



User: ES

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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 EF E
> "
    
```

```

name: <unnamed>
log: F:\Tese\Tratamento dos dados\Dados\Portugal\Resultados\Dados em painel\Output EF E
log type: smcl
opened on: 20 Jul 2016, 12:45:35
    
```

```

3 . regress BCCO CVT DLAT ROI ROI2 FCF AGE TAN R_TAN C_RISVT R_RISVT
    
```

Source	SS	df	MS	Number of obs =	4550
Model	33.877158	10	3.3877158	F(10, 4539) =	304.86
Residual	50.4388108	4539	.011112318	Prob > F =	0.0000
Total	84.3159688	4549	.018535056	R-squared =	0.4018
				Adj R-squared =	0.4005
				Root MSE =	.10541

BCCO	Coef.	Std. Err.	t	P> t	[95% Conf. Interval]	
CVT	.0674318	.0159491	4.23	0.000	.0361637	.0986998
DLAT	-.0197174	.0027026	-7.30	0.000	-.0250158	-.0144191
ROI	.2071536	.0548398	3.78	0.000	.0996408	.3146664
ROI2	.9795586	.0895716	10.94	0.000	.8039547	1.155163
FCF	.2290516	.0130115	17.60	0.000	.2035428	.2545604
AGE	-.0011375	.0001423	-7.99	0.000	-.0014166	-.0008585
TAN	-.1621541	.0061953	-26.17	0.000	-.1742999	-.1500083
R_TAN	.6072477	.0803705	7.56	0.000	.4496823	.764813
C_RISVT	-.1098836	.0384346	-2.86	0.004	-.1852342	-.034533
R_RISVT	.7199971	.2285409	3.15	0.002	.2719456	1.168049
_cons	.8515557	.0102821	82.82	0.000	.8313977	.8717137

```

4 .
5 . estat ovtest
    
```

Ramsey RESET test using powers of the fitted values of BCCO
 Ho: model has no omitted variables
 F(3, 4536) = 47.40
 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(29, 4511) =    89.50
    Prob > F =    0.0000
```

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

	BCCO	CVT	DLAT	ROI	ROI2	FCF	AGE	TAN	R_TAN	C_RISVT	R_RISVT
BCCO	1.0000										
CVT	0.1696*	1.0000									
DLAT	0.0024	0.0878*	1.0000								
ROI	0.4767*	0.2225*	0.1599*	1.0000							
ROI2	0.1197*	-0.0053	-0.1622*	-0.0915*	1.0000						
FCF	0.4174*	0.2004*	0.2010*	0.5305*	-0.0871*	1.0000					
AGE	-0.0214	0.0369*	0.2347*	0.0854*	0.0790*	0.0401*	1.0000				
TAN	-0.3116*	-0.0154	-0.0885*	-0.0574*	-0.1402*	0.0098	-0.1511*	1.0000			
R_TAN	0.4630*	0.2204*	0.1343*	0.9024*	-0.0913*	0.5197*	0.0687*	0.0077	1.0000		
C_RISVT	0.0870*	0.8140*	0.0475*	0.1171*	-0.0042	0.1179*	0.0039	0.9488	0.1154*	1.0000	
R_RISVT	0.3967*	0.2748*	0.1372*	0.7986*	-0.2120*	0.4837*	0.0231	0.7819	0.7437*	0.2144*	1.0000

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

Variable	VIF	1/VIF
ROI	7.06	0.141697
R_TAN	5.60	0.178679
CVT	3.15	0.317242
R_RISVT	3.11	0.321491
C_RISVT	3.06	0.327103
FCF	1.47	0.681273
DLAT	1.15	0.870962
ROI2	1.13	0.885074
AGE	1.10	0.911773
TAN	1.07	0.933115
Mean VIF	2.79	

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

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

chi2(1) = 12.94
 Prob > chi2 = 0.0003

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

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

chi2(61) = 1144.91
 Prob > chi2 = 0.0000

Cameron & Trivedi's decomposition of IM-test

Source	chi2	df	p
Heteroskedasticity	1144.91	61	0.0000
Skewness	240.45	10	0.0000
Kurtosis	83.27	1	0.0000
Total	1468.63	72	0.0000

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

Linear regression

Number of obs = 4550
 F(10, 909) = 109.62
 Prob > F = 0.0000
 R-squared = 0.4018
 Root MSE = .10541

(Std. Err. adjusted for 910 clusters in id)

BCCO	Coef.	Robust Std. Err.	t	P> t	[95% Conf. Interval]	
CVT	.0674318	.0180252	3.74	0.000	.0320559	.1028076
DLAT	-.0197174	.0082205	-2.40	0.017	-.0358507	-.0035841
ROI	.2071536	.0948823	2.18	0.029	.0209398	.3933674
ROI2	.9795586	.2013324	4.87	0.000	.5844282	1.374689
FCF	.2290516	.0270062	8.48	0.000	.1760498	.2820534
AGE	-.0011375	.0002771	-4.10	0.000	-.0016814	-.0005936
TAN	-.1621541	.0142868	-11.35	0.000	-.1901929	-.1341152
R_TAN	.6072477	.1455541	4.17	0.000	.3215865	.8929088
C_RISVT	-.1098836	.0456278	-2.41	0.016	-.1994316	-.0203355

(Std. Err. adjusted for 910 clusters in id)

