETE TABLES".

All of this Account's Tables and their contents are irrevocably deleted from the Database. The Information on this Account in the table SNA\_ADMIN.CROSS\_REFERNCES is also deleted.

### **7.3 Calculate the detailed IOT**

Click the "CALCULATE T4, T4Y and T4TOT" button to calculate the Input Output Table at the most detailed level. The transformation from SUT to IOT is performed in two steps. The first step is to create new Supply and Use tables where the aggregate products for intermediate consumption have been replaced with ordinary products, and all values are multiplied by 1000 (to minimise rounding errors). The second step calculates the IO-table (called T4TOT in the database) based on the new Supply and Use Tables.

The IO-Tables can only be calculated when they are empty. If T4TOT needs be recalculated the account needs be deleted and recreated. Please note that if the SUT Data account is changed after T4TOT was created, then the information in T4TOT will be outdated. There is no warning given if this occurs!

#### 7.4 Check the detailed IOT

The "Check IOT" button generates two reports that show the totals of each supplier/user in the Supply and Use tables and the Input-Output table.

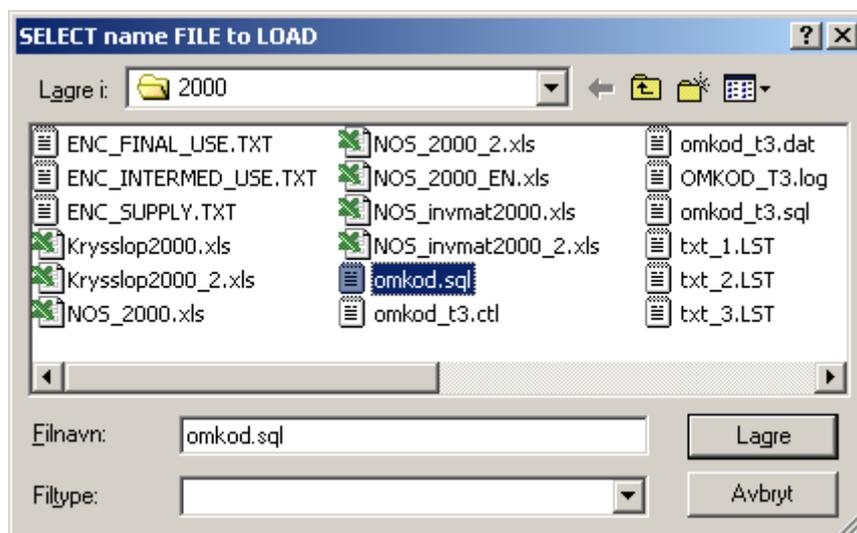
#### 7.5 Name the Specification Directory

The table named OMKOD\_XXX needs be filled with grouping specifications. There are two main routes to generate this table:

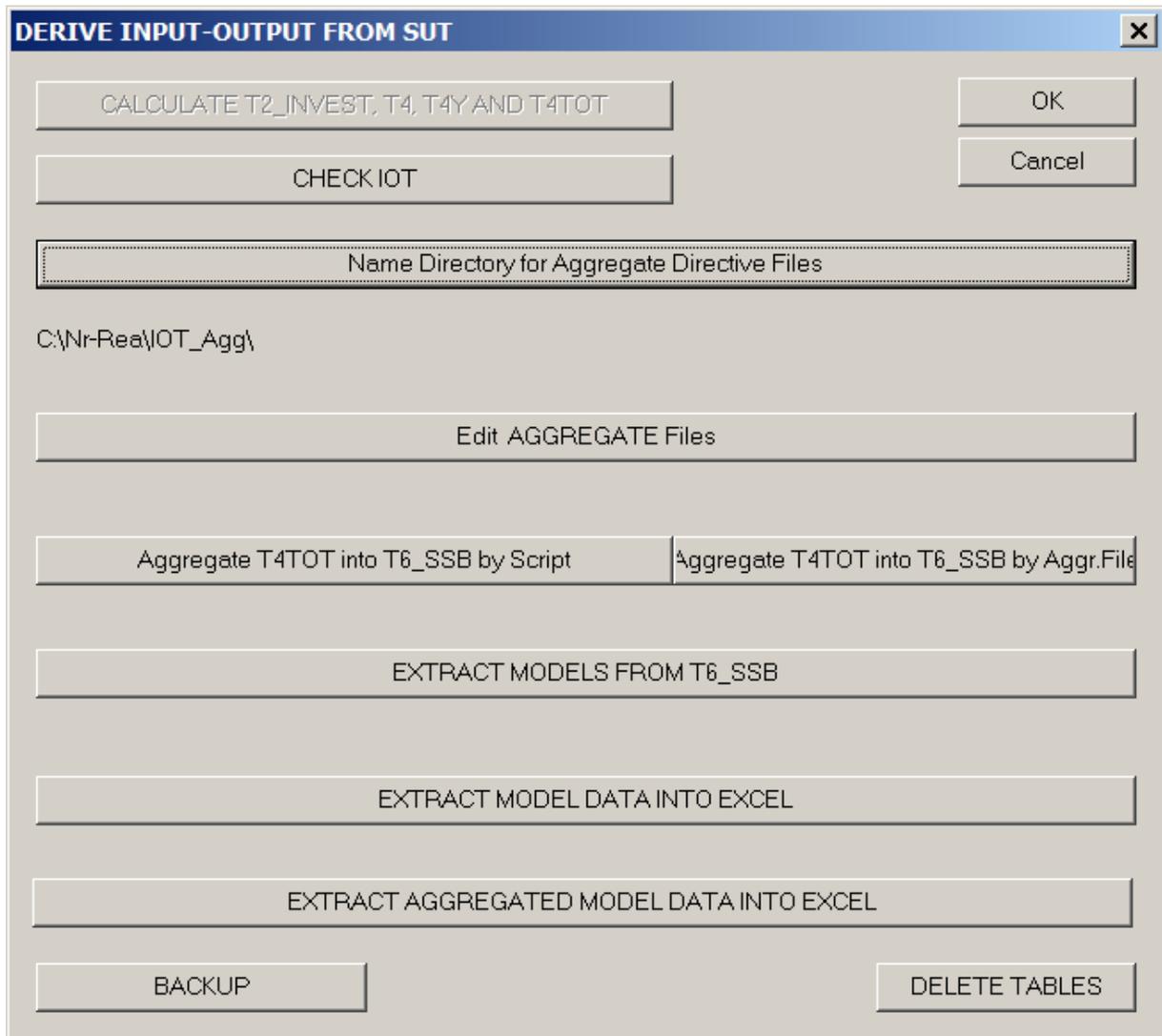
- By use of a user-defined SQLPLUS-Script
- By use of user-defined Aggregate-Directive-Files

In both cases the name of the directory where these files are stored needs be given:

Click on the button "Name directory for Aggregate Directive files". In the dialogue box, navigate to the directory, select any file, and click on the button "Store" (called "Lagre" in the Norwegian version).



Back in the main dialogue box, the selected directory is shown (in the example it is called C:\NR-REA\IOT\_Agg).



## 7.6 Aggregate the IOT

The aggregation can be done in two different ways, either using an SQLPLUS-script, or by user-defined Aggregate-Directive-Files that show the links between the detailed codes and the aggregates.

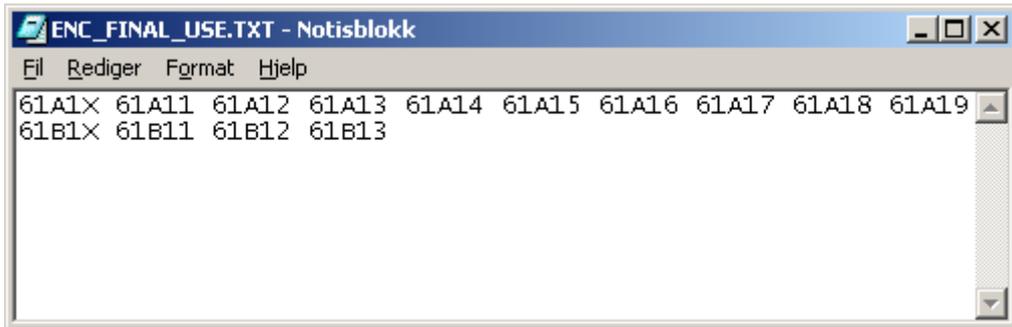
### Aggregate T4TOT into T6\_STO by Script

This function requires an SQLPLUS-script, called omkod.sql, which describes the aggregates. The script must be stored in the archive selected in the previous step, and is run automatically when the button "Aggregate T4TOT into T6\_STO by Script" is clicked.

