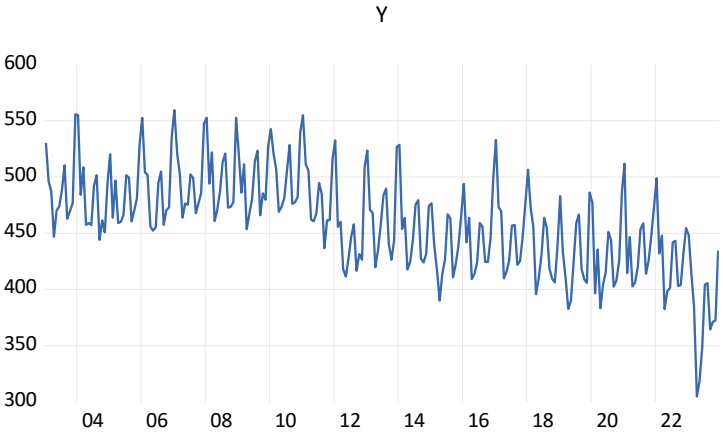
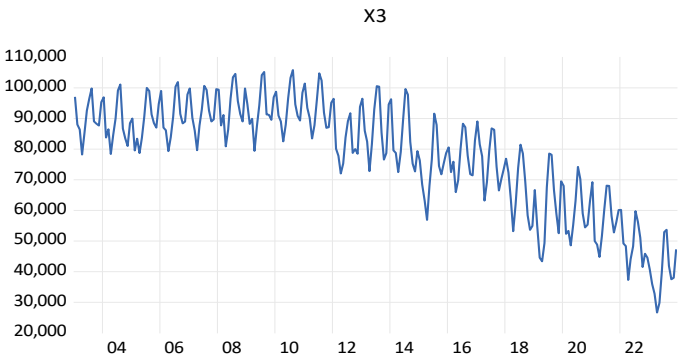
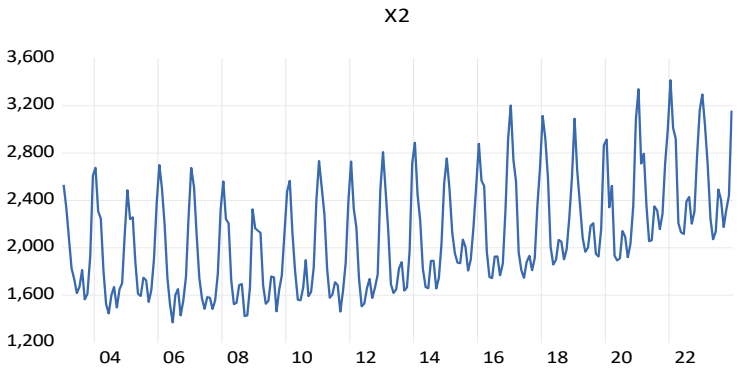
TD 4 Econométrie

Sorties EViews 2024 2025

On veut expliquer les émissions de gaz à effet de serre (Y) par les consommations du gaz (X_2), du charbon (X_3).





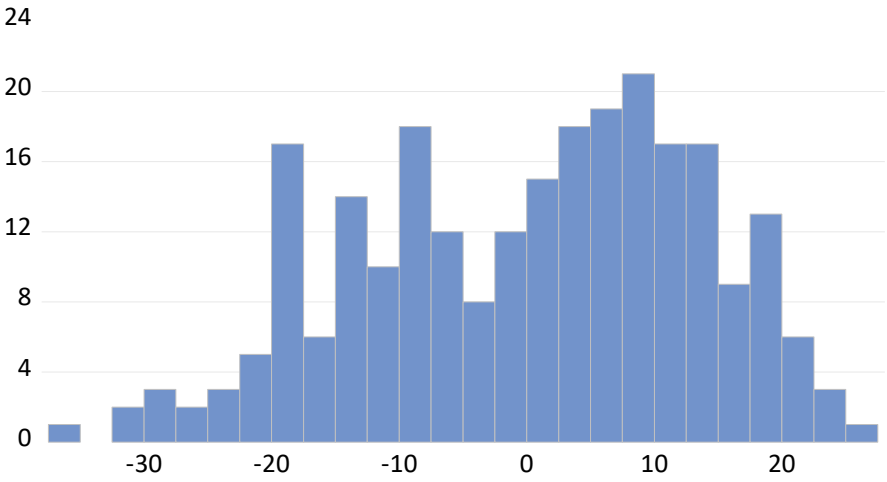


Dependent Variable: Y
Method: Least Squares

Sample: 2003M01 2023M12
Included observations: 252

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	153.3508	6.833767	22.44016	0.0000
X2	0.053267	0.001999	26.64846	0.0000
X3	0.002504	5.09E-05	49.19748	0.0000

