ภาคผนวก

ภาคผนวก ก
การทดสอบความนิ่งของข้อมูล

การทดสอบยูนิทรูทด้วยวิธี Augmented Dickey-Fuller Test (ADF)

At level with intercept but without trend

Null Hypothesis: RM has a unit root
Exogenous: Constant
Lag Length: 1 (Automatic based on SIC, MAXLAG=27)

		t-Statistic	Prob.*
Augmented Dickey-Fuller test statistic		-34.00345	0.0000
Test critical values:	1% level	-3.432528	
	5% level	-2.862388	
	10% level	-2.567266	

*MacKinnon (1996) one-sided p-values.
Augmented Dickey-Fuller Test Equation
Dependent Variable: D(RM)
Method: Least Squares
Date: 05/19/10   Time: 12:42
Sample (adjusted): 3 2762
Included observations: 2760 after adjustments

Variable	Coefficient	Std. Error	t-Statistic	Prob.
RM(-1)	-0.887549	0.026102	-34.00345	0.0000
D(RM(-1))	-0.071875	0.018904	-3.802131	0.0001
C	0.022228	0.030342	0.732590	0.4639

R-squared	0.481982	Mean dependent var	-0.002032
Adjusted R-squared	0.481607	S.D. dependent var	2.213271
S.E. of regression	1.593545	Akaike info criterion	3.770886
Sum squared resid	7001.090	Schwarz criterion	3.777324
Log likelihood	-5200.823	Hannan-Quinn criter.	3.773212
F-statistic	1282.606	Durbin-Watson stat	1.995225
Prob(F-statistic)	0.000000		

At level with intercept and trend

Null Hypothesis: RM has a unit root
Exogenous: Constant, Linear Trend
Lag Length: 1 (Automatic based on SIC, MAXLAG=27)

		t-Statistic	Prob.*
Augmented Dickey-Fuller test statistic		-33.99948	0.0000
Test critical values:	1% level	-3.961368	
	5% level	-3.411435	
	10% level	-3.127572	

*MacKinnon (1996) one-sided p-values.
Augmented Dickey-Fuller Test Equation
Dependent Variable: D(RM)

Method: Least Squares
Date: 05/19/10   Time: 12:43
Sample (adjusted): 3 2762
Included observations: 2760 after adjustments

Variable	Coefficient	Std. Error	t-Statistic	Prob.
RM(-1)	-0.887595	0.026106	-33.99948	0.0000
D(RM(-1))	-0.071862	0.018907	-3.800851	0.0001
C	0.002823	0.060726	0.046482	0.9629
@TREND(1)	1.40E-05	3.81E-05	0.368921	0.7122
R-squared	0.482008	Mean dependent var		-0.002032
Adjusted R-squared	0.481444	S.D. dependent var		2.213271
S.E. of regression	1.593795	Akaike info criterion		3.771561
Sum squared resid	7000.744	Schwarz criterion		3.780145
Log likelihood	-5200.755	Hannan-Quinn criter.		3.774662
F-statistic	854.8481	Durbin-Watson stat		1.995260
Prob(F-statistic)	0.000000			

At level without intercept and trend

Null Hypothesis: RM has a unit root
Exogenous: None
Lag Length: 1 (Automatic based on SIC, MAXLAG=27)

		t-Statistic	Prob.*
Augmented Dickey-Fuller test statistic		-33.99856	0.0000
Test critical values:	1% level	-2.565800	
	5% level	-1.940939	
	10% level	-1.616622	

*MacKinnon (1996) one-sided p-values.
Augmented Dickey-Fuller Test Equation
Dependent Variable: D(RM)
Method: Least Squares
Date: 05/19/10   Time: 12:43
Sample (adjusted): 3 2762
Included observations: 2760 after adjustments

Variable	Coefficient	Std. Error	t-Statistic	Prob.
RM(-1)	-0.887082	0.026092	-33.99856	0.0000
D(RM(-1))	-0.072116	0.018899	-3.815796	0.0001
R-squared	0.481881	Mean dependent var		-0.002032
Adjusted R-squared	0.481694	S.D. dependent var		2.213271
S.E. of regression	1.593412	Akaike info criterion		3.770356
Sum squared resid	7002.452	Schwarz criterion		3.774648
Log likelihood	-5201.091	Hannan-Quinn criter.		3.771906
Durbin-Watson stat	1.995285			

At level with intercept but without trend

Null Hypothesis: RB has a unit root
Exogenous: Constant

Lag Length: 0 (Automatic based on SIC, MAXLAG=27)

		t-Statistic	Prob.*
Augmented Dickey-Fuller test statistic		-51.69505	0.0001
Test critical values:	1% level	-3.432527	
	5% level	-2.862387	
	10% level	-2.567266	

*MacKinnon (1996) one-sided p-values.
Augmented Dickey-Fuller Test Equation
Dependent Variable: D(RB)
Method: Least Squares
Date: 06/23/10   Time: 13:44
Sample (adjusted): 2 2762
Included observations: 2761 after adjustments

Variable	Coefficient	Std. Error	t-Statistic	Prob.
RB(-1)	-0.982279	0.019001	-51.69505	0.0000
C	0.005456	0.043110	0.126566	0.8993

R-squared	0.492026	Mean dependent var	-0.001973
Adjusted R-squared	0.491842	S.D. dependent var	3.177686
S.E. of regression	2.265221	Akaike info criterion	4.473945
Sum squared resid	14157.05	Schwarz criterion	4.478236
Log likelihood	-6174.282	Hannan-Quinn criter.	4.475495
F-statistic	2672.378	Durbin-Watson stat	2.002970
Prob(F-statistic)	0.000000		

At level with intercept and trend

Null Hypothesis: RB has a unit root
Exogenous: Constant, Linear Trend
Lag Length: 0 (Automatic based on SIC, MAXLAG=27)

		t-Statistic	Prob.*
Augmented Dickey-Fuller test statistic		-51.70148	0.0000
Test critical values:	1% level	-3.961367	
	5% level	-3.411435	
	10% level	-3.127571	

*MacKinnon (1996) one-sided p-values.
Augmented Dickey-Fuller Test Equation
Dependent Variable: D(RB)
Method: Least Squares
Date: 06/23/10   Time: 13:48
Sample (adjusted): 2 2762
Included observations: 2761 after adjustments

Variable	Coefficient	Std. Error	t-Statistic	Prob.
RB(-1)	-0.982542	0.019004	-51.70148	0.0000
C	-0.062971	0.086251	-0.730084	0.4654
@TREND(1)	4.96E-05	5.41E-05	0.915974	0.3598

R-squared	0.492180	Mean dependent var	-0.001973
Adjusted R-squared	0.491812	S.D. dependent var	3.177686
S.E. of regression	2.265287	Akaike info criterion	4.474366

Sum squared resid	14152.74	Schwarz criterion	4.480802
Log likelihood	-6173.862	Hannan-Quinn criter.	4.476691
F-statistic	1336.530	Durbin-Watson stat	2.003039
Prob(F-statistic)	0.000000		

At level without intercept and trend

Null Hypothesis: RB has a unit root
Exogenous: None
Lag Length: 0 (Automatic based on SIC, MAXLAG=27)

		t-Statistic	Prob.*
Augmented Dickey-Fuller test statistic		-51.70413	0.0001
Test critical values:	1% level	-2.565800	
	5% level	-1.940939	
	10% level	-1.616622	

*MacKinnon (1996) one-sided p-values.
Augmented Dickey-Fuller Test Equation
Dependent Variable: D(RB)
Method: Least Squares
Date: 06/23/10   Time: 13:48
Sample (adjusted): 2 2762
Included observations: 2761 after adjustments

Variable	Coefficient	Std. Error	t-Statistic	Prob.
RB(-1)	-0.982271	0.018998	-51.70413	0.0000

R-squared	0.492023	Mean dependent var	-0.001973
Adjusted R-squared	0.492023	S.D. dependent var	3.177686
S.E. of regression	2.264817	Akaike info criterion	4.473227
Sum squared resid	14157.13	Schwarz criterion	4.475372
Log likelihood	-6174.290	Hannan-Quinn criter.	4.474002
Durbin-Watson stat	2.002975		

At level with intercept but without trend

Null Hypothesis: RTMB has a unit root
Exogenous: Constant
Lag Length: 0 (Automatic based on SIC, MAXLAG=27)

		t-Statistic	Prob.*
Augmented Dickey-Fuller test statistic		-53.10504	0.0001
Test critical values:	1% level	-3.432531	
	5% level	-2.862389	
	10% level	-2.567267	

*MacKinnon (1996) one-sided p-values.
Augmented Dickey-Fuller Test Equation
Dependent Variable: D(RTMB)
Method: Least Squares
Date: 05/19/10   Time: 12:54
Sample (adjusted): 2 2757
Included observations: 2756 after adjustments

Variable	Coefficient	Std. Error	t-Statistic	Prob.
RTMB(-1)	-1.011313	0.019044	-53.10504	0.0000
C	-0.065862	0.060417	-1.090126	0.2758

R-squared	0.505933	Mean dependent var	-0.002261
Adjusted R-squared	0.505754	S.D. dependent var	4.510664
S.E. of regression	3.171116	Akaike info criterion	5.146770
Sum squared resid	27694.16	Schwarz criterion	5.151067
Log likelihood	-7090.248	Hannan-Quinn criter.	5.148322
F-statistic	2820.145	Durbin-Watson stat	1.997884
Prob(F-statistic)	0.000000		

At level with intercept and trend

Null Hypothesis: RTMB has a unit root
Exogenous: Constant, Linear Trend
Lag Length: 0 (Automatic based on SIC, MAXLAG=27)

		t-Statistic	Prob.*
Augmented Dickey-Fuller test statistic		-53.09563	0.0000
Test critical values:	1% level	-3.961373	
	5% level	-3.411438	
	10% level	-3.127573	

*MacKinnon (1996) one-sided p-values.
Augmented Dickey-Fuller Test Equation
Dependent Variable: D(RTMB)
Method: Least Squares
Date: 05/19/10   Time: 12:54
Sample (adjusted): 2 2757
Included observations: 2756 after adjustments

Variable	Coefficient	Std. Error	t-Statistic	Prob.
RTMB(-1)	-1.011315	0.019047	-53.09563	0.0000
C	-0.078095	0.120872	-0.646099	0.5183
@TREND(1)	8.87E-06	7.59E-05	0.116859	0.9070

R-squared	0.505936	Mean dependent var	-0.002261
Adjusted R-squared	0.505577	S.D. dependent var	4.510664
S.E. of regression	3.171684	Akaike info criterion	5.147490
Sum squared resid	27694.02	Schwarz criterion	5.153936
Log likelihood	-7090.242	Hannan-Quinn criter.	5.149819
F-statistic	1409.574	Durbin-Watson stat	1.997888
Prob(F-statistic)	0.000000		

At level without intercept and trend

Null Hypothesis: RTMB has a unit root
Exogenous: None
Lag Length: 0 (Automatic based on SIC, MAXLAG=27)

		t-Statistic	Prob.*
Augmented Dickey-Fuller test statistic		-53.09205	0.0001
Test critical values:	1% level	-2.565801	

5% level		-1.940939	
10% level		-1.616622	

*MacKinnon (1996) one-sided p-values.
Augmented Dickey-Fuller Test Equation
Dependent Variable: D(RTMB)
Method: Least Squares
Date: 05/19/10   Time: 12:54
Sample (adjusted): 2 2757
Included observations: 2756 after adjustments

Variable	Coefficient	Std. Error	t-Statistic	Prob.
RTMB(-1)	-1.010901	0.019041	-53.09205	0.0000

R-squared	0.505720	Mean dependent var	-0.002261
Adjusted R-squared	0.505720	S.D. dependent var	4.510664
S.E. of regression	3.171224	Akaike info criterion	5.146475
Sum squared resid	27706.11	Schwarz criterion	5.148624
Log likelihood	-7090.843	Hannan-Quinn criter.	5.147252
Durbin-Watson stat	1.997880		

At level with intercept but without trend

Null Hypothesis: RKTB has a unit root
Exogenous: Constant
Lag Length: 0 (Automatic based on SIC, MAXLAG=27)

		t-Statistic	Prob.*
Augmented Dickey-Fuller test statistic		-53.95998	0.0001
Test critical values:	1% level	-3.432527	
	5% level	-2.862387	
	10% level	-2.567266	

*MacKinnon (1996) one-sided p-values.
Augmented Dickey-Fuller Test Equation
Dependent Variable: D(RKTB)
Method: Least Squares
Date: 05/19/10   Time: 12:44
Sample (adjusted): 2 2762
Included observations: 2761 after adjustments

Variable	Coefficient	Std. Error	t-Statistic	Prob.
RKTB(-1)	-1.025911	0.019012	-53.95998	0.0000
C	-0.017148	0.055113	-0.311140	0.7557

