Statistiska centralbyrån Statistics Sweden

PC-Axis 2008 – user's manual

PC-Axis 2008 main module including function to create own aggregations

News in PC-Axis 2008
Change variable order on graph screen - new button to easily transform the table to time series.
Save change of texts when recording to pxq file - the text for contents was introduced in 2007, now change of units and variable names can also be made.
Remove lines with 0, "-"and dots
Save to Google earth, show data on Google Map

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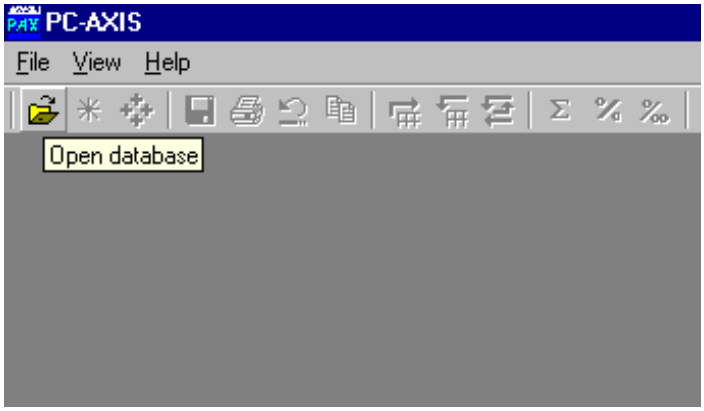
To install PC-Axis

PC-Axis can be downloaded from the PC-Axis website:
http://www.scb.se/Pages/List___314051.aspx

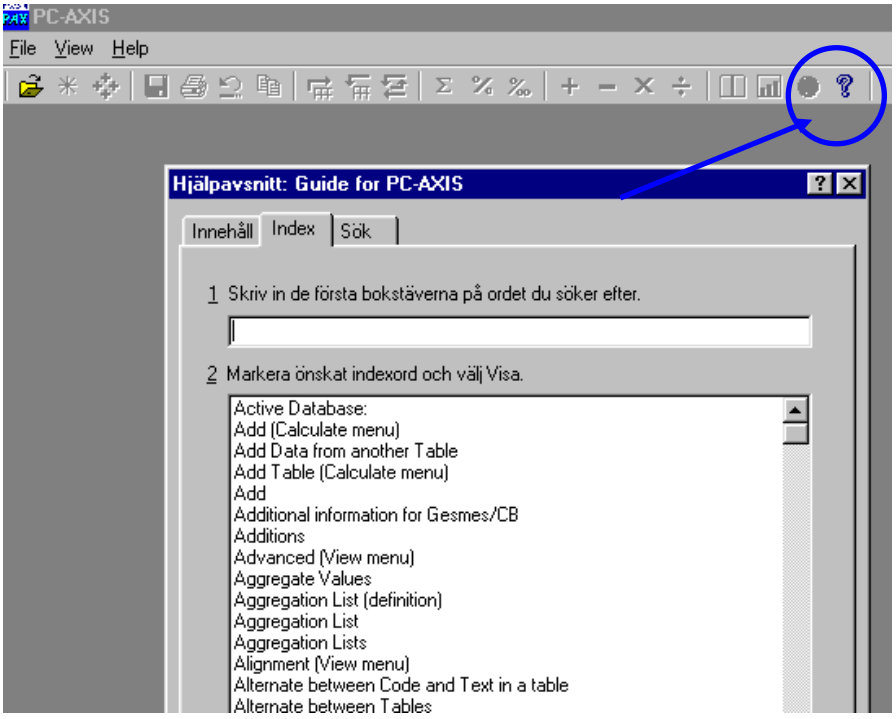
When PC-Axis has been downloaded from the website, follow the instructions in the installation program.

Some information on PC-Axis and its help functions

There a few things good to know before you start using PC-Axis for the first time. If you let the mouse stay over a tool key in the toolbar a small yellow frame will tell the purpose of that very tool key.



If you need more help, please use the tool key that opens the help function. It is on the far right position in the toolbar. This key is the way to get help for menus, commands and how to work with PC-Axis. Press the F1 keyboard key to get context related help wherever you are in PC-Axis.



A walk through of the toolbar


Open a database


Footnote


Select new values


Save


Print out


Undo


Copy


Pivot (clockwise)


Pivot (anti-clockwise)


Pivot any option


Sum


Percent


Per mille


Add


Subtract


Multiply


Divide

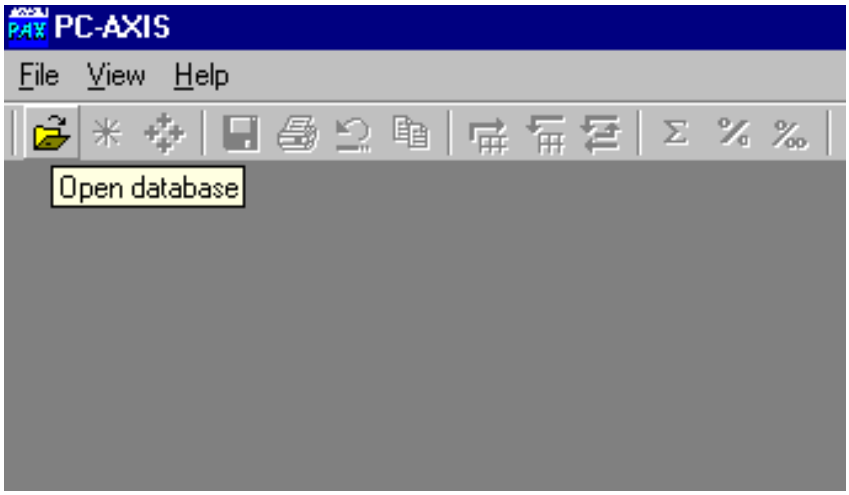

More information


Graphs


Maps

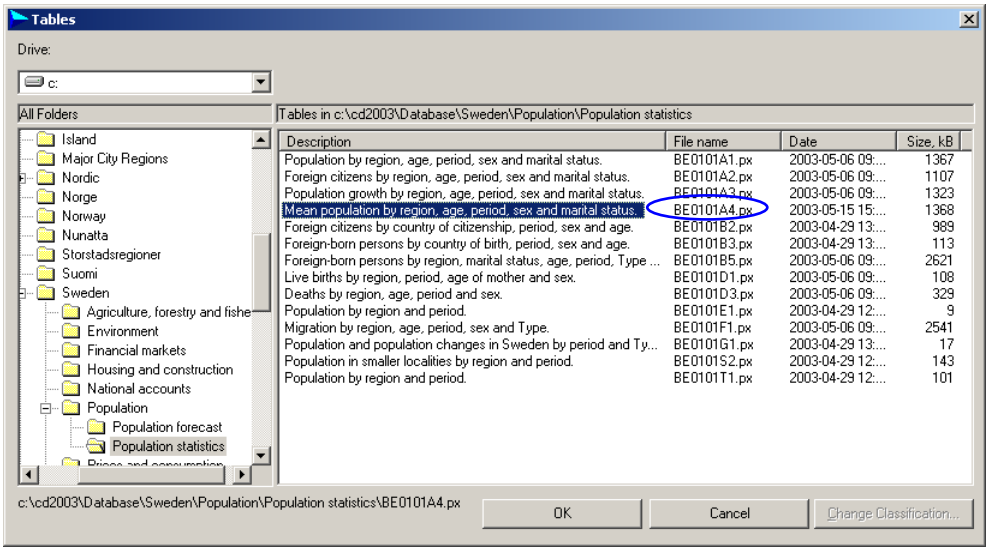

Search help

Open a database in PC-Axis.



Picture 1.

When you are opening a table in PC-Axis, there are optional ways of doing it. If the program is running, you just press File – Open Database or you can click on the button  and you will find the catalogue that contains the current database or table. On this picture you can see the PC-Axis files all having the extension PX.



Picture 2

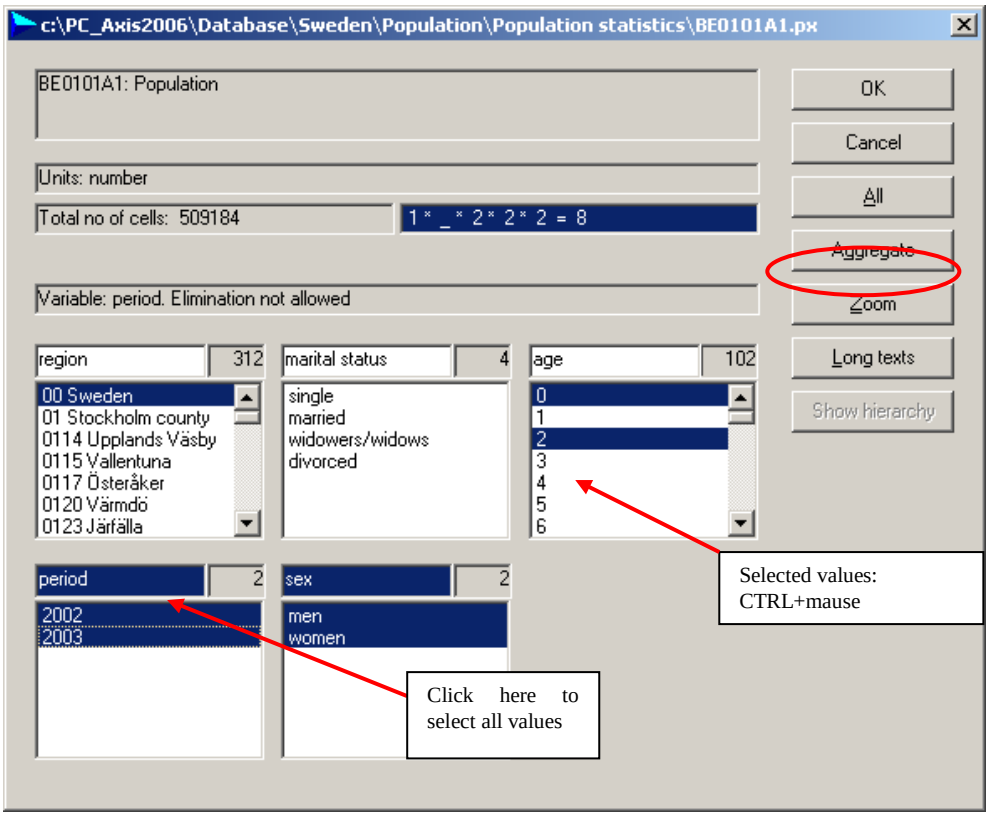
To be able to use the Classification function (see below) you must set the right catalogue for the classifications belonging to the current database. It can be changed using the button Change Classification. See in Picture 2.

When you are going to select a new table you either can click on it, or mark it using the mouse and then press the ENTER key.

Let us say that you are interested in Population statistics – press the subject ”Population”, select the sub catalogue ”Population statistics” and then select the table named Mean population by region, age, period and sex. See Picture 3.

Make a table in PC-Axis

Now it is time to select values for the variables – decide what the table shall contain.



Picture 3

Select values to the table

If you desire all values in a variable you can click on the name bar for the very variable selection box. As in sample on Picture 3, where all, two, values will be selected by clicking on the word sex.
If you only want some of the values, just press the CTRL-button at the same time as you click the left mouse button on the desired values. Then only those selected will be put into the table.

How to select all

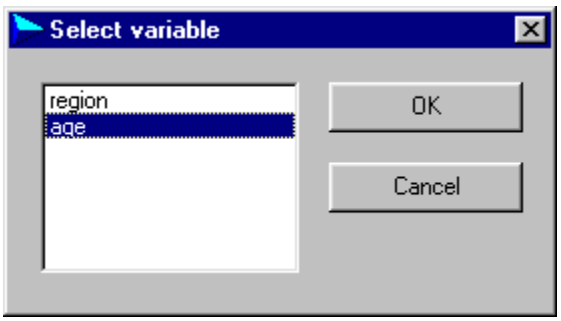
If you wish to get all the variables and all their variable values, just click on the button All.

About classification of values

All variables can be grouped into a classification if desired. It shall be done before you select all variables with the "All" button. See Pictures 4 and 5.

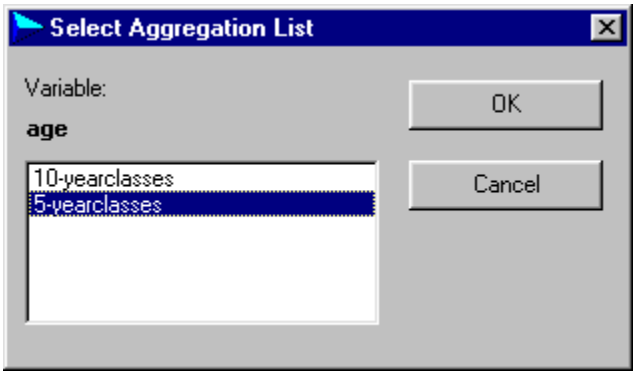
You can use the classifications if you have a table that is more detailed than you want it to be, for example one-year classes or municipalities. You can create your own age classifications or make your own areas based on the municipalities.

If you want to classify on variable age – in the selected table it is in one-year classes, and you would prefer it to be five-year classes.
On the picture where you select the variables there is a button named Aggregate. Press it and it looks like Picture 4. You will find what is available for classification for this very table, in this case the variables age and region. We select age.



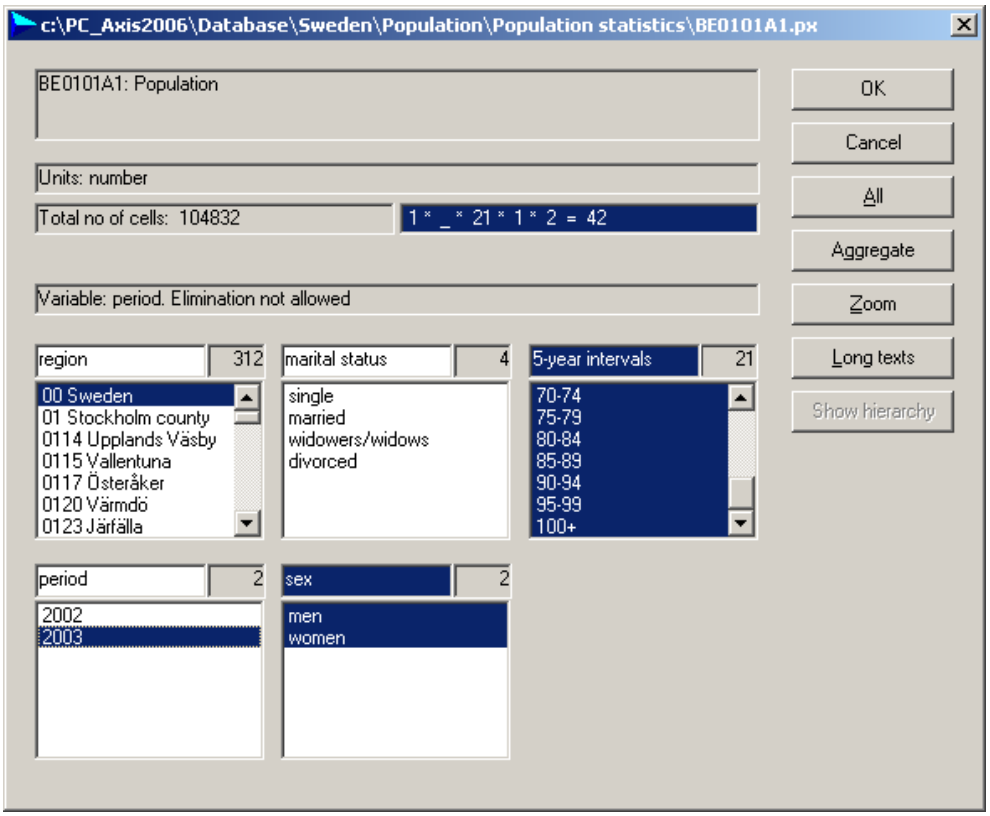
Picture 4

Press OK. In next window you will find a list showing the different classifications available.



Picture 5

Select the 5-yearclasses and press on the OK button.
Then you will come back to Picture 3, but the list of ages has been changed to 5-yearclasses:



Picture 6 a

When all selections are finished, click OK and the table appears on the screen.

