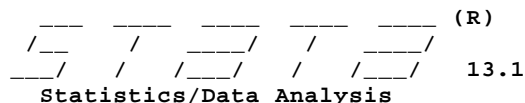


Statistics/Data Analysis

User: ES



Statistics/Data Analysis

Special Edition

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Notes:

1. (/v# option or -set maxvar-) 5000 maximum variables

1 . use "F:\Tese\Tratamento dos dados\Dados\Espanha\BD\ES sem outliers da regressão B2.dta"

2 . log using "F:\Tese\Tratamento dos dados\Dados\Portugal\Resultados\Dados em painel\Output ET E
 > "

name: <unnamed>
 log: F:\Tese\Tratamento dos dados\Dados\Portugal\Resultados\Dados em painel\Output ET E
 log type: smcl
 opened on: 20 Jul 2016, 12:33:33

3 . regress ET CVT DLAT PFNAE ROI ROI2 FCF AGE TAN R_TAN RISVT BCCO

Source	SS	df	MS	Number of obs =	4424
Model	54.5692007	11	4.96083643	F(11, 4412) =	79.43
Residual	275.553207	4412	.062455396	Prob > F =	0.0000
Total	330.122408	4423	.074637669	R-squared =	0.1653
				Adj R-squared =	0.1632
				Root MSE =	.24991

ET	Coef.	Std. Err.	t	P> t	[95% Conf. Interval]
CVT	.0630575	.0223853	2.82	0.005	.0191712 .1069439
DLAT	.0733232	.0070089	10.46	0.000	.0595821 .0870642
PFNAE	.6094922	.1291588	4.72	0.000	.3562762 .8627082
ROI	-.5414453	.1189512	-4.55	0.000	-.7746494 -.3082413
ROI2	-.6707697	.2297291	-2.92	0.004	-1.121154 -.2203853
FCF	-.3781676	.0339386	-11.14	0.000	-.4447044 -.3116309
AGE	-.0059423	.0003505	-16.95	0.000	-.0066295 -.0052551
TAN	.2292007	.0162314	14.12	0.000	.197379 .2610224
R_TAN	.9568388	.1948429	4.91	0.000	.574849 1.338829
RISVT	.2878737	.043957	6.55	0.000	.2016958 .3740515
BCCO	.2926895	.0355218	8.24	0.000	.223049 .36233
_cons	-.0345175	.0409496	-0.84	0.399	-.1147992 .0457642

4 .
 5 . estat ovtest

Ramsey RESET test using powers of the fitted values of ET
 Ho: model has no omitted variables
 F(3, 4409) = 25.09
 Prob > F = 0.0000

```
6 .
7 . estat ovtest, rhs
   (note: ROI dropped because of collinearity)
   (note: ROI^3 dropped because of collinearity)
```

```
Ramsey RESET test using powers of the independent variables
Ho: model has no omitted variables
   F(32, 4381) =      6.76
   Prob > F =      0.0000
```

```
8 .
9 . pwcorr ET CVT DLAT PFNAE ROI ROI2 FCF AGE TAN R_TAN RISVT BCCO, sig star(.05)
```

	ET	CVT	DLAT	PFNAE	ROI	ROI2	FCF	
ET	1.0000							
CVT	0.0193 0.1939	1.0000						
DLAT	0.0200 0.1780	0.0878*	1.0000					
PFNAE	0.0161 0.2851	0.0300*	-0.3536*	1.0000				
ROI	-0.0690* 0.0000	0.2225* 0.0000	0.1599* 0.0000	-0.1100* 0.0000	1.0000			
ROI2	-0.0591* 0.0001	-0.0053 0.7217	-0.1622* 0.0000	0.1699* 0.0000	-0.0915* 0.0000	1.0000		
FCF	-0.1316* 0.0000	0.2004* 0.0000	0.2010* 0.0000	0.0537* 0.0004	0.5305* 0.0000	-0.0871* 0.0000	1.0000	
AGE	-0.2684* 0.0000	0.0369* 0.0129	0.2347* 0.0000	0.0397* 0.0082	0.0854* 0.0000	0.0790* 0.0000	0.0401* 0.0069	
TAN	0.2293* 0.0000	-0.0154 0.2979	-0.0885* 0.0000	0.1660* 0.0000	-0.0574* 0.0001	-0.1402* 0.0000	0.0098 0.5082	
R_TAN	-0.0231 0.1194	0.2204* 0.0000	0.1343* 0.0000	-0.1065* 0.0000	0.9024* 0.0000	-0.0913* 0.0000	0.5197* 0.0000	
RISVT	0.1452* 0.0000	-0.0724* 0.0000	-0.0761* 0.0000	-0.0811* 0.0000	-0.2075* 0.0000	0.0446* 0.0026	-0.2803* 0.0000	
BCCO	-0.0172 0.2471	0.1696* 0.0000	0.0024 0.8737	-0.0033 0.8248	0.4767* 0.0000	0.1197* 0.0000	0.4174* 0.0000	
		AGE	TAN	R_TAN	RISVT	BCCO		
AGE		1.0000						
TAN		-0.1511* 0.0000	1.0000					
R_TAN		0.0687* 0.0000	0.0077 0.6041	1.0000				
RISVT		-0.1268* 0.0000	0.0340* 0.0217	-0.1998* 0.0000	1.0000			
BCCO		-0.0214 0.1487	-0.3116* 0.0000	0.4630* 0.0000	-0.1628* 0.0000	1.0000		

```
10 .
11 . estat vif
```

