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Apêndice

Testes de Raíz unitária

Tabela 8 - Teste de raíz unitária

Teste ADF	H0: D(VAR) possui raíz unitária	
	ADF t-stat	Prob.
VAR		
Câmbio	-38,14	0
Ibovespa	-38,39	0
Intervenções ¹⁴	-5,76	0
Posição Estrangeiros	-34,4	0
Diferencial de Juros de c.p.	-12,53	0
Embi+BR	-18,07	0
CRB	-37,36	0

¹⁴ O teste apresentado na tabela para esta variável foi feito em nível.

Teste de Cointegração

Tabela 9 - Teste de Johansen de Cointegração

Selected (0,05 level*) Number of Cointegrating Relations by Model					
Data Trend:	None	None	Linear	Linear	Quadratic
Test Type	No Intercept	Intercept	Intercept	Intercept	Intercept
	No Trend	No Trend	No Trend	Trend	Trend
Trace	2	3	3	4	5
Max-Eig	3	2	2	1	1
*Critical values based on MacKinnon-Haug-Michelis (1999)					
Information Criteria by Rank and Model					
Data Trend:	None	None	Linear	Linear	Quadratic
Rank or	No Intercept	Intercept	Intercept	Intercept	Intercept
No, of CEs	No Trend	No Trend	No Trend	Trend	Trend
Log Likelihood by Rank (rows) and Model (columns)					
0	17790,87	17790,87	17801,28	17801,28	17802,44
1	17865,99	17867,62	17870,8	17876,77	17877,48
2	17886,2	17889,03	17892,18	17898,16	17898,46
3	17903,27	17906,11	17908,23	17915,7	17915,98
4	17910,7	17919,5	17920,81	17930,75	17930,83
5	17914,57	17926,63	17927,92	17943,24	17943,24
6	17915,53	17930,48	17930,98	17948,76	17948,76
7	17915,74	17931,22	17931,22	17951,56	17951,56
Akaike Information Criteria by Rank (rows) and Model (columns)					
0	-26,1004	-26,1004	-26,1054	-26,1054	-26,0968
1	-26,1908	-26,1917	-26,1876	-26,1949	-26,18711
2	-26,2	-26,2012	-26,1985	-26,2044	-26,19742
3	-26,2046	-26,2043	-26,2015	-26,2081	-26,20263
4	-26,1948	-26,2019	-26,1994	-26,20821	-26,20389
5	-26,1798	-26,1903	-26,1892	-26,2045	-26,20154
6	-26,1605	-26,1738	-26,173	-26,1905	-26,189
7	-26,1402	-26,1527	-26,1527	-26,1724	-26,17243
Schwarz Criteria by Rank (rows) and Model (columns)					
0	-25,534	-25,534	-25,5121	-25,5121	-25,47646
1	-25,57047	-25,5676	-25,5403	-25,5438	-25,51282
2	-25,5257	-25,5192	-25,4972	-25,4954	-25,46919
3	-25,4763	-25,4645	-25,4463	-25,4414	-25,42046
4	-25,4127	-25,4043	-25,3903	-25,3837	-25,36777
5	-25,3437	-25,3349	-25,3262	-25,3221	-25,31148
6	-25,2705	-25,2606	-25,256	-25,2503	-25,245
7	-25,1962	-25,1817	-25,1817	-25,1745	-25,17448

Relações de Cointegração

Tabela 10 - Relações de Cointegração

Cointegrating Eq:	CointEq1	CointEq2
LCAMBIO(-1)	1	0
INT_TOTS(-1)	0	0
LIBOV(-1)	0	1
OPEN_INTEREST(-1)	0,061599 -0,00992 [6,20880]	-0,23188 -0,02712 [-8,55105]
II(-1)	0,792698 -0,21037 [3,76812]	-1,61931 -0,57498 [-2,81627]
LEMBIBR(-1)	-0,93469 -0,19115 [-4,88975]	1,328897 -0,52246 [2,54354]
LCRB(-1)	-0,48969 -0,24685 [-1,98377]	1,599386 -0,67469 [2,37055]
C	5,428899 -1,90478 [2,85014]	-23,0109 -5,20616 [-4,41992]

