

Chapter 10

Data Viewing Software

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10.1 Overview of GTAPView

The core data file of the GTAP data base consists of GTAP *value flow* variables. When opening the core data file for viewing with *ViewHAR* (see section 10.2 for how to use *ViewHAR*), you will be able to select and view only one of the value flow variables at a time. For example, double-clicking on *EVOA* will retrieve a 5 x 66 matrix showing the values of the 5 endowment commodities evaluated at agent's prices across 66 regions. The core data file is the data base actually used by the GTAP model in general equilibrium simulations. It is the file *basedata.har* created by *GTAPAgg* (chapter 9.A) or *gdat.har* generated by the command line aggregation program (chapter 9.B).

Alternatively, you may also view the GTAP data base using the *GTAPView*-generated summary data file (*baseview.har* created by *GTAPAgg*; *gview.har* from the command line aggregation program). The file contains the same information but it provides a more intuitive and user-friendly summary view of the GTAP core data file. Matrices are structured around the basic accounting relationships underpinning the model and they are labeled and grouped so as to ease comparisons and interpretations. Table 10.1 reports the data headers in the summary data file.

The data summary file is generated by the *GTAPView* program. The executable program is created from a TABLO-generated file, *gtapview.tab*, which transforms the core data file or the updated data file from a simulation into the *GTAPView* format. The *GTAPview* program also generates a tax rates summary file (*baserate.har* created by *GTAPAgg*; *gtax.har* from the command line aggregation program). Table 10.2 reports the data headers in the tax rates file.

Table 10.1 Data Headers in the GTAPView Data Summary File

Header	Dimension	Description
AG01	$r \times GDPEXPEND$	GDP from the expenditure side
AG02	$r \times GDPSOURCE$	GDP from the sources side
AG03	$e \times p \times r$	Sources of factor income by sector
AG04	$r \times CAPACCT$	Capital account: $S - I = X - M$
AG05	$r \times CURACCT \times t$	Current account: $X - M = S - I$
AG06	r	Capital stock by region
BI01	$t \times r \times r \times EXPVALUE$	Decomposition of exports at world prices
BI02	$t \times r \times r \times IMPVALUE$	Decomposition of imports at market prices
BI03	$t \times r \times r \times MKTVALUE$	Decomposition of <i>cif</i> values
CM01	$t \times OUT \times r$	Disposition of output
CM02	$t \times SALES \times r$	Disposition of domestic goods
CM03	$t \times SALES \times r$	Disposition of imported goods
CM04	$t \times r \times OUTVALUE$	Value of output at market prices
CM05	$t \times r$	Self-sufficiency or domestic share in total use
SF01	$d \times p \times r \times DIR \times PURCHVALUE$	Cost structure of firms
SF02	$t \times r \times DIR \times PURCHVALUE$	Cost structure of consumption
SF03	$t \times r \times DIR \times PURCHVALUE$	Cost structure of government

d number of demanded commodities ($d = t + e$)

e number of endowment commodities (primary factors)

p number of produced commodities ($p = t + 1$)

r number of regions

t number of tradable commodities (sectors)

Table 10.2 Data Headers in the Tax Rates File

Header	Dimension	Description
RTF	$e \times p \times r$	% <i>ad valorem</i> rate, taxes on primary factors
RTFD	$p \times p \times r$	% <i>ad valorem</i> rate, taxes on firms' domestic purchases
RTFI	$p \times p \times r$	% <i>ad valorem</i> rate, taxes on firms' imports purchases
RTGD	$p \times r$	% <i>ad valorem</i> rate, government domestic purchases taxes
RTGI	$p \times r$	% <i>ad valorem</i> rate, government import purchases taxes
RTMS	$p \times r \times r$	% <i>ad valorem</i> rate, import taxes, by source
RTO	$n \times r$	% <i>ad valorem</i> rate, output (or income) subsidy in region r
RTPD	$p \times r$	% <i>ad valorem</i> rate, private domestic consumption taxes
RTPI	$p \times r$	% <i>ad valorem</i> rate, private import consumption taxes
RTXS	$p \times r \times r$	% <i>ad valorem</i> rate, export subsidies, by destination

e number of endowment commodities (primary factors)

n number of non-savings commodities ($n = t + e + 1$)

p number of produced commodities ($p = t + 1$)

