Appendix B
COMMAND SYNTAX SUMMARY

This appendix is organized alphabetically by TSP command (the keywords which begin every TSP statement). There are four special groups of commands, which are flagged in bold:

1) **<Interactive Version>**: refers to commands only used in the Interactive Version of TSP, currently available for all computer systems except IBM OS/MVS.

2) **<TSP Databank Option>**: refers to commands you can use only if you have a TSP with the databank features (nearly all computers).

3) **<Obsolete>**: is used for commands which have been replaced.

4) **<Graphics Version>**: refers to the commands you can use only if you have the graphics version.

Each entry begins with the command, followed by all its options and arguments. Items in capital letters are keywords and may be (uniquely) abbreviated. Items in parentheses () following the command are options and need not be entered (with a few exceptions, mentioned in the text).

Anything in italics are variables which you must supply. If the item in italics begins with 'list of', you can supply the name of a LIST, or simply list variable names, such as VAR1, VAR2, VAR3, ...

Arguments not required are surrounded by square brackets [ ]. If a set of arguments can be repeated *ad infinitum*, they are shown followed by an ellipsis, ...

The *TSP Reference Manual* contains the complete descriptions for these commands and all their options.

TSP Command Syntax

ACTFIT *seriesname seriesname* ;

<Interactive Version>
ADD *list of variables*

ANALYZ (COEF=*input parameter vector*, NAMES=(*list of names*),
PRINT, SILENT, VCOV=*matrixname*)
list of equation names ;

AR1 (PRINT, METHOD=[CORC or HILU or ML or MLGRID],
TOL=*convergence criterion*, MAXIT=*iteration limit*,RMIN=*minimum rho value*,
RMAX=*maximum rho value*, RSTART=*start val for rho*, RSTEP=*step value for rho*,
UNNORM, WEIGHT=*series name*, FAIR, INST=(*list of instrumental variables*))
depvarname list of independent variables ;

ARCH (GT=*list of weighting series*, HEXP=*value of lambda*, MEAN,
NAR=*number of AR terms for ARCH*, NMA=*number of MA terms for regular GARCH*,
nonlinear options, RELAX, ZERO)
dependent variable [*list of independent variables*];

ASMBUG ;

BJEST (CONSTANT, CUMPLOT, NAR=*number of AR parameters*,
NBACK=*number of back-forecasted residuals*, NDIFF=*degree of differencing*,
NLAG=*number of autocorrelations*, NMA=*number of MA parameters*,
NSAR=*number of seasonal AR params*, NSDIFF=*degree of seasonal differencing,*
NSMA=*number of seasonal MA parameters*, NSPAN=*span of seasonal*,
nonlinear options, PLOT, START,
series name [START *parameter name parameter value .....*]
or [FIX *parameter name parameter value .....*]
or [ZERO *parameter name .....*] or LAST ;

BJFRCST (CONBOUND=*probability for forecasting bounds*, CONSTANT,
NAR=*number of AR parameters*, NBACK =*number of back-forcasting residuals*,
NDIFF=*degree of ordinary differencing*, NHORIZ=*length of forecasting horizon*,
NLAG=*number of lagged observations to plot*, NMA=*number of MA parameters*,
NSAR=*number of seasonal AR parameters*, NSDIFF=*degree of seasonal differencing*,
NSMA=*number of seasonal MA parameters*, NSPAN=*seasonal frequency*,
ORGBEG=*first forecasting origin*, ORGEND=*final forecasting origin*,
PLOT, PRINT, RETRIEVE)
series name [S *standard error of disturbance*]
[*parameter name parameter value ...*] ;

BJIDENT (IAC, NDIFF=*degree of differencing*,
NLAG=*number of autocorrelations to be computed*,
NLAGP=*number of partial autocorrelations to be computed*,
NSDIFF=*degree of seasonal differencing*,NSPAN=*span of seasonal*,
PLOT, PLOTAC, PLTRAW)
list of series ;

CAPITL (BENCHOBS=*obs id*, BENCHVAL=*scalar*, END)
investment series depreciation rate capital stock series ;

