



ภาคผนวก

ลิขสิทธิ์มหาวิทยาลัยเชียงใหม่

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## ภาคผนวก ก

## ผลการทดสอบ Unit Root Test โดยการทดสอบ Augmented Dickey-Fuller

## 1) ผลการทดสอบ Unit Root Test ของมูลค่าหน่วยลงทุนกองทุนไทยพาณิชย์หุ้นระยะยาว พลัส (SCBLT2)

## 1.1) Level with Intercept and Trend

Null Hypothesis: SCBLT2 has a unit root

Exogenous: Constant, Linear Trend

Lag Length: 0 (Automatic based on SIC, MAXLAG=13)

	t-Statistic	Prob.*
Augmented Dickey-Fuller test statistic	-1.783658	0.7081
Test critical values:		
1% level	-4.018349	
5% level	-3.439075	
10% level	-3.143887	

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

Augmented Dickey-Fuller Test Equation

Dependent Variable: D(SCBLT2)

Method: Least Squares

Sample (adjusted): 2 156

Included observations: 155 after adjustments

Variable	Coefficient	Std. Error	t-Statistic	Prob.
SCBLT2(-1)	-0.047049	0.026378	-1.783658	0.0765
C	0.446921	0.260226	1.717434	0.0879
@TREND(1)	0.001800	0.000876	2.055575	0.0415
R-squared	0.027311	Mean dependent var		0.032048
Adjusted R-squared	0.014512	S.D. dependent var		0.289007
S.E. of regression	0.286902	Akaike info criterion		0.359814
Sum squared resid	12.51155	Schwarz criterion		0.418719
Log likelihood	-24.88557	F-statistic		2.133903
Durbin-Watson stat	1.975375	Prob(F-statistic)		0.121907

### 1.2) Level with intercept

Null Hypothesis: SCBLT2 has a unit root

Exogenous: Constant

Lag Length: 0 (Automatic based on SIC, MAXLAG=13)

	t-Statistic	Prob.*
Augmented Dickey-Fuller test statistic	-0.203816	0.9342
Test critical values:		
1% level	-3.472813	
5% level	-2.880088	
10% level	-2.576739	

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

Augmented Dickey-Fuller Test Equation

Dependent Variable: D(SCBLT2)

Method: Least Squares

Date: 08/19/08 Time: 22:36

Sample (adjusted): 2 156

Included observations: 155 after adjustments

Variable	Coefficient	Std. Error	t-Statistic	Prob.
SCBLT2(-1)	-0.003195	0.015675	-0.203816	0.8388
C	0.069755	0.186464	0.374095	0.7089

R-squared	0.000271	Mean dependent var	0.032048
Adjusted R-squared	-0.006263	S.D. dependent var	0.289007
S.E. of regression	0.289910	Akaike info criterion	0.374330
Sum squared resid	12.85935	Schwarz criterion	0.413600
Log likelihood	-27.01056	F-statistic	0.041541
Durbin-Watson stat	2.006512	Prob(F-statistic)	0.838768

### 1.3) Level without intercept and Trend

Null Hypothesis: SCBLT2 has a unit root

Exogenous: None

Lag Length: 0 (Automatic based on SIC, MAXLAG=13)

	t-Statistic	Prob.*
Augmented Dickey-Fuller test statistic	1.343815	0.9548
Test critical values:		
1% level	-2.579967	
5% level	-1.942896	
10% level	-1.615342	

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

Augmented Dickey-Fuller Test Equation

Dependent Variable: D(SCBLT2)

Method: Least Squares

Date: 08/19/08 Time: 22:37

Sample (adjusted): 2 156

Included observations: 155 after adjustments

Variable	Coefficient	Std. Error	t-Statistic	Prob.
SCBLT2(-1)	0.002623	0.001952	1.343815	0.1810
R-squared	-0.000643	Mean dependent var		0.032048
Adjusted R-squared	-0.000643	S.D. dependent var		0.289007
S.E. of regression	0.289100	Akaike info criterion		0.362341
Sum squared resid	12.87112	Schwarz criterion		0.381976
Log likelihood	-27.08142	Durbin-Watson stat		2.016140

#### 1.4) 1<sup>st</sup> differencing with Intercept and Trend

Null Hypothesis: D(SCBLT2) has a unit root  
 Exogenous: Constant, Linear Trend  
 Lag Length: 0 (Automatic based on SIC, MAXLAG=13)

	t-Statistic	Prob.*
Augmented Dickey-Fuller test statistic	-12.45576	0.0000
Test critical values:		
1% level	-4.018748	
5% level	-3.439267	
10% level	-3.143999	

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

Augmented Dickey-Fuller Test Equation  
 Dependent Variable: D(SCBLT2,2)  
 Method: Least Squares  
 Date: 08/19/08 Time: 22:40  
 Sample (adjusted): 3 156  
 Included observations: 154 after adjustments

Variable	Coefficient	Std. Error	t-Statistic	Prob.
D(SCBLT2(-1))	-1.030676	0.082747	-12.45576	0.0000
C	-0.010894	0.047537	-0.229176	0.8190
@TREND(1)	0.000558	0.000528	1.057228	0.2921
R-squared	0.506949	Mean dependent var		0.004497
Adjusted R-squared	0.500418	S.D. dependent var		0.411281
S.E. of regression	0.290698	Akaike info criterion		0.386223
Sum squared resid	12.76028	Schwarz criterion		0.445384
Log likelihood	-26.73915	F-statistic		77.62813
Durbin-Watson stat	1.962617	Prob(F-statistic)		0.000000

### 1.5) 1<sup>st</sup> differencing with Intercept

Null Hypothesis: D(SCBLT2) has a unit root

Exogenous: Constant

Lag Length: 0 (Automatic based on SIC, MAXLAG=13)

	t-Statistic	Prob.*
Augmented Dickey-Fuller test statistic	-12.41045	0.0000
Test critical values:		
1% level	-3.473096	
5% level	-2.880211	
10% level	-2.576805	

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

Augmented Dickey-Fuller Test Equation

Dependent Variable: D(SCBLT2,2)

Method: Least Squares

Date: 08/19/08 Time: 22:42

Sample (adjusted): 3 156

Included observations: 154 after adjustments

Variable	Coefficient	Std. Error	t-Statistic	Prob.
D(SCBLT2(-1))	-1.025579	0.082638	-12.41045	0.0000
C	0.032771	0.023545	1.391884	0.1660
R-squared	0.503299	Mean dependent var		0.004497
Adjusted R-squared	0.500031	S.D. dependent var		0.411281
S.E. of regression	0.290810	Akaike info criterion		0.380611
Sum squared resid	12.85473	Schwarz criterion		0.420052
Log likelihood	-27.30702	F-statistic		154.0192
Durbin-Watson stat	1.958709	Prob(F-statistic)		0.000000

### 1.6) 1<sup>st</sup> differencing without intercept and Trend

Null Hypothesis: D(SCBLT2) has a unit root

Exogenous: None

Lag Length: 0 (Automatic based on SIC, MAXLAG=13)

	t-Statistic	Prob.*
Augmented Dickey-Fuller test statistic	-12.29603	0.0000
Test critical values:		
1% level	-2.580065	
5% level	-1.942910	
10% level	-1.615334	

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

Augmented Dickey-Fuller Test Equation

Dependent Variable: D(SCBLT2,2)

Method: Least Squares

Date: 08/19/08 Time: 22:44

Sample (adjusted): 3 156

Included observations: 154 after adjustments

Variable	Coefficient	Std. Error	t-Statistic	Prob.
D(SCBLT2(-1))	-1.014449	0.082502	-12.29603	0.0000
R-squared	0.496968	Mean dependent var		0.004497
Adjusted R-squared	0.496968	S.D. dependent var		0.411281
S.E. of regression	0.291700	Akaike info criterion		0.380289
Sum squared resid	13.01858	Schwarz criterion		0.400009
Log likelihood	-28.28224	Durbin-Watson stat		1.956927

2)ผลการทดสอบ Unit Root Test ของมูลค่าหน่วยลงทุนกองทุนไทยพาณิชย์หุ้นทุนเพื่อการเลี้ยงชีพ (SCBRM4)

2.1)Level with Intercept and Trend

Null Hypothesis: SCBRM4 has a unit root  
Exogenous: Constant, Linear Trend  
Lag Length: 0 (Automatic based on SIC, MAXLAG=13)

	t-Statistic	Prob.*
Augmented Dickey-Fuller test statistic	-1.547923	0.8087
Test critical values:		
1% level	-4.018349	
5% level	-3.439075	
10% level	-3.143887	

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

Augmented Dickey-Fuller Test Equation  
Dependent Variable: D(SCBRM4)  
Method: Least Squares  
Date: 08/19/08 Time: 22:50  
Sample (adjusted): 2 156  
Included observations: 155 after adjustments

