ภาคผนวก

ภาคผนวก ก

ผลการทดสอบความนิ่งของข้อมูล (Unit Root Test)

1. ผลการทดสอบความนิ่งของข้อมูล (Unit Root Test) ของเงินทุนเคลื่อนย้ายระหว่างประเทศ

1.1 เงินทุนไหลเข้า

1) Level with intercept

Null Hypothesis: LNCAPIN has a unit root
Exogenous: Constant
Lag Length: 0 (Automatic - based on SIC, maxlag=13)

		t-Statistic	Prob.*
Augmented Dickey-Fuller test statistic		-4.143271	0.0011
Test critical values:	1% level	-3.472813	
	5% level	-2.880088	
	10% level	-2.576739	

*MacKinnon (1996) one-sided p-values.

Augmented Dickey-Fuller Test Equation
Dependent Variable: D(LNCAPIN)
Method: Least Squares
Date: 06/10/11 Time: 08:02
Sample (adjusted): 2 156
Included observations: 155 after adjustments

Variable	Coefficient	Std. Error	t-Statistic	Prob.
LNCAPIN(-1)	-0.193983	0.046819	-4.143271	0.0001
C	1.133483	0.273993	4.136912	0.0001

R-squared	0.100882	Mean dependent var	-0.001351
Adjusted R-squared	0.095005	S.D. dependent var	0.094093
S.E. of regression	0.089512	Akaike info criterion	-1.976068
Sum squared resid	1.225898	Schwarz criterion	-1.936798
Log likelihood	155.1453	Hannan-Quinn criter.	-1.960118
F-statistic	17.16669	Durbin-Watson stat	2.239867
Prob(F-statistic)	0.000056		

2) Level with Trend and Intercept

Null Hypothesis: LNCAPIN has a unit root
Exogenous: Constant, Linear Trend
Lag Length: 0 (Automatic - based on SIC, maxlag=13)

		t-Statistic	Prob.*
Augmented Dickey-Fuller test statistic		-4.429390	0.0027
Test critical values:	1% level	-4.018349	
	5% level	-3.439075	
	10% level	-3.143887	

*MacKinnon (1996) one-sided p-values.

Augmented Dickey-Fuller Test Equation
Dependent Variable: D(LNCAPIN)
Method: Least Squares
Date: 06/10/11 Time: 08:03
Sample (adjusted): 2 156
Included observations: 155 after adjustments

Variable	Coefficient	Std. Error	t-Statistic	Prob.
LNCAPIN(-1)	-0.214053	0.048326	-4.429390	0.0000
C	1.230624	0.279655	4.400508	0.0000
@TREND(1)	0.000260	0.000166	1.567086	0.1192

R-squared	0.115177	Mean dependent var	-0.001351
Adjusted R-squared	0.103535	S.D. dependent var	0.094093
S.E. of regression	0.089089	Akaike info criterion	-1.979192
Sum squared resid	1.206407	Schwarz criterion	-1.920287
Log likelihood	156.3874	Hannan-Quinn criter.	-1.955266
F-statistic	9.892893	Durbin-Watson stat	2.229727
Prob(F-statistic)	0.000091		

3) Level with None

Null Hypothesis: LNCAPIN has a unit root
Exogenous: None
Lag Length: 1 (Automatic - based on SIC, maxlag=13)

		t-Statistic	Prob.*
Augmented Dickey-Fuller test statistic		-0.323877	0.5673
Test critical values:	1% level	-2.580065	
	5% level	-1.942910	
	10% level	-1.615334	

*MacKinnon (1996) one-sided p-values.

Augmented Dickey-Fuller Test Equation
Dependent Variable: D(LNCAPIN)
Method: Least Squares
Date: 06/10/11 Time: 08:03
Sample (adjusted): 3 156
Included observations: 154 after adjustments

Variable	Coefficient	Std. Error	t-Statistic	Prob.
LNCAPIN(-1)	-0.000411	0.001270	-0.323877	0.7465
D(LNCAPIN(-1))	-0.226002	0.078981	-2.861494	0.0048

R-squared	0.051433	Mean dependent var	-0.001473
Adjusted R-squared	0.045192	S.D. dependent var	0.094388
S.E. of regression	0.092230	Akaike info criterion	-1.916151
Sum squared resid	1.292981	Schwarz criterion	-1.876710
Log likelihood	149.5436	Hannan-Quinn criter.	-1.900130
Durbin-Watson stat	1.976499		

4) 1st difference with Intercept

Null Hypothesis: D(LNCAPIN) has a unit root
Exogenous: Constant
Lag Length: 0 (Automatic - based on SIC, maxlag=13)

		t-Statistic	Prob.*
Augmented Dickey-Fuller test statistic		-15.52043	0.0000
Test critical values:	1% level	-3.473096	
	5% level	-2.880211	
	10% level	-2.576805	

*MacKinnon (1996) one-sided p-values.

Augmented Dickey-Fuller Test Equation
Dependent Variable: D(LNCAPIN,2)
Method: Least Squares
Date: 06/10/11 Time: 08:04
Sample (adjusted): 3 156
Included observations: 154 after adjustments

Variable	Coefficient	Std. Error	t-Statistic	Prob.
D(LNCAPIN(-1))	-1.226104	0.078999	-15.52043	0.0000
C	-0.001780	0.007434	-0.239456	0.8111

R-squared	0.613117	Mean dependent var	-0.000116
Adjusted R-squared	0.610572	S.D. dependent var	0.147818
S.E. of regression	0.092245	Akaike info criterion	-1.915839
Sum squared resid	1.293385	Schwarz criterion	-1.876398
Log likelihood	149.5196	Hannan-Quinn criter.	-1.899818
F-statistic	240.8836	Durbin-Watson stat	1.976492
Prob(F-statistic)	0.000000		

5) 1st difference with Trend and Intercept

Null Hypothesis: D(LNCAPIN) has a unit root
Exogenous: Constant, Linear Trend
Lag Length: 0 (Automatic - based on SIC, maxlag=13)

		t-Statistic	Prob.*
Augmented Dickey-Fuller test statistic		-15.49139	0.0000
Test critical values:	1% level	-4.018748	
	5% level	-3.439267	
	10% level	-3.143999	

*MacKinnon (1996) one-sided p-values.

Augmented Dickey-Fuller Test Equation
Dependent Variable: D(LNCAPIN,2)
Method: Least Squares
Date: 06/10/11 Time: 08:05
Sample (adjusted): 3 156
Included observations: 154 after adjustments

Variable	Coefficient	Std. Error	t-Statistic	Prob.
D(LNCAPIN(-1))	-1.227381	0.079230	-15.49139	0.0000
C	-0.008560	0.015130	-0.565764	0.5724
@TREND(1)	8.63E-05	0.000168	0.514895	0.6074

R-squared	0.613795	Mean dependent var	-0.000116
Adjusted R-squared	0.608680	S.D. dependent var	0.147818
S.E. of regression	0.092469	Akaike info criterion	-1.904606
Sum squared resid	1.291118	Schwarz criterion	-1.845444
Log likelihood	149.6546	Hannan-Quinn criter.	-1.880575
F-statistic	119.9921	Durbin-Watson stat	1.977288
Prob(F-statistic)	0.000000		

6) 1st difference with None

Null Hypothesis: D(LNCAPIN) has a unit root
Exogenous: None
Lag Length: 0 (Automatic - based on SIC, maxlag=13)

		t-Statistic	Prob.*
Augmented Dickey-Fuller test statistic		-15.56661	0.0000
Test critical values:	1% level	-2.580065	
	5% level	-1.942910	
	10% level	-1.615334	

*MacKinnon (1996) one-sided p-values.

Augmented Dickey-Fuller Test Equation
Dependent Variable: D(LNCAPIN,2)
Method: Least Squares
Date: 06/10/11 Time: 08:05
Sample (adjusted): 3 156
Included observations: 154 after adjustments

Variable	Coefficient	Std. Error	t-Statistic	Prob.
D(LNCAPIN(-1))	-1.225831	0.078747	-15.56661	0.0000

R-squared	0.612971	Mean dependent var	-0.000116
Adjusted R-squared	0.612971	S.D. dependent var	0.147818
S.E. of regression	0.091960	Akaike info criterion	-1.928448
Sum squared resid	1.293873	Schwarz criterion	-1.908728
Log likelihood	149.4905	Hannan-Quinn criter.	-1.920438
Durbin-Watson stat	1.976319		

1.2 เงินทุนไหลออก

1) Level with Intercept

Null Hypothesis: LNCAPOUT has a unit root
Exogenous: Constant
Lag Length: 0 (Automatic - based on SIC, maxlag=13)

		t-Statistic	Prob.*
Augmented Dickey-Fuller test statistic		-4.192849	0.0009
Test critical values:	1% level	-3.472813	
	5% level	-2.880088	
	10% level	-2.576739	

*MacKinnon (1996) one-sided p-values.

Augmented Dickey-Fuller Test Equation
Dependent Variable: D(LNCAPOUT)
Method: Least Squares
Date: 06/10/11 Time: 08:07
Sample (adjusted): 2 156
Included observations: 155 after adjustments

Variable	Coefficient	Std. Error	t-Statistic	Prob.
LNCAPOUT(-1)	-0.196620	0.046894	-4.192849	0.0000
C	1.148957	0.274462	4.186216	0.0000

R-squared	0.103060	Mean dependent var	-0.001437
Adjusted R-squared	0.097198	S.D. dependent var	0.092807
S.E. of regression	0.088182	Akaike info criterion	-2.006019
Sum squared resid	1.189726	Schwarz criterion	-1.966749
Log likelihood	157.4665	Hannan-Quinn criter.	-1.990068
F-statistic	17.57998	Durbin-Watson stat	2.219377
Prob(F-statistic)	0.000046		

2) Level with Trend and Intercept

Null Hypothesis: LNCAPOUT has a unit root
Exogenous: Constant, Linear Trend
Lag Length: 0 (Automatic - based on SIC, maxlag=13)

		t-Statistic	Prob.*
Augmented Dickey-Fuller test statistic		-4.474138	0.0023
Test critical values:	1% level	-4.018349	
	5% level	-3.439075	
	10% level	-3.143887	

*MacKinnon (1996) one-sided p-values.

Augmented Dickey-Fuller Test Equation
Dependent Variable: D(LNCAPOUT)
Method: Least Squares
Date: 06/10/11 Time: 08:11
Sample (adjusted): 2 156
Included observations: 155 after adjustments

Variable	Coefficient	Std. Error	t-Statistic	Prob.
LNCAPOUT(-1)	-0.215834	0.048240	-4.474138	0.0000
C	1.241386	0.279391	4.443180	0.0000
@TREND(1)	0.000256	0.000163	1.573615	0.1177

R-squared	0.117438	Mean dependent var	-0.001437
Adjusted R-squared	0.105825	S.D. dependent var	0.092807
S.E. of regression	0.087759	Akaike info criterion	-2.009276
Sum squared resid	1.170654	Schwarz criterion	-1.950371
Log likelihood	158.7189	Hannan-Quinn criter.	-1.985350
F-statistic	10.11294	Durbin-Watson stat	2.211650
Prob(F-statistic)	0.000075		

3) Level with None

Null Hypothesis: LNCAPOUT has a unit root
Exogenous: None
Lag Length: 1 (Automatic - based on SIC, maxlag=13)

		t-Statistic	Prob.*
Augmented Dickey-Fuller test statistic		-0.328743	0.5655
Test critical values:	1% level	-2.580065	
	5% level	-1.942910	
	10% level	-1.615334	

*MacKinnon (1996) one-sided p-values.

