



ภาคผนวก

ลิขสิทธิ์มหาวิทยาลัยเชียงใหม่

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ภาคผนวก ก

ผลการวิเคราะห์ความสัมพันธ์เชิงดุลยภาพระยะยาว โดยวิธี Johansen and Juselius

Johansen Cointegration 1% (Lag 1to1)

ตาราง 1 ก Summary test

Sample: 1992Q1 2011Q3

Included observations: 77

Series: Y GDP EXCHANGE RATE INTEREST RATE EX/IM

CPI SET/DJ MRK CAP MRK TURNOVER

Lags interval: 1 to 1

Selected (0.01 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	3	3	3	4	4
Max-Eig	1	1	1	1	2

*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	1060.093	1060.093	1064.346	1064.346	1070.647
1	1094.074	1098.265	1102.067	1102.102	1108.402
2	1121.394	1127.651	1131.071	1133.479	1139.737
3	1147.083	1154.472	1157.510	1161.124	1166.487

Log Likelihood by Rank (rows) and Model (columns)

4	1163.261	1172.749	1175.365	1185.402	1190.251
5	1172.952	1188.848	1190.434	1200.860	1205.704

6	1181.316	1198.242	1199.635	1215.792	1220.257
7	1185.136	1204.899	1205.407	1223.392	1227.772
8	1185.869	1208.450	1208.857	1228.859	1232.234
9	1185.886	1209.133	1209.133	1232.295	1232.295

Akaike Information Criteria by Rank (rows) and Model (columns)

0	-25.43098	-25.43098	-25.30769	-25.30769	-25.23757
1	-25.84608	-25.92897	-25.81992	-25.79484	-25.75070
2	-26.08816	-26.19872	-26.10574	-26.11635	-26.09706
3	-26.28788	-26.40187	-26.32494	-26.34088	-26.32434
4	-26.24055	-26.38310	-26.32116	-26.47799*	-26.47406
5	-26.02472	-26.30775	-26.24503	-26.38597	-26.40790
6	-25.77444	-26.05823	-26.01649	-26.28031	-26.31837
7	-25.40612	-25.73764	-25.69887	-25.98420	-26.04603
8	-24.95763	-25.33636	-25.32096	-25.63271	-25.69439
9	-24.49054	-24.86060	-24.86060	-25.22844	-25.22844

Schwarz Criteria by Rank (rows) and Model (columns)

0	-22.96542*	-22.96542*	-22.56818	-22.56818	-22.22411
1	-22.83261	-22.88507	-22.53250	-22.47699	-22.18933
2	-22.52680	-22.57647	-22.27042	-22.22015	-21.98779
3	-22.17861	-22.20128	-21.94172	-21.86635	-21.66717
4	-21.58338	-21.60417	-21.39004	-21.42511	-21.26899
5	-20.81964	-20.95048	-20.76600	-20.75475	-20.65492
6	-20.02146	-20.12262	-19.98956	-20.07075	-20.01749
7	-19.10524	-19.22369	-19.12404	-19.19629	-19.19725
8	-18.10884	-18.24407	-18.19822	-18.26646	-18.29771
9	-17.09385	-17.18997	-17.18997	-17.28385	-17.28385

ตาราง 2 รูปแบบของ Model ที่มีเฉพาะค่าคงที่ (Restricted Intercepts, No Trends)

Sample (adjusted): 1992Q3 2011Q3

Included observations: 77 after adjustments

Trend assumption: Linear deterministic trend

Series: Y GDP EXCHANGE RATE INTEREST RATE

EX/IM CPI SET/DJ MRK CAP MRK TURNOVER

Lags interval (in first differences): 1 to 1

Unrestricted Cointegration Rank Test (Trace)