Variable	Coefficient	Std. Error	t-Statistic	Prob.
SCBRM4(-1)	-0.039671	0.025629	-1.547923	0.1237
C	0.685634	0.478133	1.433980	0.1536
@TREND(1)	0.003025	0.001514	1.997754	0.0475

R-squared	0.025627	Mean dependent var	0.058159
Adjusted R-squared	0.012806	S.D. dependent var	0.563864
S.E. of regression	0.560242	Akaike info criterion	1.698269
Sum squared resid	47.70838	Schwarz criterion	1.757174
Log likelihood	-128.6158	F-statistic	1.998866
Durbin-Watson stat	1.953211	Prob(F-statistic)	0.139035



## 2.2) Level with intercept

Null Hypothesis: SCBRM4 has a unit root

Exogenous: Constant

Lag Length: 0 (Automatic based on SIC, MAXLAG=13)

	t-Statistic	Prob.*
Augmented Dickey-Fuller test statistic	-0.081147	0.9484
Test critical values:		
1% level	-3.472813	
5% level	-2.880088	
10% level	-2.576739	

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

Augmented Dickey-Fuller Test Equation

Dependent Variable: D(SCBRM4)

Method: Least Squares

Date: 08/19/08 Time: 22:51

Sample (adjusted): 2 156

Included observations: 155 after adjustments

Variable	Coefficient	Std. Error	t-Statistic	Prob.
SCBRM4(-1)	-0.001395	0.017187	-0.081147	0.9354
C	0.088514	0.376823	0.234894	0.8146
R-squared	0.000043	Mean dependent var		0.058159
Adjusted R-squared	-0.006493	S.D. dependent var		0.563864
S.E. of regression	0.565691	Akaike info criterion		1.711283
Sum squared resid	48.96105	Schwarz criterion		1.750553
Log likelihood	-130.6245	F-statistic		0.006585
Durbin-Watson stat	1.976029	Prob(F-statistic)		0.935431

### 2.3) Level without intercept and Trend

Null Hypothesis: SCBRM4 has a unit root

Exogenous: None

Lag Length: 0 (Automatic based on SIC, MAXLAG=13)

	t-Statistic	Prob.*
Augmented Dickey-Fuller test statistic	1.264735	0.9474
Test critical values:		
1% level	-2.579967	
5% level	-1.942896	
10% level	-1.615342	

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

Augmented Dickey-Fuller Test Equation

Dependent Variable: D(SCBRM4)

Method: Least Squares

Date: 08/19/08 Time: 22:53

Sample (adjusted): 2 156

Included observations: 155 after adjustments

Variable	Coefficient	Std. Error	t-Statistic	Prob.
SCBRM4(-1)	0.002613	0.002066	1.264735	0.2079
R-squared	-0.000318	Mean dependent var		0.058159
Adjusted R-squared	-0.000318	S.D. dependent var		0.563864
S.E. of regression	0.563953	Akaike info criterion		1.698741
Sum squared resid	48.97870	Schwarz criterion		1.718376
Log likelihood	-130.6524	Durbin-Watson stat		1.983080

## 2.4) 1st differencing with Intercept and Trend

Null Hypothesis: D(SCBRM4) has a unit root  
 Exogenous: Constant, Linear Trend  
 Lag Length: 0 (Automatic based on SIC, MAXLAG=13)

	t-Statistic	Prob.*
Augmented Dickey-Fuller test statistic	-12.28258	0.0000
Test critical values:		
1% level	-4.018748	
5% level	-3.439267	
10% level	-3.143999	

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

Augmented Dickey-Fuller Test Equation  
 Dependent Variable: D(SCBRM4,2)  
 Method: Least Squares  
 Date: 08/19/08 Time: 22:53  
 Sample (adjusted): 3 156  
 Included observations: 154 after adjustments

Variable	Coefficient	Std. Error	t-Statistic	Prob.
D(SCBRM4(-1))	-1.017032	0.082803	-12.28258	0.0000
C	-0.044048	0.092641	-0.475464	0.6351
@TREND(1)	0.001313	0.001030	1.275174	0.2042
R-squared	0.499963	Mean dependent var		0.008955
Adjusted R-squared	0.493340	S.D. dependent var		0.795692
S.E. of regression	0.566374	Akaike info criterion		1.720165
Sum squared resid	48.43773	Schwarz criterion		1.779326
Log likelihood	-129.4527	F-statistic		75.48876
Durbin-Watson stat	1.964348	Prob(F-statistic)		0.000000

### 2.5) 1st differencing with Intercept

Null Hypothesis: D(SCBRM4) has a unit root  
 Exogenous: Constant  
 Lag Length: 0 (Automatic based on SIC, MAXLAG=13)

	t-Statistic	Prob.*
Augmented Dickey-Fuller test statistic	-12.19585	0.0000
Test critical values:		
1% level	-3.473096	
5% level	-2.880211	
10% level	-2.576805	

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

Augmented Dickey-Fuller Test Equation  
 Dependent Variable: D(SCBRM4,2)  
 Method: Least Squares  
 Date: 08/19/08 Time: 22:54  
 Sample (adjusted): 3 156  
 Included observations: 154 after adjustments

Variable	Coefficient	Std. Error	t-Statistic	Prob.
D(SCBRM4(-1))	-1.008987	0.082732	-12.19585	0.0000
C	0.058625	0.045915	1.276824	0.2036
R-squared	0.494578	Mean dependent var		0.008955
Adjusted R-squared	0.491253	S.D. dependent var		0.795692
S.E. of regression	0.567539	Akaike info criterion		1.717889
Sum squared resid	48.95934	Schwarz criterion		1.757330
Log likelihood	-130.2774	F-statistic		148.7388
Durbin-Watson stat	1.959838	Prob(F-statistic)		0.000000

## 2.6) 1st differencing without intercept and Trend

Null Hypothesis: D(SCBRM4) has a unit root

Exogenous: None

Lag Length: 0 (Automatic based on SIC, MAXLAG=13)

	t-Statistic	Prob.*
Augmented Dickey-Fuller test statistic	-12.10550	0.0000
Test critical values:		
1% level	-2.580065	
5% level	-1.942910	
10% level	-1.615334	

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

Augmented Dickey-Fuller Test Equation

Dependent Variable: D(SCBRM4,2)

Method: Least Squares

Date: 08/19/08 Time: 22:54

Sample (adjusted): 3 156

Included observations: 154 after adjustments

Variable	Coefficient	Std. Error	t-Statistic	Prob.
D(SCBRM4(-1))	-0.999617	0.082575	-12.10550	0.0000
R-squared	0.489157	Mean dependent var		0.008955
Adjusted R-squared	0.489157	S.D. dependent var		0.795692
S.E. of regression	0.568707	Akaike info criterion		1.715570
Sum squared resid	49.48445	Schwarz criterion		1.735291
Log likelihood	-131.0989	Durbin-Watson stat		1.958173

3)ผลการทดสอบ Unit Root Test ของมูลค่าหน่วยลงทุนกองทุนเปิดบัวหลวงตราสารทุนเพื่อการเลี้ยงชีพ (BERMF)

3.1) Level with Intercept and Trend

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

	t-Statistic	Prob.*
Augmented Dickey-Fuller test statistic	-1.976992	0.6089
Test critical values:		
1% level	-4.018349	
5% level	-3.439075	
10% level	-3.143887	

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

Augmented Dickey-Fuller Test Equation  
Dependent Variable: D(BERMF)  
Method: Least Squares  
Date: 08/19/08 Time: 22:59  
Sample (adjusted): 2 156  
Included observations: 155 after adjustments

Variable	Coefficient	Std. Error	t-Statistic	Prob.
BERMF(-1)	-0.053372	0.026997	-1.976992	0.0499
C	1.056025	0.545392	1.936269	0.0547
@TREND(1)	0.005509	0.002536	2.172165	0.0314

R-squared	0.030279	Mean dependent var	0.088943
Adjusted R-squared	0.017520	S.D. dependent var	0.696137
S.E. of regression	0.690012	Akaike info criterion	2.114949
Sum squared resid	72.36966	Schwarz criterion	2.173854
Log likelihood	-160.9085	F-statistic	2.373071
Durbin-Watson stat	2.008785	Prob(F-statistic)	0.096639

### 3.2) Level with intercept

Null Hypothesis: BERMF has a unit root

Exogenous: Constant

Lag Length: 0 (Automatic based on SIC, MAXLAG=13)

	t-Statistic	Prob.*
Augmented Dickey-Fuller test statistic	-0.164867	0.9390
Test critical values:		
1% level	-3.472813	
5% level	-2.880088	
10% level	-2.576739	

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

Augmented Dickey-Fuller Test Equation

Dependent Variable: D(BERMF)