R-squared	0.909124	Mean dependent var	460.2272
Adjusted R-squared	0.908395	S.D. dependent var	43.83548
S.E. of regression	13.26742	Akaike info criterion	8.020333
Sum squared resid	43830.08	Schwarz criterion	8.062350
Log likelihood	-1007.562	Hannan-Quinn criter.	8.037240
F-statistic	1245.506	Durbin-Watson stat	0.583919
Prob(F-statistic)	0.000000		



Series: Residuals	
Sample 2003M01 2023M12	
Observations 252	
Mean	6.21e-14
Median	2.380464
Maximum	25.41286
Minimum	-35.00121
Std. Dev.	13.21446
Skewness	-0.306327
Kurtosis	2.236286
Jarque-Bera	10.06534
Probability	0.006521

Sample: 2003M01 2023M12
Included observations: 252

Autocorrelation	Partial Correlation		AC	PAC	Q-Stat	Prob
.|***** |	.|***** |	1	0.708	0.708	127.71	0.000
.|***** |	.|*** |	2	0.708	0.415	256.08	0.000
.|***** |	.|* |	3	0.651	0.155	364.99	0.000
.|**** |	.|. |	4	0.610	0.059	460.93	0.000
.|***** |	.|*** |	5	0.722	0.405	596.16	0.000
.|**** |	*|. |	6	0.572	-0.166	681.43	0.000
.|***** |	.|** |	7	0.695	0.306	807.61	0.000
.|**** |	**|. |	8	0.543	-0.263	885.06	0.000
.|**** |	.|. |	9	0.528	0.007	958.41	0.000
.|**** |	.|. |	10	0.547	-0.049	1037.5	0.000
.|**** |	.|* |	11	0.510	0.209	1106.6	0.000
.|***** |	.|*** |	12	0.709	0.359	1240.8	0.000
.|**** |	***|. |	13	0.487	-0.351	1304.3	0.000
.|**** |	*|. |	14	0.514	-0.072	1375.2	0.000
.|*** |	.|. |	15	0.474	0.038	1435.8	0.000
.|*** |	.|* |	16	0.455	0.107	1491.9	0.000
.|**** |	.|* |	17	0.577	0.092	1582.7	0.000
.|*** |	*|. |	18	0.427	-0.151	1632.6	0.000
.|**** |	.|. |	19	0.539	-0.043	1712.6	0.000
.|*** |	.|. |	20	0.405	-0.008	1757.7	0.000
.|*** |	.|. |	21	0.382	0.001	1798.1	0.000
.|*** |	.|. |	22	0.407	-0.003	1844.3	0.000
.|*** |	.|. |	23	0.372	0.050	1882.9	0.000
.|**** |	.|. |	24	0.527	-0.023	1960.8	0.000
.|** |	*|. |	25	0.318	-0.126	1989.4	0.000
.|** |	*|. |	26	0.335	-0.071	2021.2	0.000
.|** |	.|. |	27	0.286	-0.025	2044.4	0.000
.|** |	.|. |	28	0.272	0.054	2065.6	0.000
.|*** |	.|. |	29	0.381	-0.001	2107.2	0.000
.|** |	.|. |	30	0.247	-0.009	2124.8	0.000
.|*** |	.|. |	31	0.353	0.001	2160.9	0.000
.|** |	.|. |	32	0.228	-0.006	2176.0	0.000
.|* |	.|. |	33	0.206	-0.014	2188.4	0.000
.|** |	.|. |	34	0.239	0.008	2205.2	0.000
.|* |	.|. |	35	0.197	-0.044	2216.6	0.000
.|** |	.|* |	36	0.349	0.086	2252.8	0.000

Heteroskedasticity Test: ARCH

F-statistic	4.287984	Prob. F(4,243)	0.0023
Obs*R-squared	16.35075	Prob. Chi-Square(4)	0.0026

Test Equation:
Dependent Variable: RESID^2
Method: Least Squares

Sample (adjusted): 2003M05 2023M12
Included observations: 248 after adjustments

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	110.3123	21.32613	5.172634	0.0000
RESID^2(-1)	0.159460	0.064081	2.488406	0.0135
RESID^2(-2)	0.144543	0.064865	2.228376	0.0268
RESID^2(-3)	0.033298	0.064875	0.513273	0.6082
RESID^2(-4)	0.038174	0.064035	0.596143	0.5516

R-squared	0.065930	Mean dependent var	176.5448
Adjusted R-squared	0.050555	S.D. dependent var	194.2134
S.E. of regression	189.2405	Akaike info criterion	13.34387
Sum squared resid	8702308.	Schwarz criterion	13.41471
Log likelihood	-1649.640	Hannan-Quinn criter.	13.37239
F-statistic	4.287984	Durbin-Watson stat	2.022322
Prob(F-statistic)	0.002269		