If there are very long texts on the variable values there is an option in PC-Axis to get an alternative menu. Just press the button Long texts and you get the picture 6b below instead:

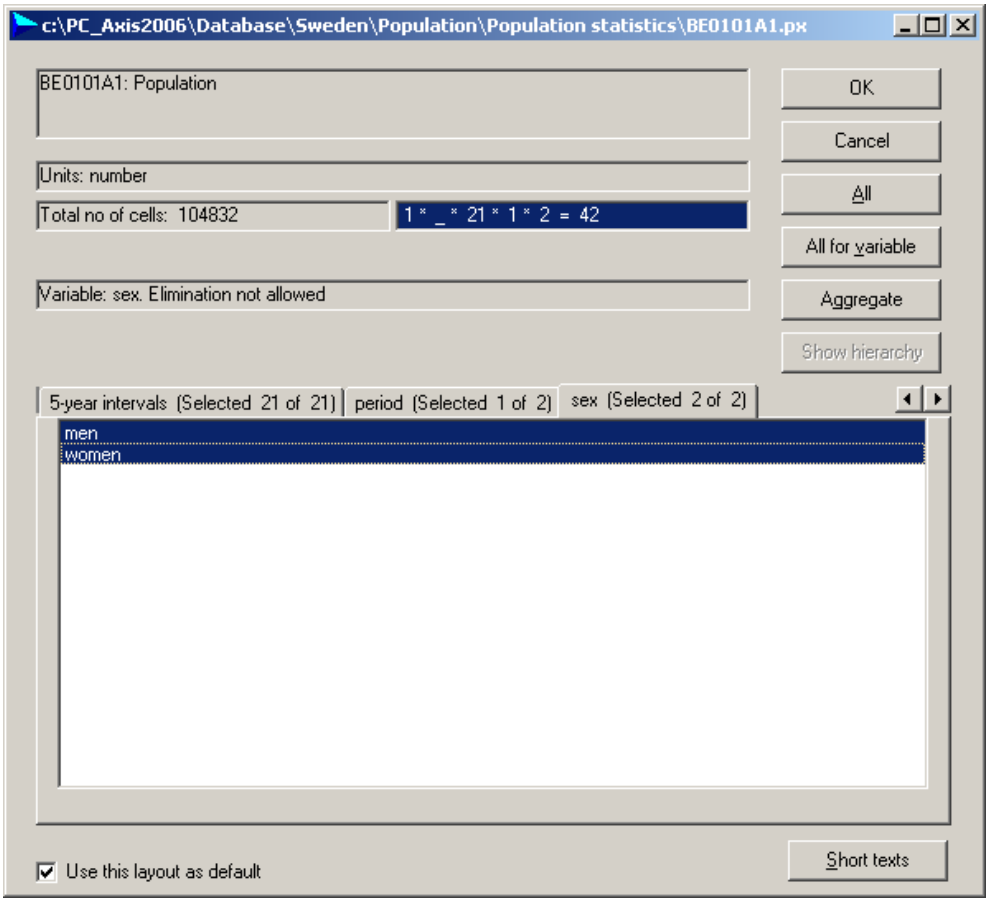
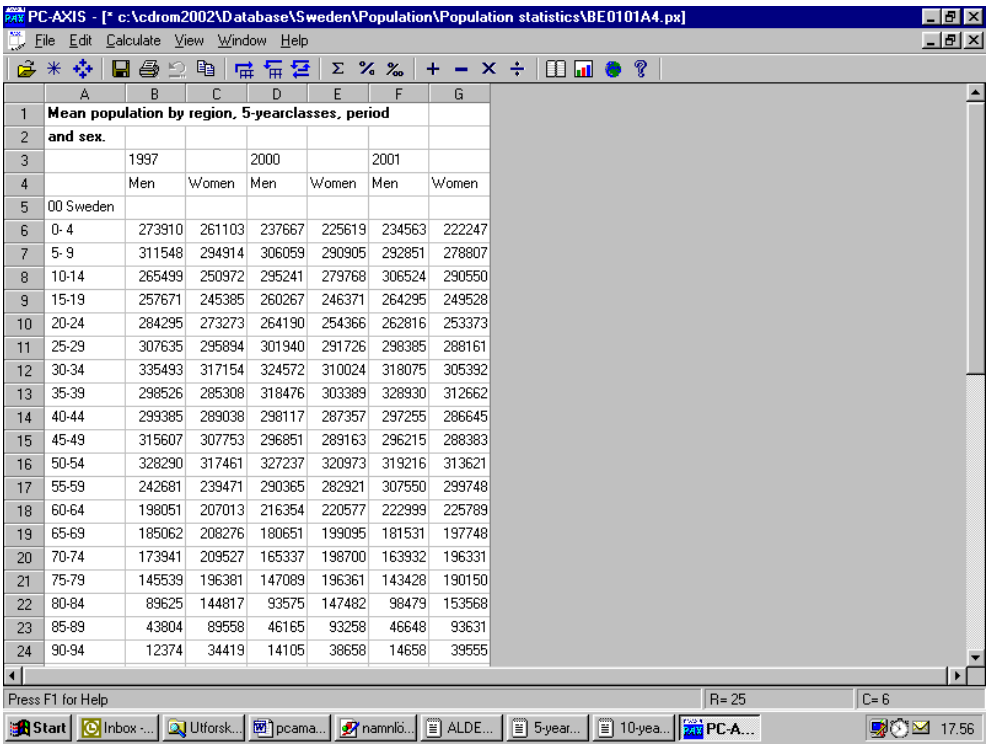


Figure 6 b.

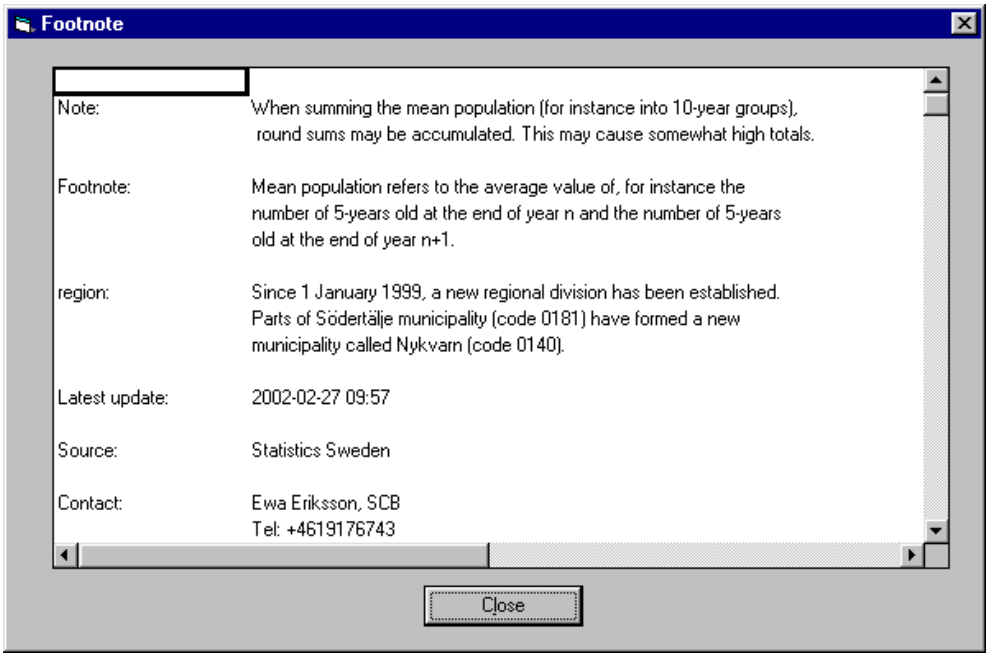
If you tick the option “Use this layout as default”, the only way to alter back to the original layout can be done in the menu View, Advanced, the tag “Information” where you can tick the box “Show value selection in layout with small list boxes”. If you immediately would like to turn back to narrow lists, just click the button “Short texts”.

The table will appear similar in both cases.



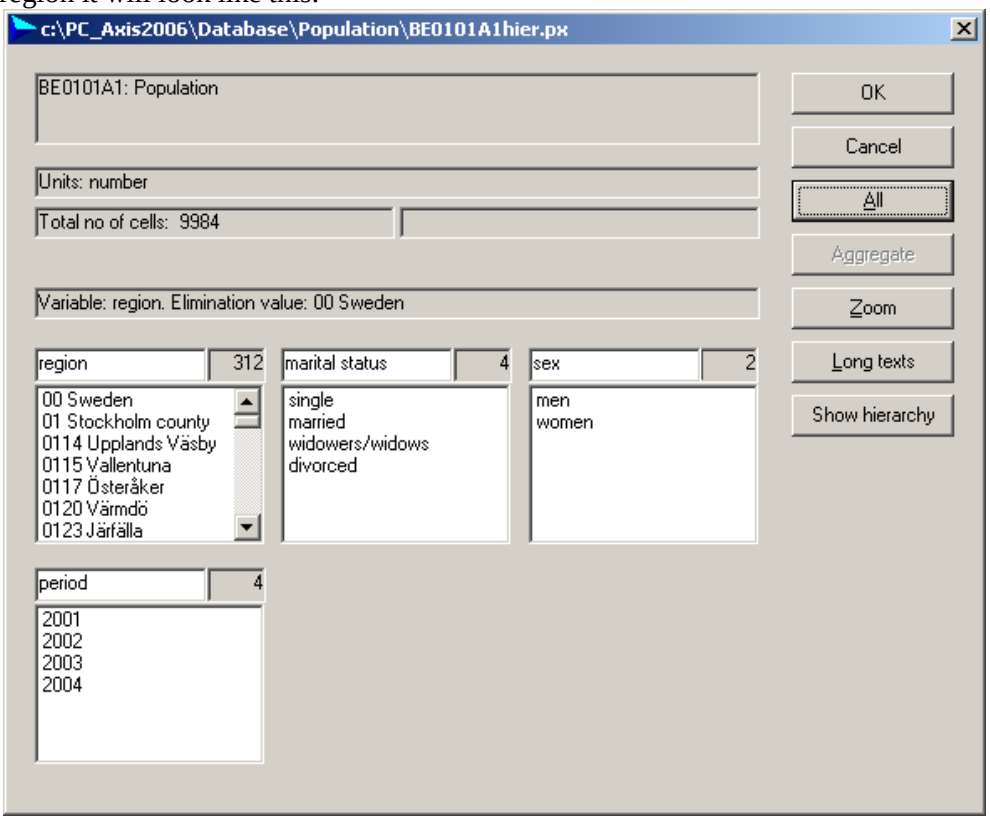
Picture 7

Now you can click on the tool key with the icon of a star that gives the footnote information for this very table. In this case latest up date, source, contact persons etc.

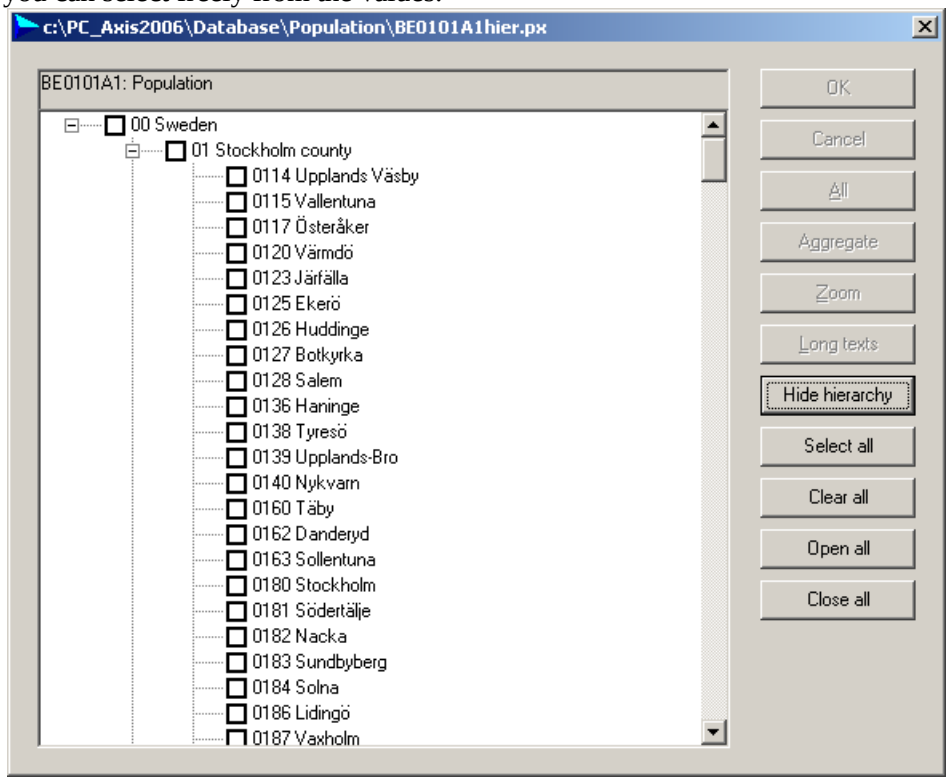


If there is additional information available the icon showing a little book in the toolbar will be activated. Press it and the book will lead you to additional documents concerning this very material. It will be opened according what type of text file it is written.

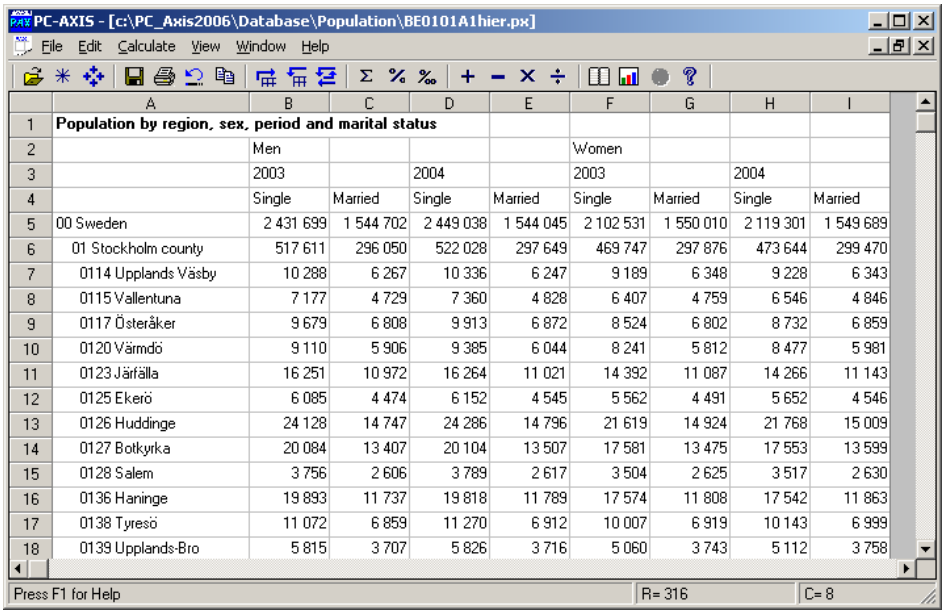
If you have a table containing a hierarchy as in the case below in the variable region it will look like this:



Click on the button"Show hierarchy" and the following window will turn up where you can select freely from the values:

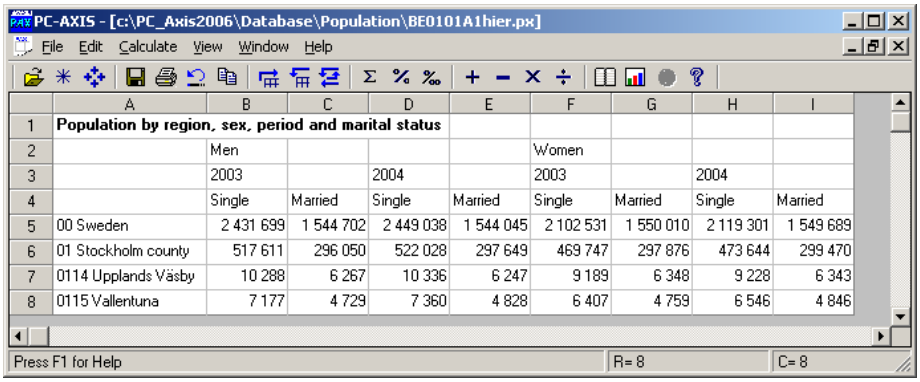


If you select all the values the table will be presented with a hierarchical layout.



