

Exercícios C2 e C3 do capítulo 8 do W-5ª ed.

Exercício C.2

Equação 1

Dependent Variable: PRICE

Method: Least Squares

Included observations: 88

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	-21.77031	29.47504	-0.738601	0.4622
LOTSIZE	0.002068	0.000642	3.220096	0.0018
SQRFT	0.122778	0.013237	9.275093	0.0000
BDRMS	13.85252	9.010145	1.537436	0.1279
R-squared	0.672362	Mean dependent var		293.5460
Adjusted R-squared	0.660661	S.D. dependent var		102.7134
S.E. of regression	59.83348	Akaike info criterion		11.06540
Sum squared resid	300723.8	Schwarz criterion		11.17800
Log likelihood	-482.8775	Hannan-Quinn criter.		11.11076
F-statistic	57.46023	Durbin-Watson stat		2.109796
Prob(F-statistic)	0.000000			

Estimação robusta à heterocedasticidade

Dependent Variable: PRICE

Method: Least Squares

Included observations: 88

White heteroskedasticity-consistent standard errors & covariance

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	-21.77031	37.13821	-0.586197	0.5593
LOTSIZE	0.002068	0.001251	1.652283	0.1022
SQRFT	0.122778	0.017725	6.926707	0.0000
BDRMS	13.85252	8.478625	1.633817	0.1060
R-squared	0.672362	Mean dependent var		293.5460
Adjusted R-squared	0.660661	S.D. dependent var		102.7134
S.E. of regression	59.83348	Akaike info criterion		11.06540
Sum squared resid	300723.8	Schwarz criterion		11.17800
Log likelihood	-482.8775	Hannan-Quinn criter.		11.11076
F-statistic	57.46023	Durbin-Watson stat		2.109796
Prob(F-statistic)	0.000000	Wald F-statistic		23.71809
Prob(Wald F-statistic)	0.000000			

Teste BP

Dependent Variable: RES^2

Included observations: 88

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	-5522.795	3259.478	-1.694380	0.0939
LOTSIZE	0.201521	0.071009	2.837961	0.0057
SQRFT	1.691037	1.463850	1.155198	0.2513
BDRMS	1041.760	996.3810	1.045544	0.2988
R-squared	0.160141	Mean dependent var		3417.316
Adjusted R-squared	0.130146	S.D. dependent var		7094.384
S.E. of regression	6616.646	Akaike info criterion		20.47695
Sum squared resid	3.68E+09	Schwarz criterion		20.58956
Log likelihood	-896.9860	Hannan-Quinn criter.		20.52232
F-statistic	5.338919	Durbin-Watson stat		2.351111
Prob(F-statistic)	0.002048			

Nota: RES são os resíduos da equação1

Teste de WHITE

Dependent Variable: RES^2

Included observations: 88

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	15626.24	11369.41	1.374411	0.1733
LOTSIZE	-1.859507	0.637097	-2.918719	0.0046
SQRFT	-2.673918	8.662183	-0.308689	0.7584
BDRMS	-1982.841	5438.483	-0.364595	0.7164
LOTSIZE^2	-4.98E-07	4.63E-06	-0.107498	0.9147
SQRFT^2	0.000352	0.001840	0.191484	0.8486
BDRMS^2	289.7541	758.8303	0.381843	0.7036
LOTSIZE*SQRFT	0.000457	0.000277	1.649673	0.1030
LOTSIZE*BDRMS	0.314647	0.252094	1.248135	0.2157
SQRFT*BDRMS	-1.020860	1.667154	-0.612337	0.5421
R-squared	0.383314	Mean dependent var		3417.316
Adjusted R-squared	0.312158	S.D. dependent var		7094.384
S.E. of regression	5883.814	Akaike info criterion		20.30444
Sum squared resid	2.70E+09	Schwarz criterion		20.58596
Log likelihood	-883.3955	Hannan-Quinn criter.		20.41786
F-statistic	5.386953	Durbin-Watson stat		2.052712
Prob(F-statistic)	0.000010			

Heteroskedasticity Test: White

F-statistic	5.386953	Prob. F(9,78)	0.0000
Obs*R-squared	33.73166	Prob. Chi-Square(9)	0.0001

Teste WS

Dependent Variable: RES^2

Included observations: 88

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	19071.59	8876.227	2.148615	0.0345
YFIT	-119.6554	53.31721	-2.244217	0.0274
YFIT^2	0.208947	0.074596	2.801037	0.0063

