



ลิขสิทธิ์มหาวิทยาลัยเชียงใหม่

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ภาคผนวก ก

ผลการทดสอบ Cointegration โดยวิธี Johenson และ Juselius

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หลักทรัพย์ AA บริษัท แอ็ดวานซ์ อะโกร จำกัด (มหาชน)

Cointegration LR Test Based on Maximal Eigenvalue of the Stochastic Matrix

Null	Alternative	Statistic	95% Critical Value	90% Critical Value
r = 0	r = 1	71.2068	46.4700	43.4400
r <= 1	r = 2	44.0951	40.5300	37.6500
r <= 2	r = 3	38.3310	34.4000	31.7300
r <= 3	r = 4	25.0488	28.2700	25.8000
r <= 4	r = 5	19.4111	22.0400	19.8600
r <= 5	r = 6	15.9666	15.8700	13.8100
r <= 6	r = 7	8.2915	9.1600	7.5300

Estimated Cointegrated Vectors in Johansen Estimation (Normalized in Brackets)

100 observations from 9 to 108. Order of VAR = 8, chosen r = 3

	Vector 1	Vector 2*	Vector 3
AA	1.0000	1.0000	1.0000
AAPB	-0.0188	0.2886	-0.0347
AAPE	-0.0011	0.0025	0.0025
RM	1.0625	0.9952	-0.2100
CPI	-0.0022	-0.0376	-0.0216
II	-0.0002	-0.0112	0.0022
MLR	0.0047	-0.1496	-0.0222
Intercept	0.2491	5.0135	2.1314

ECM for variable AA estimated by OLS based on cointegrating VAR(8)

Regressor	Coefficient	Standard Error	T-Ratio[Prob]
ecm1(-1)	-.62828	.72651	-.86478[.391]
ecm2(-1)	.21269	.12305	1.7285[.090]
ecm3(-1)	-.40988	.36687	-1.1172[.269]

หลักทรัพย์ ADVANC บริษัท แอดวานซ์ อินโฟร์ เซอร์วิส จำกัด (มหาชน)

Cointegration LR Test Based on Maximal Eigenvalue of the Stochastic Matrix

Null	Alternative	Statistic	95% Critical Value	90% Critical Value
r = 0	r = 1	205.1318	46.4700	43.4400
r <= 1	r = 2	97.3494	40.5300	37.6500
r <= 2	r = 3	87.1224	34.4000	31.7300
r <= 3	r = 4	45.0043	28.2700	25.8000
r <= 4	r = 5	29.9721	22.0400	19.8600
r <= 5	r = 6	14.8765	15.8700	13.8100
r <= 6	r = 7	8.2067	9.1600	7.5300

Estimated Cointegrated Vectors in Johansen Estimation (Normalized in Brackets)

107 observations from 2 to 108. Order of VAR = 1, chosen r = 5.

	Vector 1*	Vector 2	Vector 3	Vector 4	Vector 5
ADVANC	1.0000	1.0000	1.0000	1.0000	1.0000
ADVANCPB	0.0018	0.0039	0.0447	0.2843	0.1447
ADVANCPE	0.00003	-0.0014	-0.0061	0.0106	0.0166
RM	0.1769	2.9444	2.5713	0.2886	1.3800
CPI	-0.0023	-0.0131	0.0129	-0.0901	-0.0307
II	-0.0002	-0.0060	0.0005	0.0515	0.0369
MLR	-0.0066	-0.0685	0.1095	-0.2198	0.0293
Intercept	0.3006	2.2877	-2.1532	6.9952	-0.9005

ECM for variable ADVANC estimated by OLS based on cointegrating VAR(1)

Regressor	Coefficient	Standard Error	T-Ratio[Prob]
ecm1(-1)	-1.3214	.10128	-13.0474[.000]
ecm2(-1)	.11757	.038602	3.0457[.003]
ecm3(-1)	.055673	.032042	1.7375[.085]
ecm4(-1)	.1489E-3	.010807	.013779[.989]
ecm5(-1)	.030809	.021454	1.4360[.154]

หลักทรัพย์ ALUCON บริษัท อลูคอน จำกัด (มหาชน)

Cointegration LR Test Based on Maximal Eigenvalue of the Stochastic Matrix

Null	Alternative	Statistic	95% Critical Value	90% Critical Value
r = 0	r = 1	80.1111	46.4700	43.4400
r ≤ 1	r = 2	72.3740	40.5300	37.6500
r ≤ 2	r = 3	45.5841	34.4000	31.7300
r ≤ 3	r = 4	31.0454	28.2700	25.8000
r ≤ 4	r = 5	14.2596	22.0400	19.8600
r ≤ 5	r = 6	8.6581	15.8700	13.8100
r ≤ 6	r = 7	4.6956	9.1600	7.5300

Estimated Cointegrated Vectors in Johansen Estimation (Normalized in Brackets)

100 observations from 9 to 108. Order of VAR = 8, chosen r = 4.

	Vector 1	Vector 2*	Vector 3	Vector 4
ALUCON	1.0000	1.0000	1.0000	1.0000
ALUCONPB	-0.4337	-0.2686	-0.1312	-0.1065
ALUCONPE	-0.0212	0.0075	-0.0056	-0.0023
RM	-1.1734	3.1994	0.4110	0.0208
CPI	-0.0901	-0.0249	-0.0119	-0.0033
II	0.0214	0.0145	0.0006	0.0050
MLR	-0.0772	-0.0062	-0.0466	0.0028
Intercept	8.8533	1.8470	1.7639	0.2106

ECM for variable ALUCON estimated by OLS based on cointegrating VAR(8)

Regressor	Coefficient	Standard Error	T-Ratio[Prob]
ecm1(-1)	.11229	.064099	1.7518[.086]
ecm2(-1)	.34358	.11876	2.8930[.006]
ecm3(-1)	-.13622	.22011	-.61889[.539]
ecm4(-1)	-.40600	.36214	-1.1211[.268]

หลักทรัพย์ BBL ธนาคารกรุงเทพ จำกัด (มหาชน)

Cointegration LR Test Based on Maximal Eigenvalue of the Stochastic Matrix

99 observations from 10 to 108. Order of VAR = 9.

Null	Alternative	Statistic	95% Critical Value	90% Critical Value
r = 0	r = 1	84.1938	46.4700	43.4400
r <= 1	r = 2	50.8168	40.5300	37.6500
r <= 2	r = 3	41.6294	34.4000	31.7300
r <= 3	r = 4	39.2021	28.2700	25.8000
r <= 4	r = 5	30.8728	22.0400	19.8600
r <= 5	r = 6	14.5684	15.8700	13.8100
r <= 6	r = 7	6.1526	9.1600	7.5300

Estimated Cointegrated Vectors in Johansen Estimation (Normalized in Brackets)

99 observations from 10 to 108. Order of VAR = 9, chosen r = 5.

	Vector 1	Vector 2*	Vector 3	Vector 4	Vector 5
BBL	1.0000	1.0000	1.0000	1.0000	1.0000
BBLPB	-0.1749	0.0017	0.0697	0.0916	0.0402
BBLPE	0.0138	-0.0011	-0.0007	-0.0010	-0.0138
RM	-1.3740	0.9559	-0.7716	0.8331	0.2840
CPI	0.0092	0.0095	-0.0161	-0.0016	-0.0135
II	-0.0032	0.0029	0.0002	-0.0017	0.0026
MLR	-0.0118	0.0072	-0.0349	-0.0354	-0.0351
Intercept	-0.5192	-1.1099	1.8103	0.4233	1.4925

ECM for variable BBL estimated by OLS based on cointegrating VAR(9)

Regressor	Coefficient	Standard Error	T-Ratio[Prob]
ecm1(-1)	.56948	.37888	1.5031[.141]
ecm2(-1)	-.81794	.39801	-2.0551[.047]
ecm3(-1)	.60081	.32378	1.8556[.071]
ecm4(-1)	.99606	.55481	1.7953[.081]
ecm5(-1)	-.73632	.56816	-1.2960[.203]

หลักทรัพย์ BEC บริษัท บีอีซี เวิลด์ จำกัด (มหาชน)

Cointegration LR Test Based on Maximal Eigenvalue of the Stochastic Matrix

Null	Alternative	Statistic	95% Critical Value	90% Critical Value
r = 0	r = 1	139.9294	46.4700	43.4400
r ≤ 1	r = 2	97.0973	40.5300	37.6500
r ≤ 2	r = 3	84.4472	34.4000	31.7300
r ≤ 3	r = 4	44.4802	28.2700	25.8000
r ≤ 4	r = 5	32.5544	22.0400	19.8600
r ≤ 5	r = 6	17.3433	15.8700	13.8100
r ≤ 6	r = 7	4.3672	9.1600	7.5300

Estimated Cointegrated Vectors in Johansen Estimation (Normalized in Brackets)

107 observations from 2 to 108. Order of VAR = 1, chosen r = 6.

	Vector 1*	Vector 2	Vector 3	Vector 4	Vector 5	Vector 6
BEC	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
BECPB	0.0294	0.0073	-0.0133	-1.2042	0.0009	1.4290
BECPE	-0.0026	0.0054	0.0013	-0.1742	0.0463	0.0430
RM	-0.7503	0.5288	1.4612	-7.0892	1.2790	-3.0520
CPI	0.0025	-0.0142	-0.0023	0.3902	-0.0160	0.3090
II	-0.0002	-0.0059	-0.0001	-0.5017	0.0621	-0.0055
MLR	0.0060	-0.1035	0.0127	0.9451	0.1277	0.5281
Intercept	-0.3590	2.4120	0.2024	-7.0584	-5.4827	-44.8262

ECM for variable BEC estimated by OLS based on cointegrating VAR(1)

Regressor	Coefficient	Standard Error	T-Ratio[Prob]
ecm1(-1)	-.72978	.067291	-10.8452[.000]
ecm2(-1)	-.10668	.036955	-2.8867[.005]
ecm3(-1)	-.27863	.084518	-3.2967[.001]
ecm4(-1)	-.0017838	.0012877	-1.3852[.169]
ecm5(-1)	.0086373	.014789	.58402[.561]
ecm6(-1)	.023341	.0097668	2.3899[.019]

**หลักทรัพย์ BGH บริษัท กรุงเทพดุสิตเวชการ จำกัด(มหาชน)**

Cointegration LR Test Based on Maximal Eigenvalue of the Stochastic Matrix

Null	Alternative	Statistic	95% Critical Value	90% Critical Value
r = 0	r = 1	127.7441	46.4700	43.4400
r <= 1	r = 2	89.9084	40.5300	37.6500
r <= 2	r = 3	87.4120	34.4000	31.7300
r <= 3	r = 4	48.2727	28.2700	25.8000
r <= 4	r = 5	31.3764	22.0400	19.8600
r <= 5	r = 6	11.8673	15.8700	13.8100
r <= 6	r = 7	4.9408	9.1600	7.5300

Estimated Cointegrated Vectors in Johansen Estimation (Normalized in Brackets)

107 observations from 2 to 108. Order of VAR = 1, chosen r = 5.

	Vector 1*	Vector 2	Vector 3	Vector 4	Vector 5
BGH	1.0000	1.0000	1.0000	1.0000	1.0000
BGHPB	-0.2492	0.2642	-0.4042	6.2865	2.5586
BGHPE	-0.0013	-0.0021	0.0124	-0.0451	-0.0263
RM	0.1849	-0.3867	22.4769	-2.9938	-3.7719
CPI	0.0189	-0.0666	0.0199	-0.2514	-0.1430
II	0.0166	-0.0134	0.0081	-0.6025	-0.2130
MLR	0.0426	-0.1621	0.0434	1.7837	-0.1551
Intercept	-2.9721	8.6195	-2.7338	37.6428	29.3888

ECM for variable BGH estimated by OLS based on cointegrating VAR(1)

Regressor	Coefficient	Standard Error	T-Ratio[Prob]
ecm1(-1)	-.75683	.076077	-9.9483[.000]
ecm2(-1)	-.40097	.057520	-6.9709[.000]
ecm3(-1)	-.012847	.010343	-1.2421[.217]
ecm4(-1)	-.4455E-3	.0022312	-.19969[.842]
ecm5(-1)	-.013941	.011122	-1.2535[.213]



หลักทรัพย์ BH บริษัท โรงพยาบาลบำรุงราษฎร์ จำกัด (มหาชน)

Cointegration LR Test Based on Maximal Eigenvalue of the Stochastic Matrix

Null	Alternative	Statistic	95% Critical Value	90% Critical Value
r = 0	r = 1	81.4868	46.4700	43.4400
r <= 1	r = 2	61.4998	40.5300	37.6500
r <= 2	r = 3	38.5381	34.4000	31.7300
r <= 3	r = 4	24.5107	28.2700	25.8000
r <= 4	r = 5	20.1034	22.0400	19.8600
r <= 5	r = 6	16.0634	15.8700	13.8100
r <= 6	r = 7	4.4759	9.1600	7.5300

Estimated Cointegrated Vectors in Johansen Estimation (Normalized in Brackets)

100 observations from 9 to 108. Order of VAR = 8, chosen r = 3.