Augmented Dickey-Fuller Test Equation
Dependent Variable: D(LNCAPOUT)
Method: Least Squares
Date: 06/10/11 Time: 08:11
Sample (adjusted): 3 156
Included observations: 154 after adjustments

Variable	Coefficient	Std. Error	t-Statistic	Prob.
LNCAPOUT(-1)	-0.000413	0.001256	-0.328743	0.7428
D(LNCAPOUT(-1))	-0.214788	0.079195	-2.712134	0.0075

R-squared	0.046478	Mean dependent var	-0.001481
Adjusted R-squared	0.040205	S.D. dependent var	0.093108
S.E. of regression	0.091217	Akaike info criterion	-1.938239
Sum squared resid	1.264735	Schwarz criterion	-1.898798
Log likelihood	151.2444	Hannan-Quinn criter.	-1.922218
Durbin-Watson stat	1.978859		

4) 1st difference with Intercept

Null Hypothesis: D(LNCAPOUT) has a unit root
Exogenous: Constant
Lag Length: 0 (Automatic - based on SIC, maxlag=13)

		t-Statistic	Prob.*
Augmented Dickey-Fuller test statistic		-15.33648	0.0000
Test critical values:	1% level	-3.473096	
	5% level	-2.880211	
	10% level	-2.576805	

*MacKinnon (1996) one-sided p-values.

Augmented Dickey-Fuller Test Equation
Dependent Variable: D(LNCAPOUT,2)
Method: Least Squares
Date: 09/23/11 Time: 00:26
Sample (adjusted): 3 156
Included observations: 154 after adjustments

Variable	Coefficient	Std. Error	t-Statistic	Prob.
D(LNCAPOUT(-1))	-1.214879	0.079215	-15.33648	0.0000
C	-0.001794	0.007353	-0.244020	0.8075

R-squared	0.607446	Mean dependent var	-2.10E-05
Adjusted R-squared	0.604863	S.D. dependent var	0.145135
S.E. of regression	0.091232	Akaike info criterion	-1.937920
Sum squared resid	1.265138	Schwarz criterion	-1.898479
Log likelihood	151.2198	Hannan-Quinn criter.	-1.921899
F-statistic	235.2076	Durbin-Watson stat	1.978864
Prob(F-statistic)	0.000000		

5) 1st difference with Trend and Intercept

Null Hypothesis: D(LNCAPOUT) has a unit root
Exogenous: Constant, Linear Trend
Lag Length: 0 (Automatic - based on SIC, maxlag=13)

		t-Statistic	Prob.*
Augmented Dickey-Fuller test statistic		-15.31079	0.0000
Test critical values:	1% level	-4.018748	
	5% level	-3.439267	
	10% level	-3.143999	

*MacKinnon (1996) one-sided p-values.

Augmented Dickey-Fuller Test Equation
Dependent Variable: D(LNCAPOUT,2)
Method: Least Squares
Date: 06/10/11 Time: 08:12
Sample (adjusted): 3 156
Included observations: 154 after adjustments

Variable	Coefficient	Std. Error	t-Statistic	Prob.
D(LNCAPOUT(-1))	-1.216384	0.079446	-15.31079	0.0000
C	-0.008909	0.014964	-0.595362	0.5525
@TREND(1)	9.06E-05	0.000166	0.546308	0.5857

R-squared	0.608220	Mean dependent var	-2.10E-05
Adjusted R-squared	0.603031	S.D. dependent var	0.145135
S.E. of regression	0.091443	Akaike info criterion	-1.926908
Sum squared resid	1.262643	Schwarz criterion	-1.867746
Log likelihood	151.3719	Hannan-Quinn criter.	-1.902876
F-statistic	117.2102	Durbin-Watson stat	1.979645
Prob(F-statistic)	0.000000		

6) 1st difference with None

Null Hypothesis: D(LNCAPOUT) has a unit root
Exogenous: None
Lag Length: 0 (Automatic - based on SIC, maxlag=13)

		t-Statistic	Prob.*
Augmented Dickey-Fuller test statistic		-15.38189	0.0000
Test critical values:	1% level	-2.580065	
	5% level	-1.942910	
	10% level	-1.615334	

*MacKinnon (1996) one-sided p-values.

Augmented Dickey-Fuller Test Equation
Dependent Variable: D(LNCAPOUT,2)
Method: Least Squares
Date: 06/10/11 Time: 08:13
Sample (adjusted): 3 156
Included observations: 154 after adjustments

Variable	Coefficient	Std. Error	t-Statistic	Prob.
D(LNCAPOUT(-1))	-1.214575	0.078961	-15.38189	0.0000

R-squared	0.607292	Mean dependent var	-2.10E-05
Adjusted R-squared	0.607292	S.D. dependent var	0.145135
S.E. of regression	0.090951	Akaike info criterion	-1.950515
Sum squared resid	1.265634	Schwarz criterion	-1.930795
Log likelihood	151.1897	Hannan-Quinn criter.	-1.942505
Durbin-Watson stat	1.978723		

2. ผลการทดสอบความนิ่งของข้อมูล (Unit Root Test) ของอัตราแลกเปลี่ยนเงินตราระหว่างประเทศ

2.1 อัตราแลกเปลี่ยนบาทต่อยูโร

1) Level with Intercept

Null Hypothesis: LNEURO has a unit root
Exogenous: Constant
Lag Length: 1 (Automatic - based on SIC, maxlag=13)

		t-Statistic	Prob.*
Augmented Dickey-Fuller test statistic		-1.903388	0.3301
Test critical values:	1% level	-3.473096	
	5% level	-2.880211	
	10% level	-2.576805	

*MacKinnon (1996) one-sided p-values.

Augmented Dickey-Fuller Test Equation
Dependent Variable: D(LNEURO)
Method: Least Squares
Date: 09/01/11 Time: 20:21
Sample (adjusted): 3 156
Included observations: 154 after adjustments

Variable	Coefficient	Std. Error	t-Statistic	Prob.
LNEURO(-1)	-0.041533	0.021821	-1.903388	0.0589
D(LNEURO(-1))	0.185203	0.078817	2.349790	0.0201
C	0.068099	0.036026	1.890251	0.0606

R-squared	0.051286	Mean dependent var	-0.000559
Adjusted R-squared	0.038720	S.D. dependent var	0.012085
S.E. of regression	0.011848	Akaike info criterion	-6.013966
Sum squared resid	0.021198	Schwarz criterion	-5.954804
Log likelihood	466.0754	Hannan-Quinn criter.	-5.989934
F-statistic	4.081430	Durbin-Watson stat	1.965298
Prob(F-statistic)	0.018781		

2) Level with Trend and Intercept

Null Hypothesis: LNEURO has a unit root
Exogenous: Constant, Linear Trend
Lag Length: 1 (Automatic - based on SIC, maxlag=13)

		t-Statistic	Prob.*
Augmented Dickey-Fuller test statistic		-2.090203	0.5468
Test critical values:	1% level	-4.018748	
	5% level	-3.439267	
	10% level	-3.143999	

*MacKinnon (1996) one-sided p-values.

Augmented Dickey-Fuller Test Equation
Dependent Variable: D(LNEURO)
Method: Least Squares
Date: 09/01/11 Time: 20:22
Sample (adjusted): 3 156
Included observations: 154 after adjustments

Variable	Coefficient	Std. Error	t-Statistic	Prob.
LNEURO(-1)	-0.053362	0.025530	-2.090203	0.0383
D(LNEURO(-1))	0.188678	0.078965	2.389384	0.0181
C	0.085857	0.041158	2.086024	0.0387
@TREND(1)	2.25E-05	2.51E-05	0.894214	0.3726

R-squared	0.056317	Mean dependent var	-0.000559
Adjusted R-squared	0.037443	S.D. dependent var	0.012085
S.E. of regression	0.011856	Akaike info criterion	-6.006295
Sum squared resid	0.021086	Schwarz criterion	-5.927413
Log likelihood	466.4847	Hannan-Quinn criter.	-5.974254
F-statistic	2.983882	Durbin-Watson stat	1.957423
Prob(F-statistic)	0.033203		

3) Level with None

Null Hypothesis: LNEURO has a unit root
Exogenous: None
Lag Length: 1 (Automatic - based on SIC, maxlag=13)

		t-Statistic	Prob.*
Augmented Dickey-Fuller test statistic		-0.515695	0.4918
Test critical values:	1% level	-2.580065	
	5% level	-1.942910	
	10% level	-1.615334	

*MacKinnon (1996) one-sided p-values.

Augmented Dickey-Fuller Test Equation
Dependent Variable: D(LNEURO)
Method: Least Squares
Date: 09/01/11 Time: 20:23
Sample (adjusted): 3 156
Included observations: 154 after adjustments

Variable	Coefficient	Std. Error	t-Statistic	Prob.
LNEURO(-1)	-0.000301	0.000584	-0.515695	0.6068
D(LNEURO(-1))	0.166570	0.078857	2.112299	0.0363

R-squared	0.028837	Mean dependent var	-0.000559
Adjusted R-squared	0.022448	S.D. dependent var	0.012085
S.E. of regression	0.011948	Akaike info criterion	-6.003566
Sum squared resid	0.021700	Schwarz criterion	-5.964125
Log likelihood	464.2746	Hannan-Quinn criter.	-5.987545
Durbin-Watson stat	1.971311		

4) 1st difference with Intercept

Null Hypothesis: D(LNEURO) has a unit root
Exogenous: Constant
Lag Length: 0 (Automatic - based on SIC, maxlag=13)

		t-Statistic	Prob.*
Augmented Dickey-Fuller test statistic		-10.56432	0.0000
Test critical values:	1% level	-3.473096	
	5% level	-2.880211	
	10% level	-2.576805	

*MacKinnon (1996) one-sided p-values.

Augmented Dickey-Fuller Test Equation
Dependent Variable: D(LNEURO,2)
Method: Least Squares
Date: 09/01/11 Time: 20:24
Sample (adjusted): 3 156
Included observations: 154 after adjustments

Variable	Coefficient	Std. Error	t-Statistic	Prob.
D(LNEURO(-1))	-0.833352	0.078884	-10.56432	0.0000
C	-0.000449	0.000964	-0.465689	0.6421

R-squared	0.423379	Mean dependent var	0.000101
Adjusted R-squared	0.419586	S.D. dependent var	0.015686
S.E. of regression	0.011950	Akaike info criterion	-6.003243
Sum squared resid	0.021707	Schwarz criterion	-5.963802
Log likelihood	464.2497	Hannan-Quinn criter.	-5.987223
F-statistic	111.6048	Durbin-Watson stat	1.971449
Prob(F-statistic)	0.000000		

5) 1st difference with Trend and Intercept

Null Hypothesis: D(LNEURO) has a unit root
Exogenous: Constant, Linear Trend
Lag Length: 0 (Automatic - based on SIC, maxlag=13)

		t-Statistic	Prob.*
Augmented Dickey-Fuller test statistic		-10.52376	0.0000
Test critical values:	1% level	-4.018748	
	5% level	-3.439267	
	10% level	-3.143999	

*MacKinnon (1996) one-sided p-values.

Augmented Dickey-Fuller Test Equation
Dependent Variable: D(LNEURO,2)
Method: Least Squares
Date: 09/01/11 Time: 20:24
Sample (adjusted): 3 156
Included observations: 154 after adjustments

Variable	Coefficient	Std. Error	t-Statistic	Prob.
D(LNEURO(-1))	-0.832970	0.079151	-10.52376	0.0000
C	-7.63E-05	0.001962	-0.038864	0.9691
@TREND(1)	-4.75E-06	2.17E-05	-0.218368	0.8274

R-squared	0.423561	Mean dependent var	0.000101
Adjusted R-squared	0.415926	S.D. dependent var	0.015686
S.E. of regression	0.011988	Akaike info criterion	-5.990572
Sum squared resid	0.021700	Schwarz criterion	-5.931411
Log likelihood	464.2741	Hannan-Quinn criter.	-5.966541
F-statistic	55.47663	Durbin-Watson stat	1.972786
Prob(F-statistic)	0.000000		

6) 1st difference with None

Null Hypothesis: D(LNEURO) has a unit root
Exogenous: None
Lag Length: 0 (Automatic - based on SIC, maxlag=13)

		t-Statistic	Prob.*
Augmented Dickey-Fuller test statistic		-10.58169	0.0000
Test critical values:	1% level	-2.580065	
	5% level	-1.942910	
	10% level	-1.615334	

*MacKinnon (1996) one-sided p-values.

