Working & Publication-style tables in Stata

Here are examples of the table-making commands ‘tabout,’ ‘mkcorr,’ ‘estout,’ ‘outreg,’ ‘outreg2,’ and ‘xml_tab.’ Get these by using ‘findit,’ ‘help,’ STATA listserv, or ‘UCLA Resources for Learning Stata.’

- ‘tabout’ is excellent for making publication-style summary and contingency tables.
- ‘mkcorr’ is helpful for making publication-style correlation matrices.
- ‘outreg’ is probably the easiest way to make publication-style regression tables (with editing in Word); ‘outreg2’ has the advantage of directly creating such tables in Word or Excel.
- ‘estout’ is powerful & flexible for making publication-style regression tables (see ‘estimates store’ and ‘estimates table’ below).
- ‘estimates store’ followed by ‘estimates table’ is excellent for making working tables to compare regression models. Following them up, in turn, with ‘estout’ perhaps allows the greatest range of table options for publication-style regression tables.
- ‘xml_tab’, specified after ‘estimates store,’ is excellent for creating publication-style regression tables in Excel.

Note: Copying tables directly from the Stata Results-window to Word works neatly if Word is formatted to display Courier 11 point (or perhaps another fixed-space font).

- **Publication-style summary & contingency tables (tabout):**

```
findit tabout

use hsb2, clear
la var female "Gender"
lau var prog "Program"

tabout female prog using gender_prog, cell(freq col) format(0 1) stats(chi2)
layout(row) show(all) replace

Edit file ‘gender_prog’ (located in current folder) in Word or Excel.

Some options:
cell: freq, cell, row, col, cum [all can be specified]
format: # decimal points; specify in order of types of cell entries specified
clab: table’s title
layout: how the columns are laid out
stats: types of statistics specified
```
• **Publication-style correlation matrix (mkcorr):**

    `findit mkcorr`

    `mkcorr read write math science socst, log(hsb2_corr) sig means cdec(2) mdec(2) casewise`

    *Note: The default is pairwise (pwcorr). You must specify 'casewise' if you want the equivalent results of 'corr'.*

    *Edit file 'hsb2_corr' (located in current folder) in Word.*

    **Options:**
    - `sig`: display significance test p-values
    - `cdec( )`: # decimal points displayed in correlation coefficients
    - `means`: display descriptive numerical summary
    - `mdec( )`: # decimal points displayed in descriptive numerical summary
    - `casewise`: display casewise results (instead of default pairwise results)

• **Working OLS regression table (estimates store & estimates table)**

    `help estimates`

    `reg science math read write`
    `est store m1`

    `reg science math read write female white`
    `est store m2`
    `est table m1 m2, star`  
    *[To change defaults: star(.01 .05 .10)]*

• **Publication-style OLS regression table (estimates store & estimates table)—but does not display both significance stars & standard errors**

    `reg science math read write socst`
    `est store m1`

    `reg science math read write socst female white`
    `est store m2`

    `est table m1 m2, b(%9.2f) stats(N r2_a) drop(socst)`  
    *[See options such as label, drop, keep]*

    *Note: using estimates store-estimates table is quick and easy for publication—if you are able to use stars to signify significance and if you don’t have to display standard errors. The procedure will not display both stars and standard errors.*
• **Publication-style multinomial logit regression table (estimates store & estimates table)—but does not display both significance stars & standard errors**

mlogit ses math read, rrr nolog base(1)
est store m1

mlogit ses math read science socst, rrr nolog base(1)
est store m2

xi:mlogit ses math read science socst i.prog, rrr nolog base(1)
est store m3

est table m1 m2 m3, eform star(.01 .05 .10) stats(N ll df_m chi2) b(%9.2f)
drop( _Iprog_2 _Iprog_3)

[Note: If using ‘keep,’ include _const or else it won’t be displayed. It’s often helpful to use the ‘label’ option. Remember: this procedure won’t display both stars and standard errors.]

• **Publication-style OLS regression table (estout):**

reg science math read female
est store ols_science
la var math “Math”
lavar read “Read”
lavar female “Female”

estout ols_science, cells(b(star fmt(%9.3f)) se(par)) starlevels(+ 0.10 * 0.05 ** 0.01) stats(N p r2_a bic, star(p) fmt(%9.0g %9.3f)) mlabel("OLS Model") label collabels("") varlabels(_cons Constant) varwidth(25) modelwidth(10) prefoot(""") postfoot("") legend style(fixed) replace

Note: ‘append’ instead of ‘replace’ if you’re adding to the table. ‘p’ gives F-statistic model significance.