	Vector 1*	Vector 2	Vector 3
BH	1.0000	1.0000	1.0000
BHPB	0.0123	0.0371	0.1264
BHPE	0.0023	-0.0267	0.0008
RM	1.2087	-0.8703	4.9569
CPI	-0.0065	0.0042	0.0036
II	0.0004	0.0063	0.0119
MLR	-0.0027	0.0087	0.0972
Intercept	0.6015	-0.7550	-1.6709

ECM for variable BH estimated by OLS based on cointegrating VAR(8)

Regressor	Coefficient	Standard Error	T-Ratio[Prob]
ecm1(-1)	-1.8796	.56776	-3.3105[.002]
ecm2(-1)	-.37985	.22075	-1.7208[.092]
ecm3(-1)	.14008	.061866	2.2642[.028]

หลักทรัพย์ BIGC บริษัท บิ๊กซี ซูเปอร์เซ็นเตอร์ จำกัด (มหาชน)

Cointegration LR Test Based on Maximal Eigenvalue of the Stochastic Matrix

Null	Alternative	Statistic	95% Critical Value	90% Critical Value
$r = 0$	$r = 1$	105.6169	46.4700	43.4400
$r \leq 1$	$r = 2$	45.9934	40.5300	37.6500
$r \leq 2$	$r = 3$	35.0741	34.4000	31.7300
$r \leq 3$	$r = 4$	26.0119	28.2700	25.8000
$r \leq 4$	$r = 5$	21.6048	22.0400	19.8600
$r \leq 5$	$r = 6$	13.0658	15.8700	13.8100
$r \leq 6$	$r = 7$	7.5908	9.1600	7.5300

Estimated Cointegrated Vectors in Johansen Estimation (Normalized in Brackets)

101 observations from 8 to 108. Order of VAR = 7, chosen  $r = 3$ .

	Vector 1*	Vector 2	Vector 3
BIGC	1.0000	1.0000	1.0000
BIGCPB	2.3624	0.0157	0.0036
BIGCPE	-0.0483	-0.0036	-0.0000
RM	-2.3820	-1.0246	0.1513
CPI	-0.2100	0.0072	0.0075
II	0.0656	0.0011	-0.0026
MLR	-0.1318	0.0366	-0.0111
Intercept	15.0873	-0.9861	-0.5074

ECM for variable BIGC estimated by OLS based on cointegrating VAR(7)

Regressor	Coefficient	Standard Error	T-Ratio[Prob]
ecm1(-1)	-.11024	.044501	-2.4773[.016]
ecm2(-1)	-.27922	.23467	-1.1898[.239]
ecm3(-1)	-1.1186	.66904	-1.6720[.100]

หลักทรัพย์ BKI บริษัท กรุงเทพประกันภัย จำกัด (มหาชน)

Cointegration LR Test Based on Maximal Eigenvalue of the Stochastic Matrix

Null	Alternative	Statistic	95% Critical Value	90% Critical Value
r = 0	r = 1	67.1985	46.4700	43.4400
r <= 1	r = 2	60.9734	40.5300	37.6500
r <= 2	r = 3	32.4537	34.4000	31.7300
r <= 3	r = 4	22.2642	28.2700	25.8000
r <= 4	r = 5	20.4377	22.0400	19.8600
r <= 5	r = 6	17.6766	15.8700	13.8100
r <= 6	r = 7	5.7100	9.1600	7.5300

Estimated Cointegrated Vectors in Johansen Estimation (Normalized in Brackets)

104 observations from 5 to 108. Order of VAR = 4, chosen r = 2.

	Vector 1	Vector 2*
BKI	1.0000	1.0000
BKIPB	0.0957	-0.0374
BKIPE	0.0002	-0.0001
RM	-1.1806	0.3704
CPI	-0.0051	-0.0029
II	-0.0045	0.0001
MLR	-0.0395	-0.0083
Intercept	1.0443	0.3953

ECM for variable BKI estimated by OLS based on cointegrating VAR(4)

Regressor	Coefficient	Standard Error	T-Ratio[Prob]
ecm1(-1)	.011668	.19896	.058645[.953]
ecm2(-1)	-1.2368	.40783	-3.0327[.003]

หลักทรัพย์ CENTEL บริษัท โรงแรมเซ็นทรัลพลาซา จำกัด (มหาชน)

Cointegration LR Test Based on Maximal Eigenvalue of the Stochastic Matrix

Null	Alternative	Statistic	95% Critical Value	90% Critical Value
r = 0	r = 1	186.4364	46.4700	43.4400
r ≤ 1	r = 2	99.8213	40.5300	37.6500
r ≤ 2	r = 3	88.6730	34.4000	31.7300
r ≤ 3	r = 4	47.0227	28.2700	25.8000
r ≤ 4	r = 5	36.0173	22.0400	19.8600
r ≤ 5	r = 6	13.2166	15.8700	13.8100
r ≤ 6	r = 7	7.0737	9.1600	7.5300

Estimated Cointegrated Vectors in Johansen Estimation (Normalized in Brackets)

107 observations from 2 to 108. Order of VAR = 1, chosen r = 5.

	Vector 1	Vector 2	Vector 3	Vector 4*	Vector 5
CENTEL	1.0000	1.0000	1.0000	1.0000	1.0000
CENTELPB	-0.0191	3.6271	-0.2966	0.2393	2.6603
CENTELPE	0.0003	0.0980	0.0053	-0.0186	0.1892
RM	0.1329	4.2008	4.2803	0.0571	3.4348
CPI	-0.0033	-0.2880	0.0160	-0.0450	-0.2034
II	-0.0003	-0.0587	0.0011	0.0188	0.1318
MLR	-0.0089	-0.8067	0.0295	-0.1459	0.3509
Intercept	0.4378	35.0386	-1.6988	5.1815	4.1343

ECM for variable CENTEL estimated by OLS based on cointegrating VAR(1)

Regressor	Coefficient	Standard Error	T-Ratio[Prob]
ecm1(-1)	.61055	.92609	.65927[.511]
ecm2(-1)	.10858	.054850	1.9795[.050]
ecm3(-1)	-.16968	.089668	-1.8923[.061]
ecm4(-1)	-.90990	.46750	-1.9463[.054]
ecm5(-1)	-.23270	.12354	-1.8836[.062]

หลักทรัพย์ CPF บริษัท เจริญโภคภัณฑ์อาหาร จำกัด (มหาชน)

Cointegration LR Test Based on Maximal Eigenvalue of the Stochastic Matrix

Null	Alternative	Statistic	95% Critical Value	90% Critical Value
r = 0	r = 1	114.1127	46.4700	43.4400
r ≤ 1	r = 2	60.7521	40.5300	37.6500
r ≤ 2	r = 3	37.3781	34.4000	31.7300
r ≤ 3	r = 4	28.3365	28.2700	25.8000
r ≤ 4	r = 5	21.3131	22.0400	19.8600
r ≤ 5	r = 6	12.7470	15.8700	13.8100
r ≤ 6	r = 7	7.9971	9.1600	7.5300

Estimated Cointegrated Vectors in Johansen Estimation (Normalized in Brackets)

101 observations from 8 to 108. Order of VAR = 7, chosen r = 4.

	Vector 1	Vector 2	Vector 3	Vector 4*
CPF	1.0000	1.0000	1.0000	1.0000
CPFPB	0.1289	1.5455	1.3704	-0.2829
CPFPE	0.0380	-0.0596	0.0107	-0.0265
RM	-3.1195	-1.7575	-5.5245	-3.0656
CPI	0.0521	-0.0583	-0.0094	-0.0057
II	-0.0237	0.0124	0.0163	0.0142
MLR	-0.0138	-0.2955	0.0295	0.0167
Intercept	-3.8133	6.2706	-1.3652	0.2091

ECM for variable CPF estimated by OLS based on cointegrating VAR(7)

Regressor	Coefficient	Standard Error	T-Ratio[Prob]
ecm1(-1)	-.23533	.21148	-1.1128[.271]
ecm2(-1)	-.019097	.081767	-.23355[.816]
ecm3(-1)	.062166	.13792	.45075[.654]
ecm4(-1)	-.27565	.17020	-1.6196[.111]

หลักทรัพย์ DELTA บริษัทเดลต้า อิเลคโทรนิคส์ (ประเทศไทย) จำกัด (มหาชน)

Cointegration LR Test Based on Maximal Eigenvalue of the Stochastic Matrix

Null	Alternative	Statistic	95% Critical Value	90% Critical Value
r = 0	r = 1	65.3432	46.4700	43.4400
r <= 1	r = 2	62.3859	40.5300	37.6500
r <= 2	r = 3	38.6601	34.4000	31.7300
r <= 3	r = 4	32.4211	28.2700	25.8000
r <= 4	r = 5	19.5106	22.0400	19.8600
r <= 5	r = 6	16.5633	15.8700	13.8100
r <= 6	r = 7	5.4782	9.1600	7.5300

Estimated Cointegrated Vectors in Johansen Estimation (Normalized in Brackets)

100 observations from 9 to 108. Order of VAR = 8, chosen r = 4.

List of variables included in the cointegrating vector:

	Vector 1	Vector 2*	Vector 3	Vector 4
DELTA	1.0000	1.0000	1.0000	1.0000
DELTAPB	0.0726	-0.3848	-0.0028	-0.2100
DELTAPE	0.0253	0.0409	-0.0037	0.0546
RM	2.2132	5.5252	-1.0574	-2.2833
CPI	-0.0020	-0.0742	-0.0027	-0.2476
II	-0.0115	-0.0012	-0.0000	-0.0242
MLR	-0.0515	-0.0162	0.0046	-0.5192
Intercept	0.6743	8.0510	0.3264	29.3372

ECM for variable DELTA estimated by OLS based on cointegrating VAR(8)

Regressor	Coefficient	Standard Error	T-Ratio[Prob]
ecm1(-1)	.18861	.29066	.64888[.520]
ecm2(-1)	-.34723	.19020	-1.8256[.074]
ecm3(-1)	-.60530	.53781	-1.1255[.266]
ecm4(-1)	.053341	.058108	.91796[.363]

หลักทรัพย์ FE บริษัท ฟาร์อีสท์ ดีดีบี จำกัด (มหาชน)

Cointegration LR Test Based on Maximal Eigenvalue of the Stochastic Matrix

Null	Alternative	Statistic	95% Critical Value	90% Critical Value
r = 0	r = 1	92.3527	46.4700	43.4400
r <= 1	r = 2	48.8684	40.5300	37.6500
r <= 2	r = 3	31.3173	34.4000	31.7300
r <= 3	r = 4	23.7542	28.2700	25.8000
r <= 4	r = 5	19.0638	22.0400	19.8600
r <= 5	r = 6	9.5899	15.8700	13.8100
r <= 6	r = 7	5.2987	9.1600	7.5300

Estimated Cointegrated Vectors in Johansen Estimation (Normalized in Brackets)

100 observations from 9 to 108. Order of VAR = 8, chosen r = 2.

	Vector 1	Vector 2*
FE	1.0000	1.0000
FEPB	49.2740	-0.1757
FEPE	0.1376	0.0011
RM	28.8934	-0.0182
CPI	2.3755	-0.0041
II	-0.7979	0.0043
MLR	5.3667	-0.0153
Intercept	-262.2407	0.4327

ECM for variable FE estimated by OLS based on cointegrating VAR(8)

Regressor	Coefficient	Standard Error	T-Ratio[Prob]
ecm1(-1)	.0038995	.0033865	1.1515[.255]
ecm2(-1)	.72236	.48467	1.4904[.143]



หลักทรัพย์ GENCO บริษัทบริหารและพัฒนาเพื่อการอนุรักษ์สิ่งแวดล้อม จำกัด  
(มหาชน)

Cointegration LR Test Based on Maximal Eigenvalue of the Stochastic Matrix

Null	Alternative	Statistic	95% Critical Value	90% Critical Value
r = 0	r = 1	85.3246	46.4700	43.4400
r <= 1	r = 2	67.0718	40.5300	37.6500
r <= 2	r = 3	36.1891	34.4000	31.7300
r <= 3	r = 4	26.7061	28.2700	25.8000
r <= 4	r = 5	14.1504	22.0400	19.8600
r <= 5	r = 6	9.2138	15.8700	13.8100
r <= 6	r = 7	6.4811	9.1600	7.5300

Estimated Cointegrated Vectors in Johansen Estimation (Normalized in Brackets)

58 observations from 51 to 108. Order of VAR = 5, chosen r = 3.

