



APPENDICES

ลิขสิทธิ์มหาวิทยาลัยเชียงใหม่

Copyright© by Chiang Mai University
All rights reserved

APPENDIX A

The original figures of panel unit root tests computed by Eviews 6

A1: Panel unit root tests of **exports** series with none trend and intercept (level)

Pool unit root test: Summary
 Series: LNEXL, LNEXM, LNEXV, LNEXY, LNEXY
 Date: 09/15/12 Time: 10:32
 Sample: 1999 2010
 Exogenous variables: None
 Automatic selection of maximum lags
 Automatic selection of lags based on SIC: 0
 Newey-West bandwidth selection using Bartlett kernel
 Balanced observations for each test

Method	Statistic	Prob.**	Cross-sections	Obs
Null: Unit root (assumes common unit root process)				
Levin, Lin & Chu t*	5.56007	1.0000	5	55
Null: Unit root (assumes individual unit root process)				
ADF - Fisher Chi-square	0.19071	1.0000	5	55
PP - Fisher Chi-square	0.04495	1.0000	5	55

** Probabilities for Fisher tests are computed using an asymptotic Chi-square distribution. All other tests assume asymptotic normality.

A2: Panel unit root tests of **exports** series with trend (level)

Pool unit root test: Summary
 Series: LNEXL, LNEXM, LNEXV, LNEXY, LNEXY
 Date: 09/15/12 Time: 10:32
 Sample: 1999 2010
 Exogenous variables: Individual effects
 Automatic selection of maximum lags
 Automatic selection of lags based on SIC: 0
 Newey-West bandwidth selection using Bartlett kernel
 Balanced observations for each test

Method	Statistic	Prob.**	Cross-sections	Obs
Null: Unit root (assumes common unit root process)				
Levin, Lin & Chu t*	0.32581	0.6277	5	55
Null: Unit root (assumes individual unit root process)				
Im, Pesaran and Shin W-stat	2.69067	0.9964	5	55
ADF - Fisher Chi-square	1.46644	0.9990	5	55
PP - Fisher Chi-square	1.52972	0.9988	5	55

** Probabilities for Fisher tests are computed using an asymptotic Chi-square distribution. All other tests assume asymptotic normality.

A3: Panel unit root tests of **exports** series with trend and intercept (level)

Pool unit root test: Summary
 Series: LNEXL, LNEXM, LNEXV, LNEXT, LNEYX
 Date: 09/15/12 Time: 10:33
 Sample: 1999 2010
 Exogenous variables: Individual effects, individual linear trends
 Automatic selection of maximum lags
 Automatic selection of lags based on SIC: 0 to 1
 Newey-West bandwidth selection using Bartlett kernel

Method	Statistic	Prob.**	Cross-sections	Obs
Null: Unit root (assumes common unit root process)				
Levin, Lin & Chu t*	-4.12397	0.0000	5	53
Breitung t-stat	-0.29480	0.3841	5	48
Null: Unit root (assumes individual unit root process)				
Im, Pesaran and Shin W-stat	-2.28512	0.0112	5	53
ADF - Fisher Chi-square	21.9806	0.0152	5	53
PP - Fisher Chi-square	17.0131	0.0741	5	55

** Probabilities for Fisher tests are computed using an asymptotic Chi-square distribution. All other tests assume asymptotic normality.

A4: Panel unit root tests of **imports** series with none trend and intercept (level)

Pool unit root test: Summary
 Series: LNIML, LNIMM, LNIMV, LNIMT, LNIMY
 Date: 09/15/12 Time: 10:29
 Sample: 1999 2010
 Exogenous variables: None
 Automatic selection of maximum lags
 Automatic selection of lags based on SIC: 0
 Newey-West bandwidth selection using Bartlett kernel
 Balanced observations for each test

Method	Statistic	Prob.**	Cross-sections	Obs
Null: Unit root (assumes common unit root process)				
Levin, Lin & Chu t*	8.24937	1.0000	5	55
Null: Unit root (assumes individual unit root process)				
ADF - Fisher Chi-square	0.03908	1.0000	5	55
PP - Fisher Chi-square	0.00080	1.0000	5	55

** Probabilities for Fisher tests are computed using an asymptotic Chi-square distribution. All other tests assume asymptotic normality.