Hypothesized		Trace	0.01	
No. of CE(s)	Eigenvalue	Statistic	Critical Value	Prob.**
None *	0.624598	289.5741	210.0548	0.0000
At most 1 *	0.529214	214.1326	171.0905	0.0000
At most 2 *	0.496781	156.1246	135.9732	0.0002
At most 3	0.371086	103.2464	104.9615	0.0138
At most 4	0.323889	67.53682	77.81884	0.0750
At most 5	0.212582	37.39917	54.68150	0.3289
At most 6	0.139216	18.99649	35.45817	0.4932
At most 7	0.085718	7.453315	19.93711	0.5256
At most 8	0.007154	0.552854	6.634897	0.4572

Trace test indicates 3 cointegrating eqn(s) at the 0.01 level

* denotes rejection of the hypothesis at the 0.01 level

**MacKinnon-Haug-Michelis (1999) p-values

Unrestricted Cointegration Rank Test (Maximum Eigenvalue)

Hypothesized		Max-Eigen	0.01	
No. of CE(s)	Eigenvalue	Statistic	Critical Value	Prob.**
None *	0.624598	75.44145	64.99600	0.0005
At most 1	0.529214	58.00806	58.66895	0.0120
At most 2 *	0.496781	52.87820	52.30821	0.0085
Hypothesized		Max-Eigen	0.01	
No. of CE(s)	Eigenvalue	Statistic	Critical Value	Prob.**
At most 3	0.371086	35.70954	45.86900	0.1432

At most 4	0.323889	30.13765	39.37013	0.1311
At most 5	0.212582	18.40267	32.71527	0.4620
At most 6	0.139216	11.54318	25.86121	0.5931
At most 7	0.085718	6.900461	18.52001	0.5010
At most 8	0.007154	0.552854	6.634897	0.4572

Max-eigenvalue test indicates 1 cointegrating eqn(s) at the 0.01 level

* denotes rejection of the hypothesis at the 0.01 level

**MacKinnon-Haug-Michelis (1999) p-values

ตาราง 3 รูปแบบของ VAR Model ที่มีทั้งค่าคงที่และแนวโน้มเวลา (Unrestricted Intercepts,
Unrestricted Trends)

Sample (adjusted): 1992Q3 2011Q3

Included observations: 77 after adjustments

Trend assumption: Linear deterministic trend (restricted)

Series: Y GDP EXCHANGE RATE INTEREST RATE

EX/IM CPI SET/DJ MRK CAP MRK TURNOVER

Lags interval (in first differences): 1 to 1

Unrestricted Cointegration Rank Test (Trace)

Hypothesized		Trace	0.01	
No. of CE(s)	Eigenvalue	Statistic	Critical Value	Prob.**
None *	0.624936	335.8972	241.7341	0.0001
At most 1 *	0.557365	260.3866	199.8084	0.0000
At most 2 *	0.512293	197.6308	161.7185	0.0000
At most 3 *	0.467733	142.3416	127.7086	0.0006
At most 4	0.330676	93.78465	97.59724	0.0208
At most 5	0.321489	62.87018	71.47921	0.0606
At most 6	0.179130	33.00540	49.36275	0.3361
At most 7	0.132395	17.80635	31.15385	0.3571
At most 8	0.085367	6.870893	16.55386	0.3582

Trace test indicates 4 cointegrating eqn(s) at the 0.01 level

* denotes rejection of the hypothesis at the 0.01 level

**MacKinnon-Haug-Michelis (1999) p-values

Unrestricted Cointegration Rank Test (Maximum Eigenvalue)

Hypothesized		Max-Eigen	0.01	
No. of CE(s)	Eigenvalue	Statistic	Critical Value	Prob.**
None *	0.624936	75.51068	69.44025	0.0019
At most 1	0.557365	62.75577	63.16971	0.0112
At most 2	0.512293	55.28915	56.84467	0.0152
At most 3	0.467733	48.55698	50.47307	0.0171
At most 4	0.330676	30.91447	44.01643	0.2759
At most 5	0.321489	29.86479	37.48696	0.0919
At most 6	0.179130	15.19905	30.83396	0.6165
At most 7	0.132395	10.93546	23.97534	0.5200
At most 8	0.085367	6.870893	16.55386	0.3582