Augmented Dickey-Fuller Test Equation
Dependent Variable: D(LNEURO,2)
Method: Least Squares
Date: 09/01/11 Time: 20:25
Sample (adjusted): 3 156
Included observations: 154 after adjustments

Variable	Coefficient	Std. Error	t-Statistic	Prob.
D(LNEURO(-1))	-0.831367	0.078567	-10.58169	0.0000

R-squared	0.422557	Mean dependent var	0.000101
Adjusted R-squared	0.422557	S.D. dependent var	0.015686
S.E. of regression	0.011920	Akaike info criterion	-6.014805
Sum squared resid	0.021738	Schwarz criterion	-5.995084
Log likelihood	464.1400	Hannan-Quinn criter.	-6.006794
Durbin-Watson stat	1.972271		

2.2 อัตราแลกเปลี่ยนบาทต่อเยน

1) Level with Intercept

Null Hypothesis: LNJAP has a unit root
Exogenous: Constant
Lag Length: 1 (Automatic - based on SIC, maxlag=13)

		t-Statistic	Prob.*
Augmented Dickey-Fuller test statistic		-3.020569	0.0352
Test critical values:	1% level	-3.473096	
	5% level	-2.880211	
	10% level	-2.576805	

*MacKinnon (1996) one-sided p-values.

Augmented Dickey-Fuller Test Equation
Dependent Variable: D(LNJAP)
Method: Least Squares
Date: 06/10/11 Time: 08:17
Sample (adjusted): 3 156
Included observations: 154 after adjustments

Variable	Coefficient	Std. Error	t-Statistic	Prob.
LNJAP(-1)	-0.067506	0.022349	-3.020569	0.0030
D(LNJAP(-1))	0.436519	0.067220	6.493914	0.0000
C	0.103866	0.034358	3.022996	0.0029

R-squared	0.237924	Mean dependent var	-4.27E-05
Adjusted R-squared	0.227830	S.D. dependent var	0.011820
S.E. of regression	0.010386	Akaike info criterion	-6.277339
Sum squared resid	0.016290	Schwarz criterion	-6.218178
Log likelihood	486.3551	Hannan-Quinn criter.	-6.253308
F-statistic	23.57149	Durbin-Watson stat	2.137215
Prob(F-statistic)	0.000000		

2) Level with Trend and Intercept

Null Hypothesis: LNJAP has a unit root
Exogenous: Constant, Linear Trend
Lag Length: 1 (Automatic - based on SIC, maxlag=13)

		t-Statistic	Prob.*
Augmented Dickey-Fuller test statistic		-3.012254	0.1323
Test critical values:	1% level	-4.018748	
	5% level	-3.439267	
	10% level	-3.143999	

*MacKinnon (1996) one-sided p-values.

Augmented Dickey-Fuller Test Equation
Dependent Variable: D(LNJAP)
Method: Least Squares
Date: 06/10/11 Time: 08:19
Sample (adjusted): 3 156
Included observations: 154 after adjustments

Variable	Coefficient	Std. Error	t-Statistic	Prob.
LNJAP(-1)	-0.067549	0.022425	-3.012254	0.0030
D(LNJAP(-1))	0.435748	0.067718	6.434775	0.0000
C	0.103743	0.034485	3.008356	0.0031
@TREND(1)	2.39E-05	1.90E-05	0.125822	0.9000

R-squared	0.238004	Mean dependent var	-4.27E-05
Adjusted R-squared	0.222765	S.D. dependent var	0.011820
S.E. of regression	0.010420	Akaike info criterion	-6.264457
Sum squared resid	0.016288	Schwarz criterion	-6.185576
Log likelihood	486.3632	Hannan-Quinn criter.	-6.232416
F-statistic	15.61718	Durbin-Watson stat	2.135614
Prob(F-statistic)	0.000000		

3) Level with None

Null Hypothesis: LNJAP has a unit root
Exogenous: None
Lag Length: 1 (Automatic - based on SIC, maxlag=13)

		t-Statistic	Prob.*
Augmented Dickey-Fuller test statistic		0.061125	0.7008
Test critical values:	1% level	-2.580065	
	5% level	-1.942910	
	10% level	-1.615334	

*MacKinnon (1996) one-sided p-values.

Augmented Dickey-Fuller Test Equation
Dependent Variable: D(LNJAP)
Method: Least Squares
Date: 09/23/11 Time: 23:30
Sample (adjusted): 3 156
Included observations: 154 after adjustments

Variable	Coefficient	Std. Error	t-Statistic	Prob.
LNJAP(-1)	3.42E-05	0.000559	0.061125	0.9513
D(LNJAP(-1))	0.411091	0.068453	6.005405	0.0000

R-squared	0.191803	Mean dependent var	-4.27E-05
Adjusted R-squared	0.186486	S.D. dependent var	0.011820
S.E. of regression	0.010661	Akaike info criterion	-6.231567
Sum squared resid	0.017276	Schwarz criterion	-6.192126
Log likelihood	481.8306	Hannan-Quinn criter.	-6.215546
Durbin-Watson stat	2.107242		

4) 1st difference with Intercept

Null Hypothesis: D(LNJAP) has a unit root
Exogenous: Constant
Lag Length: 0 (Automatic - based on SIC, maxlag=13)

		t-Statistic	Prob.*
Augmented Dickey-Fuller test statistic		-8.600318	0.0000
Test critical values:	1% level	-3.473096	
	5% level	-2.880211	
	10% level	-2.576805	

*MacKinnon (1996) one-sided p-values.

Augmented Dickey-Fuller Test Equation
Dependent Variable: D(LNJAP,2)
Method: Least Squares
Date: 06/10/11 Time: 08:20
Sample (adjusted): 3 156
Included observations: 154 after adjustments

Variable	Coefficient	Std. Error	t-Statistic	Prob.
D(LNJAP(-1))	-0.588747	0.068456	-8.600318	0.0000
C	0.000114	0.000859	0.132889	0.8945

R-squared	0.327331	Mean dependent var	0.000339
Adjusted R-squared	0.322905	S.D. dependent var	0.012955
S.E. of regression	0.010660	Akaike info criterion	-6.231658
Sum squared resid	0.017274	Schwarz criterion	-6.192217
Log likelihood	481.8377	Hannan-Quinn criter.	-6.215637
F-statistic	73.96547	Durbin-Watson stat	2.107702
Prob(F-statistic)	0.000000		

5) 1st difference with Trend and Intercept

Null Hypothesis: D(LNJAP) has a unit root
Exogenous: Constant, Linear Trend
Lag Length: 0 (Automatic - based on SIC, maxlag=13)

		t-Statistic	Prob.*
Augmented Dickey-Fuller test statistic		-8.542303	0.0000
Test critical values:	1% level	-4.018748	
	5% level	-3.439267	
	10% level	-3.143999	

*MacKinnon (1996) one-sided p-values.

Augmented Dickey-Fuller Test Equation
Dependent Variable: D(LNJAP,2)
Method: Least Squares
Date: 06/10/11 Time: 08:21
Sample (adjusted): 3 156
Included observations: 154 after adjustments

Variable	Coefficient	Std. Error	t-Statistic	Prob.
D(LNJAP(-1))	-0.589252	0.068980	-8.542303	0.0000
C	-6.33E-06	0.001757	-0.003602	0.9971
@TREND(1)	1.53E-06	1.95E-05	0.078733	0.9373

R-squared	0.327358	Mean dependent var	0.000339
Adjusted R-squared	0.318449	S.D. dependent var	0.012955
S.E. of regression	0.010695	Akaike info criterion	-6.218712
Sum squared resid	0.017273	Schwarz criterion	-6.159551
Log likelihood	481.8408	Hannan-Quinn criter.	-6.194681
F-statistic	36.74403	Durbin-Watson stat	2.106711
Prob(F-statistic)	0.000000		

6) 1st difference with None

Null Hypothesis: D(LNJAP) has a unit root
Exogenous: None
Lag Length: 0 (Automatic - based on SIC, maxlag=13)

		t-Statistic	Prob.*
Augmented Dickey-Fuller test statistic		-8.636099	0.0000
Test critical values:	1% level	-2.580065	
	5% level	-1.942910	
	10% level	-1.615334	

*MacKinnon (1996) one-sided p-values.

Augmented Dickey-Fuller Test Equation
Dependent Variable: D(LNJAP,2)
Method: Least Squares
Date: 06/10/11 Time: 08:21
Sample (adjusted): 3 156
Included observations: 154 after adjustments

Variable	Coefficient	Std. Error	t-Statistic	Prob.
D(LNJAP(-1))	-0.589023	0.068205	-8.636099	0.0000

R-squared	0.327253	Mean dependent var	0.000339
Adjusted R-squared	0.327253	S.D. dependent var	0.012955
S.E. of regression	0.010626	Akaike info criterion	-6.244529
Sum squared resid	0.017276	Schwarz criterion	-6.224809
Log likelihood	481.8287	Hannan-Quinn criter.	-6.236519
Durbin-Watson stat	2.106871		

2.3 อัตราแลกเปลี่ยนบาทต่อดอลลาร์สิงคโปร์

1) Level with Intercept

Null Hypothesis: LNSIN has a unit root
Exogenous: Constant
Lag Length: 1 (Automatic - based on SIC, maxlag=13)

		t-Statistic	Prob.*
Augmented Dickey-Fuller test statistic		-4.522193	0.0003
Test critical values:	1% level	-3.473096	
	5% level	-2.880211	
	10% level	-2.576805	

*MacKinnon (1996) one-sided p-values.

Augmented Dickey-Fuller Test Equation
Dependent Variable: D(LNSIN)
Method: Least Squares
Date: 09/23/11 Time: 00:39
Sample (adjusted): 3 156
Included observations: 154 after adjustments

Variable	Coefficient	Std. Error	t-Statistic	Prob.
LNSIN(-1)	-0.125903	0.027841	-4.522193	0.0000
D(LNSIN(-1))	0.391184	0.060813	6.432612	0.0000
C	0.172691	0.038233	4.516749	0.0000

R-squared	0.312144	Mean dependent var	-0.000534
Adjusted R-squared	0.303034	S.D. dependent var	0.006753
S.E. of regression	0.005638	Akaike info criterion	-7.499459
Sum squared resid	0.004799	Schwarz criterion	-7.440297
Log likelihood	580.4583	Hannan-Quinn criter.	-7.475428
F-statistic	34.26142	Durbin-Watson stat	2.141406
Prob(F-statistic)	0.000000		

2) Level with Trend and Intercept

Null Hypothesis: LNSIN has a unit root
Exogenous: Constant, Linear Trend
Lag Length: 1 (Automatic - based on SIC, maxlag=13)

		t-Statistic	Prob.*
Augmented Dickey-Fuller test statistic		-4.497623	0.0021
Test critical values:	1% level	-4.018748	
	5% level	-3.439267	
	10% level	-3.143999	

*MacKinnon (1996) one-sided p-values.