Method: Least Squares

Date: 08/19/08 Time: 23:00

Sample (adjusted): 2 156

Included observations: 155 after adjustments

Variable	Coefficient	Std. Error	t-Statistic	Prob.
BERMF(-1)	-0.002200	0.013344	-0.164867	0.8693
C	0.146518	0.353698	0.414245	0.6793
R-squared	0.000178	Mean dependent var		0.088943
Adjusted R-squared	-0.006357	S.D. dependent var		0.696137
S.E. of regression	0.698346	Akaike info criterion		2.132615
Sum squared resid	74.61612	Schwarz criterion		2.171885
Log likelihood	-163.2777	F-statistic		0.027181
Durbin-Watson stat	2.049112	Prob(F-statistic)		0.869266

### 3.3) Level without intercept and Trend

Null Hypothesis: BERMF has a unit root

Exogenous: None

Lag Length: 0 (Automatic based on SIC, MAXLAG=13)

	t-Statistic	Prob.*
Augmented Dickey-Fuller test statistic	1.543586	0.9697
Test critical values:		
1% level	-2.579967	
5% level	-1.942896	
10% level	-1.615342	

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

Augmented Dickey-Fuller Test Equation

Dependent Variable: D(BERMF)

Method: Least Squares

Date: 08/19/08 Time: 23:01

Sample (adjusted): 2 156

Included observations: 155 after adjustments

Variable	Coefficient	Std. Error	t-Statistic	Prob.
BERMF(-1)	0.003258	0.002110	1.543586	0.1247
R-squared	-0.000944	Mean dependent var		0.088943
Adjusted R-squared	-0.000944	S.D. dependent var		0.696137
S.E. of regression	0.696465	Akaike info criterion		2.120833
Sum squared resid	74.69980	Schwarz criterion		2.140468
Log likelihood	-163.3645	Durbin-Watson stat		2.057832



### 3.4) 1st differencing with Intercept and Trend

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

	t-Statistic	Prob.*
Augmented Dickey-Fuller test statistic	-12.69895	0.0000
Test critical values:		
1% level	-4.018748	
5% level	-3.439267	
10% level	-3.143999	

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

Augmented Dickey-Fuller Test Equation  
 Dependent Variable: D(BERMF,2)  
 Method: Least Squares  
 Date: 08/19/08 Time: 23:02  
 Sample (adjusted): 3 156  
 Included observations: 154 after adjustments

Variable	Coefficient	Std. Error	t-Statistic	Prob.
D(BERMF(-1))	-1.046995	0.082447	-12.69895	0.0000
C	-0.000184	0.114539	-0.001607	0.9987
@TREND(1)	0.001185	0.001271	0.932296	0.3527
R-squared	0.516570	Mean dependent var		0.009971
Adjusted R-squared	0.510167	S.D. dependent var		1.000695
S.E. of regression	0.700367	Akaike info criterion		2.144863
Sum squared resid	74.06758	Schwarz criterion		2.204025
Log likelihood	-162.1545	F-statistic		80.67569
Durbin-Watson stat	1.971638	Prob(F-statistic)		0.000000

### 3.5) 1st differencing with Intercept

Null Hypothesis: D(BERMF) has a unit root

Exogenous: Constant

Lag Length: 0 (Automatic based on SIC, MAXLAG=13)

	t-Statistic	Prob.*
Augmented Dickey-Fuller test statistic	-12.67361	0.0000
Test critical values:		
1% level	-3.473096	
5% level	-2.880211	
10% level	-2.576805	

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

Augmented Dickey-Fuller Test Equation

Dependent Variable: D(BERMF,2)

Method: Least Squares

Date: 08/19/08 Time: 23:02

Sample (adjusted): 3 156

Included observations: 154 after adjustments

Variable	Coefficient	Std. Error	t-Statistic	Prob.
D(BERMF(-1))	-1.043146	0.082308	-12.67361	0.0000
C	0.092539	0.056788	1.629559	0.1053
R-squared	0.513787	Mean dependent var		0.009971
Adjusted R-squared	0.510589	S.D. dependent var		1.000695
S.E. of regression	0.700065	Akaike info criterion		2.137616
Sum squared resid	74.49392	Schwarz criterion		2.177057
Log likelihood	-162.5964	F-statistic		160.6204
Durbin-Watson stat	1.967952	Prob(F-statistic)		0.000000

### 3.6) 1st differencing without intercept and Trend

Null Hypothesis: D(BERMF) has a unit root

Exogenous: None

Lag Length: 0 (Automatic based on SIC, MAXLAG=13)

	t-Statistic	Prob.*
Augmented Dickey-Fuller test statistic	-12.50220	0.0000
Test critical values:		
1% level	-2.580065	
5% level	-1.942910	
10% level	-1.615334	

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

Augmented Dickey-Fuller Test Equation

Dependent Variable: D(BERMF,2)

Method: Least Squares

Date: 08/19/08 Time: 23:03

Sample (adjusted): 3 156

Included observations: 154 after adjustments

Variable	Coefficient	Std. Error	t-Statistic	Prob.
D(BERMF(-1))	-1.027758	0.082206	-12.50220	0.0000
R-squared	0.505293	Mean dependent var		0.009971
Adjusted R-squared	0.505293	S.D. dependent var		1.000695
S.E. of regression	0.703843	Akaike info criterion		2.141948
Sum squared resid	75.79534	Schwarz criterion		2.161669
Log likelihood	-163.9300	Durbin-Watson stat		1.964391

4)ผลการทดสอบ Unit Root Test ของมูลค่าหน่วยลงทุนกองทุนเปิดเคหุ้นทุนบริพัตรเพื่อการเลี้ยงชีพ (KFLRMF)

4.1) Level with Intercept and Trend

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

	t-Statistic	Prob.*
Augmented Dickey-Fuller test statistic	-1.670594	0.7597
Test critical values:		
1% level	-4.018349	
5% level	-3.439075	
10% level	-3.143887	

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

Augmented Dickey-Fuller Test Equation  
 Dependent Variable: D(KFLRMF)  
 Method: Least Squares  
 Date: 08/19/08 Time: 23:06  
 Sample (adjusted): 2 156  
 Included observations: 155 after adjustments

Variable	Coefficient	Std. Error	t-Statistic	Prob.
KFLRMF(-1)	-0.044227	0.026474	-1.670594	0.0969
C	1.081491	0.688446	1.570915	0.1183
@TREND(1)	0.005132	0.002532	2.027282	0.0444

R-squared	0.026412	Mean dependent var	0.095578
Adjusted R-squared	0.013602	S.D. dependent var	0.873145
S.E. of regression	0.867186	Akaike info criterion	2.572039
Sum squared resid	114.3058	Schwarz criterion	2.630944
Log likelihood	-196.3330	F-statistic	2.061778
Durbin-Watson stat	2.026944	Prob(F-statistic)	0.130771

#### 4.2) Level with intercept

Null Hypothesis: KFLRMF has a unit root

Exogenous: Constant

Lag Length: 0 (Automatic based on SIC, MAXLAG=13)

	t-Statistic	Prob.*
Augmented Dickey-Fuller test statistic	-0.115797	0.9447
Test critical values:		
1% level	-3.472813	
5% level	-2.880088	
10% level	-2.576739	

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

Augmented Dickey-Fuller Test Equation

Dependent Variable: D(KFLRMF)

Method: Least Squares

Date: 08/19/08 Time: 23:07

Sample (adjusted): 2 156

Included observations: 155 after adjustments

Variable	Coefficient	Std. Error	t-Statistic	Prob.
KFLRMF(-1)	-0.001904	0.016445	-0.115797	0.9080
C	0.155262	0.520200	0.298466	0.7658
R-squared	0.000088	Mean dependent var		0.095578
Adjusted R-squared	-0.006448	S.D. dependent var		0.873145
S.E. of regression	0.875955	Akaike info criterion		2.585815
Sum squared resid	117.3965	Schwarz criterion		2.625085
Log likelihood	-198.4007	F-statistic		0.013409
Durbin-Watson stat	2.057405	Prob(F-statistic)		0.907966

### 4.3) Level without intercept and Trend

Null Hypothesis: KFLRMF has a unit root

Exogenous: None

Lag Length: 0 (Automatic based on SIC, MAXLAG=13)

	t-Statistic	Prob.*
Augmented Dickey-Fuller test statistic	1.334253	0.9539
Test critical values:		
1% level	-2.579967	
5% level	-1.942896	
10% level	-1.615342	

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

Augmented Dickey-Fuller Test Equation

Dependent Variable: D(KFLRMF)