R-squared	0.513462	Mean dependent var	-0.001033
Adjusted R-squared	0.513286	S.D. dependent var	4.150945
S.E. of regression	2.895903	Akaike info criterion	4.965195
Sum squared resid	23137.67	Schwarz criterion	4.969486
Log likelihood	-6852.452	Hannan-Quinn criter.	4.966745
F-statistic	2911.679	Durbin-Watson stat	2.000277
Prob(F-statistic)	0.000000		

At level with intercept and trend

Null Hypothesis: RKTB has a unit root
Exogenous: Constant, Linear Trend
Lag Length: 0 (Automatic based on SIC, MAXLAG=27)

		t-Statistic	Prob.*
Augmented Dickey-Fuller test statistic		-53.97680	0.0000
Test critical values:	1% level	-3.961367	
	5% level	-3.411435	
	10% level	-3.127571	

*MacKinnon (1996) one-sided p-values.
Augmented Dickey-Fuller Test Equation
Dependent Variable: D(RKTB)
Method: Least Squares
Date: 05/19/10   Time: 12:44
Sample (adjusted): 2 2762
Included observations: 2761 after adjustments

Variable	Coefficient	Std. Error	t-Statistic	Prob.
RKTB(-1)	-1.026331	0.019014	-53.97680	0.0000
C	-0.130716	0.110266	-1.185456	0.2359
@TREND(1)	8.22E-05	6.92E-05	1.189102	0.2345

R-squared	0.513711	Mean dependent var	-0.001033
Adjusted R-squared	0.513359	S.D. dependent var	4.150945
S.E. of regression	2.895686	Akaike info criterion	4.965407
Sum squared resid	23125.82	Schwarz criterion	4.971843
Log likelihood	-6851.744	Hannan-Quinn criter.	4.967732
F-statistic	1456.765	Durbin-Watson stat	2.000452
Prob(F-statistic)	0.000000		

At level without intercept and trend

Null Hypothesis: RKTB has a unit root
Exogenous: None
Lag Length: 0 (Automatic based on SIC, MAXLAG=27)

		t-Statistic	Prob.*
Augmented Dickey-Fuller test statistic		-53.96791	0.0001
Test critical values:	1% level	-2.565800	
	5% level	-1.940939	
	10% level	-1.616622	

*MacKinnon (1996) one-sided p-values.
Augmented Dickey-Fuller Test Equation
Dependent Variable: D(RKTB)
Method: Least Squares
Date: 05/19/10   Time: 12:44
Sample (adjusted): 2 2762
Included observations: 2761 after adjustments

Variable	Coefficient	Std. Error	t-Statistic	Prob.
RKTB(-1)	-1.025879	0.019009	-53.96791	0.0000

R-squared	0.513445	Mean dependent var	-0.001033
Adjusted R-squared	0.513445	S.D. dependent var	4.150945
S.E. of regression	2.895429	Akaike info criterion	4.964506
Sum squared resid	23138.48	Schwarz criterion	4.966651
Log likelihood	-6852.500	Hannan-Quinn criter.	4.965281
Durbin-Watson stat	2.000272		

At level with intercept but without trend

Null Hypothesis: RKBANK has a unit root
Exogenous: Constant
Lag Length: 0 (Automatic based on SIC, MAXLAG=27)

		t-Statistic	Prob.*
Augmented Dickey-Fuller test statistic		-51.34499	0.0001
Test critical values:	1% level	-3.432527	
	5% level	-2.862387	
	10% level	-2.567266	

*MacKinnon (1996) one-sided p-values.
Augmented Dickey-Fuller Test Equation
Dependent Variable: D(RKBANK)
Method: Least Squares
Date: 05/19/10   Time: 12:47
Sample (adjusted): 2 2762
Included observations: 2761 after adjustments

Variable	Coefficient	Std. Error	t-Statistic	Prob.
RKBANK(-1)	-0.977006	0.019028	-51.34499	0.0000
C	0.036336	0.046396	0.783168	0.4336

R-squared	0.488630	Mean dependent var	-0.000294
Adjusted R-squared	0.488444	S.D. dependent var	3.408153
S.E. of regression	2.437617	Akaike info criterion	4.620643
Sum squared resid	16393.92	Schwarz criterion	4.624934
Log likelihood	-6376.798	Hannan-Quinn criter.	4.622193
F-statistic	2636.308	Durbin-Watson stat	2.001253
Prob(F-statistic)	0.000000		

At level with intercept and trend

Null Hypothesis: RKBANK has a unit root
Exogenous: Constant, Linear Trend
Lag Length: 0 (Automatic based on SIC, MAXLAG=27)

		t-Statistic	Prob.*
Augmented Dickey-Fuller test statistic		-51.34898	0.0000
Test critical values:	1% level	-3.961367	
	5% level	-3.411435	
	10% level	-3.127571	

*MacKinnon (1996) one-sided p-values.
Augmented Dickey-Fuller Test Equation
Dependent Variable: D(RKBANK)

Method: Least Squares
Date: 05/19/10   Time: 12:48
Sample (adjusted): 2 2762
Included observations: 2761 after adjustments

Variable	Coefficient	Std. Error	t-Statistic	Prob.
RKBANK(-1)	-0.977226	0.019031	-51.34898	0.0000
C	-0.031304	0.092813	-0.337280	0.7359
@TREND(1)	4.90E-05	5.82E-05	0.841477	0.4002

R-squared	0.488761	Mean dependent var		-0.000294
Adjusted R-squared	0.488390	S.D. dependent var		3.408153
S.E. of regression	2.437746	Akaike info criterion		4.621111
Sum squared resid	16389.71	Schwarz criterion		4.627547
Log likelihood	-6376.443	Hannan-Quinn criter.		4.623436
F-statistic	1318.368	Durbin-Watson stat		2.001320
Prob(F-statistic)	0.000000			

At level without intercept and trend

Null Hypothesis: RKBANK has a unit root
Exogenous: None
Lag Length: 0 (Automatic based on SIC, MAXLAG=27)

		t-Statistic	Prob.*
Augmented Dickey-Fuller test statistic		-51.34261	0.0001
Test critical values:	1% level	-2.565800	
	5% level	-1.940939	
	10% level	-1.616622	

*MacKinnon (1996) one-sided p-values.
Augmented Dickey-Fuller Test Equation
Dependent Variable: D(RKBANK)
Method: Least Squares
Date: 05/19/10   Time: 12:48
Sample (adjusted): 2 2762
Included observations: 2761 after adjustments

Variable	Coefficient	Std. Error	t-Statistic	Prob.
RKBANK(-1)	-0.976777	0.019025	-51.34261	0.0000

R-squared	0.488516	Mean dependent var		-0.000294
Adjusted R-squared	0.488516	S.D. dependent var		3.408153
S.E. of regression	2.437446	Akaike info criterion		4.620141
Sum squared resid	16397.56	Schwarz criterion		4.622286
Log likelihood	-6377.105	Hannan-Quinn criter.		4.620916
Durbin-Watson stat	2.001275			

At level with intercept but without trend

Null Hypothesis: RBBL has a unit root
Exogenous: Constant
Lag Length: 0 (Automatic based on SIC, MAXLAG=27)

	t-Statistic	Prob.*

			t-Statistic	Prob.*
Augmented Dickey-Fuller test statistic			-49.89536	0.0001
Test critical values:	1% level		-3.432527	
	5% level		-2.862387	
	10% level		-2.567266	

*MacKinnon (1996) one-sided p-values.
Augmented Dickey-Fuller Test Equation
Dependent Variable: D(RBBL)
Method: Least Squares
Date: 05/19/10   Time: 12:48
Sample (adjusted): 2 2762
Included observations: 2761 after adjustments

Variable	Coefficient	Std. Error	t-Statistic	Prob.
RBBL(-1)	-0.948120	0.019002	-49.89536	0.0000
C	0.030248	0.047332	0.639064	0.5228

R-squared	0.474331	Mean dependent var	-0.001016
Adjusted R-squared	0.474140	S.D. dependent var	3.429384
S.E. of regression	2.486859	Akaike info criterion	4.660642
Sum squared resid	17062.95	Schwarz criterion	4.664933
Log likelihood	-6432.016	Hannan-Quinn criter.	4.662192
F-statistic	2489.547	Durbin-Watson stat	2.002869
Prob(F-statistic)	0.000000		

At level with intercept and trend

Null Hypothesis: RBBL has a unit root
Exogenous: Constant, Linear Trend
Lag Length: 0 (Automatic based on SIC, MAXLAG=27)

			t-Statistic	Prob.*
Augmented Dickey-Fuller test statistic			-49.88852	0.0000
Test critical values:	1% level		-3.961367	
	5% level		-3.411435	
	10% level		-3.127571	

*MacKinnon (1996) one-sided p-values.
Augmented Dickey-Fuller Test Equation
Dependent Variable: D(RBBL)
Method: Least Squares
Date: 05/19/10   Time: 12:49
Sample (adjusted): 2 2762
Included observations: 2761 after adjustments

Variable	Coefficient	Std. Error	t-Statistic	Prob.
RBBL(-1)	-0.948154	0.019005	-49.88852	0.0000
C	0.001897	0.094697	0.020031	0.9840
@TREND(1)	2.05E-05	5.94E-05	0.345685	0.7296

R-squared	0.474353	Mean dependent var	-0.001016
Adjusted R-squared	0.473972	S.D. dependent var	3.429384
S.E. of regression	2.487256	Akaike info criterion	4.661323
Sum squared resid	17062.21	Schwarz criterion	4.667759
Log likelihood	-6431.957	Hannan-Quinn criter.	4.663648

| | | F-statistic | 1244.436 | Durbin-Watson stat | 2.002887 |
| | | Prob(F-statistic) | 0.000000 | | |

At level without intercept and trend

Null Hypothesis: RBBL has a unit root
Exogenous: None
Lag Length: 0 (Automatic based on SIC, MAXLAG=27)

		t-Statistic	Prob.*
Augmented Dickey-Fuller test statistic		-49.89662	0.0001
Test critical values:	1% level	-2.565800	
	5% level	-1.940939	
	10% level	-1.616622	

*MacKinnon (1996) one-sided p-values.
Augmented Dickey-Fuller Test Equation
Dependent Variable: D(RBBL)
Method: Least Squares
Date: 05/19/10   Time: 12:49
Sample (adjusted): 2 2762
Included observations: 2761 after adjustments

Variable	Coefficient	Std. Error	t-Statistic	Prob.
RBBL(-1)	-0.947959	0.018998	-49.89662	0.0000

R-squared	0.474253	Mean dependent var	-0.001016
Adjusted R-squared	0.474253	S.D. dependent var	3.429384
S.E. of regression	2.486592	Akaike info criterion	4.660066
Sum squared resid	17065.47	Schwarz criterion	4.662211
Log likelihood	-6432.221	Hannan-Quinn criter.	4.660841
Durbin-Watson stat	2.002900		

At level with intercept but without trend

Null Hypothesis: RBAY has a unit root
Exogenous: Constant
Lag Length: 1 (Automatic based on SIC, MAXLAG=27)

		t-Statistic	Prob.*
Augmented Dickey-Fuller test statistic		-35.19692	0.0000
Test critical values:	1% level	-3.432528	
	5% level	-2.862388	
	10% level	-2.567266	

*MacKinnon (1996) one-sided p-values.
Augmented Dickey-Fuller Test Equation
Dependent Variable: D(RBAY)
Method: Least Squares
Date: 05/19/10   Time: 12:49
Sample (adjusted): 3 2762
Included observations: 2760 after adjustments

Variable	Coefficient	Std. Error	t-Statistic	Prob.