	A	B	C	D	E	F	G	H	I
1	**Population by region, sex, period and marital status**								
2		Men				Women			
3		2003		2004		2003		2004	
4		Single	Married	Single	Married	Single	Married	Single	Married
5	00 Sweden	2 431 699	1 544 702	2 449 038	1 544 045	2 102 531	1 550 010	2 119 301	1 549 689
6	01 Stockholm county	517 611	296 050	522 028	297 649	469 747	297 876	473 644	299 470
7	0114 Upplands Väsby	10 288	6 267	10 336	6 247	9 189	6 348	9 228	6 343
8	0115 Vallentuna	7 177	4 729	7 360	4 828	6 407	4 759	6 546	4 846
9	0117 Österåker	9 679	6 808	9 913	6 872	8 524	6 802	8 732	6 859
10	0120 Värmdö	9 110	5 906	9 385	6 044	8 241	5 812	8 477	5 981
11	0123 Järfälla	16 251	10 972	16 264	11 021	14 392	11 087	14 266	11 143
12	0125 Ekerö	6 085	4 474	6 152	4 545	5 562	4 491	5 652	4 546
13	0126 Huddinge	24 128	14 747	24 286	14 796	21 619	14 924	21 768	15 009
14	0127 Botkyrka	20 084	13 407	20 104	13 507	17 581	13 475	17 553	13 599
15	0128 Salem	3 756	2 606	3 789	2 617	3 504	2 625	3 517	2 630
16	0136 Haninge	19 893	11 737	19 818	11 789	17 574	11 808	17 542	11 863
17	0138 Tyresö	11 072	6 859	11 270	6 912	10 007	6 919	10 143	6 999
18	0139 Upplands-Bro	5 815	3 707	5 826	3 716	5 060	3 743	5 112	3 758

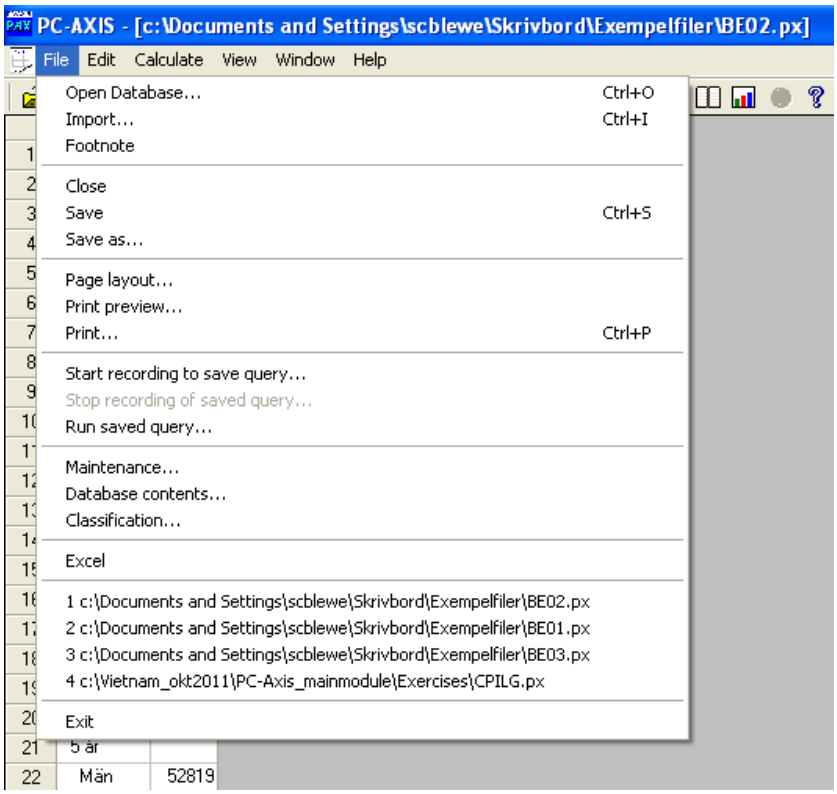
If you make a selection from the region variable the hierarchical layout will disappear:



	A	B	C	D	E	F	G	H	I
1	**Population by region, sex, period and marital status**								
2		Men				Women			
3		2003		2004		2003		2004	
4		Single	Married	Single	Married	Single	Married	Single	Married
5	00 Sweden	2 431 699	1 544 702	2 449 038	1 544 045	2 102 531	1 550 010	2 119 301	1 549 689
6	01 Stockholm county	517 611	296 050	522 028	297 649	469 747	297 876	473 644	299 470
7	0114 Upplands Väsby	10 288	6 267	10 336	6 247	9 189	6 348	9 228	6 343
8	0115 Vallentuna	7 177	4 729	7 360	4 828	6 407	4 759	6 546	4 846

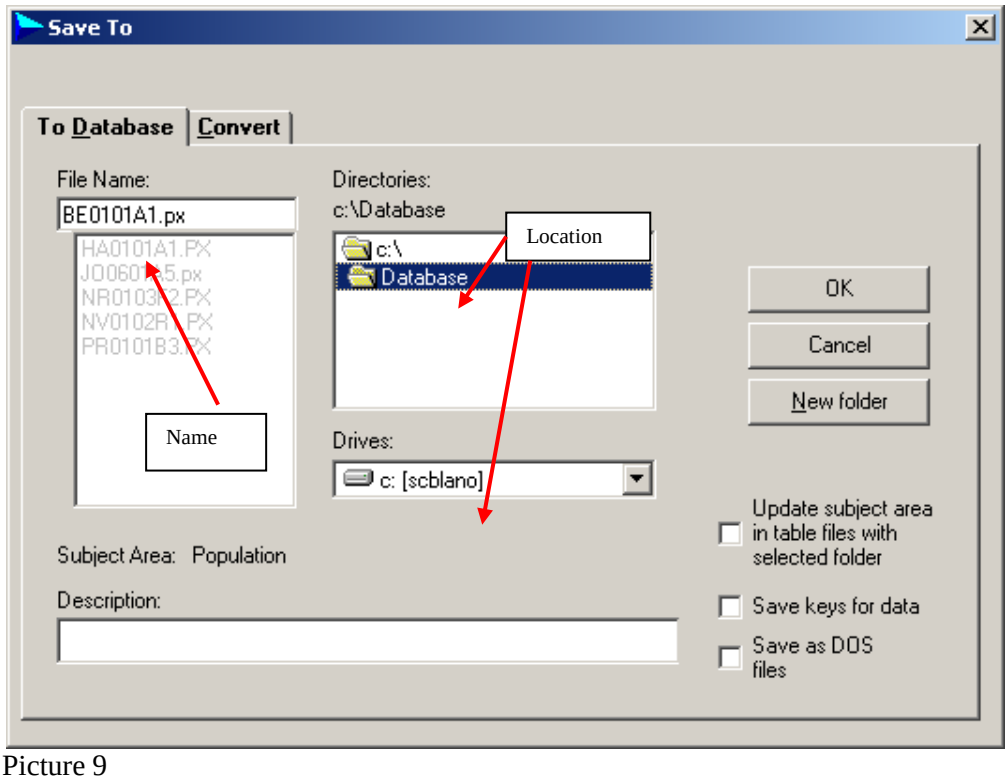
To save a table

When you are satisfied with the layout of the table you can save it on your hard disc or a server. Use the pull down menu"File, Save as. "



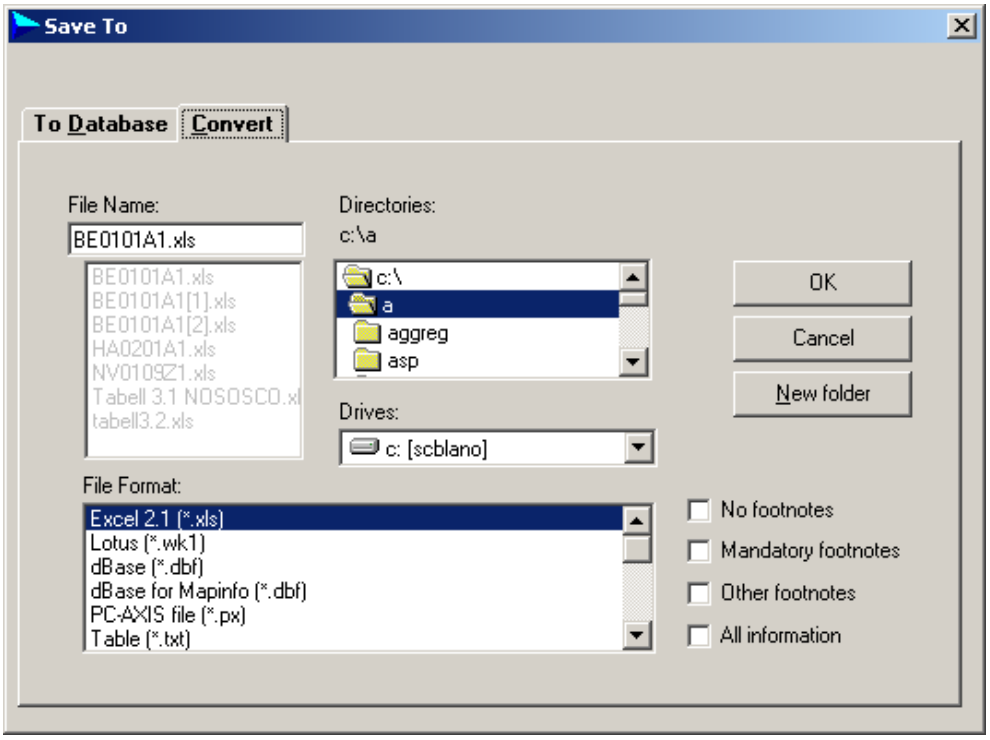
Picture 8

Then a windows turns up where you can enter where to save the file and name the file.



Picture 9

If you would like to save the table in another file format you just select the tag ”Convert” as in Picture 10.



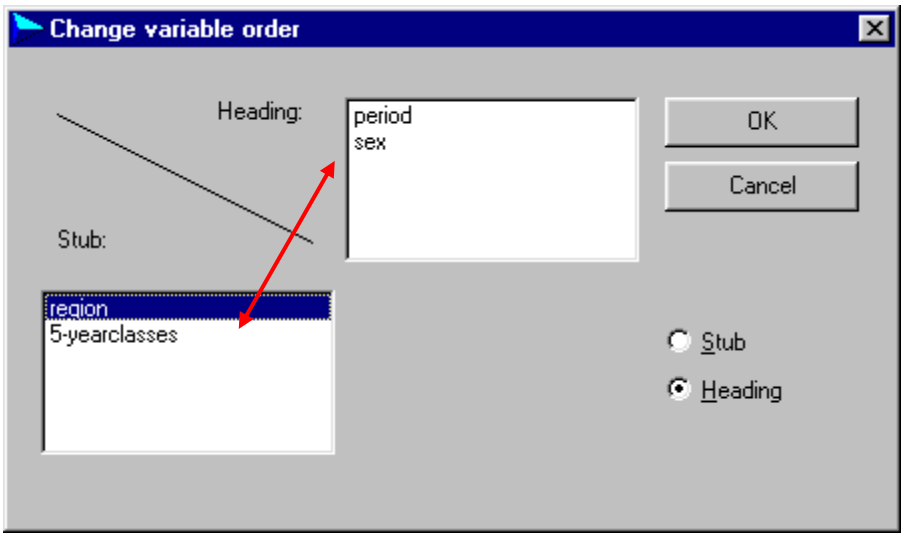
Picture 10

In the listbox File Format you can save the table in any of the optional file formats. In the tick boxes to the right you can decide what parts of the explaining information that shall accompany the table into the selected file format.

To edit a table in PC-Axis

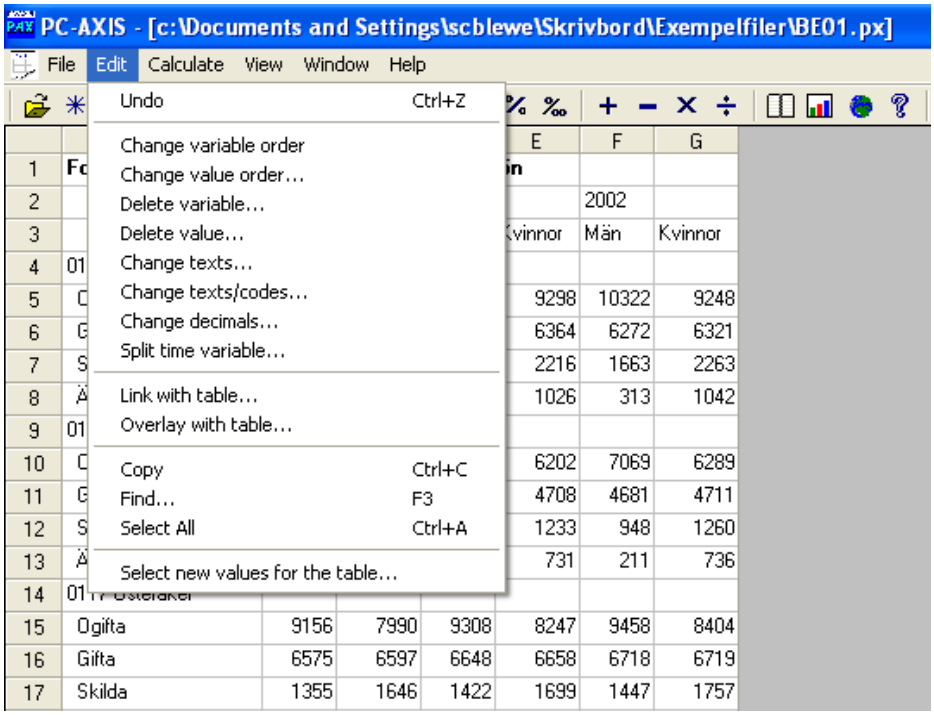
If you are not satisfied with the layout of the table there are some different things to be done to change it.

The Pivot function can be used to let the variables change places in the table. Stub and heading can be switched according to your own needs. Press this button , which give you total freedom to move around with the variables. You are using a drag and drop technique as showed on Picture 11:

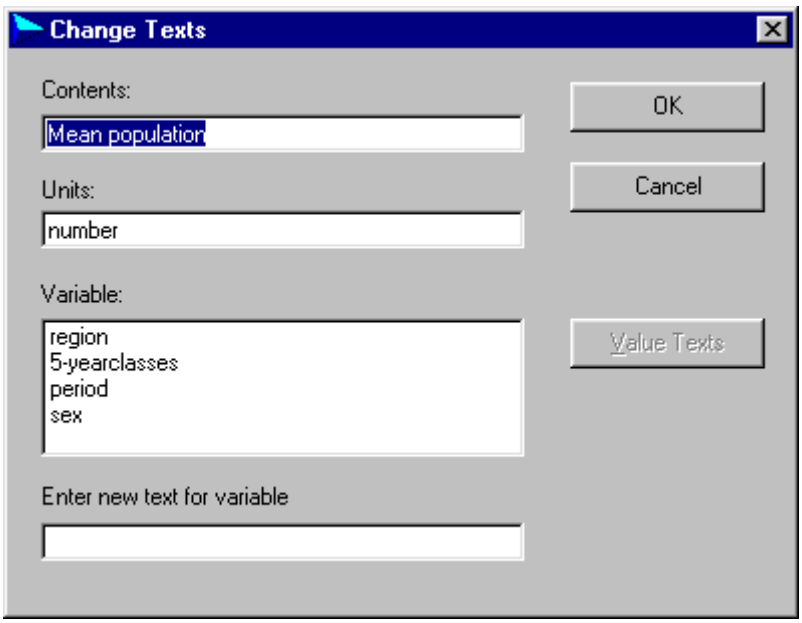


Picture 11

When you are satisfied just press OK and the new table turns up. This can be repeated so you will really be satisfied with your table. You could also delete variable and values.