Max-eigenvalue test indicates 1 cointegrating eqn(s) at the 0.01 level

* denotes rejection of the hypothesis at the 0.01 level

**MacKinnon-Haug-Michelis (1999) p-values

Johansen Cointegration 5% (Lag 1to1)

ตาราง 4 ก Summary test

Sample: 1992Q1 2011Q3

Included observations: 77

Series: Y GDP EXCHANGE RATE INTEREST RATE EX/IM

CPI SET/DJ MRK CAP MRK TURNOVER

Lags interval: 1 to 1

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	3	4	4	5	5
Max-Eig	3	3	3	4	4

*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	1060.093	1060.093	1064.346	1064.346	1070.647
1	1094.074	1098.265	1102.067	1102.102	1108.402
2	1121.394	1127.651	1131.071	1133.479	1139.737
3	1147.083	1154.472	1157.510	1161.124	1166.487
4	1163.261	1172.749	1175.365	1185.402	1190.251
5	1172.952	1188.848	1190.434	1200.860	1205.704
6	1181.316	1198.242	1199.635	1215.792	1220.257
7	1185.136	1204.899	1205.407	1223.392	1227.772
8	1185.869	1208.450	1208.857	1228.859	1232.234
9	1185.886	1209.133	1209.133	1232.295	1232.295

Akaike Information Criteria by Rank (rows) and Model (columns)

0	-25.43098	-25.43098	-25.30769	-25.30769	-25.23757
1	-25.84608	-25.92897	-25.81992	-25.79484	-25.75070
2	-26.08816	-26.19872	-26.10574	-26.11635	-26.09706
3	-26.28788	-26.40187	-26.32494	-26.34088	-26.32434
4	-26.24055	-26.38310	-26.32116	-26.47799*	-26.47406
5	-26.02472	-26.30775	-26.24503	-26.38597	-26.40790
6	-25.77444	-26.05823	-26.01649	-26.28031	-26.31837
7	-25.40612	-25.73764	-25.69887	-25.98420	-26.04603
8	-24.95763	-25.33636	-25.32096	-25.63271	-25.69439
9	-24.49054	-24.86060	-24.86060	-25.22844	-25.22844

Schwarz Criteria by Rank (rows) and Model (columns)

0	-22.96542*	-22.96542*	-22.56818	-22.56818	-22.22411
1	-22.83261	-22.88507	-22.53250	-22.47699	-22.18933
2	-22.52680	-22.57647	-22.27042	-22.22015	-21.98779
3	-22.17861	-22.20128	-21.94172	-21.86635	-21.66717
4	-21.58338	-21.60417	-21.39004	-21.42511	-21.26899
5	-20.81964	-20.95048	-20.76600	-20.75475	-20.65492
6	-20.02146	-20.12262	-19.98956	-20.07075	-20.01749
7	-19.10524	-19.22369	-19.12404	-19.19629	-19.19725
8	-18.10884	-18.24407	-18.19822	-18.26646	-18.29771
9	-17.09385	-17.18997	-17.18997	-17.28385	-17.28385

ตาราง 5 รูปแบบของ Model ที่มีเฉพาะค่าคงที่ (Restricted Intercepts, No Trends)

Sample (adjusted): 1992Q3 2011Q3

Included observations: 77 after adjustments

Trend assumption: Linear deterministic trend

Series: Y GDP EXCHANGE RATE INTEREST RATE

EX/IM CPI SET/DJ MRK CAP MRK TURNOVER

Lags interval (in first differences): 1 to 1

Unrestricted Cointegration Rank Test (Trace)

Hypothesized		Trace	0.05	
No. of CE(s)	Eigenvalue	Statistic	Critical Value	Prob.**
None *	0.624598	289.5741	197.3709	0.0000
At most 1 *	0.529214	214.1326	159.5297	0.0000
At most 2 *	0.496781	156.1246	125.6154	0.0002
At most 3 *	0.371086	103.2464	95.75366	0.0138
At most 4	0.323889	67.53682	69.81889	0.0750
At most 5	0.212582	37.39917	47.85613	0.3289
At most 6	0.139216	18.99649	29.79707	0.4932
At most 7	0.085718	7.453315	15.49471	0.5256
At most 8	0.007154	0.552854	3.841466	0.4572