RBAY(-1)	-0.952526	0.027063	-35.19692	0.0000
D(RBAY(-1))	-0.061628	0.018962	-3.249990	0.0012
C	0.019057	0.054892	0.347173	0.7285

R-squared	0.509486	Mean dependent var	0.000395
Adjusted R-squared	0.509130	S.D. dependent var	4.115849
S.E. of regression	2.883652	Akaike info criterion	4.957078
Sum squared resid	22925.69	Schwarz criterion	4.963516
Log likelihood	-6837.768	Hannan-Quinn criter.	4.959404
F-statistic	1431.815	Durbin-Watson stat	1.998429
Prob(F-statistic)	0.000000		

At level with intercept and trend

Null Hypothesis: RBAY has a unit root
Exogenous: Constant, Linear Trend
Lag Length: 1 (Automatic based on SIC, MAXLAG=27)

		t-Statistic	Prob.*
Augmented Dickey-Fuller test statistic		-35.19928	0.0000
Test critical values:	1% level	-3.961368	
	5% level	-3.411435	
	10% level	-3.127572	

*MacKinnon (1996) one-sided p-values.
Augmented Dickey-Fuller Test Equation
Dependent Variable: D(RBAY)
Method: Least Squares
Date: 05/19/10   Time: 12:49
Sample (adjusted): 3 2762
Included observations: 2760 after adjustments

Variable	Coefficient	Std. Error	t-Statistic	Prob.
RBAY(-1)	-0.952835	0.027070	-35.19928	0.0000
D(RBAY(-1))	-0.061489	0.018966	-3.242112	0.0012
C	-0.043026	0.109885	-0.391550	0.6954
@TREND(1)	4.49E-05	6.89E-05	0.652205	0.5143

R-squared	0.509561	Mean dependent var	0.000395
Adjusted R-squared	0.509027	S.D. dependent var	4.115849
S.E. of regression	2.883952	Akaike info criterion	4.957649
Sum squared resid	22922.15	Schwarz criterion	4.966233
Log likelihood	-6837.555	Hannan-Quinn criter.	4.960749
F-statistic	954.4863	Durbin-Watson stat	1.998400
Prob(F-statistic)	0.000000		

At level without intercept and trend

Null Hypothesis: RBAY has a unit root
Exogenous: None
Lag Length: 1 (Automatic based on SIC, MAXLAG=27)

		t-Statistic	Prob.*
Augmented Dickey-Fuller test statistic		-35.20083	0.0000
Test critical values:	1% level	-2.565800	
	5% level	-1.940939	

10% level			-1.616622	

*MacKinnon (1996) one-sided p-values.
Augmented Dickey-Fuller Test Equation
Dependent Variable: D(RBAY)
Method: Least Squares
Date: 05/19/10   Time: 12:50
Sample (adjusted): 3 2762
Included observations: 2760 after adjustments

Variable	Coefficient	Std. Error	t-Statistic	Prob.
RBAY(-1)	-0.952426	0.027057	-35.20083	0.0000
D(RBAY(-1))	-0.061681	0.018959	-3.253449	0.0012
R-squared	0.509464	Mean dependent var		0.000395
Adjusted R-squared	0.509286	S.D. dependent var		4.115849
S.E. of regression	2.883192	Akaike info criterion		4.956397
Sum squared resid	22926.69	Schwarz criterion		4.960689
Log likelihood	-6837.828	Hannan-Quinn criter.		4.957948
Durbin-Watson stat	1.998432			

At level with intercept but without trend

Null Hypothesis: RSCB has a unit root
Exogenous: Constant
Lag Length: 0 (Automatic based on SIC, MAXLAG=27)

			t-Statistic	Prob.*
Augmented Dickey-Fuller test statistic			-50.34626	0.0001
Test critical values:	1% level		-3.432527	
	5% level		-2.862387	
	10% level		-2.567266	

*MacKinnon (1996) one-sided p-values.
Augmented Dickey-Fuller Test Equation
Dependent Variable: D(RSCB)
Method: Least Squares
Date: 05/19/10   Time: 13:37
Sample (adjusted): 2 2762
Included observations: 2761 after adjustments

Variable	Coefficient	Std. Error	t-Statistic	Prob.
RSCB(-1)	-0.956462	0.018998	-50.34626	0.0000
C	0.056203	0.052435	1.071859	0.2839
R-squared	0.478819	Mean dependent var		-0.002667
Adjusted R-squared	0.478630	S.D. dependent var		3.814794
S.E. of regression	2.754509	Akaike info criterion		4.865079
Sum squared resid	20933.41	Schwarz criterion		4.869370
Log likelihood	-6714.242	Hannan-Quinn criter.		4.866629
F-statistic	2534.746	Durbin-Watson stat		2.003090
Prob(F-statistic)	0.000000			

At level with intercept and trend

Null Hypothesis: RSCB has a unit root
Exogenous: Constant, Linear Trend
Lag Length: 0 (Automatic based on SIC, MAXLAG=27)

		t-Statistic	Prob.*
Augmented Dickey-Fuller test statistic		-50.33720	0.0000
Test critical values:	1% level	-3.961367	
	5% level	-3.411435	
	10% level	-3.127571	

*MacKinnon (1996) one-sided p-values.
Augmented Dickey-Fuller Test Equation
Dependent Variable: D(RSCB)
Method: Least Squares
Date: 05/19/10   Time: 13:38
Sample (adjusted): 2 2762
Included observations: 2761 after adjustments

Variable	Coefficient	Std. Error	t-Statistic	Prob.
RSCB(-1)	-0.956467	0.019001	-50.33720	0.0000
C	0.063671	0.104901	0.606960	0.5439
@TREND(1)	-5.41E-06	6.58E-05	-0.082202	0.9345

R-squared	0.478820	Mean dependent var	-0.002667
Adjusted R-squared	0.478442	S.D. dependent var	3.814794
S.E. of regression	2.755005	Akaike info criterion	4.865801
Sum squared resid	20933.36	Schwarz criterion	4.872237
Log likelihood	-6714.239	Hannan-Quinn criter.	4.868126
F-statistic	1266.920	Durbin-Watson stat	2.003084
Prob(F-statistic)	0.000000		

At level without intercept and trend

Null Hypothesis: RSCB has a unit root
Exogenous: None
Lag Length: 0 (Automatic based on SIC, MAXLAG=27)

		t-Statistic	Prob.*
Augmented Dickey-Fuller test statistic		-50.33351	0.0001
Test critical values:	1% level	-2.565800	
	5% level	-1.940939	
	10% level	-1.616622	

*MacKinnon (1996) one-sided p-values.
Augmented Dickey-Fuller Test Equation
Dependent Variable: D(RSCB)
Method: Least Squares
Date: 05/19/10   Time: 13:38
Sample (adjusted): 2 2762
Included observations: 2761 after adjustments

Variable	Coefficient	Std. Error	t-Statistic	Prob.
RSCB(-1)	-0.956008	0.018993	-50.33351	0.0000

R-squared	0.478602	Mean dependent var	-0.002667
Adjusted R-squared	0.478602	S.D. dependent var	3.814794
S.E. of regression	2.754583	Akaike info criterion	4.864771
Sum squared resid	20942.13	Schwarz criterion	4.866917
Log likelihood	-6714.817	Hannan-Quinn criter.	4.865546
Durbin-Watson stat	2.003183		

2. การทดสอบยูนิทรูทด้วยวิธี The Phillips-Perron (PP) Test

At level with intercept but without trend

Null Hypothesis: RM has a unit root
Exogenous: Constant
Bandwidth: 7 (Newey-West using Bartlett kernel)

		Adj. t-Stat	Prob.*
Phillips-Perron test statistic		-50.25889	0.0001
Test critical values:	1% level	-3.432527	
	5% level	-2.862387	
	10% level	-2.567266	

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

Residual variance (no correction)	2.561434
HAC corrected variance (Bartlett kernel)	2.767134

Phillips-Perron Test Equation
Dependent Variable: D(RM)
Method: Least Squares
Date: 06/23/10   Time: 14:40
Sample (adjusted): 2 2762
Included observations: 2761 after adjustments

Variable	Coefficient	Std. Error	t-Statistic	Prob.
RM(-1)	-0.951017	0.018969	-50.13580	0.0000
C	0.026221	0.030475	0.860428	0.3896

R-squared	0.476729	Mean dependent var	-0.001951
Adjusted R-squared	0.476539	S.D. dependent var	2.212874
S.E. of regression	1.601028	Akaike info criterion	3.779893
Sum squared resid	7072.120	Schwarz criterion	3.784184
Log likelihood	-5216.143	Hannan-Quinn criter.	3.781443
F-statistic	2513.598	Durbin-Watson stat	2.011961
Prob(F-statistic)	0.000000		

At level with intercept and trend

Null Hypothesis: RM has a unit root
Exogenous: Constant, Linear Trend
Bandwidth: 7 (Newey-West using Bartlett kernel)

		Adj. t-Stat	Prob.*
Phillips-Perron test statistic		-50.25079	0.0000
Test critical values:	1% level	-3.961367	
	5% level	-3.411435	

	10% level	-3.127571

Residual variance (no correction)	2.561375
HAC corrected variance (Bartlett kernel)	2.766625

Phillips-Perron Test Equation
Dependent Variable: D(RM)
Method: Least Squares
Date: 06/23/10   Time: 14:43
Sample (adjusted): 2 2762
Included observations: 2761 after adjustments

Variable	Coefficient	Std. Error	t-Statistic	Prob.
RM(-1)	-0.951029	0.018972	-50.12775	0.0000
C	0.012892	0.060968	0.211450	0.8326
@TREND(1)	9.65E-06	3.82E-05	0.252449	0.8007

R-squared	0.476741	Mean dependent var	-0.001951
Adjusted R-squared	0.476361	S.D. dependent var	2.212874
S.E. of regression	1.601300	Akaike info criterion	3.780595
Sum squared resid	7071.957	Schwarz criterion	3.787031
Log likelihood	-5216.111	Hannan-Quinn criter.	3.782919
F-statistic	1256.404	Durbin-Watson stat	2.011983
Prob(F-statistic)	0.000000		

At level without intercept and trend

Null Hypothesis: RM has a unit root
Exogenous: None
Bandwidth: 7 (Newey-West using Bartlett kernel)

	Adj. t-Stat	Prob.*
Phillips-Perron test statistic	-50.25612	0.0001
Test critical values:	1% level	-2.565800
	5% level	-1.940939
	10% level	-1.616622

Residual variance (no correction)	2.562122
HAC corrected variance (Bartlett kernel)	2.770664

Phillips-Perron Test Equation
Dependent Variable: D(RM)
Method: Least Squares
Date: 06/23/10   Time: 14:44
Sample (adjusted): 2 2762
Included observations: 2761 after adjustments

Variable	Coefficient	Std. Error	t-Statistic	Prob.
RM(-1)	-0.950716	0.018965	-50.13081	0.0000

R-squared	0.476588	Mean dependent var	-0.001951
Adjusted R-squared	0.476588	S.D. dependent var	2.212874
S.E. of regression	1.600953	Akaike info criterion	3.779437

Sum squared resid	7074.018	Schwarz criterion	3.781583
Log likelihood	-5216.513	Hannan-Quinn criter.	3.780212
Durbin-Watson stat	2.012069		

At level with intercept but without trend

Null Hypothesis: RB has a unit root
Exogenous: Constant
Bandwidth: 12 (Newey-West using Bartlett kernel)

		Adj. t-Stat	Prob.*
Phillips-Perron test statistic		-51.69535	0.0001
Test critical values:	1% level	-3.432527	
	5% level	-2.862387	
	10% level	-2.567266	

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

Residual variance (no correction)	5.127507
HAC corrected variance (Bartlett kernel)	5.131542

Phillips-Perron Test Equation
Dependent Variable: D(RB)
Method: Least Squares
Date: 06/23/10   Time: 23:20
Sample (adjusted): 2 2762
Included observations: 2761 after adjustments

Variable	Coefficient	Std. Error	t-Statistic	Prob.
RB(-1)	-0.982279	0.019001	-51.69505	0.0000
C	0.005456	0.043110	0.126566	0.8993
R-squared	0.492026	Mean dependent var		-0.001973
Adjusted R-squared	0.491842	S.D. dependent var		3.177686
S.E. of regression	2.265221	Akaike info criterion		4.473945
Sum squared resid	14157.05	Schwarz criterion		4.478236
Log likelihood	-6174.282	Hannan-Quinn criter.		4.475495
F-statistic	2672.378	Durbin-Watson stat		2.002970
Prob(F-statistic)	0.000000			

At level with intercept and trend

Null Hypothesis: RB has a unit root
Exogenous: Constant, Linear Trend
Bandwidth: 12 (Newey-West using Bartlett kernel)

		Adj. t-Stat	Prob.*
Phillips-Perron test statistic		-51.70066	0.0000
Test critical values:	1% level	-3.961367	
	5% level	-3.411435	
	10% level	-3.127571	

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

Residual variance (no correction)				5.125948
HAC corrected variance (Bartlett kernel)				5.114157

Phillips-Perron Test Equation
Dependent Variable: D(RB)
Method: Least Squares
Date: 06/23/10   Time: 23:21
Sample (adjusted): 2 2762
Included observations: 2761 after adjustments

Variable	Coefficient	Std. Error	t-Statistic	Prob.
RB(-1)	-0.982542	0.019004	-51.70148	0.0000
C	-0.062971	0.086251	-0.730084	0.4654
@TREND(1)	4.96E-05	5.41E-05	0.915974	0.3598

R-squared	0.492180	Mean dependent var	-0.001973
Adjusted R-squared	0.491812	S.D. dependent var	3.177686
S.E. of regression	2.265287	Akaike info criterion	4.474366
Sum squared resid	14152.74	Schwarz criterion	4.480802
Log likelihood	-6173.862	Hannan-Quinn criter.	4.476691
F-statistic	1336.530	Durbin-Watson stat	2.003039
Prob(F-statistic)	0.000000		

