webuse hsng2

ivregress 2sls rent pcturban (hsngval = faminc i.region)

ivregress gmm rent pcturban (hsngval = faminc i.region)

use auto

gmm (mpg - {b1}\*gear\_ratio - {b2}\*turn - {b0}), ///

instruments(gear\_ratio turn trunk)

estat overid // Test of overidentifying restriction:

matrix B= e(b)'

matrix list B

matrix VC=e(V)

matrix list VC

matrix define R=(1, 1, 0)

matrix define r=(0)

matrix J=e(N)\*(R\*B-r)'\*inv(R\*VC\*R')\*(R\*B-r)

matrix list J

scalar x=invchi2(1, 0.95)

di x

\* e(Q)

\*OLS estimator and GMM are equivalent if instruments

\*and instrumented covariates are the same

regress mpg gear\_ratio turn

gmm (mpg - {b1}\*gear\_ratio - {b2}\*turn - {b0}), //

instruments(gear\_ratio turn)