ภาคผนวก

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ผลการทดสอบ Unit Root Test โดยวิธี Augmented Dickey-Fuller

1) ผลการทดสอบ Unit Root Test ของอัตราดอกเบี้ยระหว่างธนาคารของประเทศ
สหรัฐอเมริกา

1.1) Level with intercept

Null Hypothesis: FED has a unit root

Exogenous: Constant

Lag Length: 1 (Automatic based on SIC, MAXLAG=18)

		t-Statistic	Prob.*
Augmented Dickey-Fuller test statistic		-18.14581	0.0000
Test critical values:	1% level	-3.440911	
	5% level	-2.866091	
	10% level	-2.569252	

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

Augmented Dickey-Fuller Test Equation

Dependent Variable: D(FED)

Method: Least Squares

Date: 07/15/09   Time: 17:01

Sample (adjusted): 3 608

Included observations: 606 after adjustments

Variable	Coefficient	Std. Error	t-Statistic	Prob.
FED(-1)	-0.941336	0.051876	-18.14581	0.0000
D(FED(-1))	0.138739	0.040344	3.438898	0.0006
C	-0.541588	0.425264	-1.273534	0.2033
R-squared	0.424430	Mean dependent var		0.010650
Adjusted R-squared	0.422521	S.D. dependent var		13.74072
S.E. of regression	10.44185	Akaike info criterion		7.534459
Sum squared resid	65746.44	Schwarz criterion		7.556275
Log likelihood	-2279.941	Hannan-Quinn criter.		7.542948
F-statistic	222.3289	Durbin-Watson stat		2.009130
Prob(F-statistic)	0.000000			

1.2) Level with Intercept and Trend

Null Hypothesis: FED has a unit root

Exogenous: Constant, Linear Trend

Lag Length: 1 (Automatic based on SIC, MAXLAG=18)

		t-Statistic	Prob.*
Augmented Dickey-Fuller test statistic		-18.14354	0.0000
Test critical values:	1% level	-3.973270	
	5% level	-3.417252	
	10% level	-3.131018	

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

Augmented Dickey-Fuller Test Equation

Dependent Variable: D(FED)

Method: Least Squares

Date: 07/15/09   Time: 17:01

Sample (adjusted): 3 608

Included observations: 606 after adjustments

Variable	Coefficient	Std. Error	t-Statistic	Prob.
FED(-1)	-0.942280	0.051935	-18.14354	0.0000
D(FED(-1))	0.139211	0.040376	3.447818	0.0006
C	-0.136248	0.852010	-0.159914	0.8730
@TREND(1)	-0.001333	0.002427	-0.549131	0.5831

R-squared	0.424719	Mean dependent var	0.010650
Adjusted R-squared	0.421852	S.D. dependent var	13.74072
S.E. of regression	10.44790	Akaike info criterion	7.537258
Sum squared resid	65713.52	Schwarz criterion	7.566347
Log likelihood	-2279.789	Hannan-Quinn criter.	7.548577
F-statistic	148.1481	Durbin-Watson stat	2.009227
Prob(F-statistic)	0.000000		

1.3) Level without intercept and Trend

Null Hypothesis: FED has a unit root

Exogenous: None

Lag Length: 1 (Automatic based on SIC, MAXLAG=18)

		t-Statistic	Prob.*
Augmented Dickey-Fuller test statistic		-18.09177	0.0000
Test critical values:	1% level	-2.568784	
	5% level	-1.941346	
	10% level	-1.616348	

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

Augmented Dickey-Fuller Test Equation

Dependent Variable: D(FED)

Method: Least Squares

Date: 07/15/09   Time: 17:02

Sample (adjusted): 3 608

Included observations: 606 after adjustments

Variable	Coefficient	Std. Error	t-Statistic	Prob.
FED(-1)	-0.936603	0.051770	-18.09177	0.0000
D(FED(-1))	0.136367	0.040322	3.381970	0.0008

R-squared	0.422882	Mean dependent var	0.010650
Adjusted R-squared	0.421927	S.D. dependent var	13.74072
S.E. of regression	10.44722	Akaike info criterion	7.533845
Sum squared resid	65923.28	Schwarz criterion	7.548389
Log likelihood	-2280.755	Hannan-Quinn criter.	7.539504
Durbin-Watson stat	2.008291		

2) ผลการทดสอบ Unit Root Test ของอัตราดอกเบี้ยระหว่างธนาคารของประเทศไทย

2.1) Level with intercept

Null Hypothesis: THB has a unit root

Exogenous: Constant

Lag Length: 2 (Automatic based on SIC, MAXLAG=18)

		t-Statistic	Prob.*
Augmented Dickey-Fuller test statistic		-17.45343	0.0000
Test critical values:	1% level	-3.440929	
	5% level	-2.866099	
	10% level	-2.569257	

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

Augmented Dickey-Fuller Test Equation

Dependent Variable: D(THB)

Method: Least Squares

Date: 07/15/09   Time: 17:10

Sample (adjusted): 4 608

Included observations: 605 after adjustments

Variable	Coefficient	Std. Error	t-Statistic	Prob.
THB(-1)	-1.352948	0.077518	-17.45343	0.0000
D(THB(-1))	0.220191	0.060793	3.622000	0.0003
D(THB(-2))	0.122661	0.040494	3.029127	0.0026
C	-0.208128	0.136408	-1.525783	0.1276

