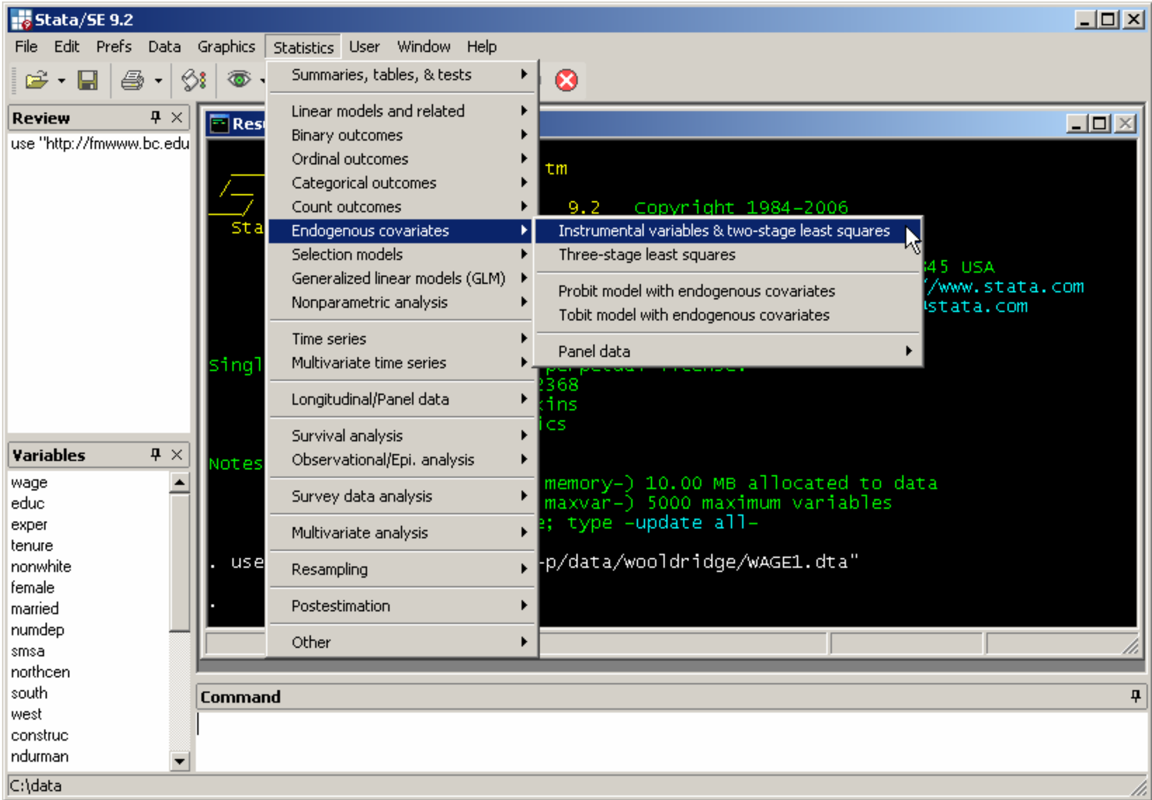
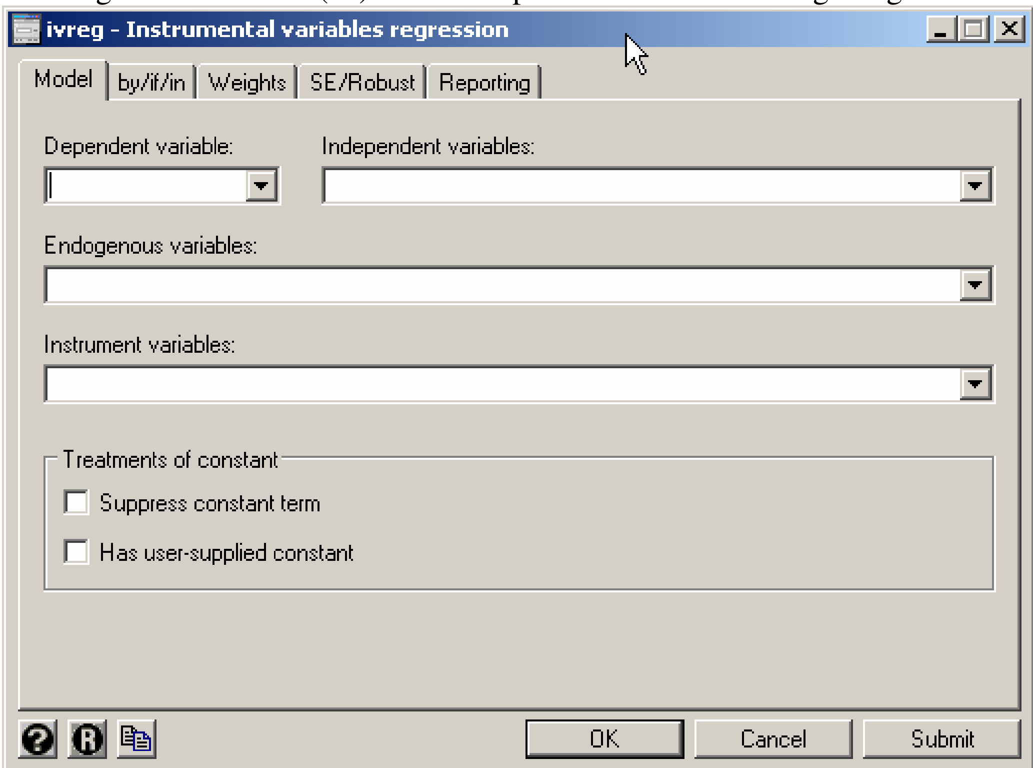
TSLS in Stata

