

Chapter 10

Data viewing software

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10.1 Overview of GTAPView

Difference between basedata.har and gtapview.har

Version 4 of the Global Trade Analysis Project (GTAP) data base is structured around the GTAP *value of flow* variables. When opening the core data file (lets call it *basedata.har*) file for viewing with VIEWHAR (see next section for how to use VIEWHAR), you will be able to select and view only one of the 30 value flow variables at a time. For example double-clicking on EVOA will retrieve a 5x45 matrix showing the values of the 5 endowment commodities evaluated at agent's prices across 45 regions.

Alternatively you may also view the GTAP data base using the GTAPView-generated *.har* file. This file contains the same information but it provides a more intuitive and user-friendly way to look at the GTAP data base. Matrices are structured around the basic accounting relationships underpinning the model and they are labeled and grouped so as to ease comparisons and interpretations.

The “*gtapview.har*” file is generated with the *gtapview.exe* program. This executable program is a TABLO-generated file from the *gtapview.tab* input file and is used with the purpose of transforming the output file of a simulation into a GTAPView format.

How to run gtapview.exe

Copy the following files into an empty directory:

<i>gtapview.exe</i>	- program file
<i>gtapdata.har</i>	- file containing value flows
<i>gtapsets.har</i>	- file containing the definitions of sets
<i>gtapview.cmf</i>	- command file
<i>gtapview.axs</i>	- auxiliary statement file
<i>gtapview.ast</i>	- auxiliary table file

If you have the Gempack code you can generate the *.exe*, *.axs*, and *.ast* files above from the Tablo input file *gtapview.tab*. *Gtapdata.har* refers to a *.har* file generated as an output of a simulation. In our example we will use the core data file called *basedata.har* with its corresponding set file, *sets.har*. The command file tells the program where to find the specific input files and where to create a GTAPView output. In the following example, the output file will be created under the same directory and named *gtapview.har*.¹

```
!_____gtapview.cmf_____
! Auxiliary files
aux files = gtapview
!
! files
!
file gtapSETS = sets.har;
file gtapDATA = basedata.har;
file gtapVIEW = gtapview.har;
!
! Output File Specification
!
Log           File = gtapview.LOG ;
!_____End of file._____
```

You can now open the *gtapview.exe* program file and run it using the specified command file. Assuming you are operating from DOS prompt, when prompted, type:

CMF	<carriage return>
Gtapview.cmf	<carriage return>

¹ These names can vary. For example, in the version 4 GTAP data base, the core data file is called *gsddat.har*, and the corresponding GTAPView-generated file is called *v4view.har*.

This will run the program and generates a *gtapview.har* output file along with a *gtapview.log* file in your directory. Once *gtapview.har* is generated you can view it using the utility VIEWHAR.² If you are using WinGEM, instructions on how to execute the program via a Command file can be found in: “Hands on Computing with WinGem to Introduce GEMPACK and GTAP”, Ken Pearson July 1996 (or later edition).”

10.2 Overview of VIEWHAR

VIEWHAR allows the user to browse and extract the contents of *header-array* files such as the standard GTAP data base (*basedata.har*) or the GTAPView output (*gtapview.har*). It is particularly useful since it can display multidimensional matrices via an easy-to-use menu system.

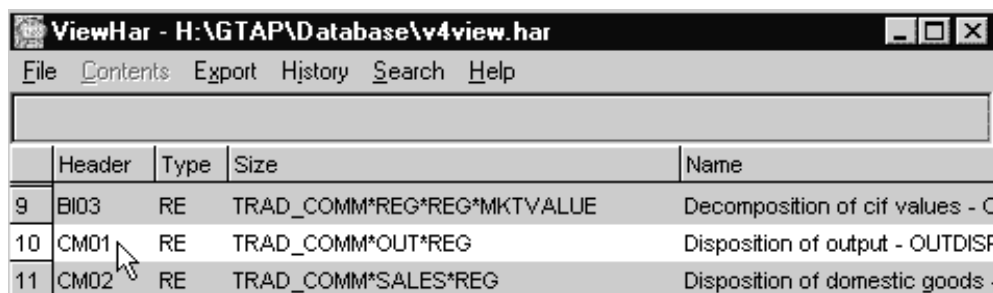
The 4 basic steps in using VIEWHAR are:

- Open the GTAP data base
- Browse between tables
- Create your table
- Export your table

Step 1: Open the data base

We will use the data base file called *gtapview.har*. When opening this file with VIEWHAR, a *Contents* page will be first displayed on your screen. A simple double-click on one of the 20 variables listed on this page (here we chose to take a look at CM01) and you will be able to access the underlying data.