R-squared	0.566111	Mean dependent var	0.003339
Adjusted R-squared	0.563946	S.D. dependent var	5.060744
S.E. of regression	3.341833	Akaike info criterion	5.257506
Sum squared resid	6711.878	Schwarz criterion	5.286631
Log likelihood	-1586.396	Hannan-Quinn criter.	5.268840
F-statistic	261.3827	Durbin-Watson stat	2.003896
Prob(F-statistic)	0.000000		

2.2) Level with Intercept and Trend

Null Hypothesis: THB has a unit root

Exogenous: Constant, Linear Trend

Lag Length: 2 (Automatic based on SIC, MAXLAG=18)

			t-Statistic	Prob.*
Augmented Dickey-Fuller test statistic			-17.66655	0.0000
Test critical values:	1% level		-3.973296	
	5% level		-3.417264	
	10% level		-3.131025	

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

Augmented Dickey-Fuller Test Equation

Dependent Variable: D(THB)

Method: Least Squares

Date: 07/15/09   Time: 17:11

Sample (adjusted): 4 608

Included observations: 605 after adjustments

Variable	Coefficient	Std. Error	t-Statistic	Prob.
THB(-1)	-1.376826	0.077934	-17.66655	0.0000
D(THB(-1))	0.236206	0.060974	3.873884	0.0001
D(THB(-2))	0.130476	0.040492	3.222261	0.0013
C	0.337563	0.273140	1.235863	0.2170
@TREND(1)	-0.001801	0.000782	-2.303281	0.0216

R-squared	0.569914	Mean dependent var	0.003339
Adjusted R-squared	0.567047	S.D. dependent var	5.060744
S.E. of regression	3.329928	Akaike info criterion	5.252009
Sum squared resid	6653.053	Schwarz criterion	5.288415
Log likelihood	-1583.733	Hannan-Quinn criter.	5.266176
F-statistic	198.7675	Durbin-Watson stat	2.006199
Prob(F-statistic)	0.000000		

2.3)   Level without intercept and Trend

Null Hypothesis: THB has a unit root

Exogenous: None

Lag Length: 0 (Automatic based on SIC, MAXLAG=18)

		t-Statistic	Prob.*
Augmented Dickey-Fuller test statistic		-27.51316	0.0000
Test critical values:	1% level	-2.568777	
	5% level	-1.941346	
	10% level	-1.616349	

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

Augmented Dickey-Fuller Test Equation

Dependent Variable: D(THB)

Method: Least Squares

Date: 07/15/09   Time: 17:11

Sample (adjusted): 2 608

Included observations: 607 after adjustments

Variable	Coefficient	Std. Error	t-Statistic	Prob.
THB(-1)	-1.110944	0.040379	-27.51316	0.0000
R-squared	0.555384	Mean dependent var		0.005438
Adjusted R-squared	0.555384	S.D. dependent var		5.052653
S.E. of regression	3.369087	Akaike info criterion		5.268806
Sum squared resid	6878.551	Schwarz criterion		5.276069
Log likelihood	-1598.083	Hannan-Quinn criter.		5.271632
Durbin-Watson stat	2.017120			

3) ผลการทดสอบ Unit Root Test ของอัตราดอกเบี้ยระหว่างธนาคารของประเทศสิงค์โปร์

3.1) Level with intercept

Null Hypothesis: SNG has a unit root

Exogenous: Constant

Lag Length: 0 (Automatic based on SIC, MAXLAG=18)

		t-Statistic	Prob.*
Augmented Dickey-Fuller test statistic		-22.03680	0.0000
Test critical values:	1% level	-3.440894	
	5% level	-2.866083	
	10% level	-2.569248	

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

Augmented Dickey-Fuller Test Equation

Dependent Variable: D(SNG)

Method: Least Squares

Date: 07/15/09   Time: 17:47

Sample (adjusted): 2 608

Included observations: 607 after adjustments

Variable	Coefficient	Std. Error	t-Statistic	Prob.
SNG(-1)	-0.900604	0.040868	-22.03680	0.0000
C	-0.253083	0.383628	-0.659711	0.5097

R-squared	0.445270	Mean dependent var	0.051195
Adjusted R-squared	0.444353	S.D. dependent var	12.67137
S.E. of regression	9.445460	Akaike info criterion	7.332235
Sum squared resid	53976.11	Schwarz criterion	7.346761
Log likelihood	-2223.333	Hannan-Quinn criter.	7.337887
F-statistic	485.6204	Durbin-Watson stat	1.965962
Prob(F-statistic)	0.000000		

3.2)   Level with Intercept and Trend

Null Hypothesis: SNG has a unit root

Exogenous: Constant, Linear Trend

Lag Length: 0 (Automatic based on SIC, MAXLAG=18)

		t-Statistic	Prob.*
Augmented Dickey-Fuller test statistic		-22.02236	0.0000
Test critical values:	1% level	-3.973245	
	5% level	-3.417239	
	10% level	-3.131010	

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

Augmented Dickey-Fuller Test Equation

Dependent Variable: D(SNG)

Method: Least Squares

Date: 07/15/09   Time: 17:47

Sample (adjusted): 2 608

Included observations: 607 after adjustments

Variable	Coefficient	Std. Error	t-Statistic	Prob.
SNG(-1)	-0.900671	0.040898	-22.02236	0.0000
C	-0.493124	0.768445	-0.641717	0.5213
@TREND(1)	0.000790	0.002190	0.360596	0.7185