Trace test indicates 4 cointegrating eqn(s) at the 0.05 level

* denotes rejection of the hypothesis at the 0.05 level

**MacKinnon-Haug-Michelis (1999) p-values

Unrestricted Cointegration Rank Test (Maximum Eigenvalue)

Hypothesized		Max-Eigen	0.05	
No. of CE(s)	Eigenvalue	Statistic	Critical Value	Prob.**
None *	0.624598	75.44145	58.43354	0.0005
At most 1 *	0.529214	58.00806	52.36261	0.0120
At most 2 *	0.496781	52.87820	46.23142	0.0085
At most 3	0.371086	35.70954	40.07757	0.1432
At most 4	0.323889	30.13765	33.87687	0.1311
At most 5	0.212582	18.40267	27.58434	0.4620

At most 6	0.139216	11.54318	21.13162	0.5931
At most 7	0.085718	6.900461	14.26460	0.5010
At most 8	0.007154	0.552854	3.841466	0.4572

ตาราง 6 รูปแบบของ Model ที่มีทั้งค่าคงที่และแนวโน้มเวลา (Unrestricted Intercepts, Unrestricted Trends)

Sample (adjusted): 1992Q3 2011Q3

Included observations: 77 after adjustments

Trend assumption: Linear deterministic trend (restricted)

Series: Y GDP EXCHANGE RATE INTEREST RATE

EX/IM CPI SET/DJ MRK CAP MRK TURNOVER

Lags interval (in first differences): 1 to 1

Unrestricted Cointegration Rank Test (Trace)

Hypothesized		Trace	0.05	
No. of CE(s)	Eigenvalue	Statistic	Critical Value	Prob.**
None *	0.624936	335.8972	228.2979	0.0001
At most 1 *	0.557365	260.3866	187.4701	0.0000
At most 2 *	0.512293	197.6308	150.5585	0.0000
At most 3 *	0.467733	142.3416	117.7082	0.0006
At most 4 *	0.330676	93.78465	88.80380	0.0208
At most 5	0.321489	62.87018	63.87610	0.0606
At most 6	0.179130	33.00540	42.91525	0.3361
At most 7	0.132395	17.80635	25.87211	0.3571
At most 8	0.085367	6.870893	12.51798	0.3582

Trace test indicates 5 cointegrating eqn(s) at the 0.05 level

* denotes rejection of the hypothesis at the 0.05 level

**MacKinnon-Haug-Michelis (1999) p-values

Unrestricted Cointegration Rank Test (Maximum Eigenvalue)

Hypothesized	Max-Eigen	0.05		
No. of CE(s)	Eigenvalue	Statistic	Critical Value	Prob.**
None *	0.624936	75.51068	62.75215	0.0019
At most 1 *	0.557365	62.75577	56.70519	0.0112
At most 2 *	0.512293	55.28915	50.59985	0.0152
At most 3 *	0.467733	48.55698	44.49720	0.0171
At most 4	0.330676	30.91447	38.33101	0.2759
At most 5	0.321489	29.86479	32.11832	0.0919
At most 6	0.179130	15.19905	25.82321	0.6165
At most 7	0.132395	10.93546	19.38704	0.5200
At most 8	0.085367	6.870893	12.51798	0.3582