Always click on Contents from the upper menu bar to go back to the Contents page.



	Header	Type	Size	Name
9	BI03	RE	TRAD_COMM*REG*REG*MKTVALUE	Decomposition of cif values - C
10	CM01	RE	TRAD_COMM*OUT*REG	Disposition of output - OUTDISP
11	CM02	RE	TRAD_COMM*SALES*REG	Disposition of domestic goods -

Step 2: Browse

Due to the nature of the GTAP model, the data provided by the data base is often 3 or more dimensional.

Let's take the example below. The variable called CM01 gives the disposition of domestic sales. Domestic sales of wheat (*wht*), for example, can be further broken down by destination between Firms (transformation), Investments, Consumption (private consumption), Government (public consumption), Exports (foreign consumption), and Imports.

Because your screen is 2-dimensional you can only select 2 dimensions to view at a time. VIEWHAR provides a drop-down box at the top right-hand corner to browse between the different regions you are interested in. The number of drop-down boxes is the dimension of the matrix (here 3-dimensional by traded commodity, economic sectors and regions).

If you want to compare the disposition of sales in different regions on the same table then you will first need to select only one commodity from the second right-hand drop-down box. In our example we selected '*wht*' for 'wheat'.

The screenshot shows the ViewHar window with the title 'ViewHar - H:\GTAP\Database\v4view.har'. The menu bar includes File, Contents, Export, History, Search, and Help. Below the menu bar, there are three drop-down boxes: the first is set to 'None', the second to '1', and the third to 'wht'. To the right of these are two more drop-down boxes: 'All OUT' and 'Sum REG'. Below the menu bar, there is a table with two columns. The first column has labels '1 dom', '2 trans', '3 export', and 'Total'. The second column has values '72241.7', '0', '17162.0', and '89403.8'. To the right of the table, there is a list of items: 'wht', 'gro', 'v_f', 'osd', 'c_b', and 'nfh'. The item 'wht' is selected and highlighted.

	1
1 dom	72241.7
2 trans	0
3 export	17162.0
Total	89403.8

The next step would be to select 'All REG' for 'all regions' from the third right-hand drop-down box.

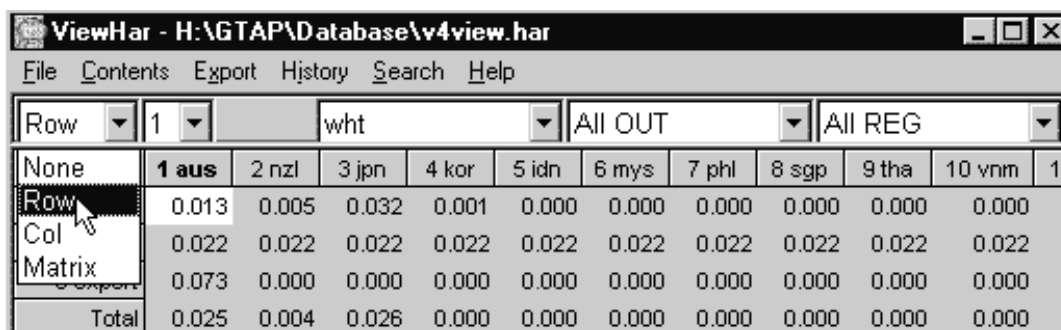
The screenshot shows the ViewHar window with the title 'ViewHar - H:\GTAP\Database\v4view.har'. The menu bar includes File, Contents, Export, History, Search, and Help. Below the menu bar, there are three drop-down boxes: the first is set to 'None', the second to '1', and the third to 'wht'. To the right of these are two more drop-down boxes: 'All OUT' and 'All REG'. Below the menu bar, there is a table with eight columns representing different regions: '1 aus', '2 nzl', '3 jpn', '4 kor', '5 idn', '6 mys', '7 phl', and '8'. The first column has labels '1 dom', '2 trans', '3 export', and 'Total'. The first seven columns have values for each region. The eighth column has values 'Sum REG', 'aus', 'nzl', 'jpn', and 'kor'. The item 'All REG' is selected and highlighted in the third right-hand drop-down box.