	Vector 1	Vector 2	Vector 3*
GENCO	1.0000	1.0000	1.0000
GENCOPB	0.3374	-23.8607	-1.5519
GENCOPE	-0.0267	1.3589	0.0714
RM	2.0446	-162.7233	1.4481
CPI	-0.0766	6.0527	0.0928
II	0.0318	-2.5585	-0.0603
MLR	0.1061	-11.0095	-0.3053
Intercept	4.8700	-359.3821	-2.4842

ECM for variable GENCO estimated by OLS based on cointegrating VAR(5)

Regressor	Coefficient	Standard Error	T-Ratio[Prob]
ecm1(-1)	-.74711	.60792	-1.2290[.230]
ecm2(-1)	.2629E-3	.1426E-3	1.8436[.076]
ecm3(-1)	-.31554	.14485	-2.1784[.038]



หลักทรัพย์ GYT บริษัท กู้ดเยียร์(ประเทศไทย) จำกัด (มหาชน)

Cointegration LR Test Based on Maximal Eigenvalue of the Stochastic Matrix

Null	Alternative	Statistic	95% Critical Value	90% Critical Value
r = 0	r = 1	90.6053	46.4700	43.4400
r <= 1	r = 2	59.7302	40.5300	37.6500
r <= 2	r = 3	50.8435	34.4000	31.7300
r <= 3	r = 4	36.3304	28.2700	25.8000
r <= 4	r = 5	26.0481	22.0400	19.8600
r <= 5	r = 6	12.5014	15.8700	13.8100
r <= 6	r = 7	7.3648	9.1600	7.5300

Estimated Cointegrated Vectors in Johansen Estimation (Normalized in Brackets)

100 observations from 9 to 108. Order of VAR = 8, chosen r = 5.

	Vector 1	Vector 2	Vector 3*	Vector 4	Vector 5
GYT	1.0000	1.0000	1.0000	1.0000	1.0000
GYTPB	0.0621	0.0930	-0.0273	-0.0070	-0.0149
GYTPE	-0.0052	0.0003	-0.0026	0.0063	0.0054
RM	0.4625	0.3934	-0.4615	0.3278	-0.0054
CPI	-0.0043	0.0078	-0.0053	-0.0020	0.0010
II	-0.0007	-0.0030	0.0027	-0.0020	-0.0036
MLR	-0.0094	0.0276	-0.0099	-0.0035	-0.0111
Intercept	0.5222	-0.8752	0.4792	0.3319	0.1814

ECM for variable GYT estimated by OLS based on cointegrating VAR(8)

Regressor	Coefficient	Standard Error	T-Ratio[Prob]
ecm1(-1)	2.5707	.92329	2.7843[.008]
ecm2(-1)	.98151	.40691	2.4121[.020]
ecm3(-1)	-.61601	.59236	-1.0399[.304]
ecm4(-1)	.46764	.87628	.53366[.596]
ecm5(-1)	-.084979	.49268	-.17248[.864]

หลักทรัพย์ HANA บริษัท สาขา ไมโครอิเล็กทรอนิกส์ จำกัด (มหาชน)

Cointegration LR Test Based on Maximal Eigenvalue of the Stochastic Matrix

Null	Alternative	Statistic	95% Critical Value	90% Critical Value
r = 0	r = 1	179.1493	46.4700	43.4400
r ≤ 1	r = 2	91.3527	40.5300	37.6500
r ≤ 2	r = 3	81.3621	34.4000	31.7300
r ≤ 3	r = 4	45.5546	28.2700	25.8000
r ≤ 4	r = 5	29.3246	22.0400	19.8600
r ≤ 5	r = 6	9.6931	15.8700	13.8100
r ≤ 6	r = 7	7.2191	9.1600	7.5300

Estimated Cointegrated Vectors in Johansen Estimation (Normalized in Brackets)

107 observations from 2 to 108. Order of VAR = 1, chosen r = 5.

	Vector 1*	Vector 2	Vector 3	Vector 4	Vector 5
HANA	1.0000	1.0000	1.0000	1.0000	1.0000
HANAPB	0.0060	0.1271	0.0393	0.5217	0.5116
HANAPE	-0.0005	0.0011	0.0006	0.0006	0.0040
RM	-0.2519	1.6729	2.8273	0.9541	2.0733
CPI	-0.0035	-0.0600	-0.0011	-0.0704	-0.0708
II	0.0010	-0.0169	-0.0007	0.0359	0.0607
MLR	-0.0034	-0.3455	0.0295	-0.1141	0.0617
Intercept	0.3173	9.5448	-0.1543	5.0928	0.6737

ECM for variable HANA estimated by OLS based on cointegrating VAR(1)

Regressor	Coefficient	Standard Error	T-Ratio[Prob]
ecm1(-1)	-1.0196	.091828	-11.1030[.000]
ecm2(-1)	-.010757	.016195	-.66422[.508]
ecm3(-1)	-.032661	.051937	-.62885[.531]
ecm4(-1)	.0041188	.019154	.21504[.830]
ecm5(-1)	.011106	.014341	.77439[.440]

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หลักทรัพย์ ICC บริษัท ไอ.ซี.ซี. อินเตอร์เนชั่นแนล จำกัด (มหาชน)

Cointegration LR Test Based on Maximal Eigenvalue of the Stochastic Matrix

Null	Alternative	Statistic	95% Critical Value	90% Critical Value
r = 0	r = 1	135.8031	46.4700	43.4400
r <= 1	r = 2	96.4780	40.5300	37.6500
r <= 2	r = 3	84.9913	34.4000	31.7300
r <= 3	r = 4	73.2548	28.2700	25.8000
r <= 4	r = 5	42.5763	22.0400	19.8600
r <= 5	r = 6	23.8911	15.8700	13.8100
r <= 6	r = 7	9.0578	9.1600	7.5300

Estimated Cointegrated Vectors in Johansen Estimation (Normalized in Brackets)

107 observations from 2 to 108. Order of VAR = 1, chosen r = 6.

	Vector 1	Vector 2*	Vector 3	Vector 4	Vector 5	Vector 6
ICC	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
ICCPB	-0.3503	-0.2812	-0.0062	0.3639	184.7163	5.9950
ICCPE	-0.0034	0.0195	0.0015	0.0767	-2.0897	-0.0511
RM	0.1253	2.8650	-2.2655	-4.7819	-10.5550	-0.2127
CPI	0.0117	-0.0166	-0.0375	-0.0655	2.7990	-0.1054
II	0.0071	-0.0033	-0.0074	-0.0180	-6.5563	-0.1379
MLR	0.0061	-0.0713	-0.2139	-0.0351	26.0633	0.1565
Intercept	-1.3750	2.4510	5.9270	7.0618	-267.0617	15.2898

ECM for variable ICC estimated by OLS based on cointegrating VAR(1)

Regressor	Coefficient	Standard Error	T-Ratio[Prob]
ecm1(-1)	-.89856	.077908	-11.5337[.000]
ecm2(-1)	-.19931	.033411	-5.9654[.000]
ecm3(-1)	-.065945	.024125	-2.7335[.007]
ecm4(-1)	-.042412	.017087	-2.4822[.015]
ecm5(-1)	.5787E-4	.1140E-3	.50781[.613]
ecm6(-1)	-.0025559	.015784	-.16193[.872]

หลักทรัพย์ ITD บริษัท อิตาเลียนไทย ดีเวล็อปเมนต์ จำกัด (มหาชน)

Cointegration LR Test Based on Maximal Eigenvalue of the Stochastic Matrix

Null	Alternative	Statistic	95% Critical Value	90% Critical Value
r = 0	r = 1	113.5050	46.4700	43.4400
r ≤ 1	r = 2	100.5489	40.5300	37.6500
r ≤ 2	r = 3	73.0766	34.4000	31.7300
r ≤ 3	r = 4	41.5197	28.2700	25.8000
r ≤ 4	r = 5	30.4721	22.0400	19.8600
r ≤ 5	r = 6	19.3091	15.8700	13.8100
r ≤ 6	r = 7	8.4911	9.1600	7.5300

Estimated Cointegrated Vectors in Johansen Estimation (Normalized in Brackets)

107 observations from 2 to 108. Order of VAR = 1, chosen r = 6.

	Vector 1	Vector 2	Vector 3*	Vector 4	Vector 5	Vector 6
ITD	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
ITDPB	-0.0294	0.0556	-0.0047	0.1198	0.0653	-5.5157
ITDPE	0.0000	-0.0040	0.0001	-0.0003	0.0353	1.2048
RM	1.8840	10.3856	0.9514	1.8321	-1.1150	5.2607
CPI	0.0144	0.0066	-0.0101	-0.0717	0.1162	0.2374
II	0.0072	-0.0156	-0.0027	0.0332	-0.0835	0.5631
MLR	0.0875	-0.0357	-0.0847	-0.2289	0.0950	3.5958
Intercept	-2.6318	0.5814	1.7611	7.6844	-7.1075	-107.6105

ECM for variable ITD estimated by OLS based on cointegrating VAR(1)

Regressor	Coefficient	Standard Error	T-Ratio[Prob]
ecm1(-1)	-.44843	.089763	-4.9957[.000]
ecm2(-1)	.12656	.029521	4.2872[.000]
ecm3(-1)	-.52465	.086642	-6.0554[.000]
ecm4(-1)	-.013763	.021957	-.62682[.532]
ecm5(-1)	-.053349	.024427	-2.1840[.031]
ecm6(-1)	.0016134	.0018665	.86440[.389]

หลักทรัพย์ KBANK ธนาคารกสิกรไทย จำกัด (มหาชน)

Cointegration LR Test Based on Maximal Eigenvalue of the Stochastic Matrix

Null	Alternative	Statistic	95% Critical Value	90% Critical Value
r = 0	r = 1	113.2107	46.4700	43.4400
r <= 1	r = 2	63.1921	40.5300	37.6500
r <= 2	r = 3	37.3854	34.4000	31.7300
r <= 3	r = 4	26.6958	28.2700	25.8000
r <= 4	r = 5	24.1608	22.0400	19.8600
r <= 5	r = 6	14.9449	15.8700	13.8100
r <= 6	r = 7	11.6022	9.1600	7.5300

Estimated Cointegrated Vectors in Johansen Estimation (Normalized in Brackets)

99 observations from 10 to 108. Order of VAR = 9, chosen r = 3.

	Vector 1	Vector 2	Vector 3*
KBANK	1.0000	1.0000	1.0000
KBANKPB	-0.5286	0.0264	-0.0069
KBANKPE	0.0253	-0.0041	0.0009
RM	2.9820	-0.9774	1.4336
CPI	-0.0270	0.0052	0.0171
II	0.0368	-0.0085	0.0070
MLR	0.0385	-0.0013	0.0463
Intercept	-0.0105	0.1250	-2.4627

ECM for variable KBANK estimated by OLS based on cointegrating VAR(9)

Regressor	Coefficient	Standard Error	T-Ratio[Prob]
ecm1(-1)	-.20467	.12344	-1.6580[.105]
ecm2(-1)	.7469E-4	.58149	.1285E-3[1.00]
ecm3(-1)	-1.0334	.36507	-2.8307[.007]

หลักทรัพย์ KKC บริษัท กุลธรเคอร์บี้ จำกัด (มหาชน)

Cointegration LR Test Based on Maximal Eigenvalue of the Stochastic Matrix

Null	Alternative	Statistic	95% Critical Value	90% Critical Value
r = 0	r = 1	72.1639	46.4700	43.4400
r ≤ 1	r = 2	63.6280	40.5300	37.6500
r ≤ 2	r = 3	47.0435	34.4000	31.7300
r ≤ 3	r = 4	44.5680	28.2700	25.8000
r ≤ 4	r = 5	22.3348	22.0400	19.8600
r ≤ 5	r = 6	12.0578	15.8700	13.8100
r ≤ 6	r = 7	8.3863	9.1600	7.5300

Estimated Cointegrated Vectors in Johansen Estimation (Normalized in Brackets)

103 observations from 6 to 108. Order of VAR = 5, chosen r = 5.