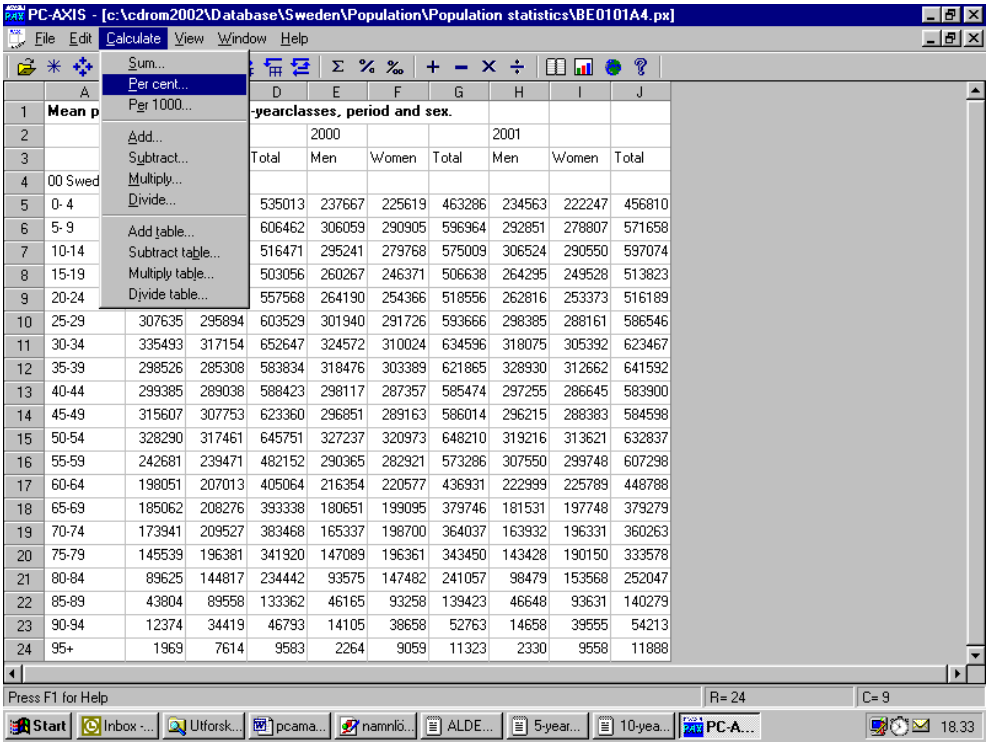
It is also possible to change the texts in the column headings and the stub. Use Edit Change texts... Here you mark the variables you want to modify, the variable name and also variable values are possible to change.



In the second part of the Edit menu options to combine the active table with another table is available. Then the tables have to be similar. Table with table can be used when data for additional periods shall be put together with the original table, while Table on table is used if you have two tables with different contents, as imports and exports. Combination of tables also can be used in the software PX-Edit.

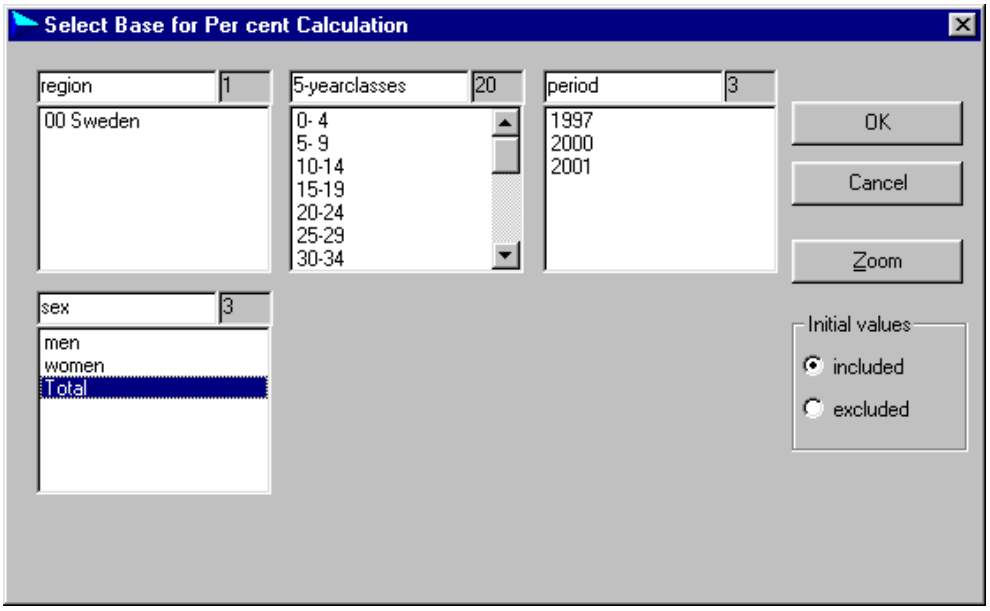
To do simple calculations using PC-Axis

There are some simple tasks able to carry out with the PC-Axis calculation toolbox. Let us study some samples.
Click on the pull down menu Calculate as showed on Picture 12 and you will find the different options.



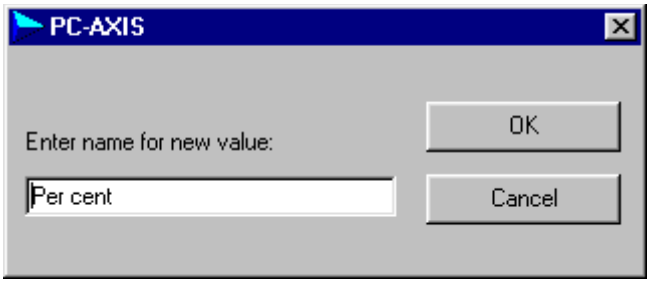
Picture 12

Let us try the percent calculation as is marked in the picture 12 above. Then the following window pops up:



Picture 13.

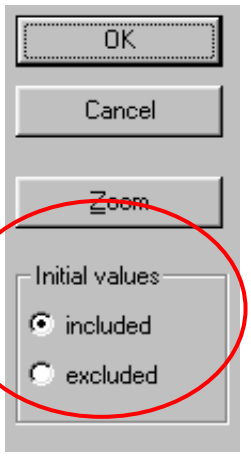
If we wish to calculate the ratio female and male compared to the total we select the total for the variable sex as the base for the operation. Then you will be prompted a name of the new established value.



Picture 14

PC-Axis will automatically suggest the name ”Per cent”, you can change it if you wish and then click OK.

Now all the figures will turn up on the screen. If you did not wish to have the initial values left in the table there is a possibility on the base selection window to tick according to your wishes. See picture 15.

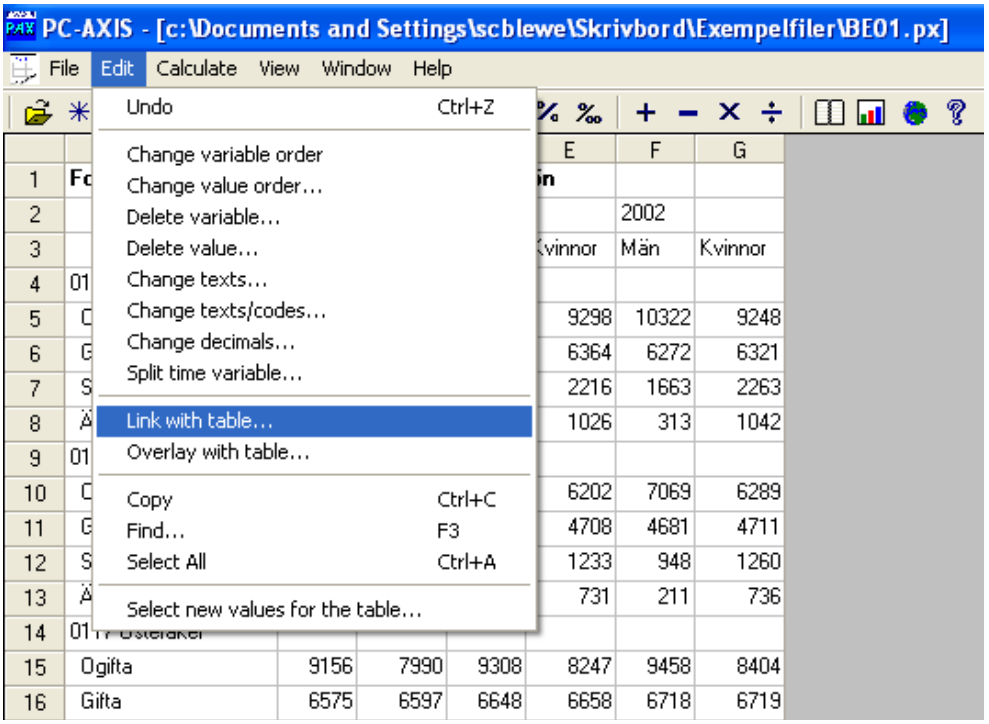


Picture 15

Updating tables

If you have a table that contains the population in sixteen municipalities, distributed on age, sex and time (1995-2000), and the figures for 2001 has become published it is possible to update with the new figures instead of download the whole table again from Sweden's statistical databases on Internet.
You just link a table to another table (adding new values).
It is also possible to overlay a table with another table (adding a new variable), for example if immigration and emigration are retrieved from two separate tables they can be put together in a very large table using this function.

Please notice when using these two functions the tables have to be very similar. So if something is changed in one of the tables the other has to be changed in exactly the same manner to fit in together.



Picture 16

To use these functions, click Edit and then Link with table../Overlay with table. See Picture 16.

You will then be prompted what catalogue to pick up the second table from. Be aware that you are only offered the tables that are possible to put together. Select the table you want to have and click OK. Then your table on the screen have got new values or variable.

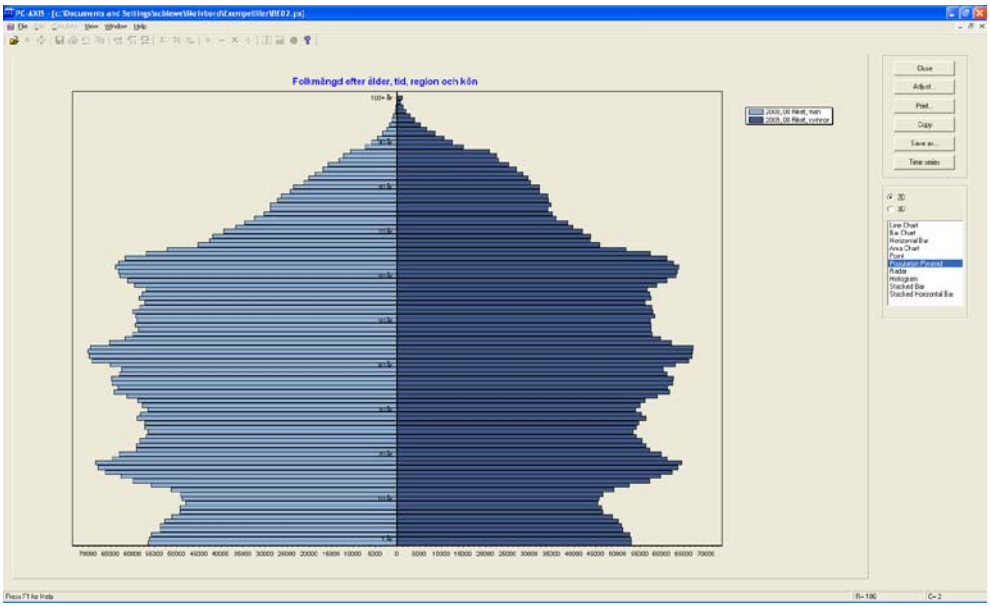
If you are using Link with table it is a matter of adding a new time period.

When using Overlay with table it is because you have to similar tables possible to put together.

To make graphs in PC-Axis

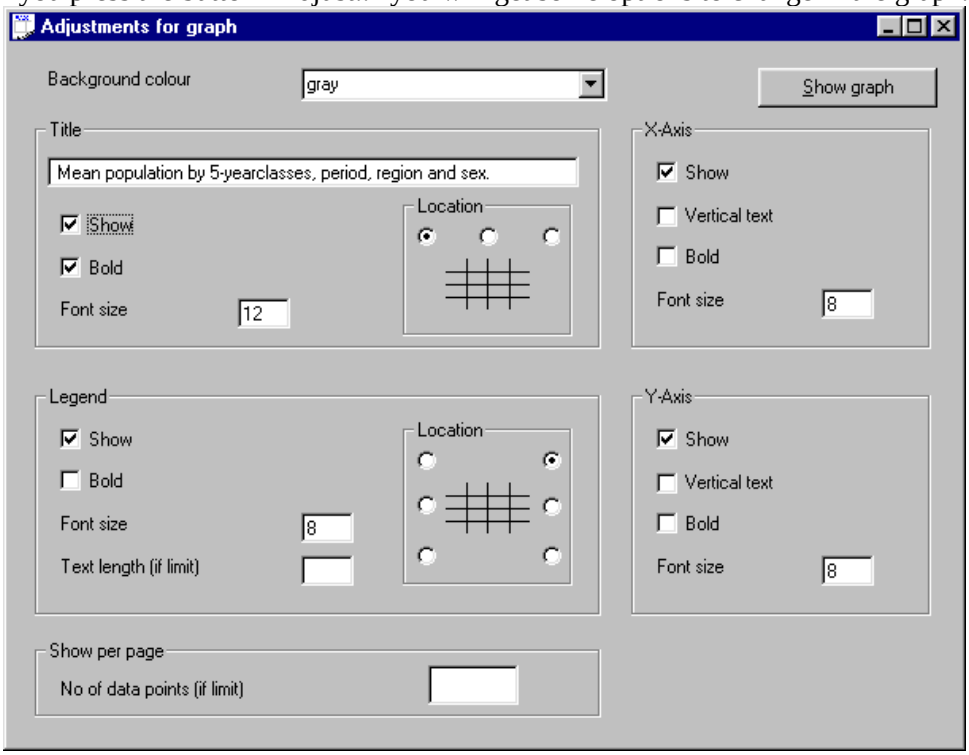
When you have a table in PC-Axis it is possible to make a graph out from it. It is possible to make different types of graphs, like charts, line diagram and population pyramids. There is also possible to make thematic maps that will be showed later on.

If you want to make a graph, please click on this icon:  and the picture below will turn up where you can select from different types of graphs.



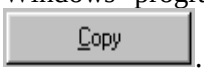
Picture 17

If you press the button ”Adjust..” you will get some options to change in the graph.



Picture 18

To coopy a graph

You can use the option copy in the graph window and insert the graph into another Windows program like MS-Word and MS-Excel. Just click on this button 

.

When arriving to the other program where the graph is supposed to be inserted use the ”paste special” option using ”bitmap” format. If not using this, a table will apear instead of the graph in the windows program.

Notice

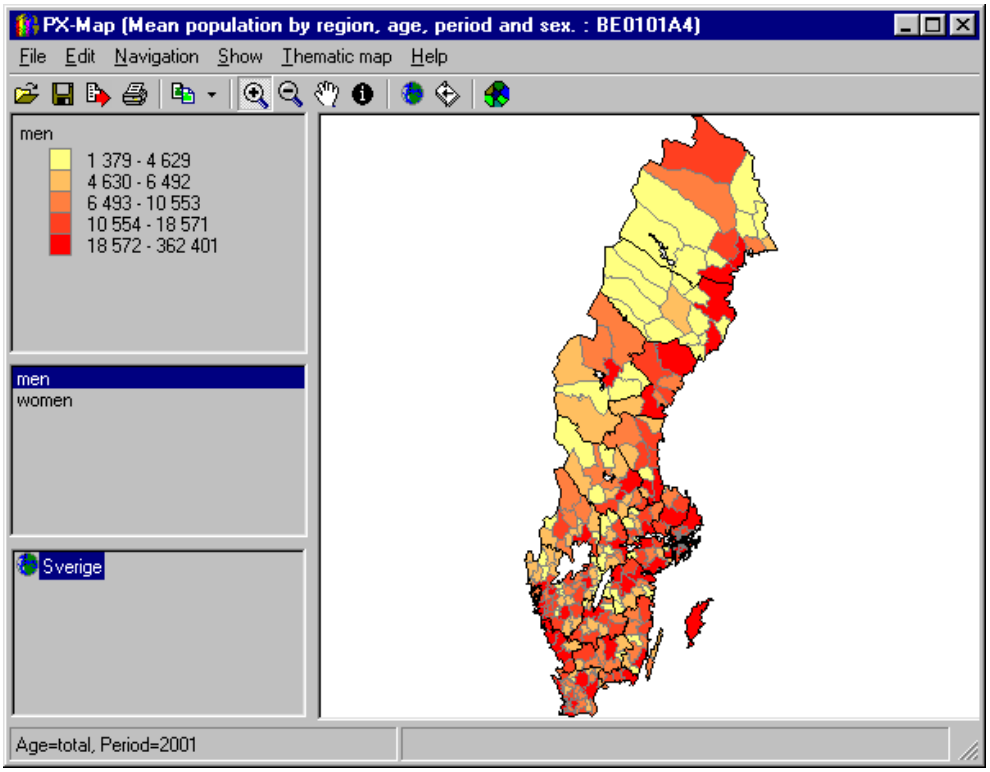
Notice that some of the graph options need a certain structure of the table. For example a population pyramid desires that the age variable is in the stub alone and the sex variable is as column heads. If you are violating these rules PC-Axis will tell you what is wrong for a certain type of graph.