Method: Least Squares

Date: 08/19/08 Time: 23:08

Sample (adjusted): 2 156

Included observations: 155 after adjustments

Variable	Coefficient	Std. Error	t-Statistic	Prob.
KFLRMF(-1)	0.002959	0.002218	1.334253	0.1841
R-squared	-0.000495	Mean dependent var		0.095578
Adjusted R-squared	-0.000495	S.D. dependent var		0.873145
S.E. of regression	0.873360	Akaike info criterion		2.573494
Sum squared resid	117.4648	Schwarz criterion		2.593129
Log likelihood	-198.4458	Durbin-Watson stat		2.066035

#### 4.4) 1<sup>st</sup> differencing with Intercept and Trend

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

	t-Statistic	Prob.*
Augmented Dickey-Fuller test statistic	-12.80538	0.0000
Test critical values:		
1% level	-4.018748	
5% level	-3.439267	
10% level	-3.143999	

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

Augmented Dickey-Fuller Test Equation  
 Dependent Variable: D(KFLRMF,2)  
 Method: Least Squares  
 Date: 08/19/08 Time: 23:11  
 Sample (adjusted): 3 156  
 Included observations: 154 after adjustments

Variable	Coefficient	Std. Error	t-Statistic	Prob.
D(KFLRMF(-1))	-1.057966	0.082619	-12.80538	0.0000
C	-0.053100	0.143305	-0.370538	0.7115
@TREND(1)	0.001943	0.001592	1.220489	0.2242
R-squared	0.520795	Mean dependent var		0.012674
Adjusted R-squared	0.514448	S.D. dependent var		1.257549
S.E. of regression	0.876279	Akaike info criterion		2.593025
Sum squared resid	115.9477	Schwarz criterion		2.652186
Log likelihood	-196.6629	F-statistic		82.05272
Durbin-Watson stat	1.959374	Prob(F-statistic)		0.000000

#### 4.5) 1<sup>st</sup> differencing with Intercept

Null Hypothesis: D(KFLRMF) has a unit root

Exogenous: Constant

Lag Length: 0 (Automatic based on SIC, MAXLAG=13)

	t-Statistic	Prob.*
Augmented Dickey-Fuller test statistic	-12.73160	0.0000
Test critical values:		
1% level	-3.473096	
5% level	-2.880211	
10% level	-2.576805	

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

Augmented Dickey-Fuller Test Equation

Dependent Variable: D(KFLRMF,2)

Method: Least Squares

Date: 08/19/08 Time: 23:12

Sample (adjusted): 3 156

Included observations: 154 after adjustments

Variable	Coefficient	Std. Error	t-Statistic	Prob.
D(KFLRMF(-1))	-1.051163	0.082563	-12.73160	0.0000
C	0.098872	0.071050	1.391594	0.1661
R-squared	0.516068	Mean dependent var		0.012674
Adjusted R-squared	0.512884	S.D. dependent var		1.257549
S.E. of regression	0.877690	Akaike info criterion		2.589854
Sum squared resid	117.0915	Schwarz criterion		2.629295
Log likelihood	-197.4188	F-statistic		162.0938
Durbin-Watson stat	1.954250	Prob(F-statistic)		0.000000



#### 4.6) 1<sup>st</sup> differencing without intercept and Trend

Null Hypothesis: D(KFLRMF) has a unit root

Exogenous: None

Lag Length: 0 (Automatic based on SIC, MAXLAG=13)

	t-Statistic	Prob.*
Augmented Dickey-Fuller test statistic	-12.61803	0.0000
Test critical values:		
1% level	-2.580065	
5% level	-1.942910	
10% level	-1.615334	

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

Augmented Dickey-Fuller Test Equation

Dependent Variable: D(KFLRMF,2)

Method: Least Squares

Date: 08/19/08 Time: 23:12

Sample (adjusted): 3 156

Included observations: 154 after adjustments

Variable	Coefficient	Std. Error	t-Statistic	Prob.
D(KFLRMF(-1))	-1.040215	0.082439	-12.61803	0.0000
R-squared	0.509903	Mean dependent var		0.012674
Adjusted R-squared	0.509903	S.D. dependent var		1.257549
S.E. of regression	0.880372	Akaike info criterion		2.589527
Sum squared resid	118.5833	Schwarz criterion		2.609248
Log likelihood	-198.3936	Durbin-Watson stat		1.952206

## ภาคผนวก ข

## คอเรโลแกรม

## 1) ผลคอเรโลแกรมของมูลค่าหน่วยลงทุนกองทุนไทยพาณิชย์หุ้นระยะยาว พลัส (SCBLT2)

## 1.1) รูปแบบคอเรโลแกรมของการทดสอบ Unit Root ที่ระดับ Level

Autocorrelation	Partial Correlation	AC	PAC	Q-Stat	Prob	
		1	0.933	0.933	138.34	0.000
		2	0.870	-0.003	259.36	0.000
		3	0.800	-0.079	362.55	0.000
		4	0.723	-0.101	447.39	0.000
		5	0.636	-0.131	513.33	0.000
		6	0.560	0.039	564.82	0.000
		7	0.499	0.092	606.09	0.000
		8	0.449	0.048	639.60	0.000
		9	0.401	-0.018	666.58	0.000
		10	0.373	0.081	690.09	0.000
		11	0.331	-0.158	708.71	0.000
		12	0.273	-0.184	721.49	0.000
		13	0.224	0.025	730.16	0.000
		14	0.194	0.160	736.72	0.000
		15	0.173	0.142	741.97	0.000
		16	0.156	0.037	746.24	0.000
		17	0.141	-0.083	749.79	0.000
		18	0.129	-0.133	752.77	0.000
		19	0.121	-0.018	755.40	0.000
		20	0.115	0.045	757.80	0.000
		21	0.115	0.122	760.20	0.000
		22	0.119	0.168	762.80	0.000
		23	0.121	0.033	765.53	0.000
		24	0.126	-0.111	768.48	0.000
		25	0.138	-0.112	772.05	0.000
		26	0.151	-0.042	776.39	0.000
		27	0.157	0.023	781.08	0.000
		28	0.156	0.119	785.75	0.000
		29	0.153	0.101	790.28	0.000
		30	0.150	0.013	794.67	0.000
		31	0.143	-0.111	798.73	0.000
		32	0.136	-0.167	802.39	0.000
		33	0.130	-0.074	805.76	0.000
		34	0.122	0.092	808.79	0.000
		35	0.117	0.224	811.58	0.000
		36	0.111	0.136	814.13	0.000

1.2) รูปแบบคอเรลโลแกรมของการทดสอบ Unit Root ที่ระดับ 1<sup>st</sup> Differencing

	Autocorrelation	Partial Correlation	AC	PAC	Q-Stat	Prob
1	-0.000	-0.000	3.E-05	0.996		
2	0.103	0.103	1.6754	0.433		
3	-0.003	-0.003	1.6773	0.642		
4	-0.099	-0.110	3.2428	0.518		
5	-0.001	0.000	3.2429	0.663		
6	-0.130	-0.109	5.9824	0.425		
7	-0.044	-0.046	6.2959	0.506		
8	0.002	0.018	6.2968	0.614		
9	-0.126	-0.122	8.9297	0.444		
10	0.036	0.009	9.1455	0.518		
11	-0.025	-0.009	9.2493	0.599		
12	0.052	0.033	9.7064	0.642		
13	0.054	0.027	10.207	0.677		
14	-0.022	-0.028	10.289	0.741		
15	0.034	-0.004	10.494	0.788		
16	-0.011	-0.001	10.513	0.838		
17	0.049	0.056	10.940	0.860		
18	-0.037	-0.048	11.179	0.887		
19	-0.055	-0.047	11.711	0.898		
20	-0.075	-0.079	12.732	0.889		
21	-0.082	-0.057	13.948	0.872		
22	0.022	0.039	14.034	0.900		
23	-0.032	-0.028	14.229	0.920		
24	-0.054	-0.085	14.773	0.927		
25	0.052	0.025	15.282	0.935		
26	-0.024	-0.015	15.389	0.950		
27	-0.004	-0.051	15.392	0.964		
28	0.083	0.076	16.706	0.954		
29	0.032	0.018	16.898	0.964		
30	0.121	0.073	19.751	0.923		
31	0.049	0.073	20.226	0.931		
32	0.001	-0.008	20.226	0.947		
33	0.050	0.040	20.724	0.952		
34	-0.023	0.024	20.832	0.963		
35	0.003	0.009	20.833	0.972		
36	0.045	0.085	21.247	0.976		

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## 1.3) รูปแบบคอเรลโลแกรมของการทดสอบ Q-stat จากแบบจำลอง ARIMA-GARCH