R-squared	0.445389	Mean dependent var	0.051195
Adjusted R-squared	0.443553	S.D. dependent var	12.67137
S.E. of regression	9.452259	Akaike info criterion	7.335315
Sum squared resid	53964.50	Schwarz criterion	7.357103
Log likelihood	-2223.268	Hannan-Quinn criter.	7.343792
F-statistic	242.5261	Durbin-Watson stat	1.966261
Prob(F-statistic)	0.000000		

3.3)   Level without intercept and Trend

Null Hypothesis: SNG has a unit root

Exogenous: None

Lag Length: 0 (Automatic based on SIC, MAXLAG=18)

		t-Statistic	Prob.*
Augmented Dickey-Fuller test statistic		-22.03760	0.0000
Test critical values:	1% level	-2.568777	
	5% level	-1.941346	
	10% level	-1.616349	

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

Augmented Dickey-Fuller Test Equation

Dependent Variable: D(SNG)

Method: Least Squares

Date: 07/15/09   Time: 17:48

Sample (adjusted): 2 608

Included observations: 607 after adjustments

Variable	Coefficient	Std. Error	t-Statistic	Prob.
SNG(-1)	-0.899634	0.040823	-22.03760	0.0000
R-squared	0.444871	Mean dependent var		0.051195
Adjusted R-squared	0.444871	S.D. dependent var		12.67137
S.E. of regression	9.441058	Akaike info criterion		7.329659
Sum squared resid	54014.94	Schwarz criterion		7.336922
Log likelihood	-2223.552	Hannan-Quinn criter.		7.332485
Durbin-Watson stat	1.966318			

4) ผลการทดสอบ Unit Root Test ของอัตราดอกเบี้ยระหว่างธนาคารของประเทศมาเลเซีย

4.1) Level with intercept

Null Hypothesis: MYI has a unit root

Exogenous: Constant

Lag Length: 0 (Automatic based on SIC, MAXLAG=18)

		t-Statistic	Prob.*
Augmented Dickey-Fuller test statistic		-24.70204	0.0000
Test critical values:	1% level	-3.440894	
	5% level	-2.866083	
	10% level	-2.569248	

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

Augmented Dickey-Fuller Test Equation

Dependent Variable: D(MYI)

Method: Least Squares

Date: 07/15/09   Time: 17:53

Sample (adjusted): 2 608

Included observations: 607 after adjustments

Variable	Coefficient	Std. Error	t-Statistic	Prob.
MYI(-1)	-1.004272	0.040655	-24.70204	0.0000
C	-0.093417	0.057985	-1.611052	0.1077

R-squared	0.502136	Mean dependent var	0.000000
Adjusted R-squared	0.501313	S.D. dependent var	2.018693
S.E. of regression	1.425556	Akaike info criterion	3.550291
Sum squared resid	1229.487	Schwarz criterion	3.564816
Log likelihood	-1075.513	Hannan-Quinn criter.	3.555942
F-statistic	610.1910	Durbin-Watson stat	2.000037
Prob(F-statistic)	0.000000		

4.2) Level with Intercept and Trend

Null Hypothesis: MYI has a unit root

Exogenous: Constant, Linear Trend

Lag Length: 0 (Automatic based on SIC, MAXLAG=18)

		t-Statistic	Prob.*
Augmented Dickey-Fuller test statistic		-24.88453	0.0000
Test critical values:	1% level	-3.973245	
	5% level	-3.417239	
	10% level	-3.131010	

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

Augmented Dickey-Fuller Test Equation

Dependent Variable: D(MYI)

Method: Least Squares

Date: 07/15/09   Time: 17:53

Sample (adjusted): 2 608

Included observations: 607 after adjustments

Variable	Coefficient	Std. Error	t-Statistic	Prob.
MYI(-1)	-1.012492	0.040688	-24.88453	0.0000
C	0.130626	0.115605	1.129933	0.2590
@TREND(1)	-0.000739	0.000330	-2.237697	0.0256

R-squared	0.506229	Mean dependent var	0.000000
Adjusted R-squared	0.504594	S.D. dependent var	2.018693
S.E. of regression	1.420858	Akaike info criterion	3.545330
Sum squared resid	1219.378	Schwarz criterion	3.567118
Log likelihood	-1073.008	Hannan-Quinn criter.	3.553807
F-statistic	309.6200	Durbin-Watson stat	2.000248
Prob(F-statistic)	0.000000		

4.3)   Level without intercept and Trend

Null Hypothesis: MYI has a unit root

Exogenous: None

Lag Length: 0 (Automatic based on SIC, MAXLAG=18)

		t-Statistic	Prob.*
Augmented Dickey-Fuller test statistic		-24.61707	0.0000
Test critical values:	1% level	-2.568777	
	5% level	-1.941346	
	10% level	-1.616349	

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

Augmented Dickey-Fuller Test Equation

Dependent Variable: D(MYI)

Method: Least Squares

Date: 07/15/09   Time: 17:53

Sample (adjusted): 2 608

Included observations: 607 after adjustments

Variable	Coefficient	Std. Error	t-Statistic	Prob.
MYI(-1)	-1.000000	0.040622	-24.61707	0.0000