CDF (BIVNORM or CHISQ or DICKEYF or F or NORMAL or T,
DF=*degrees of freedom for CHISQ or T*, DF1=*numerator degrees of freedom for F*,
DF2=*denominator degrees of freedom for F*, NVAR=*number of variables for cointegration test*,
RHO=*correlation coefficient for BIVNORM*, LOWTAIL or UPTAIL or TWOTAIL,
CONSTANT, TREND, TSQ, INVERSE, PRINT)
test statistic [*significance level*];
or
significance level [*critical value*]; (for INVERSE)
or
x value y value [*significance level*]; (for BIVNORM)

<Interactive Version>
CLEAR ;

CLOSE (UNIT=*unit number*, FILE='*filename string*');

COINT(ALL, ALLORD, COINT, CONST, DF, EG, JOH, MAXLAG=*number of lags*,
MINLAG=*number of lags*, PP, RULE=AIC2, SEAS, SEAST, SEASTSQ,
SILENT, TREND, TSQ, UNIT, WS)
list of variables [| *list of special exogenous trend variables*] ;
or
UNIT (ALL, COINT, CONST, DF, MAXLAG=*number of lags*, MINLAG=*number of lags*,
PP, RULE=AIC2, SEAS, SEAST, SEASTSQ, SILENT, TREND, TSQ, WS)
list of variables [| *list of special exogenous trend variables*] ;

<Interactive Version>
COLLECT ;

COMPRESS (PRINT) ;

CONST *varname, value, varname, value,.....* ;

CONVERT(AVERAGE or FIRST or MID or LAST or SUM, INTERPOL)
seriesname ; or *newseries = oldseries* ;

COPY *old TSP variable new TSP variable* ;

CORR (ALL, COVA, MOMENT, MSD, PAIRWISE, PRINT, WEIGHT=*seriesname*) *list of variables* ;

COVA (ALL, CORR, MOMENT, MSD, PAIRWISE, PRINT, WEIGHT=*seriesname*) *list of variables* ;

DATE ;

<Databank Option>
DBCOPY (DOC) *list of filenames* ;

<Databank Option>
DBDEL (COMPRESS) *filename list of variables* ;

<Databank Option>
DBLIST (DATE, DOC) *list of filenames* ;

<Databank Option>
DBPRINT *filename* ;

DEBUG ;

DELETE *list of variables*;

<Interactive Version>
DELETE *firstline*, [*lastline*] ;

DIFFER (PRINT, PREFIX=*derivative name*) *equation name*
list of arguments ;

<Interactive Version>
DIR [* or *filename*] ;

DIVIND (PNORM=*obs id*, PRINT, PVAL=*value*, QNORM=*obs id*,
QVAL=*value*, TYPE=Q or P or N, WEIGHT=COMB or ARITH or GEOM)
name of output price index name of output quantity index
list of pairs of input price and quantity series ;

DO ;
DO *index name = start value* TO *end value* [BY *increment*] ;
DO *index = start , end* [, *increment*] ;

DOC (ADD, REPLACE) *variable 'description of variable'* ;

DOT (CHAR=*nesting level character*, INDEX=*variable*, VALUE=*variable*)
list of sector names or *strings*;

<Interactive Version>
DROP *list of variables* ;

DUMMY (EXCLUDE, PREFIX=*name*)
series [*listname*or *list of names*] ;

DUMP *start index ending index* ;
DUMP *name of common block* ;

<Interactive Version>
EDIT [*line number*] ;

ELSE ;

END ;

ENDDO ;

ENDDOT ;

ENDPROC [*name of PROC*] ;

<Interactive Version>
ENTER *list of series names* ;

EQSUB (NAME=*new output equation name*,PRINT)
input equation name list of macro equation names ;

<Interactive Version>
EXEC [*firstline*], [*lastline*] ;

<Interactive Version>
EXIT ;

FETCH *list of series* ;
FETCH [disk:]*seriesname* [[disk:]*seriesname...*] ;

FIML (ENDOG=(*list of endog. vars*), nonlinear options
list of equation names ;

<Interactive Version>
FIND *TSP command* ;

FORCST (COEF=*vector name*, DEPVAR=*var name*, DYNAM, PRINT, RHO=*scalar*, STATIC)
predvarname [*list of indep variables*] ;