A5: Panel unit root tests of **imports** series with trend (level)

Pool unit root test: Summary
 Series: LNIML, LNIMM, LNIMV, LNIMT, LNIMY
 Date: 09/15/12 Time: 10:30
 Sample: 1999 2010
 Exogenous variables: Individual effects
 Automatic selection of maximum lags
 Automatic selection of lags based on SIC: 0 to 1
 Newey-West bandwidth selection using Bartlett kernel

Method	Statistic	Prob.**	Cross-sections	Obs
Null: Unit root (assumes common unit root process)				
Levin, Lin & Chu t*	-0.06404	0.4745	5	53
Null: Unit root (assumes individual unit root process)				
Im, Pesaran and Shin W-stat	2.74009	0.9969	5	53
ADF - Fisher Chi-square	1.71625	0.9981	5	53
PP - Fisher Chi-square	2.91318	0.9834	5	55

** Probabilities for Fisher tests are computed using an asymptotic Chi-square distribution. All other tests assume asymptotic normality.

A6: Panel unit root tests of **imports** series with trend and intercept (level)

Pool unit root test: Summary
 Series: LNIML, LNIMM, LNIMV, LNIMT, LNIMY
 Date: 09/15/12 Time: 10:30
 Sample: 1999 2010
 Exogenous variables: Individual effects, individual linear trends
 Automatic selection of maximum lags
 Automatic selection of lags based on SIC: 0 to 1
 Newey-West bandwidth selection using Bartlett kernel

Method	Statistic	Prob.**	Cross-sections	Obs
Null: Unit root (assumes common unit root process)				
Levin, Lin & Chu t*	-4.75696	0.0000	5	53
Breitung t-stat	-0.40220	0.3438	5	48
Null: Unit root (assumes individual unit root process)				
Im, Pesaran and Shin W-stat	-1.55366	0.0601	5	53
ADF - Fisher Chi-square	17.2874	0.0682	5	53
PP - Fisher Chi-square	27.6704	0.0020	5	55

** Probabilities for Fisher tests are computed using an asymptotic Chi-square distribution. All other tests assume asymptotic normality.

A7: Panel unit root tests of **GDP** series with none trend and intercept (level)

Pool unit root test: Summary
 Series: LNGDPL, LNGDPM, LNGDPV, LNGDPT, LNGDPY
 Date: 09/15/12 Time: 10:24
 Sample: 1999 2010
 Exogenous variables: None
 Automatic selection of maximum lags
 Automatic selection of lags based on SIC: 0
 Newey-West bandwidth selection using Bartlett kernel
 Balanced observations for each test

Method	Statistic	Prob.**	Cross-sections	Obs
Null: Unit root (assumes common unit root process)				
Levin, Lin & Chu t*	5.65997	1.0000	5	55
Null: Unit root (assumes individual unit root process)				
ADF - Fisher Chi-square	0.01787	1.0000	5	55
PP - Fisher Chi-square	0.02850	1.0000	5	55

** Probabilities for Fisher tests are computed using an asymptotic Chi-square distribution. All other tests assume asymptotic normality.

A8: Panel unit root tests of **GDP** series with trend (level)

Pool unit root test: Summary
 Series: LNGDPL, LNGDPM, LNGDPV, LNGDPT, LNGDPY
 Date: 09/15/12 Time: 10:25
 Sample: 1999 2010
 Exogenous variables: Individual effects
 Automatic selection of maximum lags
 Automatic selection of lags based on SIC: 0 to 1
 Newey-West bandwidth selection using Bartlett kernel

Method	Statistic	Prob.**	Cross-sections	Obs
Null: Unit root (assumes common unit root process)				
Levin, Lin & Chu t*	-0.05461	0.4782	5	54
Null: Unit root (assumes individual unit root process)				
Im, Pesaran and Shin W-stat	3.02312	0.9987	5	54
ADF - Fisher Chi-square	5.93536	0.8207	5	54
PP - Fisher Chi-square	26.5291	0.0031	5	55

** Probabilities for Fisher tests are computed using an asymptotic Chi-square distribution. All other tests assume asymptotic normality.