R-squared	0.500000	Mean dependent var	0.000000
Adjusted R-squared	0.500000	S.D. dependent var	2.018693
S.E. of regression	1.427432	Akaike info criterion	3.551277
Sum squared resid	1234.762	Schwarz criterion	3.558539
Log likelihood	-1076.812	Hannan-Quinn criter.	3.554102
Durbin-Watson stat	2.000000		

5) ผลการทดสอบ Unit Root Test ของอัตราดอกเบี้ยระหว่างธนาคารของประเทศฟิลิปปินส์

5.1)   Level with intercept

Null Hypothesis: PHI has a unit root

Exogenous: Constant

Lag Length: 2 (Automatic based on SIC, MAXLAG=18)

		t-Statistic	Prob.*
Augmented Dickey-Fuller test statistic		-21.56834	0.0000
Test critical values:	1% level	-3.440929	
	5% level	-2.866099	
	10% level	-2.569257	

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

Augmented Dickey-Fuller Test Equation

Dependent Variable: D(PHI)

Method: Least Squares

Date: 07/15/09   Time: 17:56

Sample (adjusted): 4 608

Included observations: 605 after adjustments

Variable	Coefficient	Std. Error	t-Statistic	Prob.
PHI(-1)	-1.740289	0.080687	-21.56834	0.0000
D(PHI(-1))	0.504676	0.060663	8.319378	0.0000
D(PHI(-2))	0.240187	0.039540	6.074590	0.0000
C	-0.098891	0.110513	-0.894839	0.3712

R-squared	0.618873	Mean dependent var	-0.001058
Adjusted R-squared	0.616971	S.D. dependent var	4.388469
S.E. of regression	2.715995	Akaike info criterion	4.842784
Sum squared resid	4433.355	Schwarz criterion	4.871909
Log likelihood	-1460.942	Hannan-Quinn criter.	4.854117
F-statistic	325.3010	Durbin-Watson stat	2.014181
Prob(F-statistic)	0.000000		

5.2)   Level with Intercept and Trend

Null Hypothesis: PHI has a unit root

Exogenous: Constant, Linear Trend

Lag Length: 2 (Automatic based on SIC, MAXLAG=18)

		t-Statistic	Prob.*
Augmented Dickey-Fuller test statistic		-21.55152	0.0000
Test critical values:	1% level	-3.973296	
	5% level	-3.417264	
	10% level	-3.131025	

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

Augmented Dickey-Fuller Test Equation

Dependent Variable: D(PHI)

Method: Least Squares

Date: 07/15/09   Time: 17:56

Sample (adjusted): 4 608

Included observations: 605 after adjustments

Variable	Coefficient	Std. Error	t-Statistic	Prob.
PHI(-1)	-1.740371	0.080754	-21.55152	0.0000
D(PHI(-1))	0.504718	0.060712	8.313270	0.0000
D(PHI(-2))	0.240216	0.039572	6.070353	0.0000
C	-0.131425	0.222465	-0.590764	0.5549
@TREND(1)	0.000107	0.000633	0.168545	0.8662

R-squared	0.618891	Mean dependent var	-0.001058
Adjusted R-squared	0.616350	S.D. dependent var	4.388469
S.E. of regression	2.718193	Akaike info criterion	4.846042
Sum squared resid	4433.145	Schwarz criterion	4.882449
Log likelihood	-1460.928	Hannan-Quinn criter.	4.860209
F-statistic	243.5884	Durbin-Watson stat	2.014199
Prob(F-statistic)	0.000000		

5.3)   Level without intercept and Trend

Null Hypothesis: PHI has a unit root

Exogenous: None

Lag Length: 2 (Automatic based on SIC, MAXLAG=18)

		t-Statistic	Prob.*
Augmented Dickey-Fuller test statistic		-21.55334	0.0000
Test critical values:	1% level	-2.568790	
	5% level	-1.941347	
	10% level	-1.616347	

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

Augmented Dickey-Fuller Test Equation

Dependent Variable: D(PHI)

Method: Least Squares

Date: 07/15/09   Time: 17:56

Sample (adjusted): 4 608

Included observations: 605 after adjustments

Variable	Coefficient	Std. Error	t-Statistic	Prob.
PHI(-1)	-1.737341	0.080607	-21.55334	0.0000
D(PHI(-1))	0.502730	0.060614	8.294003	0.0000
D(PHI(-2))	0.239172	0.039517	6.052414	0.0000
R-squared	0.618365	Mean dependent var		-0.001058
Adjusted R-squared	0.617097	S.D. dependent var		4.388469
S.E. of regression	2.715546	Akaike info criterion		4.840809
Sum squared resid	4439.262	Schwarz criterion		4.862653
Log likelihood	-1461.345	Hannan-Quinn criter.		4.849310
Durbin-Watson stat	2.013446			

6) ผลการทดสอบ Unit Root Test ของอัตราดอกเบี้ยระหว่างธนาคารของประเทศอินโดนีเซีย

6.1) Level with intercept

Null Hypothesis: IDI has a unit root

Exogenous: Constant

Lag Length: 5 (Automatic based on SIC, MAXLAG=18)

		t-Statistic	Prob.*
Augmented Dickey-Fuller test statistic		-14.57338	0.0000
Test critical values:	1% level	-3.440983	
	5% level	-2.866123	
	10% level	-2.569269	

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

Augmented Dickey-Fuller Test Equation

Dependent Variable: D(IDI)