FORM (COEFPREF=*coefficient prefix*, NAR=*number of AR terms*,
PARAM, PRINT, RHOPREF=*rho prefix*)
equation name or *equation name list of names* ;

FORMAT= FREE or BINARY or RB4 or RB8 or DATABANK or EXCEL
or LABELS or LOTUS or '(*format text string*)' ;

FREQ NONE or ANNUAL or MONTHLY or QUARTER or WEEKLY or number ;

FRML *equation name variable name=algebraic expression* ;
FRML *equation name algebraic expression* ;

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new series name = algebraic formula ;
GENR (SILENT, STATIC) *new series name = algebraic formula* ;
GENR (SILENT, STATIC) *equation name* [*new series name*] ;

GMM (HETERO, ITEROC, ITERU, LSQSTART,
COVOC=*covariance matrix of orthogonality conditions*, COVU=*covariance matrix of residuals*,
INST=*list of instruments*, KERNEL=*spectral density kernel type*,
MASK=*matrix to select instruments*, NMA=*number of autocorrelation terms,* nonlinear options)
list of equations ;

GOTO *statement number* ;
GO TO *statement number* ;

GRAPH *series for x-axis series for y-axis* ;

<Graphics Version>
GRAPH (DASH, DEVICE=*name of printer*, FILE=*name of file*, HEIGHT=*height of letters*,LANDSCAP,
LINE,ORIGIN, PAIR, PORTRAIT, PREVIEW, TITLE='*text string to be used as title*', WIDTH)
XMIN=*x axis minimum*, XMAX=*x axis minimum*, YMIN=*y axis minimum*, YMAX=*y axis maximum* ;

<Interactive Version>
HELP [*topic*] [*subtopic*] ;

HIST (BOT, DISCRETE, MAX=, MIN=, NBINS=, PERCENT, PRINT, WIDTH=)
list of series ;

IDENT *equation name* *variable name=algebraic expression* ;
IDENT *equation name* *algebraic expression* ;

IF *scalar expression* ;

<Databank Option>
IN *list of filenames* or ;

<Interactive Version>
INPUT [*filename*] or *'filename string'* ;

INST (ROBUSTSE, SILENT, UNNORM, WEIGHT=*variable name*)
dependent variable name *list of independent variables*
INVR *list of instrumental variables* ;
or
INST (*options*, INST=(*list of instruments*))
dependent variable name *independent variables* ;
or
IV ... ; or 2SLS ... ;

KALMAN (BPRIOR=*prior vector*,
BTRANS=*matrix of coefficients in transition equation*, EMEAS, ETRANS, PRINT, SILENT,
SMOOTH, VBPRIOR=*variance of prior*, VMEAS=*variance factor in measurement equation*,
VTRANS=*variance factor in transition equation*, XFIXED=*X matrix for measurement equation*)
list of dependent variables | [*list of independent variables*] ;

<Databank Option>
KEEP *list of variable names* ;

LAD (SILENT) *dependent variable* *list of independent variables* ;

LENGTH *list of variables* *output length of list* ;

LIML (FULLER=*scalar*, INST=(*list of instruments*))
dependent variable *list of endogenous and exogenous variables* ;

LIST (FIRST=*scalar*, LAST=*scalar*, PREFIX=*name*)
list name [=] *list of variable names* ;

LOCAL *list of variables* ;

LOGIT (CASE=*var*, COND, NCHOICE=*n*, NREC=*var*, SUFFIX=*list,* nonlinear options)
dependent variable independent variables ;
or
dependent variable
conditional variables | multinomial(alternative) variables ;

LSQ (DEBUG, HETERO, INST=*list of instrumental variables*,
ITERU, COVU=OWN or *name of residual covariance matrix*,nonlinear options)
list of equation names ;

MATRIX *matrix = matrix expression* ;

MFORM (NROW=*# of rows in matrix*, NCOL=*# of columns in matrix*,
TRANS, TYPE=GENERAL or SYMMETRIC or TRIANG or DIAG)
variable name
or *new matrix = old variable*
or *new matrix = scalar*
or *old variable new matrix*
or
MFORM(BLOCK) *new matrix=list of symmetric matrices* ;