A9: Panel unit root tests of **GDP** series with trend and intercept (level)

Pool unit root test: Summary
 Series: LNGDPL, LNGDPM, LNGDPV, LNGDPT, LNGDPY
 Date: 09/15/12 Time: 10:26
 Sample: 1999 2010
 Exogenous variables: Individual effects, individual linear trends
 Automatic selection of maximum lags
 Automatic selection of lags based on SIC: 0 to 1
 Newey-West bandwidth selection using Bartlett kernel

Method	Statistic	Prob.**	Cross-sections	Obs
Null: Unit root (assumes common unit root process)				
Levin, Lin & Chu t*	-3.41051	0.0003	5	53
Breitung t-stat	0.47397	0.6822	5	48
Null: Unit root (assumes individual unit root process)				
Im, Pesaran and Shin W-stat	-0.31445	0.3766	5	53
ADF - Fisher Chi-square	13.1536	0.2152	5	53
PP - Fisher Chi-square	21.8207	0.0160	5	55

** Probabilities for Fisher tests are computed using an asymptotic Chi-square distribution. All other tests assume asymptotic normality.

A10: Panel unit root tests of **exports** series with none trend and intercept (1st)

Pool unit root test: Summary
 Series: LNEXT, LNEXM, LNEXV, LNEXY
 Date: 09/15/12 Time: 10:33
 Sample: 1999 2010
 Exogenous variables: None
 Automatic selection of maximum lags
 Automatic selection of lags based on SIC: 0 to 1
 Newey-West bandwidth selection using Bartlett kernel

Method	Statistic	Prob.**	Cross-sections	Obs
Null: Unit root (assumes common unit root process)				
Levin, Lin & Chu t*	-4.32431	0.0000	5	49
Null: Unit root (assumes individual unit root process)				
ADF - Fisher Chi-square	34.1353	0.0002	5	49
PP - Fisher Chi-square	34.5846	0.0001	5	50

** Probabilities for Fisher tests are computed using an asymptotic Chi-square distribution. All other tests assume asymptotic normality.

A11: Panel unit root tests of **exports** series with trend (1st)

Pool unit root test: Summary
 Series: LNEXL, LNEXM, LNEXV, LNEXY, LNEXY
 Date: 09/15/12 Time: 10:34
 Sample: 1999 2010
 Exogenous variables: Individual effects
 Automatic selection of maximum lags
 Automatic selection of lags based on SIC: 0 to 1
 Newey-West bandwidth selection using Bartlett kernel

Method	Statistic	Prob.**	Cross-sections	Obs
Null: Unit root (assumes common unit root process)				
Levin, Lin & Chu t*	-7.29262	0.0000	5	47
Null: Unit root (assumes individual unit root process)				
Im, Pesaran and Shin W-stat	-5.53935	0.0000	5	47
ADF - Fisher Chi-square	44.4136	0.0000	5	47
PP - Fisher Chi-square	46.4586	0.0000	5	50

** Probabilities for Fisher tests are computed using an asymptotic Chi-square distribution. All other tests assume asymptotic normality.

A12: Panel unit root tests of **exports** series with trend and intercept (1st)

Pool unit root test: Summary
 Series: LNEXL, LNEXM, LNEXV, LNEXY, LNEXY
 Date: 09/15/12 Time: 10:34
 Sample: 1999 2010
 Exogenous variables: Individual effects, individual linear trends
 Automatic selection of maximum lags
 Automatic selection of lags based on SIC: 0 to 1
 Newey-West bandwidth selection using Bartlett kernel

Method	Statistic	Prob.**	Cross-sections	Obs
Null: Unit root (assumes common unit root process)				
Levin, Lin & Chu t*	-7.48439	0.0000	5	47
Breitung t-stat	-2.29183	0.0110	5	42
Null: Unit root (assumes individual unit root process)				
Im, Pesaran and Shin W-stat	-2.93359	0.0017	5	47
ADF - Fisher Chi-square	33.3415	0.0002	5	47
PP - Fisher Chi-square	48.0808	0.0000	5	50

** Probabilities for Fisher tests are computed using an asymptotic Chi-square distribution. All other tests assume asymptotic normality.