Method: Least Squares

Date: 07/15/09   Time: 17:58

Sample (adjusted): 7 608

Included observations: 602 after adjustments

Variable	Coefficient	Std. Error	t-Statistic	Prob.
IDI(-1)	-1.471474	0.100970	-14.57338	0.0000
D(IDI(-1))	0.462015	0.086941	5.314138	0.0000
D(IDI(-2))	0.442883	0.076043	5.824112	0.0000
D(IDI(-3))	0.499011	0.067250	7.420242	0.0000
D(IDI(-4))	0.344419	0.056239	6.124155	0.0000
D(IDI(-5))	0.133040	0.040623	3.274992	0.0011
C	0.169755	0.810628	0.209411	0.8342

R-squared	0.523960	Mean dependent var	0.006272
Adjusted R-squared	0.519159	S.D. dependent var	28.67990
S.E. of regression	19.88741	Akaike info criterion	8.829610
Sum squared resid	235327.8	Schwarz criterion	8.880776
Log likelihood	-2650.713	Hannan-Quinn criter.	8.849525
F-statistic	109.1491	Durbin-Watson stat	2.028183
Prob(F-statistic)	0.000000		

6.2) Level with Intercept and Trend

Null Hypothesis: IDI has a unit root

Exogenous: Constant, Linear Trend

Lag Length: 5 (Automatic based on SIC, MAXLAG=18)

			t-Statistic	Prob.*
Augmented Dickey-Fuller test statistic			-14.56350	0.0000
Test critical values:	1% level		-3.973372	
	5% level		-3.417301	
	10% level		-3.131047	

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

Augmented Dickey-Fuller Test Equation

Dependent Variable: D(IDI)

Method: Least Squares

Date: 07/15/09   Time: 17:58

Sample (adjusted): 7 608

Included observations: 602 after adjustments

Variable	Coefficient	Std. Error	t-Statistic	Prob.
IDI(-1)	-1.471810	0.101062	-14.56350	0.0000
D(IDI(-1))	0.462283	0.087018	5.312482	0.0000
D(IDI(-2))	0.443093	0.076109	5.821790	0.0000
D(IDI(-3))	0.499173	0.067307	7.416311	0.0000
D(IDI(-4))	0.344534	0.056287	6.121061	0.0000
D(IDI(-5))	0.133103	0.040657	3.273833	0.0011
C	0.492940	1.644999	0.299660	0.7645
@TREND(1)	-0.001054	0.004668	-0.225841	0.8214

R-squared	0.524001	Mean dependent var	0.006272
Adjusted R-squared	0.518391	S.D. dependent var	28.67990
S.E. of regression	19.90329	Akaike info criterion	8.832847
Sum squared resid	235307.6	Schwarz criterion	8.891322
Log likelihood	-2650.687	Hannan-Quinn criter.	8.855606
F-statistic	93.41445	Durbin-Watson stat	2.028234
Prob(F-statistic)	0.000000		

6.3) Level without intercept and Trend

Null Hypothesis: IDI has a unit root

Exogenous: None

Lag Length: 5 (Automatic based on SIC, MAXLAG=18)

		t-Statistic	Prob.*
Augmented Dickey-Fuller test statistic		-14.58358	0.0000
Test critical values:	1% level	-2.568809	
	5% level	-1.941350	
	10% level	-1.616346	

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

Augmented Dickey-Fuller Test Equation

Dependent Variable: D(IDI)

Method: Least Squares

Date: 07/15/09   Time: 17:59

Sample (adjusted): 7 608

Included observations: 602 after adjustments

Variable	Coefficient	Std. Error	t-Statistic	Prob.
IDI(-1)	-1.471181	0.100879	-14.58358	0.0000
D(IDI(-1))	0.461783	0.086864	5.316167	0.0000
D(IDI(-2))	0.442700	0.075977	5.826767	0.0000
D(IDI(-3))	0.498868	0.067193	7.424461	0.0000
D(IDI(-4))	0.344317	0.056192	6.127487	0.0000
D(IDI(-5))	0.132984	0.040590	3.276304	0.0011

R-squared	0.523925	Mean dependent var	0.006272
Adjusted R-squared	0.519931	S.D. dependent var	28.67990
S.E. of regression	19.87145	Akaike info criterion	8.826362
Sum squared resid	235345.2	Schwarz criterion	8.870218
Log likelihood	-2650.735	Hannan-Quinn criter.	8.843432
Durbin-Watson stat	2.028143		

ภาคผนวก ข

การประมาณค่าพารามิเตอร์จากแบบจำลอง ARMA-GARCH (1,1)

1) การประมาณค่าพารามิเตอร์ของอัตราดอกเบี้ยระหว่างธนาคารของประเทศสหรัฐอเมริกา

Dependent Variable: FED

Method: ML - ARCH (Marquardt) - Normal distribution

Date: 07/15/09   Time: 17:06

Sample (adjusted): 2 608

Included observations: 607 after adjustments

Convergence achieved after 83 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	-0.196706	0.216246	-0.909640	0.3630
AR(1)	-0.925316	0.185601	-4.985509	0.0000
MA(1)	0.917438	0.196054	4.679511	0.0000
Variance Equation				
C	2.022849	0.217446	9.302743	0.0000
RESID(-1)^2	0.207047	0.017969	11.52273	0.0000
GARCH(-1)	0.793425	0.012636	62.79333	0.0000