At level without intercept and trend

Null Hypothesis: RB has a unit root
Exogenous: None
Bandwidth: 12 (Newey-West using Bartlett kernel)

		Adj. t-Stat	Prob.*
Phillips-Perron test statistic		-51.70444	0.0001
Test critical values:	1% level	-2.565800	
	5% level	-1.940939	
	10% level	-1.616622	

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

Residual variance (no correction)				5.127537
HAC corrected variance (Bartlett kernel)				5.131781

Phillips-Perron Test Equation
Dependent Variable: D(RB)
Method: Least Squares
Date: 06/23/10   Time: 23:21
Sample (adjusted): 2 2762
Included observations: 2761 after adjustments

Variable	Coefficient	Std. Error	t-Statistic	Prob.
RB(-1)	-0.982271	0.018998	-51.70413	0.0000

R-squared	0.492023	Mean dependent var	-0.001973
Adjusted R-squared	0.492023	S.D. dependent var	3.177686
S.E. of regression	2.264817	Akaike info criterion	4.473227
Sum squared resid	14157.13	Schwarz criterion	4.475372
Log likelihood	-6174.290	Hannan-Quinn criter.	4.474002
Durbin-Watson stat	2.002975		

At level with intercept but without trend

Null Hypothesis: RTMB has a unit root
Exogenous: Constant
Bandwidth: 13 (Newey-West using Bartlett kernel)

		Adj. t-Stat	Prob.*
Phillips-Perron test statistic		-53.26162	0.0001
Test critical values:	1% level	-3.432531	
	5% level	-2.862389	
	10% level	-2.567267	

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

Residual variance (no correction)	10.04868
HAC corrected variance (Bartlett kernel)	12.02475

Phillips-Perron Test Equation
Dependent Variable: D(RTMB)
Method: Least Squares
Date: 06/23/10   Time: 23:23
Sample (adjusted): 2 2757
Included observations: 2756 after adjustments

Variable	Coefficient	Std. Error	t-Statistic	Prob.
RTMB(-1)	-1.011313	0.019044	-53.10504	0.0000
C	-0.065862	0.060417	-1.090126	0.2758

R-squared	0.505933	Mean dependent var	-0.002261
Adjusted R-squared	0.505754	S.D. dependent var	4.510664
S.E. of regression	3.171116	Akaike info criterion	5.146770
Sum squared resid	27694.16	Schwarz criterion	5.151067
Log likelihood	-7090.248	Hannan-Quinn criter.	5.148322
F-statistic	2820.145	Durbin-Watson stat	1.997884
Prob(F-statistic)	0.000000		

At level with intercept and trend

Null Hypothesis: RTMB has a unit root
Exogenous: Constant, Linear Trend
Bandwidth: 13 (Newey-West using Bartlett kernel)

		Adj. t-Stat	Prob.*
Phillips-Perron test statistic		-53.25294	0.0000
Test critical values:	1% level	-3.961373	
	5% level	-3.411438	
	10% level	-3.127573	

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

Residual variance (no correction)	10.04863
HAC corrected variance (Bartlett kernel)	12.02431

Phillips-Perron Test Equation
Dependent Variable: D(RTMB)
Method: Least Squares
Date: 06/23/10   Time: 23:23

Sample (adjusted): 2 2757
Included observations: 2756 after adjustments

Variable	Coefficient	Std. Error	t-Statistic	Prob.
RTMB(-1)	-1.011315	0.019047	-53.09563	0.0000
C	-0.078095	0.120872	-0.646099	0.5183
@TREND(1)	8.87E-06	7.59E-05	0.116859	0.9070
R-squared	0.505936	Mean dependent var		-0.002261
Adjusted R-squared	0.505577	S.D. dependent var		4.510664
S.E. of regression	3.171684	Akaike info criterion		5.147490
Sum squared resid	27694.02	Schwarz criterion		5.153936
Log likelihood	-7090.242	Hannan-Quinn criter.		5.149819
F-statistic	1409.574	Durbin-Watson stat		1.997888
Prob(F-statistic)	0.000000			

At level without intercept and trend

Null Hypothesis: RTMB has a unit root
Exogenous: None
Bandwidth: 13 (Newey-West using Bartlett kernel)

			Adj. t-Stat	Prob.*
Phillips-Perron test statistic			-53.25754	0.0001
Test critical values:	1% level		-2.565801	
	5% level		-1.940939	
	10% level		-1.616622	

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

Residual variance (no correction)	10.05301
HAC corrected variance (Bartlett kernel)	12.07428

Phillips-Perron Test Equation
Dependent Variable: D(RTMB)
Method: Least Squares
Date: 06/23/10   Time: 23:24
Sample (adjusted): 2 2757
Included observations: 2756 after adjustments

Variable	Coefficient	Std. Error	t-Statistic	Prob.
RTMB(-1)	-1.010901	0.019041	-53.09205	0.0000
R-squared	0.505720	Mean dependent var		-0.002261
Adjusted R-squared	0.505720	S.D. dependent var		4.510664
S.E. of regression	3.171224	Akaike info criterion		5.146475
Sum squared resid	27706.11	Schwarz criterion		5.148624
Log likelihood	-7090.843	Hannan-Quinn criter.		5.147252
Durbin-Watson stat	1.997880			

At level with intercept but without trend

Null Hypothesis: RKTB has a unit root
Exogenous: Constant
Bandwidth: 4 (Newey-West using Bartlett kernel)

		Adj. t-Stat	Prob.*
Phillips-Perron test statistic		-53.96081	0.0001
Test critical values:	1% level	-3.432527	
	5% level	-2.862387	
	10% level	-2.567266	

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

Residual variance (no correction)	8.380178
HAC corrected variance (Bartlett kernel)	8.370881

Phillips-Perron Test Equation
Dependent Variable: D(RKTB)
Method: Least Squares
Date: 06/23/10   Time: 23:25
Sample (adjusted): 2 2762
Included observations: 2761 after adjustments

Variable	Coefficient	Std. Error	t-Statistic	Prob.
RKTB(-1)	-1.025911	0.019012	-53.95998	0.0000
C	-0.017148	0.055113	-0.311140	0.7557

R-squared	0.513462	Mean dependent var	-0.001033
Adjusted R-squared	0.513286	S.D. dependent var	4.150945
S.E. of regression	2.895903	Akaike info criterion	4.965195
Sum squared resid	23137.67	Schwarz criterion	4.969486
Log likelihood	-6852.452	Hannan-Quinn criter.	4.966745
F-statistic	2911.679	Durbin-Watson stat	2.000277
Prob(F-statistic)	0.000000		

At level with intercept and trend

Null Hypothesis: RKTB has a unit root
Exogenous: Constant, Linear Trend
Bandwidth: 3 (Newey-West using Bartlett kernel)

		Adj. t-Stat	Prob.*
Phillips-Perron test statistic		-53.97367	0.0000
Test critical values:	1% level	-3.961367	
	5% level	-3.411435	
	10% level	-3.127571	

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

Residual variance (no correction)	8.375884
HAC corrected variance (Bartlett kernel)	8.412158

Phillips-Perron Test Equation
Dependent Variable: D(RKTB)
Method: Least Squares
Date: 06/23/10   Time: 23:26
Sample (adjusted): 2 2762
Included observations: 2761 after adjustments

Variable	Coefficient	Std. Error	t-Statistic	Prob.

RKTB(-1)	-1.026331	0.019014	-53.97680	0.0000
C	-0.130716	0.110266	-1.185456	0.2359
@TREND(1)	8.22E-05	6.92E-05	1.189102	0.2345

R-squared	0.513711	Mean dependent var	-0.001033
Adjusted R-squared	0.513359	S.D. dependent var	4.150945
S.E. of regression	2.895686	Akaike info criterion	4.965407
Sum squared resid	23125.82	Schwarz criterion	4.971843
Log likelihood	-6851.744	Hannan-Quinn criter.	4.967732
F-statistic	1456.765	Durbin-Watson stat	2.000452
Prob(F-statistic)	0.000000		

At level without intercept and trend

Null Hypothesis: RKTB has a unit root
Exogenous: None
Bandwidth: 4 (Newey-West using Bartlett kernel)

		Adj. t-Stat	Prob.*
Phillips-Perron test statistic		-53.96866	0.0001
Test critical values:	1% level	-2.565800	
	5% level	-1.940939	
	10% level	-1.616622	

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

Residual variance (no correction)	8.380472
HAC corrected variance (Bartlett kernel)	8.372183

Phillips-Perron Test Equation
Dependent Variable: D(RKTB)
Method: Least Squares
Date: 06/23/10   Time: 23:27
Sample (adjusted): 2 2762
Included observations: 2761 after adjustments

Variable	Coefficient	Std. Error	t-Statistic	Prob.
RKTB(-1)	-1.025879	0.019009	-53.96791	0.0000

R-squared	0.513445	Mean dependent var	-0.001033
Adjusted R-squared	0.513445	S.D. dependent var	4.150945
S.E. of regression	2.895429	Akaike info criterion	4.964506
Sum squared resid	23138.48	Schwarz criterion	4.966651
Log likelihood	-6852.500	Hannan-Quinn criter.	4.965281
Durbin-Watson stat	2.000272		

At level with intercept but without trend

Null Hypothesis: RKBANK has a unit root
Exogenous: Constant
Bandwidth: 13 (Newey-West using Bartlett kernel)

		Adj. t-Stat	Prob.*
Phillips-Perron test statistic		-51.33161	0.0001
Test critical values:	1% level	-3.432527	

		Adj. t-Stat	Prob.*
	5% level	-2.862387	
	10% level	-2.567266	

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

Residual variance (no correction)	5.937673
HAC corrected variance (Bartlett kernel)	5.682923

Phillips-Perron Test Equation
Dependent Variable: D(RKBANK)
Method: Least Squares
Date: 06/23/10   Time: 23:27
Sample (adjusted): 2 2762
Included observations: 2761 after adjustments

Variable	Coefficient	Std. Error	t-Statistic	Prob.
RKBANK(-1)	-0.977006	0.019028	-51.34499	0.0000
C	0.036336	0.046396	0.783168	0.4336

R-squared	0.488630	Mean dependent var	-0.000294
Adjusted R-squared	0.488444	S.D. dependent var	3.408153
S.E. of regression	2.437617	Akaike info criterion	4.620643
Sum squared resid	16393.92	Schwarz criterion	4.624934
Log likelihood	-6376.798	Hannan-Quinn criter.	4.622193
F-statistic	2636.308	Durbin-Watson stat	2.001253
Prob(F-statistic)	0.000000		

At level with intercept and trend

Null Hypothesis: RKBANK has a unit root
Exogenous: Constant, Linear Trend
Bandwidth: 13 (Newey-West using Bartlett kernel)

		Adj. t-Stat	Prob.*
Phillips-Perron test statistic		-51.33572	0.0000
Test critical values:	1% level	-3.961367	
	5% level	-3.411435	
	10% level	-3.127571	

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

Residual variance (no correction)	5.936149
HAC corrected variance (Bartlett kernel)	5.663695

Phillips-Perron Test Equation
Dependent Variable: D(RKBANK)
Method: Least Squares
Date: 06/23/10   Time: 23:28
Sample (adjusted): 2 2762
Included observations: 2761 after adjustments

Variable	Coefficient	Std. Error	t-Statistic	Prob.
RKBANK(-1)	-0.977226	0.019031	-51.34898	0.0000
C	-0.031304	0.092813	-0.337280	0.7359
@TREND(1)	4.90E-05	5.82E-05	0.841477	0.4002

R-squared	0.488761	Mean dependent var	-0.000294

Adjusted R-squared	0.488390	S.D. dependent var	3.408153
S.E. of regression	2.437746	Akaike info criterion	4.621111
Sum squared resid	16389.71	Schwarz criterion	4.627547
Log likelihood	-6376.443	Hannan-Quinn criter.	4.623436
F-statistic	1318.368	Durbin-Watson stat	2.001320
Prob(F-statistic)	0.000000		

At level without intercept and trend

Null Hypothesis: RKBANK has a unit root
Exogenous: None
Bandwidth: 12 (Newey-West using Bartlett kernel)

		Adj. t-Stat	Prob.*
Phillips-Perron test statistic		-51.32929	0.0001
Test critical values:	1% level	-2.565800	
	5% level	-1.940939	
	10% level	-1.616622	

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

Residual variance (no correction)	5.938993
HAC corrected variance (Bartlett kernel)	5.698522

Phillips-Perron Test Equation
Dependent Variable: D(RKBANK)
Method: Least Squares
Date: 06/23/10   Time: 23:29
Sample (adjusted): 2 2762
Included observations: 2761 after adjustments