	Vector 1	Vector 2	Vector 3*	Vector 4	Vector 5
KKC	1.0000	1.0000	1.0000	1.0000	1.0000
KKCPB	-0.1804	0.0686	0.3303	-0.0018	-4.7684
KKCPE	0.0453	-0.1160	-0.0957	0.0008	-0.4883
RM	-0.7035	0.7279	8.2464	-2.1274	-38.7826
CPI	0.0205	0.0158	-0.0307	-0.0933	-0.0813
II	-0.0073	0.0340	-0.0015	0.0083	-0.1959
MLR	0.0396	0.4610	-0.0151	-0.1305	-0.2340
Intercept	-1.8542	-6.6833	3.2849	9.5835	25.2031

ECM for variable KKC estimated by OLS based on cointegrating VAR(5)

Regressor	Coefficient	Standard Error	T-Ratio[Prob]
ecm1(-1)	-.29045	.19859	-1.4626[.148]
ecm2(-1)	.15781	.051773	3.0481[.003]
ecm3(-1)	-.31066	.10296	-3.0172[.004]
ecm4(-1)	-.13891	.12124	-1.1458[.256]
ecm5(-1)	.0013363	.00602	.22213[.825]

หลักทรัพย์ KK ธนาคารเกียรตินาคิน จำกัด (มหาชน)

Cointegration LR Test Based on Maximal Eigenvalue of the Stochastic Matrix

Null	Alternative	Statistic	95% Critical Value	90% Critical Value
r = 0	r = 1	74.1615	46.4700	43.4400
r ≤ 1	r = 2	61.7318	40.5300	37.6500
r ≤ 2	r = 3	49.8357	34.4000	31.7300
r ≤ 3	r = 4	33.2235	28.2700	25.8000
r ≤ 4	r = 5	24.2797	22.0400	19.8600
r ≤ 5	r = 6	14.6470	15.8700	13.8100
r ≤ 6	r = 7	5.2676	9.1600	7.5300

Estimated Cointegrated Vectors in Johansen Estimation (Normalized in Brackets)

106 observations from 3 to 108. Order of VAR = 2, chosen r = 5.

	Vector 1	Vector 2*	Vector 3	Vector 4	Vector 5
KK	1.0000	1.0000	1.0000	1.0000	1.0000
KKPB	0.0047	0.0085	-0.0209	-0.0717	-0.0356
KKPE	-0.0268	-0.0180	-0.0074	-0.3013	0.0479
RM	4.6323	0.8852	-1.6718	-3.0974	1.9686
CPI	0.0140	-0.0158	0.0256	0.1597	0.0018
II	0.0048	0.0054	0.0199	0.0774	-0.0103
MLR	0.0872	-0.0453	0.1932	0.7763	-0.0674
Intercept	-2.2657	1.6979	-5.1025	-26.6791	0.6473

ECM for variable KK estimated by OLS based on cointegrating VAR(2)

Regressor	Coefficient	Standard Error	T-Ratio[Prob]
ecm1(-1)	.17779	.096223	1.8476[.068]
ecm2(-1)	-.45110	.14282	-3.1584[.002]
ecm3(-1)	-.20534	.046947	-4.3738[.000]
ecm4(-1)	-.0026689	.017370	-.15365[.878]
ecm5(-1)	-.30016	.10470	-2.8669[.005]



หลักทรัพย์ LH บริษัทแลนด์แอนด์เฮ้าส์ จำกัด (มหาชน)

Cointegration LR Test Based on Maximal Eigenvalue of the Stochastic Matrix

Null	Alternative	Statistic	95% Critical Value	90% Critical Value
r = 0	r = 1	105.5906	46.4700	43.4400
r ≤ 1	r = 2	55.2358	40.5300	37.6500
r ≤ 2	r = 3	44.7177	34.4000	31.7300
r ≤ 3	r = 4	35.1822	28.2700	25.8000
r ≤ 4	r = 5	33.4194	22.0400	19.8600
r ≤ 5	r = 6	20.2620	15.8700	13.8100
r ≤ 6	r = 7	3.8093	9.1600	7.5300

Estimated Cointegrated Vectors in Johansen Estimation (Normalized in Brackets)

99 observations from 10 to 108. Order of VAR = 9, chosen r = 6.

	Vector 1	Vector 2*	Vector 3	Vector 4	Vector 5	Vector 6
LH	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
LHPB	-0.0334	0.5197	-0.0705	0.0054	0.4044	-0.0420
LHPE	0.0041	-0.0300	-0.0105	0.0051	0.0026	0.0016
RM	-1.9226	-31.4717	9.6634	-0.0808	-2.9550	-0.1504
CPI	-0.0106	0.1182	0.1062	-0.0127	0.0619	0.0005
II	0.0066	-0.0939	-0.0059	-0.0015	-0.0293	0.0034
MLR	-0.0342	-0.3079	0.1348	-0.0530	0.1385	0.0139
Intercept	0.8720	-4.0721	-10.4368	1.5890	-6.0480	-0.3999

ECM for variable LH estimated by OLS based on cointegrating VAR(9)

Regressor	Coefficient	Standard Error	T-Ratio[Prob]
ecm1(-1)	.065069	.70938	.091727[.927]
ecm2(-1)	-.086607	.043809	-1.9769[.056]
ecm3(-1)	-.048150	.13120	-.36700[.716]
ecm4(-1)	-.22629	.57088	-.39638[.694]
ecm5(-1)	.31076	.15743	1.9740[.056]
ecm6(-1)	-.73095	.40332	-1.8123[.078]



หลักทรัพย์      MAKRO      บริษัท สยามแม็คโคร จำกัด (มหาชน)

Cointegration LR Test Based on Maximal Eigenvalue of the Stochastic Matrix

Null	Alternative	Statistic	95% Critical Value	90% Critical Value
r = 0	r = 1	86.8454	46.4700	43.4400
r <= 1	r = 2	65.8245	40.5300	37.6500
r <= 2	r = 3	48.5342	34.4000	31.7300
r <= 3	r = 4	37.6986	28.2700	25.8000
r <= 4	r = 5	27.4057	22.0400	19.8600
r <= 5	r = 6	13.7845	15.8700	13.8100
r <= 6	r = 7	5.8474	9.1600	7.5300

Estimated Cointegrated Vectors in Johansen Estimation (Normalized in Brackets)

100 observations from 9 to 108. Order of VAR = 8, chosen r = 5.

	Vector 1	Vector 2	Vector 3*	Vector 4	Vector 5
MAKRO	1.0000	1.0000	1.0000	1.0000	1.0000
MAKROPB	0.0559	0.0403	-0.1198	0.0081	0.1713
MAKROPE	-0.0011	0.0007	0.0050	-0.0007	0.0002
RM	1.1736	0.6331	0.3719	-0.0379	-0.6942
CPI	-0.0058	-0.0085	0.0082	-0.0052	-0.0178
II	0.0032	-0.0017	0.0002	0.0009	0.0061
MLR	0.0195	-0.0231	0.0199	0.0003	-0.0247
Intercept	0.1515	1.0521	-0.8574	0.4500	1.4551

ECM for variable MAKRO estimated by OLS based on cointegrating VAR(8)

Regressor	Coefficient	Standard Error	T-Ratio[Prob]
ecm1(-1)	-.82978	.56074	-1.4798[.146]
ecm2(-1)	1.4169	.62076	2.2825[.027]
ecm3(-1)	-1.9315	.65975	-2.9277[.005]
ecm4(-1)	-3.2511	1.2339	-2.6348[.011]
ecm5(-1)	.15954	.22528	.70817[.482]

### หลักทรัพย์ METCO บริษัทมูราโมโต้ อิเล็กทรอนิกส์ (ประเทศไทย) จำกัด (มหาชน)

Cointegration LR Test Based on Maximal Eigenvalue of the Stochastic Matrix

Null	Alternative	Statistic	95% Critical Value	90% Critical Value
r = 0	r = 1	70.8887	46.4700	43.4400
r ≤ 1	r = 2	59.7166	40.5300	37.6500
r ≤ 2	r = 3	50.9736	34.4000	31.7300
r ≤ 3	r = 4	40.6830	28.2700	25.8000
r ≤ 4	r = 5	22.8713	22.0400	19.8600
r ≤ 5	r = 6	16.5099	15.8700	13.8100
r ≤ 6	r = 7	4.5069	9.1600	7.5300

Estimated Cointegrated Vectors in Johansen Estimation (Normalized in Brackets)

103 observations from 6 to 108. Order of VAR = 5, chosen r = 6.

	Vector 1	Vector 2	Vector 3	Vector 4	Vector 5	Vector 6*
METCO	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
METCOPB	0.1104	-0.0210	0.2326	0.6353	-0.2800	-1.0107
METCOPE	-0.0006	-0.0001	-0.0252	-0.0839	0.0527	0.0943
RM	0.4100	0.4014	1.7384	-3.9361	-0.9767	0.5192
CPI	0.0094	-0.0043	-0.0022	0.0076	-0.0093	-0.0194
II	-0.0031	0.0006	-0.0063	-0.0010	-0.0074	0.0067
MLR	0.0180	-0.0052	0.0035	0.0225	-0.0888	-0.2413
Intercept	-0.9031	0.4677	0.5286	-0.8965	1.8866	3.9034

ECM for variable METCO estimated by OLS based on cointegrating VAR(5)

Regressor	Coefficient	Standard Error	T-Ratio[Prob]
ecm1(-1)	.95205	.31068	3.0644[.003]
ecm2(-1)	-.89254	.72600	-1.2294[.223]
ecm3(-1)	-.0056214	.20270	-.027733[.978]
ecm4(-1)	-.026830	.083280	-.32217[.748]
ecm5(-1)	.063556	.095221	.66746[.507]
ecm6(-1)	-.10181	.070510	-1.4439[.153]

หลักทรัพย์ MINT บริษัท ไมเนอร์ อินเตอร์เนชั่นแนล จำกัด (มหาชน)

Cointegration LR Test Based on Maximal Eigenvalue of the Stochastic Matrix

Null	Alternative	Statistic	95% Critical Value	90% Critical Value
r = 0	r = 1	128.0374	46.4700	43.4400
r ≤ 1	r = 2	89.9281	40.5300	37.6500
r ≤ 2	r = 3	81.0783	34.4000	31.7300
r ≤ 3	r = 4	55.2184	28.2700	25.8000
r ≤ 4	r = 5	31.0628	22.0400	19.8600
r ≤ 5	r = 6	11.9145	15.8700	13.8100
r ≤ 6	r = 7	5.0871	9.1600	7.5300

Estimated Cointegrated Vectors in Johansen Estimation (Normalized in Brackets)

107 observations from 2 to 108. Order of VAR = 1, chosen r = 5.

	Vector 1	Vector 2*	Vector 3	Vector 4	Vector 5
MINT	1.0000	1.0000	1.0000	1.0000	1.0000
MINTPB	-0.0917	-0.1303	0.0417	0.1135	1.1780
MINTPE	-0.0002	0.0650	0.0039	-0.0299	0.0533
RM	-0.3856	-4.9658	1.9822	0.7350	2.8960
CPI	-0.0018	-0.0612	-0.0060	0.0034	-0.0286
II	0.0037	-0.0203	-0.0060	0.0318	0.0588
MLR	0.0194	-0.3206	-0.0377	-0.1665	0.0215
Intercept	-0.0880	9.6189	1.2245	-0.1630	-3.4587

ECM for variable MINT estimated by OLS based on cointegrating VAR(1)

Regressor	Coefficient	Standard Error	T-Ratio[Prob]
ecm1(-1)	-.81853	.074189	-11.0330[.000]
ecm2(-1)	-.058939	.014638	-4.0264[.000]
ecm3(-1)	-.16234	.057360	-2.8302[.006]
ecm4(-1)	-.016327	.013264	-1.2309[.221]
ecm5(-1)	.011303	.010232	1.1046[.272]

หลักทรัพย์ MODERN บริษัท โมเดิร์นฟอรั่มกรุ๊ป จำกัด (มหาชน)

Cointegration LR Test Based on Maximal Eigenvalue of the Stochastic Matrix

Null	Alternative	Statistic	95% Critical Value	90% Critical Value
r = 0	r = 1	156.1470	46.4700	43.4400
r ≤ 1	r = 2	96.6061	40.5300	37.6500
r ≤ 2	r = 3	86.0631	34.4000	31.7300
r ≤ 3	r = 4	46.7707	28.2700	25.8000
r ≤ 4	r = 5	42.8036	22.0400	19.8600
r ≤ 5	r = 6	9.7854	15.8700	13.8100
r ≤ 6	r = 7	7.4655	9.1600	7.5300

Estimated Cointegrated Vectors in Johansen Estimation (Normalized in Brackets)

107 observations from 2 to 108. Order of VAR = 1, chosen r = 5.