R-squared	0.004884	Mean dependent var		-0.574778
Adjusted R-squared	0.013244	S.D. dependent var		10.67922
S.E. of regression	10.74971	Akaike info criterion		6.621865
Sum squared resid	69449.28	Schwarz criterion		6.665442
Log likelihood	-2003.736	Hannan-Quinn criter.		6.638820
Durbin-Watson stat	1.640400			

Inverted AR Roots	-.93
Inverted MA Roots	-.92

2) การประมาณค่าพารามิเตอร์ของอัตราดอกเบี้ยระหว่างธนาคารของประเทศไทย

Dependent Variable: THB

Method: ML - ARCH (Marquardt) - Normal distribution

Date: 07/15/09   Time: 17:37

Sample (adjusted): 2 608

Included observations: 607 after adjustments

Convergence achieved after 57 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	-0.016990	0.049868	-0.340697	0.7333
AR(1)	0.486666	0.080846	6.019676	0.0000
MA(1)	-0.781198	0.059654	-13.09559	0.0000
Variance Equation				
C	0.092006	0.020744	4.435205	0.0000
RESID(-1)^2	0.043079	0.004918	8.759667	0.0000
GARCH(-1)	0.953482	0.004855	196.3749	0.0000

R-squared	0.019477	Mean dependent var	-0.152267
Adjusted R-squared	0.027959	S.D. dependent var	3.386580
S.E. of regression	3.433595	Akaike info criterion	4.991734
Sum squared resid	7085.535	Schwarz criterion	5.035311
Log likelihood	-1508.991	Hannan-Quinn criter.	5.008689
Durbin-Watson stat	1.630313		

Inverted AR Roots	.49
Inverted MA Roots	.78

3) การประมาณค่าพารามิเตอร์ของอัตราดอกเบี้ยระหว่างธนาคารของประเทศสิงค์โปร์

Dependent Variable: SNG

Method: ML - ARCH (Marquardt) - Normal distribution

Date: 07/15/09   Time: 17:51

Sample (adjusted): 11 608

Included observations: 598 after adjustments

Convergence achieved after 124 iterations

MA Backcast: 1 10

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	-0.308253	0.302118	-1.020306	0.3076
AR(10)	-0.787905	0.115529	-6.819970	0.0000
MA(10)	0.756685	0.121252	6.240604	0.0000

Variance Equation				
C	0.603397	0.082890	7.279515	0.0000
RESID(-1)^2	0.084161	0.009716	8.662412	0.0000
GARCH(-1)	0.928085	0.007036	131.8985	0.0000

R-squared	0.005412	Mean dependent var	-0.288919
Adjusted R-squared	0.002988	S.D. dependent var	9.553515
S.E. of regression	9.567777	Akaike info criterion	7.186935
Sum squared resid	54193.07	Schwarz criterion	7.231018
Log likelihood	-2142.894	Hannan-Quinn criter.	7.204098
F-statistic	0.644309	Durbin-Watson stat	1.783787
Prob(F-statistic)	0.665966		

Inverted AR Roots	.93-.30i	.93+.30i	.57+.79i	.57-.79i
	.00-.98i	.00+.98i	-.57+.79i	-.57-.79i
	-.93+.30i	-.93-.30i		
Inverted MA Roots	.92+.30i	.92-.30i	.57+.79i	.57-.79i
	.00-.97i	-.00+.97i	-.57+.79i	-.57-.79i
	-.92-.30i	-.92+.30i		

4) การประมาณค่าพารามิเตอร์ของอัตราดอกเบี้ยระหว่างธนาคารของประเทศมาเลเซีย

Dependent Variable: MYI

Method: ML - ARCH (Marquardt) - Normal distribution

Date: 07/15/09   Time: 17:55

Sample (adjusted): 8 608

Included observations: 601 after adjustments

Convergence achieved after 20 iterations

MA Backcast: 1 7

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	-0.097444	0.463318	-0.210317	0.8334
AR(7)	0.012942	38.02930	0.000340	0.9997
MA(7)	0.012296	38.04462	0.000323	0.9997
Variance Equation				
C	1.318865	1.269643	1.038769	0.2989
RESID(-1)^2	-0.004857	0.002021	-2.403340	0.0162
GARCH(-1)	0.596653	0.391266	1.524929	0.0273

R-squared	0.000200	Mean dependent var	-0.093948
Adjusted R-squared	0.008605	S.D. dependent var	1.431466
S.E. of regression	1.437612	Akaike info criterion	3.649152
Sum squared resid	1229.703	Schwarz criterion	3.693065
Log likelihood	-1090.570	Hannan-Quinn criter.	3.666245
Durbin-Watson stat	2.008189		

Inverted AR Roots	.54	.34-.42i	.34+.42i	-.12-.52i
	-.12+.52i	-.48-.23i	-.48+.23i	
Inverted MA Roots	.48-.23i	.48+.23i	.12-.52i	.12+.52i
	-.33-.42i	-.33+.42i	-.53	