When you have moved a diagram to Excel you must notice that it is just a picture which is not possible to adjust in Excel.
If you on the other hand transfer a table it is of course possible to continue to work on this table in Excel.

PX-Map – presents the statistics as a thematic map

Using the PX-Map makes it possible to transfer your table information into a thematic map. If you want a regional distributed table to be a map, just click the globe icon in the toolbar -  . All tables cannot be presented as maps. If it is not possible the icon is non-collared.

This is how a thematic map in PX-Map looks like:



If you retrieve a table from the Sweden's Statistical databases there is not yet made any link to Maps.

To make a Map link

If you insist to make a map from a table retrieved from Sweden's Statistical Database on the Internet, download the table in PC-Axis file format to your computer and save it. Then you open the file in a text editor like MS-Word. Search for a section looking like this:

TITLE="Mean population by region, age, period and sex.";
CONTENTS="Mean population";
UNITS="number";
STUB="region","age";
HEADING="period","sex";
MAP("region")="Sweden_municipality";

Insert the line:

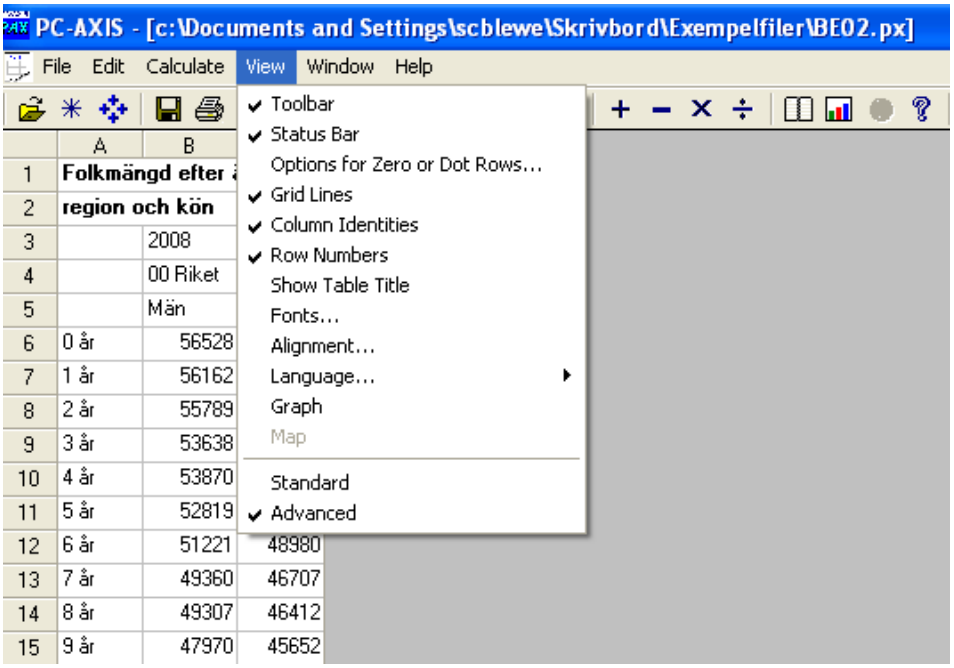
MAP("region")="Sweden_municipality";

You have to insert this line after STUB and HEADING which is in the beginning of the file.

When you save the file again (be aware of that MS-Word tries to change the extension of the file when saving in another file format than doc. Save in txt format and change the extension to PX) it is possible to find the file from PC-Axis and make a map in PX-Map.

About advanced functions in PC-Axis

The presentation of figures in the table cells can optionally hold thousand delimiters. Use the menu View, Advanced



Picture 19

Where you select the tag ”Format for data cells”:

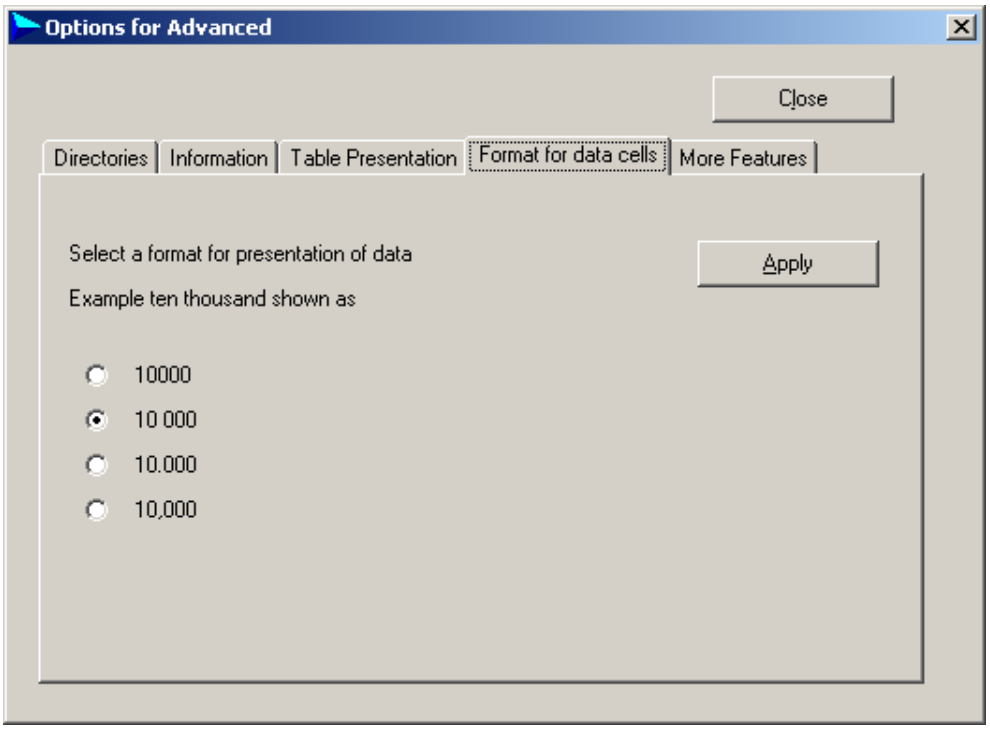


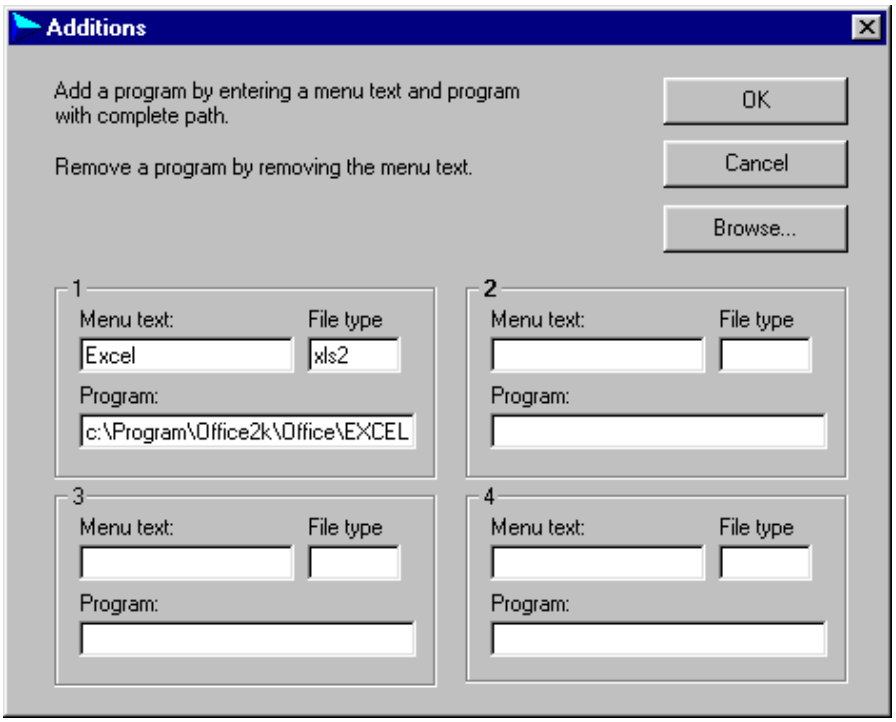
Figure 20.

Then mark the type of format for presentation of data you intend to use in the tables. The selected option will work from the next table opened in PC-Axis.

PC-Axis optionally can be linked to another software. Then it is possible to launge the other program from PC-Axis moving the present table into that very program. To make such a link use the menu View, Advanced. The installation program will automatically establish such a link to MS-Excel if it is available on the computer.

In the new window select folders named More Features and then click on Additions. Now use the folder Other programs and the button 

. And you will find this window:

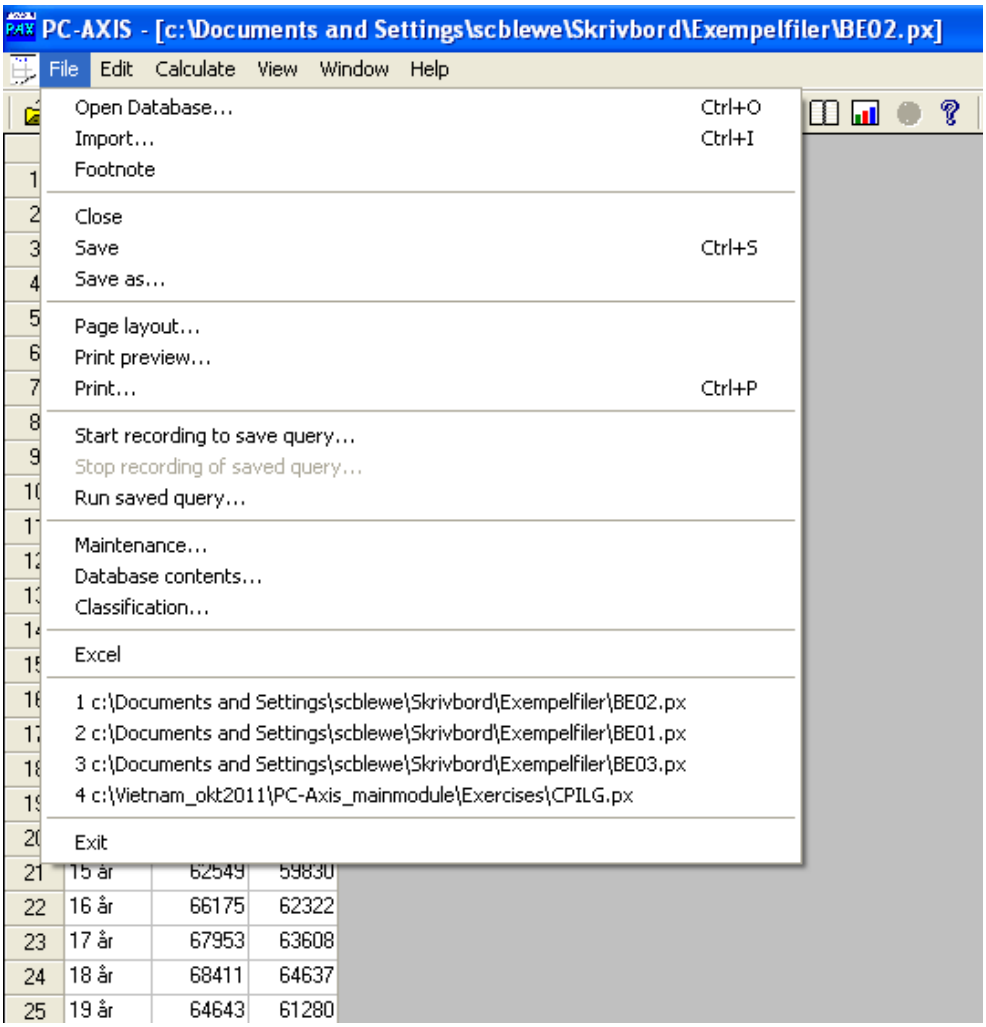


Picture 21

In the dialog box there are options to create links to four other programs. To create such a link PC-Axis needs the following information:

- The name of the program is entered in the Menu text field. If a & sign is entered before a letter in the name this gives a key shortcut for that letter. The program name will appear as a line in the File menu in PC-Axis.
- The file type for the program is entered in the field File type.
- In the field Program the path and the name of the exe-file has to be entered using Browse support. If you cannot find the program search for it using the File explorer search function.

When you getting back to PC-Axis you will find a line in the File menu named Excel.

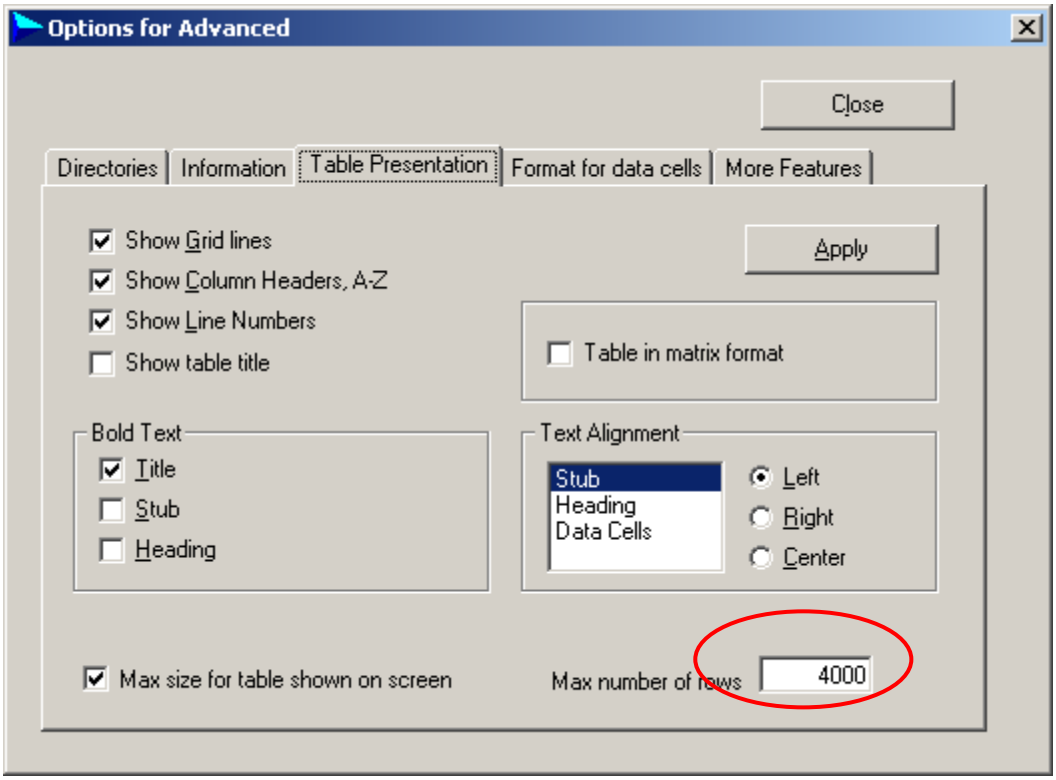


Picture 22

When you click on the Excel line PC-Axis automatically will pass the table on into Excel. In Excel the table will be put in a new sheet and footnotes will appear below the table in Excel.

Table size

Another thing to be happy about concerning PC-Axis is the capacity to handle tables consisting of millions of table cells.
One more thing that makes you glad is that you do not have to watch all these table cells on the screen. The more table cells you show on the screen the longer it will take to make operations on the table. Furthermore it uses more RAM. So it is possible to reduce the number of table lines to be exposed on the screen.
Click on View, Advanced and select a tag called Table Presentation.