	Autocorrelation	Partial Correlation	AC	PAC	Q-Stat	Prob
1	-0.033	-0.033	0.1700			
2	0.004	0.003	0.1725			
3	-0.038	-0.038	0.4028			
4	-0.102	-0.104	2.0222			
5	0.010	0.004	2.0395			
6	-0.077	-0.078	2.9758			
7	-0.029	-0.043	3.1062			
8	-0.014	-0.027	3.1370	0.077		
9	-0.096	-0.105	4.6236	0.099		
10	0.047	0.019	4.9801	0.173		
11	-0.035	-0.044	5.1819	0.269		
12	0.030	0.008	5.3352	0.376		
13	0.031	0.009	5.4952	0.482		
14	-0.036	-0.037	5.7096	0.574		
15	0.022	-0.003	5.7951	0.670		
16	-0.027	-0.025	5.9167	0.748		
17	0.056	0.048	6.4544	0.776		
18	-0.034	-0.046	6.6537	0.826		
19	-0.020	-0.013	6.7204	0.876		
20	-0.098	-0.116	8.4134	0.816		
21	-0.044	-0.043	8.7576	0.846		
22	0.032	0.013	8.9425	0.881		
23	-0.021	-0.039	9.0234	0.912		
24	-0.073	-0.106	10.005	0.903		
25	0.072	0.044	10.953	0.896		
26	-0.048	-0.056	11.374	0.911		
27	0.002	-0.047	11.375	0.936		
28	0.071	0.056	12.331	0.930		
29	0.034	0.014	12.545	0.945		
30	0.124	0.102	15.502	0.876		
31	0.065	0.090	16.304	0.877		
32	-0.000	0.010	16.305	0.905		
33	0.034	0.053	16.528	0.923		
34	-0.056	-0.007	17.147	0.927		
35	0.040	0.053	17.472	0.939		
36	0.044	0.093	17.868	0.947		

## 2) ผลคอเรลโลแกรมของมูลค่าหน่วยลงทุนกองทุนไทยพาณิชย์หุ้นทุนเพื่อการเลี้ยงชีพ(SCBRM4)

### 2.1) รูปแบบคอเรลโลแกรมของการทดสอบ Unit Root ที่ระดับ Level

Autocorrelation	Partial Correlation	AC	PAC	Q-Stat	Prob	
		1	0.920	0.920	134.52	0.000
		2	0.845	-0.006	248.81	0.000
		3	0.764	-0.080	342.85	0.000
		4	0.677	-0.089	417.15	0.000
		5	0.574	-0.155	470.98	0.000
		6	0.490	0.053	510.48	0.000
		7	0.429	0.117	540.99	0.000
		8	0.379	0.038	564.87	0.000
		9	0.332	-0.016	583.40	0.000
		10	0.310	0.081	599.65	0.000
		11	0.272	-0.152	612.26	0.000
		12	0.218	-0.159	620.43	0.000
		13	0.176	0.047	625.75	0.000
		14	0.151	0.118	629.69	0.000
		15	0.134	0.118	632.82	0.000
		16	0.119	0.031	635.32	0.000
		17	0.107	-0.088	637.35	0.000
		18	0.096	-0.119	638.98	0.000
		19	0.088	0.002	640.36	0.000
		20	0.082	0.041	641.57	0.000
		21	0.082	0.107	642.80	0.000
		22	0.088	0.141	644.23	0.000
		23	0.093	0.011	645.84	0.000
		24	0.100	-0.086	647.72	0.000
		25	0.115	-0.058	650.22	0.000
		26	0.130	-0.023	653.44	0.000
		27	0.137	0.022	657.02	0.000
		28	0.138	0.098	660.71	0.000
		29	0.137	0.049	664.34	0.000
		30	0.135	-0.005	667.91	0.000
		31	0.129	-0.074	671.19	0.000
		32	0.121	-0.107	674.10	0.000
		33	0.114	-0.030	676.69	0.000
		34	0.105	0.066	678.91	0.000
		35	0.098	0.117	680.85	0.000
		36	0.090	0.047	682.53	0.000

## 2.2) รูปแบบคอเรลโลแกรมของการทดสอบ Unit Root ที่ระดับ 1<sup>st</sup> Differencing

Autocorrelation	Partial Correlation	AC	PAC	Q-Stat	Prob	
		1	0.015	0.015	0.0337	0.854
		2	0.094	0.094	1.4442	0.486
		3	-0.010	-0.012	1.4594	0.692
		4	-0.113	-0.123	3.5306	0.473
		5	-0.005	0.001	3.5339	0.618
		6	-0.127	-0.106	6.1628	0.405
		7	-0.021	-0.021	6.2356	0.513
		8	-0.007	0.003	6.2433	0.620
		9	-0.131	-0.135	9.1071	0.427
		10	0.031	0.008	9.2728	0.506
		11	-0.005	0.014	9.2775	0.596
		12	0.045	0.023	9.6184	0.649
		13	0.063	0.031	10.293	0.670
		14	-0.018	-0.024	10.349	0.736
		15	0.054	0.019	10.862	0.762
		16	-0.011	0.002	10.883	0.817
		17	0.061	0.069	11.533	0.828
		18	-0.030	-0.044	11.688	0.863
		19	-0.043	-0.032	12.019	0.885
		20	-0.073	-0.071	12.981	0.878
		21	-0.074	-0.040	13.963	0.871
		22	0.012	0.032	13.991	0.902
		23	-0.034	-0.032	14.208	0.921
		24	-0.064	-0.090	14.962	0.922
		25	0.048	0.031	15.394	0.932
		26	-0.027	-0.014	15.529	0.947
		27	-0.009	-0.052	15.545	0.961
		28	0.077	0.066	16.694	0.954
		29	0.028	0.011	16.841	0.965
		30	0.111	0.065	19.253	0.935
		31	0.056	0.080	19.860	0.939
		32	-0.001	-0.014	19.860	0.954
		33	0.053	0.042	20.423	0.957
		34	-0.020	0.031	20.506	0.967
		35	-0.002	0.008	20.507	0.976
		36	0.041	0.075	20.847	0.979

### 2.3) รูปแบบคอเรลโลแกรมของการทดสอบ Q-stat จากแบบจำลอง ARIMA-EGARCH

	Autocorrelation	Partial Correlation	AC	PAC	Q-Stat	Prob	
			1	0.158	0.158	3.8251	
			2	0.146	0.124	7.1330	
			3	-0.010	-0.051	7.1472	
			4	-0.098	-0.112	8.6499	
			5	-0.049	-0.012	9.0356	
			6	-0.158	-0.127	13.032	0.000
			7	-0.031	0.012	13.190	0.001
			8	-0.056	-0.027	13.695	0.003
			9	-0.134	-0.141	16.606	0.002
			10	0.026	0.049	16.716	0.005
			11	0.010	0.030	16.731	0.010
			12	0.102	0.058	18.448	0.010
			13	0.073	0.025	19.351	0.013
			14	0.005	-0.043	19.355	0.022
			15	0.090	0.061	20.742	0.023
			16	0.009	0.025	20.754	0.036
			17	0.058	0.045	21.330	0.046
			18	-0.008	-0.020	21.341	0.066
			19	-0.076	-0.062	22.351	0.072
			20	-0.082	-0.058	23.535	0.073
			21	-0.070	0.020	24.395	0.081
			22	-0.011	0.021	24.417	0.109
			23	-0.035	-0.046	24.640	0.135
			24	-0.052	-0.060	25.130	0.156
			25	0.006	0.000	25.136	0.196
			26	-0.028	-0.016	25.277	0.235
			27	0.020	0.000	25.351	0.281
			28	0.074	0.048	26.391	0.283
			29	0.067	0.016	27.238	0.293
			30	0.120	0.079	29.993	0.225
			31	0.072	0.069	30.995	0.228
			32	0.010	-0.030	31.015	0.271
			33	0.043	0.044	31.373	0.301
			34	-0.003	0.031	31.375	0.348
			35	0.007	0.025	31.385	0.397
			36	0.021	0.076	31.469	0.443

### 3) ผลคอเรโลแกรมของมูลค่าหน่วยลงทุนกองทุนเปิดบัวหลวงตราสารทุนเพื่อการเลี้ยงชีพ(BERMF)

#### 3.1) รูปแบบคอเรโลแกรมของการทดสอบ Unit Root ที่ระดับ Level

Autocorrelation	Partial Correlation	AC	PAC	Q-Stat	Prob	
		1	0.943	0.943	141.55	0.000
		2	0.889	-0.013	267.96	0.000
		3	0.830	-0.063	378.99	0.000
		4	0.763	-0.109	473.48	0.000
		5	0.686	-0.141	550.20	0.000
		6	0.620	0.067	613.37	0.000
		7	0.566	0.081	666.28	0.000
		8	0.518	0.044	710.95	0.000
		9	0.472	-0.024	748.35	0.000
		10	0.441	0.060	781.22	0.000
		11	0.400	-0.139	808.42	0.000
		12	0.348	-0.148	829.15	0.000
		13	0.301	0.014	844.79	0.000
		14	0.272	0.161	857.62	0.000
		15	0.248	0.115	868.35	0.000
		16	0.230	0.053	877.65	0.000
		17	0.214	-0.083	885.75	0.000
		18	0.199	-0.119	892.84	0.000
		19	0.187	-0.018	899.11	0.000
		20	0.176	0.036	904.74	0.000
		21	0.170	0.111	910.02	0.000
		22	0.167	0.124	915.15	0.000
		23	0.163	0.014	920.05	0.000
		24	0.161	-0.075	924.90	0.000
		25	0.166	-0.069	930.07	0.000
		26	0.175	-0.004	935.89	0.000
		27	0.177	-0.011	941.84	0.000
		28	0.171	0.029	947.49	0.000
		29	0.166	0.063	952.85	0.000
		30	0.160	0.009	957.87	0.000
		31	0.155	-0.015	962.58	0.000
		32	0.148	-0.072	966.92	0.000
		33	0.142	-0.037	970.97	0.000
		34	0.137	0.027	974.75	0.000
		35	0.132	0.070	978.31	0.000
		36	0.128	0.022	981.66	0.000