5)   การประมาณค่าพารามิเตอร์ของอัตราดอกเบี้ยระหว่างธนาคารของประเทศฟิลิปปินส์

Dependent Variable: PHI

Method: ML - ARCH (Marquardt) - Normal distribution

Date: 07/15/09   Time: 17:57

Sample (adjusted): 2 608

Included observations: 607 after adjustments

Convergence achieved after 130 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	-0.068285	0.033006	-2.068884	0.0386
AR(1)	0.516988	0.074980	6.895037	0.0000
MA(1)	-0.830436	0.050579	-16.41857	0.0000
Variance Equation				
C	0.157421	0.031118	5.058791	0.0000
RESID(-1)^2	0.041430	0.007044	5.881746	0.0000
GARCH(-1)	0.933988	0.010058	92.86330	0.0000

R-squared	0.122921	Mean dependent var	-0.052079
Adjusted R-squared	0.115625	S.D. dependent var	2.892479
S.E. of regression	2.720123	Akaike info criterion	4.586709
Sum squared resid	4446.840	Schwarz criterion	4.630286
Log likelihood	-1386.066	Hannan-Quinn criter.	4.603663
F-statistic	16.84588	Durbin-Watson stat	1.914651
Prob(F-statistic)	0.000000		
Inverted AR Roots	.52		
Inverted MA Roots	.83		

6)   การประมาณค่าพารามิเตอร์ของอัตราดอกเบี้ยระหว่างธนาคารของประเทศอินโดนีเซีย

Dependent Variable: IDI

Method: ML - ARCH (Marquardt) - Normal distribution

Date: 07/15/09   Time: 18:00

Sample (adjusted): 6 608

Included observations: 603 after adjustments

Convergence achieved after 79 iterations

MA Backcast: 1 5

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	-0.036162	0.070047	-0.516261	0.6057
AR(5)	-0.814513	0.063373	-12.85262	0.0000
MA(5)	0.812214	0.065321	12.43420	0.0000
Variance Equation				
C	0.041043	0.003588	11.44006	0.0000
RESID(-1)^2	0.123350	0.006923	17.81791	0.0000
GARCH(-1)	0.895826	0.003341	268.0955	0.0000

R-squared	0.013643	Mean dependent var	0.112753
Adjusted R-squared	0.005382	S.D. dependent var	20.75412
S.E. of regression	20.69820	Akaike info criterion	5.939435
Sum squared resid	255763.9	Schwarz criterion	5.983235
Log likelihood	-1784.740	Hannan-Quinn criter.	5.956482
F-statistic	1.651513	Durbin-Watson stat	1.906215
Prob(F-statistic)	0.144441		

Inverted AR Roots	.78+.56i	.78-.56i	-.30-.91i	-.30+.91i
	-.96			
Inverted MA Roots	.78-.56i	.78+.56i	-.30+.91i	-.30-.91i
	-.96			

ภาคผนวก ค

การวิเคราะห์ความเป็นเหตุเป็นผลด้วยวิธี Granger Causality Tests

1) การวิเคราะห์ความเป็นเหตุเป็นผลของความผันผวนของอัตราดอกเบี้ยระหว่างธนาคารของ
ประเทศสหรัฐอเมริกากับประเทศไทย

Pairwise Granger Causality Tests

Date: 07/20/09   Time: 10:40

Sample: 1 608

Lags: 2

Null Hypothesis:	Obs	F-Statistic	Prob.
THB does not Granger Cause FED	603	3.88448	0.0211
FED does not Granger Cause THB		2.59123	0.0758

2) การวิเคราะห์ความเป็นเหตุเป็นผลของความผันผวนของอัตราดอกเบี้ยระหว่างธนาคารของ
ประเทศสหรัฐอเมริกากับประเทศสิงค์โปร์

Pairwise Granger Causality Tests

Date: 07/29/09   Time: 13:16

Sample: 1 608

Lags: 1

Null Hypothesis:	Obs	F-Statistic	Prob.
SNG does not Granger Cause FED	595	0.10836	0.7421
FED does not Granger Cause SNG		4.62356	0.0319

3) การวิเคราะห์ความเป็นเหตุเป็นผลของความผันผวนของอัตราดอกเบี้ยระหว่างธนาคารของ
    ประเทศสหรัฐอเมริกากับประเทศมาเลเซีย

Pairwise Granger Causality Tests

Date: 07/20/09   Time: 10:53

Sample: 1 608

Lags: 2

Null Hypothesis:	Obs	F-Statistic	Prob.
MYI does not Granger Cause FED	597	0.09643	0.9081
FED does not Granger Cause MYI		0.09964	0.9052

4) การวิเคราะห์ความเป็นเหตุเป็นผลของความผันผวนของอัตราดอกเบี้ยระหว่างธนาคารของ
    ประเทศสหรัฐอเมริกากับประเทศฟิลิปปินส์

Pairwise Granger Causality Tests

Date: 07/27/09   Time: 10:47

Sample: 1 608

Lags: 1

Null Hypothesis:	Obs	F-Statistic	Prob.
PHI does not Granger Cause FED	604	1.77967	0.1827
FED does not Granger Cause PHI		1.58892	0.2080

5) การวิเคราะห์ความเป็นเหตุเป็นผลของความผันผวนของอัตราดอกเบี้ยระหว่างธนาคารของ
ประเทศสหรัฐอเมริกากับประเทศอินโดนีเซีย

Pairwise Granger Causality Tests

Date: 07/20/09   Time: 10:56

Sample: 1 608

Lags: 2

Null Hypothesis:	Obs	F-Statistic	Prob.
IDI does not Granger Cause FED	599	0.00151	0.9985
FED does not Granger Cause IDI		0.00051	0.9995