### Aggregate T4TOT into T6\_STO by Aggr. File

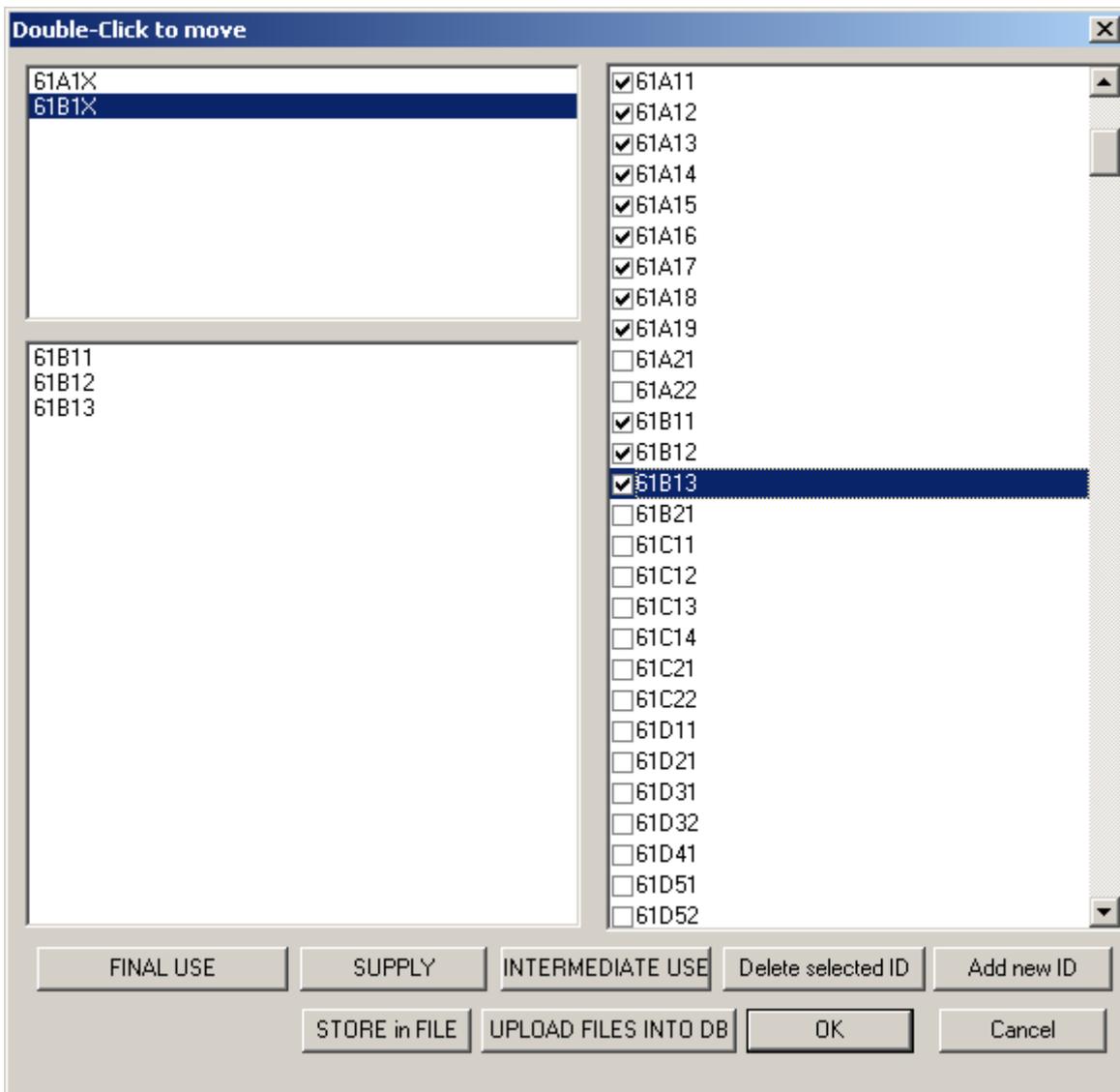
The steps are identical to the steps shown above, except that the table omkod\_XXX is filled as specified by the grouping directive files. There are three files, one for final uses (ENC\_FINAL\_USE.TXT), one for industries that have intermediate use (ENC\_INTERMED\_USE.TXT), and one for suppliers other than industries, i.e. imports and taxes (ENC\_SUPPLY.TXT) The files are all stored in the directory specified, see chapter 7.5.

An example of a text file with the encoding for final uses:



There is one line for each aggregate. The first entry is the code for the aggregate, e.g. 61A1X, and the following entries on the same line are the detailed codes that are included in the aggregate.

These files can be edited with a text editor, or by using the button "EDIT THE AGGREGATE FILES". In the latter case, a new dialog box opens up. Click one of the buttons "FINAL USE", "SUPPLY" or "INTERMEDIATE USE" to start working on one of the aggregation files. The example below shows "FINAL USE".



The right-hand listbox, the “All Codes” listbox, shows all valid detailed classification codes. Those assigned to an aggregate are ticked.

The upper left listbox, the “Groups” listbox, shows all aggregates. Select an aggregate to work with it.

The lower left listbox, the “Selected” listbox, shows the classification codes assigned to the aggregate selected in the “Groups” listbox.

Tick or untick a classification code in the “All Codes” listbox to add or remove the classification Code to or from the selected aggregate.

In the “Selected” listbox doubleclick a classification code to remove it from the selected aggregate.

Store the current setting into the current file with the button “STORE in FILE”.

Store ALL settings into table OMKOD\_XXX With the button ”UPLOAD FILES INTO DB”

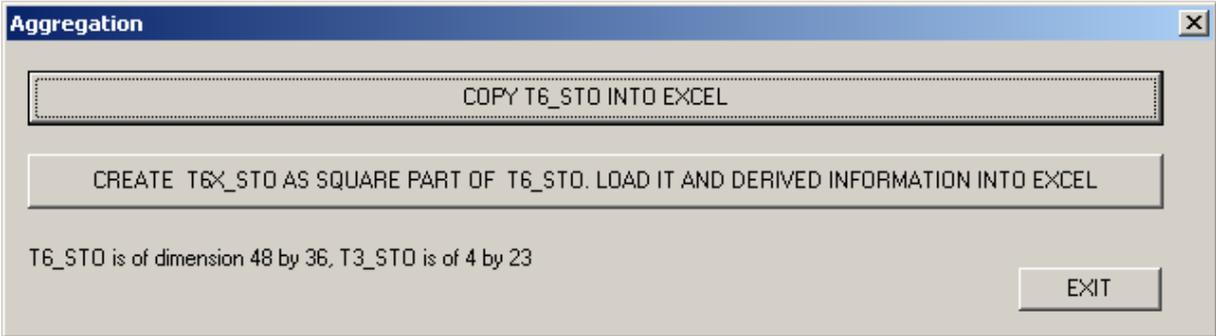
You can only select OK after you have clicked “STORE in FILE” or ”UPLOAD FILES INTO DB”. Based on the example above, the result will be a table omkod\_XXX which looks like this:

61A11	61A1X
61A12	61A1X
61A13	61A1X
61A14	61A1X
61A15	61A1X
61A16	61A1X
61A17	61A1X
61A18	61A1X
61A19	61A1X
61B11	61B1X
61B12	61B1X
61B13	61B1X

The left-hand column shows the detailed codes, the right-hand column shows the corresponding aggregate. (In practice, the left-hand column will contain all the classification codes in the table T4TOT.)

**7.7 Transfer the IO-tables to Excel**

After the aggregate IO-table T6\_XXX (and T3\_XXX for current prices) has been created, the data can be extracted into Excel spreadsheets. Click the button "EXTRACT MODELS FROM T6\_STO"



Click the button "COPY T6\_XXX INTO EXCEL" to copy the full T6\_XXX table (and part of T3 for current prices) to an Excel file.

Click the button "CREATE T6X\_XXX....." to derive the matrix for intermediate consumption and the matrix with the inverse input coefficients, and copy these to an Excel file.

### **7.8 Backup, reports, aggregation of SUT, transfer to Excel**

These functions are similar to the functions for the current price SUT tables, see chapter 5.5 to 5.8 for details.

The supply and use tables in the IOT user differ from the ordinary SUT user in that all data have been multiplied by 1000, and the aggregation accounts for intermediate consumption (i.e. the 27xxx accounts) have been removed. There is also a separate table, called t2\_invest, showing GFCF by ordinary (CPA) product and industry. It is the supply and use tables in the IOT user that should be used as a basis for reporting SUT data to Eurostat.

## 8. Annex: Excel macro for converting spreadsheets to input files

### 8.1. Converting from Excel to input files

Codes and data are loaded into the database from input files in ASCII (text) format with a special layout. The input data may be entered in Excel spreadsheets and converted to input files with a macro. The macro is called corr.xls (in Statistics Norway, it is located in the folder X:\210\nr-rea\excel\). It is programmed in the Excel macro language, Visual Basic for Applications. When the corr.xls file is opened, this sheet appears:

Save as:	X:\210\NR-REA\Rea-2004\	Default filename	Filename Format
T1	CORRT1\	223xxx13.ct1	Year-supplier-13.CT1
T2	CORRT2\	21923xxx.ct2	Year-19-user.CT2
T3	CORRT3\	223xxx.ct3	Year-user.CT3
S11, S12, S15, S16	SKATTER\	s11.dat	S--.dat
U11, U12, U15, U16	SKATTER\	u11.dat	U--.dat
Margins	MARGINER\	xxxxxx_margin.dat	
Wages	PRISIND\	wages.dat	
Costind	PRISIND\	costind.dat	
CPI	PRISIND\	cpi.dat	
SAM	PRISIND\	all_prices.dat	
CFC Gov	PRISIND\	cfcgov.dat	
TINDT1	TINDT1\	223xxx13.tt1	Year-supplier-13.TT1
TINDT2	TINDT2\	21923xxx.tt2	Year-19-user.TT2
VAT Ord	SKATTER\	momsalm.dat	
VAT Pro	SKATTER\	momspro.dat	
VAT Fix	SKATTER\	momsfast.dat	
VAT Use	SKATTER\	momsnot.dat	
Investment Tax	SKATTER\	invest.dat	
Activity Codes	KODLISTER\	user.dat	
Product Codes	KODLISTER\	product.dat	
Trade	MARGINER\	perc2R_Trade.dat	
Transport	MARGINER\	perc2T_Transport.dat	

**How to use the macro:**  
 30 Type a valid path and filename in the fields above.  
 31 Open the excel-sheet with the data you wish to save,  
 32 If a menu called CORR does not appear automatically in the spreadsheet, click the CORR-Menu button.  
 33 Select the area to be saved as a file.  
 34 Select the type of file to be created from the "CORR" - menu.

