

Simultaneous Equation Models  
IS-LM Model (Asteriou, 2006)

You can see from below that although three instrument variables (M, I and M\_1) are specified, only one, I, was used in the estimation.

gretl console: type 'help' for a list of commands

? genr M\_1=M(-1)

Generated vector M\_1 (ID 5)

? tsls R 0 M Y M\_1; 0 M I M\_1

Model 2: TSLS estimates using the 28 observations 1970-1997

Dependent variable: R

Instruments: I

VARIABLE	COEFFICIENT	STDERROR	T STAT	2Prob(t >  T )
const	27.5275	11.1348	2.472	0.020906 **
M	0.00187096	0.00185405	1.009	0.322981
Y	-0.264700	0.224145	-1.181	0.249200
M_1	-0.00172884	0.00175432	-0.985	0.334222

Mean of dependent variable = 9.91321

Standard deviation of dep. var. = 3.48704

Sum of squared residuals = 182.581

Standard error of residuals = 2.75818

Unadjusted R-squared = 0.444951

Adjusted R-squared = 0.375569

F-statistic (3, 24) = 6.41313 (p-value = 0.0024)

Durbin-Watson statistic = 1.4284

First-order autocorrelation coeff. = 0.285593

Akaike information criterion (AIC) = 139.96

Schwarz Bayesian criterion (BIC) = 145.289

R-squared is computed as the square of the correlation between observed and fitted values of the dependent variable.

Excluding the constant, p-value was highest for variable 5 (M\_1)

Hausman test -

Null hypothesis: OLS estimates are consistent

Asymptotic test statistic: Chi-square(1) = 5.12934

with p-value = 0.0235247