A13: Panel unit root tests of **imports** series with none trend and intercept (1st)

Pool unit root test: Summary
 Series: LNIML, LNIMM, LNIMV, LNIMT, LNIMY
 Date: 09/15/12 Time: 10:31
 Sample: 1999 2010
 Exogenous variables: None
 Automatic selection of maximum lags
 Automatic selection of lags based on SIC: 0 to 1
 Newey-West bandwidth selection using Bartlett kernel

Method	Statistic	Prob.**	Cross-sections	Obs
Null: Unit root (assumes common unit root process)				
Levin, Lin & Chu t*	-3.67729	0.0001	5	49
Null: Unit root (assumes individual unit root process)				
ADF - Fisher Chi-square	27.6011	0.0021	5	49
PP - Fisher Chi-square	26.9773	0.0026	5	50

** Probabilities for Fisher tests are computed using an asymptotic Chi-square distribution. All other tests assume asymptotic normality.

A14: Panel unit root tests of **imports** series with trend (1st)

Pool unit root test: Summary
 Series: LNIML, LNIMM, LNIMV, LNIMT, LNIMY
 Date: 09/15/12 Time: 10:31
 Sample: 1999 2010
 Exogenous variables: Individual effects
 Automatic selection of maximum lags
 Automatic selection of lags based on SIC: 0 to 1
 Newey-West bandwidth selection using Bartlett kernel

Method	Statistic	Prob.**	Cross-sections	Obs
Null: Unit root (assumes common unit root process)				
Levin, Lin & Chu t*	-7.74304	0.0000	5	48
Null: Unit root (assumes individual unit root process)				
Im, Pesaran and Shin W-stat	-6.02988	0.0000	5	48
ADF - Fisher Chi-square	46.1197	0.0000	5	48
PP - Fisher Chi-square	55.6539	0.0000	5	50

** Probabilities for Fisher tests are computed using an asymptotic Chi-square distribution. All other tests assume asymptotic normality.

A15: Panel unit root tests of **imports** series with trend and intercept (1st)

Pool unit root test: Summary
 Series: LNIML, LNIMM, LNIMV, LNIMT, LNIMY
 Date: 09/15/12 Time: 10:31
 Sample: 1999 2010
 Exogenous variables: Individual effects, individual linear trends
 Automatic selection of maximum lags
 Automatic selection of lags based on SIC: 0 to 1
 Newey-West bandwidth selection using Bartlett kernel

Method	Statistic	Prob.**	Cross-sections	Obs
Null: Unit root (assumes common unit root process)				
Levin, Lin & Chu t*	-9.22940	0.0000	5	46
Breitung t-stat	-2.50921	0.0061	5	41
Null: Unit root (assumes individual unit root process)				
Im, Pesaran and Shin W-stat	-3.47183	0.0003	5	46
ADF - Fisher Chi-square	40.0477	0.0000	5	46
PP - Fisher Chi-square	69.7434	0.0000	5	50

** Probabilities for Fisher tests are computed using an asymptotic Chi-square distribution. All other tests assume asymptotic normality.

A16: Panel unit root tests of **GDP** series with none trend and intercept (1st)

Pool unit root test: Summary
 Series: LNGDPL, LNGDPM, LNGDPV, LNGDPT, LNGDPY
 Date: 09/15/12 Time: 10:26
 Sample: 1999 2010
 Exogenous variables: None
 Automatic selection of maximum lags
 Automatic selection of lags based on SIC: 0 to 1
 Newey-West bandwidth selection using Bartlett kernel

Method	Statistic	Prob.**	Cross-sections	Obs
Null: Unit root (assumes common unit root process)				
Levin, Lin & Chu t*	-2.35553	0.0092	5	48
Null: Unit root (assumes individual unit root process)				
ADF - Fisher Chi-square	14.4421	0.1538	5	48
PP - Fisher Chi-square	20.7023	0.0233	5	50

** Probabilities for Fisher tests are computed using an asymptotic Chi-square distribution. All other tests assume asymptotic normality.