	Vector 1*	Vector 2	Vector 3	Vector 4	Vector 5
MODERN	-1.00000	-1.00000	-1.00000	-1.00000	-1.00000
MODERNPB	-0.00978	1.36860	0.00692	1.67420	5.51040
MODERNPE	-0.00127	-0.00741	0.00094	-0.02077	-0.18040
RM	-0.00787	-0.54875	2.91720	-0.03571	-3.23490
CPI	0.00330	-0.08201	0.00510	-0.03691	0.00939
II	-0.00014	-0.04046	-0.00267	-0.03684	-0.25384
MLR	0.00104	-0.28809	0.01079	0.00496	0.26708
Intercept	-0.32084	12.08590	-0.45704	5.41420	10.53140

ECM for variable MODERN estimated by OLS based on cointegrating VAR(1)

Regressor	Coefficient	Standard Error	T-Ratio[Prob]
ecm1(-1)	-1.0005	.092709	-10.7920[.000]
ecm2(-1)	-.011996	.015240	-.78714[.433]
ecm3(-1)	-.13480	.050152	-2.6879[.008]
ecm4(-1)	-.048448	.030155	-1.6066[.111]
ecm5(-1)	-.0030082	.0051524	-.58385[.561]

หลักทรัพย์ NFS บริษัทเงินทุน ธนชาติ จำกัด (มหาชน)

Cointegration LR Test Based on Maximal Eigenvalue of the Stochastic Matrix

Null	Alternative	Statistic	95% Critical Value	90% Critical Value
r = 0	r = 1	73.9991	46.4700	43.4400
r ≤ 1	r = 2	54.5783	40.5300	37.6500
r ≤ 2	r = 3	41.4331	34.4000	31.7300
r ≤ 3	r = 4	20.9805	28.2700	25.8000
r ≤ 4	r = 5	18.2533	22.0400	19.8600
r ≤ 5	r = 6	9.6247	15.8700	13.8100
r ≤ 6	r = 7	7.0174	9.1600	7.5300

Estimated Cointegrated Vectors in Johansen Estimation (Normalized in Brackets)

100 observations from 9 to 108. Order of VAR = 8, chosen r = 3.

	Vector 1	Vector 2	Vector 3*
NFS	-1.00000	-1.00000	-1.00000
NFSPB	0.24657	0.00909	-0.07501
NFSPE	-0.00401	0.00468	0.00116
RM	-0.81059	-0.24693	0.57954
CPI	0.03331	-0.00663	0.00547
II	-0.00745	0.00128	0.00217
MLR	0.01161	-0.06673	0.00783
Intercept	-2.95530	0.93672	-0.71418

ECM for variable NFS estimated by OLS based on cointegrating VAR(8)

Regressor	Coefficient	Standard Error	T-Ratio[Prob]
ecm1(-1)	.42816	.43197	.99117[.327]
ecm2(-1)	.58527	.75753	.77261[.444]
ecm3(-1)	-1.0497	.89586	-1.1717[.247]

หลักทรัพย์ NPC บริษัท ปิโตรเคมีแห่งชาติ จำกัด (มหาชน)

Cointegration LR Test Based on Maximal Eigenvalue of the Stochastic Matrix

Null	Alternative	Statistic	95% Critical Value	90% Critical Value
r = 0	r = 1	93.2924	46.4700	43.4400
r ≤ 1	r = 2	63.4272	40.5300	37.6500
r ≤ 2	r = 3	44.8613	34.4000	31.7300
r ≤ 3	r = 4	34.5081	28.2700	25.8000
r ≤ 4	r = 5	24.3720	22.0400	19.8600
r ≤ 5	r = 6	15.7374	15.8700	13.8100
r ≤ 6	r = 7	5.5750	9.1600	7.5300

Estimated Cointegrated Vectors in Johansen Estimation (Normalized in Brackets)

99 observations from 10 to 108. Order of VAR = 9, chosen r = 5.

	Vector 1	Vector 2*	Vector 3	Vector 4	Vector 5
NPC	-1.00000	-1.00000	-1.00000	-1.00000	-1.00000
NPCPB	0.06360	0.00204	-0.10447	-0.27058	-0.35370
NPCPE	0.00083	-0.00031	0.01504	0.00326	0.00249
RM	2.48890	0.38377	0.46804	0.16419	-0.31495
CPI	0.01857	-0.00700	0.00638	-0.05176	-0.02122
II	-0.00507	-0.00024	0.00034	-0.00532	0.01958
MLR	0.01332	-0.00486	-0.02667	-0.16998	0.00143
Intercept	-1.66500	0.74177	-0.42900	6.62430	1.25620

ECM for variable NPC estimated by OLS based on cointegrating VAR(9)

Regressor	Coefficient	Standard Error	T-Ratio[Prob]
ecm1(-1)	1.4092	.66850	2.1080[.042]
ecm2(-1)	-1.8032	.65935	-2.7348[.009]
ecm3(-1)	.027326	.31408	.087004[.931]
ecm4(-1)	.059550	.099474	.59865[.553]
ecm5(-1)	-.48789	.26546	-1.8379[.074]

หลักทรัพย์ OCC บริษัท โอ ซี ซี จำกัด (มหาชน)

Cointegration LR Test Based on Maximal Eigenvalue of the Stochastic Matrix

Null	Alternative	Statistic	95% Critical Value	90% Critical Value
r = 0	r = 1	117.9276	46.4700	43.4400
r ≤ 1	r = 2	83.3337	40.5300	37.6500
r ≤ 2	r = 3	51.0864	34.4000	31.7300
r ≤ 3	r = 4	28.6951	28.2700	25.8000
r ≤ 4	r = 5	13.1437	22.0400	19.8600
r ≤ 5	r = 6	10.6331	15.8700	13.8100
r ≤ 6	r = 7	6.3574	9.1600	7.5300

Estimated Cointegrated Vectors in Johansen Estimation (Normalized in Brackets)

99 observations from 10 to 108. Order of VAR = 9, chosen r = 4.

	Vector 1	Vector 2	Vector 3	Vector 4*
OCC	-1.00000	-1.00000	-1.00000	-1.00000
OCCPB	0.22931	-0.14682	-0.87661	-0.18129
OCCPE	-0.01413	-0.13148	0.04022	-0.01437
RM	0.55238	2.70810	-0.43760	1.49140
CPI	0.03513	0.08643	-0.05952	-0.01168
II	-0.01424	0.04023	0.01925	0.01061
MLR	0.07837	0.09686	-0.32268	-0.00168
Intercept	-3.30300	-10.09090	8.04520	1.02110

ECM for variable OCC estimated by OLS based on cointegrating VAR(9)

Regressor	Coefficient	Standard Error	T-Ratio[Prob]
ecm1(-1)	-.90179	.67882	-1.3285[.192]
ecm2(-1)	.067380	.12291	.54821[.587]
ecm3(-1)	-.14234	.17369	-.81950[.417]
ecm4(-1)	-.95192	.34859	-2.7308[.009]



หลักทรัพย์ OHTL บริษัท โรงแรมโอเรียนเต็ล (ประเทศไทย) จำกัด (มหาชน)

Cointegration LR Test Based on Maximal Eigenvalue of the Stochastic Matrix

Null	Alternative	Statistic	95% Critical Value	90% Critical Value
r = 0	r = 1	90.5455	46.4700	43.4400
r ≤ 1	r = 2	48.0438	40.5300	37.6500
r ≤ 2	r = 3	44.1284	34.4000	31.7300
r ≤ 3	r = 4	37.3896	28.2700	25.8000
r ≤ 4	r = 5	23.1484	22.0400	19.8600
r ≤ 5	r = 6	12.4791	15.8700	13.8100
r ≤ 6	r = 7	4.4836	9.1600	7.5300

Estimated Cointegrated Vectors in Johansen Estimation (Normalized in Brackets)

100 observations from 9 to 108. Order of VAR = 8, chosen r = 5.

	Vector 1	Vector 2	Vector 3	Vector 4	Vector 5*
OHTL	-1.00000	-1.00000	-1.00000	-1.00000	-1.00000
OHTLPB	0.00589	-0.07074	0.00680	0.01708	-0.44959
OHTLPE	0.00394	0.00357	-0.00329	0.00183	0.03854
RM	0.57549	-0.77054	-0.06048	-0.85917	14.30270
CPI	0.00059	-0.01541	-0.00800	0.01106	0.11468
II	-0.00215	-0.00270	0.00269	0.00138	-0.02069
MLR	0.00892	-0.06427	-0.00388	0.03724	0.52990
Intercept	-0.04513	2.35050	0.67387	-1.49890	-13.40060

ECM for variable OHTL estimated by OLS based on cointegrating VAR(8)

Regressor	Coefficient	Standard Error	T-Ratio[Prob]
ecm1(-1)	-.96126	.60351	-1.5928[.118]
ecm2(-1)	-.083483	.22998	-.36301[.718]
ecm3(-1)	-.77627	.49624	-1.5643[.125]
ecm4(-1)	-.077638	.23153	-.33532[.739]
ecm5(-1)	-.029021	.013236	-2.1926[.033]



### หลักทรัพย์ PATKL บริษัท พัฒน์กล จำกัด (มหาชน)

Cointegration LR Test Based on Maximal Eigenvalue of the Stochastic Matrix

Null	Alternative	Statistic	95% Critical Value	90% Critical Value
r = 0	r = 1	101.6697	46.4700	43.4400
r ≤ 1	r = 2	65.7594	40.5300	37.6500
r ≤ 2	r = 3	31.4413	34.4000	31.7300
r ≤ 3	r = 4	25.3095	28.2700	25.8000
r ≤ 4	r = 5	16.0872	22.0400	19.8600
r ≤ 5	r = 6	13.8270	15.8700	13.8100
r ≤ 6	r = 7	2.4512	9.1600	7.5300

Estimated Cointegrated Vectors in Johansen Estimation (Normalized in Brackets)

100 observations from 9 to 108. Order of VAR = 8, chosen r = 2.

	Vector 1*	Vector 2
PATKL	-1.00000	-1.00000
PATKLBP	-0.20926	0.36056
PATKLPE	0.00469	-0.00512
RM	2.55340	-2.20630
CPI	-0.04215	0.04363
II	0.00431	-0.02092
MLR	-0.04741	-0.11812
Intercept	4.39520	-2.15900

ECM for variable PATKL estimated by OLS based on cointegrating VAR(8)

Regressor	Coefficient	Standard Error	T-Ratio[Prob]
ecm1(-1)	-0.81560	.32971	-2.4737[.017]
ecm2(-1)	-0.21847	.13140	-1.6627[.103]

หลักทรัพย์ PDI บริษัท ผาแดงอินดัสทรี จำกัด (มหาชน)

Cointegration LR Test Based on Maximal Eigenvalue of the Stochastic Matrix

Null	Alternative	Statistic	95% Critical Value	90% Critical Value
r = 0	r = 1	56.3509	46.4700	43.4400
r ≤ 1	r = 2	47.7696	40.5300	37.6500
r ≤ 2	r = 3	38.9230	34.4000	31.7300
r ≤ 3	r = 4	34.6138	28.2700	25.8000
r ≤ 4	r = 5	27.4800	22.0400	19.8600
r ≤ 5	r = 6	10.4273	15.8700	13.8100
r ≤ 6	r = 7	4.2223	9.1600	7.5300

Estimated Cointegrated Vectors in Johansen Estimation (Normalized in Brackets)

99 observations from 10 to 108. Order of VAR = 9, chosen r = 5.

	Vector 1	Vector 2	Vector 3	Vector 4	Vector 5*
PDI	-1.00000	-1.00000	-1.00000	-1.00000	-1.00000
PDIPB	0.11635	0.03429	-0.16774	-0.07121	-0.09348
PDIFE	0.00002	-0.00010	0.00006	-0.00012	-0.00003
RM	-0.59094	-0.66735	0.40963	-0.27821	0.72454
CPI	-0.00100	-0.00418	0.01343	-0.02742	0.00629
II	-0.00206	0.00298	-0.00230	0.00059	-0.00154
MLR	-0.02117	-0.00958	0.02870	-0.05337	-0.00215
Intercept	0.27522	0.31459	-1.25540	3.08330	-0.41077

ECM for variable PDI estimated by OLS based on cointegrating VAR(9)

Regressor	Coefficient	Standard Error	T-Ratio[Prob]
ecm1(-1)	.60723	1.0008	.60675[.548]
ecm2(-1)	.17293	.55886	.30944[.759]
ecm3(-1)	-.63243	1.3056	-.48439[.631]
ecm4(-1)	-.51577	.43065	-1.1977[.238]
ecm5(-1)	-1.7035	.80888	-2.1060[.042]

หลักทรัพย์ PPC บริษัท ฟินิกซ์ฟัลพ แอนด์ เพเพอร์ จำกัด (มหาชน)

Cointegration LR Test Based on Maximal Eigenvalue of the Stochastic Matrix

Null	Alternative	Statistic	95% Critical Value	90% Critical Value
r = 0	r = 1	76.9765	46.4700	43.4400
r ≤ 1	r = 2	70.1593	40.5300	37.6500
r ≤ 2	r = 3	40.1114	34.4000	31.7300
r ≤ 3	r = 4	37.5973	28.2700	25.8000
r ≤ 4	r = 5	22.8224	22.0400	19.8600
r ≤ 5	r = 6	15.1258	15.8700	13.8100
r ≤ 6	r = 7	3.8288	9.1600	7.5300
r = 7		-156.2428	-604.2428	-1185.5

Estimated Cointegrated Vectors in Johansen Estimation (Normalized in Brackets)

99 observations from 10 to 108. Order of VAR = 9, chosen r = 5.