In the cell B5, type in the folder where the input files will to be places, e.g. C:\NR-REA\REA-2004\.

In cells B6 to B27, type the names of the sub-folders for the different types of input files.

(NB For the macro to work, the folders have to exist on the disk).

In cells C6 to C27, type default file names.

The examples below show how the macro works.

## 8.2. Code lists for the SUT in Excel format

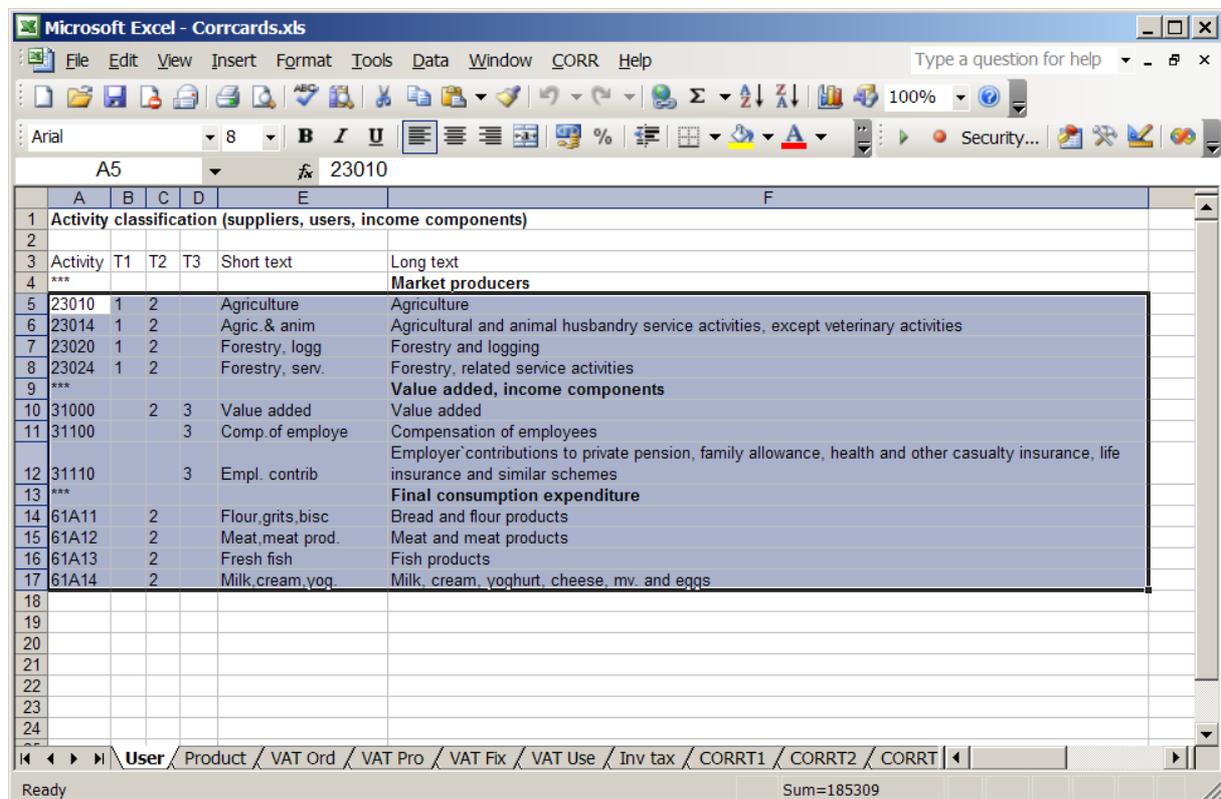
### 8.2.1. Suppliers, users and income components

In the example, the input data are in the spreadsheet file Corrcards.xls, in the sheet called User. The data are in columns A to F.

Column	Contents
A	Activity code (suppliers, users, income components)
B	1 shows that the code is a supplier
C	2 shows that the code is a user
D	3 shows that the code is an income component
E	Short description (max. 16 characters)
F	Long description

1. Open the spreadsheet containing the macro, corr.xls.  
*NOTE: If a menu called CORR does not appear automatically, click the CORR-Menu button.*
2. Open the spreadsheet file with the code lists (in this case Corrcards.xls) and select the sheet called User.
3. Select the area in the User sheet that is to be converted to an input file in ASCII-format.

See page 76

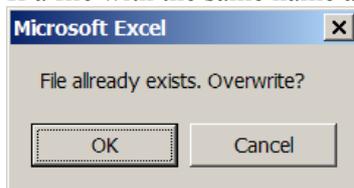


4. From the CORR menu, choose CORR User codes. A dialog box with the default file name appears.



5. Change the name if required, and click OK.

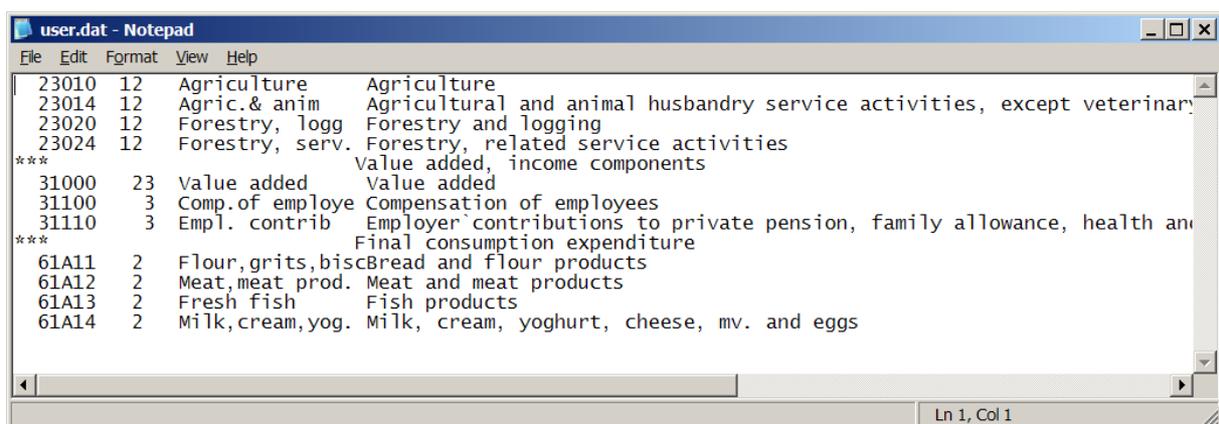
If a file with the same name already exists, you will be asked if you like to overwrite it:



6. If everything works, this message will appear:



The ASCII file will be stored in C:\NR-REA\REA-2002\Codelists with the name user.dat. It looks like this, when opened in Notepad:



## 8.2.2. Products

The data are in columns A to D.

Column	Contents
A	Product code
B	The residual user for this product
C	Short description (max. 16 characters)
D	Long description

	A	B	C	D
1	<b>Product classification</b>			
2				
3	Product	Residual user	Short text	Long text
4	***			<b>AGRICULTURE, FISHING AND FORESTRY</b>
5	011111	87000	Durum wheat	Durum wheat
6	011115	87000	Barley	Barley
7	011116	87000	Rye, oats	Rye, oats
8	011117	87000	Other cereals	Other cereals
9	011121	87000	Potatoes	Potatoes
10	*****			<b>OTHER BUSINESS SERVICES</b>
11	741110	87400	Legal services	Legal services
12	741200	87400	Account&aud.serv	Accounting and auditing services
13	741300	87400	Mark.res&o.surv	Market research and public opinion polling services
14	741400	87400	Busi&man.consu.s	Business and management consultancy services n.e.c.

Select the appropriate cells in the spreadsheet, and choose CORR Product codes from the CORR menu. The final result looks like this when opened in Notepad:

```

*** AGRICULTURE, FISHING AND FORESTRY
011111 87000 Durum wheat Durum wheat
011115 87000 Barley Barley
011116 87000 Rye, oats Rye, oats
011117 87000 Other cereals Other cereals
011121 87000 Potatoes Potatoes
*****OTHER BUSINESS SERVICES
741110 87400 Legal services Legal services
741200 87400 Account&aud.servAccounting and auditing services
741300 87400 Mark.res&o.surv Market research and public opinion polling services
741400 87400 Busi&man.consu.sBusiness and management consultancy services n.e.c.
  