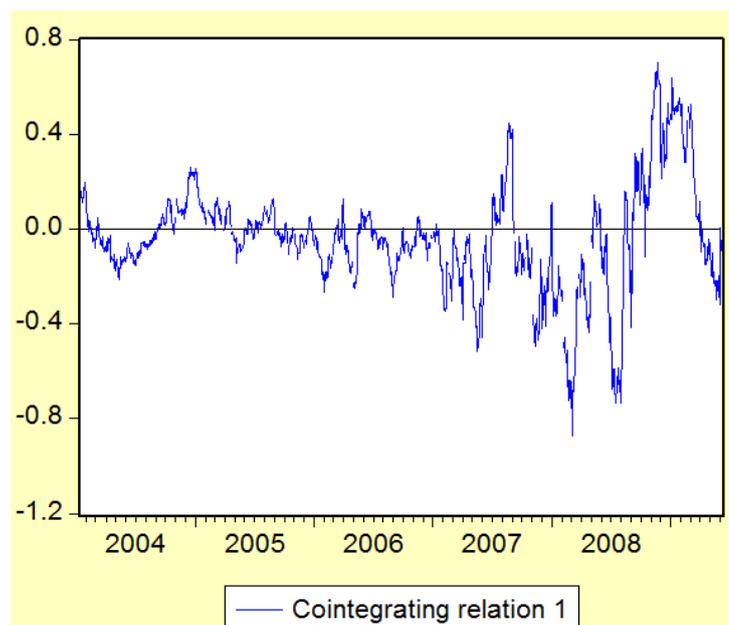


Figura 7 - Relação de Cointegração 1

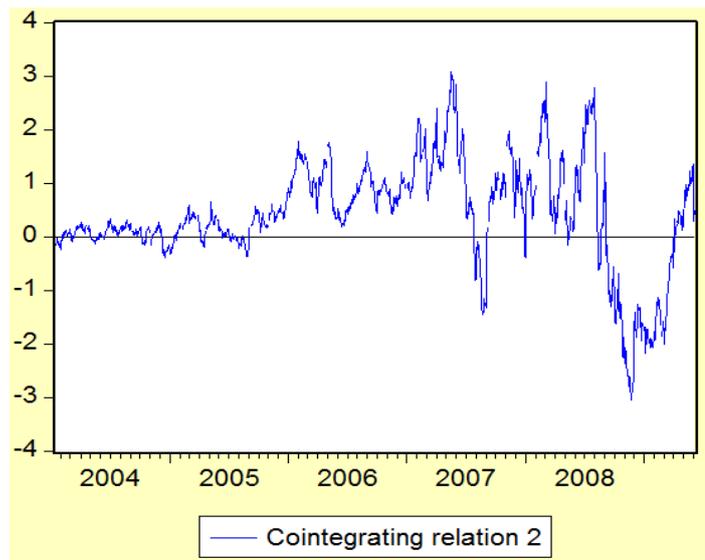


Figura 8 - Relação de Cointegração 2

VEC forma Reduzida

Tabela 11 - Resultados VEC reduzido

lagged endogenous term:								
		d(CAMBIO_log)	d(int_tots)	d(Ibov_log)	d(open_interest)	d(lidif)	d(EMBIBR_log)	d(CRB_log)
d(CAMBIO_log)	(t-1)	-0.173 {0.033} {0.000}	-0.597 {1.304} {0.647}	0.002 {0.070} {0.972}	0.457 {2.385} {0.848}	-0.035 {0.022} {0.118}	0.134 {0.098} {0.172}	0.087 {0.042} {0.036}
d(int_tots)	(t-1)	[-5.273] {0.001} {0.004}	[-0.458] {0.163} {0.000}	{0.036} {0.004} {0.001}	{0.192} {0.049} {0.308}	[-1.564] {-0.001} {0.188}	{1.365} {0.000} {0.855}	{2.100} {0.000} {0.855}
d(Ibov_log)	(t-1)	[2.855] {0.004} {0.016}	[6.032] {0.465} {0.615}	[2.615] {-0.097} {0.033}	[-1.020] {-1.100} {1.125}	[-1.317] {0.019} {0.010}	[-0.183] {-0.226} {0.047}	[0.078] {0.078} {0.020}
d(open_interest)	(t-1)	[-7.293] {0.000} {0.000}	[0.756] {0.008} {0.015}	[-2.941] {0.000} {0.001}	[-0.977] {0.062} {0.028}	[1.858] {0.000} {0.000}	[-4.859] {0.002} {0.001}	[3.963] {-0.001} {0.000}
d(lidif)	(t-1)	0.008 {0.040} {0.845}	-1.614 {1.592} {0.311}	-0.068 {0.085} {0.421}	5.312 {2.913} {0.068}	0.092 {0.027} {0.001}	-0.076 {0.120} {0.527}	-0.019 {0.051} {0.703}
d(EMBIBR_log)	(t-1)	[0.196] {0.026} {0.011}	[-1.013] {0.415} {0.437}	[-0.804] {-0.052} {0.023}	[1.824] {1.491} {0.800}	[3.421] {0.006} {0.007}	[-0.633] {-0.059} {0.033}	[-0.382] {-0.011} {0.014}
d(CRB_log)	(t-1)	[-0.350] {0.024} {0.726}	[1.460] {0.943} {0.144}	[0.907] {0.051} {0.364}	[0.670] {1.726} {0.503}	[0.405] {0.016} {0.685}	[1.234] {0.071} {0.217}	[-2.221] {0.030} {0.026}
d(CAMBIO_log)	(t-2)	0.031 {0.033} {0.348}	-2.063 {1.321} {0.118}	-0.184 {0.071} {0.009}	6.745 {2.416} {0.005}	-0.017 {0.022} {0.451}	-0.127 {0.099} {0.202}	-0.062 {0.042} {0.140}
d(int_tots)	(t-2)	[0.939] {0.000} {0.906}	[-1.562] {0.106} {0.027}	[-2.607] {0.000} {0.001}	[2.792] {-0.029} {0.050}	[-0.754] {-0.001} {0.000}	[-1.277] {0.002} {0.002}	[-1.476] {0.001} {0.001}
d(Ibov_log)	(t-2)	[-0.118] {0.016} {0.000}	[3.871] {-0.416} {0.640}	[0.340] {-0.143} {0.034}	[-0.577] {1.320} {1.170}	[-1.845] {0.019} {0.011}	[0.837] {0.030} {0.048}	[1.407] {-0.026} {0.020}