Augmented Dickey-Fuller Test Equation
Dependent Variable: D(LNSIN)
Method: Least Squares
Date: 09/23/11 Time: 00:40
Sample (adjusted): 3 156
Included observations: 154 after adjustments

Variable	Coefficient	Std. Error	t-Statistic	Prob.
LNSIN(-1)	-0.125644	0.027936	-4.497623	0.0000
D(LNSIN(-1))	0.388243	0.061674	6.295062	0.0000
C	0.172071	0.038396	4.481511	0.0000
@TREND(1)	3.34E-06	1.04E-05	0.322004	0.7479

R-squared	0.312620	Mean dependent var	-0.000534
Adjusted R-squared	0.298872	S.D. dependent var	0.006753
S.E. of regression	0.005654	Akaike info criterion	-7.487163
Sum squared resid	0.004796	Schwarz criterion	-7.408281
Log likelihood	580.5115	Hannan-Quinn criter.	-7.455121
F-statistic	22.73993	Durbin-Watson stat	2.136697
Prob(F-statistic)	0.000000		

3) Level with None

Null Hypothesis: LNSIN has a unit root
Exogenous: None
Lag Length: 1 (Automatic - based on SIC, maxlag=13)

		t-Statistic	Prob.*
Augmented Dickey-Fuller test statistic		-0.454459	0.5167
Test critical values:	1% level	-2.580065	
	5% level	-1.942910	
	10% level	-1.615334	

*MacKinnon (1996) one-sided p-values.

Augmented Dickey-Fuller Test Equation
Dependent Variable: D(LNSIN)
Method: Least Squares
Date: 09/23/11 Time: 00:41
Sample (adjusted): 3 156
Included observations: 154 after adjustments

Variable	Coefficient	Std. Error	t-Statistic	Prob.
LNSIN(-1)	-0.000161	0.000353	-0.454459	0.6501
D(LNSIN(-1))	0.419029	0.064245	6.522413	0.0000

R-squared	0.219211	Mean dependent var	-0.000534
Adjusted R-squared	0.214074	S.D. dependent var	0.006753
S.E. of regression	0.005986	Akaike info criterion	-7.385720
Sum squared resid	0.005447	Schwarz criterion	-7.346279
Log likelihood	570.7004	Hannan-Quinn criter.	-7.369699
Durbin-Watson stat	2.214217		

4) 1st difference with Intercept

Null Hypothesis: D(LNSIN) has a unit root
Exogenous: Constant
Lag Length: 0 (Automatic - based on SIC, maxlag=13)

		t-Statistic	Prob.*
Augmented Dickey-Fuller test statistic		-9.037026	0.0000
Test critical values:	1% level	-3.473096	
	5% level	-2.880211	
	10% level	-2.576805	

*MacKinnon (1996) one-sided p-values.

Augmented Dickey-Fuller Test Equation
Dependent Variable: D(LNSIN,2)
Method: Least Squares
Date: 09/23/11 Time: 00:41
Sample (adjusted): 3 156
Included observations: 154 after adjustments

Variable	Coefficient	Std. Error	t-Statistic	Prob.
D(LNSIN(-1))	-0.580586	0.064245	-9.037026	0.0000
C	-0.000196	0.000485	-0.403539	0.6871

R-squared	0.349504	Mean dependent var	0.000272
Adjusted R-squared	0.345224	S.D. dependent var	0.007399
S.E. of regression	0.005987	Akaike info criterion	-7.385433
Sum squared resid	0.005449	Schwarz criterion	-7.345992
Log likelihood	570.6783	Hannan-Quinn criter.	-7.369412
F-statistic	81.66783	Durbin-Watson stat	2.214822
Prob(F-statistic)	0.000000		

5) 1st difference with Trend and Intercept

Null Hypothesis: D(LNSIN) has a unit root
Exogenous: Constant, Linear Trend
Lag Length: 0 (Automatic - based on SIC, maxlag=13)

		t-Statistic	Prob.*
Augmented Dickey-Fuller test statistic		-8.972865	0.0000
Test critical values:	1% level	-4.018748	
	5% level	-3.439267	
	10% level	-3.143999	

*MacKinnon (1996) one-sided p-values.

Augmented Dickey-Fuller Test Equation
Dependent Variable: D(LNSIN,2)
Method: Least Squares
Date: 09/23/11 Time: 00:42
Sample (adjusted): 3 156
Included observations: 154 after adjustments

Variable	Coefficient	Std. Error	t-Statistic	Prob.
D(LNSIN(-1))	-0.584791	0.065173	-8.972865	0.0000
C	-0.000567	0.000999	-0.567482	0.5712
@TREND(1)	4.68E-06	1.10E-05	0.425306	0.6712

R-squared	0.350282	Mean dependent var	0.000272
Adjusted R-squared	0.341677	S.D. dependent var	0.007399
S.E. of regression	0.006004	Akaike info criterion	-7.373643
Sum squared resid	0.005442	Schwarz criterion	-7.314481
Log likelihood	570.7705	Hannan-Quinn criter.	-7.349612
F-statistic	40.70431	Durbin-Watson stat	2.207942
Prob(F-statistic)	0.000000		

6) 1st difference with None

Null Hypothesis: D(LNSIN) has a unit root
Exogenous: None
Lag Length: 0 (Automatic - based on SIC, maxlag=13)

		t-Statistic	Prob.*
Augmented Dickey-Fuller test statistic		-9.070504	0.0000
Test critical values:	1% level	-2.580065	
	5% level	-1.942910	
	10% level	-1.615334	

*MacKinnon (1996) one-sided p-values.

Augmented Dickey-Fuller Test Equation
Dependent Variable: D(LNSIN,2)
Method: Least Squares
Date: 09/23/11 Time: 00:42
Sample (adjusted): 3 156
Included observations: 154 after adjustments

Variable	Coefficient	Std. Error	t-Statistic	Prob.
D(LNSIN(-1))	-0.577818	0.063703	-9.070504	0.0000

R-squared	0.348807	Mean dependent var	0.000272
Adjusted R-squared	0.348807	S.D. dependent var	0.007399
S.E. of regression	0.005971	Akaike info criterion	-7.397349
Sum squared resid	0.005455	Schwarz criterion	-7.377628
Log likelihood	570.5959	Hannan-Quinn criter.	-7.389339
Durbin-Watson stat	2.218722		

2.4 อัตราแลกเปลี่ยนบาทต่อดอลลาร์สหรัฐ

1) Level with Intercept

Null Hypothesis: LNUSA has a unit root
Exogenous: Constant
Lag Length: 1 (Automatic - based on SIC, maxlag=13)

		t-Statistic	Prob.*
Augmented Dickey-Fuller test statistic		-1.189807	0.6782
Test critical values:	1% level	-3.473096	
	5% level	-2.880211	
	10% level	-2.576805	

*MacKinnon (1996) one-sided p-values.

Augmented Dickey-Fuller Test Equation
Dependent Variable: D(LNUSA)
Method: Least Squares
Date: 06/10/11 Time: 08:26
Sample (adjusted): 3 156
Included observations: 154 after adjustments

Variable	Coefficient	Std. Error	t-Statistic	Prob.
LNUSA(-1)	-0.015863	0.013332	-1.189807	0.2360
D(LNUSA(-1))	0.431062	0.060259	7.153506	0.0000
C	0.024606	0.021109	1.165684	0.2456

R-squared	0.256173	Mean dependent var	-0.001207
Adjusted R-squared	0.246321	S.D. dependent var	0.008628
S.E. of regression	0.007490	Akaike info criterion	-6.931126
Sum squared resid	0.008472	Schwarz criterion	-6.871964
Log likelihood	536.6967	Hannan-Quinn criter.	-6.907094
F-statistic	26.00215	Durbin-Watson stat	2.134632
Prob(F-statistic)	0.000000		

2) Level with Trend and Intercept

Null Hypothesis: LNUSA has a unit root
Exogenous: Constant, Linear Trend
Lag Length: 1 (Automatic - based on SIC, maxlag=13)

		t-Statistic	Prob.*
Augmented Dickey-Fuller test statistic		-2.438088	0.3586
Test critical values:	1% level	-4.018748	
	5% level	-3.439267	
	10% level	-3.143999	

*MacKinnon (1996) one-sided p-values.

Augmented Dickey-Fuller Test Equation
Dependent Variable: D(LNUSA)
Method: Least Squares
Date: 06/10/11 Time: 08:26
Sample (adjusted): 3 156
Included observations: 154 after adjustments

Variable	Coefficient	Std. Error	t-Statistic	Prob.
LNUSA(-1)	-0.045935	0.018841	-2.438088	0.0159
D(LNUSA(-1))	0.444743	0.059796	7.437614	0.0000
C	0.075578	0.030926	2.443849	0.0157
@TREND(1)	-4.28E-05	1.92E-05	-2.230445	0.0272

R-squared	0.280051	Mean dependent var	-0.001207
Adjusted R-squared	0.265652	S.D. dependent var	0.008628
S.E. of regression	0.007394	Akaike info criterion	-6.950766
Sum squared resid	0.008200	Schwarz criterion	-6.871885
Log likelihood	539.2090	Hannan-Quinn criter.	-6.918725
F-statistic	19.44937	Durbin-Watson stat	2.164401
Prob(F-statistic)	0.000000		

3) Level with None

Null Hypothesis: LNUSA has a unit root
Exogenous: None
Lag Length: 1 (Automatic - based on SIC, maxlag=13)

		t-Statistic	Prob.*
Augmented Dickey-Fuller test statistic		-0.848277	0.3470
Test critical values:	1% level	-2.580065	
	5% level	-1.942910	
	10% level	-1.615334	

*MacKinnon (1996) one-sided p-values.

Augmented Dickey-Fuller Test Equation
Dependent Variable: D(LNUSA)
Method: Least Squares
Date: 06/10/11 Time: 08:26
Sample (adjusted): 3 156
Included observations: 154 after adjustments

Variable	Coefficient	Std. Error	t-Statistic	Prob.
LNUSA(-1)	-0.000328	0.000387	-0.848277	0.3976
D(LNUSA(-1))	0.427996	0.060272	7.101033	0.0000

R-squared	0.249480	Mean dependent var	-0.001207
Adjusted R-squared	0.244542	S.D. dependent var	0.008628
S.E. of regression	0.007499	Akaike info criterion	-6.935154
Sum squared resid	0.008548	Schwarz criterion	-6.895713
Log likelihood	536.0069	Hannan-Quinn criter.	-6.919133
Durbin-Watson stat	2.144998		

4) 1st difference with Intercept

Null Hypothesis: D(LNUSA) has a unit root
Exogenous: Constant
Lag Length: 0 (Automatic - based on SIC, maxlag=13)

		t-Statistic	Prob.*
Augmented Dickey-Fuller test statistic		-9.482152	0.0000
Test critical values:	1% level	-3.473096	
	5% level	-2.880211	
	10% level	-2.576805	

*MacKinnon (1996) one-sided p-values.

Augmented Dickey-Fuller Test Equation
Dependent Variable: D(LNUSA,2)
Method: Least Squares
Date: 06/10/11 Time: 08:27
Sample (adjusted): 3 156
Included observations: 154 after adjustments

Variable	Coefficient	Std. Error	t-Statistic	Prob.
D(LNUSA(-1))	-0.571730	0.060295	-9.482152	0.0000
C	-0.000499	0.000613	-0.814026	0.4169

R-squared	0.371670	Mean dependent var	0.000447
Adjusted R-squared	0.367537	S.D. dependent var	0.009431
S.E. of regression	0.007501	Akaike info criterion	-6.934781
Sum squared resid	0.008551	Schwarz criterion	-6.895340
Log likelihood	535.9782	Hannan-Quinn criter.	-6.918760
F-statistic	89.91121	Durbin-Watson stat	2.145515
Prob(F-statistic)	0.000000		

5) 1st difference with Trend and Intercept

Null Hypothesis: D(LNUSA) has a unit root
Exogenous: Constant, Linear Trend
Lag Length: 0 (Automatic - based on SIC, maxlag=13)

		t-Statistic	Prob.*
Augmented Dickey-Fuller test statistic		-9.426106	0.0000
Test critical values:	1% level	-4.018748	
	5% level	-3.439267	
	10% level	-3.143999	

*MacKinnon (1996) one-sided p-values.