Variable	Coefficient	Std. Error	t-Statistic	Prob.
RKBANK(-1)	-0.976777	0.019025	-51.34261	0.0000
R-squared	0.488516	Mean dependent var		-0.000294
Adjusted R-squared	0.488516	S.D. dependent var		3.408153
S.E. of regression	2.437446	Akaike info criterion		4.620141
Sum squared resid	16397.56	Schwarz criterion		4.622286
Log likelihood	-6377.105	Hannan-Quinn criter.		4.620916
Durbin-Watson stat	2.001275			

At level with intercept but without trend

Null Hypothesis: RBBL has a unit root
Exogenous: Constant
Bandwidth: 13 (Newey-West using Bartlett kernel)

		Adj. t-Stat	Prob.*
Phillips-Perron test statistic		-49.84360	0.0001
Test critical values:	1% level	-3.432527	
	5% level	-2.862387	
	10% level	-2.567266	

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

		6.179988
Residual variance (no correction)		6.179988
HAC corrected variance (Bartlett kernel)		5.844502

Phillips-Perron Test Equation
Dependent Variable: D(RBBL)
Method: Least Squares
Date: 06/23/10   Time: 23:30
Sample (adjusted): 2 2762
Included observations: 2761 after adjustments

Variable	Coefficient	Std. Error	t-Statistic	Prob.
RBBL(-1)	-0.948120	0.019002	-49.89536	0.0000
C	0.030248	0.047332	0.639064	0.5228

R-squared	0.474331	Mean dependent var	-0.001016
Adjusted R-squared	0.474140	S.D. dependent var	3.429384
S.E. of regression	2.486859	Akaike info criterion	4.660642
Sum squared resid	17062.95	Schwarz criterion	4.664933
Log likelihood	-6432.016	Hannan-Quinn criter.	4.662192
F-statistic	2489.547	Durbin-Watson stat	2.002869
Prob(F-statistic)	0.000000		

At level with intercept and trend

Null Hypothesis: RBBL has a unit root
Exogenous: Constant, Linear Trend
Bandwidth: 13 (Newey-West using Bartlett kernel)

		Adj. t-Stat	Prob.*
Phillips-Perron test statistic		-49.83624	0.0000
Test critical values:	1% level	-3.961367	
	5% level	-3.411435	
	10% level	-3.127571	

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

		6.179720
Residual variance (no correction)		6.179720
HAC corrected variance (Bartlett kernel)		5.840825

Phillips-Perron Test Equation
Dependent Variable: D(RBBL)
Method: Least Squares
Date: 06/23/10   Time: 23:34
Sample (adjusted): 2 2762
Included observations: 2761 after adjustments

Variable	Coefficient	Std. Error	t-Statistic	Prob.
RBBL(-1)	-0.948154	0.019005	-49.88852	0.0000
C	0.001897	0.094697	0.020031	0.9840
@TREND(1)	2.05E-05	5.94E-05	0.345685	0.7296

R-squared	0.474353	Mean dependent var	-0.001016
Adjusted R-squared	0.473972	S.D. dependent var	3.429384
S.E. of regression	2.487256	Akaike info criterion	4.661323
Sum squared resid	17062.21	Schwarz criterion	4.667759
Log likelihood	-6431.957	Hannan-Quinn criter.	4.663648

F-statistic	1244.436	Durbin-Watson stat		2.002887
Prob(F-statistic)	0.000000			

At level without intercept and trend

Null Hypothesis: RBBL has a unit root
Exogenous: None
Bandwidth: 13 (Newey-West using Bartlett kernel)

		Adj. t-Stat	Prob.*
Phillips-Perron test statistic		-49.84592	0.0001
Test critical values:	1% level	-2.565800	
	5% level	-1.940939	
	10% level	-1.616622	

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

Residual variance (no correction)	6.180902
HAC corrected variance (Bartlett kernel)	5.855320

Phillips-Perron Test Equation
Dependent Variable: D(RBBL)
Method: Least Squares
Date: 06/23/10   Time: 23:36
Sample (adjusted): 2 2762
Included observations: 2761 after adjustments

Variable	Coefficient	Std. Error	t-Statistic	Prob.
RBBL(-1)	-0.947959	0.018998	-49.89662	0.0000

R-squared	0.474253	Mean dependent var	-0.001016
Adjusted R-squared	0.474253	S.D. dependent var	3.429384
S.E. of regression	2.486592	Akaike info criterion	4.660066
Sum squared resid	17065.47	Schwarz criterion	4.662211
Log likelihood	-6432.221	Hannan-Quinn criter.	4.660841
Durbin-Watson stat	2.002900		

At level with intercept but without trend

Null Hypothesis: RBAY has a unit root
Exogenous: Constant
Bandwidth: 14 (Newey-West using Bartlett kernel)

		Adj. t-Stat	Prob.*
Phillips-Perron test statistic		-53.53651	0.0001
Test critical values:	1% level	-3.432527	
	5% level	-2.862387	
	10% level	-2.567266	

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

Residual variance (no correction)	8.336486
HAC corrected variance (Bartlett kernel)	9.443813

Phillips-Perron Test Equation

Dependent Variable: D(RBAY)
Method: Least Squares
Date: 06/23/10   Time: 23:36
Sample (adjusted): 2 2762
Included observations: 2761 after adjustments

Variable	Coefficient	Std. Error	t-Statistic	Prob.
RBAY(-1)	-1.015997	0.018991	-53.50025	0.0000
C	0.019851	0.054971	0.361128	0.7180
R-squared	0.509186	Mean dependent var		-0.004153
Adjusted R-squared	0.509008	S.D. dependent var		4.122036
S.E. of regression	2.888344	Akaike info criterion		4.959968
Sum squared resid	23017.04	Schwarz criterion		4.964258
Log likelihood	-6845.235	Hannan-Quinn criter.		4.961517
F-statistic	2862.277	Durbin-Watson stat		1.996119
Prob(F-statistic)	0.000000			

At level with intercept and trend

Null Hypothesis: RBAY has a unit root
Exogenous: Constant, Linear Trend
Bandwidth: 14 (Newey-West using Bartlett kernel)

			Adj. t-Stat	Prob.*
Phillips-Perron test statistic			-53.53408	0.0000
Test critical values:	1% level		-3.961367	
	5% level		-3.411435	
	10% level		-3.127571	

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

Residual variance (no correction)	8.334966
HAC corrected variance (Bartlett kernel)	9.424079

Phillips-Perron Test Equation
Dependent Variable: D(RBAY)
Method: Least Squares
Date: 06/23/10   Time: 23:37
Sample (adjusted): 2 2762
Included observations: 2761 after adjustments

Variable	Coefficient	Std. Error	t-Statistic	Prob.
RBAY(-1)	-1.016148	0.018993	-53.50002	0.0000
C	-0.047699	0.109979	-0.433708	0.6645
@TREND(1)	4.89E-05	6.90E-05	0.709169	0.4783
R-squared	0.509276	Mean dependent var		-0.004153
Adjusted R-squared	0.508920	S.D. dependent var		4.122036
S.E. of regression	2.888604	Akaike info criterion		4.960510
Sum squared resid	23012.84	Schwarz criterion		4.966946
Log likelihood	-6844.984	Hannan-Quinn criter.		4.962834
F-statistic	1431.132	Durbin-Watson stat		1.996162
Prob(F-statistic)	0.000000			

At level without intercept and trend

Null Hypothesis: RBAY has a unit root
Exogenous: None
Bandwidth: 14 (Newey-West using Bartlett kernel)

		Adj. t-Stat	Prob.*
Phillips-Perron test statistic		-53.54387	0.0001
Test critical values:	1% level	-2.565800	
	5% level	-1.940939	
	10% level	-1.616622	

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

Residual variance (no correction)	8.336880
HAC corrected variance (Bartlett kernel)	9.449026

Phillips-Perron Test Equation
Dependent Variable: D(RBAY)
Method: Least Squares
Date: 06/23/10   Time: 23:37
Sample (adjusted): 2 2762
Included observations: 2761 after adjustments

Variable	Coefficient	Std. Error	t-Statistic	Prob.
RBAY(-1)	-1.015941	0.018987	-53.50751	0.0000

R-squared	0.509163	Mean dependent var	-0.004153
Adjusted R-squared	0.509163	S.D. dependent var	4.122036
S.E. of regression	2.887889	Akaike info criterion	4.959290
Sum squared resid	23018.13	Schwarz criterion	4.961436
Log likelihood	-6845.300	Hannan-Quinn criter.	4.960065
Durbin-Watson stat	1.996143		

At level with intercept but without trend

Null Hypothesis: RSCB has a unit root
Exogenous: Constant
Bandwidth: 17 (Newey-West using Bartlett kernel)

		Adj. t-Stat	Prob.*
Phillips-Perron test statistic		-50.33030	0.0001
Test critical values:	1% level	-3.432527	
	5% level	-2.862387	
	10% level	-2.567266	

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

Residual variance (no correction)	7.581822
HAC corrected variance (Bartlett kernel)	7.453702

Phillips-Perron Test Equation
Dependent Variable: D(RSCB)
Method: Least Squares
Date: 06/23/10   Time: 23:38
Sample (adjusted): 2 2762
Included observations: 2761 after adjustments

Variable	Coefficient	Std. Error	t-Statistic	Prob.
RSCB(-1)	-0.956462	0.018998	-50.34626	0.0000
C	0.056203	0.052435	1.071859	0.2839

R-squared	0.478819	Mean dependent var	-0.002667
Adjusted R-squared	0.478630	S.D. dependent var	3.814794
S.E. of regression	2.754509	Akaike info criterion	4.865079
Sum squared resid	20933.41	Schwarz criterion	4.869370
Log likelihood	-6714.242	Hannan-Quinn criter.	4.866629
F-statistic	2534.746	Durbin-Watson stat	2.003090
Prob(F-statistic)	0.000000		

At level with intercept and trend

Null Hypothesis: RSCB has a unit root
Exogenous: Constant, Linear Trend
Bandwidth: 17 (Newey-West using Bartlett kernel)

		Adj. t-Stat	Prob.*
Phillips-Perron test statistic		-50.32114	0.0000
Test critical values:	1% level	-3.961367	
	5% level	-3.411435	
	10% level	-3.127571	

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

Residual variance (no correction)	7.581804
HAC corrected variance (Bartlett kernel)	7.453518

Phillips-Perron Test Equation
Dependent Variable: D(RSCB)
Method: Least Squares
Date: 06/23/10   Time: 23:39
Sample (adjusted): 2 2762
Included observations: 2761 after adjustments

Variable	Coefficient	Std. Error	t-Statistic	Prob.
RSCB(-1)	-0.956467	0.019001	-50.33720	0.0000
C	0.063671	0.104901	0.606960	0.5439
@TREND(1)	-5.41E-06	6.58E-05	-0.082202	0.9345

R-squared	0.478820	Mean dependent var	-0.002667
Adjusted R-squared	0.478442	S.D. dependent var	3.814794
S.E. of regression	2.755005	Akaike info criterion	4.865801
Sum squared resid	20933.36	Schwarz criterion	4.872237
Log likelihood	-6714.239	Hannan-Quinn criter.	4.868126
F-statistic	1266.920	Durbin-Watson stat	2.003084
Prob(F-statistic)	0.000000		

At level without intercept and trend

Null Hypothesis: RSCB has a unit root
Exogenous: None
Bandwidth: 16 (Newey-West using Bartlett kernel)

			Adj. t-Stat	Prob.*
Phillips-Perron test statistic			-50.32334	0.0001
Test critical values:	1% level		-2.565800	
	5% level		-1.940939	
	10% level		-1.616622	

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

Residual variance (no correction)	7.584980
HAC corrected variance (Bartlett kernel)	7.506922

Phillips-Perron Test Equation
Dependent Variable: D(RSCB)
Method: Least Squares
Date: 06/23/10   Time: 23:40
Sample (adjusted): 2 2762
Included observations: 2761 after adjustments

Variable	Coefficient	Std. Error	t-Statistic	Prob.
RSCB(-1)	-0.956008	0.018993	-50.33351	0.0000

R-squared	0.478602	Mean dependent var	-0.002667
Adjusted R-squared	0.478602	S.D. dependent var	3.814794
S.E. of regression	2.754583	Akaike info criterion	4.864771
Sum squared resid	20942.13	Schwarz criterion	4.866917
Log likelihood	-6714.817	Hannan-Quinn criter.	4.865546
Durbin-Watson stat	2.003183		

3. การทดสอบยูนิทรูทด้วยวิธี The Kwiatkowski, Phillips, Schmidt, and Shin (KPSS) Test

At level with intercept but without trend

Null Hypothesis: RM is stationary
Exogenous: Constant
Bandwidth: 6 (Newey-West using Bartlett kernel)

			LM-Stat.
Kwiatkowski-Phillips-Schmidt-Shin test statistic			0.071058
Asymptotic critical values*:	1% level		0.739000
	5% level		0.463000
	10% level		0.347000

*Kwiatkowski-Phillips-Schmidt-Shin (1992, Table 1)

Residual variance (no correction)	2.579348
HAC corrected variance (Bartlett kernel)	3.058649

KPSS Test Equation
Dependent Variable: RM
Method: Least Squares
Date: 06/24/10   Time: 13:26
Sample (adjusted): 1 2762
Included observations: 2762 after adjustments

Variable	Coefficient	Std. Error	t-Statistic	Prob.