A17: Panel unit root tests of **GDP** series with trend (1st)

Pool unit root test: Summary
 Series: LNGDPL, LNGDPM, LNGDPV, LNGDPT, LNGDPY
 Date: 09/15/12 Time: 10:27
 Sample: 1999 2010
 Exogenous variables: Individual effects
 Automatic selection of maximum lags
 Automatic selection of lags based on SIC: 0 to 1
 Newey-West bandwidth selection using Bartlett kernel

Method	Statistic	Prob.**	Cross-sections	Obs
Null: Unit root (assumes common unit root process)				
Levin, Lin & Chu t*	-6.98940	0.0000	5	49
Null: Unit root (assumes individual unit root process)				
Im, Pesaran and Shin W-stat	-4.35876	0.0000	5	49
ADF - Fisher Chi-square	34.7077	0.0001	5	49
PP - Fisher Chi-square	25.7791	0.0040	5	50

** Probabilities for Fisher tests are computed using an asymptotic Chi-square distribution. All other tests assume asymptotic normality.

A18: Panel unit root tests of **GDP** series with trend and intercept (1st)

Pool unit root test: Summary
 Series: LNGDPL, LNGDPM, LNGDPV, LNGDPT, LNGDPY
 Date: 09/15/12 Time: 10:28
 Sample: 1999 2010
 Exogenous variables: Individual effects, individual linear trends
 Automatic selection of maximum lags
 Automatic selection of lags based on SIC: 0 to 1
 Newey-West bandwidth selection using Bartlett kernel

Method	Statistic	Prob.**	Cross-sections	Obs
Null: Unit root (assumes common unit root process)				
Levin, Lin & Chu t*	-7.59756	0.0000	5	46
Breitung t-stat	-2.99453	0.0014	5	41
Null: Unit root (assumes individual unit root process)				
Im, Pesaran and Shin W-stat	-2.74595	0.0030	5	46
ADF - Fisher Chi-square	33.3381	0.0002	5	46
PP - Fisher Chi-square	40.6997	0.0000	5	50

** Probabilities for Fisher tests are computed using an asymptotic Chi-square distribution. All other tests assume asymptotic normality.

APPENDIX B

The original figures of panel co-integration tests

Computed by Eviews 6

B1: The results of panel co-integration test- **Pedroni Tests**

Pedroni Residual Cointegration Test

Series: LNGDP? LNIM? LNEEX?

Date: 09/15/12 Time: 10:37

Sample: 1999 2010

Included observations: 12

Cross-sections included: 5

Null Hypothesis: No cointegration

Trend assumption: No deterministic intercept or trend

Lag selection: fixed at 1

Newey-West bandwidth selection with Bartlett kernel

Alternative hypothesis: common AR coefs. (within-dimension)

	<u>Statistic</u>	<u>Prob.</u>	<u>Weighted Statistic</u>	<u>Prob.</u>
Panel v-Statistic	-1.679546	0.9535	-1.726920	0.9579
Panel rho-Statistic	0.403214	0.6566	0.795319	0.7868
Panel PP-Statistic	-1.197853	0.1155	-0.582427	0.2801
Panel ADF-Statistic	-0.392952	0.3472	-0.253824	0.3998

Alternative hypothesis: individual AR coefs. (between-dimension)

	<u>Statistic</u>	<u>Prob.</u>
Group rho-Statistic	0.704460	0.7594
Group PP-Statistic	-2.818208	0.0024
Group ADF-Statistic	-1.822104	0.0342

B2: The results of panel co-integration test- Kao Tests

Kao Residual Cointegration Test
 Series: LNGDP? LNIM? LNEEX?
 Date: 09/15/12 Time: 10:39
 Sample: 1999 2010
 Included observations: 12
 Null Hypothesis: No cointegration
 Trend assumption: No deterministic trend
 Lag selection: fixed at 1
 Newey-West bandwidth selection using Bartlett kernel

	t-Statistic	Prob.
ADF	-1.565894	0.0587
Residual variance	0.011775	
HAC variance	0.021772	

Augmented Dickey-Fuller Test Equation
 Dependent Variable: D(RESID01?)
 Method: Panel Least Squares
 Date: 09/15/12 Time: 10:39
 Sample (adjusted): 2001 2010
 Included observations: 10 after adjustments
 Cross-sections included: 5
 Total pool (balanced) observations: 50