	Vector 1	Vector 2*	Vector 3	Vector 4	Vector 5
PPPC	-1.00000	-1.00000	-1.00000	-1.00000	-1.00000
PPPCPB	-0.09257	0.02506	0.20839	0.09630	0.08946
PPPCPE	-0.00016	0.00028	0.00363	0.00013	0.00100
RM	-2.86990	-0.48570	-4.99930	-2.74980	0.69807
CPI	0.00629	0.00731	0.13596	0.00332	0.04521
II	-0.00352	-0.00390	-0.01326	-0.01277	-0.01923
MLR	-0.07883	-0.03315	-0.19700	-0.14219	-0.09199
Intercept	0.39450	-0.23538	-10.98820	1.37080	-2.76440

ECM for variable PPC estimated by OLS based on cointegrating VAR(9)

Regressor	Coefficient	Standard Error	T-Ratio[Prob]
ecm1(-1)	-.44903	.12199	-3.6808[.001]
ecm2(-1)	-3.2944	.85869	-3.8365[.000]
ecm3(-1)	-.021597	.068438	-.31558[.754]
ecm4(-1)	-.23956	.39926	-.60001[.552]
ecm5(-1)	-.24274	.35953	-.67516[.504]

หลักทรัพย์ PTTEP บริษัท ปตท.สำรวจและผลิตปิโตรเลียม จำกัด (มหาชน)

Cointegration LR Test Based on Maximal Eigenvalue of the Stochastic Matrix

Null	Alternative	Statistic	95% Critical Value	90% Critical Value
r = 0	r = 1	84.3430	46.4700	43.4400
r ≤ 1	r = 2	63.4403	40.5300	37.6500
r ≤ 2	r = 3	33.4698	34.4000	31.7300
r ≤ 3	r = 4	29.6350	28.2700	25.8000
r ≤ 4	r = 5	15.9434	22.0400	19.8600
r ≤ 5	r = 6	9.5881	15.8700	13.8100
r ≤ 6	r = 7	4.6447	9.1600	7.5300

Estimated Cointegrated Vectors in Johansen Estimation (Normalized in Brackets)

99 observations from 10 to 108. Order of VAR = 9, chosen r = 4.

	Vector 1	Vector 2	Vector 3	Vector 4*
PTTEP	-1.00000	-1.00000	-1.00000	-1.00000
PTTEPPB	-0.03324	0.02730	-0.06023	0.02491
PTTEPPE	0.01040	-0.00295	0.00286	-0.00249
RM	1.10020	0.27983	-0.15222	0.34516
CPI	0.00556	-0.00474	-0.00681	0.00806
II	-0.00940	-0.00039	0.00403	0.00498
MLR	-0.03278	-0.00391	-0.00397	0.04310
Intercept	0.25145	0.47807	0.59913	-1.39200

ECM for variable PTTEP estimated by OLS based on cointegrating VAR(9)

Regressor	Coefficient	Standard Error	T-Ratio[Prob]
ecm1(-1)	-.25606	.16642	-1.5386[.132]
ecm2(-1)	-1.8751	.96679	-1.9395[.060]
ecm3(-1)	-1.0767	.55184	-1.9511[.058]
ecm4(-1)	-.56581	.27198	-2.0804[.044]

หลักทรัพย์ RATCH บริษัท ผลิตไฟฟ้าราชบุรีโฮลดิ้ง จำกัด (มหาชน)

Cointegration LR Test Based on Maximal Eigenvalue of the Stochastic Matrix

Null	Alternative	Statistic	95% Critical Value	90% Critical Value
r = 0	r = 1	62.4770	46.4700	43.4400
r ≤ 1	r = 2	44.4115	40.5300	37.6500
r ≤ 2	r = 3	35.3832	34.4000	31.7300
r ≤ 3	r = 4	30.6779	28.2700	25.8000
r ≤ 4	r = 5	20.6344	22.0400	19.8600
r ≤ 5	r = 6	12.1212	15.8700	13.8100
r ≤ 6	r = 7	8.1645	9.1600	7.5300

Estimated Cointegrated Vectors in Johansen Estimation (Normalized in Brackets)

56 observations from 53 to 108. Order of VAR = 5, chosen r = 4.

	Vector 1	Vector 2	Vector 3	Vector 4*
RATCH	-1.00000	-1.00000	-1.00000	-1.00000
RATCHPB	-0.12890	-0.01349	0.44870	-0.26299
RATCHPE	0.03395	-0.00629	-0.07289	-0.18225
RM	3.52200	0.35616	0.08462	-2.35360
CPI	-0.06794	-0.00805	-0.02123	0.10311
II	0.03134	0.00076	-0.00147	-0.06663
MLR	0.16481	-0.01998	0.06868	-0.85150
Intercept	3.55560	0.97662	1.74300	1.94550

ECM for variable RATCH estimated by OLS based on cointegrating VAR(5)

Regressor	Coefficient	Standard Error	T-Ratio[Prob]
ecm1(-1)	.10246	.20944	.48923[.629]
ecm2(-1)	-1.3581	.68103	-1.9941[.058]
ecm3(-1)	-.34036	.27400	-1.2422[.226]
ecm4(-1)	-.39445	.10975	-3.5942[.001]

หลักทรัพย์ RCL บริษัท อาร์ ซี แอล จำกัด (มหาชน)

Cointegration LR Test Based on Maximal Eigenvalue of the Stochastic Matrix

Null	Alternative	Statistic	95% Critical Value	90% Critical Value
r = 0	r = 1	81.9540	46.4700	43.4400
r <= 1	r = 2	63.1338	40.5300	37.6500
r <= 2	r = 3	44.7590	34.4000	31.7300
r <= 3	r = 4	32.4672	28.2700	25.8000
r <= 4	r = 5	17.8461	22.0400	19.8600
r <= 5	r = 6	15.6115	15.8700	13.8100
r <= 6	r = 7	6.7732	9.1600	7.5300

Estimated Cointegrated Vectors in Johansen Estimation (Normalized in Brackets)

100 observations from 9 to 108. Order of VAR = 8, chosen r = 4.

	Vector 1*	Vector 2	Vector 3	Vector 4
RCL	-1.00000	-1.00000	-1.00000	-1.00000
RCLPB	-0.06074	0.38998	-0.74414	0.15909
RCLPE	0.00090	0.01969	-0.00682	-0.01621
RM	0.77313	-6.20880	-5.31970	1.50930
CPI	0.00484	-0.15597	0.02302	-0.08584
II	0.00281	-0.00723	0.02973	0.01655
MLR	0.02317	-0.42969	0.05903	-0.00426
Intercept	-0.79347	18.78430	-4.19410	7.51060

ECM for variable RCL estimated by OLS based on cointegrating VAR(8)

Regressor	Coefficient	Standard Error	T-Ratio[Prob]
ecm1(-1)	-2.8502	.56648	-5.0314[.000]
ecm2(-1)	-.17641	.099523	-1.7725[.083]
ecm3(-1)	-.062244	.13970	-.44556[.658]
ecm4(-1)	.074475	.14044	.53028[.598]

### หลักทรัพย์ SCCC บริษัท ปูนซีเมนต์นครหลวง จำกัด (มหาชน)

Cointegration LR Test Based on Maximal Eigenvalue of the Stochastic Matrix

Null	Alternative	Statistic	95% Critical Value	90% Critical Value
r = 0	r = 1	76.7631	46.4700	43.4400
r ≤ 1	r = 2	68.8306	40.5300	37.6500
r ≤ 2	r = 3	51.9731	34.4000	31.7300
r ≤ 3	r = 4	28.4883	28.2700	25.8000
r ≤ 4	r = 5	18.7189	22.0400	19.8600
r ≤ 5	r = 6	9.9535	15.8700	13.8100
r ≤ 6	r = 7	9.1681	9.1600	7.5300

Estimated Cointegrated Vectors in Johansen Estimation (Normalized in Brackets)

100 observations from 9 to 108. Order of VAR = 8, chosen r = 4.

	Vector 1	Vector 2	Vector 3*	Vector 4
SCCC	-1.00000	-1.00000	-1.00000	-1.00000
SCCCPB	0.04325	0.36651	-0.03879	0.09957
SCCCPE	0.00428	-0.06207	-0.00033	-0.00580
RM	-1.01690	7.98400	0.37644	0.12816
CPI	-0.00028	-0.00037	0.03310	0.02420
II	0.00055	-0.05646	0.00373	-0.01925
MLR	-0.00473	-0.15655	0.06864	-0.06742
Intercept	-0.21332	5.77440	-3.84890	-0.78978

ECM for variable SCCC estimated by OLS based on cointegrating VAR(8)

Regressor	Coefficient	Standard Error	T-Ratio[Prob]
ecm1(-1)	-.60704	.27954	-2.1715[.035]
ecm2(-1)	-.035584	.042307	-.84110[.405]
ecm3(-1)	-1.0628	.26647	-3.9886[.000]
ecm4(-1)	-.52554	.47696	-1.1018[.276]



หลักทรัพย์ SCC บริษัท ปูนซิเมนต์ไทย จำกัด(มหาชน)

Cointegration LR Test Based on Maximal Eigenvalue of the Stochastic Matrix

Null	Alternative	Statistic	95% Critical Value	90% Critical Value
r = 0	r = 1	118.1787	46.4700	43.4400
r ≤ 1	r = 2	93.2514	40.5300	37.6500
r ≤ 2	r = 3	64.0237	34.4000	31.7300
r ≤ 3	r = 4	31.6433	28.2700	25.8000
r ≤ 4	r = 5	21.3614	22.0400	19.8600
r ≤ 5	r = 6	17.4726	15.8700	13.8100
r ≤ 6	r = 7	6.5214	9.1600	7.5300

Estimated Cointegrated Vectors in Johansen Estimation (Normalized in Brackets)

98 observations from 11 to 108. Order of VAR = 10, chosen r = 4.

	Vector 1	Vector 2*	Vector 3	Vector 4
SCC	-1.00000	-1.00000	-1.00000	-1.00000
SCCPB	-0.24746	0.08627	0.00140	0.11459
SCCPE	-0.00003	-0.00003	-0.00011	0.00021
RM	-3.37710	-0.94488	-1.67090	-0.40511
CPI	-0.04266	0.00193	0.02615	-0.01785
II	0.00689	-0.01077	0.01274	-0.00073
MLR	-0.09481	-0.06598	0.18355	-0.01769
Intercept	4.58000	0.91500	-4.68780	1.69580

ECM for variable SCC estimated by OLS based on cointegrating VAR(10)

Regressor	Coefficient	Standard Error	T-Ratio[Prob]
ecm1(-1)	-.12118	.28810	-.42062[.677]
ecm2(-1)	.52481	.48207	1.0887[.285]
ecm3(-1)	-.040317	.14856	-.27138[.788]
ecm4(-1)	-.62117	.58513	-1.0616[.297]



หลักทรัพย์ SHIN บริษัท ชิน คอร์ปอเรชั่น จำกัด (มหาชน)

Cointegration LR Test Based on Maximal Eigenvalue of the Stochastic Matrix

Null	Alternative	Statistic	95% Critical Value	90% Critical Value
r = 0	r = 1	72.7773	46.4700	43.4400
r ≤ 1	r = 2	42.7645	40.5300	37.6500
r ≤ 2	r = 3	38.8884	34.4000	31.7300
r ≤ 3	r = 4	31.4843	28.2700	25.8000
r ≤ 4	r = 5	23.1678	22.0400	19.8600
r ≤ 5	r = 6	13.6369	15.8700	13.8100
r ≤ 6	r = 7	7.4341	9.1600	7.5300

Estimated Cointegrated Vectors in Johansen Estimation (Normalized in Brackets)

100 observations from 9 to 108. Order of VAR = 8, chosen r = 5.

