

Fitted ES

Dependent Variable: Y1
Method: Panel Least Squares
Date: 06/23/26 Time: 00:30
Sample (adjusted): 2000 2025
Periods included: 6
Cross-sections included: 14
Total panel (balanced) observations: 84

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	34.09094	36.58820	0.931747	0.3543
LOG(X1)	15.12145	2.991647	5.054558	0.0000
X2	-2.324202	0.721157	-3.222879	0.0018
X3	14.24482	2.223777	6.405690	0.0000
R-squared	0.621439	Mean dependent var		49.36738
Adjusted R-squared	0.607243	S.D. dependent var		34.70078
S.E. of regression	21.74710	Akaike info criterion		9.043285
Sum squared resid	37834.89	Schwarz criterion		9.159039
Log likelihood	-375.8180	Hannan-Quinn criter.		9.089817
F-statistic	43.77553	Durbin-Watson stat		0.237163
Prob(F-statistic)	0.000000			

Fitted XC

Dependent Variable: Y2
Method: Panel Least Squares
Date: 06/23/26 Time: 00:32
Sample (adjusted): 2000 2025
Periods included: 6
Cross-sections included: 14
Total panel (balanced) observations: 84

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	1.375488	0.353254	3.893769	0.0002
LOG(X1)	-0.273765	0.073606	-3.719348	0.0004
X3	0.169454	0.055561	3.049860	0.0031
LOG(X4)	0.126932	0.029295	4.332942	0.0000
R-squared	0.435345	Mean dependent var		1.500393
Adjusted R-squared	0.414171	S.D. dependent var		0.727819
S.E. of regression	0.557069	Akaike info criterion		1.714193
Sum squared resid	24.82608	Schwarz criterion		1.829946
Log likelihood	-67.99611	Hannan-Quinn criter.		1.760725
F-statistic	20.55982	Durbin-Watson stat		0.145020
Prob(F-statistic)	0.000000			

ES 2SLS

Dependent Variable: Y1
Method: Panel Two-Stage Least Squares
Date: 06/23/26 Time: 21:04
Sample (adjusted): 2000 2025
Periods included: 6
Cross-sections included: 14
Total panel (balanced) observations: 84
Instrument specification: C LOG(X1) X2 X3 LOG(X4)
Constant added to instrument list

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	58.06106	50.59400	1.147588	0.2546
Y2	-7.507677	9.810007	-0.765308	0.4464
LOG(X1)	14.26174	3.437558	4.148801	0.0001
X2	-2.708270	0.930150	-2.911649	0.0047
X3	17.16336	4.513873	3.802357	0.0003
R-squared	0.559135	Mean dependent var		49.36738
Adjusted R-squared	0.536813	S.D. dependent var		34.70078
S.E. of regression	23.61662	Sum squared resid		44061.82
F-statistic	32.87563	Durbin-Watson stat		0.247001
Prob(F-statistic)	0.000000	Second-Stage SSR		37508.23
Instrument rank	5			

XC 2SLS

Dependent Variable: Y2
Method: Panel Two-Stage Least Squares
Date: 06/23/26 Time: 21:05
Sample (adjusted): 2000 2025
Periods included: 6
Cross-sections included: 14
Total panel (balanced) observations: 84
Instrument specification: C LOG(X1) X2 X3 LOG(X4)
Constant added to instrument list

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	3.148527	0.742014	4.243219	0.0001
Y1	0.021845	0.008017	2.724968	0.0079
LOG(X1)	-0.539238	0.122534	-4.400729	0.0000
X3	-0.073465	0.105329	-0.697480	0.4875
LOG(X4)	0.147362	0.030514	4.829304	0.0000
R-squared	0.431533	Mean dependent var		1.500393
Adjusted R-squared	0.402750	S.D. dependent var		0.727819
S.E. of regression	0.562473	Sum squared resid		24.99367
F-statistic	18.88285	Durbin-Watson stat		0.235852
Prob(F-statistic)	0.000000	Second-Stage SSR		22.47685
Instrument rank	5			

System: TSLS
 Estimation Method: Three-Stage Least Squares
 Date: 06/23/26 Time: 21:03
 Sample: 2000 2025
 Included observations: 84
 Total system (balanced) observations 168
 Linear estimation after one-step weighting matrix

	Coefficient	Std. Error	t-Statistic	Prob.
C(1)	58.06106	49.06513	1.183347	0.2384
C(2)	-7.507677	9.513564	-0.789155	0.4312
C(3)	14.26174	3.333680	4.278078	0.0000
C(4)	-2.708270	0.902042	-3.002377	0.0031
C(5)	17.16336	4.377470	3.920839	0.0001
C(6)	3.148527	0.719591	4.375438	0.0000
C(7)	0.021845	0.007774	2.809879	0.0056
C(8)	-0.539238	0.118831	-4.537856	0.0000
C(9)	-0.073465	0.102146	-0.719214	0.4731
C(10)	0.147362	0.029592	4.979786	0.0000

Determinant residual covariance 138.0843

Equation: $Y1=C(1)+C(2)*Y2+C(3)*LOG(X1)+C(4)*X2+C(5)*X3$

Instruments: LOG(X1) X2 X3 LOG(X4) C

Observations: 84

R-squared	0.559135	Mean dependent var	49.36738
Adjusted R-squared	0.536813	S.D. dependent var	34.70079
S.E. of regression	23.61662	Sum squared resid	44061.82
Durbin-Watson stat	0.477365		

Equation: $Y2=C(6)+C(7)*Y1+C(8)*LOG(X1)+C(9)*X3+C(10)*LOG(X4)$

Instruments: LOG(X1) X2 X3 LOG(X4) C

Observations: 84

R-squared	0.431533	Mean dependent var	1.500393
Adjusted R-squared	0.402750	S.D. dependent var	0.727819
S.E. of regression	0.562473	Sum squared resid	24.99367
Durbin-Watson stat	0.640911		