Augmented Dickey-Fuller Test Equation
Dependent Variable: D(LNUSA,2)
Method: Least Squares
Date: 06/10/11 Time: 08:27
Sample (adjusted): 3 156
Included observations: 154 after adjustments

Variable	Coefficient	Std. Error	t-Statistic	Prob.
D(LNUSA(-1))	-0.569903	0.060460	-9.426106	0.0000
C	0.000237	0.001237	0.191221	0.8486
@TREND(1)	-9.33E-06	1.36E-05	-0.684241	0.4949

R-squared	0.373612	Mean dependent var	0.000447
Adjusted R-squared	0.365316	S.D. dependent var	0.009431
S.E. of regression	0.007514	Akaike info criterion	-6.924890
Sum squared resid	0.008525	Schwarz criterion	-6.865729
Log likelihood	536.2165	Hannan-Quinn criter.	-6.900859
F-statistic	45.03241	Durbin-Watson stat	2.155966
Prob(F-statistic)	0.000000		

6) 1st difference with None

Null Hypothesis: D(LNUSA) has a unit root
Exogenous: None
Lag Length: 0 (Automatic - based on SIC, maxlag=13)

		t-Statistic	Prob.*
Augmented Dickey-Fuller test statistic		-9.486559	0.0000
Test critical values:	1% level	-2.580065	
	5% level	-1.942910	
	10% level	-1.615334	

*MacKinnon (1996) one-sided p-values.

Augmented Dickey-Fuller Test Equation
Dependent Variable: D(LNUSA,2)
Method: Least Squares
Date: 06/10/11 Time: 08:28
Sample (adjusted): 3 156
Included observations: 154 after adjustments

Variable	Coefficient	Std. Error	t-Statistic	Prob.
D(LNUSA(-1))	-0.563736	0.059425	-9.486559	0.0000

R-squared	0.368931	Mean dependent var	0.000447
Adjusted R-squared	0.368931	S.D. dependent var	0.009431
S.E. of regression	0.007492	Akaike info criterion	-6.943418
Sum squared resid	0.008589	Schwarz criterion	-6.923698
Log likelihood	535.6432	Hannan-Quinn criter.	-6.935408
Durbin-Watson stat	2.152534		

ภาคผนวก ข

ผลการประมาณแบบจำลอง Autoregressive Moving Average (ARMA(p,q))

1. ผลการประมาณแบบจำลอง (ARMA(p,q)) ของเงินทุนเคลื่อนย้ายระหว่างประเทศ

1.1 เงินทุนไหลเข้า

Dependent Variable: D(LNCAPIN)
Method: Least Squares
Date: 09/29/11 Time: 16:09
Sample (adjusted): 3 156
Included observations: 154 after adjustments
Convergence achieved after 10 iterations
MA Backcast: 2

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	-0.003165	0.015552	-0.203528	0.8390
AR(1)	-0.738014	0.183460	-4.022758	0.0001
MA(1)	0.583589	0.220791	2.643177	0.0091

R-squared	0.060479	Mean dependent var	-0.003392
Adjusted R-squared	0.048035	S.D. dependent var	0.217336
S.E. of regression	0.212052	Akaike info criterion	-0.244681
Sum squared resid	6.789879	Schwarz criterion	-0.185520
Log likelihood	21.84047	Hannan-Quinn criter.	-0.220650
F-statistic	4.860078	Durbin-Watson stat	2.093950
Prob(F-statistic)	0.009004		

Inverted AR Roots	-.74
Inverted MA Roots	-.58

1.2 เงินทุนไหลออก

Dependent Variable: D(LNCAPOUT)
Method: Least Squares
Date: 09/29/11 Time: 16:16
Sample (adjusted): 3 156
Included observations: 154 after adjustments
Convergence achieved after 9 iterations
MA Backcast: 2

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	-0.003362	0.015440	-0.217771	0.8279
AR(1)	-0.770868	0.171709	-4.489389	0.0000
MA(1)	0.624109	0.211782	2.946949	0.0037

R-squared	0.060511	Mean dependent var	-0.003409
Adjusted R-squared	0.048067	S.D. dependent var	0.214390
S.E. of regression	0.209174	Akaike info criterion	-0.272013
Sum squared resid	6.606816	Schwarz criterion	-0.212851
Log likelihood	23.94498	Hannan-Quinn criter.	-0.247981
F-statistic	4.862802	Durbin-Watson stat	2.076847
Prob(F-statistic)	0.008981		

Inverted AR Roots	-.77
Inverted MA Roots	-.62

2. ผลการประมาณแบบจำลอง (ARMA(p,q)) ของอัตราแลกเปลี่ยนเงินตราระหว่างประเทศ

2.1 อัตราแลกเปลี่ยนบาทต่อยูโร

Dependent Variable: D(LNEURO)
Method: Least Squares
Date: 09/29/11 Time: 16:20
Sample (adjusted): 4 156
Included observations: 153 after adjustments
Convergence achieved after 8 iterations
MA Backcast: 2 3

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	-0.000915	0.002095	-0.436829	0.6629
AR(2)	-0.451218	0.148377	-3.041036	0.0028
MA(2)	0.458439	0.164906	2.780001	0.0061

R-squared	0.059427	Mean dependent var	-0.000569
Adjusted R-squared	0.046886	S.D. dependent var	0.026444
S.E. of regression	0.025816	Akaike info criterion	-4.456194
Sum squared resid	0.099974	Schwarz criterion	-4.396773
Log likelihood	343.8988	Hannan-Quinn criter.	-4.432056
F-statistic	4.738646	Durbin-Watson stat	1.692157
Prob(F-statistic)	0.010103		

2.2 อัตราแลกเปลี่ยนบาทต่อเยน

Dependent Variable: D(LNJAP)
Method: Least Squares
Date: 09/29/11 Time: 16:54
Sample (adjusted): 3 156
Included observations: 154 after adjustments
Convergence achieved after 21 iterations
MA Backcast: 2

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	0.001410	0.003148	0.447910	0.6549
AR(1)	0.589194	0.094601	6.228182	0.0000
MA(1)	-0.344149	0.127161	-2.706408	0.0076

R-squared	0.222887	Mean dependent var	-9.82E-05
Adjusted R-squared	0.212594	S.D. dependent var	0.027216
S.E. of regression	0.024151	Akaike info criterion	-4.589734
Sum squared resid	0.088070	Schwarz criterion	-4.530572
Log likelihood	356.4095	Hannan-Quinn criter.	-4.565703
F-statistic	21.65441	Durbin-Watson stat	1.846543
Prob(F-statistic)	0.000000		

Inverted AR Roots	.59
Inverted MA Roots	.34

2.3 อัตราแลกเปลี่ยนบาทต่อดอลลาร์สิงคโปร์

Dependent Variable: D(LNSIN)
Method: Least Squares
Date: 09/29/11 Time: 17:01
Sample (adjusted): 4 156
Included observations: 153 after adjustments
Convergence achieved after 7 iterations
MA Backcast: 3

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	-0.000400	0.001743	-0.229587	0.8187
AR(2)	0.183801	0.070946	2.590698	0.0105
MA(1)	0.334076	0.080795	4.134883	0.0001

R-squared	0.118570	Mean dependent var	-0.000666
Adjusted R-squared	0.106817	S.D. dependent var	0.013934
S.E. of regression	0.013169	Akaike info criterion	-5.802465
Sum squared resid	0.026014	Schwarz criterion	-5.743045
Log likelihood	446.8886	Hannan-Quinn criter.	-5.778328
F-statistic	10.08897	Durbin-Watson stat	2.061349
Prob(F-statistic)	0.000077		

Inverted AR Roots	.43	-.43
Inverted MA Roots	-.33	

2.4 อัตราแลกเปลี่ยนบาทต่อดอลลาร์สหรัฐ

Dependent Variable: D(LNUSA)
Method: Least Squares
Date: 09/29/11 Time: 17:03
Sample (adjusted): 4 156
Included observations: 153 after adjustments
Convergence achieved after 6 iterations
MA Backcast: 3

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	-0.001758	0.002147	-0.818909	0.4141
AR(2)	0.141401	0.068921	2.051641	0.0419
MA(1)	0.351966	0.079792	4.411037	0.0000

R-squared	0.115964	Mean dependent var	-0.002056
Adjusted R-squared	0.104177	S.D. dependent var	0.017780
S.E. of regression	0.016828	Akaike info criterion	-5.312105
Sum squared resid	0.042478	Schwarz criterion	-5.252684
Log likelihood	409.3760	Hannan-Quinn criter.	-5.287967
F-statistic	9.838146	Durbin-Watson stat	2.031537
Prob(F-statistic)	0.000097		

Inverted AR Roots	.38	-.38
Inverted MA Roots	-.35	

ภาคผนวก ค

ผลการประมาณแบบจำลอง Generalized Autoregressive Conditional Heteroscedasticity: GARCH(1,1)

2. ผลการประมาณแบบจำลอง GARCH(1,1) ของเงินทุนเคลื่อนย้ายระหว่างประเทศ

2.1 เงินทุนไหลเข้า

Dependent Variable: LNCAPIN
Method: ML - ARCH (Marquardt) - Normal distribution
Date: 01/12/12 Time: 23:39
Sample (adjusted): 2 156
Included observations: 155 after adjustments
Convergence achieved after 26 iterations
MA Backcast: 1
Presample variance: backcast (parameter = 0.7)
GARCH = C(4) + C(5)*RESID(-1)^2 + C(6)*GARCH(-1)

Variable	Coefficient	Std. Error	z-Statistic	Prob.
C	5.872952	0.026317	223.1587	0.0000
AR(1)	0.839322	0.051196	16.39435	0.0000
MA(1)	-0.146000	0.107349	-1.360048	0.1738
Variance Equation				
C	-5.31E-06	4.93E-05	-0.107833	0.9141
RESID(-1)^2	0.104110	0.044776	2.325138	0.0201
GARCH(-1)	0.891224	0.037317	23.88270	0.0000

R-squared	0.663497	Mean dependent var	5.848834
Adjusted R-squared	0.659069	S.D. dependent var	0.152907
S.E. of regression	0.089281	Akaike info criterion	-2.298137
Sum squared resid	1.211619	Schwarz criterion	-2.180327
Log likelihood	184.1056	Hannan-Quinn criter.	-2.250285
Durbin-Watson stat	1.976797		

Inverted AR Roots	.84
Inverted MA Roots	.15

1.2 เงินทุนไหลออก

Dependent Variable: D(LNCAPOUT)
Method: ML - ARCH (Marquardt) - Normal distribution
Date: 09/29/11 Time: 17:18
Sample (adjusted): 3 156
Included observations: 154 after adjustments
Convergence achieved after 64 iterations
MA Backcast: 2
Presample variance: backcast (parameter = 0.7)
GARCH = C(4) + C(5)*RESID(-1)^2 + C(6)*GARCH(-1)

Variable	Coefficient	Std. Error	z-Statistic	Prob.
C	-0.002874	0.009289	-0.309402	0.7570
AR(1)	-0.156826	0.453745	-0.345627	0.7296
MA(1)	-0.035505	0.475265	-0.074705	0.9404
Variance Equation				
C	9.29E-05	0.000294	0.316027	0.7520
RESID(-1)^2	0.081538	0.022220	3.669593	0.0002
GARCH(-1)	0.903802	0.022132	40.83621	0.0000

R-squared	0.045060	Mean dependent var	-0.003409
Adjusted R-squared	0.032412	S.D. dependent var	0.214390
S.E. of regression	0.210887	Akaike info criterion	-0.627648
Sum squared resid	6.715471	Schwarz criterion	-0.509326
Log likelihood	54.32892	Hannan-Quinn criter.	-0.579586
Durbin-Watson stat	2.027606		

