

Lista de Exercícios 3 C

1. Observe os dados abaixo e verifique, através do teste de Chow, se há quebra estrutural.

Dependent Variable: Y				
Method: Least Squares				
Date: 04/24/07 Time: 02:13				
Sample: 1970 1991				
Included observations: 22				
Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	57.63569	14.91307	3.864778	0.0010
X	0.031461	0.005281	5.957712	0.0000
R-squared	0.639603	Mean dependent var	136.9091	
Adjusted R-squared	0.621583	S.D. dependent var	51.34667	
S.E. of regression	31.58622	Akaike info criterion	9.829827	
Sum squared resid	19953.78	Schwarz criterion	9.929013	
Log likelihood	-106.1281	F-statistic	35.49433	
Durbin-Watson stat	0.548792	Prob(F-statistic)	0.000008	

Amostra 1970 - 1991

Dependent Variable: Y				
Method: Least Squares				
Date: 04/24/07 Time: 02:13				
Sample: 1970 1980				
Included observations: 11				
Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	14.61809	10.43428	1.400968	0.1947
X	0.056067	0.007063	7.938684	0.0000
R-squared	0.875039	Mean dependent var	93.47273	
Adjusted R-squared	0.861155	S.D. dependent var	28.44166	
S.E. of regression	10.59791	Akaike info criterion	7.722157	
Sum squared resid	1010.842	Schwarz criterion	7.794501	
Log likelihood	-40.47186	F-statistic	63.02270	
Durbin-Watson stat	1.311899	Prob(F-statistic)	0.000024	

Amostra 1970 - 1980

Dependent Variable: Y				
Method: Least Squares				
Date: 04/24/07 Time: 02:14				
Sample: 1981 1991				
Included observations: 11				
Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	217.8136	35.32184	6.166540	0.0002
X	-0.010313	0.009519	-1.083381	0.3068
R-squared	0.115367	Mean dependent var	180.3455	
Adjusted R-squared	0.017075	S.D. dependent var	24.01880	
S.E. of regression	23.81286	Akaike info criterion	9.341294	
Sum squared resid	5103.470	Schwarz criterion	9.413639	
Log likelihood	-49.37712	F-statistic	1.173714	
Durbin-Watson stat	1.671747	Prob(F-statistic)	0.306809	

Amostra 1981 - 1991

2. Um pesquisador desenvolveu um modelos econométricos procurando analisar a relação entre duas variáveis Y e X. A seguir decidiu incluir variáveis dummies (sendo dummy=1 para dados de 1970 a 1980 e dummy = 0 para dados de 1981 a 1991). Analise os resultados obtidos através da comparação dos modelos restrito e irrestrito.

Dependent Variable: Y				
Method: Least Squares				
Date: 04/24/07 Time: 02:13				
Sample: 1970 1991				
Included observations: 22				
Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	57.63569	14.91307	3.864778	0.0010
X	0.031461	0.005281	5.957712	0.0000
R-squared	0.639603	Mean dependent var	136.9091	
Adjusted R-squared	0.621583	S.D. dependent var	51.34667	
S.E. of regression	31.58622	Akaike info criterion	9.829827	
Sum squared resid	19953.78	Schwarz criterion	9.929013	
Log likelihood	-106.1281	F-statistic	35.49433	
Durbin-Watson stat	0.548792	Prob(F-statistic)	0.000008	

Dependent Variable: Y				
Method: Least Squares				
Date: 04/24/07 Time: 02:38				
Sample: 1970 1991				
Included observations: 22				
Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	217.8136	27.33816	7.967381	0.0000
X	-0.010313	0.007368	-1.399765	0.1786
DUMMY	-203.1955	32.81236	-6.192651	0.0000
DUMMY*X	0.066380	0.014323	4.634654	0.0002
R-squared	0.889566	Mean dependent var	136.9091	
Adjusted R-squared	0.871160	S.D. dependent var	51.34667	
S.E. of regression	18.43052	Akaike info criterion	8.828858	
Sum squared resid	6114.311	Schwarz criterion	9.027230	
Log likelihood	-93.11744	F-statistic	48.33099	
Durbin-Watson stat	1.635964	Prob(F-statistic)	0.000000	

3. Analise os exercícios 1 e 2, verificando qual o objetivo do pesquisador ao desenvolvê-los.
4. Outro pesquisador desenvolveu pesquisa similar e desenvolveu um modelo econométrico igual àquele apresentado no exercício 1, porém para analisar outro país. Os resultados obtidos nesse caso foram:

SQR da regressão com $n=120$ dados = 434,87

SQR da regressão com 60 dados iniciais = 151,01

SQR da regressão com os 60 dados restantes = 203,6

Faça o teste de Chow para verificar se nesse trabalho é detectado quebra estrutural.