```

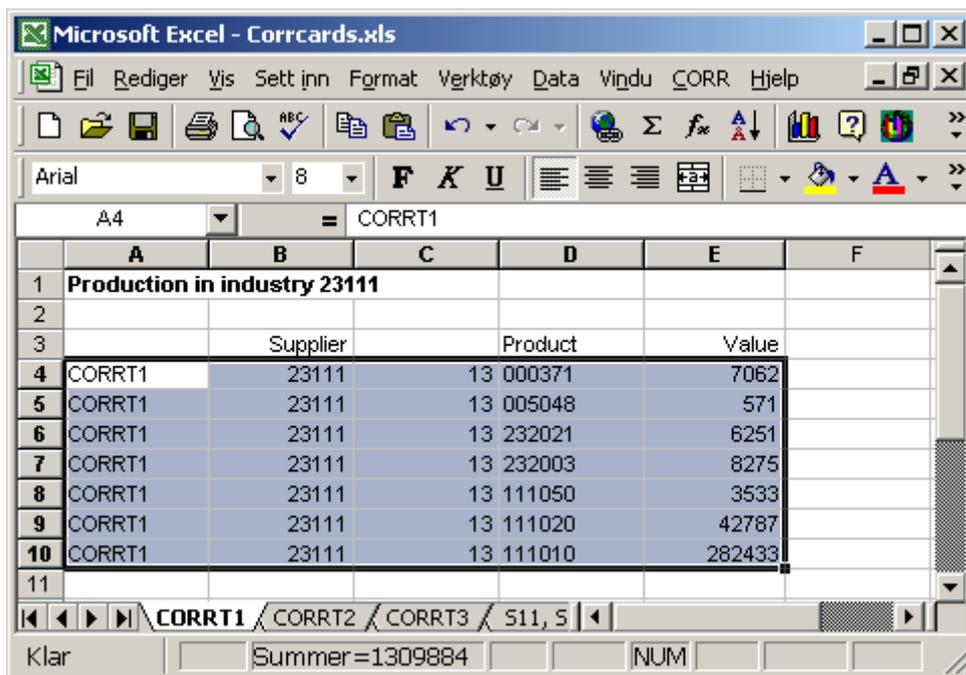
### 8.3. Input data for the current price SUT in Excel format

#### 8.3.1. Supply

In the example, the input data are in the spreadsheet file Corrcards.xls. The first part of the example concerns data for output. The data are in columns A to E.

Column	Contents
A	CORRT1 shows that the data are going into the Supply table T1
B	The code for the supplying industry, in this case 23111
C	13 shows that the data are in Producer's Value, which is called verdi_13 in table T1
D	Shows the codes for the products
E	Contains the values, in this case in million NOK

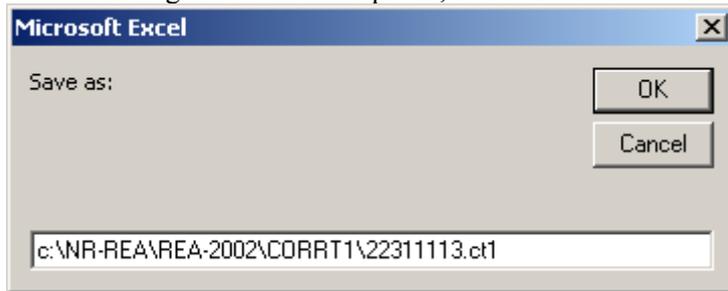
7. Open the spreadsheet containing the macro, corr.xls.
8. Open the spreadsheet with the input data, in this case Corrcards.xls
9. Select the area in the CORRT1 spreadsheet that is to be converted to a CORRT1-file in ASCII-format.



10. From the CORR menu (which has been added to menus by corr.xls, choose CORR T1. A dialog box with the default file name appears.



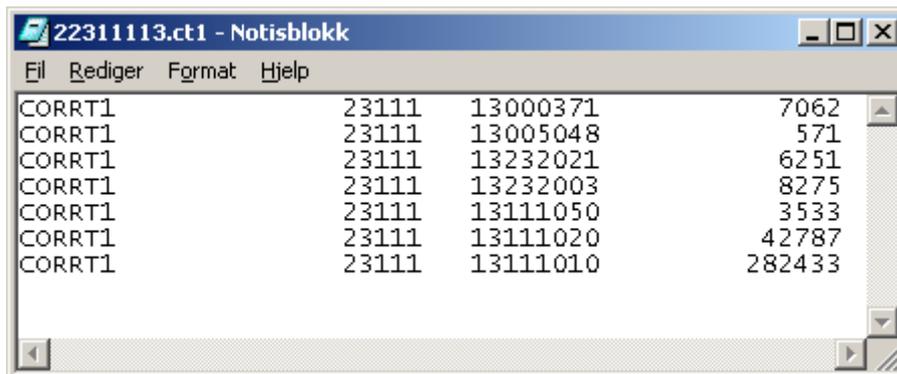
11. Change the name if required, and click OK.



6. If everything works, this message will appear:



The ASCII file will be stored in C:\NR-REA\REA-2002\CORRT1 with the name 22311113.ct1. It looks like this, when opened in Notepad:



Use

The input data are in columns A to E.

Column	Contents
A	CORRT2 shows that the data are going into the Use table T2
B	19 shows that the data are in Purchaser's Value, which is called verdi_19 in the table T2
C	Shows the codes for the products
D	The code for the user, in this case industry 23111
E	Contains the values, in this case in million NOK

	A	B	C	D	E	F
1	<b>Intermediate consumption in industry 23111</b>					
2						
3			Product	User	Value	
4	CORRT2	19	000018	23111	547	
5	CORRT2	19	000020	23111	212	
6	CORRT2	19	000025	23111	1421	
7	CORRT2	19	000030	23111	19	
8	CORRT2	19	000033	23111	660	
9	CORRT2	19	000034	23111	391	
10	CORRT2	19	000035	23111	440	
11						

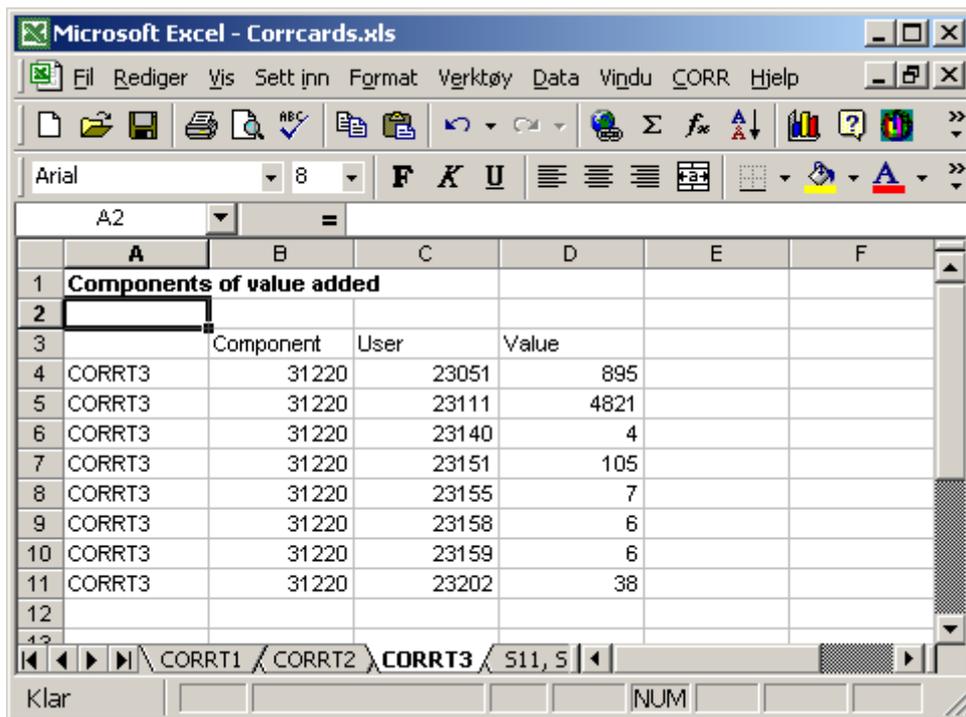
Select the appropriate cells in the spreadsheet, and choose CORR T2 from the CORR menu. The final result looks like this:

CORRT2	19000018	23111	547
CORRT2	19000020	23111	212
CORRT2	19000025	23111	1421
CORRT2	19000030	23111	19
CORRT2	19000033	23111	660
CORRT2	19000034	23111	391
CORRT2	19000035	23111	440

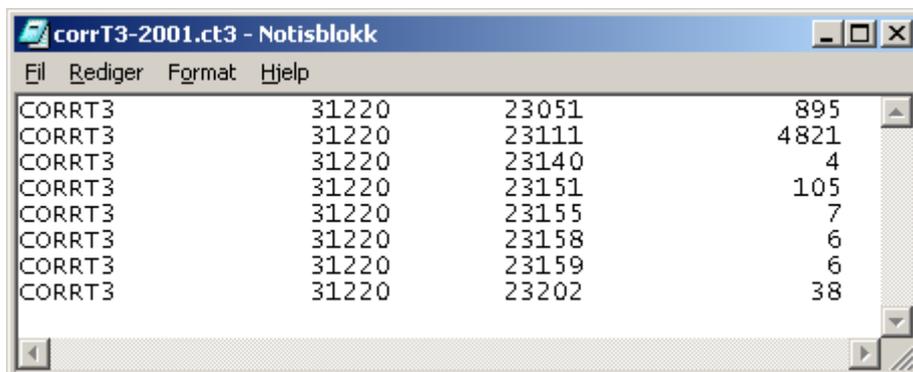
### 8.3.2. Income Components

The input data are in columns A to D.