ML (nonlinear options) *log likelihood equation name* ;

MMAKE *matrix name list of series* ;
MMAKE *vector name list of scalars* ;
MMAKE *matrix name list of vectors* ;

MODEL (FILE=*filename*, PRINT, SILENT) *equation list* [*endogenous variable list*]
ordered model name ;

MSD (ALL, BYVAR, CORR, COVA, MOMENT,
PAIRWISE, PRINT, TERSE, WEIGHT=*series name*) *list of series* ;

NAME *jobname* ['*text string to be used as title*'] ;

<nonlinear options>
(GRADCHEC, HCOV=*method*
MAXSQZ=*# of squeezes*
SQZTOL=*squeeze tolerance*
TOLG=*gradient/CRIT convergence tolerance*

NOPLOT ;

NOPRINT ;

NOREPL ;

NORMAL *series name obs. id. value*
[*series name obs. id. value .....*] ;

OLSQ (HCTYPE=*robust SE type*, HI, ROBUSTSE, SILENT, UNNORM,
WEIGHT=*name of weighting variable*, WTYPE=*weight type*)
dependent variable list of independent variables ;

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

ORTHON *matrix triangular matrix orthonormalized matrix* ;

<Databank Option>
OUT *list of filenames* or *'filename strings'* ;

<Interactive Version>
OUTPUT [*filename* or *'filename string'*] ;

PAGE ;

PANEL (TOTAL, BYID, BETWEEN, WITHIN, VARCOMP,MEAN, REG,
PRINT, SILENT, ID=*id series*, TIME=*time series*, T=*number of time periods (if balanced)*,
VBET=*between variance*, VWITH=*within variance*, VSMALL)
dependent variable list of independent variables ;

PARAM *parameter name* [*value parameter name value ....*] ;

PDL and Shiller Lag Variables:
varname(*degree*,*# lags*,NONE or FAR or NEAR or BOTH,XIPRIOR)

PLOT (BAND=STANDARD or *series name*, BMEAN, BMID, BOX, HEADER ,ID, INTEGER,
LINES=(*list of values*), MAX=*value*, MEAN, MIN=*value*, ORIGIN, RESTORE,VALUES,
series name plotting character [*series name plotting character*.....] ;

<Graphics Version>
PLOT (DASH, DEVICE=*name of printer*, FILE=*name of file*, HEIGHT=*height of characters*,
LANDSCAP, MIN=*y axis minimum*, MAX= *y axis maximum*,
ORIGIN, PORTRAIT, PREVIEW, TITLE=*'text string to be used as title'*, WIDTH) ;

PLOTS [ALL CUSUM CUSUMSQ] ;

PRIN (FRAC=*fraction of variance*, NAME=*name of components*,
NCOM=*number of components*, PRINT)
list of series ;

PROBIT (MILLS=*name for output inverse Mills ratio*, nonlinear options)
dependent variable list of independent variables ;

PROC *procedure name* [*list of arguments*] ;

<Interactive Version>
QUIT ;

RANDOM (CAUCHY, DF=*scalar*, DRAW=*series or matrix*, EDF=*series*, EXPON,
LAMBDA=*scalar*, LAPLACE, MEAN=*scalar*, POISSON, SEEDIN=*scalar*, SEEDOUT=*scalar*,
STDEV=*scalar*, T, UNIFORM, VCOV=*vcov matrix*, VMEAN=*mean vector*)
series or *matrix* or *list of series* ;

READ (BYOBS, BYVAR, FILE='*filename string*' or *filename*,
FORMAT=BINARY or DATABANK or EXCEL or FREE or RB8 or LOTUS or '(*format text string*)',
FULL, NCOL=*number of columns*, NROW=*number of rows*, PRINT, SETSMPL,
TYPE=CONSTANT or DIAG or GENERAL or SYMMETRI or TRIANG, UNIT=*I/O unit number*)
list of series or matrices ;

<Interactive Version>
RECOVER [*filename*] ;