Inverted AR Roots	-.16
Inverted MA Roots	.04

2. ผลการประมาณแบบจำลอง GARCH(p,q) ของอัตราแลกเปลี่ยนเงินตราระหว่างประเทศ

2.1 อัตราแลกเปลี่ยนบาทต่อยูโร

Dependent Variable: D(LNEURO)
Method: ML - ARCH (Marquardt) - Normal distribution
Date: 09/29/11 Time: 17:22
Sample (adjusted): 4 156
Included observations: 153 after adjustments
Convergence achieved after 13 iterations
MA Backcast: 2 3
Presample variance: backcast (parameter = 0.7)
GARCH = C(4) + C(5)*RESID(-1)^2 + C(6)*GARCH(-1)

Variable	Coefficient	Std. Error	z-Statistic	Prob.
C	0.000721	0.001660	0.434286	0.6641
AR(2)	-0.463781	0.168622	-2.750425	0.0060
MA(2)	0.434810	0.189190	2.298269	0.0215
Variance Equation				
C	2.49E-05	2.39E-05	1.039713	0.2985
RESID(-1)^2	0.138172	0.071185	1.941033	0.0523
GARCH(-1)	0.821410	0.085419	9.616272	0.0000

R-squared	0.053968	Mean dependent var	-0.000569
Adjusted R-squared	0.041355	S.D. dependent var	0.026444
S.E. of regression	0.025891	Akaike info criterion	-4.534244
Sum squared resid	0.100554	Schwarz criterion	-4.415403
Log likelihood	352.8697	Hannan-Quinn criter.	-4.485969
Durbin-Watson stat	1.675603		

2.2 อัตราแลกเปลี่ยนบาทต่อเยน

Dependent Variable: D(LNJAP)
Method: ML - ARCH (Marquardt) - Normal distribution
Date: 09/29/11 Time: 17:29
Sample (adjusted): 3 156
Included observations: 154 after adjustments
Convergence achieved after 23 iterations
MA Backcast: 2
Presample variance: backcast (parameter = 0.7)
GARCH = C(4) + C(5)*RESID(-1)^2 + C(6)*GARCH(-1)

Variable	Coefficient	Std. Error	z-Statistic	Prob.
C	0.000713	0.002784	0.255945	0.7980
AR(1)	0.459314	0.163846	2.803330	0.0051
MA(1)	-0.169790	0.188602	-0.900256	0.3680
Variance Equation				
C	2.39E-05	1.31E-05	1.825942	0.0679
RESID(-1)^2	0.043969	0.040657	1.081456	0.2795
GARCH(-1)	0.891423	0.050877	17.52098	0.0000

R-squared	0.209855	Mean dependent var	-9.82E-05
Adjusted R-squared	0.199390	S.D. dependent var	0.027216
S.E. of regression	0.024352	Akaike info criterion	-4.705802
Sum squared resid	0.089547	Schwarz criterion	-4.587479
Log likelihood	368.3467	Hannan-Quinn criter.	-4.657739
Durbin-Watson stat	1.898012		

Inverted AR Roots	.46
Inverted MA Roots	.17

2.3 อัตราแลกเปลี่ยนบาทต่อดอลลาร์สิงคโปร์

Dependent Variable: D(LNSIN)
Method: ML - ARCH (Marquardt) - Normal distribution
Date: 09/29/11 Time: 17:35
Sample (adjusted): 4 156
Included observations: 153 after adjustments
Convergence achieved after 14 iterations
MA Backcast: 3
Presample variance: backcast (parameter = 0.7)
GARCH = C(4) + C(5)*RESID(-1)^2 + C(6)*GARCH(-1)

Variable	Coefficient	Std. Error	z-Statistic	Prob.
C	-0.000102	0.001354	-0.075084	0.9401
AR(2)	0.072079	0.073394	0.982077	0.3261
MA(1)	0.398579	0.092006	4.332089	0.0000
Variance Equation				
C	1.10E-05	5.60E-06	1.964245	0.0495
RESID(-1)^2	0.041363	0.040923	1.010772	0.3121
GARCH(-1)	0.853616	0.064805	13.17196	0.0000

R-squared	0.092432	Mean dependent var	-0.000666
Adjusted R-squared	0.080331	S.D. dependent var	0.013934
S.E. of regression	0.013363	Akaike info criterion	-5.990490
Sum squared resid	0.026785	Schwarz criterion	-5.871649
Log likelihood	464.2725	Hannan-Quinn criter.	-5.942215
Durbin-Watson stat	2.198696		

Inverted AR Roots	.27	-.27
Inverted MA Roots	-.40	

2.4 อัตราแลกเปลี่ยนบาทต่อดอลลาร์สหรัฐ

Dependent Variable: D(LNUSA)
Method: ML - ARCH (Marquardt) - Normal distribution
Date: 09/29/11 Time: 17:45
Sample (adjusted): 4 156
Included observations: 153 after adjustments
Convergence achieved after 29 iterations
MA Backcast: 3
Presample variance: backcast (parameter = 0.7)
GARCH = C(4) + C(5)*RESID(-1)^2 + C(6)*GARCH(-1)

Variable	Coefficient	Std. Error	z-Statistic	Prob.
C	-0.002249	0.001764	-1.274566	0.2025
AR(2)	0.106649	0.076721	1.390081	0.1645
MA(1)	0.368299	0.074940	4.914580	0.0000
Variance Equation				
C	1.23E-05	2.25E-06	5.463510	0.0000
RESID(-1)^2	-0.110010	0.030011	-3.665668	0.0002
GARCH(-1)	1.038609	0.039069	26.58373	0.0000

R-squared	0.113440	Mean dependent var	-0.002056
Adjusted R-squared	0.101620	S.D. dependent var	0.017780
S.E. of regression	0.016852	Akaike info criterion	-5.606005
Sum squared resid	0.042600	Schwarz criterion	-5.487164
Log likelihood	434.8594	Hannan-Quinn criter.	-5.557730
Durbin-Watson stat	2.072235		

Inverted AR Roots	.33	-.33
Inverted MA Roots	-.37	

ภาคผนวก ง

ผลการประมาณแบบจำลอง Multivariate GARCH

1. ผลการประมาณค่าแบบจำลอง CCC (Constant Conditional Correlation)

1.1 เงินทุนไหลเข้าและอัตราแลกเปลี่ยนบาทต่อยูโร

MV_GARCH, CC - Estimation by BFGS

NO CONVERGENCE IN 27 ITERATIONS

LAST CRITERION WAS 0.0000000

Usable Observations 154

Log Likelihood -1193.86129411

Variable	Coeff	Std Error	T-Stat	Signif
1. Constant	3.6764232	0.1702346	21.59622	0.00000000
2. CN{1}	-0.3407476	0.0058960	-57.79287	0.00000000
3. Mvg Avge{1}	0.1686319	0.0208143	8.10172	0.00000000
4. Constant	0.0918315	0.0587597	1.56283	0.11809221
5. EU{2}	-0.0732951	0.0230839	-3.17516	0.00149756
6. Mvg Avge{2}	-0.0212435	0.0000226	-939.44879	0.00000000
7. C(1)	-172.0171608	0.2199471	-782.08408	0.00000000
8. C(2)	114.7130318	0.1755687	653.37973	0.00000000
9. A(1,1)	0.0309522	0.0004391	70.49534	0.00000000
10. A(1,2)	0.2840985	0.0015669	181.30811	0.00000000
11. A(2,1)	0.0328053	0.0000131	2496.27323	0.00000000
12. A(2,2)	0.2404125	0.0002862	840.12377	0.00000000
13. B(1,1)	0.9040773	0.0001172	7716.03646	0.00000000
14. B(1,2)	-5.6123182	0.0057196	981.24987	0.00000000
15. B(2,1)	-2.4104379	0.0045601	-528.58906	0.00000000

16. B(2,2)	0.5150864	0.0034529	149.17439	0.00000000
17. R(2,1)	0.2366503	0.0005421	436.53850	0.00000000

1.2 เงินทุนไหลเข้าและอัตราแลกเปลี่ยนบาทต่อเยน

MV_GARCH, CC - Estimation by BFGS

NO CONVERGENCE IN 42 ITERATIONS

LAST CRITERION WAS 0.0000000

Usable Observations 154

Log Likelihood -1161.06523910

Variable	Coeff	Std Error	T-Stat	Signif
1. Constant	2.544223	0.000000	9.08580e+08	0.00000000
2. CN{1}	-0.167967	0.000000	-3.83371e+08	0.00000000
3. Mvg Avge{1}	-0.144480	0.000000	-5.49387e+07	0.00000000
4. Constant	0.520607	0.000094	5525.68393	0.00000000
5. JP{2}	-0.045759	0.003303	-13.85410	0.00000000
6. Mvg Avge{2}	-0.012525	0.000300	-41.68615	0.00000000
7. C(1)	469.014712	0.000534	878180.64528	0.00000000
8. C(2)	28.162507	0.043593	646.03516	0.00000000
9. A(1,1)	0.123195	0.000264	466.38356	0.00000000
10. A(1,2)	1.666596	0.021558	77.30921	0.00000000
11. A(2,1)	-0.017442	0.000035	-496.63913	0.00000000
12. A(2,2)	-0.248526	0.000756	-328.81915	0.00000000
13. B(1,1)	0.105861	0.000811	130.59226	0.00000000
14. B(1,2)	-0.780522	0.013424	-58.14399	0.00000000
15. B(2,1)	-1.142829	0.000921	-1240.83835	0.00000000
16. B(2,2)	1.370535	0.000811	1690.34835	0.00000000
17. R(2,1)	0.243491	0.000003	93956.22662	0.00000000

1.3 เงินทุนไหลเข้าและอัตราแลกเปลี่ยนบาทต่อดอลลาร์สิงคโปร์

MV_GARCH, CC - Estimation by BFGS

NO CONVERGENCE IN 95 ITERATIONS

LAST CRITERION WAS 0.0000000

Usable Observations 154

Log Likelihood -1093.46293552

Variable	Coeff	Std Error	T-Stat	Signif
1. Constant	4.659588	0.001754	2656.09837	0.00000000
2. CN{1}	-0.963703	0.007117	-135.39955	0.00000000
3. Mvg Avge{1}	0.918509	0.011119	82.60522	0.00000000
4. Constant	0.059052	0.000000	3.98617e+08	0.00000000
5. SI{2}	-0.023775	0.000000	-1.88328e+08	0.00000000
6. Mvg Avge{1}	-0.006212	0.000000	-2126870.166	0.00000000
7. C(1)	617.624495	0.143558	4302.26651	0.00000000
8. C(2)	7.603991	0.009753	779.66738	0.00000000
9. A(1,1)	0.151131	0.002655	56.93059	0.00000000
10. A(1,2)	7.362452	0.235634	31.24526	0.00000000
11. A(2,1)	0.039672	0.000693	57.21569	0.00000000
12. A(2,2)	-0.481734	0.005148	- 93.56933	0.00000000
13. B(1,1)	0.409704	0.000836	489.89944	0.00000000
14. B(1,2)	-9.548381	0.013694	-697.26372	0.00000000
15. B(2,1)	-0.269338	0.000191	-1408.19524	0.00000000
16. B(2,2)	1.121335	0.000004	281793.8262	0.00000000
17. R(2,1)	0.316059	0.000169	1868.78177	0.00000000