R-squared	0.184868	Mean dependent var	3417.316
Adjusted R-squared	0.165689	S.D. dependent var	7094.384
S.E. of regression	6480.055	Akaike info criterion	20.42434
Sum squared resid	3.57E+09	Schwarz criterion	20.50880
Log likelihood	-895.6710	Hannan-Quinn criter.	20.45837
F-statistic	9.638819	Durbin-Watson stat	2.031774
Prob(F-statistic)	0.000169		

Nota: YFIT são os valores ajustados de PRICE na equação1

Exercício C.3

Equação 2

Dependent Variable: LPRICE

Included observations: 88

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	-1.297042	0.651284	-1.991517	0.0497
LLOTSIZE	0.167967	0.038281	4.387714	0.0000
LSQRFT	0.700232	0.092865	7.540306	0.0000
BDRMS	0.036958	0.027531	1.342415	0.1831
R-squared	0.642965	Mean dependent var		5.633180
Adjusted R-squared	0.630214	S.D. dependent var		0.303573
S.E. of regression	0.184603	Akaike info criterion		-0.496833
Sum squared resid	2.862563	Durbin-Watson stat		2.088996
F-statistic	50.42374	Prob(F-statistic)		0.000000

Teste de WHITE

Dependent Variable: RES^2

Included observations: 88

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	12.20696	6.692663	1.823931	0.0720
LLOTSIZE	-1.272828	0.708256	-1.797131	0.0762
LSQRFT	-1.756780	1.664948	-1.055156	0.2946
BDRMS	0.287872	0.284522	1.011773	0.3148
LLOTSIZE^2	0.023520	0.016296	1.443344	0.1529
LSQRFT^2	0.040274	0.123074	0.327236	0.7444
BDRMS^2	-0.005091	0.009056	-0.562166	0.5756
LLOTSIZE*LSQRFT	0.120860	0.072130	1.675592	0.0978
LLOTSIZE*BDRMS	-0.025276	0.032063	-0.788309	0.4329
LSQRFT*BDRMS	-0.001095	0.048247	-0.022696	0.9820
R-squared	0.108516	Mean dependent var		0.032529
Adjusted R-squared	0.005653	S.D. dependent var		0.073605
S.E. of regression	0.073397	Akaike info criterion		-2.279236
Sum squared resid	0.420190	Durbin-Watson stat		2.100418
F-statistic	1.054954	Prob(F-statistic)		0.405314

Nota: RES são os resíduos da equação2

Heteroskedasticity Test: White

F-statistic	1.054957	Prob. F(9,78)	0.4053
Obs*R-squared	9.549452	Prob. Chi-Square(9)	0.3882
Scaled explained SS	22.02146	Prob. Chi-Square(9)	0.0088

Teste WS

Dependent Variable: RES^2

Included observations: 88

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	0.210464	0.105002	2.004372	0.0482
LYFIT	-0.001024	0.000629	-1.629497	0.1069
LYFIT^2	1.31E-06	8.74E-07	1.501803	0.1369

R-squared	0.035620	Mean dependent var	0.032529
Adjusted R-squared	0.012929	S.D. dependent var	0.073605
S.E. of regression	0.073127	Akaike info criterion	-2.359729
Sum squared resid	0.454548	Schwarz criterion	-2.275274
Log likelihood	106.8281	Hannan-Quinn criter.	-2.325704
F-statistic	1.569760	Durbin-Watson stat	2.137827
Prob(F-statistic)	0.214067		

Heteroskedasticity Test: Breusch-Pagan-Godfrey

F-statistic	1.411500	Prob. F(3,84)	0.2451
Obs*R-squared	4.223246	Prob. Chi-Square(3)	0.2383
Scaled explained SS	9.738991	Prob. Chi-Square(3)	0.0209

Test Equation:

Dependent Variable: RESID^2

Included observations: 88

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	0.509994	0.257857	1.977816	0.0512
LOG(LOTSIZE)	-0.007016	0.015156	-0.462883	0.6446
LOG(SQRFT)	-0.062737	0.036767	-1.706317	0.0916
BDRMS	0.016841	0.010900	1.544982	0.1261

R-squared	0.047991	Mean dependent var	0.032529
Adjusted R-squared	0.013991	S.D. dependent var	0.073605
S.E. of regression	0.073088	Akaike info criterion	-2.349913
Sum squared resid	0.448717	Schwarz criterion	-2.237307
Log likelihood	107.3962	Hannan-Quinn criter.	-2.304547
F-statistic	1.411500	Durbin-Watson stat	2.109798
Prob(F-statistic)	0.245146		