d(open_interest)	(t-2)	[4.040] {0.000} {0.332}	[-0.651] {0.005} {0.015}	[-4.172] {0.001} {0.001}	[1.128] {0.040} {0.028}	[1.758] {0.000} {0.000}	[0.619] {0.000} {0.001}	[-1.291] {0.000} {0.000}
d(lidif)	(t-2)	[-0.970] {0.035} {0.040}	[0.296] {0.758} {1.573}	[1.061] {-0.026} {0.084}	[1.439] {-1.907} {2.878}	[0.615] {0.176} {0.027}	[0.272] {0.027} {0.119}	[-0.464] {0.037} {0.050}
d(EMBIBR_log)	(t-2)	[0.885] {0.019} {0.011}	[0.482] {0.396} {0.439}	[-0.305] {-0.069} {0.023}	[-0.663] {-0.067} {0.803}	[6.578] {0.000} {0.007}	[0.229] {0.047} {0.033}	[0.746] {-0.008} {0.014}
d(CRB_log)	(t-2)	[1.692] {-0.021} {0.024}	[0.901] {1.266} {0.947}	[-2.941] {-0.031} {0.051}	[-0.083] {3.519} {1.733}	[0.016] {0.009} {0.016}	[1.434] {0.062} {0.072}	[-0.603] {-0.026} {0.030}
d(CAMBIO_log)	(t-3)	[-0.881] {0.378} {0.091}	[1.336] {0.181} {0.367}	[-0.620] {0.535} {0.003}	[2.031] {0.042} {0.934}	[0.590] {0.555} {0.987}	[0.864] {0.387} {0.152}	[-0.854] {0.387} {0.546}
d(int_tots)	(t-3)	[-1.255] {0.001} {0.236}	[1.103] {0.113} {0.000}	[-1.035] {-0.001} {0.535}	[0.858] {-0.051} {0.308}	[-0.020] {-0.001} {0.139}	[1.562] {-0.002} {0.291}	[1.079] {0.000} {0.765}
d(Ibov_log)	(t-3)	[0.013] {0.016} {0.399}	[-1.380] {0.633} {0.029}	-0.177 {0.034} {0.000}	1.442 {1.158} {0.213}	0.009 {0.011} {0.424}	0.060 {0.048} {0.208}	-0.022 {0.020} {0.282}
d(open_interest)	(t-3)	[0.844] {0.000} {0.427}	[-2.181] {0.005} {0.757}	[-5.239] {0.000} {0.898}	[1.246] {-0.005} {0.853}	[0.800] {0.000} {0.997}	[1.259] {-0.001} {0.619}	[-1.076] {0.000} {0.950}
d(lidif)	(t-3)	[-0.795] {0.040} {0.113}	[0.310] {1.586} {0.939}	[-0.128] {0.085} {0.029}	[-0.186] {2.900} {0.595}	[-0.004] {0.027} {0.000}	[-0.497] {0.132} {0.268}	[-0.063] {-0.073} {0.148}
d(EMBIBR_log)	(t-3)	[-1.585] {-0.006} {0.011}	[-0.077] {-0.755} {0.434}	[-2.179] {-0.060} {0.023}	[-0.531] {0.509} {0.794}	[4.124] {0.003} {0.007}	[1.108] {-0.024} {0.033}	[-1.447] {-0.011} {0.014}
d(CRB_log)	(t-3)	[-0.557] {0.077} {0.011}	[-1.739] {0.082} {0.434}	[-2.608] {0.009} {0.023}	[0.641] {0.521} {0.794}	[0.433] {0.665} {0.000}	[-0.747] {0.455} {0.553}	[-0.813] {0.416} {0.011}
		[-3.314] {0.024} {0.001}	[2.375] {0.946} {0.018}	[0.630] {0.051} {0.529}	[-2.214] {1.732} {0.027}	[0.420] {0.016} {0.675}	[0.059] {0.072} {0.953}	[2.528] {0.030} {0.011}