### 3.2) รูปแบบคอเรลโลแกรมของการทดสอบ Unit Root ที่ระดับ 1<sup>st</sup> Differencing

Autocorrelation	Partial Correlation	AC	PAC	Q-Stat	Prob	
		1	-0.016	-0.016	0.0415	0.839
		2	0.046	0.046	0.3833	0.826
		3	0.022	0.023	0.4582	0.928
		4	-0.086	-0.087	1.6439	0.801
		5	-0.015	-0.020	1.6808	0.891
		6	-0.154	-0.149	5.5684	0.473
		7	-0.047	-0.049	5.9384	0.547
		8	-0.002	0.003	5.9391	0.654
		9	-0.076	-0.071	6.9129	0.646
		10	0.014	-0.014	6.9453	0.731
		11	-0.035	-0.045	7.1550	0.786
		12	0.072	0.050	8.0392	0.782
		13	0.039	0.019	8.2975	0.824
		14	0.028	0.022	8.4319	0.866
		15	0.013	-0.018	8.4631	0.904
		16	0.028	0.028	8.5985	0.929
		17	0.033	0.031	8.7853	0.947
		18	-0.029	-0.015	8.9318	0.961
		19	-0.032	-0.022	9.1169	0.971
		20	-0.071	-0.067	10.024	0.968
		21	-0.046	-0.032	10.408	0.973
		22	0.032	0.046	10.595	0.980
		23	-0.072	-0.054	11.545	0.977
		24	-0.024	-0.049	11.649	0.984
		25	0.003	-0.014	11.651	0.989
		26	0.011	-0.001	11.675	0.993
		27	0.020	-0.004	11.753	0.995
		28	0.025	0.021	11.873	0.997
		29	0.061	0.029	12.581	0.997
		30	0.097	0.080	14.426	0.993
		31	0.056	0.065	15.042	0.993
		32	0.014	0.016	15.078	0.995
		33	0.026	0.040	15.215	0.997
		34	-0.003	0.017	15.216	0.998
		35	-0.012	0.023	15.244	0.999
		36	0.046	0.097	15.673	0.999

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## 3.3) รูปแบบคอเรลโลแกรมของการทดสอบ Q-stat จากแบบจำลอง ARIMA-GARCH

	Autocorrelation	Partial Correlation	AC	PAC	Q-Stat	Prob	
			1	0.154	0.154	3.6753	
			2	0.064	0.041	4.3177	
			3	-0.013	-0.030	4.3434	
			4	-0.037	-0.034	4.5530	
			5	-0.035	-0.023	4.7509	
			6	-0.255	-0.249	15.079	0.000
			7	-0.098	-0.026	16.619	0.000
			8	-0.071	-0.032	17.430	0.001
			9	-0.076	-0.074	18.357	0.001
			10	0.034	0.045	18.549	0.002
			11	-0.101	-0.128	20.225	0.003
			12	0.121	0.089	22.655	0.002
			13	0.066	0.017	23.392	0.003
			14	0.062	0.011	24.037	0.004
			15	0.089	0.046	25.386	0.005
			16	0.037	0.033	25.615	0.007
			17	0.036	-0.030	25.842	0.011
			18	-0.025	0.015	25.954	0.017
			19	-0.084	-0.061	27.189	0.018
			20	-0.121	-0.101	29.753	0.013
			21	-0.042	0.061	30.062	0.018
			22	-0.028	-0.032	30.207	0.025
			23	-0.120	-0.103	32.825	0.018
			24	-0.047	-0.015	33.219	0.023
			25	-0.029	-0.061	33.377	0.031
			26	0.036	-0.007	33.615	0.040
			27	0.068	0.054	34.484	0.044
			28	0.006	-0.063	34.490	0.058
			29	0.118	0.074	37.139	0.042
			30	0.110	0.073	39.470	0.033
			31	0.141	0.068	43.283	0.018
			32	0.048	0.051	43.731	0.022
			33	0.014	0.043	43.767	0.029
			34	0.016	-0.003	43.816	0.038
			35	0.016	0.121	43.867	0.049
			36	0.040	0.097	44.190	0.059

#### 4) ผลคอเรโลแกรมของมูลค่าหน่วยลงทุนกองทุนเปิดเคหุ้นทุนบริพัตรเพื่อการเลี้ยงชีพ(KFLRMF)

##### 4.1) รูปแบบคอเรโลแกรมของการทดสอบ Unit Root ที่ระดับ Level

Autocorrelation	Partial Correlation	AC	PAC	Q-Stat	Prob	
		1	0.924	0.924	135.89	0.000
		2	0.857	0.017	253.44	0.000
		3	0.784	-0.070	352.53	0.000
		4	0.699	-0.129	431.84	0.000
		5	0.609	-0.096	492.40	0.000
		6	0.531	0.032	538.82	0.000
		7	0.471	0.092	575.53	0.000
		8	0.421	0.052	605.11	0.000
		9	0.376	-0.016	628.87	0.000
		10	0.352	0.073	649.75	0.000
		11	0.312	-0.141	666.25	0.000
		12	0.258	-0.151	677.68	0.000
		13	0.215	0.024	685.66	0.000
		14	0.188	0.134	691.81	0.000
		15	0.169	0.116	696.81	0.000
		16	0.151	0.002	700.81	0.000
		17	0.134	-0.082	704.01	0.000
		18	0.120	-0.096	706.57	0.000
		19	0.108	-0.002	708.66	0.000
		20	0.099	0.041	710.43	0.000
		21	0.096	0.100	712.12	0.000
		22	0.100	0.129	713.95	0.000
		23	0.101	0.001	715.85	0.000
		24	0.105	-0.084	717.90	0.000
		25	0.118	-0.039	720.52	0.000
		26	0.132	0.006	723.84	0.000
		27	0.138	0.022	727.45	0.000
		28	0.137	0.046	731.05	0.000
		29	0.133	0.019	734.50	0.000
		30	0.130	-0.008	737.80	0.000
		31	0.123	-0.050	740.77	0.000
		32	0.114	-0.073	743.34	0.000
		33	0.106	-0.007	745.58	0.000
		34	0.096	0.050	747.45	0.000
		35	0.089	0.072	749.06	0.000
		36	0.082	-0.003	750.43	0.000

#### 4.2)รูปแบบคอเรลโลแกรมของการทดสอบ Unit Root ที่ระดับ 1<sup>st</sup> Differencing

Autocorrelation	Partial Correlation	AC	PAC	Q-Stat	Prob	
		1	-0.031	-0.031	0.1498	0.699
		2	0.102	0.101	1.8055	0.405
		3	0.027	0.033	1.9232	0.589
		4	-0.108	-0.118	3.7931	0.435
		5	0.005	-0.008	3.7969	0.579
		6	-0.133	-0.113	6.7034	0.349
		7	-0.020	-0.021	6.7668	0.454
		8	-0.009	0.004	6.7803	0.561
		9	-0.129	-0.123	9.5666	0.387
		10	0.044	0.013	9.8971	0.450
		11	-0.031	-0.009	10.055	0.525
		12	0.046	0.030	10.407	0.580
		13	0.058	0.035	10.985	0.612
		14	-0.017	-0.019	11.033	0.683
		15	0.076	0.033	12.031	0.677
		16	0.015	0.031	12.068	0.739
		17	0.066	0.066	12.830	0.747
		18	-0.011	-0.024	12.852	0.800
		19	-0.065	-0.055	13.602	0.806
		20	-0.090	-0.101	15.062	0.773
		21	-0.093	-0.056	16.618	0.734
		22	0.023	0.057	16.718	0.779
		23	-0.035	-0.017	16.938	0.812
		24	-0.090	-0.114	18.428	0.782
		25	0.056	0.022	19.005	0.797
		26	-0.020	0.003	19.078	0.833
		27	-0.014	-0.050	19.117	0.866
		28	0.080	0.055	20.353	0.851
		29	0.034	0.021	20.577	0.874
		30	0.114	0.067	23.103	0.811
		31	0.068	0.094	24.008	0.810
		32	0.001	-0.007	24.008	0.844
		33	0.061	0.035	24.758	0.848
		34	-0.032	0.017	24.966	0.870
		35	-0.011	0.002	24.992	0.895
		36	0.030	0.081	25.173	0.912