Variable	VIF	1/VIF
ROI	5.66	0.176654
R_TAN	5.58	0.179117
FCF	1.68	0.596510
BCCO	1.66	0.600879
DLAT	1.34	0.743820
PFNAE	1.30	0.768531
TAN	1.28	0.781985
AGE	1.16	0.864774
ROI2	1.12	0.892429
RISVT	1.11	0.898162
CVT	1.07	0.932430
Mean VIF	2.09	

```
12 .
13 . estat hettest
```

Breusch-Pagan / Cook-Weisberg test for heteroskedasticity
 Ho: Constant variance
 Variables: fitted values of ET

chi2(1) = 21.55
 Prob > chi2 = 0.0000

```
14 .
15 . estat imtest, white
```

White's test for Ho: homoskedasticity
 against Ha: unrestricted heteroskedasticity

chi2(74) = 868.71
 Prob > chi2 = 0.0000

Cameron & Trivedi's decomposition of IM-test

Source	chi2	df	p
Heteroskedasticity	868.71	74	0.0000
Skewness	682.93	11	0.0000
Kurtosis	26.03	1	0.0000
Total	1577.67	86	0.0000

```
16 .
17 . regress ET CVT DLAT PFNAE ROI ROI2 FCF AGE TAN R_TAN RISVT BCCO, vce(cluster id)
```

Linear regression

Number of obs = 4424
 F(11, 902) = 28.32
 Prob > F = 0.0000
 R-squared = 0.1653
 Root MSE = .24991

(Std. Err. adjusted for 903 clusters in id)

ET	Coef.	Robust Std. Err.	t	P> t	[95% Conf. Interval]
CVT	.0630575	.0197719	3.19	0.001	.0242532 .1018619
DLAT	.0733232	.0144247	5.08	0.000	.0450132 .1016331
PFNAE	.6094922	.2359464	2.58	0.010	.1464243 1.07256
ROI	-.5414453	.1681032	-3.22	0.001	-.8713643 -.2115264
ROI2	-.6707697	.3255125	-2.06	0.040	-1.30962 -.0319196
FCF	-.3781676	.0988735	-3.82	0.000	-.5722165 -.1841188
AGE	-.0059423	.0006851	-8.67	0.000	-.007287 -.0045976
TAN	.2292007	.0340524	6.73	0.000	.1623695 .2960319

(Std. Err. adjusted for 903 clusters in id)

ET	Coef.	Robust Std. Err.	z	P> z	[95% Conf. Interval]	
CVT	.0483691	.0099976	4.84	0.000	.0287743	.067964
DLAT	.1021662	.0198184	5.16	0.000	.0633229	.1410096
PFNAE	-.2572361	.1382829	-1.86	0.063	-.5282655	.0137933
ROI	-.395221	.1043413	-3.79	0.000	-.5997262	-.1907159
ROI2	.3949317	.1762776	2.24	0.025	.0494339	.7404296
FCF	-.0786498	.0314285	-2.50	0.012	-.1402486	-.017051
AGE	-.0057746	.0006698	-8.62	0.000	-.0070873	-.0044619
TAN	.0495108	.0382633	1.29	0.196	-.0254838	.1245055
R_TAN	.1856436	.1584991	1.17	0.241	-.125009	.4962961
RISVT	-.0151683	.0206347	-0.74	0.462	-.0556115	.0252749
BCCO	.0606197	.0313248	1.94	0.053	-.0007759	.1220152
_cons	.1905121	.0774976	2.46	0.014	.0386195	.3424046
sigma_u	.23391381					
sigma_e	.07416046					
rho	.90866506	(fraction of variance due to u_i)				

```

28 .
29 . quietly regress ET CVT DLAT PFNAE ROI ROI2 FCF AGE TAN R_TAN RISVT BCCO, vce(cluster id)
30 .
31 . estimates store POLS_rob
32 .
33 . quietly xtreg ET CVT DLAT PFNAE ROI ROI2 FCF AGE TAN R_TAN RISVT BCCO, fe
34 .
35 . estimates store FE
36 .
37 . quietly xtreg ET CVT DLAT PFNAE ROI ROI2 FCF AGE TAN R_TAN RISVT BCCO, fe vce(cluster id)
38 .
39 . estimates store FE_rob
40 .
41 . quietly xtreg ET CVT DLAT PFNAE ROI ROI2 FCF AGE TAN R_TAN RISVT BCCO, re
42 .
43 . estimates store RE
44 .
45 . quietly xtreg ET CVT DLAT PFNAE ROI ROI2 FCF AGE TAN R_TAN RISVT BCCO, re vce(cluster id)
46 .
47 . estimates store RE_rob
48 .
49 . estimates table POLS_rob FE FE_rob RE RE_rob, b se stats(N r2 r2_o r2_b r2_w F chi2) b(%7.5f)