Heteroskedasticity Test: Glejser
Null hypothesis: Homoskedasticity

F-statistic	2.195702	Prob. F(1,250)	0.1397
Obs*R-squared	2.193998	Prob. Chi-Square(1)	0.1385
Scaled explained SS	1.655220	Prob. Chi-Square(1)	0.1982

Test Equation:
Dependent Variable: ARESID
Method: Least Squares

Sample: 2003M01 2023M12
Included observations: 252

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	8.218807	2.065737	3.978632	0.0001
X2	0.001431	0.000966	1.481790	0.1397

R-squared	0.008706	Mean dependent var	11.21038
Adjusted R-squared	0.004741	S.D. dependent var	6.960497
S.E. of regression	6.943977	Akaike info criterion	6.721531
Sum squared resid	12054.70	Schwarz criterion	6.749543
Log likelihood	-844.9129	Hannan-Quinn criter.	6.732802
F-statistic	2.195702	Durbin-Watson stat	1.491712
Prob(F-statistic)	0.139655		

Heteroskedasticity Test: Glejser
Null hypothesis: Homoskedasticity

F-statistic	0.001592	Prob. F(1,250)	0.9682
Obs*R-squared	0.001605	Prob. Chi-Square(1)	0.9680
Scaled explained SS	0.001211	Prob. Chi-Square(1)	0.9722

Test Equation:
Dependent Variable: ARESID
Method: Least Squares

Sample: 2003M01 2023M12
Included observations: 252

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	11.28737	1.978720	5.704379	0.0000
X3	-9.86E-07	2.47E-05	-0.039905	0.9682

R-squared	0.000006	Mean dependent var	11.21038
Adjusted R-squared	-0.003994	S.D. dependent var	6.960497
S.E. of regression	6.974382	Akaike info criterion	6.730269
Sum squared resid	12160.50	Schwarz criterion	6.758281
Log likelihood	-846.0139	Hannan-Quinn criter.	6.741540
F-statistic	0.001592	Durbin-Watson stat	1.487653
Prob(F-statistic)	0.968201		

Heteroskedasticity Test: White
Null hypothesis: Homoskedasticity

F-statistic	2.459221	Prob. F(5,246)	0.0338
Obs*R-squared	11.99638	Prob. Chi-Square(5)	0.0348
Scaled explained SS	7.239971	Prob. Chi-Square(5)	0.2034

Test Equation:
Dependent Variable: RESID^2
Method: Least Squares

Sample: 2003M01 2023M12
Included observations: 252

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	545.6384	752.1211	0.725466	0.4689
X2^2	-5.13E-05	6.78E-05	-0.756973	0.4498
X2*X3	1.60E-06	2.18E-06	0.735453	0.4628
X2	0.154319	0.436122	0.353844	0.7238
X3^2	9.63E-08	3.80E-08	2.534150	0.0119
X3	-0.017076	0.008722	-1.957807	0.0514

R-squared	0.047605	Mean dependent var	173.9289
Adjusted R-squared	0.028247	S.D. dependent var	193.7736
S.E. of regression	191.0172	Akaike info criterion	13.36613
Sum squared resid	8975947.	Schwarz criterion	13.45016
Log likelihood	-1678.132	Hannan-Quinn criter.	13.39994
F-statistic	2.459221	Durbin-Watson stat	1.625346
Prob(F-statistic)	0.033823		

Dependent Variable: RESIDCARRE
Method: Least Squares

Sample: 2003M01 2023M12
Included observations: 252

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	47.86713	327.7156	0.146063	0.8840
X2	0.422578	0.238855	1.769182	0.0781
X2*X2	-8.28E-05	5.25E-05	-1.577429	0.1160
X3	-0.011863	0.005079	-2.335901	0.0203
X3*X3	8.55E-08	3.50E-08	2.442435	0.0153

R-squared	0.045511	Mean dependent var	173.9289
Adjusted R-squared	0.030053	S.D. dependent var	193.7736
S.E. of regression	190.8396	Akaike info criterion	13.36039
Sum squared resid	8995683.	Schwarz criterion	13.43041
Log likelihood	-1678.409	Hannan-Quinn criter.	13.38856
F-statistic	2.944276	Durbin-Watson stat	1.613243
Prob(F-statistic)	0.021020		

Heteroskedasticity Test: Breusch-Pagan-Godfrey
Null hypothesis: Homoskedasticity

F-statistic	1.666256	Prob. F(2,249)	0.1911
Obs*R-squared	3.328121	Prob. Chi-Square(2)	0.1894
Scaled explained SS	2.008564	Prob. Chi-Square(2)	0.3663