r number of regions

10.2 Overview of ViewHAR

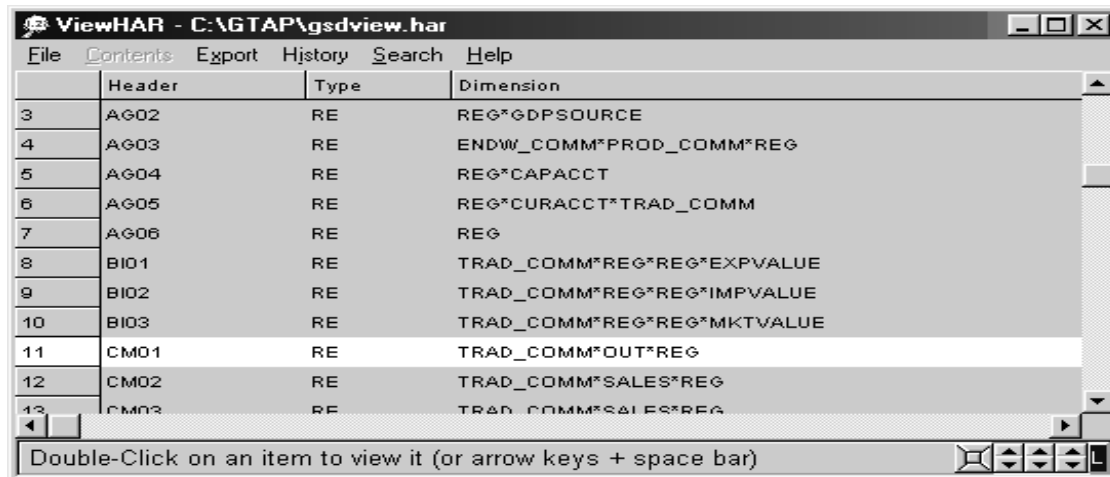
ViewHAR, developed by Mark Horridge of the Centre of Policy Studies of Monash University, allows the user to browse and extract the contents of *header-array* files such as the standard GTAP core data file (*basedata.har*) or the GTAPView output (*baseview.har*). It is particularly useful since it can display multi-dimensional matrices via an easy-to-use menu system.

The 4 basic steps in using ViewHAR are:

- Open the GTAP data base file
- Browse the data
- Create your table
- Export your table

Step 1: Open the data base file

We will use the data base file called *gsdview.har*. When opening this file with ViewHAR, a *Contents* page will first be displayed on your screen. With a simple double-click on one of the variables listed on the page (here we chose to take a look at CM01) 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.

Step 2: Browse the data

Due to the nature of the GTAP model, the data provided often has three or more dimensions. In the example below, the variable called CM01 gives the disposition of output. Output of wheat (*wht*), for

example, can be further broken down by destination of sales into domestic sales (*dom*), sales to the transport sector (*trans*) and sales to export markets (*export*).

Because the screen is 2-dimensional you can only select two 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: traded commodity, output sales destinations, 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”.

	1 dom	All TRAD_COMM	All OUT	Sum REG
1 pdr	148158.09	Sum TRAD_COMM	0	
2 wht	85110.40	pdr	0	1
3 gro	126497.10	wht	0	1
4 v_f	396479.31	gro	0	4
5 osd	78135.60	v_f	0	1
6 c_b	48064.96	osd	0	
7 pfb	37239.60	c_b	0	
8 ocr	120693.52	pfb	0	
9 ctl	198852.32	ocr	0	3
		ctl	0	
		oap	0	
		rmk		
		wol		
		for		

CM01 Size: TRAD_COMM * OUT [* Sum over REG]

The next step would be to select *All REG* for 'all regions' from the third right-hand side drop-down box. And finally we get the disposition of sales of wheat by region.

	1 aus	2 nzl	3 chn	4 hkg	All REG
1 dom	549.9641	363.8126	11259.0586	8.1698	Sum REG
2 trans	0	0	0	0	aus
3 export	2152.8396	3.8017	18.4595	0.0207	nzl
Total	2702.8037	367.6143	11277.5181	8.1906	chn
					hkg
					jpn
					kor
					twm
					idn
					mys
					phl
					sgp
					tha
					vnm

CM01 Size: [wht] * OUT * REG Disposition of output - OUTDISP

Step 3: Create your table

Because it is not easy to compare value data, ViewHAR provides the user with two 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!

ViewHAR - C:\GTAP\gsdview.har

File Contents Export History Search Help

Row: 4 Col: All OUT All REG

	1 aus	2 nzl	3 chn	4 hkg	5 jpn	6 kor	7 tw'n	8 idn
None	0.0065	0.0043	0.1323	0.0001	0.0076	0.0001	0.0003	0.0001
Row	0	0	0	0	0	0	0	0
Col	0.1263	0.0002	0.0011	0.0000	0.0000	0.0000	0.0000	0.0000
Matrix	0.0265	0.0036	0.1104	0.0001	0.0063	0.0001	0.0003	0.0001
3 export								
Total								

CM01 Size: [wht] * OUT * REG Disposition of output - OUTDISP

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

ViewHAR - C:\GTAP\gsdview.har

File Contents Export History Search Help

Row: 0 Col: All OUT All REG

	2 nzl	3 chn	4 hkg	5 jpn	6 kor	7 tw'n	8 idn	9 mys
0	0.006	0.004	0.132	0.000	0.008	0.000	0.000	0.000
1 dom	0	0	0	0	0	0	0	0
2 trans	0	0	0	0	0	0	0	0
3 export	0.000	0.001	0.000	0.000	0.000	0.000	0.000	0.001
4	0.004	0.110	0.000	0.006	0.000	0.000	0.000	0.000
5 Total								
6								

CM01 Size: [wht] * OUT * REG Disposition of output - OUTDISP

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.