OPTIONS

OPTIONS APPEND, BASEYEAR=*value*, CHARID, CRT, DATE, DEBUG, DOUBLE, FAST,
HARDCOPY, INDENT=*# of spaces*, LEFTMG=*left margin*,LIMCOL=*column width for input*,
LIMERR=*maximum # of errors*, LIMNUM=*maximum # of numerical errors*,
LIMPRN=*printer line width*, LIMWARN=*maximum # of warning messages printed*,
LIMWNUMC=*maximum # of numeric warning messages printed per command*,
LINLIM=*lines per printer page*, MEMORY=*size of memory for TSP*,
NWIDTH=*# of digits printed*, PLOTS, REPL,RESID, SECONDS=*# of seconds*,
SIGNIF=*# of significant digits printed*, TOL=*tolerance for matrix inversion* ;

Function:

OPTIONS is used to set various options for the TSP run.

Usage:

Usually OPTIONS is the first statement in a TSP run, before the NAME statement; this conveniently sets the output format for the entire run, for example, the CRT option. However, an OPTIONS statement may be included anywhere in your TSP program (except the load section) to change certain global parameters.

If you use the same options repeatedly, you may want to place them in a login.tsp file. Every time TSP starts, it checks for a login.tsp file, and sets the options accordingly. Normally, TSP looks for login.tsp in your working directory. If it does not find one, it looks in the directory in which you installed TSP for DOS and Windows, in the folder in which you installed TSP for Macs, and in the home directory on Unix.

Many options on the OPTIONS statement can also be set using individual commands for compatibility with older versions of TSP. These commands include PLOTS/NOPLOT, REPL/NOREPL, DEBUG/NODBUG (same as NODEBUG), MAXERR (same as LIMERR), and TOL.

Options:

APPEND/**NOAPPEND** updates the .OUT file (in batch mode) at each nonlinear iteration. This is useful for monitoring the progress of a long estimation on a multitasking operating system.

BASEYEAR= value used to make dates from 2 digit numbers. The default is 1900. For example, by default, 86:2 means 1986:2. If you set BASEYEAR=2000, 86:2 would mean 2086:2. BASEYEAR can also be set to zero, so that you can use dates in the first two centuries.

CHARID/**NOCHARID** treats the ID series as characters (instead of numbers) when printing observation labels. To use this option, read in your ID series using an A8 format statement.

CRT sets several output format options to values suitable for viewing output on a 24 line by 80 character screen. These are LIMPRN=80, LINLIM=24, and LEFTMG=0. The page headings (date, time, and page number) are also suppressed in CRT mode.

DATE/NODATE suppresses the date, and time headings at the top of each page of TSP output. A user title, and page number if present, is still printed.

DEBUG/**NODEBUG** sets the debug option, causing intermediate results to be printed. This is described more fully in

the DEBUG section and is of use primarily to TSP programmers.

DOUBLE/**NODOUBLE** causes all subsequent series to be stored in double precision (15-16 digits, vs. the default single precision 6-7 digits).

FAST/**NOFAST** performs fast regression calculations (without orthonormalization). These are slightly less accurate, but usually yield no differences in the first 5 or so digits. Such calculations are also used in the iterations of LSQ, 3SLS, and GMM. Used to speed up runs with Monte Carlo loops, or more than 1000 observations.

HARDCOPY sets several output format options to values suitable for output routed to a printer. These are LIMPRN=120, LINLIM=60, LEFTMG=20, INDENT=10, and DATE and are the default options for printer output.

INDENT= number of spaces to indent printed output from the left margin. The default value is 5.

LEFTMG= left margin for printed output. The default is 20 (the first column in which output will be printed is 21).

LIMCOL= column width for input (number of columns read in each input line). The default value is 72, which allows for sequenced input where the sequence numbers appear in columns 73 to 80. This number varies for different computers - see the appendices of the *TSP User's Guide*.

LIMERR= maximum number of errors allowed in this TSP run. The default value is 25.

LIMNUM= maximum number of numerical warnings (divide by zero, log of zero or negative number, and exponentiation of too large a number) allowed in this run, before each susequent one is treated as an ERROR instead of as a WARNING. The default value is 100000.

LIMPRN= printer line width, the maximum number of printing positions on the printer, including the left margin. The default value is 132, which is correct for most high-speed printers. Occasionally these printers have only 120 positions, and your local installation may change the default accordingly.

LIMWARN= maximum number of warning messages to print. The default value is 100000.

LIMWNUMC= maximum number of numeric warning messages to print in any particular command. The default value is 10. This means that each command will print at most 10 numeric warning messages, and then the remainder for that command will be suppressed.

LINLIM= number of lines per printer page. The default is 60, which is correct for most conventional printed output.

MEMORY= approximate memory used by TSP (in MB). This option only works if OPTIONS is the first command in the run, or the first command in the LOGIN.TSP file. The default is 4MB, and the minimum is 2.1MB. Calculate memory as 2MB plus 4MB per million words of working space desired. MEMORY=4 should be enough for most time series datasets and small cross sections. The memory actually used is printed at the end of the TSP run.

NWIDTH= maximum number of digits to be printed for numbers in tables. This is the number of columns allowed for each number and the default value is 13.

PLOTS/**NOPLOT** tells whether residual plots are to be printed following each estimation. See the PLOTS command description for further information.

NOREPL/REPL tells whether replacement mode is to be used in updating series. See REPL for further information.

RESID/NORESID tells whether residuals and fitted values are to be computed and stored after the estimation procedures (LSQ, FIML, INST, and AR1).

SECONDS= number of seconds. All commands which take longer than this amount of time to execute display a message on the screen giving line number, command name, and elapsed time for execution. The default is 10 seconds. For more

precise control of timing single or multiple commands, use the DATE *variable*; command. If you supply a fractional part to the argument, like OPTIONS SECONDS=2.1; within-command profile timings will be given, for regression commands, and eventually for ML, GMM, and MATRIX. This is used to investigate which parts of commands are slow, for use in improving speed.

SIGNIF= number of significant digits to be printed in tables. In general, this is the number of digits printed to the right of the decimal point and the default value is 5.

TOL= tolerance for matrix inversion. This parameter is used to decide when a matrix is singular. The value of TOL is compared to the diagonals of the square root matrix of the matrix being inverted as it is formed, and if the diagonal is smaller than TOL, it is set to zero, effectively dropping that row and column from the matrix before inversion. The default value of TOL on IBM is 10.E-13, a conservative value; this value causes nearly singular matrices to fail, rather than letting through some exactly singular ones.

Examples:

```
? This example shows how to make your output suitable for viewing on-screen
OPTIONS CRT ;
NAME USER 'TEST RUN TO BE DISPLAYED ON A TERMINAL'
```

This example uses the dates 53BC to 86 AD:

```
OPTIONS BASEYEAR=0 ;
FREQ A ;
SMPL -53 86 ;
```

Here are some other OPTIONS commands:

```
OPTIONS REPL,PLOTS,TOL=1.E-10 ;
OPTIONS NWIDTH=10,SIGNIF=3 ;
```