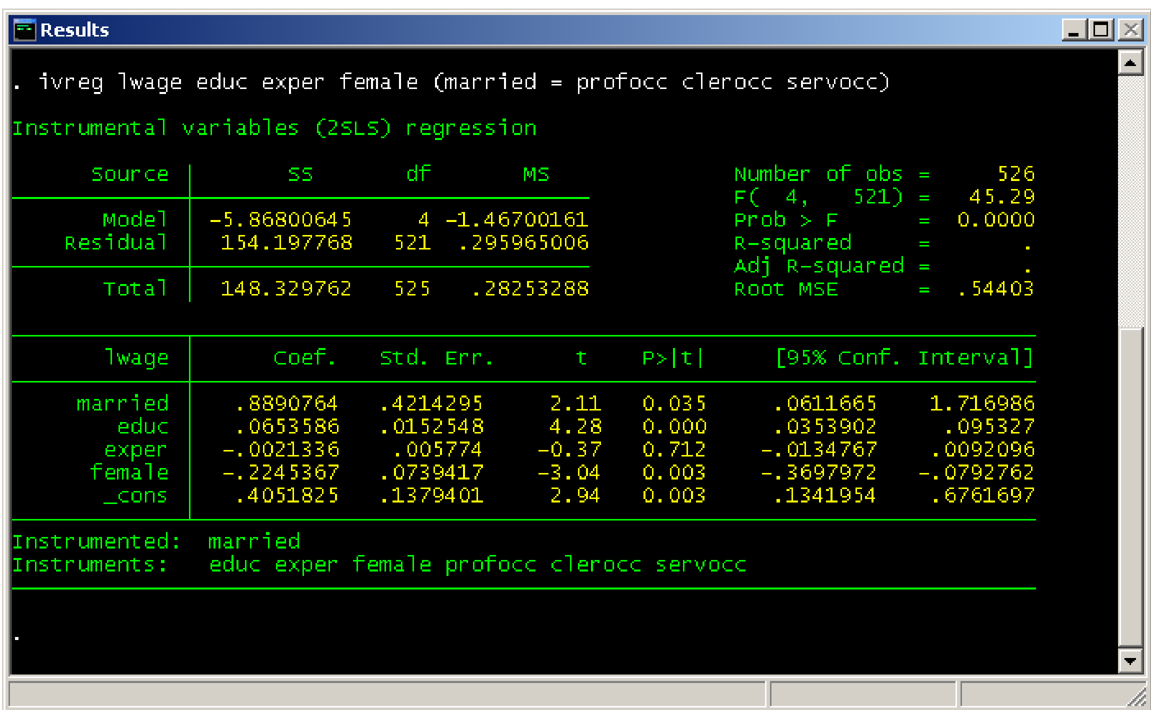


This shows how to locate TSLS from Stata's pulldown menu. Simply select `Statistics>Endogenous covariates>Instrumental variables & two-stage least squares`.

This brings up a dialog for the ivreg command. Put the dependent variable (y) and independent variables (W) into the blanks on the first line of the dialog box. On the next line, where it asks for Endogenous variables, include the variables that are correlated with your errors (X). Then, on the following line list the instruments (Z). Stata includes all of the exogenous variables (W) in the computation of the ‘first stage’ regression.



The results appear below:



```
. ivreg lwage educ exper female (married = profocc clerocc servocc)

Instrumental variables (2SLS) regression

      Source |       SS       df       MS              Number of obs =     526
-------------+------------------------------           F(  4,   521) =   45.29
       Model | -5.86800645     4 -1.46700161           Prob > F      =  0.0000
    Residual |  154.197768   521  .295965006           R-squared     =       .
-------------+------------------------------           Adj R-squared =       .
       Total |  148.329762   525   .28253288           Root MSE      =  .54403

------------------------------------------------------------------------------
       lwage |      Coef.   Std. Err.      t    P>|t|     [95% Conf. Interval]
-------------+----------------------------------------------------------------
     married |   .8890764   .4214295     2.11   0.035     .0611665    1.716986
        educ |   .0653586   .0152548     4.28   0.000     .0353902     .095327
       exper |  -.0021336    .005774    -0.37   0.712    -.0134767    .0092096
      female |  -.2245367   .0739417    -3.04   0.003    -.3697972   -.0792762
       _cons |   .4051825   .1379401     2.94   0.003     .1341954    .6761697
------------------------------------------------------------------------------
Instrumented:  married
Instruments:   educ exper female profocc clerocc servocc
------------------------------------------------------------------------------

.
```

Notice that right hand side endogenous variable (married) is listed as “Instrumented” and the list of instruments include both W (educ, experience, female) and Z (profocc, clerocc, servocc).

The script for this exercise is:

```
use http://fmwww.bc.edu/ec-p/data/wooldridge/WAGE1.dta
ivreg lwage educ exper female (married = profocc clerocc servocc)
```

The syntax is

ivreg y w2 w3 w4 (x2 = z2 z3 z4)