Test Equation:
Dependent Variable: RESID^2
Method: Least Squares

Sample: 2003M01 2023M12
Included observations: 252

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	46.47574	99.54480	0.466883	0.6410
X2	0.051938	0.029117	1.783785	0.0757
X3	0.000242	0.000741	0.326513	0.7443

R-squared	0.013207	Mean dependent var	173.9289
Adjusted R-squared	0.005281	S.D. dependent var	193.7736
S.E. of regression	193.2613	Akaike info criterion	13.37780
Sum squared resid	9300133.	Schwarz criterion	13.41981
Log likelihood	-1682.602	Hannan-Quinn criter.	13.39470
F-statistic	1.666256	Durbin-Watson stat	1.602812
Prob(F-statistic)	0.191053		

Heteroskedasticity Test: Harvey
Null hypothesis: Homoskedasticity

F-statistic	0.528984	Prob. F(2,249)	0.5899
Obs*R-squared	1.066185	Prob. Chi-Square(2)	0.5868
Scaled explained SS	0.770277	Prob. Chi-Square(2)	0.6804

Test Equation:
Dependent Variable: LRESID2
Method: Least Squares

Sample: 2003M01 2023M12
Included observations: 252

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	3.247836	0.976328	3.326584	0.0010
X2	0.000254	0.000286	0.888524	0.3751
X3	5.96E-06	7.27E-06	0.819592	0.4132

R-squared	0.004231	Mean dependent var	4.243568
Adjusted R-squared	-0.003767	S.D. dependent var	1.891932
S.E. of regression	1.895492	Akaike info criterion	4.128667
Sum squared resid	894.6296	Schwarz criterion	4.170684
Log likelihood	-517.2121	Hannan-Quinn criter.	4.145574
F-statistic	0.528984	Durbin-Watson stat	1.725367
Prob(F-statistic)	0.589864		

Dependent Variable: Y
Method: Least Squares

Included observations: 67

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	149.3957	12.17499	12.27070	0.0000
X2	0.056307	0.002323	24.23869	0.0000
X3	0.002580	0.000131	19.76638	0.0000

R-squared	0.944725	Mean dependent var	489.2131
Adjusted R-squared	0.942998	S.D. dependent var	30.06597
S.E. of regression	7.178282	Akaike info criterion	6.823740
Sum squared resid	3297.774	Schwarz criterion	6.922457
Log likelihood	-225.5953	Hannan-Quinn criter.	6.862803
F-statistic	546.9266	Durbin-Watson stat	1.775972
Prob(F-statistic)	0.000000		

Dependent Variable: Y
Method: Least Squares

Included observations: 67

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	143.6371	10.91347	13.16145	0.0000
X2	0.059641	0.003373	17.68376	0.0000
X3	0.002473	0.000113	21.86202	0.0000

R-squared	0.916444	Mean dependent var	422.4801
Adjusted R-squared	0.913833	S.D. dependent var	38.52828
S.E. of regression	11.30965	Akaike info criterion	7.732933
Sum squared resid	8186.130	Schwarz criterion	7.831651
Log likelihood	-256.0533	Hannan-Quinn criter.	7.771996
F-statistic	350.9786	Durbin-Watson stat	0.961447
Prob(F-statistic)	0.000000		

X2	X3	Y
1.000000	0.205735	0.806195
0.205735	1.000000	0.428537
0.806195	0.428537	1.000000

Dependent Variable: Y
Method: Least Squares

Sample: 2003M01 2012M12
Included observations: 120

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	131.7340	12.13699	10.85392	0.0000
X2	0.055373	0.002579	21.46921	0.0000
X3	0.002759	0.000130	21.24556	0.0000

R-squared	0.900924	Mean dependent var	486.7192
Adjusted R-squared	0.899230	S.D. dependent var	32.81287
S.E. of regression	10.41620	Akaike info criterion	7.549285
Sum squared resid	12694.19	Schwarz criterion	7.618972
Log likelihood	-449.9571	Hannan-Quinn criter.	7.577585
F-statistic	531.9544	Durbin-Watson stat	0.813658
Prob(F-statistic)	0.000000		

Dependent Variable: Y
Method: Least Squares

Sample: 2013M01 2023M12
Included observations: 132

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	170.3885	6.964263	24.46613	0.0000
X2	0.057296	0.002157	26.56581	0.0000
X3	0.002035	5.73E-05	35.49386	0.0000

R-squared	0.925575	Mean dependent var	436.1435
Adjusted R-squared	0.924421	S.D. dependent var	38.42324
S.E. of regression	10.56318	Akaike info criterion	7.575090
Sum squared resid	14393.91	Schwarz criterion	7.640608
Log likelihood	-496.9559	Hannan-Quinn criter.	7.601714
F-statistic	802.1430	Durbin-Watson stat	0.978896
Prob(F-statistic)	0.000000		