C	0.029813	0.030565	0.975405	0.3294

R-squared	0.000000	Mean dependent var	0.029813
Adjusted R-squared	0.000000	S.D. dependent var	1.606326
S.E. of regression	1.606326	Akaike info criterion	3.786138
Sum squared resid	7124.160	Schwarz criterion	3.788283
Log likelihood	-5227.656	Hannan-Quinn criter.	3.786913
Durbin-Watson stat	1.897096		

At level with intercept and trend

Null Hypothesis: RM is stationary
Exogenous: Constant, Linear Trend
Bandwidth: 6 (Newey-West using Bartlett kernel)

			LM-Stat.
Kwiatkowski-Phillips-Schmidt-Shin test statistic			0.072293
Asymptotic critical values*:		1% level	0.216000
		5% level	0.146000
		10% level	0.119000

*Kwiatkowski-Phillips-Schmidt-Shin (1992, Table 1)

Residual variance (no correction)	2.579331
HAC corrected variance (Bartlett kernel)	3.058399

KPSS Test Equation
Dependent Variable: RM
Method: Least Squares
Date: 06/24/10   Time: 13:27
Sample (adjusted): 1 2762
Included observations: 2762 after adjustments

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	0.022594	0.061124	0.369644	0.7117
@TREND(1)	5.23E-06	3.83E-05	0.136387	0.8915

R-squared	0.000007	Mean dependent var	0.029813
Adjusted R-squared	-0.000356	S.D. dependent var	1.606326
S.E. of regression	1.606611	Akaike info criterion	3.786855
Sum squared resid	7124.112	Schwarz criterion	3.791145
Log likelihood	-5227.647	Hannan-Quinn criter.	3.788405
F-statistic	0.018601	Durbin-Watson stat	1.897109
Prob(F-statistic)	0.891525		

At level with intercept but without trend

Null Hypothesis: RB is stationary
Exogenous: Constant
Bandwidth: 11 (Newey-West using Bartlett kernel)

			LM-Stat.
Kwiatkowski-Phillips-Schmidt-Shin test statistic			0.095240
Asymptotic critical values*:		1% level	0.739000
		5% level	0.463000

				10% level	0.347000

*Kwiatkowski-Phillips-Schmidt-Shin (1992, Table 1)

Residual variance (no correction)	5.146774
HAC corrected variance (Bartlett kernel)	5.277859

KPSS Test Equation
Dependent Variable: RB
Method: Least Squares
Date: 06/24/10   Time: 13:28
Sample (adjusted): 1 2762
Included observations: 2762 after adjustments

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	0.008248	0.043175	0.191044	0.8485

R-squared	0.000000	Mean dependent var	0.008248
Adjusted R-squared	0.000000	S.D. dependent var	2.269061
S.E. of regression	2.269061	Akaike info criterion	4.476971
Sum squared resid	14215.39	Schwarz criterion	4.479116
Log likelihood	-6181.697	Hannan-Quinn criter.	4.477746
Durbin-Watson stat	1.960525		

At level with intercept and trend

Null Hypothesis: RB is stationary
Exogenous: Constant, Linear Trend
Bandwidth: 12 (Newey-West using Bartlett kernel)

			LM-Stat.
Kwiatkowski-Phillips-Schmidt-Shin test statistic			0.043092
Asymptotic critical values*:		1% level	0.216000
		5% level	0.146000
		10% level	0.119000

*Kwiatkowski-Phillips-Schmidt-Shin (1992, Table 1)

Residual variance (no correction)	5.145516
HAC corrected variance (Bartlett kernel)	5.304971

KPSS Test Equation
Dependent Variable: RB
Method: Least Squares
Date: 06/24/10   Time: 13:28
Sample (adjusted): 1 2762
Included observations: 2762 after adjustments

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	-0.053149	0.086332	-0.615640	0.5382
@TREND(1)	4.45E-05	5.42E-05	0.821276	0.4116

R-squared	0.000244	Mean dependent var	0.008248
Adjusted R-squared	-0.000118	S.D. dependent var	2.269061
S.E. of regression	2.269195	Akaike info criterion	4.477451
Sum squared resid	14211.92	Schwarz criterion	4.481740
Log likelihood	-6181.360	Hannan-Quinn criter.	4.479000

F-statistic	0.674495	Durbin-Watson stat		1.961004
Prob(F-statistic)	0.411560			

At level with intercept but without trend

Null Hypothesis: RTMB is stationary
Exogenous: Constant
Bandwidth: 12 (Newey-West using Bartlett kernel)

			LM-Stat.
Kwiatkowski-Phillips-Schmidt-Shin test statistic			0.048551
Asymptotic critical values*:	1% level		0.739000
	5% level		0.463000
	10% level		0.347000

*Kwiatkowski-Phillips-Schmidt-Shin (1992, Table 1)

Residual variance (no correction)		10.05761
HAC corrected variance (Bartlett kernel)		11.56101

KPSS Test Equation
Dependent Variable: RTMB
Method: Least Squares
Date: 06/24/10   Time: 13:29
Sample (adjusted): 1 2757
Included observations: 2757 after adjustments

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	-0.063126	0.060410	-1.044969	0.2961

R-squared	0.000000	Mean dependent var	-0.063126
Adjusted R-squared	0.000000	S.D. dependent var	3.171949
S.E. of regression	3.171949	Akaike info criterion	5.146932
Sum squared resid	27728.84	Schwarz criterion	5.149080
Log likelihood	-7094.046	Hannan-Quinn criter.	5.147708
Durbin-Watson stat	2.021487		

At level with intercept and trend

Null Hypothesis: RTMB is stationary
Exogenous: Constant, Linear Trend
Bandwidth: 12 (Newey-West using Bartlett kernel)

			LM-Stat.
Kwiatkowski-Phillips-Schmidt-Shin test statistic			0.049130
Asymptotic critical values*:	1% level		0.216000
	5% level		0.146000
	10% level		0.119000

*Kwiatkowski-Phillips-Schmidt-Shin (1992, Table 1)

Residual variance (no correction)		10.05760
HAC corrected variance (Bartlett kernel)		11.56078

KPSS Test Equation

Dependent Variable: RTMB
Method: Least Squares
Date: 06/24/10   Time: 13:30
Sample (adjusted): 1 2757
Included observations: 2757 after adjustments

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	-0.069197	0.120809	-0.572782	0.5668
@TREND(1)	4.41E-06	7.59E-05	0.058029	0.9537

R-squared	0.000001	Mean dependent var		-0.063126
Adjusted R-squared	-0.000362	S.D. dependent var		3.171949
S.E. of regression	3.172523	Akaike info criterion		5.147656
Sum squared resid	27728.80	Schwarz criterion		5.151952
Log likelihood	-7094.044	Hannan-Quinn criter.		5.149208
F-statistic	0.003367	Durbin-Watson stat		2.021490
Prob(F-statistic)	0.953729			

At level with intercept but without trend

Null Hypothesis: RKTB is stationary
Exogenous: Constant
Bandwidth: 2 (Newey-West using Bartlett kernel)

		LM-Stat.
Kwiatkowski-Phillips-Schmidt-Shin test statistic		0.127423
Asymptotic critical values*:	1% level	0.739000
	5% level	0.463000
	10% level	0.347000

*Kwiatkowski-Phillips-Schmidt-Shin (1992, Table 1)

Residual variance (no correction)	8.416576
HAC corrected variance (Bartlett kernel)	8.203383

KPSS Test Equation
Dependent Variable: RKTB
Method: Least Squares
Date: 06/24/10   Time: 13:30
Sample (adjusted): 1 2762
Included observations: 2762 after adjustments

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	-0.013242	0.055212	-0.239848	0.8105

R-squared	0.000000	Mean dependent var		-0.013242
Adjusted R-squared	0.000000	S.D. dependent var		2.901659
S.E. of regression	2.901659	Akaike info criterion		4.968804
Sum squared resid	23246.58	Schwarz criterion		4.970949
Log likelihood	-6860.919	Hannan-Quinn criter.		4.969579
Durbin-Watson stat	2.045709			

Null Hypothesis At level with intercept and trend

: RKTB is stationary
Exogenous: Constant, Linear Trend
Bandwidth: 1 (Newey-West using Bartlett kernel)

			LM-Stat.
Kwiatkowski-Phillips-Schmidt-Shin test statistic			0.041852
Asymptotic critical values*:		1% level	0.216000
		5% level	0.146000
		10% level	0.119000

*Kwiatkowski-Phillips-Schmidt-Shin (1992, Table 1)

Residual variance (no correction)	8.413210
HAC corrected variance (Bartlett kernel)	8.192097

KPSS Test Equation
Dependent Variable: RKTB
Method: Least Squares
Date: 06/24/10   Time: 13:31
Sample (adjusted): 1 2762
Included observations: 2762 after adjustments

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	-0.113701	0.110392	-1.029973	0.3031
@TREND(1)	7.28E-05	6.92E-05	1.050890	0.2934

R-squared	0.000400	Mean dependent var	-0.013242
Adjusted R-squared	0.000038	S.D. dependent var	2.901659
S.E. of regression	2.901604	Akaike info criterion	4.969128
Sum squared resid	23237.29	Schwarz criterion	4.973418
Log likelihood	-6860.366	Hannan-Quinn criter.	4.970678
F-statistic	1.104369	Durbin-Watson stat	2.046528
Prob(F-statistic)	0.293401		

At level with intercept but without trend

Null Hypothesis: RKBANK is stationary
Exogenous: Constant
Bandwidth: 12 (Newey-West using Bartlett kernel)

			LM-Stat.
Kwiatkowski-Phillips-Schmidt-Shin test statistic			0.110232
Asymptotic critical values*:		1% level	0.739000
		5% level	0.463000
		10% level	0.347000

*Kwiatkowski-Phillips-Schmidt-Shin (1992, Table 1)

Residual variance (no correction)	5.949692
HAC corrected variance (Bartlett kernel)	5.963898

KPSS Test Equation
Dependent Variable: RKBANK
Method: Least Squares
Date: 06/24/10   Time: 13:32
Sample (adjusted): 1 2762
Included observations: 2762 after adjustments

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	0.039197	0.046421	0.844375	0.3985

R-squared	0.000000	Mean dependent var	0.039197
Adjusted R-squared	0.000000	S.D. dependent var	2.439641
S.E. of regression	2.439641	Akaike info criterion	4.621941
Sum squared resid	16433.05	Schwarz criterion	4.624085
Log likelihood	-6381.900	Hannan-Quinn criter.	4.622715
Durbin-Watson stat	1.950873		

At level with intercept and trend

Null Hypothesis: RKBANK is stationary
Exogenous: Constant, Linear Trend
Bandwidth: 12 (Newey-West using Bartlett kernel)

	LM-Stat.
Kwiatkowski-Phillips-Schmidt-Shin test statistic	0.062547
Asymptotic critical values*: 1% level	0.216000
5% level	0.146000
10% level	0.119000

*Kwiatkowski-Phillips-Schmidt-Shin (1992, Table 1)

Residual variance (no correction)	5.948373
HAC corrected variance (Bartlett kernel)	5.945179

KPSS Test Equation
Dependent Variable: RKBANK
Method: Least Squares
Date: 06/24/10   Time: 13:32
Sample (adjusted): 1 2762
Included observations: 2762 after adjustments

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	-0.023678	0.092823	-0.255087	0.7987
@TREND(1)	4.55E-05	5.82E-05	0.782218	0.4342

R-squared	0.000222	Mean dependent var	0.039197
Adjusted R-squared	-0.000141	S.D. dependent var	2.439641
S.E. of regression	2.439812	Akaike info criterion	4.622443
Sum squared resid	16429.41	Schwarz criterion	4.626732
Log likelihood	-6381.594	Hannan-Quinn criter.	4.623992
F-statistic	0.611866	Durbin-Watson stat	1.951306
Prob(F-statistic)	0.434153		

At level with intercept but without trend

Null Hypothesis: RBBL is stationary
Exogenous: Constant
Bandwidth: 12 (Newey-West using Bartlett kernel)

	LM-Stat.