REGOPT(CALC, PRINT, PVCALC, PVPRINT, STARS, SHORTLAB, BPLIST=*list of variables*,
CHOWDATE=*date for splitting sample*, LMLAGS=*number of lags for LMAR test*,
QLAGS=*number of Q-statistics*, STAR1=*value for* * [.05], STAR2=*value for* ** [.01])
list of output names or keywords ;

RENAME *old TSP variable* *new TSP variable* ;

REPL ;

RESTORE ;
or
RESTORE '*filename string*' ;

<Interactive Version>
RETRY [*line number*] ;

<Interactive Version>
REVIEW [*firstline*] , [*lastline*] ;

SAMA (ARITH, PRINT) *input series* *output series* ;

SAMPSEL (nonlinear options) *probit dep var* *probit indep vars*
| *regression dep var* *regression indep vars* ;

SAVE '*filename string*' ;

SELECT (SILENT, PRINT) *vector/series expression* ;

SET *scalar = algebraic expression* ;
or
subscripted variable = algebraic expression ;

SHOW (DATE, DOC) [*list of symbols*, SMPL, FREQ, ALL, EQUATION,
LIST, MATRIX, MODEL, PROC, SCALAR, SERIES] ;

SIML (DEBUG, DYNAM, ENDOG=(*list of endogenous variables*),
METHOD=NEWTON or GAUSSN, PRNDAT, PRNRES,
PRNSIM, STATIC, TAG=*charstring*, nonlinear options)
list of equation names ;

SMPL *beginning obs. id.* *ending obs. id.*
[*beginning obs. id.* *ending obs. id.* .....] ;
SMPL *SMPL vector name* ;

SMPLIF (PRINT, SILENT) *expression* ;

SOLVE (CONV2=*secondary convergence criterion*, DEBUG, DYNAM,
KILL, MAXPRT=*iterations to be printed*, METHOD=GAUSS or FLPOW or JACOBI,
PRNDAT, PRNRES, PRNSIM, STATIC, TAG=*charstring,* nonlinear options)
name of collected model ;

SORT (ALL, REVERSE) *series* ;
SORT (REVERSE) *series list of other series* ;
SORT (RANK, REVERSE) *series rank of series* ;

STOP ;

STORE *list of series* ;
STORE A:*seriesname* B:*seriesname*; **(PC version only)**

SUR (COVU=*own or covariance matrix of residuals*, DEBUG, MAXITW=*0*,
NOHETERO, NOITERV, NOROBUST, nonlinear options)
list of equation names ;

SYMTAB ;

SYSTEM ['*command string*'] ;

<Interactive Version>
TERMINAL ;

THEN ;

3SLS (COVU=*own or residual covariance matrix*, INST=(*list of instrumental variables*),
MAXITW=*0,* NOROBUST, NOHETERO, NOITERV, nonlinear options)
list of equation names ;

TITLE (PAGE) '*text string*' ;

TOBIT (MILLS=*name for output inverse Mills ratio*,
WEIGHT=*weighting series*, nonlinear options)
dependent variable list of independent variables ;

TREND (FREQ, PERIOD=*value*, PSTART=*value*,
START=*initial value*, STEP=*increment*) *series* ;
or
TREND *series* [*initial value*] [*increment*] ;

TSTATS (NAMES=(*list of names*)) *coefficient vector variance-covariance matrix* ;

UNMAKE *matrix list of series* ;
UNMAKE *vector list of scalars* ;

<Interactive Version>
UPDATE *list of series* ;

<Mainframe Version>
USER *list of arguments* ;

VAR (NHORIZ=*length of impulse response*, NLAGS=*number of lags in VAR*,
SHOCK=ALL or CHOL or STDDEV or UNIT or *matrix name*, SILENT)
list of dependent variables [| *list of exogenous variables*] ;

<Obsolete>
VGVMLT [*skip parameter for vector*] *vector matrix vector result* ;

WRITE (FILE='*filename string*',
FORMAT=BINARY or DATABANK or EXCEL or FREE or LABELS
or LOTUS or RB4 or RB8 or '(*format text string*)', FULL, UNIT=*I/O unit number*)
list of variables ;

YLDFAC *symmetric matrix diagonal matrix triangular matrix* ;