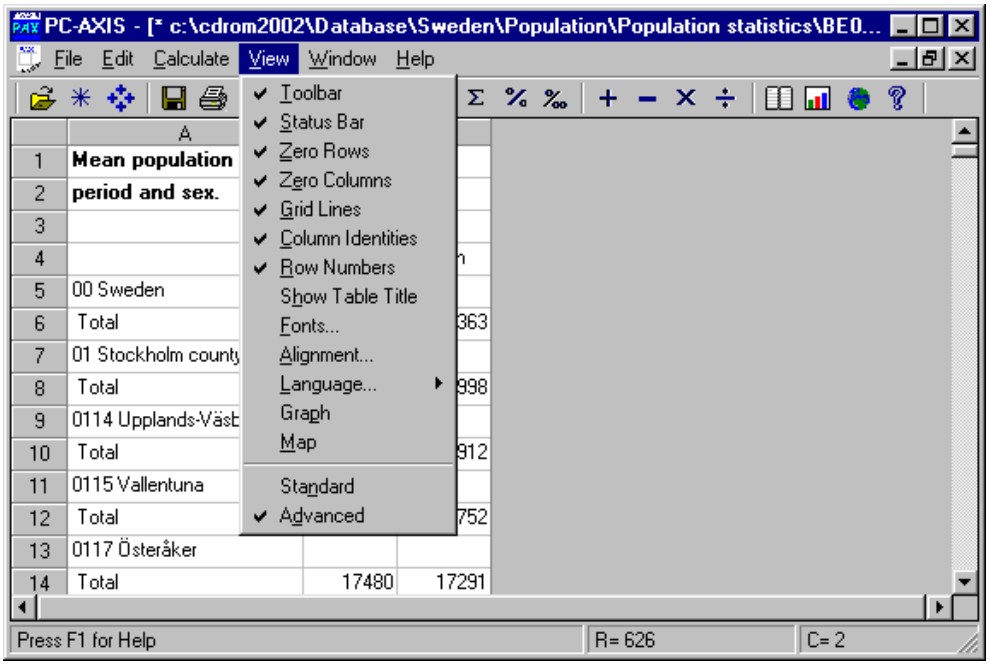


Picture 23

Here you can set the number of lines you as a maximum want the table to use on the screen. Remember that even if you cannot see the table on the screen you can work with the whole table. Everything you do will affect the whole table.

To change the table layout

It is easy to change the table layout. If you do not want to have line numbers, grid frames just enter the View menu omit or insert the different properties.



Picture 24

Within the program it is possible to copy, move or delete tables and subject matter areas. When you are doing it in PC-Axis you are sure that all references are deleted at the same time.

Click on File, Maintenance...
Copy, move or delete a table within a subject matter area. Select Copy/Move or Delete in the dialog box Maintenance. Select a subject area as ”Population” and delete, copy or move the tables.

Classifications

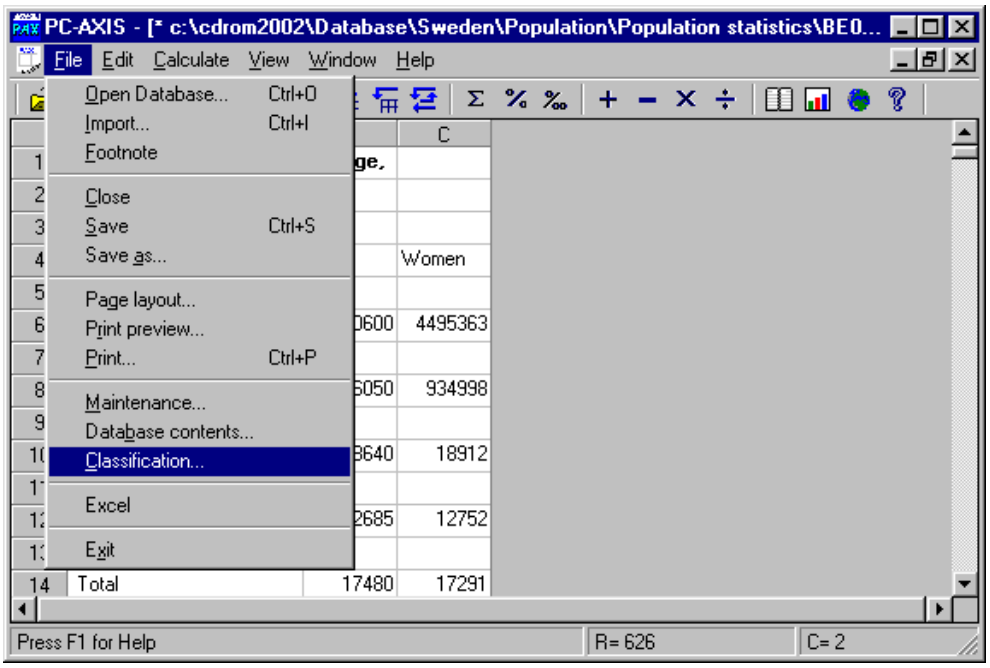
Former mentioned classification will be elaborated and explained and you will see how useful the classifications can be.

The principle is that from a value set define a classification register that contains the desired summing. The classification register then can be used on all files where the very variable classified is used. One useful area is on the variable age where several different classifications can be established. Another is on region where municipalities can be put together in larger areas forming special divisions of the country.

It is not a must to make classification registers; it is possible use the sum function in PC-Axis. The advantage is the possibility to reuse the classifications.
To make a classification list takes some time, but you gain from it every time you use it in the future.

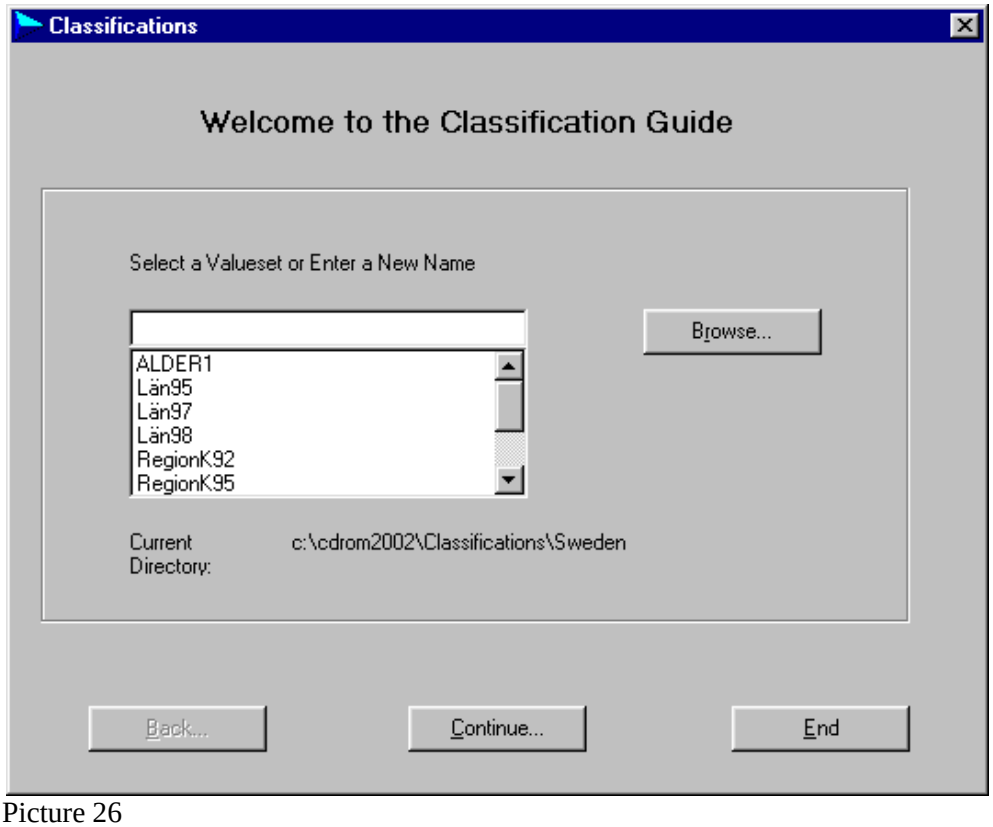
To create a classification based on an existing value set.

Open File, Classification...



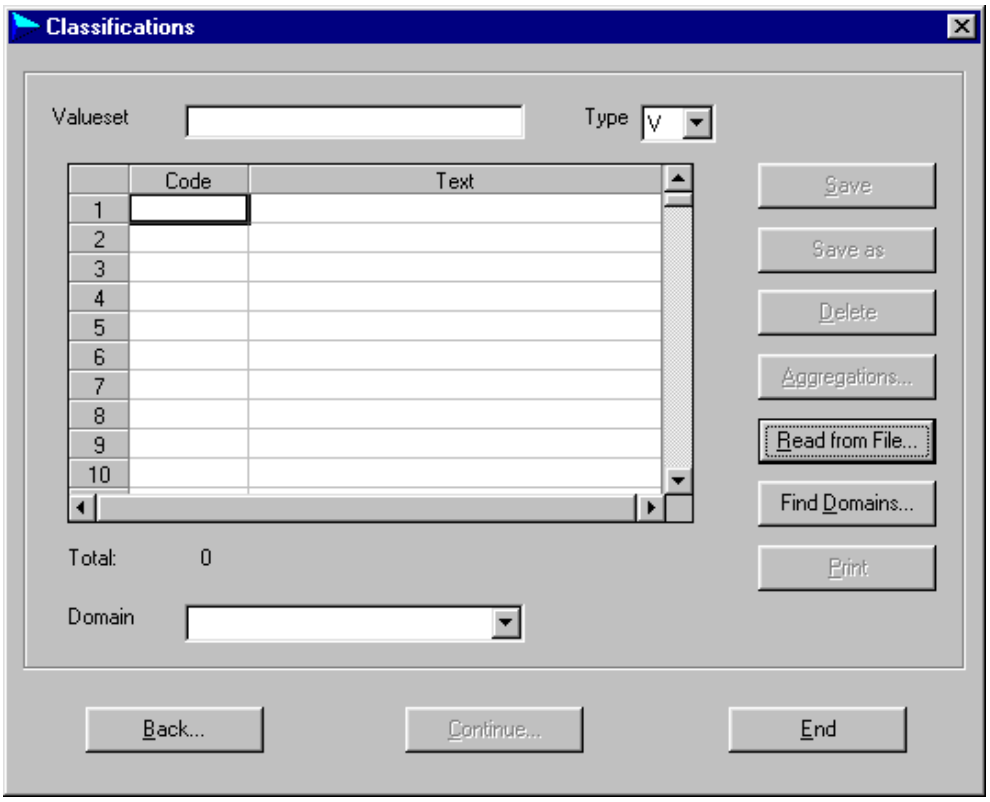
Picture 25

Select among the value sets available in the listbox. For example ALDER1, or use Browse if you want to change to another classification catalogue.



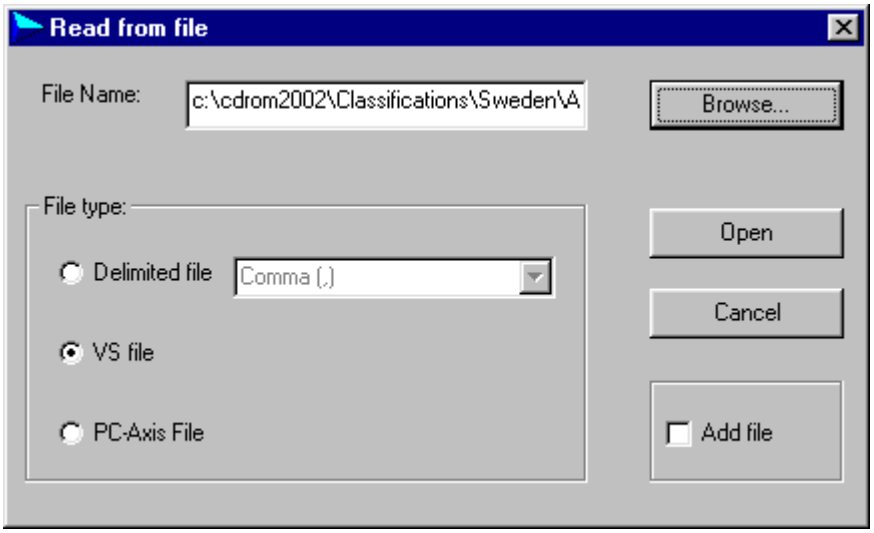
Picture 26

Press Continue..



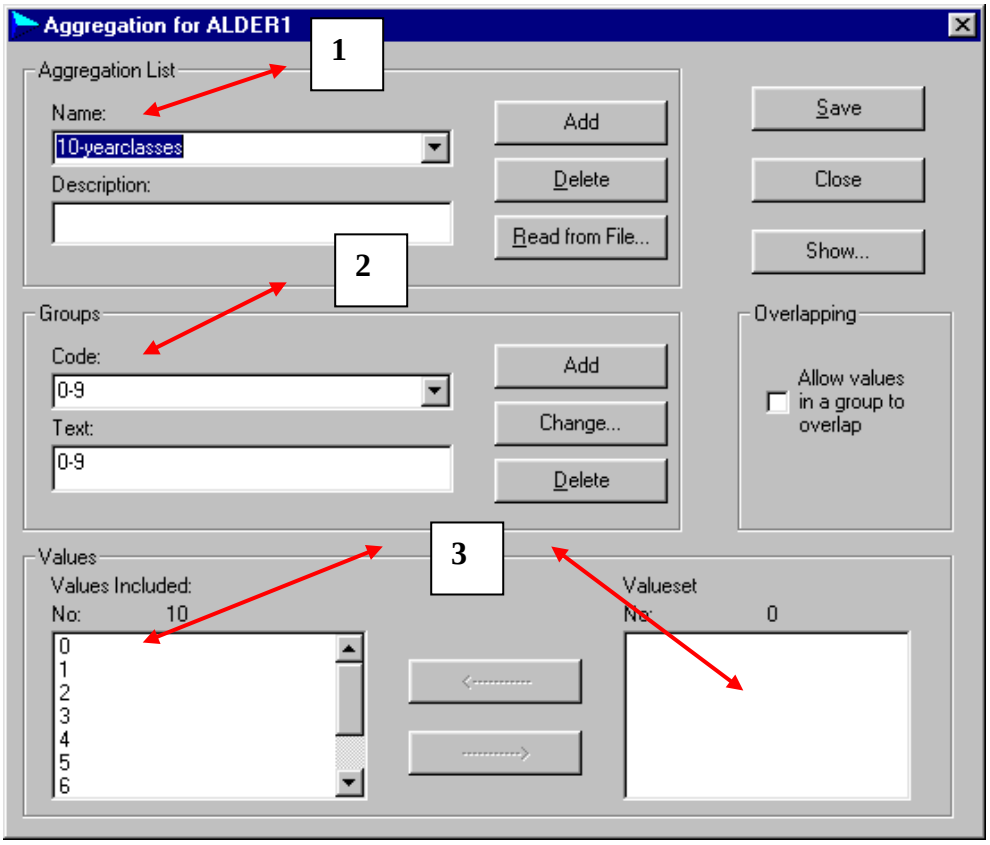
Picture 27

To avoid manual data entry you can use the option Read from file... and you will find a window with already existing value sets.



Picture 28

Now the page will be filled with values from the selected value set (text and codes) for example ALDER1, the name of the domain and the type of value set (V=Value set of normal structure, H= Hierarchical value set, N=sub areas). Press on the button named Aggregations.



Picture 29

1. In the upper field the name of the aggregation list is entered, for example 10-yearclasses. This name will be used in the table heading when this aggregation list is used.
2. In the next field every single group is named (Code and text), for example 0-9 in both fields in this case. Before every new group you press the button Add.
3. In the bottom field you select the values that shall be included into the group for example 0, 1, 2, 3, 4, 5, 6, 7, 8, 9. They will be found in the right hand side list and then transferred to the left using the arrow key on the screen.

If it is not ticked on ”Allow values in a group to overlap” the values will disappear from the right hand box when clicked to the left. This is the most common way of using classification.

If you make groups that contains for example 0-4 years and also one 0-9 years it is necessary to tick the ”Allow values in a group to overlap” button. This because 0-4 is a subset of 0-9.

Use the Show button to check the result.
Then save.

To create a classification based on a new value set.

To be able to create aggregations based on values not available in a classification register, you first have to import those values. The value set is a file containing codes and texts for the values to be aggregated from. For example ”0” with the corresponding text ”0 year”. The code ”1” with the corresponding text ”1 year” and so on. Value sets can be read into PC-Axis from a comma separated file that could look like this:
0,0 year
1,1 year
2,2 year
It is also possible to import an existing value set (a file with the extension VS) to optionally correct it. At most cases it is a PC-Axis file one want to make aggregations for and then the PC-Axis file can be used as input to get the value set.
To be able to use the aggregations one shall secure the consistency between the PC-Axis files and the aggregations lists.