Kwiatkowski-Phillips-Schmidt-Shin test statistic				0.060594
Asymptotic critical values*:		1% level		0.739000
		5% level		0.463000
		10% level		0.347000

*Kwiatkowski-Phillips-Schmidt-Shin (1992, Table 1)

Residual variance (no correction)	6.202464
HAC corrected variance (Bartlett kernel)	6.445117

KPSS Test Equation
Dependent Variable: RBBL
Method: Least Squares
Date: 06/24/10   Time: 13:33
Sample (adjusted): 1 2762
Included observations: 2762 after adjustments

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	0.033664	0.047397	0.710253	0.4776

R-squared	0.000000	Mean dependent var	0.033664
Adjusted R-squared	0.000000	S.D. dependent var	2.490926
S.E. of regression	2.490926	Akaike info criterion	4.663548
Sum squared resid	17131.21	Schwarz criterion	4.665693
Log likelihood	-6439.360	Hannan-Quinn criter.	4.664322
Durbin-Watson stat	1.894757		

At level with intercept and trend

Null Hypothesis: RBBL is stationary
Exogenous: Constant, Linear Trend
Bandwidth: 12 (Newey-West using Bartlett kernel)

				LM-Stat.
Kwiatkowski-Phillips-Schmidt-Shin test statistic				0.058538
Asymptotic critical values*:		1% level		0.216000
		5% level		0.146000
		10% level		0.119000

*Kwiatkowski-Phillips-Schmidt-Shin (1992, Table 1)

Residual variance (no correction)	6.202266
HAC corrected variance (Bartlett kernel)	6.441756

KPSS Test Equation
Dependent Variable: RBBL
Method: Least Squares
Date: 06/24/10   Time: 13:34
Sample (adjusted): 1 2762
Included observations: 2762 after adjustments

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	0.009307	0.094783	0.098189	0.9218
@TREND(1)	1.76E-05	5.95E-05	0.296756	0.7667

R-squared	0.000032	Mean dependent var	0.033664
Adjusted R-squared	-0.000330	S.D. dependent var	2.490926

S.E. of regression	2.491337	Akaike info criterion	4.664240
Sum squared resid	17130.66	Schwarz criterion	4.668529
Log likelihood	-6439.315	Hannan-Quinn criter.	4.665789
F-statistic	0.088064	Durbin-Watson stat	1.894817
Prob(F-statistic)	0.766675		

At level with intercept but without trend

Null Hypothesis: RBAY is stationary
Exogenous: Constant
Bandwidth: 15 (Newey-West using Bartlett kernel)

			LM-Stat.
Kwiatkowski-Phillips-Schmidt-Shin test statistic			0.088247
Asymptotic critical values*:		1% level	0.739000
		5% level	0.463000
		10% level	0.347000

*Kwiatkowski-Phillips-Schmidt-Shin (1992, Table 1)

Residual variance (no correction)	8.375639
HAC corrected variance (Bartlett kernel)	9.303152

KPSS Test Equation
Dependent Variable: RBAY
Method: Least Squares
Date: 06/24/10   Time: 13:35
Sample (adjusted): 1 2762
Included observations: 2762 after adjustments

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	0.023281	0.055078	0.422695	0.6726

R-squared	0.000000	Mean dependent var	0.023281
Adjusted R-squared	0.000000	S.D. dependent var	2.894594
S.E. of regression	2.894594	Akaike info criterion	4.963929
Sum squared resid	23133.52	Schwarz criterion	4.966073
Log likelihood	-6854.185	Hannan-Quinn criter.	4.964703
Durbin-Watson stat	2.027176		

At level with intercept and trend

Null Hypothesis: RBAY is stationary
Exogenous: Constant, Linear Trend
Bandwidth: 15 (Newey-West using Bartlett kernel)

			LM-Stat.
Kwiatkowski-Phillips-Schmidt-Shin test statistic			0.059993
Asymptotic critical values*:		1% level	0.216000
		5% level	0.146000
		10% level	0.119000

*Kwiatkowski-Phillips-Schmidt-Shin (1992, Table 1)

Residual variance (no correction)	8.374625
HAC corrected variance (Bartlett kernel)	9.284080

KPSS Test Equation
Dependent Variable: RBAY
Method: Least Squares
Date: 06/24/10   Time: 13:35
Sample (adjusted): 1 2762
Included observations: 2762 after adjustments

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	-0.031853	0.110139	-0.289212	0.7724
@TREND(1)	3.99E-05	6.91E-05	0.578085	0.5633

R-squared	0.000121	Mean dependent var		0.023281
Adjusted R-squared	-0.000241	S.D. dependent var		2.894594
S.E. of regression	2.894943	Akaike info criterion		4.964532
Sum squared resid	23130.71	Schwarz criterion		4.968821
Log likelihood	-6854.018	Hannan-Quinn criter.		4.966081
F-statistic	0.334182	Durbin-Watson stat		2.027422
Prob(F-statistic)	0.563254			

At level with intercept but without trend

Null Hypothesis: RSCB is stationary
Exogenous: Constant
Bandwidth: 15 (Newey-West using Bartlett kernel)

			LM-Stat.
Kwiatkowski-Phillips-Schmidt-Shin test statistic			0.036174
Asymptotic critical values*:	1% level		0.739000
	5% level		0.463000
	10% level		0.347000

*Kwiatkowski-Phillips-Schmidt-Shin (1992, Table 1)

Residual variance (no correction)	7.611424
HAC corrected variance (Bartlett kernel)	8.118789

KPSS Test Equation
Dependent Variable: RSCB
Method: Least Squares
Date: 06/24/10   Time: 13:36
Sample (adjusted): 1 2762
Included observations: 2762 after adjustments

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	0.061430	0.052505	1.169985	0.2421

R-squared	0.000000	Mean dependent var		0.061430
Adjusted R-squared	0.000000	S.D. dependent var		2.759381
S.E. of regression	2.759381	Akaike info criterion		4.868251
Sum squared resid	21022.75	Schwarz criterion		4.870396
Log likelihood	-6722.055	Hannan-Quinn criter.		4.869026
Durbin-Watson stat	1.910566			

At level with intercept and trend

Null Hypothesis: RSCB is stationary
Exogenous: Constant, Linear Trend
Bandwidth: 15 (Newey-West using Bartlett kernel)

			LM-Stat.
Kwiatkowski-Phillips-Schmidt-Shin test statistic			0.034930
Asymptotic critical values*:		1% level	0.216000
		5% level	0.146000
		10% level	0.119000

*Kwiatkowski-Phillips-Schmidt-Shin (1992, Table 1)

Residual variance (no correction)	7.611341
HAC corrected variance (Bartlett kernel)	8.118268

KPSS Test Equation
Dependent Variable: RSCB
Method: Least Squares
Date: 06/24/10   Time: 13:36
Sample (adjusted): 1 2762
Included observations: 2762 after adjustments

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	0.077195	0.105000	0.735189	0.4623
@TREND(1)	-1.14E-05	6.59E-05	-0.173383	0.8624

R-squared	0.000011	Mean dependent var	0.061430
Adjusted R-squared	-0.000351	S.D. dependent var	2.759381
S.E. of regression	2.759865	Akaike info criterion	4.868965
Sum squared resid	21022.52	Schwarz criterion	4.873254
Log likelihood	-6722.040	Hannan-Quinn criter.	4.870514
F-statistic	0.030062	Durbin-Watson stat	1.910587
Prob(F-statistic)	0.862363		

4. การทดสอบยูนิทรูทโดยใช้ค่า Residual จาก Cointegration

Banking Sector

Null Hypothesis: RRB has a unit root
Exogenous: None
Lag Length: 0 (Fixed)

		t-Statistic	Prob.*
Augmented Dickey-Fuller test statistic		-51.10366	0.0001
Test critical values:	1% level	-2.565800	
	5% level	-1.940939	
	10% level	-1.616622	

*MacKinnon (1996) one-sided p-values.
Augmented Dickey-Fuller Test Equation
Dependent Variable: D(RRB)
Method: Least Squares
Date: 08/10/10   Time: 21:30
Sample (adjusted): 2 2762

Included observations: 2761 after adjustments

Variable	Coefficient	Std. Error	t-Statistic	Prob.
RRB(-1)	-0.972631	0.019033	-51.10366	0.0000

R-squared	0.486185	Mean dependent var	0.000489
Adjusted R-squared	0.486185	S.D. dependent var	1.423098
S.E. of regression	1.020090	Akaike info criterion	2.878020
Sum squared resid	2872.008	Schwarz criterion	2.880165
Log likelihood	-3972.107	Hannan-Quinn criter.	2.878795
Durbin-Watson stat	1.989832		

TMB

Null Hypothesis: RRTMB has a unit root
Exogenous: None
Lag Length: 0 (Fixed)

		t-Statistic	Prob.*
Augmented Dickey-Fuller test statistic		-54.07362	0.0001
Test critical values:	1% level	-2.565801	
	5% level	-1.940939	
	10% level	-1.616622	

*MacKinnon (1996) one-sided p-values.
Augmented Dickey-Fuller Test Equation
Dependent Variable: D(RRTMB)
Method: Least Squares
Date: 08/10/10   Time: 21:31
Sample (adjusted): 2 2757
Included observations: 2756 after adjustments

Variable	Coefficient	Std. Error	t-Statistic	Prob.
RRTMB(-1)	-1.029699	0.019043	-54.07362	0.0000

R-squared	0.514876	Mean dependent var	0.000197
Adjusted R-squared	0.514876	S.D. dependent var	3.508637
S.E. of regression	2.443796	Akaike info criterion	4.625345
Sum squared resid	16453.24	Schwarz criterion	4.627493
Log likelihood	-6372.725	Hannan-Quinn criter.	4.626121
Durbin-Watson stat	1.995569		

KTB

Null Hypothesis: RRKTB has a unit root
Exogenous: None
Lag Length: 0 (Fixed)

		t-Statistic	Prob.*
Augmented Dickey-Fuller test statistic		-54.71775	0.0001
Test critical values:	1% level	-2.565800	
	5% level	-1.940939	
	10% level	-1.616622	

*MacKinnon (1996) one-sided p-values.
Augmented Dickey-Fuller Test Equation
Dependent Variable: D(RRKTB)
Method: Least Squares
Date: 08/10/10   Time: 21:25
Sample (adjusted): 2 2762
Included observations: 2761 after adjustments

Variable	Coefficient	Std. Error	t-Statistic	Prob.
RRKTB(-1)	-1.042422	0.019051	-54.71775	0.0000

R-squared	0.520336	Mean dependent var	0.001636
Adjusted R-squared	0.520336	S.D. dependent var	2.734706
S.E. of regression	1.893996	Akaike info criterion	4.115617
Sum squared resid	9900.734	Schwarz criterion	4.117763
Log likelihood	-5680.610	Hannan-Quinn criter.	4.116392
Durbin-Watson stat	1.997213		

KBANK

Null Hypothesis: RRKBANK has a unit root
Exogenous: None
Lag Length: 0 (Fixed)

		t-Statistic	Prob.*
Augmented Dickey-Fuller test statistic		-52.33644	0.0001
Test critical values:	1% level	-2.565800	
	5% level	-1.940939	
	10% level	-1.616622	

*MacKinnon (1996) one-sided p-values.
Augmented Dickey-Fuller Test Equation
Dependent Variable: D(RRKBANK)
Method: Least Squares
Date: 08/10/10   Time: 21:27
Sample (adjusted): 2 2762
Included observations: 2761 after adjustments

Variable	Coefficient	Std. Error	t-Statistic	Prob.
RRKBANK(-1)	-0.997365	0.019057	-52.33644	0.0000

R-squared	0.498099	Mean dependent var	0.002073
Adjusted R-squared	0.498099	S.D. dependent var	2.072094
S.E. of regression	1.467974	Akaike info criterion	3.606005
Sum squared resid	5947.652	Schwarz criterion	3.608150
Log likelihood	-4977.090	Hannan-Quinn criter.	3.606780
Durbin-Watson stat	1.997303		

BBL

Null Hypothesis: RRBBL has a unit root
Exogenous: None
Lag Length: 0 (Fixed)

	t-Statistic	Prob.*

	t-Statistic	Prob.*
Augmented Dickey-Fuller test statistic	-53.16054	0.0001
Test critical values: 1% level	-2.565800	
5% level	-1.940939	
10% level	-1.616622	

*MacKinnon (1996) one-sided p-values.
Augmented Dickey-Fuller Test Equation
Dependent Variable: D(RRBBL)
Method: Least Squares
Date: 08/10/10   Time: 21:28
Sample (adjusted): 2 2762
Included observations: 2761 after adjustments

Variable	Coefficient	Std. Error	t-Statistic	Prob.
RRBBL(-1)	-1.011533	0.019028	-53.16054	0.0000

R-squared	0.505911	Mean dependent var	0.001321
Adjusted R-squared	0.505911	S.D. dependent var	2.250466
S.E. of regression	1.581885	Akaike info criterion	3.755473
Sum squared resid	6906.513	Schwarz criterion	3.757619
Log likelihood	-5183.431	Hannan-Quinn criter.	3.756248
Durbin-Watson stat	2.000723		

BAY

Null Hypothesis: RRBAY has a unit root
Exogenous: None
Lag Length: 0 (Fixed)

	t-Statistic	Prob.*
Augmented Dickey-Fuller test statistic	-54.60206	0.0001
Test critical values: 1% level	-2.565800	
5% level	-1.940939	
10% level	-1.616622	