Variable	Coefficient	Std. Error	t-Statistic	Prob.
RESID01?(-1)	-0.294354	0.088339	-3.332111	0.0017
D(RESID01?(-1))	0.257366	0.136092	1.891115	0.0647
R-squared	0.200551	Mean dependent var		0.011545
Adjusted R-squared	0.183895	S.D. dependent var		0.153516
S.E. of regression	0.138684	Akaike info criterion		-1.074061
Sum squared resid	0.923195	Schwarz criterion		-0.997580
Log likelihood	28.85152	Hannan-Quinn criter.		-1.044936
Durbin-Watson stat	1.896928			

APPENDIX C

The original figures of panel co-integration models

Computed by Eviews 6

C1: The results of panel co-integration models- **entity fixed effects model**

Dependent Variable: LNGDP?
Method: Pooled Least Squares
Date: 09/15/12 Time: 10:15
Sample: 1999 2010
Included observations: 12
Cross-sections included: 5
Total pool (balanced) observations: 60

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	14.20448	0.458081	31.00868	0.0000
LNIM?	-0.037892	0.106911	-0.354425	0.7244
LNEX?	0.293585	0.088315	3.324299	0.0016
Fixed Effects (Cross)				
L--C	-3.680944			
M--C	4.187398			
V--C	-0.800770			
T--C	0.631855			
Y--C	-0.337538			

Effects Specification

Cross-section fixed (dummy variables)

R-squared	0.991680	Mean dependent var	16.45444
Adjusted R-squared	0.990738	S.D. dependent var	2.763229
S.E. of regression	0.265927	Akaike info criterion	0.298089
Sum squared resid	3.748004	Schwarz criterion	0.542430
Log likelihood	-1.942682	Hannan-Quinn criter.	0.393664
F-statistic	1052.887	Durbin-Watson stat	0.350509
Prob(F-statistic)	0.000000		

C2: The results of panel co-integration model-**Time fixed effects model**

Dependent Variable: LNGDP?
 Method: Pooled Least Squares
 Date: 09/15/12 Time: 10:12
 Sample: 1999 2010
 Included observations: 12
 Cross-sections included: 5
 Total pool (balanced) observations: 60

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	-3.759597	2.284377	-1.645787	0.1066
LNIM?	2.252107	0.333640	6.750104	0.0000
LNEX?	-0.160822	0.225171	-0.714219	0.4787
Fixed Effects (Period)				
1999--C	2.026241			
2000--C	1.511750			
2001--C	1.099721			
2002--C	1.235699			
2003--C	0.576120			
2004--C	-0.086580			
2005--C	-0.201149			
2006--C	-0.407494			
2007--C	-1.002614			
2008--C	-1.241989			
2009--C	-1.427106			
2010--C	-2.082598			

Effects Specification

Period fixed (dummy variables)

R-squared	0.636646	Mean dependent var	16.45444
Adjusted R-squared	0.533959	S.D. dependent var	2.763229
S.E. of regression	1.886378	Akaike info criterion	4.308158
Sum squared resid	163.6875	Schwarz criterion	4.796839
Log likelihood	-115.2447	Hannan-Quinn criter.	4.499308
F-statistic	6.199875	Durbin-Watson stat	0.073493
Prob(F-statistic)	0.000002		

C3: The results of panel co-integration model-**Time and entity fixed model**

Dependent Variable: LNGDP?
 Method: Pooled Least Squares
 Date: 06/26/12 Time: 22:33
 Sample: 1999 2010
 Included observations: 12
 Cross-sections included: 5
 Total pool (balanced) observations: 60

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	23.85730	1.126256	21.18284	0.0000
LNIM?	-0.799474	0.109977	-7.269465	0.0000
LNEX?	0.031587	0.068882	0.458561	0.6489
Fixed Effects (Cross)				
L--C	-5.389818			
M--C	5.254988			
V--C	-0.463809			
T--C	-0.164648			
Y--C	0.763287			
Fixed Effects (Period)				
1999--C	-1.305371			
2000--C	-1.065006			
2001--C	-0.840427			
2002--C	-0.723204			
2003--C	-0.343324			
2004--C	-0.016729			
2005--C	0.108182			
2006--C	0.296437			
2007--C	0.657174			
2008--C	0.909099			
2009--C	1.000065			
2010--C	1.323103			