Note: To display two or more models in the same table – after each model: est store ols_science1 est store ols_science2 estout ols_science1 ols_science2, ....

• **Publication-style logistic regression table (estout):**

xi:logistic white math science i.prog, nolog
est store logistic
la var white “White”
lavar science “Science”

estout logistic, cells(b(star fmt(%9.3f)) se(par)) starlevels(+ 0.10 * 0.05 ** 0.01) stats(N chi2 bic, star(chi2) fmt(%9.0g %9.3f)) mlabel("Logistic Model") label collabels("") varlabels(_cons Constant) varwidth(25) modelwidth(10) prefoot(""") postfoot("") legend style(fixed) eform replace

To display confidence intervals:
estout logistic, cells(ci) starlevels(+ 0.10 * 0.05 ** 0.01) stats(N chi2 bic, star(chi2) fmt(%9.0g %9.3f)) mlabel("Logistic Model") label collabels("") varlabels(_cons Constant) varwidth(25) modelwidth(10) prefoot("") postfoot("") legend style(fixed) eform replace

Note: eform to display odds ratios; star(chi2), instead of ‘p’, for model significance.

Note: See ols example on displaying two or more models in the same table.

- **Publication-style multinomial logit regression table (estout):**

mlogit prog math read science female, base(0) rrr nolog
est store multi

estout multi, cells(b(star fmt(%9.3f)) se(par)) starlevels(+ 0.10 * 0.05 ** 0.01) stats(N chi2 bic, star(chi2) fmt(%9.0g %9.3f)) mlabel("Multinomial Logit Model") label collabels("") varlabels(_cons Constant) varwidth(25) modelwidth(10) prefoot("") postfoot("") legend style(fixed) eform unstack replace

Note: eform and star(chi2), as well as ‘unstack’ to display sub-equations in separate columns.

Note: See ols example on displaying two or more models in the same table.

- **Add statistics such as standardized coefficients to a table (estout, estadd):**

reg science math read, beta
est store beta
estadd beta, cells(beta)
estout beta, cells("b beta")

- **Publication-style OLS regression tables (xml_tab)**

findit xml_tab

reg science read write
estimates store m1
reg science read write math socst
estimates store m2

xml_tab m1 m2, right stats(N, ll, aic, bic) title("Logistic Regression: Gender") replace

Click on link to open Excel table.

xml_tab m1 m2, below stars(0.001, 0.01, 0.05) stats(N, ll, aic, bic) title("Logistic Regression: Gender") replace

Click on link to open Excel table.
• **Publication-style OLS regression table (outreg)**

```plaintext
findit outreg
For extensive description: http://www.kellogg.northwestern.edu/rc/docs/outreg.pdf
```

```plaintext
reg science math read
outreg using ols_science, replace

reg science math read write female
outreg using ols_science, append [Retrieve ols_science.out from folder & edit in Word or Excel.]

reg science math read write
outreg using ols_science, bdec(2) 3aster coefastr adjr2 beta addstat(Prob>F, r(p)) replace append [Retrieve ols_science.out from folder & edit in Word or Excel.]
```

**Some options (after ','):**

- `bfmt( )`: # decimal points for coefficients.
- `se`: display standard errors
- `coefastr`: attach significance stars to coefficients, not t-values or se’s.
- `3aster`: use ***, **, * for significance.
- `sigsymb()`: specify other significance symbols.
- `beta`: display standardized coefficients.
- `adjr2`: display adjusted r2.
- `ci`: display confidence intervals.
- `addstat( )`: display additional statistics, e.g., addstat(Prob>F, r(p)). Type ‘ereturn’ list after estimating model to see available statistics and codes.
- `onecol`: specify one column display for multi-column regression procedures.
- `title( )`
- `ctitle( )`: column title.
- `append`: append new model.