ภาคผนวก ง

การวิเคราะห์ความสัมพันธ์โดยใช้จะใช้วิธีกำลังสองน้อยที่สุด (Ordinary Least Square Method)

1) การวิเคราะห์ความสัมพันธ์ระหว่างความผันผวนของอัตราดอกเบี้ยระหว่างธนาคารของ
ประเทศสหรัฐอเมริกากับประเทศไทย

Dependent Variable: THB

Method: Least Squares

Date: 07/20/09   Time: 10:41

Sample (adjusted): 3 607

Included observations: 605 after adjustments

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	0.048895	0.076121	0.642326	0.5209
FED	0.002763	0.000910	3.037106	0.0025

R-squared	0.015066	Mean dependent var	0.049009
Adjusted R-squared	0.013433	S.D. dependent var	1.885043
S.E. of regression	1.872339	Akaike info criterion	4.095554
Sum squared resid	2113.909	Schwarz criterion	4.110117
Log likelihood	-1236.905	Hannan-Quinn criter.	4.101221
F-statistic	9.224011	Durbin-Watson stat	1.482584
Prob(F-statistic)	0.002492		

2) การวิเคราะห์ความสัมพันธ์ระหว่างความผันผวนของอัตราดอกเบี้ยระหว่างธนาคารของ
   ประเทศสหรัฐอเมริกากับประเทศสิงค์โปร์

Dependent Variable: SNG
Method: Least Squares
Date: 07/29/09   Time: 13:14
Sample (adjusted): 12 607
Included observations: 596 after adjustments

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	0.412030	0.876275	0.470206	0.6384
FED	0.021086	0.010397	2.028095	0.0430

R-squared	0.068770	Mean dependent var	0.411779
Adjusted R-squared	0.052050	S.D. dependent var	21.44850
S.E. of regression	21.39261	Akaike info criterion	8.967318
Sum squared resid	271840.3	Schwarz criterion	8.982050
Log likelihood	-2670.261	Hannan-Quinn criter.	8.973055
F-statistic	4.113170	Durbin-Watson stat	1.902303
Prob(F-statistic)	0.042996		

3) การวิเคราะห์ความสัมพันธ์ระหว่างความผันผวนของอัตราดอกเบี้ยระหว่างธนาคารของ
    ประเทศสหรัฐอเมริกากับประเทศมาเลเซีย

Dependent Variable: MYI

Method: Least Squares

Date: 07/24/09   Time: 13:49

Sample (adjusted): 9 607

Included observations: 599 after adjustments

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	0.003249	0.007786	0.417284	0.6766
FED(-1)	-2.69E-05	9.26E-05	-0.290257	0.7717

R-squared	0.000141	Mean dependent var	0.003248
Adjusted R-squared	0.001534	S.D. dependent var	0.190414
S.E. of regression	0.190560	Akaike info criterion	-0.474366
Sum squared resid	21.67893	Schwarz criterion	-0.459690
Log likelihood	144.0725	Hannan-Quinn criter.	-0.468653
F-statistic	0.084249	Durbin-Watson stat	2.304828
Prob(F-statistic)	0.771720		

4) การวิเคราะห์ความสัมพันธ์ระหว่างความผันผวนของอัตราดอกเบี้ยระหว่างธนาคารของ
ประเทศสหรัฐอเมริกากับประเทศฟิลิปปินส์

Dependent Variable: PHI

Method: Least Squares

Date: 07/24/09   Time: 13:59

Sample (adjusted): 4 607

Included observations: 604 after adjustments

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	0.000130	0.040114	0.003242	0.9974
FED(-1)	-0.000624	0.000479	-1.302330	0.1933
R-squared	0.002809	Mean dependent var		9.79E-05
Adjusted R-squared	0.001153	S.D. dependent var		0.986423
S.E. of regression	0.985854	Akaike info criterion		2.812688
Sum squared resid	585.0885	Schwarz criterion		2.827270
Log likelihood	-847.4319	Hannan-Quinn criter.		2.818363
F-statistic	1.696064	Durbin-Watson stat		2.136140
Prob(F-statistic)	0.193302			

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5) การวิเคราะห์ความสัมพันธ์ระหว่างความผันผวนของอัตราดอกเบี้ยระหว่างธนาคารของ
ประเทศสหรัฐอเมริกากับประเทศอินโดนีเซีย

Dependent Variable:IDI

Method: Least Squares

Date: 07/24/09   Time: 14:03

Sample (adjusted): 7 607

Included observations: 601 after adjustments

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	-0.499220	17.22187	-0.028988	0.9769
FED	-0.005313	0.205162	-0.025895	0.9794

R-squared	0.000001	Mean dependent var	-0.499483
Adjusted R-squared	0.001668	S.D. dependent var	421.8476
S.E. of regression	422.1993	Akaike info criterion	14.93215
Sum squared resid	1.07E+08	Schwarz criterion	14.94679
Log likelihood	-4485.112	Hannan-Quinn criter.	14.93785
F-statistic	0.000671	Durbin-Watson stat	2.121985
Prob(F-statistic)	0.979350		

ประวัติผู้เขียน

ชื่อ   นางสาวลัคเบญจา จิรวุฒิวงศ์ชัย

วัน เดือน ปี เกิด   18 ธันวาคม   2526

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