BCCO	Coef.	Robust Std. Err.	z	P> z	[95% Conf. Interval]	
CVT	.0496896	.0102294	4.86	0.000	.0296402	.069739
DLAT	-.0094428	.0078252	-1.21	0.228	-.0247799	.0058942
ROI	.1670339	.0741595	2.25	0.024	.021684	.3123838
ROI2	.5453755	.1690273	3.23	0.001	.214088	.876663
FCF	.2156346	.0330774	6.52	0.000	.1508039	.2804652
AGE	-.0030744	.0002867	-10.72	0.000	-.0036364	-.0025124
TAN	-.1287572	.0139439	-9.23	0.000	-.1560867	-.1014276
R_TAN	.4992341	.1113945	4.48	0.000	.2809048	.7175633
C_RISVT	-.1018225	.0249286	-4.08	0.000	-.1506816	-.0529633
R_RISVT	.7983222	.2705578	2.95	0.003	.2680385	1.328606
_cons	.8413826	.0287477	29.27	0.000	.7850381	.8977271
sigma_u	.08851684					
sigma_e	.05307673					
rho	.73553874	(fraction of variance due to u_i)				

```

28 .
29 . quietly regress BCCO CVT DLAT ROI ROI2 FCF AGE TAN R_TAN C_RISVT R_RISVT, vce(cluster id)
30 .
31 . estimates store POLS_rob
32 .
33 . quietly xtreg BCCO CVT DLAT ROI ROI2 FCF AGE TAN R_TAN C_RISVT R_RISVT, fe
34 .
35 . estimates store FE
36 .
37 . quietly xtreg BCCO CVT DLAT ROI ROI2 FCF AGE TAN R_TAN C_RISVT R_RISVT, fe vce(cluster id)
38 .
39 . estimates store FE_rob
40 .
41 . quietly xtreg BCCO CVT DLAT ROI ROI2 FCF AGE TAN R_TAN C_RISVT R_RISVT, re
42 .
43 . estimates store RE
44 .
45 . quietly xtreg BCCO CVT DLAT ROI ROI2 FCF AGE TAN R_TAN C_RISVT R_RISVT, 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	0.06743	0.08786	0.08786	0.04969	0.04969
	0.01803	0.00930	0.01123	0.00946	0.01023
DLAT	-0.01972	-0.06950	-0.06950	-0.00944	-0.00944
	0.00822	0.01565	0.02418	0.00506	0.00783
ROI	0.20715	0.13832	0.13832	0.16703	0.16703
	0.09488	0.04553	0.07692	0.04512	0.07416
ROI2	0.97956	0.42066	0.42066	0.54538	0.54538
	0.20133	0.06586	0.16026	0.06565	0.16903
FCF	0.22905	0.20031	0.20031	0.21563	0.21563
	0.02701	0.01122	0.03288	0.01107	0.03308
AGE	-0.00114	-0.01372	-0.01372	-0.00307	-0.00307
	0.00028	0.00059	0.00081	0.00026	0.00029
TAN	-0.16215	-0.08677	-0.08677	-0.12876	-0.12876
	0.01429	0.01319	0.01992	0.00938	0.01394

R_TAN	0.60725	0.44732	0.44732	0.49923	0.49923
	0.14555	0.06740	0.11401	0.06688	0.11139
C_RISVT	-0.10988	-0.15708	-0.15708	-0.10182	-0.10182
	0.04563	0.02247	0.02785	0.02318	0.02493
R_RISVT	0.72000	0.84009	0.84009	0.79832	0.79832
	0.42523	0.14629	0.25762	0.15035	0.27056
_cons	0.85156	1.24659	1.24659	0.84138	0.84138
	0.02918	0.05810	0.09145	0.01871	0.02875
<hr/>					
N	4550	4550	4550	4550	4550
r2	0.40179	0.45443	0.45443		
r2_o		0.06200	0.06200	0.35835	0.35835
r2_b		0.03979	0.03979	0.34664	0.34664
r2_w		0.45443	0.45443	0.40087	0.40087
F	1.1e+02	3.0e+02	1.3e+02		
chi2				2.9e+03	1.3e+03

legend: b/se

50 .
51 . xttest0

Breusch and Pagan Lagrangian multiplier test for random effects

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

Estimated results:

	Var	sd = sqrt(Var)
BCCO	.0185351	.1361435
e	.0028171	.0530767
u	.0078352	.0885168

Test: Var(u) = 0

chibar2(01) = 4464.18
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 301.127 Chi-sq(10) P-value = 0.0000

54 .
55 . hausman FE RE, sigmamore

	Coefficients			
	(b) FE	(B) RE	(b-B) Difference	sqrt(diag(V_b-V_B)) S.E.
CVT	.0878571	.0496896	.0381675	.0024583
DLAT	-.0695019	-.0094428	-.060059	.015647
ROI	.138315	.1670339	-.0287189	.0158594
ROI2	.4206586	.5453755	-.1247169	.0218339
FCF	.200306	.2156346	-.0153286	.0040428
AGE	-.0137219	-.0030744	-.0106475	.0005631
TAN	-.0867737	-.1287572	.0419835	.0101954
R_TAN	.4473197	.4992341	-.0519144	.023241
C_RISVT	-.1570771	-.1018225	-.0552547	.0044507
R_RISVT	.8400933	.7983222	.0417711	.0317565

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(10) = (b-B)'[(V_b-V_B)^(-1)](b-B)
= 434.69
Prob>chi2 = 0.0000

56 .

57 . log close

name: <unnamed>
log: F:\Tese\Tratamento dos dados\Dados\Portugal\Resultados\Dados em painel\Output EF E
log type: smcl
closed on: 20 Jul 2016, 12:45:50

58 .