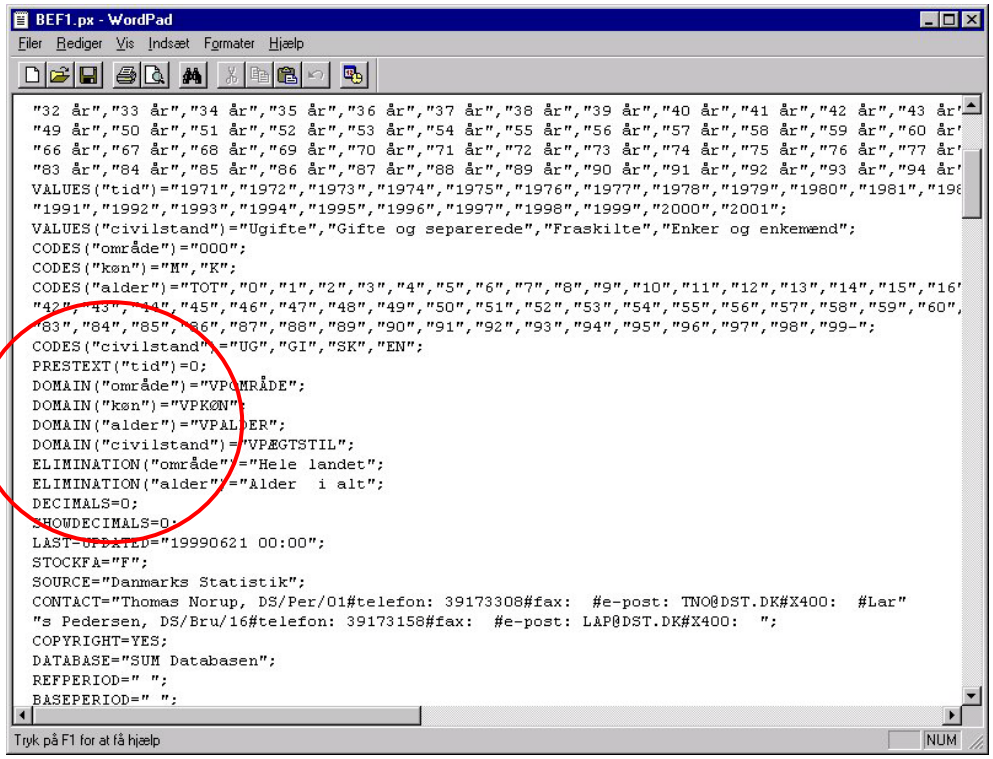
Domain is a keyword that can occur for any variable. It refers to a class of values. A list with all names of existing domains can be seen from the Classification program if the right current database is linked. The name can also be found with the Domain keyword in the PX-file. This name is to be used when establishing a new value set.

When using the aggregation lists you shall secure the right classification catalogue is linked to PC-Axis.

What is wrong?

If you after having created a classification register do not access to it when opening a table the reasons can be the following:

- The Current Classification catalogue does not contain the created classification register. Shift classification catalogue. Do it at the same places as where you shift database. It is also possible to set a default catalogue in ”View, Advanced..”. Select ”Classification Directory” and set the desired catalogue.
- DOMAIN is not corresponding between the PX-file and the value set. Open the PX-file in Notepad and check if the name corresponds to the value set.

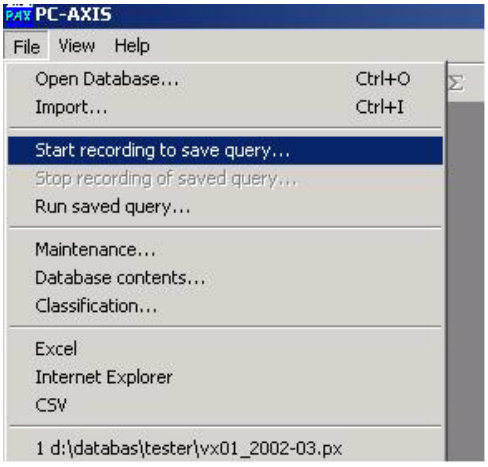


Picture30

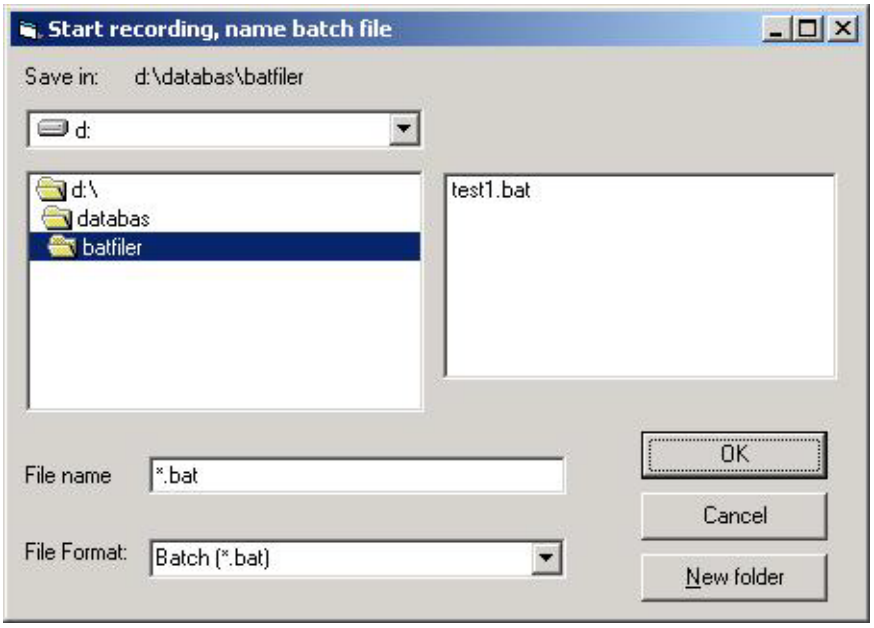
Saved Queries in PC-Axis Main Module

PC-Axis has an option to record a sequence of work and run as a batch. You can record calculations, pivot and convert but not change text in the Edit menu. It is also possible to decide how the time variable is to be treated: Select for instance to always use the last time period(s), or to start with the same time period but add new time periods as they are available.

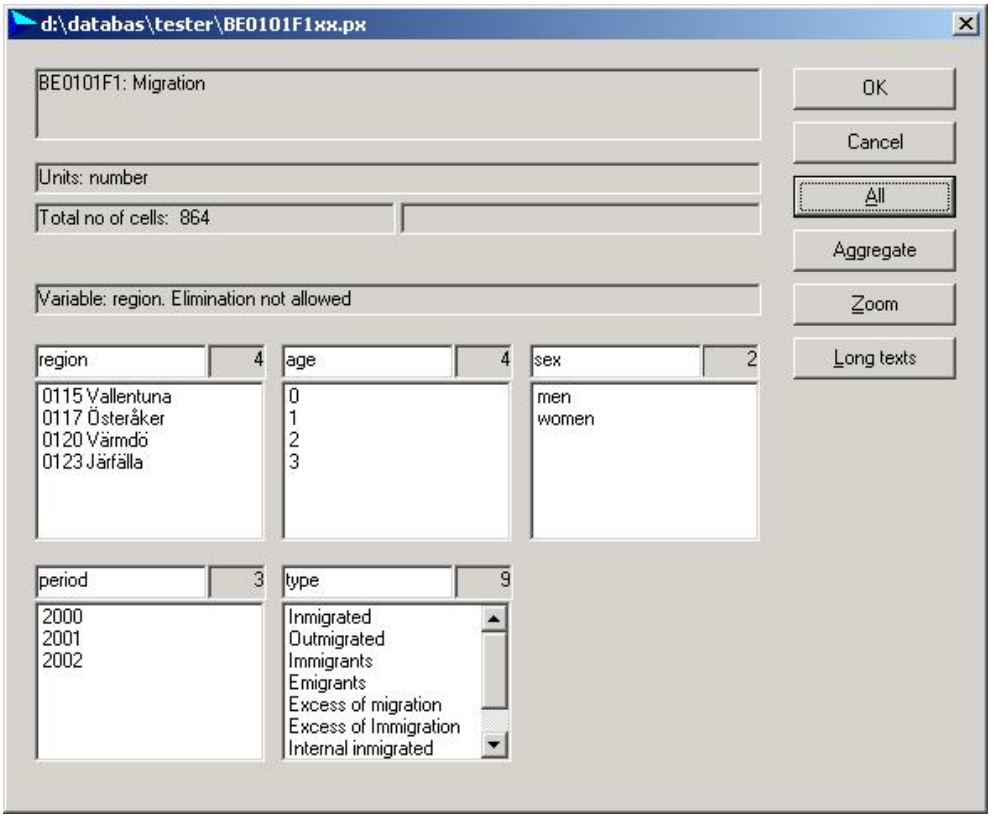
To use this option you start by selecting recording under the file menu



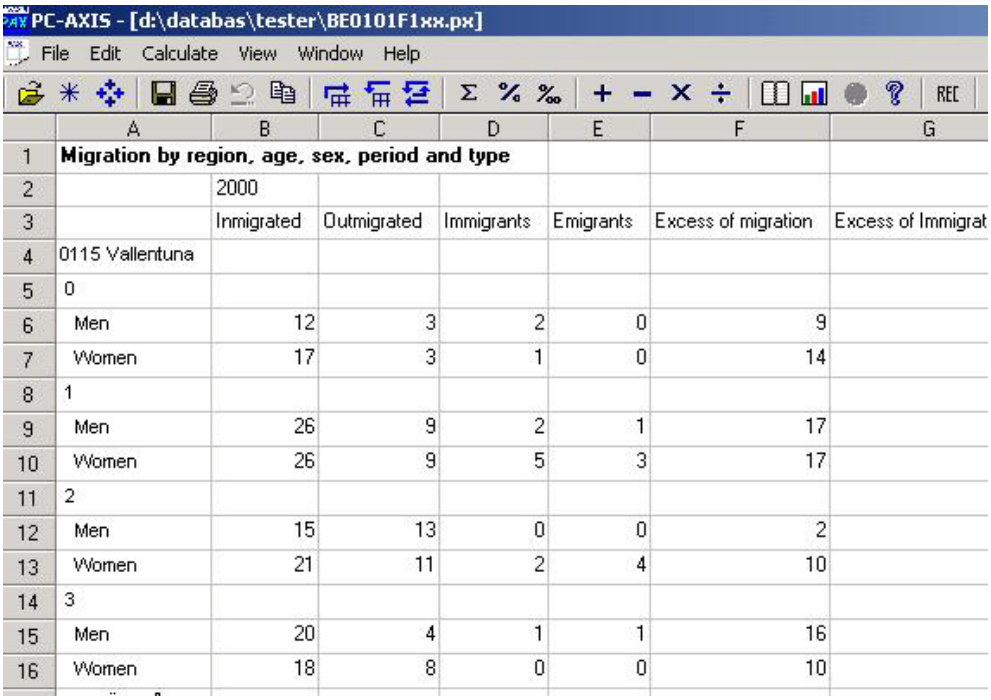
You will be prompted for a file name for the bat file that will be created for your selections.



Next you select the PX file under 'Open database' and the variables and values you want to have.



The table will be shown as usual

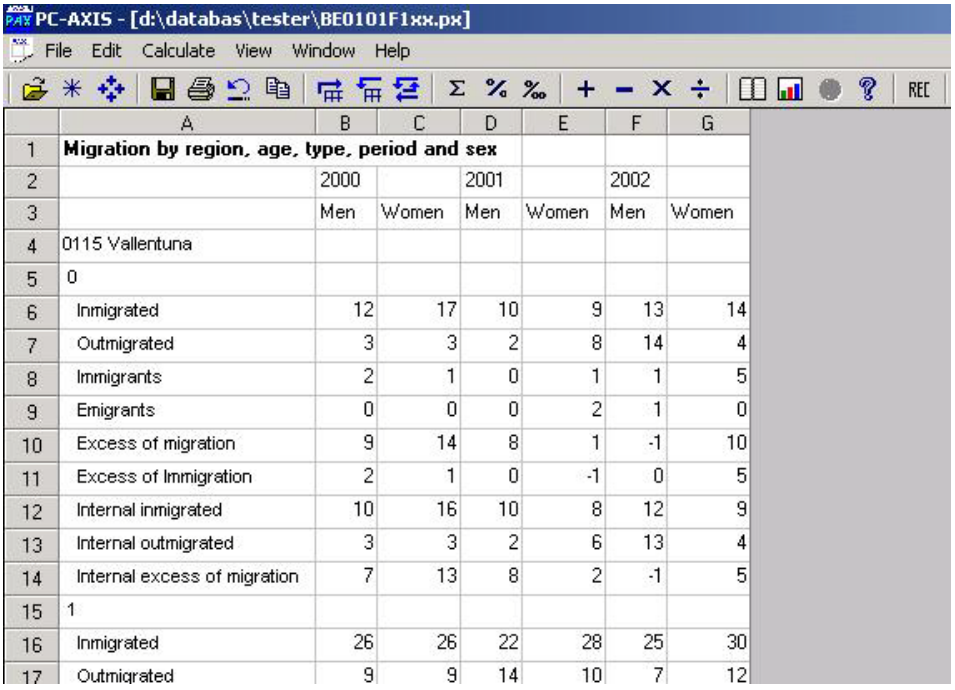


PC-AXIS - [d:\databas\tester\BE0101F1xx.px]

File Edit Calculate View Window Help

	A	B	C	D	E	F	G
1	**Migration by region, age, sex, period and type**						
2		2000					
3		Inmigrated	Outmigrated	Immigrants	Emigrants	Excess of migration	Excess of Immigrat
4	0115 Vallentuna						
5	0						
6	Men	12	3	2	0	9	
7	Women	17	3	1	0	14	
8	1						
9	Men	26	9	2	1	17	
10	Women	26	9	5	3	17	
11	2						
12	Men	15	13	0	0	2	
13	Women	21	11	2	4	10	
14	3						
15	Men	20	4	1	1	16	
16	Women	18	8	0	0	10	

Continue choosing whatever editing and calculations you wish to do, for instance pivot

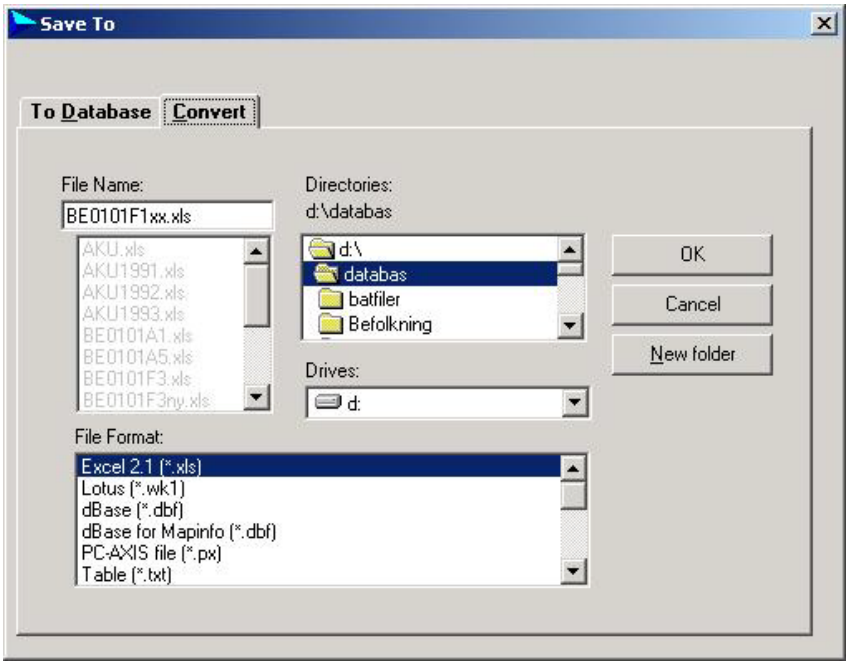


PC-AXIS - [d:\databas\tester\BE0101F1xx.px]