## 4.3) รูปแบบคอเรลโลแกรมของการทดสอบ Q-stat จากแบบจำลอง ARIMA-GARCH

	Autocorrelation	Partial Correlation	AC	PAC	Q-Stat	Prob
1	-0.012	-0.012	0.0220			
2	-0.009	-0.009	0.0347			
3	0.008	0.008	0.0441			
4	-0.105	-0.105	1.7926			
5	-0.069	-0.073	2.5562			
6	-0.068	-0.074	3.3021	0.069		
7	0.026	0.024	3.4145	0.181		
8	-0.014	-0.026	3.4468	0.328		
9	-0.071	-0.088	4.2763	0.370		
10	0.012	-0.013	4.3004	0.507		
11	-0.061	-0.070	4.9096	0.555		
12	0.060	0.053	5.5004	0.599		
13	0.006	-0.011	5.5068	0.702		
14	-0.013	-0.028	5.5358	0.785		
15	0.086	0.063	6.8065	0.744		
16	-0.016	-0.008	6.8489	0.811		
17	0.054	0.056	7.3560	0.833		
18	0.011	0.013	7.3776	0.882		
19	-0.057	-0.048	7.9365	0.893		
20	-0.115	-0.122	10.263	0.803		
21	-0.075	-0.055	11.254	0.794		
22	0.020	0.016	11.325	0.839		
23	-0.018	-0.014	11.385	0.877		
24	-0.044	-0.075	11.734	0.897		
25	0.037	-0.012	11.988	0.916		
26	-0.029	-0.033	12.145	0.936		
27	-0.011	-0.027	12.170	0.954		
28	0.040	0.025	12.464	0.963		
29	0.038	0.007	12.742	0.970		
30	0.109	0.082	14.995	0.941		
31	0.059	0.064	15.674	0.944		
32	-0.000	0.003	15.674	0.959		
33	0.040	0.057	15.990	0.966		
34	-0.042	-0.013	16.332	0.972		
35	-0.002	0.033	16.333	0.980		
36	0.018	0.062	16.400	0.985		

## ภาคผนวก ก

## การประมาณค่าพารามิเตอร์

1) การประมาณค่าพารามิเตอร์ของมูลค่าหน่วยลงทุนกองทุนไทยพาณิชย์หุ้นระยะยาวพลัส (SCBLT2)

## 1.1) การประมาณค่าพารามิเตอร์จากแบบจำลอง ARIMA-GARCH (ARCH1 GARCH2)

Dependent Variable: D(SCBLT2)

Method: ML - ARCH (Marquardt) - Normal distribution

Date: 08/18/08 Time: 15:15

Sample (adjusted): 6 156

Included observations: 151 after adjustments

Convergence achieved after 36 iterations

MA backcast: OFF (Roots of MA process too large), Variance  
backcast: ON

GARCH = C(9) + C(10)\*RESID(-1)^2 + C(11)\*GARCH(-1) + C(12)  
\*GARCH(-2)

	Coefficient	Std. Error	z-Statistic	Prob.
C	0.015134	0.018352	0.824668	0.4096
AR(1)	0.365354	0.029594	12.34556	0.0000
AR(2)	0.119582	0.015902	7.519939	0.0000
AR(3)	0.373243	0.033105	11.27448	0.0000
AR(4)	-0.721440	0.028779	-25.06853	0.0000
MA(1)	-0.259734	0.037081	-7.004461	0.0000
MA(3)	-0.619072	0.056582	-10.94122	0.0000
MA(4)	0.977334	0.029311	33.34326	0.0000

## Variance Equation

C	0.001115	0.000112	9.952859	0.0000
RESID(-1)^2	-0.063819	0.032466	-1.965707	0.0493
GARCH(-1)	0.809717	0.000196	4138.925	0.0000
GARCH(-2)	0.253215	0.042979	5.891601	0.0000

R-squared	0.243835	Mean dependent var	0.031631
Adjusted R-squared	0.183994	S.D. dependent var	0.292280
S.E. of regression	0.264026	Akaike info criterion	0.019494
Sum squared resid	9.689624	Schwarz criterion	0.259278
Log likelihood	10.52817	F-statistic	4.074746
Durbin-Watson stat	1.939694	Prob(F-statistic)	0.000035

Inverted AR Roots	.77+.48i	.77-.48i	-.59+.73i	-.59-.73i
Inverted MA Roots	.77+.52i	.77-.52i	-.64-.84i	-.64+.84i

Estimated MA process is noninvertible

## 1.2) การประมาณค่าพารามิเตอร์จากแบบจำลอง ARIMA-EGARCH(ARCH1 GARCH3)

Dependent Variable: D(SCBLT2)

Method: ML - ARCH (Marquardt) - Normal distribution

Sample (adjusted): 6 156

Included observations: 151 after adjustments

Convergence achieved after 81 iterations

MA backcast: 2 5, Variance backcast: ON

LOG(GARCH) = C(7) + C(8)\*ABS(RESID(-1)/@SQRT(GARCH(-1))) +  
C(9)\*RESID(-1)/@SQRT(GARCH(-1)) + C(10)\*LOG(GARCH(-1))  
+ C(11)\*LOG(GARCH(-2)) + C(12)\*LOG(GARCH(-3))

	Coefficient	Std. Error	z-Statistic	Prob.
C	0.010582	0.020248	0.522605	0.6012
AR(2)	0.119738	0.051458	2.326901	0.0200
AR(3)	0.448913	0.066878	6.712470	0.0000
AR(4)	-0.598593	0.059743	-10.01952	0.0000
MA(3)	-0.471308	0.019562	-24.09275	0.0000
MA(4)	0.590733	0.025282	23.36580	0.0000

### Variance Equation

C(7)	-0.230232	0.117045	-1.967034	0.0492
C(8)	0.189600	0.079722	2.378278	0.0174
C(9)	-0.095901	0.037556	-2.553588	0.0107
C(10)	1.789541	0.048853	36.63078	0.0000
C(11)	-1.789920	0.046975	-38.10345	0.0000
C(12)	0.961642	0.033779	28.46867	0.0000

R-squared	0.071769	Mean dependent var	0.031631
Adjusted R-squared	-0.001688	S.D. dependent var	0.292280
S.E. of regression	0.292527	Akaike info criterion	0.202245
Sum squared resid	11.89449	Schwarz criterion	0.442028
Log likelihood	-3.269461	F-statistic	0.977026
Durbin-Watson stat	1.953245	Prob(F-statistic)	0.470227

Inverted AR Roots	.65-.44i	.65+.44i	-.65+.73i	-.65-.73i
Inverted MA Roots	.63-.46i	.63+.46i	-.63+.76i	-.63-.76i

2) การประมาณค่าพารามิเตอร์ของมูลค่าหน่วยลงทุนกองทุนไทยพาณิชย์หุ้นทุนเพื่อการเลี้ยงชีพ (SCBRM4)

2.1) การประมาณค่าพารามิเตอร์จากแบบจำลอง ARIMA-GARCH(ARCH1 GARCH1)

Dependent Variable: D(SCBRM4)

Method: ML - ARCH (Marquardt) - Normal distribution

Date: 08/20/08 Time: 01:24

Sample (adjusted): 6 156

Included observations: 151 after adjustments

Convergence achieved after 39 iterations

MA backcast: 2 5, Variance backcast: ON

GARCH = C(7) + C(8)\*RESID(-1)^2 + C(9)\*GARCH(-1)

	Coefficient	Std. Error	z-Statistic	Prob.
C	0.013940	0.038657	0.360598	0.7184
AR(3)	0.321808	0.080605	3.992409	0.0001
AR(4)	-0.571282	0.068623	-8.324994	0.0000
MA(2)	0.150958	0.059829	2.523172	0.0116
MA(3)	-0.416164	0.084183	-4.943546	0.0000
MA(4)	0.600474	0.062301	9.638288	0.0000

Variance Equation

	Coefficient	Std. Error	z-Statistic	Prob.
C	0.003710	0.000723	5.132300	0.0000
RESID(-1)^2	-0.044147	0.006984	-6.321085	0.0000
GARCH(-1)	1.044621	0.002764	377.9131	0.0000

R-squared	0.081186	Mean dependent var	0.056370
Adjusted R-squared	0.029422	S.D. dependent var	0.570421
S.E. of regression	0.561967	Akaike info criterion	1.498959
Sum squared resid	44.84461	Schwarz criterion	1.678796
Log likelihood	-104.1714	F-statistic	1.568392
Durbin-Watson stat	1.878234	Prob(F-statistic)	0.139383