Column	Contents
A	CORRT3 shows that the data are going into the Income Components table T3
B	Shows the codes for the income components
C	The code for the users
D	Contains the values, in this case in million NOK



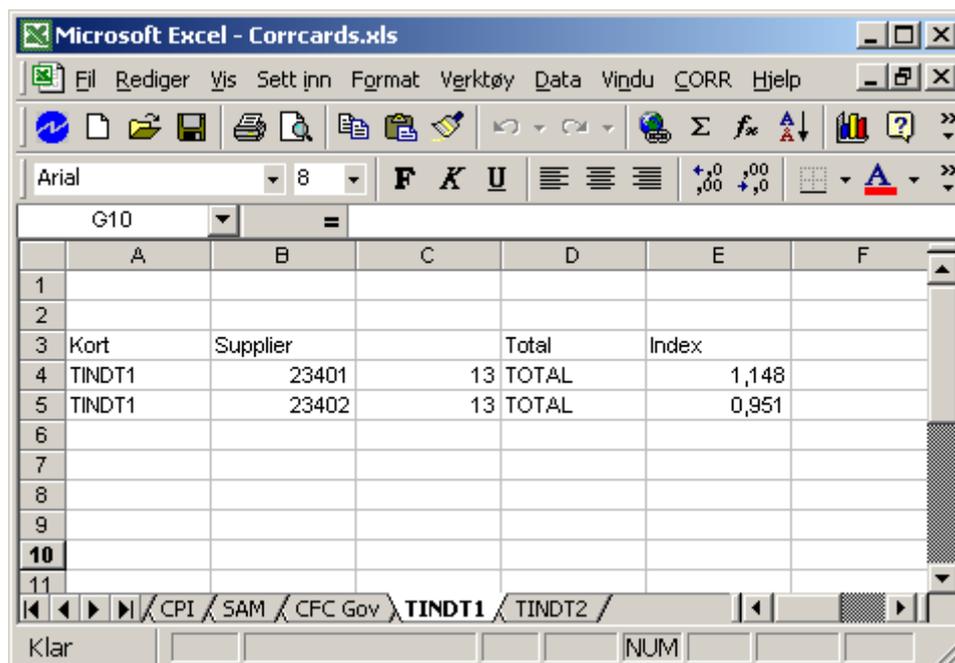
Select the appropriate cells in the spreadsheet, and choose CORR T2 from the CORR menu. The final result looks like this:



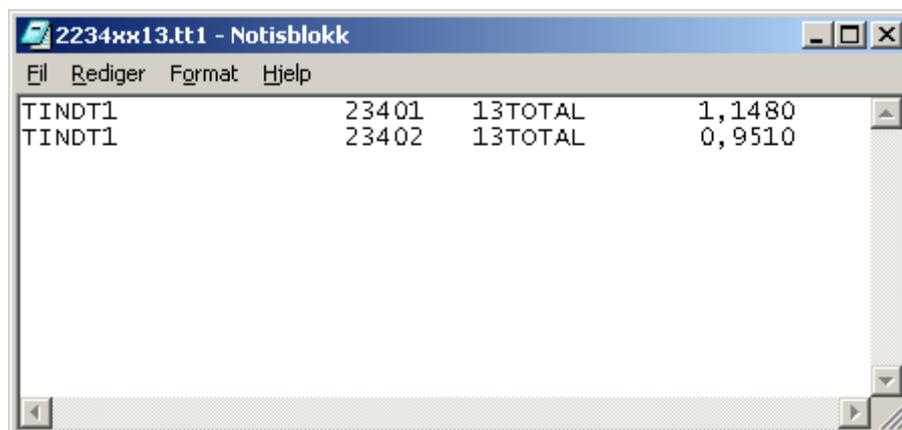
### 8.3.3. Value indices for supply

The input data are in columns A to E.

Column	Contents
A	TINDT1 shows that the data are going into the supply table T1
B	The code for the supplier
C	13 shows that the data are in producers' value
D	TOTAL means that the index is used for all products for the selected supplier
E	Contains the indices, with the previous year = 1



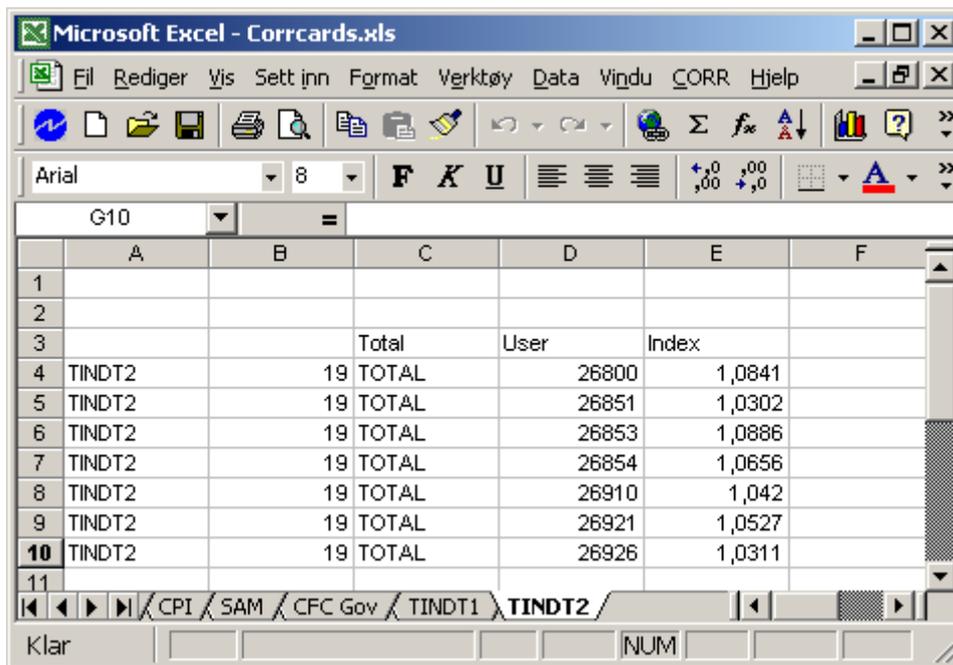
Select the appropriate cells in the spreadsheet, and choose CORR TINDT1 from the CORR menu. The final result looks like this:



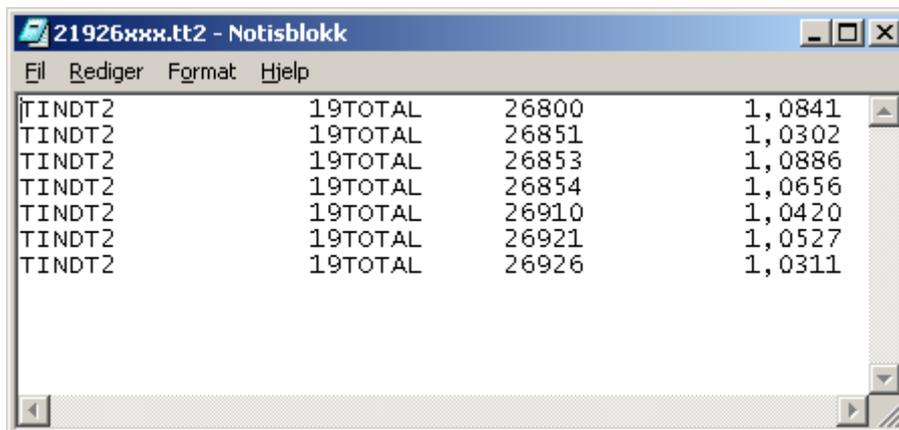
### 8.3.4. Value indices for use

The input data are in columns A to E.