Tabela 12 - Resultados VEC reduzido

```

Loading coefficients:
-----
d(CAMBIO_log) d(int_tots) d(Ibov_log) d(open_interest) d(ldif) d(EMBIBR_log) d(CRB_log)
-----
ec1(t-1) | -0.005  0.657  0.000  -0.272  -0.007  { }
          | (0.002) (0.110) (0.005) (0.198) (0.002) { }
          | {0.023} {0.000} {0.933} {0.169} {0.000} { }
          | [-2.277] [5.965] [0.084] [-1.376] [-3.571] { }
ec2(t-1) | -0.002  0.266  -0.001  0.052  -0.001  { }
          | (0.001) (0.028) (0.001) (0.050) (0.000) { }
          | {0.000} {0.000} {0.509} {0.298} {0.064} { }
          | [-3.628] [9.634] [-0.660] [1.041] [-1.852] { }
-----

Externally set cointegration relation(s):
-----
ec1(t-1) ec2(t-1)
-----
CAMBIO_log (t-1) | 1.000  0.000
int_tots (t-1) | 0.000  0.000
Ibov_log (t-1) | 0.000  1.000
open_interest (t-1) | 0.062  -0.232
ldif (t-1) | 0.793  -1.619
EMBIBR_log (t-1) | -0.935  1.329
CRB_log (t-1) | -0.490  1.599
CONST | 5.429  -23.011
-----

*** Fri, 12 Mar 2010 14:33:58 ***
VECM MODEL STATISTICS
sample range: [01/13/2004 (5), 03/18/2009 (5)], T = 1352

Log Likelihood: 1.788176e+04
Determinant (Cov): 7.666335e-21

Covariance:  9.644993e-05 -1.811034e-04 -9.323298e-05  1.446672e-03  5.611491e-06  1.372384e-04 -4.535791e-05
             -1.811034e-04  1.515595e-01  6.236385e-04 -1.217040e-02 -2.736127e-05 -4.243054e-04  3.482788e-04
             -9.323298e-05  6.236385e-04  4.343418e-04 -2.697484e-03 -6.972340e-06 -3.020455e-04  9.547485e-05
             1.446672e-03 -1.217040e-02 -2.697484e-03  5.072766e-01 -3.138797e-05  3.959503e-03 -1.165946e-03
             5.611491e-06 -2.736127e-05 -6.972340e-06 -3.138797e-05  4.364465e-05  1.364730e-05 -3.177231e-06
             1.372384e-04 -4.243054e-04 -3.020455e-04  3.959503e-03  1.364730e-05  8.692335e-04 -1.051690e-04
             -4.535791e-05  3.482788e-04  9.547485e-05 -1.165946e-03 -3.177231e-06 -1.051690e-04  1.555743e-04

Correlation: 1.000000e+00 -4.736789e-02 -4.555151e-01  2.068219e-01  8.648918e-02  4.739761e-01 -3.702825e-01
             -4.736789e-02  1.000000e+00  7.686445e-02 -4.389254e-02 -1.063847e-02 -3.696739e-02  7.172433e-02
             -4.555151e-01  7.686445e-02  1.000000e+00 -1.817275e-01 -5.064041e-02 -4.915734e-01  3.672859e-01
             2.068219e-01 -4.389254e-02 -1.817275e-01  1.000000e+00 -6.670759e-03  1.885602e-01 -1.312463e-01
             8.648918e-02 -1.063847e-02 -5.064041e-02 -6.670759e-03  1.000000e+00  7.006693e-02 -3.855799e-02
             4.739761e-01 -3.696739e-02 -4.915734e-01  1.885602e-01  7.006693e-02  1.000000e+00 -2.859899e-01
             -3.702825e-01  7.172433e-02  3.672859e-01 -1.312463e-01 -3.855799e-02 -2.859899e-01  1.000000e+00