Effects Specification

Cross-section fixed (dummy variables)
 Period fixed (dummy variables)

R-squared	0.997209	Mean dependent var	16.45444
Adjusted R-squared	0.996080	S.D. dependent var	2.763229
S.E. of regression	0.173015	Akaike info criterion	-0.427548
Sum squared resid	1.257241	Schwarz criterion	0.200755
Log likelihood	30.82644	Hannan-Quinn criter.	-0.181784
F-statistic	882.7830	Durbin-Watson stat	1.158712
Prob(F-statistic)	0.000000		

C4: The results of panel co-integration model-**Entity random effects model**

Dependent Variable: LNGDP?
 Method: Pooled EGLS (Cross-section random effects)
 Date: 09/15/12 Time: 10:16
 Sample: 1999 2010
 Included observations: 12
 Cross-sections included: 5
 Total pool (balanced) observations: 60
 Swamy and Arora estimator of component variances

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	14.16379	1.163380	12.17470	0.0000
LNIM?	-0.029779	0.106583	-0.279397	0.7810
LNEX?	0.289397	0.088004	3.288443	0.0017
Random Effects				
(Cross)				
L--C	-3.669445			
M--C	4.177921			
V--C	-0.806199			
T--C	0.629564			
Y--C	-0.331842			
Effects Specification				
			S.D.	Rho
Cross-section random			2.391769	0.9878
Idiosyncratic random			0.265927	0.0122
Weighted Statistics				
R-squared	0.468811	Mean dependent var		0.527852
Adjusted R-squared	0.450173	S.D. dependent var		0.363697
S.E. of regression	0.269682	Sum squared resid		4.145527
F-statistic	25.15326	Durbin-Watson stat		0.312468
Prob(F-statistic)	0.000000			
Unweighted Statistics				
R-squared	0.135482	Mean dependent var		16.45444
Sum squared resid	389.4574	Durbin-Watson stat		0.003326

C5: The results of panel co-integration model-**Time random effects model**

Dependent Variable: LNGDP?
 Method: Pooled EGLS (Period random effects)
 Date: 09/15/12 Time: 10:16
 Sample: 1999 2010
 Included observations: 12
 Cross-sections included: 5
 Total pool (balanced) observations: 60
 Swamy and Arora estimator of component variances

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	1.584770	1.890197	0.838415	0.4053
LNIM?	1.745413	0.309765	5.634632	0.0000
LNEX?	-0.214088	0.223331	-0.958616	0.3418
Random Effects				
(Period)				
1999--C	0.000000			
2000--C	0.000000			
2001--C	0.000000			
2002--C	0.000000			
2003--C	0.000000			
2004--C	0.000000			
2005--C	0.000000			
2006--C	0.000000			
2007--C	0.000000			
2008--C	0.000000			
2009--C	0.000000			
2010--C	0.000000			

Effects Specification		S.D.	Rho
Period random		0.000000	0.0000
Idiosyncratic random		1.886378	1.0000

Weighted Statistics			
R-squared	0.499359	Mean dependent var	16.45444
Adjusted R-squared	0.481792	S.D. dependent var	2.763229
S.E. of regression	1.989156	Sum squared resid	225.5342
F-statistic	28.42699	Durbin-Watson stat	0.060449
Prob(F-statistic)	0.000000		

Unweighted Statistics			
R-squared	0.499359	Mean dependent var	16.45444
Sum squared resid	225.5342	Durbin-Watson stat	0.060449

C6: The results of redundant fixed effects tests- **Entity fixed effects model**

Redundant Fixed Effects Tests

Pool: POOL01

Test cross-section fixed effects

Effects Test	Statistic	d.f.	Prob.
Cross-section F	784.061867	(4,53)	0.0000
Cross-section Chi-square	245.834901	4	0.0000

C7: The results of redundant fixed effects tests- **Time and entity fixed effects model**