*MacKinnon (1996) one-sided p-values.
Augmented Dickey-Fuller Test Equation
Dependent Variable: D(RRBAY)
Method: Least Squares
Date: 08/10/10   Time: 21:29
Sample (adjusted): 2 2762
Included observations: 2761 after adjustments

Variable	Coefficient	Std. Error	t-Statistic	Prob.
RRBAY(-1)	-1.038354	0.019017	-54.60206	0.0000

R-squared	0.519280	Mean dependent var	-0.001559
Adjusted R-squared	0.519280	S.D. dependent var	2.815570
S.E. of regression	1.952147	Akaike info criterion	4.176099
Sum squared resid	10518.02	Schwarz criterion	4.178244
Log likelihood	-5764.104	Hannan-Quinn criter.	4.176874
Durbin-Watson stat	1.985215		

SCB

Null Hypothesis: RRSCB has a unit root
Exogenous: None
Lag Length: 0 (Fixed)

		t-Statistic	Prob.*
Augmented Dickey-Fuller test statistic		-51.69737	0.0001
Test critical values:	1% level	-2.565800	
	5% level	-1.940939	
	10% level	-1.616622	

*MacKinnon (1996) one-sided p-values.
Augmented Dickey-Fuller Test Equation
Dependent Variable: D(RRSCB)
Method: Least Squares
Date: 08/10/10   Time: 21:23
Sample (adjusted): 2 2762
Included observations: 2761 after adjustments

Variable	Coefficient	Std. Error	t-Statistic	Prob.
RRSCB(-1)	-0.983939	0.019033	-51.69737	0.0000

R-squared	0.491958	Mean dependent var	-8.10E-05
Adjusted R-squared	0.491958	S.D. dependent var	2.462714
S.E. of regression	1.755351	Akaike info criterion	3.963577
Sum squared resid	8504.269	Schwarz criterion	3.965722
Log likelihood	-5470.718	Hannan-Quinn criter.	3.964352
Durbin-Watson stat	1.995124		

ภาคผนวก ข

ผลการวิเคราะห์ความเสี่ยงโดยใช้

Rolling Analysis of Time Series Model

TIBCO Spotfire S+ Version 8.1.1 for Microsoft Windows : 2008

Working data will be in C:\DOCUME~1\Meaw\MYDOCU~1\SPOTFI~1\Project1

> colIds(R)

[1] "date" "RKTB" "RKBANK" "RBBL" "RSCB" "RBAY" "Rm"   "RB"

> start(R)

[1] 1 1

> end(R)

[1] 2762   1

> names(roll.fit)

 [1] "width"   "incr"   "nwin"   "contrasts" "rdf"   "coef"

 [7] "stddev"   "sigma"   "terms"   "call"   "positions" "position"

> roll.fit

ผลการวิเคราะห์ความเสี่ยงของหลักทรัพย์ Banking Sector

Call:

rollOLS(formula = RB ~ Rm, data = R, width = 250, incr = 1)

Rolling Windows:

 number width increment

  2513   250   1

Coefficients:

      (Intercept)   Rm

   mean -0.0271   1.2369

std. dev. 0.0590   0.1580

Coefficient Standard Deviations:

```
     (Intercept)    Rm
  mean 0.0599     0.0399
std. dev. 0.0145    0.0066
```

Residual Scale Estimate:

```
  mean std. dev.
 0.9434 0.2265
```

> summary(roll.fit)

ผลการวิเคราะห์ความเสี่ยงของหลักทรัพย์ KTB

Call:

rollOLS(formula = RKTB ~ Rm, data = R, width = 250, incr = 1)

Rolling Windows:

```
 number width increment
  2513   250       1
```

Coefficients:

```
      (Intercept)     Rm
   mean -0.0521     1.3186
std. dev.  0.1214     0.2149
```

Coefficient Standard Deviations:

```
      (Intercept)    Rm
   mean 0.1116    0.0752
std. dev. 0.0227    0.0131
```

Residual Scale Estimate:

```
  mean std. dev.
 1.7587 0.3562
```

> summary(roll.fit)

ผลการวิเคราะห์ความเสี่ยงของหลักทรัพย์ KBANK

Call:

rollOLS(formula = RKBANK ~ Rm, data = R, width = 250, incr = 1)

Rolling Windows:

 number width increment

  2513   250   1

Coefficients:

	(Intercept)	Rm
mean	-0.0048	1.2685
std. dev.	0.0660	0.1523

Coefficient Standard Deviations:

	(Intercept)	Rm
mean	0.0905	0.0621
std. dev.	0.0141	0.0141

Residual Scale Estimate:

  mean std. dev.

 1.4261 0.2206

> summary(roll.fit)

ผลการวิเคราะห์ความเสี่ยงของหลักทรัพย์ BBL

Call:

rollOLS(formula = RBBL ~ Rm, data = R, width = 250, incr = 1)

Rolling Windows:

 number width increment

   2513   250   1

Coefficients:

      (Intercept)   Rm

   mean 0.0024   1.2064

std. dev. 0.0751   0.1945

Coefficient Standard Deviations:

      (Intercept)   Rm

   mean 0.0960   0.0638

std. dev. 0.0250   0.0117

Residual Scale Estimate:

  mean std. dev.

 1.5135 0.3922

> summary(roll.fit)

ผลการวิเคราะห์ความเสี่ยงของหลักทรัพย์ SCB

Call:

rollOLS(formula = RSCB ~ Rm, data = R, width = 250, incr = 1)

Rolling Windows:

 number width increment

   2513   250   1

Coefficients:

        (Intercept)   Rm

   mean 0.0108   1.3173

std. dev. 0.0888   0.1776

Coefficient Standard Deviations:

        (Intercept)   Rm

   mean 0.1031   0.0693

std. dev. 0.0207   0.0117

Residual Scale Estimate:

   mean std. dev.

 1.6253 0.3261

> summary(roll.fit)

ผลการวิเคราะห์ความเสี่ยงของหลักทรัพย์ BAY

Call:

rollOLS(formula = RBAY ~ Rm, data = R, width = 250, incr = 1)

Rolling Windows:

number width increment

2513   250   1

Coefficients:

	(Intercept)	Rm
mean	-0.0114	1.2599
std. dev.	0.0977	0.2011

Coefficient Standard Deviations:

	(Intercept)	Rm
mean	0.1169	0.0784
std. dev.	0.0249	0.0140

Residual Scale Estimate:

mean std. dev.

1.8426 0.3898

> summary(roll.fit)

ผลการวิเคราะห์ความเสี่ยงของหลักทรัพย์ **TMB**

Call:

rollOLS(formula = RTMB ~ Rm, data = RTMB, width = 250, incr = 1)

Rolling Windows:

 number width increment

   2508   250   1

Coefficients:

	(Intercept)	Rm
mean	-0.1198	1.2120
std. dev.	0.1108	0.2419

Coefficient Standard Deviations:

	(Intercept)	Rm
mean	0.1432	0.0958
std. dev.	0.0432	0.0270

Residual Scale Estimate:

  mean std. dev.

 2.2558 0.6740

> summary(roll.fit)

ภาคผนวก ค

ผลการวิเคราะห์ความเสี่ยงโดยใช้

State Space Model

ผลการวิเคราะห์ความเสี่ยงของหลักทรัพย์ Banking Sector

Sspace: SSBETA

Method: Maximum likelihood (Marquardt)

Date: 08/08/10   Time: 23:30

Sample: 1 2757

Included observations: 2757

Convergence achieved after 10 iterations

	Coefficient	Std. Error	z-Statistic	Prob.
C(2)	0.040332	0.017389	2.319441	0.0204
	Final State	Root MSE	z-Statistic	Prob.
SV1	1.261922	0.012092	104.3637	0.0000
SV2	-0.028657	0.019436	-1.474393	0.1404
Log likelihood	-3989.826	Akaike info criterion		2.895050
Parameters	1	Schwarz criterion		2.897198
Diffuse priors	2	Hannan-Quinn criter.		2.895826

ผลการวิเคราะห์ความเสี่ยงของหลักทรัพย์ TMB

Sspace: SSBETA

Method: Maximum likelihood (Marquardt)

Date: 08/08/10   Time: 22:36

Sample: 1 2757

Included observations: 2757

Convergence achieved after 8 iterations

	Coefficient	Std. Error	z-Statistic	Prob.
C(2)	1.787462	0.010196	175.3099	0.0000
	Final State	Root MSE	z-Statistic	Prob.
SV1	1.257328	0.028965	43.40914	0.0000
SV2	-0.101110	0.046559	-2.171675	0.0299

Log likelihood	-6398.253	Akaike info criterion	4.642186
Parameters	1	Schwarz criterion	4.644334
Diffuse priors	2	Hannan-Quinn criter.	4.642962

ผลการวิเคราะห์ความเสี่ยงของหลักทรัพย์ KTB

Sspace: SSBETA

Method: Maximum likelihood (Marquardt)

Date: 08/08/10   Time: 23:39

Sample: 1 2757

Included observations: 2757

Convergence achieved after 6 iterations

	Coefficient	Std. Error	z-Statistic	Prob.
C(2)	1.278847	0.015808	80.90031	0.0000
	Final State	Root MSE	z-Statistic	Prob.
SV1	1.368289	0.022461	60.91925	0.0000
SV2	-0.053301	0.036104	-1.476316	0.1399
Log likelihood	-5697.114	Akaike info criterion	4.133561
Parameters	1	Schwarz criterion	4.135709
Diffuse priors	2	Hannan-Quinn criter.	4.134337

ผลการวิเคราะห์ความเสี่ยงของหลักทรัพย์ KBANK

Sspace: SSBETA

Method: Maximum likelihood (Marquardt)

Date: 08/09/10   Time: 00:00

Sample: 1 2757

Included observations: 2757

Convergence achieved after 8 iterations

	Coefficient	Std. Error	z-Statistic	Prob.
C(2)	0.767942	0.017156	44.76309	0.0000
	Final State	Root MSE	z-Statistic	Prob.

SV1	1.213219	0.017397	69.73613	0.0000
SV2	0.004379	0.027965	0.156587	0.8756
Log likelihood	-4992.830	Akaike info criterion		3.622655
Parameters	1	Schwarz criterion		3.624803
Diffuse priors	2	Hannan-Quinn criter.		3.623431

ผลการวิเคราะห์ความเสี่ยงของหลักทรัพย์ **BBL**

Sspace: SSBETA

Method: Maximum likelihood (Marquardt)

Date: 08/09/10   Time: 00:06

Sample: 1 2757

Included observations: 2757

Convergence achieved after 7 iterations

	Coefficient	Std. Error	z-Statistic	Prob.
C(2)	0.918545	0.015841	57.98651	0.0000
	Final State	Root MSE	z-Statistic	Prob.
SV1	1.197498	0.018758	63.83962	0.0000
SV2	-0.001405	0.030152	-0.046611	0.9628
Log likelihood	-5200.441	Akaike info criterion		3.773261
Parameters	1	Schwarz criterion		3.775409
Diffuse priors	2	Hannan-Quinn criter.		3.774037

ผลการวิเคราะห์ความเสี่ยงของหลักทรัพย์ **SCB**

Sspace: SSBETA

Method: Maximum likelihood (Marquardt)

Date: 08/09/10   Time: 00:12

Sample: 1 2757

Included observations: 2757

Convergence achieved after 8 iterations

	Coefficient	Std. Error	z-Statistic	Prob.

	Coefficient	Std. Error	z-Statistic	Prob.
C(2)	1.125976	0.013961	80.65062	0.0000
	Final State	Root MSE	z-Statistic	Prob.
SV1	1.325516	0.020808	63.70261	0.0000
SV2	0.023650	0.033447	0.707074	0.4795
Log likelihood	-5486.382	Akaike info criterion		3.980691
Parameters	1	Schwarz criterion		3.982839
Diffuse priors	2	Hannan-Quinn criter.		3.981467

ผลการวิเคราะห์ความเสี่ยงของหลักทรัพย์ BAY

Sspace: SSBETA

Method: Maximum likelihood (Marquardt)

Date: 08/09/10   Time: 00:16

Sample: 1 2757

Included observations: 2757

Convergence achieved after 7 iterations

	Coefficient	Std. Error	z-Statistic	Prob.
C(2)	1.340393	0.014328	93.55298	0.0000
	Final State	Root MSE	z-Statistic	Prob.
SV1	1.329969	0.023163	57.41873	0.0000
SV2	-0.016899	0.037232	-0.453892	0.6499
Log likelihood	-5781.960	Akaike info criterion		4.195110
Parameters	1	Schwarz criterion		4.197258
Diffuse priors	2	Hannan-Quinn criter.		4.195886

ประวัติผู้เขียน

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