	1 aus	2 nzl	3 jpn	4 kor	5 idn	6 mys	7 phl	8
1 dom	967.4	335.7	2277.5	40.8	13.7	0.5	12.5	Sum REG
2 trans	0	0	0	0	0	0	0	aus
3 export	1250.4	0.0	6.5	0.0	0.0	0.5	0.0	nzl
Total	2217.8	335.7	2284.0	40.8	13.7	1.0	12.5	jpn
								kor

And finally we get to the disposition of domestic sales of wheat to firms by region.

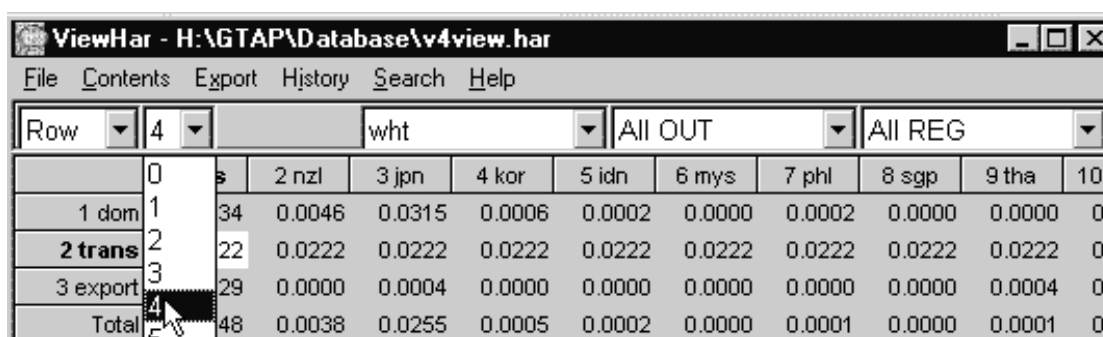
Step 3: Create your table

Because it is not easy to compare value data, VIEWHAR provides you with 2 other drop-down boxes on the left-hand side to create percentage tables. With the first drop-down box you can choose between calculating shares by row (as shown below) which gives you a last column full of '1.000' or by column which will give you a last row of '1.000'!



Row	1	2	3	4	5	6	7	8	9	10	11
None	1 aus	2 nzl	3 jpn	4 kor	5 idn	6 mys	7 phl	8 sgp	9 tha	10 vnm	11
Row	0.013	0.005	0.032	0.001	0.000	0.000	0.000	0.000	0.000	0.000	0.000
Col	0.022	0.022	0.022	0.022	0.022	0.022	0.022	0.022	0.022	0.022	0.022
Matrix	0.073	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
Total	0.025	0.004	0.026	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000

You can also select the number of decimals using the second left-hand side drop-down box as demonstrated below.



Row	4	2	3	4	5	6	7	8	9	10	11
0	1 dom	2 nzl	3 jpn	4 kor	5 idn	6 mys	7 phl	8 sgp	9 tha	10 vnm	11
1	0.034	0.0046	0.0315	0.0006	0.0002	0.0000	0.0002	0.0000	0.0000	0.0000	0.0000
2	0.022	0.0222	0.0222	0.0222	0.0222	0.0222	0.0222	0.0222	0.0222	0.0222	0.0222
3	0.029	0.0000	0.0004	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0004	0.0000
4	0.048	0.0038	0.0255	0.0005	0.0002	0.0000	0.0001	0.0000	0.0001	0.0001	0.0001

Step 4: Export

You can easily export the tables in VIEWHAR to Spreadsheet programs using the *Export* command from the menu bar. Select *Copy* from the *Export* menu, this will copy the contents of your table to the clipboard. Then open a spreadsheet program (Excel, Quattro Pro etc..) and select *Paste* from the *Edit* menu to paste the contents of the clipboard onto a new spreadsheet.