```

LR-test (H1: unrestricted model): 4.2924

p-value(chi²): 0.3679

degrees of freedom: 4.0000

VEC forma estrutural

Tabela 13 - Resultados VEC estrutural

Estimated B matrix						
0.0174	0.0028	-0.0055	-0.0116	0.0100	0.0038	-0.0036
-1.9053	0.7117	0.0000	1.4470	-1.2382	-0.0067	0.0279
0.0060	0.0000	0.0167	-0.0070	0.0024	-0.0084	0.0077
0.0000	0.0000	0.0000	0.6969	-0.0153	0.1123	-0.0935
0.0000	0.0000	0.0000	0.0000	0.0066	0.0004	-0.0003
0.0000	0.0000	0.0000	0.0000	0.0000	0.0283	-0.0084
0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0125
Estimated long run impact matrix						
0.0033	0.0010	-0.0053	0.0000	0.0000	0.0175	-0.0062
-0.7283	3.1054	0.0620	0.0000	0.0000	-6.4632	1.0783
0.0023	0.0061	0.0125	0.0000	0.0000	-0.0244	0.0085
0.0857	0.1156	0.0276	0.0000	0.0000	-0.1544	0.0853
-0.0109	-0.0112	0.0019	0.0000	0.0000	0.0300	-0.0010
0.0000	-0.0030	-0.0023	0.0000	0.0000	0.0387	-0.0089
0.0000	0.0041	0.0000	0.0000	0.0000	-0.0089	0.0134
SigmaU~*100						
0.0602	-6.0321	0.0058	-0.7461	0.0068	0.0137	-0.0045
-6.0321	776.4541	-2.4377	102.4042	-0.8168	-0.0424	0.0348
0.0058	-2.4377	0.0499	-0.6578	0.0011	-0.0302	0.0095
-0.7461	102.4042	-0.6578	50.7277	-0.0031	0.3960	-0.1166
0.0068	-0.8168	0.0011	-0.0031	0.0044	0.0014	-0.0003
0.0137	-0.0424	-0.0302	0.3960	0.0014	0.0869	-0.0105
-0.0045	0.0348	0.0095	-0.1166	-0.0003	-0.0105	0.0156

Tabela 14: Especificação alternativa da estimação 2 estágios

ΔS_t	MQO(1)	MQO2e(2)
c	-0,038	-0,054
	-1,754	-1,656
$\Delta(i-i^*)_t$	0,182	0,173
	0,600	0,504
$\Delta(Ibov)_t$	-0,121	-0,135
	-10,011	-9,761
$\Delta(CRB)_t$	-0,179	-0,209
	-9,899	-9,860
$\Delta(\text{Embi-BR})_t$	0,092	0,090
	12,121	10,452
$(\text{Open Interest})_t$	0,0105	0,041
	2,110	5,741
$(AV+)_t$	-0,015	0,373
	-0,163	1,833
$(AV-)_t$	-1,436	5,395
	0,113	5,839
$(\text{Fut. }+)_t$	0,215	0,225
	2,839	2,586
$(\text{Fut. }-)_t$	0,234	-0,460
	2,278	-3,213
AR(1)	-0,164	-0,196
	-6,524	-7,258
Estatística F	87,044	70,208
Adj. R2	0,358	0,192
Q Stat. (6 lags)	6,7	4,84