Max-eigenvalue test indicates 4 cointegrating eqn(s) at the 0.05 level

* denotes rejection of the hypothesis at the 0.05 level

**MacKinnon-Haug-Michelis (1999) p-values

ภาคผนวก ข

ผลการทดสอบความสัมพันธ์เชิงดุลยภาพระยะสั้น

ตาราง 1 ข กรณีวิกฤตประเทศไทยและกรณีวิกฤตประเทศสหรัฐฯ

Dependent Variable: NET CAPITAL FLOW

Method: Least Squares

Date: 01/23/12 Time: 00:20

Sample (adjusted): 1992Q2 2011Q3

Included observations: 78 after adjustments

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	0.010382	0.007228	1.436418	0.1556
D(GDP)	-0.012283	0.004490	-2.735751	0.0080
D(EXCHANGE RATE)	-0.001408	0.003110	-0.452887	0.6521
D(INTEREST RATE)	0.021267	0.053851	0.394923	0.6942
D(CPI)	-1.318143	1.629922	-0.808716	0.4216
D(EX/IM)	0.087565	0.117637	0.744368	0.4593
D(SET/DJ)	-0.200270	0.367926	-0.544322	0.5881
D(MRK CAP)	-0.428277	0.111902	-3.827243	0.0003
D(MRK TURNOVER)	-1.058726	3.447363	-0.307112	0.7597
TH ECON CRISIS	-0.067343	0.022834	-2.949302	0.0044
US ECON CRISIS	0.002768	0.020728	0.133532	0.8942
ECM(-1)	-0.631819	0.261368	-2.417358	0.0184

R-squared	0.334496	Mean dependent var	-0.001857
Adjusted R-squared	0.223578	S.D. dependent var	0.058866
S.E. of regression	0.051869	Akaike info criterion	-2.939536
Sum squared resid	0.177569	Schwarz criterion	-2.576965
Log likelihood	126.6419	Hannan-Quinn criter.	-2.794392
F-statistic	3.015721	Durbin-Watson stat	2.519018
Prob(F-statistic)	0.002601		

ตาราง 2 ข กรณีวิกฤตประเทศไทยและกรณีวิกฤตประเทศสหรัฐอเมริกาที่ส่งผลกระทบต่อตัวแปร Market

Capitalization

Dependent Variable: D(Y)

Method: Least Squares

Date: 02/10/12 Time: 08:46

Sample (adjusted): 1992Q2 2011Q3

Included observations: 78 after adjustments

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	0.010604	0.007287	1.455300	0.1505
D(GDP)	-0.012242	0.004651	-2.632136	0.0106
D(EXCHANGE RATE)	-0.003367	0.003647	-0.923207	0.3594
D(INTEREST RATE)	0.021970	0.056276	0.390393	0.6975
D(CPI)	-1.714666	1.673263	-1.024744	0.3093
D(EX/IM)	0.054537	0.119986	0.454525	0.6510
D(SET/DJ)	-0.184684	0.372815	-0.495376	0.6220
D(MRK CAP)	-0.517419	0.130903	-3.952687	0.0002
D(MRK TURNOVER)	-0.583615	3.477401	-0.167831	0.8672
TH ECON CRISIS	-0.110784	0.050737	-2.183480	0.0327
US ECON CRISIS	0.081132	0.074315	1.091734	0.2790
Th Crisis Mrk Cap	-0.016139	0.017301	-0.932790	0.3544
US Crisis Mrk Cap	0.029162	0.026764	1.089581	0.2800
ECM(-1)	-0.706582	0.274252	-2.576400	0.0123
R-squared	0.354414	Mean dependent var		-0.001857
Adjusted R-squared	0.223280	S.D. dependent var		0.058866
S.E. of regression	0.051879	Akaike info criterion		-2.918640
Sum squared resid	0.172254	Schwarz criterion		-2.495641
Log likelihood	127.8270	Hannan-Quinn criter.		-2.749306
F-statistic	2.702675	Durbin-Watson stat		2.542731
Prob(F-statistic)	0.004288			

ประวัติผู้เขียน

ชื่อ-สกุล

นางสาวทัศนวรรณ ศิริเดชพันธุ์

วัน เดือน ปี เกิด

21 กรกฎาคม 2531

ประวัติการศึกษา

สำเร็จการศึกษาระดับมัธยมศึกษาตอนปลาย โรงเรียนนารีรัตน์
จังหวัดแพร่ ปีการศึกษา 2550สำเร็จการศึกษาระดับปริญญาตรี เศรษฐศาสตรบัณฑิต มหาวิทยาลัยเชียงใหม่
ปีการศึกษา 2553