Column	Contents
A	TINDT2 shows that the data are going into the Use table T2
B	19 shows that the data are in Purchaser's Value, which is called verdi_19 in the table T2
C	TOTAL means that the index is used for all products for the selected user
D	The code for the user
E	Contains the indices, with the previous year = 1



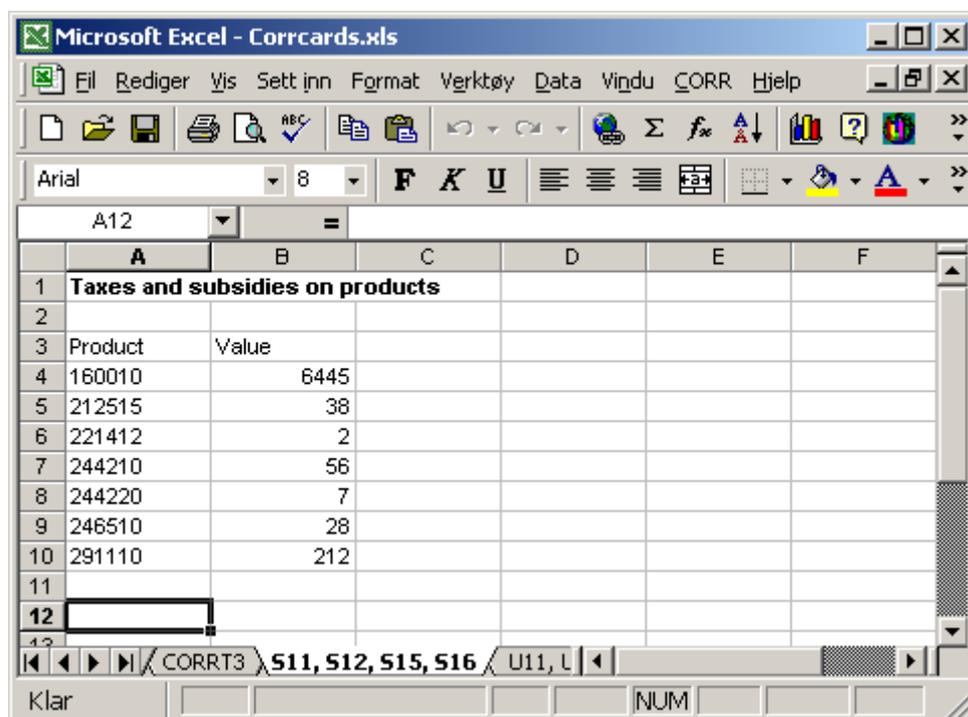
Select the appropriate cells in the spreadsheet, and choose CORR TINDT2 from the CORR menu. The final result looks like this:



### 8.3.5. Product taxes and subsidies

The input data are in columns A to B.

Column	Contents
A	The code for the products
B	Contains the values, in this case in million NOK



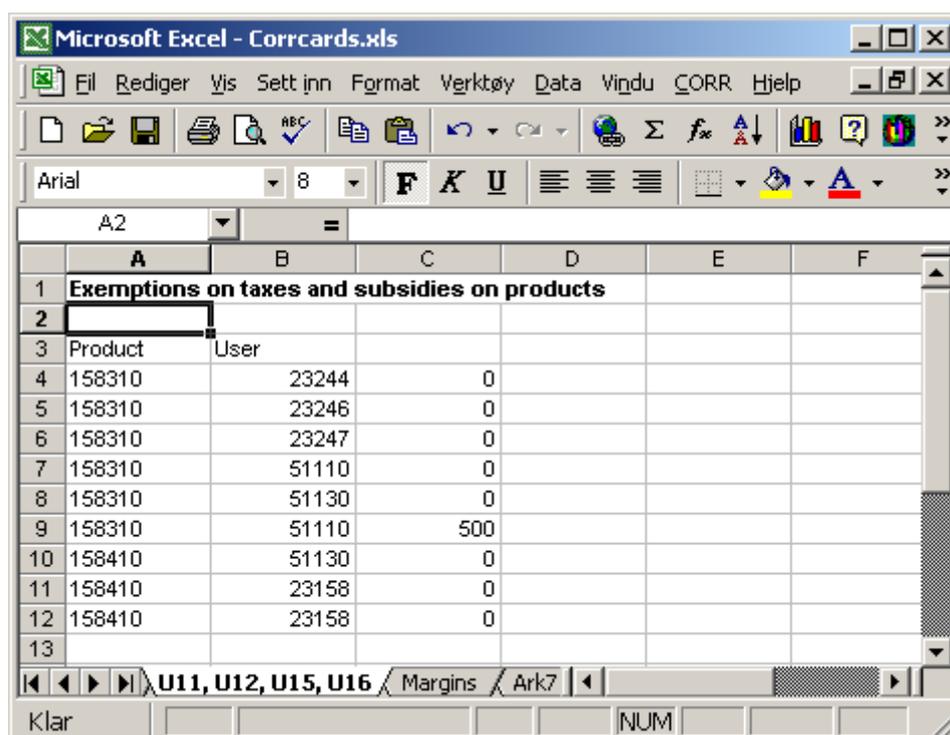
Select the appropriate cells in the spreadsheet, and choose CORR S from the CORR menu. The final result looks like this:



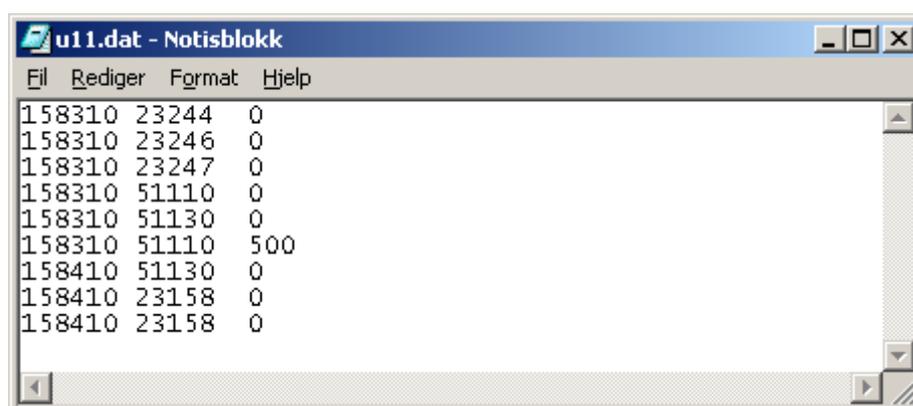
### 8.3.6. Exemptions on product taxes and subsidies

The input data are in columns A to C.

Column	Contents
A	The code for the products
B	The code for the users
C	The exemption rates



Select the appropriate cells in the spreadsheet, and choose CORR U from the CORR menu. The final result looks like this:



### 8.3.7. Retail and wholesale trade margin rates and Transport margin rates

The format for the input data for the retail and wholesale trade margins are in columns A to C.

Column	Contents
A	The code for the products
B	The code for the users
C	The retail and wholesale trade margin rates

The format for the input data for the transport margins are in columns A to C.

Column	Contents
A	The code for the products
B	The code for the users
C	The transport margin rates

	A	B	C	D	E	F
1	<b>Trade and transport margins</b>					
2						
3	Product	User	Margin			
4	401012	23247	0,9299			
5	401012	23271	0,1791			
6	401012	23273	0,0359			
7	401012	23274	0,1162			
8	401012	23287	0,4773			
9	401013	51110	0,0000			
10	401014	23100	0,0433			
11	401014	23130	0,2646			
12	401014	23140	0,0905			
13	401014	23151	0,6905			
14	401014	23152	0,5830			

Select the appropriate cells in the spreadsheet, and choose CORR Trade Margins from the CORR menu. The final result looks like this:

The image shows a screenshot of a Notisblokk window titled "margins.dat - Notisblokk". The window has a menu bar with "Fil", "Rediger", "Format", and "Hjelp". The main content area displays a table with three columns of data. The data is as follows:

401012	23247	0,9299
401012	23271	0,1791
401012	23273	0,0359
401012	23274	0,1162
401012	23287	0,4773
401013	51110	0,0000
401014	23100	0,0433
401014	23130	0,2646
401014	23140	0,0905
401014	23151	0,6905
401014	23152	0,5830

### 8.3.8. Retail and wholesale trade margin, corrections and update

The input data are in columns A to D.

Column	Contents
A	PERCT2R shows that the data are corrected retailer and wholesale trade margins.
B	14R shows that the data are trade margins, plus the code for the products
C	The code for the users
D	The margin rates

	A	B	C	D	E
1					
2					
3					
4	PERCT2R	14401012	23274	0,000	
5	PERCT2R	14401012	23287	0,000	
6	PERCT2R	14401013	51110	0,000	
7	PERCT2R	14401014	23100	0,069	
8	PERCT2R	14401014	23130	0,069	
9	PERCT2R	14401014	23140	0,034	
10	PERCT2R	14401014	23151	0,067	
11					
12					
13					
14					
15					