1.4 เงินทุนไหลเข้าและอัตราแลกเปลี่ยนบาทต่อดอลลาร์สหรัฐ

MV_GARCH, CC - Estimation by BFGS

NO CONVERGENCE IN 81 ITERATIONS

LAST CRITERION WAS 0.0000000

Usable Observations 154

Log Likelihood -1105.60141103

Variable	Coeff	Std Error	T-Stat	Signif
1. Constant	0.9434295	0.0596930	15.80469	0.00000000
2. CN{1}	-0.2136124	0.0000425	-5025.58639	0.00000000
3. Mvg Avge{1}	0.1004330	0.0001915	524.56726	0.00000000
4. Constant	-0.8222369	0.0021891	-375.61324	0.00000000
5. US{2}	-0.0127410	0.0032948	-3.86703	0.00011017
6. Mvg Avge{1}	0.0248500	0.0000068	3671.65394	0.00000000
7. C(1)	656.9828349	0.0053889	121913.93066	0.00000000
8. C(2)	22.9034041	0.0001703	134477.94348	0.00000000
9. A(1,1)	0.0568097	0.0000494	1148.88914	0.00000000
10. A(1,2)	1.6382845	0.0061201	267.68852	0.00000000
11. A(2,1)	0.0489809	0.0000757	647.16211	0.00000000
12. A(2,2)	-0.3834339	0.0000960	-3995.44734	0.00000000
13. B(1,1)	0.5044987	0.0000136	37134.86180	0.00000000
14. B(1,2)	-11.0633835	0.0001271	-87077.23070	0.00000000
15. B(2,1)	-0.6800153	0.0000041	-167131.68672	0.00000000
16. B(2,2)	1.2166619	0.0000053	228130.13584	0.00000000
17. R(2,1)	0.3695988	0.0000023	159629.88261	0.00000000

1.5 เงินทุนไหลออกและอัตราแลกเปลี่ยนบาทต่อยูโร

MV_GARCH, CC - Estimation by BFGS

NO CONVERGENCE IN 19 ITERATIONS

LAST CRITERION WAS 0.0000000

Usable Observations 154

Log Likelihood -1192.31566542

Variable	Coeff	Std Error	T-Stat	Signif
1. Constant	-0.5360987	0.0230823	-23.22552	0.00000000
2. CO{1}	0.2074230	0.0362448	5.72283	0.00000001
3. Mvg Avge{1}	-0.4393291	0.0108152	-40.62138	0.00000000
4. Constant	-1.2475562	0.0094988	-131.33852	0.00000000
5. EU{2}	-0.1299418	0.0178218	-7.29117	0.00000000
6. Mvg Avge{2}	-0.0125839	0.0010015	-12.56462	0.00000000
7. C(1)	237.7994909	1.2325409	192.93437	0.00000000
8. C(2)	52.7978596	0.1643159	321.31923	0.00000000
9. A(1,1)	0.0899853	0.0012390	72.62833	0.00000000
10. A(1,2)	1.7268963	0.0114908	150.28500	0.00000000
11. A(2,1)	-0.0409614	0.0057052	-7.17966	0.00000000
12. A(2,2)	-0.1657324	0.0064500	-25.69477	0.00000000
13. B(1,1)	0.8308372	0.0007204	1153.24323	0.00000000
14. B(1,2)	-6.2087383	0.0411057	-151.04314	0.00000000
15. B(2,1)	-1.6680154	0.0042867	-389.10996	0.00000000
16. B(2,2)	1.0085800	0.0026862	375.47351	0.00000000
17. R(2,1)	0.1764773	0.0007486	235.74481	0.00000000

1.6 เงินทุนไหลออกและอัตราแลกเปลี่ยนบาทต่อเยน

MV_GARCH, CC - Estimation by BFGS

NO CONVERGENCE IN 134 ITERATIONS

LAST CRITERION WAS 0.0000000

Usable Observations 155

Log Likelihood -1131.38660104

Variable	Coeff	Std Error	T-Stat	Signif
1. Constant	2.126990	0.000031	67655.46342	0.00000000
2. CO{1}	-1.021957	0.000009	-112992.73922	0.00000000
3. Mvg Avge{1}	1.021971	0.000013	76573.74737	0.00000000
4. Constant	-0.883989	0.000034	-25718.35767	0.00000000
5. JP{1}	0.767590	0.000361	2123.40842	0.00000000
6. Mvg Avge{1}	-0.004812	0.000000	0.00000	0.00000000
7. C(1)	609.756251	0.542358	1124.26891	0.00000000
8. C(2)	10.885004	0.015949	682.50356	0.00000000
9. A(1,1)	0.377358	0.000064	5928.97305	0.00000000
10. A(1,2)	-3.348060	0.002693	-1243.22148	0.00000000
11. A(2,1)	-0.020406	0.000000	-6.34629e+08	0.00000000
12. A(2,2)	-0.106159	0.000005	-21887.41497	0.00000000
13. B(1,1)	0.818038	0.001009	810.41543	0.00000000
14. B(1,2)	- 13.370232	0.011583	-1154.29486	0.00000000
15. B(2,1)	-0.264497	0.000132	-1998.57218	0.00000000
16. B(2,2)	1.054678	0.000026	40054.44037	0.00000000
17. R(2,1)	0.339319	0.000045	7473.64650	0.00000000

1.7 เงินทุนไหลออกและอัตราแลกเปลี่ยนบาทต่อดอลลาร์สิงคโปร์

MV_GARCH, CC - Estimation by BFGS

NO CONVERGENCE IN 13 ITERATIONS

LAST CRITERION WAS 0.0000000

Usable Observations 154

Log Likelihood -1070.54165295

Variable	Coeff	Std Error	T-Stat	Signif
1. Constant	0.0257486	0.0000000	0.00000	0.00000000
2. CO{1}	-0.6941833	0.0016509	-420.47885	0.00000000
3. Mvg Avge{1}	0.6658983	0.0015757	422.60515	0.00000000
4. Constant	-0.2415292	0.0010044	-240.46643	0.00000000
5. SI{2}	-0.0764750	0.0036819	-20.77053	0.00000000
6. Mvg Avge{1}	0.0213815	0.0000203	1055.08257	0.00000000
7. C(1)	585.9233400	0.0092337	63455.14924	0.00000000
8. C(2)	10.7377230	0.0001097	97913.87918	0.00000000
9. A(1,1)	0.0426688	0.0000404	1055.81648	0.00000000
10. A(1,2)	1.3458686	0.0110265	122.05776	0.00000000
11. A(2,1)	0.0486669	0.0000954	510.01568	0.00000000
12. A(2,2)	-0.5524773	0.0000859	-6432.85844	0.00000000
13. B(1,1)	0.8131049	0.0000164	49537.20637	0.00000000
14. B(1,2)	-12.3658669	0.0002140	-57778.59383	0.00000000
15. B(2,1)	-0.2807753	0.0000014	-203451.85625	0.00000000
16. B(2,2)	1.1233346	0.0000071	157203.80519	0.00000000
17. R(2,1)	0.5012939	0.0000233	21534.23947	0.00000000

1.8 เงินทุนไหลออกและอัตราแลกเปลี่ยนบาทต่อดอลลาร์สหรัฐ

MV_GARCH, CC - Estimation by BFGS

NO CONVERGENCE IN 16 ITERATIONS

LAST CRITERION WAS 0.0000000

Usable Observations 154

Log Likelihood -1105.87617672

Variable	Coeff	Std Error	T-Stat	Signif
1. Constant	0.1966415	0.5476242	0.35908	0.71953444
2. CO{1}	-0.5661164	0.0641471	-8.82529	0.00000000
3. Mvg Avge{1}	0.2247754	0.0658571	3.41308	0.00064234
4. Constant	-0.3048858	0.0469840	-6.48914	0.00000000
5. US{2}	0.1967099	0.0285351	6.89360	0.00000000
6. Mvg Avge{1}	0.0005724	0.0003784	1.51260	0.13038123
7. C(1)	514.8834119	2.4775662	207.81822	0.00000000
8. C(2)	9.1303615	0.0298353	306.02565	0.00000000
9. A(1,1)	0.1803081	0.0101696	17.73014	0.00000000
10. A(1,2)	2.0458966	0.0363540	56.27706	0.00000000
11. A(2,1)	0.0564057	0.0035626	15.83280	0.00000000
12. A(2,2)	-0.3671262	0.0119905	-30.61803	0.00000000
13. B(1,1)	0.8091508	0.0056942	142.10162	0.00000000
14. B(1,2)	-12.9281179	0.0651275	-198.50466	0.00000000
15. B(2,1)	-0.2305406	0.0008043	-286.62693	0.00000000
16. B(2,2)	1.0273170	0.0005901	1740.93668	0.00000000
17. R(2,1)	0.3448135	0.0039038	88.32837	0.00000000

2. ผลการประมาณค่าแบบจำลอง DCC (Dynamic Conditional Correlation)

2.1 เงินทุนไหลเข้าและอัตราแลกเปลี่ยนบาทต่อยูโร

MV_GARCH, DCC - Estimation by BFGS

NO CONVERGENCE IN 1 ITERATIONS

LAST CRITERION WAS 0.0000000

Usable Observations 154

Log Likelihood -1243.56233913

Variable	Coeff	Std Error	T-Stat	Signif
1. Constant	0.0231902	1.9711601	0.01176	0.99061329
2. CN{1}	-0.1004710	0.0931621	-1.07845	0.28083132
3. Mvg Avge{1}	0.0896207	0.0943943	0.94943	0.34240216
4. Constant	-0.1185560	0.7058746	-0.16796	0.86661781
5. EU{2}	-0.0126828	0.2021944	-0.06273	0.94998496
6. Mvg Avge{2}	0.0009738	0.0471237	0.02067	0.98351284
7. C(1)	449.8260789	31.2587985	14.39038	0.00000000
8. C(2)	110.1177616	1.8615954	59.15236	0.00000000
9. A(1,1)	0.0546401	0.0766192	0.71314	0.47575982
10. A(1,2)	0.0131616	0.5008803	0.02628	0.97903652
11. A(2,1)	0.0552407	0.1887438	0.29268	0.76977034
12. A(2,2)	0.1297318	0.1617356	0.80212	0.42248184
13. B(1,1)	0.1799650	0.0510380	3.52610	0.00042173
14. B(1,2)	-0.4684309	0.4350027	1.07685	0.28154908
15. B(2,1)	0.1342388	0.0259985	5.16333	0.00000024
16. B(2,2)	-0.5405094	0.0240823	-22.44423	0.00000000
17. DCC(1)	0.1961856	0.2165783	0.90584	0.36501986
18. DCC(2)	0.0000000	0.6616662	2.22775e-15	1.00000000

2.2 เงินทุนไหลเข้าและอัตราแลกเปลี่ยนบาทต่อเยน

MV_GARCH, DCC - Estimation by BFGS

NO CONVERGENCE IN 41 ITERATIONS

LAST CRITERION WAS 0.0000000

Usable Observations 154

Log Likelihood -1184.84869732

Variable	Coeff	Std Error	T-Stat	Signif
1. Constant	2.1806396	0.0070341	310.00800	0.00000000
2. CN{1}	-0.4494160	0.0223348	-20.12178	0.00000000
3. Mvg Avge{1}	0.0719848	0.0011256	63.95205	0.00000000
4. Constant	-0.0835004	0.0064405	-12.96491	0.00000000
5. JP{2}	0.1339714	0.0017576	76.22386	0.00000000
6. Mvg Avge{2}	-0.0052513	0.0004026	-13.04282	0.00000000
7. C(1)	168.2225207	0.1613968	1042.29163	0.00000000
8. C(2)	-33.6137667	0.0447840	-750.57607	0.00000000
9. A(1,1)	0.0444279	0.0004410	100.73242	0.00000000
10. A(1,2)	-1.0747458	0.0021035	-510.93607	0.00000000
11. A(2,1)	0.0510086	0.0011752	43.40539	0.00000000
12. A(2,2)	-0.5819328	0.0002750	-2115.90509	0.00000000
13. B(1,1)	0.7082015	0.0008073	877.19967	0.00000000
14. B(1,2)	-0.4043077	0.0000214	-18908.93083	0.00000000
15. B(2,1)	5.6107755	0.0002524	22226.54966	0.00000000
16. B(2,2)	-4.4516254	0.0000468	-95168.87842	0.00000000
17. DCC(1)	0.0441841	0.0000697	633.85086	0.00000000
18. DCC(2)	0.9039851	0.0015294	591.05297	0.00000000