```

Variable	POLS_~b	FE	FE_rob	RE	RE_rob
CVT	0.06306	0.03473	0.03473	0.04837	0.04837
	0.01977	0.00772	0.00958	0.00770	0.01000
DLAT	0.07332	0.30410	0.30410	0.10217	0.10217
	0.01442	0.02279	0.07213	0.01160	0.01982
PFNAE	0.60949	-0.11242	-0.11242	-0.25724	-0.25724
	0.23595	0.09197	0.14359	0.08799	0.13828
ROI	-0.54145	-0.39766	-0.39766	-0.39522	-0.39522
	0.16810	0.06097	0.11009	0.06136	0.10434
ROI2	-0.67077	0.56545	0.56545	0.39493	0.39493
	0.32551	0.10076	0.19325	0.10123	0.17628
FCF	-0.37817	-0.06866	-0.06866	-0.07865	-0.07865
	0.09887	0.01720	0.02871	0.01727	0.03143
AGE	-0.00594	-0.00166	-0.00166	-0.00577	-0.00577

	0.00069	0.00092	0.00166	0.00057	0.00067
TAN	0.22920	-0.00425	-0.00425	0.04951	0.04951
	0.03405	0.01932	0.05459	0.01703	0.03826
R_TAN	0.95684	0.15837	0.15837	0.18564	0.18564
	0.29644	0.09673	0.16121	0.09751	0.15850
RISVT	0.28787	-0.01663	-0.01663	-0.01517	-0.01517
	0.06003	0.01735	0.02093	0.01746	0.02063
BCCO	0.29269	0.08471	0.08471	0.06062	0.06062
	0.06951	0.02363	0.03223	0.02242	0.03132
_cons	-0.03452	-0.56275	-0.56275	0.19051	0.19051
	0.07967	0.09059	0.27974	0.04729	0.07750
<hr/>					
N	4424	4424	4424	4424	4424
r2	0.16530	0.10516	0.10516		
r2_o		0.00384	0.00384	0.08255	0.08255
r2_b		0.00284	0.00284	0.08389	0.08389
r2_w		0.10516	0.10516	0.07946	0.07946
F	28.32277	37.49788	9.24572		
chi2				3.8e+02	1.7e+02

legend: b/se

50 .
51 . xttest0

Breusch and Pagan Lagrangian multiplier test for random effects

$$ET[id,t] = Xb + u[id] + e[id,t]$$

Estimated results:

	Var	sd = sqrt(Var)
ET	.0746377	.273199
e	.0054998	.0741605
u	.0547157	.2339138

Test: Var(u) = 0

chibar2(01) = 6693.26
Prob > chibar2 = 0.0000

52 .
53 . xtoverid

Test of overidentifying restrictions: fixed vs random effects
Cross-section time-series model: xtreg re robust cluster(id)
Sargan-Hansen statistic 146.642 Chi-sq(11) P-value = 0.0000

54 .
55 . hausman FE RE, sigmamore

	Coefficients		(b-B) Difference	sqrt(diag(V_b-V_B)) S.E.
	(b) FE	(B) RE		
CVT	.0347291	.0483691	-.01364	.0018398
DLAT	.3041041	.1021662	.2019379	.0203153
PFNAE	-.1124234	-.2572361	.1448127	.0342009
ROI	-.3976571	-.395221	-.0024361	.012332
ROI2	.5654483	.3949317	.1705165	.0212539
FCF	-.0686628	-.0786498	.009987	.0037054
AGE	-.001665	-.0057746	.0041096	.0007607
TAN	-.004251	.0495108	-.0537618	.0101592
R_TAN	.1583653	.1856436	-.0272782	.018744
RISVT	-.0166254	-.0151683	-.0014571	.0035023
BCCO	.0847137	.0606197	.024094	.009246

b = consistent under Ho and Ha; obtained from xtreg
B = inconsistent under Ha, efficient under Ho; obtained from xtreg

Test: Ho: difference in coefficients not systematic

```
chi2(11) = (b-B)'[(V_b-V_B)^(-1)](b-B)
          =      235.80
Prob>chi2 =      0.0000
```

56 .

57 . log close

```
name: <unnamed>
log: F:\Tese\Tratamento dos dados\Dados\Portugal\Resultados\Dados em painel\Output ET E
log type: smcl
closed on: 20 Jul 2016, 12:33:48
```

58 .