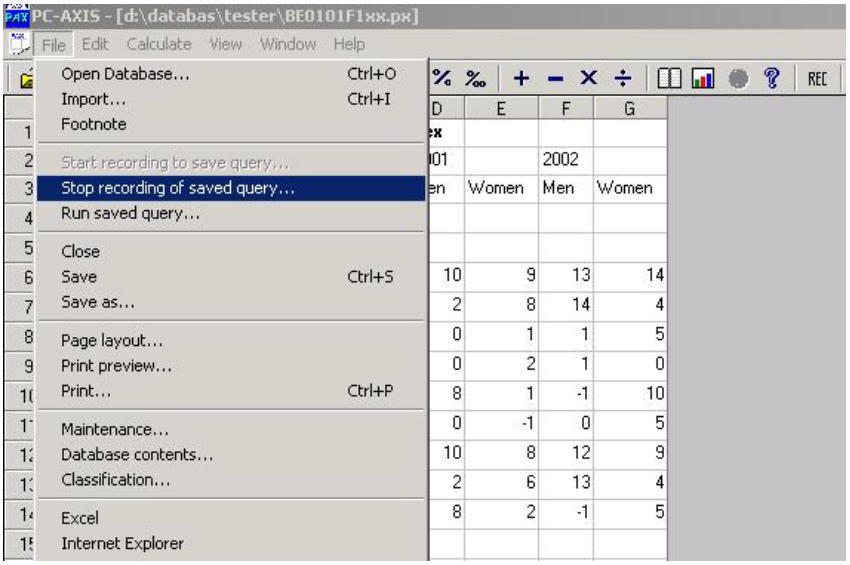
File Edit Calculate View Window Help

	A	B	C	D	E	F	G
1	**Migration by region, age, type, period and sex**						
2		2000		2001		2002	
3		Men	Women	Men	Women	Men	Women
4	0115 Vallentuna						
5	0						
6	Inmigrated	12	17	10	9	13	14
7	Outmigrated	3	3	2	8	14	4
8	Immigrants	2	1	0	1	1	5
9	Emigrants	0	0	0	2	1	0
10	Excess of migration	9	14	8	1	-1	10
11	Excess of Immigration	2	1	0	-1	0	5
12	Internal inmigrated	10	16	10	8	12	9
13	Internal outmigrated	3	3	2	6	13	4
14	Internal excess of migration	7	13	8	2	-1	5
15	1						
16	Inmigrated	26	26	22	28	25	30
17	Outmigrated	9	9	14	10	7	12

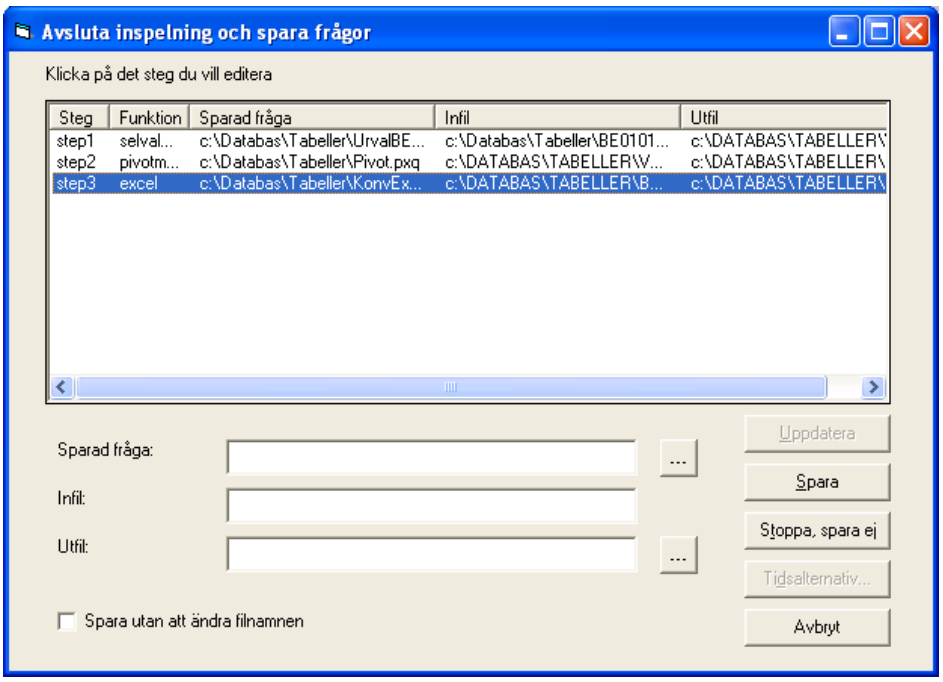
You can also select 'Save as'



When you are ready stop the recording

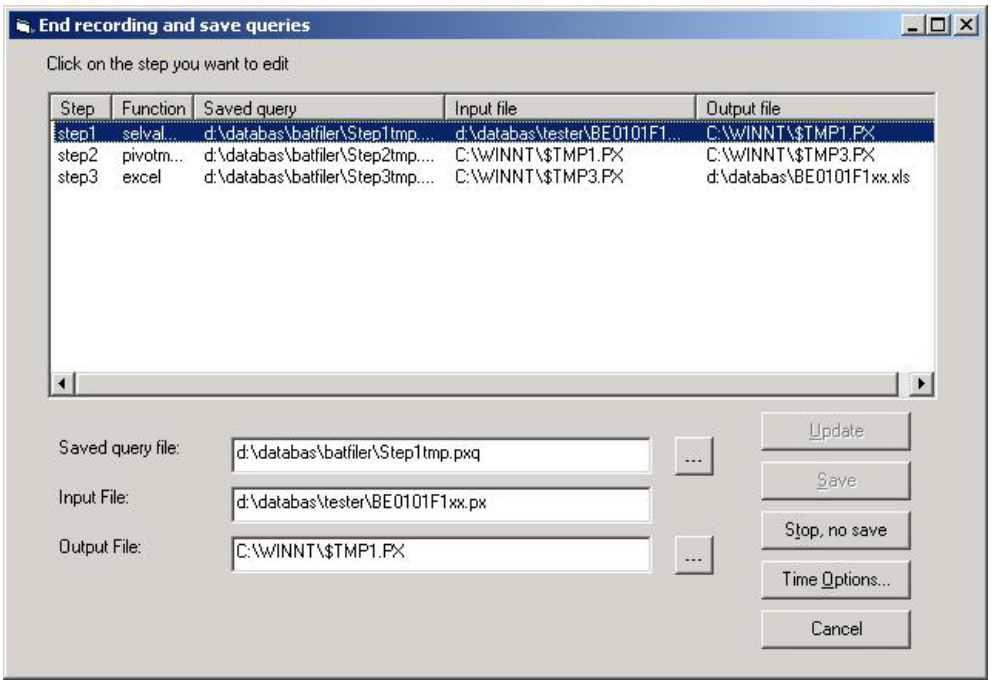


You will see all the steps you have selected since you started recording.



If you want the recorded actions in a catalogue of its own you just click the down left ticking box. The names that can be seen in the window of steps above will not be changed and does not need to be changed in this case. If you on the contrary would like to save more than one recording in the same catalogue you has to rename some of the fields in each step. Click on the first line as can be seen below and the different items opens for editing below the window. The phrasing tmp must be changed for instance. If you rename the output file in step 1 the input file in step2 automatically changes. When a step is edited push update and the line in the window will be changed accordingly.

Repeat the selection and update for each line in the list. When you have done so the button “Save” will be available.



You get a confirmation what has been created and you can run the job as often as you need by selecting run in PC-Axis or by double clicking on the

bat file in Windows Explorer.

List on actions that can be recorded in the Main Module of PC-Axis (PXQ)

Aggregations
Calculations within a table
Conversion into dBase, Excel, Gesmes, HTML, Lotus, text matrix, PX-ML, PRN, PX-file
Pivot, clockwise, anti clockwise and manual pivot
Change value order

The following actions are not allowed when recording in the Main Module of **PC-Axis.**

If you try to use the following actions the recorded query will wrong. **The following could not be done**:
Change texts/codes…
Change texts…
Link with table and Overlay with table
Calculations between tables
Converting to a relational table

PXQ XML files

When a recording is done in PC-Axis the user can decide whether to use the old ini file format or the new XML format.

The steps are recorded in separat temp XML files and when the user ends the recording and gives the file a name the parts are put together in one file which can look like this

```
<?xml version="1.0" encoding="iso-8859-1" ?>
<pxqueries version="1.0">
  <language>en</language>
  <pxlangsuffix></pxlangsuffix>
  <texts>
    <text id="and">and</text>
    <text id="by">by</text>
    <text id="dist">Distributed</text>
    <text id="unit">unit variable</text>
  </texts>
```

```
<datapres>
  <rounding>0</rounding>
  <secrecy>0</secrecy>
  <symbol1>.</symbol1>
  <symbol2>..</symbol2>
  <symbol3>...</symbol3>
  <symbol4>....</symbol4>
  <symbol5>.....</symbol5>
  <symbol6>......</symbol6>
  <symbol7>.......</symbol7>
  <symbolnil>-</symbolnil>
</datapres>
<pxquery                                                    step="1">
  <function>aggregation</function>
  <files>
    <infile>c:\database\Befolkning\BE0101A1oneyear.px</infile>
    <outfile>C:\pxtemp\$tmp6.px</outfile>
    <errorfile>C:\pxtemp\$tmp6.err</errorfile>
  </files>
  <keepdescription>1</keepdescription>
  <classcat>C:\aggreg\Aggreg2006</classcat>
  <variables>
    <noofvar>5</noofvar>
    <variable              order="1"              name="region">
      <valuespecification>text</valuespecification>
      <values>
        <value                                 order="1">*</value>
      </values>
    </variable>
    <variable       order="2"       name="marital       status">
      <valuespecification>code</valuespecification>
      <values>
        <value                                order="1">unm</value>
        <value                                order="2">mar</value>
        <value                                order="3">div</value>
        <value                                order="4">wid</value>
      </values>
    </variable>
    <variable              order="3"              name="age">
      <valuespecification>order</valuespecification>
      <aggreg>C:\aggreg\Aggreg2006\10-years.agg</aggreg>
      <values>
        <value                                 order="1">1</value>
        <value                                 order="2">2</value>
        <value                                 order="3">3</value>
        <value                                 order="4">4</value>
      </values>
    </variable>
    <variable              order="4"              name="time">
      <valuespecification>text</valuespecification>
      <values>
        <value                               order="1">2005</value>
        <value                               order="2">2006</value>
      </values>
    </variable>
    <variable              order="5"              name="sex">
```

```
            <valuespecification>code</valuespecification>
            <values>
              <value                                    order="1">1</value>
              <value                                    order="2">2</value>
            </values>
          </variable>
        </variables>
    </pxquery>
    <pxquery                                                    step="2">
        <function>pivotmanual</function>
        <files>
          <infile>C:\pxtemp\$tmp6.px</infile>
          <outfile>C:\pxtemp\$TMP7.PX</outfile>
          <errorfile>C:\pxtemp\$TMP7.err</errorfile>
        </files>
        <query>
          <stuborder>1,2</stuborder>
          <headorder>4,5,3</headorder>
        </query>
        <variables>
          <noofvar>5</noofvar>
          <variable          order="1"          from="1">region</variable>
          <variable    order="2"    from="2">marital    status</variable>
          <variable           order="3"           from="4">time</variable>
          <variable            order="4"            from="5">sex</variable>
          <variable         order="5"         from="3">10-years</variable>
        </variables>
    </pxquery>
</pxqueries>
```

The tag <valuespecification> is created as 'code' if the keywords Values and Codes exist in the PC-Axis file and as 'text' if only Values exists.

The values for a variable which uses an aggregation file are always referred to by their order in the aggregation list. If a Valuespecification tag is used it must have the value "order" for that variable, but the tag is not needed.

In the above example for variable Region the value is stated as
<value order="1">*</value>
This means that all existing values for this variable are to be used in the px file. This expressions is not created in PC-Axis, but if the pxq xml file is edited elsewhere it is possible to define that all values should be included. This means that if the px file is updated with a new region the saved query need not be changed to include the new value.

If the selection is followed by further steps make sure that the editing or calculations in these steps can still be done after a change of values in the original PX-file.

The functions supported are

Function	Description
selection	Select variables and values
aggregation	Select aggregations and variables and values

pivotmanual	Change variable order, manual
pivotauto	Change variable order, auto
valueorder	Change value order
vardelete	Delete a variable
chgtextcontents	Change text for contents
textcode	Change between text and code presentation
decimals	Change number of decimals (whole table only)
splitquarters	Split time variable when quarters
splitmonths	Split time variable when months
calculation	Operations:
	remove remove values sum sum values for a variable percent per cent permille per 1000 add add 2 values subtract subtract one value from another multiply multiply 2 values divide divide one value with another
filecalculation	Calculations involving 2 files (tables)
excel	Save as Excel
asp	Save as asp
XMLC1	Save as PXML xdf
XMLC2	Save as PXML keys
XMLC3	Save as PXML cals
text	Save as text file
dbase1	Save as dBase 1
dbase2	Save as dBase 2
dbase3	Save as dBase 3
dbase4	Save as dBase 4
graph	Save as graph file
matrix	Save as matrix file
lotus	Save as Lotus wk1 file
html1	Save as html 1 (no table tag)
html2	Save as html 2 (with table tag)
prnmatrix	Save as delimited matrix
prntable	Save as delimited table
reltable	Save as relational table
pxfile	Save as px file

Updated: 2008-01-17

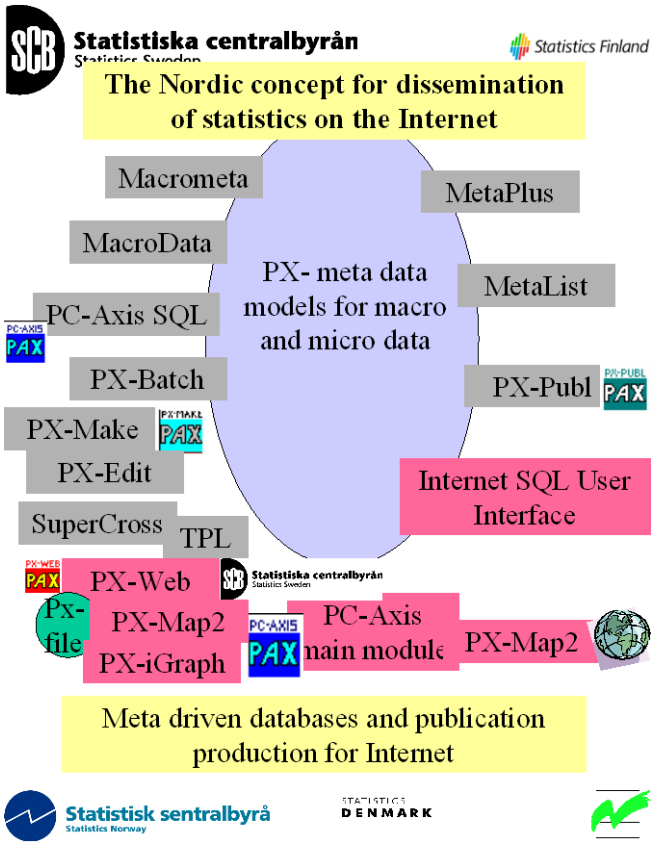
History

PC-Axis was developed for the 1990 Population Census in Sweden. The software has been further developed in the framework of the International PC-Axis Reference Group.
For instance a Windows version 1995, an Internet version of PC-Axis named PX-Web is available and in use since 2000. In Statistics Denmark and Statistics Finland software to create PC-Axis files, named PX-Make and PX-Edit respectively, has been developed. Statistics Norway has made a map-software named PX-Map.

PC-Axis for dissemination of Statistics from other organisations

The PC-Axis family products are used for dissemination of statistics from statistical agencies in a lot of organizations and countries. For a complete list of PC-Axis family members look at the PC-Axis web site:
http://www.scb.se/Pages/List____313990.aspx

Overview of the PC-Axis family software



The PC-Axis family software is leaning on the thesis of Professor Bo Sundgren on Output databases using many dimensional matrices, also called cubicles or boxes. These thoughts are implemented into the data model used in the Sweden's Statistical Databases and also in use in the databanks of Denmark and Norway. In the figure to the left are the programs that touches the ellipse related to the SQL-database, while those not touching the ellipse is only using the PC-Axis file format.
PC-Axis files can be produced by PC-Axis SQL, PX-Batch, PX-Make, PX-Edit (From Finland) and SuperCross. PX-Publ can produce tables direct into a MS-Word- or MS-Excel documents. Makrometa and Metalist are used for the maintenance of the metadata. Metadok is software for entering metadata on registers for micro data.

Contact persons

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