	Vector 1	Vector 2*	Vector 3	Vector 4	Vector 5
SHIN	-1.00000	-1.00000	-1.00000	-1.00000	-1.00000
SHINPB	0.01611	-0.05932	0.07052	-0.03146	0.90812
SHINPE	0.00081	-0.02195	-0.01857	0.01188	0.12730
RM	0.58182	-3.95250	4.99000	-2.08270	7.98090
CPI	-0.01318	0.05865	0.02077	-0.01971	0.63929
II	0.00192	0.00723	-0.01179	-0.00143	-0.08286
MLR	-0.02550	0.13328	-0.04785	-0.13548	0.82390
Intercept	1.29000	-6.68240	-0.90393	3.00920	-67.13290

ECM for variable SHIN estimated by OLS based on cointegrating VAR(8)

Regressor	Coefficient	Standard Error	T-Ratio[Prob]
ecm1(-1)	-.28324	.63214	-.44807[.656]
ecm2(-1)	-.28275	.13133	-2.1530[.037]
ecm3(-1)	.20350	.15652	1.3002[.200]
ecm4(-1)	.0064491	.14130	.045642[.964]
ecm5(-1)	.017907	.011569	1.5478[.129]

หลักทรัพย์ SITHAI บริษัท ศรีไทยซูเปอร์แวร์ จำกัด (มหาชน)

Cointegration LR Test Based on Maximal Eigenvalue of the Stochastic Matrix

Null	Alternative	Statistic	95% Critical Value	90% Critical Value
r = 0	r = 1	108.4536	46.4700	43.4400
r ≤ 1	r = 2	79.9809	40.5300	37.6500
r ≤ 2	r = 3	43.4900	34.4000	31.7300
r ≤ 3	r = 4	24.0890	28.2700	25.8000
r ≤ 4	r = 5	13.9963	22.0400	19.8600
r ≤ 5	r = 6	8.6285	15.8700	13.8100
r ≤ 6	r = 7	6.4610	9.1600	7.5300

Estimated Cointegrated Vectors in Johansen Estimation (Normalized in Brackets)

100 observations from 9 to 108. Order of VAR = 8, chosen r = 3.

	Vector 1	Vector 2*	Vector 3
SITHAI	-1.00000	-1.00000	-1.00000
SITHAIPB	0.99372	-0.25152	-0.56555
SITHAIPE	-0.00122	0.00014	0.00021
RM	4.15360	-0.35928	-0.41740
CPI	-0.09248	0.01907	0.04184
II	0.01729	-0.00354	-0.01953
MLR	0.03536	-0.00290	-0.03919
Intercept	7.94630	-1.62340	-2.77530

ECM for variable SITHAI estimated by OLS based on cointegrating VAR(8)

Regressor	Coefficient	Standard Error	T-Ratio[Prob]
ecm1(-1)	-.18568	.076072	-2.4408[.018]
ecm2(-1)	-2.7351	.74804	-3.6563[.001]
ecm3(-1)	.34986	.19549	1.7896[.080]

หลักทรัพย์ S & J บริษัท เอส แอนด์ เจ อินเตอร์เนชั่นแนล เอนเตอร์ไพรส์ จำกัด (มหาชน)

Cointegration LR Test Based on Maximal Eigenvalue of the Stochastic Matrix

Null	Alternative	Statistic	95% Critical Value	90% Critical Value
r = 0	r = 1	71.8724	46.4700	43.4400
r <= 1	r = 2	51.8441	40.5300	37.6500
r <= 2	r = 3	45.9974	34.4000	31.7300
r <= 3	r = 4	33.7375	28.2700	25.8000
r <= 4	r = 5	22.2604	22.0400	19.8600
r <= 5	r = 6	20.9467	15.8700	13.8100
r <= 6	r = 7	3.4513	9.1600	7.5300

Estimated Cointegrated Vectors in Johansen Estimation (Normalized in Brackets)

99 observations from 10 to 108. Order of VAR = 8, chosen r = 6.

	Vector 1	Vector 2*	Vector 3	Vector 4	Vector 5	Vector 6
SJ	-1.00000	-1.00000	-1.00000	-1.00000	-1.00000	-1.00000
SJPB	0.01217	0.00017	-0.00168	0.00331	-0.17750	0.01942
SJPE	0.01473	0.00109	0.00077	-0.00161	0.02844	-0.00670
RM	-4.77240	0.75759	-2.71260	-2.47040	-10.00010	-1.98970
CPI	0.08931	0.00730	-0.01414	0.02211	0.20375	-0.03502
II	-0.01705	-0.00556	-0.00576	0.00400	0.12834	0.01079
MLR	0.08458	0.00411	-0.05740	-0.06646	1.88020	0.00061

Intercept -8.37030 -0.35961 2.15820 -1.55290 -42.14400 2.94680

ECM for variable SJ estimated by OLS based on cointegrating VAR(8)

Regressor	Coefficient	Standard Error	T-Ratio[Prob]
ecm1(-1)	.041650	.16884	.24668[.806]
ecm2(-1)	-2.0065	.53409	-3.7568[.001]
ecm3(-1)	-.44972	.26524	-1.6955[.097]
ecm4(-1)	-.21644	.13947	-1.5518[.128]
ecm5(-1)	-.020068	.016742	-1.1986[.237]
ecm6(-1)	-.040581	.11885	-.34145[.734]

หลักทรัพย์ STANLY บริษัท ไทยสแตนเลย์การไฟฟ้า จำกัด (มหาชน)

Cointegration LR Test Based on Maximal Eigenvalue of the Stochastic Matrix

Null	Alternative	Statistic	95% Critical Value	90% Critical Value
r = 0	r = 1	87.8033	46.4700	43.4400
r ≤ 1	r = 2	63.0829	40.5300	37.6500
r ≤ 2	r = 3	44.5812	34.4000	31.7300
r ≤ 3	r = 4	35.7110	28.2700	25.8000
r ≤ 4	r = 5	27.9567	22.0400	19.8600
r ≤ 5	r = 6	11.8829	15.8700	13.8100
r ≤ 6	r = 7	5.4348	9.1600	7.5300

Estimated Cointegrated Vectors in Johansen Estimation (Normalized in Brackets)

100 observations from 9 to 108. Order of VAR = 8, chosen r = 5.

	Vector 1*	Vector 2	Vector 3	Vector 4	Vector 5
STANLY	-1.00000	-1.00000	-1.00000	-1.00000	-1.00000
STANLYPB	0.02901	0.01853	-0.03002	0.58060	0.14433
STANLYPE	-0.01306	-0.00389	0.00643	-0.06686	-0.02245
RM	-0.28143	-1.04330	2.48860	-3.10930	-2.01300
CPI	-0.01594	-0.00126	0.01582	0.02281	0.02532
II	0.00001	-0.00518	-0.00369	-0.04683	-0.00441
MLR	-0.03410	-0.05361	0.00303	0.09672	0.05863
Intercept	1.91920	0.89674	-1.31470	-0.42427	-2.53820

ECM for variable STANLY estimated by OLS based on cointegrating VAR(8)

Regressor	Coefficient	Standard Error	T-Ratio[Prob]
ecm1(-1)	-1.8148	.60090	-3.0202[.004]
ecm2(-1)	-.17771	.45764	-.38831[.700]
ecm3(-1)	-.70615	.44013	-1.6044[.115]
ecm4(-1)	.17934	.093702	1.9139[.062]
ecm5(-1)	.046055	.20065	.22952[.819]

หลักทรัพย์ TAF บริษัท ไทย อกริ ฟู้ดส์ จำกัด (มหาชน)

Cointegration LR Test Based on Maximal Eigenvalue of the Stochastic Matrix

Null	Alternative	Statistic	95% Critical Value	90% Critical Value
r = 0	r = 1	114.2098	46.4700	43.4400
r ≤ 1	r = 2	81.2268	40.5300	37.6500
r ≤ 2	r = 3	50.2236	34.4000	31.7300
r ≤ 3	r = 4	29.5071	28.2700	25.8000
r ≤ 4	r = 5	25.5509	22.0400	19.8600
r ≤ 5	r = 6	16.6459	15.8700	13.8100
r ≤ 6	r = 7	11.7335	9.1600	7.5300

Estimated Cointegrated Vectors in Johansen Estimation (Normalized in Brackets)

99 observations from 10 to 108. Order of VAR = 9, chosen r = 4.

	Vector 1	Vector 2*	Vector 3	Vector 4
TAF	-1.00000	-1.00000	-1.00000	-1.00000
TAFPB	-0.57544	-0.02773	-0.09781	1.53330
TAFPE	-0.05042	-0.00721	0.06318	0.11584
RM	-3.21040	0.69016	7.98290	-18.65350
CPI	0.00027	0.00184	0.02000	0.15635
II	0.07379	-0.00110	-0.00018	-0.08346
MLR	0.04470	-0.01919	-0.11644	0.73079
Intercept	-3.28480	0.16256	-1.00340	-19.23640

ECM for variable TAF estimated by OLS based on cointegrating VAR(9)

Regressor	Coefficient	Standard Error	T-Ratio[Prob]
ecm1(-1)	-.19618	.061335	-3.1985[.003]
ecm2(-1)	-2.6798	.58132	-4.6098[.000]
ecm3(-1)	.033200	.078499	.42294[.675]
ecm4(-1)	.051932	.038026	1.3657[.180]

**หลักทรัพย์ TCJ บริษัท ที.ซี.เจ.เอเชีย จำกัด (มหาชน)**

Cointegration LR Test Based on Maximal Eigenvalue of the Stochastic Matrix

Null	Alternative	Statistic	95% Critical Value	90% Critical Value
r = 0	r = 1	127.1212	46.4700	43.4400
r ≤ 1	r = 2	99.3500	40.5300	37.6500
r ≤ 2	r = 3	55.9287	34.4000	31.7300
r ≤ 3	r = 4	44.3210	28.2700	25.8000
r ≤ 4	r = 5	32.5407	22.0400	19.8600
r ≤ 5	r = 6	20.2635	15.8700	13.8100
r ≤ 6	r = 7	5.8864	9.1600	7.5300

Estimated Cointegrated Vectors in Johansen Estimation (Normalized in Brackets)

99 observations from 10 to 108. Order of VAR = 9, chosen r = 6.

	Vector 1	Vector 2	Vector 3*	Vector 4	Vector 5	Vector 6
TCJ	-1.00000	-1.00000	-1.00000	-1.00000	-1.00000	-1.00000
TCJPB	-0.07020	-0.70117	-0.06245	0.53414	0.22275	0.28367
TCJPE	-0.17058	-0.48101	-0.06428	0.34636	-0.17592	1.30490
RM	0.95786	4.72620	-0.57897	-14.73750	4.20750	-43.59780
CPI	-0.52912	-0.33269	0.03482	-0.05334	-0.14354	0.63264
II	0.07889	-0.00353	0.01329	-0.01348	0.04256	-0.13873
MLR	-0.45472	-0.70295	0.08786	-0.62837	0.19936	-0.13171
Intercept	51.28080	39.52520	-4.51200	9.83240	9.58400	-54.82160

ECM for variable TCJ estimated by OLS based on cointegrating VAR(9)

Regressor	Coefficient	Standard Error	T-Ratio[Prob]
ecm1(-1)	.29776	.097504	3.0539[.004]
ecm2(-1)	-.038947	.13483	-.28886[.774]
ecm3(-1)	-.93714	.28220	-3.3208[.002]
ecm4(-1)	-.084656	.10796	-.78417[.438]
ecm5(-1)	-.40582	.20495	-1.9801[.055]
ecm6(-1)	-.053528	.053761	-.99566[.326]

หลักทรัพย์ TFI บริษัท ไทยฟิล์มอินดัสตรี จำกัด (มหาชน)

Cointegration LR Test Based on Maximal Eigenvalue of the Stochastic Matrix

Null	Alternative	Statistic	95% Critical Value	90% Critical Value
r = 0	r = 1	75.7080	46.4700	43.4400
r ≤ 1	r = 2	62.7323	40.5300	37.6500
r ≤ 2	r = 3	40.1041	34.4000	31.7300
r ≤ 3	r = 4	32.7654	28.2700	25.8000
r ≤ 4	r = 5	20.8512	22.0400	19.8600
r ≤ 5	r = 6	15.8228	15.8700	13.8100
r ≤ 6	r = 7	12.9173	9.1600	7.5300

Estimated Cointegrated Vectors in Johansen Estimation (Normalized in Brackets)

100 observations from 9 to 108. Order of VAR = 8, chosen r = 5.