Redundant Fixed Effects Tests

Pool: POOL01

Test cross-section and period fixed effects

Effects Test	Statistic	d.f.	Prob.
Cross-section F	1356.556160	(4,42)	0.0000
Cross-section Chi-square	292.142380	4	0.0000
Period F	7.564334	(11,42)	0.0000
Period Chi-square	65.538247	11	0.0000
Cross-Section/Period F	499.487106	(15,42)	0.0000
Cross-Section/Period Chi-square	311.373148	15	0.0000

APPENDIX D

The original figures of the error-correction model (ECM)

Computed by Eviews 6

D1: The Error-correction model (ECM)-Dependent Variable is GDP

Dependent Variable: D(LNGDP)

Method: Panel Least Squares

Date: 09/15/12 Time: 10:59

Sample (adjusted): 2001 2010

Periods included: 10

Cross-sections included: 5

Total panel (balanced) observations: 50

Variable	Coefficient	Std. Error	t-Statistic	Prob.
D(LNGDP(-1))	0.661519	0.090910	7.276608	0.0000
D(LNIM(-1))	0.080022	0.040976	1.952899	0.0569
D(LNEX(-1))	0.018295	0.026624	0.687168	0.4954
ECM1(-1)	-0.252628	0.076353	-3.308684	0.0018
R-squared	0.399733	Mean dependent var		0.077346
Adjusted R-squared	0.360585	S.D. dependent var		0.090697
S.E. of regression	0.072524	Akaike info criterion		-2.333176
Sum squared resid	0.241949	Schwarz criterion		-2.180214
Log likelihood	62.32939	Hannan-Quinn criter.		-2.274927
Durbin-Watson stat	1.834379			

D2: The Error-correction model (ECM)-Dependent Variable is Import

Dependent Variable: D(LNIM)
Method: Panel Least Squares
Date: 09/15/12 Time: 11:01
Sample (adjusted): 2001 2010
Periods included: 10
Cross-sections included: 5
Total panel (balanced) observations: 50

Variable	Coefficient	Std. Error	t-Statistic	Prob.
D(LNGDP(-1))	0.471555	0.288136	1.636572	0.1085
D(LNIM(-1))	0.422036	0.134913	3.128203	0.0030
D(LNEX(-1))	0.135863	0.085785	1.583761	0.1201
ECM2(-1)	-1.298597	0.262342	-4.950011	0.0000
R-squared	0.098879	Mean dependent var		0.211902
Adjusted R-squared	0.040110	S.D. dependent var		0.234548
S.E. of regression	0.229796	Akaike info criterion		-0.026633
Sum squared resid	2.429080	Schwarz criterion		0.126328
Log likelihood	4.665837	Hannan-Quinn criter.		0.031615
Durbin-Watson stat	2.041876			

D3: The Error-correction model (ECM)-Dependent Variable is Export

Dependent Variable: D(LNEX)
Method: Panel Least Squares
Date: 09/15/12 Time: 11:02
Sample (adjusted): 2001 2010
Periods included: 10
Cross-sections included: 5
Total panel (balanced) observations: 50

Variable	Coefficient	Std. Error	t-Statistic	Prob.
D(LNGDP(-1))	0.573141	0.515674	1.111440	0.2722
D(LNIM(-1))	0.099738	0.219855	0.453652	0.6522
D(LNEX(-1))	0.313763	0.169469	1.851448	0.0705
ECM3(-1)	-0.778877	0.204939	-3.800532	0.0004
R-squared	0.046560	Mean dependent var		0.251476
Adjusted R-squared	-0.015621	S.D. dependent var		0.406778
S.E. of regression	0.409943	Akaike info criterion		1.131021
Sum squared resid	7.730447	Schwarz criterion		1.283983
Log likelihood	-24.27552	Hannan-Quinn criter.		1.189269
Durbin-Watson stat	1.882150			

CURRICULUM VITAE

Name Ms. Menglei Zhang

Date of Birth November 11th, 1985

Educational Background

2007-2010 Bachelor of Business Administration

Yonok University, Lampang, Thailand

2010-2012 Master of Economics

Chiang Mai University, Chiang Mai, Thailand

ลิขสิทธิ์มหาวิทยาลัยเชียงใหม่

Copyright © by Chiang Mai University
All rights reserved