**Note:** To display two or more models in the same table – `outreg using ols_science, ...` ...

• **Publication-style logistic regression table (outreg):**

```plaintext
logistic female math science
outreg using female, se eform 3aster coefastr addstat(Log Likelihood, e(ll)) replace

logistic female math science read write prog
outreg using female, se eform 3aster coefastr addstat(Log Likelihood, e(ll), chi-square, e(chi2), ) append
```

**Note:** To display two or more models in the same table – `outreg using ols_science, ...` ...


• Publication-style OLS regression table (outreg2):

reg science math read female
outreg2 using ols_science, replace  [Click ‘seeout’ in STATA results window.]
outreg2 using ols_science, word replace  [Click ‘ols_science.rtf’.]
outreg2 using ols_science, excel replace  [Click ‘ols_science.xml’.]
outreg2 using ols_science, alpha(0.001, 0.01, 0.05) symbol(***, **, *) adjr bdec(2)  
     ctitle(Science) addnote(Do not try this at home.) replace
outreg2 using ols_science, ci replace
outreg2 using ols_science, beta replace
outreg2 read female, replace [Displays only the specified explanatory variables.]

Click on ‘seeout’ to see STATA display & ‘ols_science.RTF’ to see Word display.
Table>Format>Hide gridlines

reg science math read
outreg2 using ols_science, replace
reg science math read female prog
outreg2 using ols_science, append  [to display results of both models]

Click on ‘seeout’ to see STATA display & ‘ols_science.RTF’ to see Word display.
Table>Format>Hide gridlines

Some options (after ‘,’):
word: output text to a Word file, which is saved in the current directory
excel: output text to an Excel file
onecol: suppresses multi-column format if relevant
long: accompanies onecol, forcing Word of Excel to adopt one-column format
replace: replaces previous model or format
append: appends additional models (instead of ‘replace’)

ci: specifies confidence intervals instead of coefs
beta: specifies standardized coefs
bdec(): specifies # decimal places for regression coefs (default=3)
tdec(): if t-values are displayed, specifies # decimal places (default=3)
rdec(): if r2 or adj r2 is displayed, specifies # decimal places (default=3)
adec(): if additional stats are displayed (see ‘e’ and addstat’)
bfmt(): specifies format for regress coefs – f, fixed; g, general

symbol(): specifies significance values; default is symbol(***, **, *)
alpha(): specifies significance levels; default is alpha(0.000, 0.01, 0.05)

adjr2: specifies adjusted r2
nor2: specifies not to display r2

e(): specify added stats, e.g., e(ll df_m chi2 aic); or e(all); does not display
publication-style stat names (see ‘addstat’). After estimating a model, type ‘ereturn
list’ to obtain options and codes.

addstat(): to add other stats along with stat names. E.g., addstat(Log likelihood,
e(ll), DF, e(df_m), chi2, e(chi2), AIC, e(aic)). After estimating a model, type
‘ereturn list’ to obtain options and codes.

title(): specifies title
ctitle(): specifies column title
daddnote(): to add notes

E.g.:
reg science math read
outreg2 using ols_science, bdec(2) bfmt(f) alpha(0.01, 0.05, 0.10) adjr2
addstat(AIC, e(aic)) title(OLS Science) addnote(Source: Study data) onecol long
word replace

Click on ‘seeout’ to see STATA display & ‘ols_science.RTF’ to see Word display.
Table>Format>Hide gridlines

Note: To display two or more models in the same table – outreg2 using ols_science, ...
... append

• **Publication-style logistic regression table (outreg2)**

logistic female math read white
outreg2 using lfemale, eform nor2 replace
outreg2 using lfemale, eform nor2 e(ll df_m chi2 aic) word replace
outreg2 using lfemale, eform nor2 addstat(Log likelihood, e(ll), DF, e(df_m), Chi2, e(chi2)) word replace

[The option ‘eform’ specifies odds-ratios (i.e. exponentiated form) for display table.]

See outreg2 options above.

Note: To display two or more models in the same table – outreg using ols_science, ...
... append

• **Publication-style multinomial logit regression table (outreg2)**

mlogit ses math read, base(1) nolog
outreg2 using mlses, eform nor2 addstat(ll, e(ll), df_m, e(df_m), chi2, e(chi2)) word replace
mlogit ses math read write science, base(1) nolog
outreg2 using mlses, eform nor2 e(ll df_m chi2) append

See outreg2 options above.

xml_tab m1 m2, right stats(N, r2_a) title("OLS Regression: Reading Score") replace
[‘right,’ i.e. standard errors to the right of the coefficients, is the default. Type
‘ereturn list’ for stats options and codes.]

Click on link to open Excel table.

xml_tab m1 m2, below stars(0.001 0.01 0.05) stats(N, r2_a) title("OLS Regression: Reading Score") replace [displays standard errors below the coefficients]

Click on link to open Excel table.