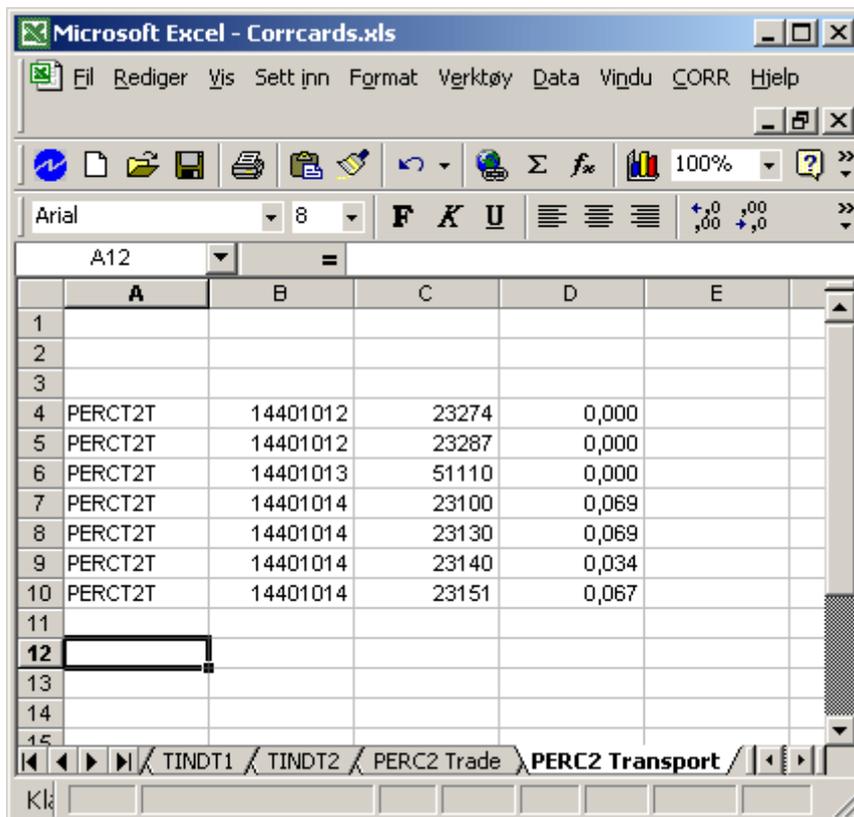
Select the appropriate cells in the spreadsheet, and choose CORR Trade PERCT2 from the CORR menu. The final result looks like this:

PERCT2R	14401012	23274	0,0000
PERCT2R	14401012	23287	0,0000
PERCT2R	14401013	51110	0,0000
PERCT2R	14401014	23100	0,0690
PERCT2R	14401014	23130	0,0690
PERCT2R	14401014	23140	0,0340
PERCT2R	14401014	23151	0,0670

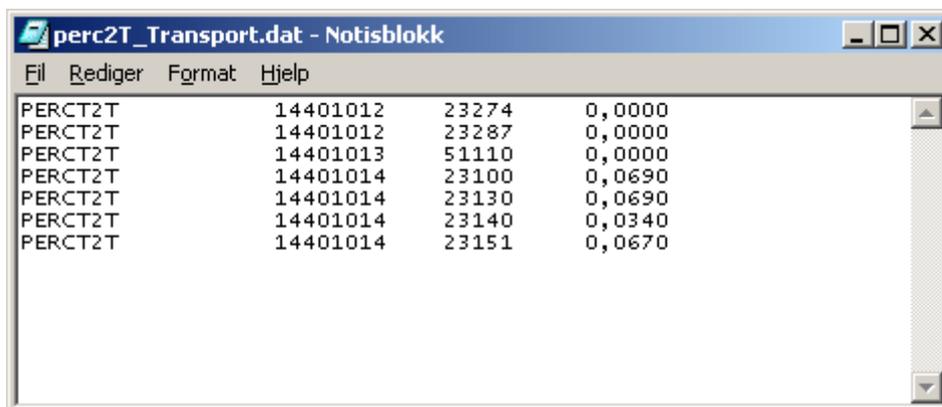
### 8.3.9. Transport margins and electricity margins, correction and update

The input data are in columns A to D.

Column	Contents
A	PERCT2T shows that the data are corrected transport margins.
B	14T shows that the data are transport margins, plus the code for the products
C	The code for the users
D	The transport margin rates



Select the appropriate cells in the spreadsheet, and choose CORR Transport PERCT2 from the CORR menu. The final result looks like this:



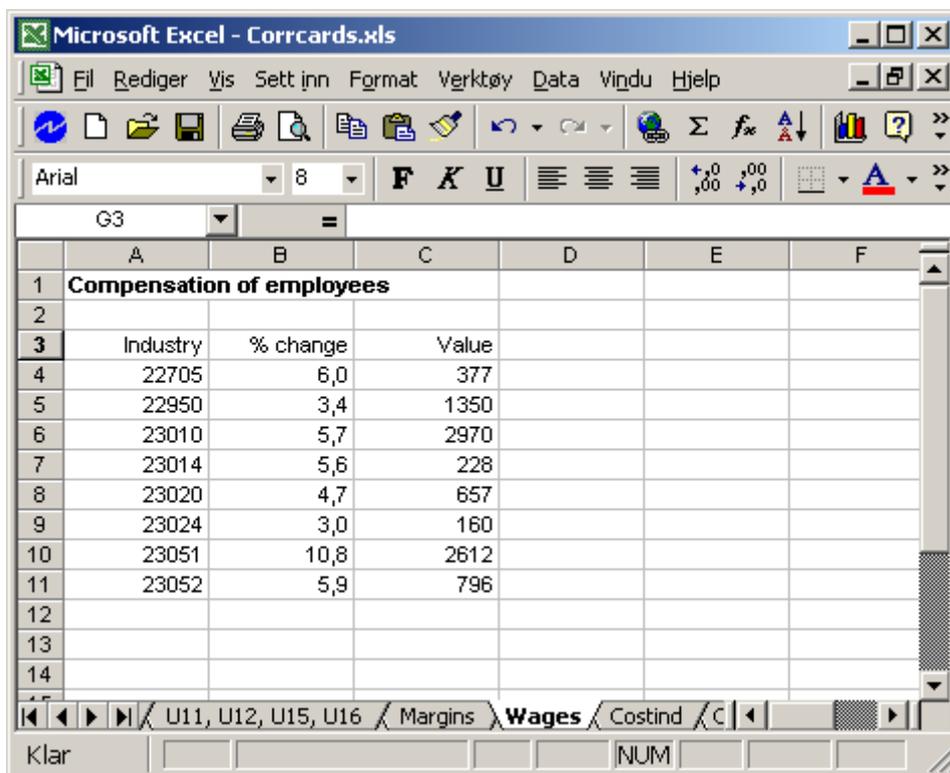
## 8.4. Input data for the constant price SUT in Excel format

See chapter 6.

### 8.4.1. Compensation of employees *wages.dat*

The input data are in columns A to C.

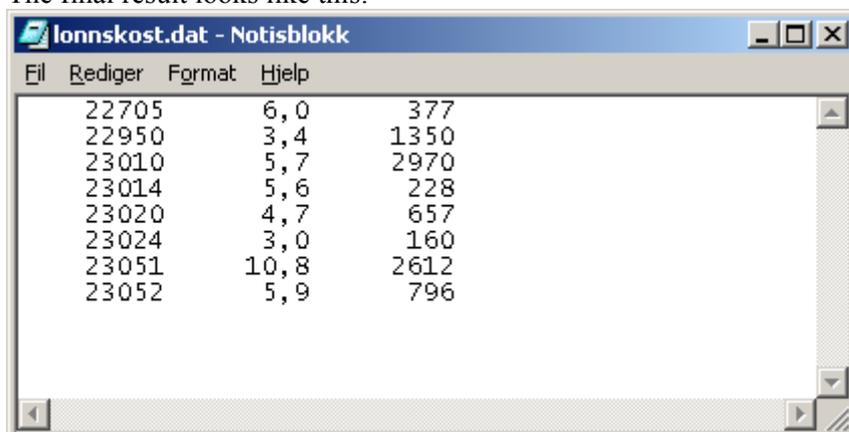
Column	Contents
A	The code for the industry
B	Compensation of employees per hour worked, change in per cent
C	Compensation of employees, million NOK for the current year



The screenshot shows a Microsoft Excel window titled 'Microsoft Excel - Corrcards.xls'. The spreadsheet has columns A through F and rows 1 through 14. The data is as follows:

	A	B	C	D	E	F
1	<b>Compensation of employees</b>					
2						
3	Industry	% change	Value			
4	22705	6,0	377			
5	22950	3,4	1350			
6	23010	5,7	2970			
7	23014	5,6	228			
8	23020	4,7	657			
9	23024	3,0	160			
10	23051	10,8	2612			
11	23052	5,9	796			
12						
13						
14						

Select the appropriate cells in the spreadsheet, and choose CORR Wages from the CORR menu. The final result looks like this:



The screenshot shows a Notisblokk window titled 'lonnskost.dat - Notisblokk'. The data is displayed as follows:

22705	6,0	377
22950	3,4	1350
23010	5,7	2970
23014	5,6	228
23020	4,7	657
23024	3,0	160
23051	10,8	2612
23052	5,9	796

The file name can be *lonnskost.dat* or the English version: *wage.dat*

### 8.4.2. Cost indices *costind\_dat*

The input data are in columns A to E.

Column	Contents
A	The code for the product
B	The code for the industry that is used to calculate the cost index
C	Selection variable for exports. A value of 1 means that the cost index is used to deflate for exports, a value of 0 means that it is not used.
D	Selection variable for imports. 1: Cost index used to deflate imports.
E	Selection variable for production. 1: Cost index used to deflate production.