2.3 เงินทุนไหลเข้าและอัตราแลกเปลี่ยนบาทต่อเดอลลาร์สิงคโปร์

MV_GARCH, DCC - Estimation by BFGS

NO CONVERGENCE IN 13 ITERATIONS

LAST CRITERION WAS 0.0000000

Usable Observations 154

Log Likelihood -1157.32752575

Variable	Coeff	Std Error	T-Stat	Signif
1. Constant	1.37052931	0.88925322	1.54121	0.12326476
2. CN{1}	-0.34201235	0.02832883	-12.07294	0.00000000
3. Mvg Avge{1}	0.27347596	0.01586399	17.23879	0.00000000
4. Constant	-0.23991937	0.01696812	-14.13942	0.00000000
5. SI{2}	0.35407219	0.03479467	10.17605	0.00000000
6. Mvg Avge{1}	-0.00758347	0.00099167	-7.64718	0.00000000
7. C(1)	56.82556356	0.59330653	95.77775	0.00000000
8. C(2)	-25.80140098	1.04498094	-24.69079	0.00000000
9. A(1,1)	0.03546662	0.00140719	25.20382	0.00000000
10. A(1,2)	-1.91843662	0.08426917	-22.76558	0.00000000
11. A(2,1)	0.07200131	0.00823496	8.74337	0.00000000
12. A(2,2)	-1.91863725	0.02497255	-76.82984	0.00000000
13. B(1,1)	0.85604826	0.00040946	2090.68713	0.00000000
14. B(1,2)	0.16380454	0.01332887	12.28946	0.00000000
15. B(2,1)	5.32066998	0.01958620	271.65405	0.00000000
16. B(2,2)	-3.33585174	0.01967011	-169.58984	0.00000000
17. DCC(1)	0.06774393	0.00034099	198.66930	0.00000000
18. DCC(2)	0.90831376	0.00011170	8131.51147	0.00000000

2.4 เงินทุนไหลเข้าและอัตราแลกเปลี่ยนบาทต่อเดอลลาร์สหรัฐ

MV_GARCH, DCC - Estimation by BFGS

NO CONVERGENCE IN 57 ITERATIONS

LAST CRITERION WAS 0.0000000

Usable Observations 154

Log Likelihood -1107.81079302

Variable	Coeff	Std Error	T-Stat	Signif
1. Constant	12.21825812	0.23936832	51.04376	0.00000000
2. CN{1}	-0.15966834	0.01925336	-8.29301	0.00000000
3. Mvg Avge{1}	0.05082951	0.01262004	4.02768	0.00005633
4. Constant	-0.33342784	0.00544467	-61.23926	0.00000000
5. US{2}	0.32980529	0.00403549	81.72617	0.00000000
6. Mvg Avge{1}	-0.00750650	0.00015828	-47.42520	0.00000000
7. C(1)	81.77093571	1.14000655	71.72848	0.00000000
8. C(2)	4.25683366	0.01831867	232.37680	0.00000000
9. A(1,1)	-0.01927893	0.00064102	-30.07532	0.00000000
10. A(1,2)	1.95234424	0.05050538	38.65617	0.00000000
11. A(2,1)	0.01502458	0.00020625	72.84705	0.00000000
12. A(2,2)	-0.09179865	0.00016257	-564.68204	0.00000000
13. B(1,1)	0.91047619	0.00199041	457.43241	0.00000000
14. B(1,2)	-1.65060627	0.03018649	54.68030	0.00000000
15. B(2,1)	0.93412197	0.01301292	71.78419	0.00000000
16. B(2,2)	-0.03827146	0.00889428	-4.30293	0.00001686
17. DCC(1)	0.15521431	0.00076937	201.74288	0.00000000
18. DCC(2)	0.82312890	0.00086280	954.02593	0.00000000

2.5 เงินทุนไหลออกและอัตราแลกเปลี่ยนบาทต่อยูโร

MV_GARCH, DCC - Estimation by BFGS

NO CONVERGENCE IN 7 ITERATIONS

LAST CRITERION WAS 0.0000000

Usable Observations 154

Log Likelihood -1224.45728760

Variable	Coeff	Std Error	T-Stat	Signif
1. Constant	2.5380755	1.2856406	1.97417	0.04836221
2. CO{1}	-0.2686710	0.0957283	-2.80660	0.00500675
3. Mvg Avge{1}	-0.0226273	0.0984754	-0.22978	0.81826601
4. Constant	-0.4708721	0.7393852	-0.63684	0.52422725
5. EU{2}	0.0750840	0.1695651	0.44280	0.65790808
6. Mvg Avge{2}	-0.0349209	0.0151218	-2.30931	0.02092616
7. C(1)	72.3205171	10.8086054	6.69101	0.00000000
8. C(2)	121.6634030	1.6652824	73.05872	0.00000000
9. A(1,1)	0.1086145	0.0203829	5.32871	0.00000010
10. A(1,2)	0.1656013	0.4857329	0.34093	0.03315572
11. A(2,1)	0.0243185	0.0070573	3.44584	0.00056928
12. A(2,2)	0.2328009	0.0802783	2.89993	0.00373252
13. B(1,1)	0.6089898	0.0175544	34.69151	0.00000000
14. B(1,2)	-1.4495921	0.1731336	8.37268	0.00000000
15. B(2,1)	-0.0459808	0.0014763	-31.14678	0.00000000
16. B(2,2)	-0.9467407	0.0093176	-101.60750	0.00000000
17. DCC(1)	0.2047811	0.0652134	3.14017	0.00168852
18. DCC(2)	0.0000000	0.4616015	2.17280e-13	1.00000000

2.6 เงินทุนไหลออกและอัตราแลกเปลี่ยนบาทต่อเยน

MV_GARCH, DCC - Estimation by BFGS

NO CONVERGENCE IN 16 ITERATIONS

LAST CRITERION WAS 0.0000000

Usable Observations 155

Log Likelihood -1199.26924179

Variable	Coeff	Std Error	T-Stat	Signif
1. Constant	4.37842050	0.49701306	8.80947	0.00000000
2. CO{1}	-0.84122819	0.02185251	-38.49572	0.00000000
3. Mvg Avge{1}	0.58942768	0.03536717	16.66596	0.00000000
4. Constant	0.21901361	0.01554814	14.08616	0.00000000
5. JP{1}	0.51473302	0.03073040	16.74996	0.00000000
6. Mvg Avge{1}	-0.01457921	0.00174860	-8.33765	0.00000000
7. C(1)	79.05547216	2.24502231	35.21367	0.00000000
8. C(2)	43.88613830	0.82438580	53.23495	0.00000000
9. A(1,1)	0.04872708	0.00410973	11.85653	0.00000000
10. A(1,2)	-0.60762281	0.18831888	-3.22656	0.00125286
11. A(2,1)	-0.00204148	0.00083003	-2.45951	0.01391251
12. A(2,2)	-0.71266149	0.07170420	-9.93891	0.00000000
13. B(1,1)	0.93069434	0.00479971	193.90630	0.00000000
14. B(1,2)	-1.72900762	0.05938819	-29.11366	0.00000000
15. B(2,1)	0.44688229	0.01143264	39.08828	0.00000000
16. B(2,2)	0.06569181	0.01472595	4.46096	0.00000816
17. DCC(1)	0.77476084	0.00522103	148.39248	0.00000000
18. DCC(2)	0.04987452	0.00470510	10.60011	0.00000000

2.7 เงินทุนไหลออกและอัตราแลกเปลี่ยนบาทต่อดอลลาร์สิงคโปร์

MV_GARCH, DCC - Estimation by BFGS

NO CONVERGENCE IN 14 ITERATIONS

LAST CRITERION WAS 0.0000000

Usable Observations 154

Log Likelihood -1168.69407445

Variable	Coeff	Std Error	T-Stat	Signif
1. Constant	0.5485585	1.3239866	0.41432	0.67863736
2. CO{1}	-0.3736395	0.0137127	-27.24778	0.00000000
3. Mvg Avge{1}	0.3145508	0.0051183	61.45558	0.00000000
4. Constant	-0.1764212	0.1253821	-1.40707	0.15940703
5. SI{2}	0.3047457	0.0145876	20.89070	0.00000000
6. Mvg Avge{1}	-0.0276961	0.0015768	-17.56442	0.00000000
7. C(1)	162.0647452	1.6324317	99.27811	0.00000000
8. C(2)	-12.5425710	0.7110544	-17.63940	0.00000000
9. A(1,1)	0.0393189	0.0028613	13.74164	0.00000000
10. A(1,2)	-1.9914473	0.3331846	- 5.97701	0.00000000
11. A(2,1)	0.0684256	0.0151391	4.51980	0.00000619
12. A(2,2)	-1.8675525	0.0132369	-141.08691	0.00000000
13. B(1,1)	0.7489465	0.0047101	159.00742	0.00000000
14. B(1,2)	-1.9451891	0.0394407	-49.31933	0.00000000
15. B(2,1)	2.5325110	0.0068777	368.21851	0.00000000
16. B(2,2)	-0.7391001	0.0130510	-56.63184	0.00000000
17. DCC(1)	0.0928775	0.0017424	53.30436	0.00000000
18. DCC(2)	0.8440398	0.0031901	264.58281	0.00000000

2.8 เงินทุนไหลออกและอัตราแลกเปลี่ยนบาทต่อดอลลาร์สหรัฐ

MV_GARCH, DCC - Estimation by BFGS

NO CONVERGENCE IN 18 ITERATIONS

LAST CRITERION WAS 0.0000000

Usable Observations 154

Log Likelihood -1168.70122439

Variable	Coeff	Std Error	T-Stat	Signif
1. Constant	4.83881675	0.47858654	10.11064	0.00000000
2. CO{1}	-0.61215070	0.01306854	-46.84154	0.00000000
3. Mvg Avge{1}	0.48103518	0.00995890	48.30203	0.00000000
4. Constant	0.97909953	0.15182869	6.44871	0.00000000
5. US{2}	0.07116886	0.04373701	1.62720	0.10369466
6. Mvg Avge{1}	-0.03247638	0.00055964	-58.03047	0.00000000
7. C(1)	87.99811539	2.63496939	33.39626	0.00000000
8. C(2)	28.31770668	0.24445192	115.84162	0.00000000
9. A(1,1)	0.10706447	0.00222701	48.07545	0.00000000
10. A(1,2)	0.72068204	0.00133823	538.53562	0.00000000
11. A(2,1)	0.03874653	0.00093192	41.57710	0.00000000
12. A(2,2)	-1.15730840	0.01423107	-81.32266	0.00000000
13. B(1,1)	0.78641996	0.00355093	221.46892	0.00000000
14. B(1,2)	-1.17083434	0.08112041	-14.43329	0.00000000
15. B(2,1)	0.29813072	0.00202628	147.13214	0.00000000
16. B(2,2)	0.48868854	0.00543246	89.95707	0.00000000
17. DCC(1)	0.65904053	0.00040752	1617.18789	0.00000000
18. DCC(2)	0.31572641	0.00149247	211.54602	0.00000000

ประวัติผู้เขียน

ชื่อ-สกุล นางสาวอนุธิดา ปัญญา

วัน เดือน ปี เกิด 11 สิงหาคม 2529

ประวัติการศึกษา สำเร็จการศึกษามัธยมศึกษาตอนปลาย โรงเรียนยุพราชวิทยาลัยเชียงใหม่ ปีการศึกษา 2545

สำเร็จการศึกษาปริญญาตรี วิทยาศาสตรบัณฑิต สาขาวิชาเคมีอุตสาหกรรม มหาวิทยาลัยเชียงใหม่ ปีการศึกษา 2550