	Vector 1	Vector 2	Vector 3*	Vector 4	Vector 5
TFI	-1.00000	-1.00000	-1.00000	-1.00000	-1.00000
TFIPB	-0.14151	0.04712	0.04171	-0.08178	0.06889
TFIPE	-0.00894	-0.00001	0.01402	-0.00553	0.00093
RM	9.23950	2.14430	2.52160	-3.55990	-0.29476
CPI	-0.02642	0.03060	-0.03455	0.07625	-0.04398
II	0.00595	-0.00660	0.01582	0.04919	-0.00303
MLR	-0.00740	0.07359	-0.05304	0.34144	-0.01675
Intercept	2.55250	-3.11020	3.08410	-12.27520	4.62840

ECM for variable TFI estimated by OLS based on cointegrating VAR(8)

Regressor	Coefficient	Standard Error	T-Ratio[Prob]
ecm1(-1)	-.088456	.21515	-.41114[.683]
ecm2(-1)	-.66316	.52147	-1.2717[.210]
ecm3(-1)	.18764	.14120	1.3289[.190]
ecm4(-1)	-.010673	.075838	-.14074[.889]
ecm5(-1)	-.70760	.44396	-1.5938[.118]



หลักทรัพย์ THAI บริษัท การบินไทย จำกัด (มหาชน)

Cointegration LR Test Based on Maximal Eigenvalue of the Stochastic Matrix

Null	Alternative	Statistic	95% Critical Value	90% Critical Value
r = 0	r = 1	71.5077	46.4700	43.4400
r ≤ 1	r = 2	62.7842	40.5300	37.6500
r ≤ 2	r = 3	48.5584	34.4000	31.7300
r ≤ 3	r = 4	31.9324	28.2700	25.8000
r ≤ 4	r = 5	22.2152	22.0400	19.8600
r ≤ 5	r = 6	16.2539	15.8700	13.8100
r ≤ 6	r = 7	11.3513	9.1600	7.5300

Estimated Cointegrated Vectors in Johansen Estimation (Normalized in Brackets)

103 observations from 6 to 108. Order of VAR = 5, chosen r = 5.

	Vector 1	Vector 2	Vector 3*	Vector 4	Vector 5
THAI	-1.00000	-1.00000	-1.00000	-1.00000	-1.00000
THAIPB	0.00396	-0.00800	-0.02809	0.00389	0.01527
THAIPE	0.00169	-0.00109	0.00297	0.00090	-0.00269
RM	0.90826	2.47250	-1.54020	-0.14512	-0.21562
CPI	-0.01082	0.00318	-0.01792	0.00783	0.00206
II	0.00235	0.00226	0.01770	-0.00269	0.00299
MLR	-0.01768	0.05786	0.10420	-0.04366	-0.05503
Intercept	0.96748	-0.85874	-0.11045	-0.31009	0.29520

ECM for variable THAI estimated by OLS based on cointegrating VAR(5)

Regressor	Coefficient	Standard Error	T-Ratio[Prob]
ecm1(-1)	-.91188	.30706	-2.9697[.004]
ecm2(-1)	.073542	.17470	.42097[.675]
ecm3(-1)	-.45545	.11366	-4.0072[.000]
ecm4(-1)	-.46518	.19296	-2.4108[.019]
ecm5(-1)	-.032093	.085022	-.37746[.707]

หลักทรัพย์ THRE บริษัท ไทยรับประกันภัยต่อ จำกัด (มหาชน)

Cointegration LR Test Based on Maximal Eigenvalue of the Stochastic Matrix

Null	Alternative	Statistic	95% Critical Value	90% Critical Value
r = 0	r = 1	80.7991	46.4700	43.4400
r ≤ 1	r = 2	51.5993	40.5300	37.6500
r ≤ 2	r = 3	39.8315	34.4000	31.7300
r ≤ 3	r = 4	31.7828	28.2700	25.8000
r ≤ 4	r = 5	24.5664	22.0400	19.8600
r ≤ 5	r = 6	12.6117	15.8700	13.8100
r ≤ 6	r = 7	5.9314	9.1600	7.5300

Estimated Cointegrated Vectors in Johansen Estimation (Normalized in Brackets)

101 observations from 8 to 108. Order of VAR = 7, chosen r = 5.

	Vector 1	Vector 2	Vector 3	Vector 4*	Vector 5
THRE	-1.00000	-1.00000	-1.00000	-1.00000	-1.00000
THREPB	-0.16001	-0.03863	0.07549	-0.34421	0.14839
THREPE	0.08817	-0.01173	0.00197	0.01909	-0.02749
RM	-1.23290	0.37314	1.03090	-0.33464	-1.71560
CPI	0.03506	-0.00216	0.01569	-0.00566	-0.01381
II	-0.01077	0.00292	-0.00757	0.00553	0.00090
MLR	0.05370	0.03238	-0.04574	0.02886	-0.03191
Intercept	-3.63110	0.07311	-0.72104	0.50458	1.67580

ECM for variable THRE estimated by OLS based on cointegrating VAR(7)

Regressor	Coefficient	Standard Error	T-Ratio[Prob]
ecm1(-1)	-.18019	.23092	-.78030[.439]
ecm2(-1)	-.84696	.66967	-1.2647[.211]
ecm3(-1)	-.10537	.16498	-.63869[.526]
ecm4(-1)	-1.5386	.41579	-3.7005[.001]
ecm5(-1)	-.44193	.34497	-1.2811[.206]

หลักทรัพย์ TOC บริษัท ไทยโอเลฟินส์ จำกัด (มหาชน)

Cointegration LR Test Based on Maximal Eigenvalue of the Stochastic Matrix

Null	Alternative	Statistic	95% Critical Value	90% Critical Value
r = 0	r = 1	96.9696	46.4700	43.4400
r ≤ 1	r = 2	89.4178	40.5300	37.6500
r ≤ 2	r = 3	33.6410	34.4000	31.7300
r ≤ 3	r = 4	31.3606	28.2700	25.8000
r ≤ 4	r = 5	24.3613	22.0400	19.8600
r ≤ 5	r = 6	19.6670	15.8700	13.8100
r ≤ 6	r = 7	8.6300	9.1600	7.5300

Estimated Cointegrated Vectors in Johansen Estimation (Normalized in Brackets)

99 observations from 10 to 108. Order of VAR = 9, chosen r = 6.

	Vector 1*	Vector 2	Vector 3	Vector 4	Vector 5	Vector 6
TOC	-1.00000	-1.00000	-1.00000	-1.00000	-1.00000	-1.00000
TOCPB	-0.04946	-4.50470	0.09967	3.45430	0.04984	-1.44060
TOCPE	0.00004	0.00232	0.02090	-0.24139	0.00152	0.20853
RM	-4.25070	-151.87350	31.04950	-32.12570	0.07243	-14.29470
CPI	-0.03161	-6.56250	-0.04869	-1.79050	-0.16893	-0.95327
II	0.00688	0.51069	-0.04548	0.68497	0.04644	-0.17994
MLR	-0.14434	-14.59870	0.06031	-3.83970	0.01835	-1.74180
Intercept	3.80750	711.90260	6.52850	169.06460	13.65980	117.58860

ECM for variable TOC estimated by OLS based on cointegrating VAR(9)

Regressor	Coefficient	Standard Error	T-Ratio[Prob]
ecm1(-1)	-3.5746	.54468	-6.5627[.000]
ecm2(-1)	.016208	.010950	1.4802[.147]
ecm3(-1)	.014301	.14123	.10126[.920]
ecm4(-1)	-.0037028	.016791	-.22052[.827]
ecm5(-1)	-.25156	.26544	-.94769[.349]
ecm6(-1)	.076760	.064947	1.1819[.245]

หลักทรัพย์ TR บริษัท ไทยเรยอน จำกัด (มหาชน)

Cointegration LR Test Based on Maximal Eigenvalue of the Stochastic Matrix

Null	Alternative	Statistic	95% Critical Value	90% Critical Value
r = 0	r = 1	98.5292	46.4700	43.4400
r <= 1	r = 2	59.8152	40.5300	37.6500
r <= 2	r = 3	36.4318	34.4000	31.7300
r <= 3	r = 4	27.2719	28.2700	25.8000
r <= 4	r = 5	23.7142	22.0400	19.8600
r <= 5	r = 6	15.7831	15.8700	13.8100
r <= 6	r = 7	6.7728	9.1600	7.5300

Estimated Cointegrated Vectors in Johansen Estimation (Normalized in Brackets)

101 observations from 8 to 108. Order of VAR = 7, chosen r = 3.

	Vector 1*	Vector 2	Vector 3
TR	-1.00000	-1.00000	-1.00000
TRPB	-0.03658	-53.08520	1.78510
TRPE	-0.00411	-14.91820	-0.22069
RM	0.29196	-52.88140	-13.16950
CPI	-0.00662	-11.71220	-0.02116
II	-0.00331	3.66640	0.03769
MLR	-0.04198	-18.27430	0.34726
Intercept	1.27560	1142.10000	-2.61380

ECM for variable TR estimated by OLS based on cointegrating VAR(7)

Regressor	Coefficient	Standard Error	T-Ratio[Prob]
ecm1(-1)	-2.0038	.69140	-2.8982[.005]
ecm2(-1)	-.0040798	.0014052	-2.9034[.005]
ecm3(-1)	-.2466E-5	.5598E-5	-.44049[.661]

หลักทรัพย์ TUF บริษัท ไทยยูเนี่ยน โฟรเซ่น โปรดักส์ จำกัด (มหาชน)

Cointegration LR Test Based on Maximal Eigenvalue of the Stochastic Matrix

Null	Alternative	Statistic	95% Critical Value	90% Critical Value
r = 0	r = 1	126.8376	46.4700	43.4400
r ≤ 1	r = 2	71.6166	40.5300	37.6500
r ≤ 2	r = 3	54.9360	34.4000	31.7300
r ≤ 3	r = 4	36.1381	28.2700	25.8000
r ≤ 4	r = 5	23.6467	22.0400	19.8600
r ≤ 5	r = 6	11.2670	15.8700	13.8100
r ≤ 6	r = 7	4.8231	9.1600	7.5300

Estimated Cointegrated Vectors in Johansen Estimation (Normalized in Brackets)

98 observations from 11 to 108. Order of VAR = 10, chosen r = 5.

	Vector 1	Vector 2	Vector 3*	Vector 4	Vector 5
TUF	-1.00000	-1.00000	-1.00000	-1.00000	-1.00000
TUFPB	-0.50092	-0.01227	-0.05688	0.15389	1.16540
TUFPE	0.00938	-0.02734	-0.01333	-0.02131	-0.30172
RM	0.87759	2.57990	0.34171	-3.73530	-1.20410
CPI	0.00309	0.01647	0.00210	0.00081	0.14255
II	0.01553	0.00332	0.00199	0.00387	0.04762
MLR	0.05282	0.05820	0.02064	0.00376	0.76042
Intercept	-0.92379	-1.94250	-0.28686	-0.28455	-23.06470

ECM for variable TUF estimated by OLS based on cointegrating VAR(10)

Regressor	Coefficient	Standard Error	T-Ratio[Prob]
ecm1(-1)	-.42896	.35087	-1.2226[.231]
ecm2(-1)	-.22477	.59649	-.37681[.709]
ecm3(-1)	-3.2212	.87371	-3.6868[.001]
ecm4(-1)	-.21048	.43576	-.48302[.633]
ecm5(-1)	.038375	.039411	.97371[.338]

หลักทรัพย์ UBC บ. ยูไนเต็ด บรอดคาสติ้ง คอร์ปอเรชั่น จำกัด (มหาชน)

Cointegration LR Test Based on Maximal Eigenvalue of the Stochastic Matrix

Null	Alternative	Statistic	95% Critical Value	90% Critical Value
r = 0	r = 1	77.6645	46.4700	43.4400
r <= 1	r = 2	58.6363	40.5300	37.6500
r <= 2	r = 3	42.8755	34.4000	31.7300
r <= 3	r = 4	34.6138	28.2700	25.8000
r <= 4	r = 5	21.8128	22.0400	19.8600
r <= 5	r = 6	15.3037	15.8700	13.8100
r <= 6	r = 7	7.3787	9.1600	7.5300

Estimated Cointegrated Vectors in Johansen Estimation (Normalized in Brackets)

99 observations from 10 to 108. Order of VAR = 9, chosen r = 4.

	Vector 1*	Vector 2	Vector 3	Vector 4
UBC	-1.00000	-1.00000	-1.00000	-1.00000
UBCPB	0.18925	-0.03080	0.01294	0.00097
UBCPE	0.00356	-0.01240	0.00079	0.00354
RM	-11.26450	-2.82270	0.56450	3.17710
CPI	0.02072	-0.12198	0.00869	0.00829
II	-0.03169	-0.02058	0.00056	-0.00867
MLR	-0.20389	-0.13750	0.01375	0.05087
Intercept	-0.01383	11.62650	-1.12060	-0.88022

ECM for variable UBC estimated by OLS based on cointegrating VAR(9)

Regressor	Coefficient	Standard Error	T-Ratio[Prob]
ecm1(-1)	.37377	.066412	5.6282[.000]
ecm2(-1)	-.033206	.078539	-.42279[.675]
ecm3(-1)	.83143	.93975	.88474[.382]
ecm4(-1)	.071088	.22847	.31115[.757]

หมายเหตุ : \* คือ Cointegration Vector ที่เลือก

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