The screenshot shows a Microsoft Excel window titled "Microsoft Excel - Corrcards.xls". The spreadsheet has columns A through H and rows 1 through 14. The data is as follows:

	A	B	C	D	E	F	G	H
1	<b>Cost indices</b>							
2								
3	Product	Industry						
4	275000	23275	1	1	1			
5	299992	23293	0	0	0			
6	311092	23291	0	0	0			
7	351121	23351	1	0	1			
8	351122	23351	1	0	1			
9	351123	23351	1	0	1			
10	351124	23351	1	0	1			
11	351131	23351	1	0	1			
12								
13								
14								

Select the appropriate cells in the spreadsheet, and choose CORR Costind from the CORR menu. The final result looks like this:

The screenshot shows a Notisblokk window titled "kost\_ind.dat - Notisblokk". The window displays the following data:

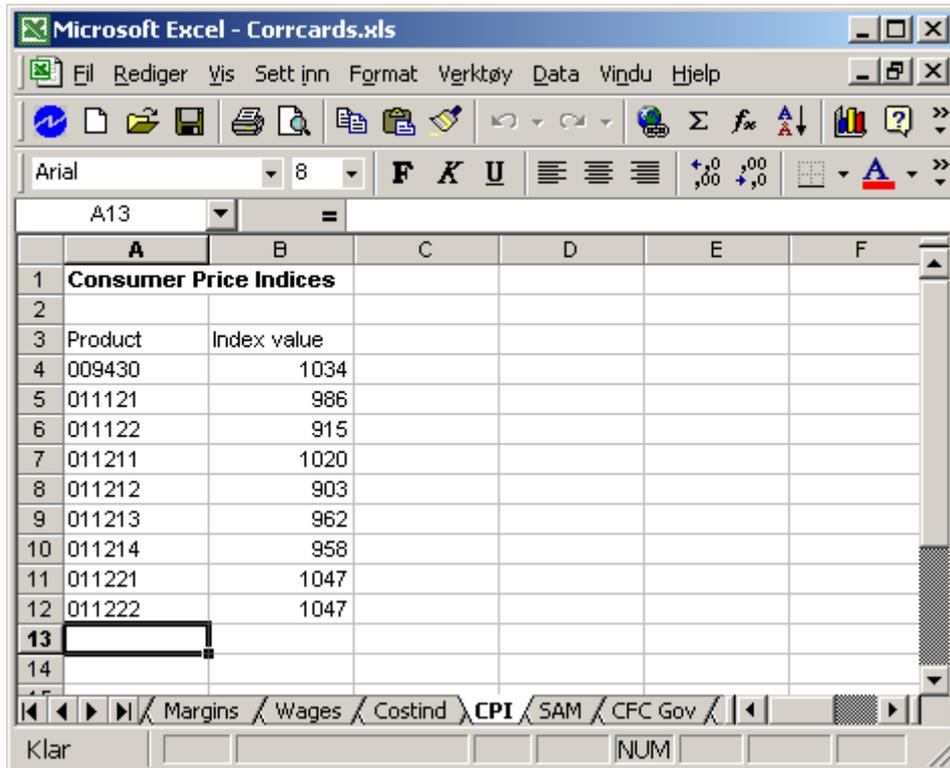
275000	23275	1	1	1
299992	23293	0	0	0
311092	23291	0	0	0
351121	23351	1	0	1
351122	23351	1	0	1
351123	23351	1	0	1
351124	23351	1	0	1
351131	23351	1	0	1

The file name can be *kost\_ind.dat* or the English version: *cost\_ind.dat*.

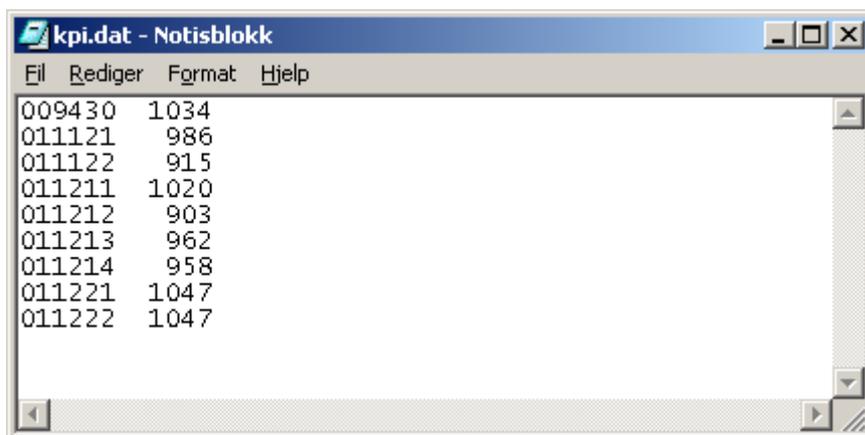
### 8.4.3. Consumer Price Indices for Purchasers' values. *cpi.dat*

The input data are in columns A to B.

Column	Contents
A	The code for the product
B	Index value, previous year = 1000



Select the appropriate cells in the spreadsheet, and choose CORR CPI from the CORR menu. The final result looks like this:



The file name can be *kpi.dat* or the English version: *cpi.dat*

#### 8.4.4. Consumption of fixed capital in government *cfcgov.dat*

The input data are in columns A to B.

Column	Contents
A	CAPSTANT1 shows that the data are going into the Supply table T1
B	The code for the industry
C	13 shows that the data are in Producer's Value, which is called verdi_13 in table T1
D	Shows the codes for the products
E	Contains the values, in this case in million NOK

The screenshot shows an Excel spreadsheet with the following data:

	A	B	C	D	E	F	G
1	<b>Consumption of fixed capital in government, constant prices</b>						
2							
3		Supplier		Product	Value		
4	CAPSTANT1	24742	13	742061	62		
5	CAPSTANT1	24745	13	745061	104		
6	CAPSTANT1	24751	13	751061	6107		
7	CAPSTANT1	24752	13	752061	2997		
8	CAPSTANT1	24800	13	800061	1183		
9							
10							
11							
12							

Select the appropriate cells in the spreadsheet, and choose CORR CFC\_GOV from the CORR menu. The final result looks like this:

The screenshot shows a Notisblokk window with the following data:

CAPSTANT1	24742	13742061	62
CAPSTANT1	24745	13745061	104
CAPSTANT1	24751	13751061	6107
CAPSTANT1	24752	13752061	2997
CAPSTANT1	24800	13800061	1183

### 8.4.5. Price indices for imports, domestic output to domestic uses and exports *all\_prices.dat*

The input data are in columns A to T.

Column	Contents
A	SAM shows that these data are price indexes
B	The code for the product
C	Price index for imports, based on foreign trade statistics, previous year = 1000
D	Selection variable for the index in column C. A value of 1 means that the index is used in the calculations, a blank cell or a value of 0 means that it is not used.
E	Price index for imports, based on other sources than foreign trade statistics.
F	Selection variable for the index in column E
G	Price index for domestic output, based on compensation of employees per hour worked
H	Selection variable for the index in column G
I	Price index for domestic output at basic prices
J	Selection variable for the index in column I
K	Price index for domestic output at producers' prices
L	Selection variable for the index in column K
M	Consumer price index at producers' prices
N	Selection variable for the index in column M
O	Consumer price index at purchasers' prices
P	Selection variable for the index in column O
Q	Price index for exports, based on foreign trade statistics
R	Selection variable for the index in column Q
S	Price index for exports, based on other sources than foreign trade statistics.
T	Selection variable for the index in column S

	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T
1	<b>Price indices for imports, domestic output to domestic uses and exports</b>																			
2																				
6		Product	IM_J	U	IM_U	U	PRLØ	U	PR10	U	PR13	U	KP13	U	KP19	U	EX_J	U	EX_U	U
7	SAM	009420															800	0		
8	SAM	011111	1128	1	964				970	0	977	1					1033	1	1000	
9	SAM	011115	1078	1	964				984	0	1024	1					1000	0	1000	1
10	SAM	011116	1085	1	964				974	0	991	1					1100	1	1000	
11	SAM	011117	1000	1	964				1005	1									1000	
12	SAM	011121	1091	1	964				1166	0	1002	1					1000	1	1000	
13	SAM	011122	1078	1	964				1005	1							1000	1	1000	
14	SAM	011130	1064	1	964				1005	0	1006	1					1000	1	1000	
15	SAM	011140	1051	1	1078				1005	1							1000	1	1000	
16	SAM	011150	1078	1	964				1005	1							1000	1	1000	
17	SAM	011160	995	1	964				948	0	863	1					1000	1	1000	

Select the appropriate cells in the spreadsheet, and choose CORR SAM from the CORR menu. The final result looks like this:

all_prices.dat - Notisblokk													
Fil Rediger Format Hjelp													
SAM	009420										800	0	
SAM	011111	1128	1	964		970	0	977	1		1033	1	1000
SAM	011115	1078	1	964		984	0	1024	1		1000	0	1000
SAM	011116	1085	1	964		974	0	991	1		1100	1	1000
SAM	011117	1000	1	964		1005	1						1000
SAM	011121	1091	1	964		1166	0	1002	1		1000	1	1000
SAM	011122	1078	1	964		1005	1				1000	1	1000
SAM	011130	1064	1	964		1005	0	1006	1		1000	1	1000
SAM	011140	1051	1	1078		1005	1				1000	1	1000
SAM	011150	1078	1	964		1005	1				1000	1	1000
SAM	011160	995	1	964		948	0	863	1		1000	1	1000

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