Inverted AR Roots	.62-.50i	.62+.50i	-.62+.72i	-.62-.72i
Inverted MA Roots	.60+.51i	.60-.51i	-.60-.78i	-.60+.78i



## 2.2) การประมาณค่าพารามิเตอร์จากแบบจำลอง ARIMA-EGARCH(ARCH1 GARCH0)

Dependent Variable: D(SCBRM4)

Method: ML - ARCH (Marquardt) - Normal distribution

Date: 08/18/08 Time: 15:32

Sample (adjusted): 6 156

Included observations: 151 after adjustments

Convergence achieved after 76 iterations

MA backcast: OFF (Roots of MA process too large), Variance  
backcast: ON

LOG(GARCH) = C(7) + C(8)\*ABS(RESID(-1)/@SQRT(GARCH(-1))) +  
C(9)\*RESID(-1)/@SQRT(GARCH(-1))

	Coefficient	Std. Error	z-Statistic	Prob.
C	0.052885	0.027367	1.932402	0.0533
AR(2)	0.096492	0.002347	41.11100	0.0000
AR(3)	0.611047	0.008925	68.46573	0.0000
AR(4)	-0.326622	0.000519	-629.3964	0.0000
MA(3)	-0.860123	0.005798	-148.3592	0.0000
MA(4)	0.527522	0.003002	175.7067	0.0000

### Variance Equation

C(7)	-1.610469	0.115831	-13.90364	0.0000
C(8)	0.253220	0.111468	2.271685	0.0231
C(9)	-0.248926	0.090677	-2.745209	0.0060

R-squared	0.217551	Mean dependent var	0.056370
Adjusted R-squared	0.173469	S.D. dependent var	0.570421
S.E. of regression	0.518591	Akaike info criterion	1.524925
Sum squared resid	38.18907	Schwarz criterion	1.704763
Log likelihood	-106.1318	F-statistic	4.935176
Durbin-Watson stat	1.621180	Prob(F-statistic)	0.000021

Inverted AR Roots	.58+.17i	.58-.17i	-.58-.74i	-.58+.74i
Inverted MA Roots	.63-.25i	.63+.25i	-.63-.86i	-.63+.86i
Estimated MA process is noninvertible				

5)การประมาณค่าพารามิเตอร์ของมูลค่าหน่วยลงทุนกองทุนเปิดบัวหลวงตราสารทุนเพื่อการเลี้ยงชีพ

(BERMF)

3.1) การประมาณค่าพารามิเตอร์จากแบบจำลอง ARIMA-GARCH(ARCH1 GARCH1)

Dependent Variable: D(BERMF)  
 Method: ML - ARCH (Marquardt) - Normal distribution  
 Date: 08/19/08 Time: 00:19  
 Sample (adjusted): 6 156  
 Included observations: 151 after adjustments  
 Convergence achieved after 167 iterations  
 MA backcast: OFF (Roots of MA process too large), Variance  
 backcast: ON  
 GARCH = C(7) + C(8)\*RESID(-1)^2 + C(9)\*GARCH(-1)

	Coefficient	Std. Error	z-Statistic	Prob.
C	0.082326	0.009989	8.241904	0.0000
AR(2)	0.063855	0.001633	39.10186	0.0000
AR(3)	0.481507	0.000509	946.4695	0.0000
AR(4)	-0.561132	0.002350	-238.8010	0.0000
MA(3)	-0.689293	0.023818	-28.93991	0.0000
MA(4)	0.820040	0.039480	20.77086	0.0000

Variance Equation				
C	0.030208	0.025846	1.168773	0.2425
RESID(-1)^2	0.252169	0.122955	2.050907	0.0403
GARCH(-1)	0.686831	0.159425	4.308183	0.0000

R-squared	0.235321	Mean dependent var	0.088923
Adjusted R-squared	0.192241	S.D. dependent var	0.704655
S.E. of regression	0.633311	Akaike info criterion	1.744134
Sum squared resid	56.95380	Schwarz criterion	1.923971
Log likelihood	-122.6821	F-statistic	5.462370
Durbin-Watson stat	1.653014	Prob(F-statistic)	0.000005

Inverted AR Roots	.63+.43i	.63-.43i	-.63-.75i	-.63+.75i
Inverted MA Roots	.69+.47i	.69-.47i	-.69+.85i	-.69-.85i

Estimated MA process is noninvertible

### 3.2) การประมาณค่าพารามิเตอร์จากแบบจำลอง ARIMA-EGARCH(ARCH1 GARCH2)

Dependent Variable: D(BERMF)

Method: ML - ARCH (Marquardt) - Normal distribution

Date: 08/18/08 Time: 15:24

Sample (adjusted): 6 156

Included observations: 151 after adjustments

Convergence achieved after 70 iterations

MA backcast: 2 5, Variance backcast: ON

LOG(GARCH) = C(6) + C(7)\*ABS(RESID(-1))/@SQRT(GARCH(-1)) +  
C(8)\*RESID(-1)/@SQRT(GARCH(-1)) + C(9)\*LOG(GARCH(-1)) +  
C(10)\*LOG(GARCH(-2))

	Coefficient	Std. Error	z-Statistic	Prob.
C	0.132327	0.049908	2.651403	0.0080
AR(3)	-0.335925	0.080234	-4.186835	0.0000
AR(4)	-0.629745	0.064442	-9.772290	0.0000
MA(3)	0.399465	0.064371	6.205673	0.0000
MA(4)	0.626673	0.048748	12.85539	0.0000

#### Variance Equation

C(6)	-0.097964	0.017804	-5.502360	0.0000
C(7)	0.071614	0.017205	4.162468	0.0000
C(8)	0.051334	0.018333	2.800132	0.0051
C(9)	1.918682	0.026862	71.42624	0.0000
C(10)	-0.959713	0.028447	-33.73634	0.0000

R-squared	0.001594	Mean dependent var	0.088923
Adjusted R-squared	-0.062134	S.D. dependent var	0.704655
S.E. of regression	0.726216	Akaike info criterion	1.912735
Sum squared resid	74.36200	Schwarz criterion	2.112555
Log likelihood	-134.4115	F-statistic	0.025012
Durbin-Watson stat	2.064375	Prob(F-statistic)	0.999999

Inverted AR Roots	.63+.73i	.63-.73i	-.63-.52i	-.63+.52i
Inverted MA Roots	.64-.75i	.64+.75i	-.64+.50i	-.64-.50i

4) การประมาณค่าพารามิเตอร์ของมูลค่าหน่วยลงทุนกองทุนเปิดเคหุ้นทุนบริพัตรเพื่อการเลี้ยงชีพ (KFLRMF)

4.1) การประมาณค่าพารามิเตอร์จากแบบจำลอง ARIMA-GARCH(ARCH1 GARCH1)

Dependent Variable: D(KFLRMF)  
 Method: ML - ARCH (Marquardt) - Normal distribution  
 Date: 08/19/08 Time: 11:14  
 Sample (adjusted): 6 156  
 Included observations: 151 after adjustments  
 Convergence achieved after 28 iterations  
 MA backcast: 2 5, Variance backcast: ON  
 GARCH = C(7) + C(8)\*RESID(-1)^2 + C(9)\*GARCH(-1)

	Coefficient	Std. Error	z-Statistic	Prob.
C	0.056213	0.078573	0.715431	0.4743
AR(2)	0.136995	0.041171	3.327448	0.0009
AR(3)	0.436222	0.056704	7.692999	0.0000
AR(4)	-0.625719	0.050121	-12.48429	0.0000
MA(3)	-0.438941	0.032765	-13.39656	0.0000
MA(4)	0.620482	0.033430	18.56089	0.0000

Variance Equation				
C	1.380170	0.174437	7.912126	0.0000
RESID(-1)^2	0.065160	0.022455	2.901853	0.0037
GARCH(-1)	-0.968548	0.025256	-38.34927	0.0000

R-squared	0.072380	Mean dependent var	0.092139
Adjusted R-squared	0.020120	S.D. dependent var	0.882880
S.E. of regression	0.873953	Akaike info criterion	2.569014
Sum squared resid	108.4587	Schwarz criterion	2.748852
Log likelihood	-184.9605	F-statistic	1.384989
Durbin-Watson stat	2.020807	Prob(F-statistic)	0.207918

Inverted AR Roots	.66-.45i	.66+.45i	-.66-.73i	-.66+.73i
Inverted MA Roots	.63-.48i	.63+.48i	-.63+.76i	-.63-.76i

#### 4.2) การประมาณค่าพารามิเตอร์จากแบบจำลอง ARIMA-EGARCH(ARCH2 GARCH2)

Dependent Variable: D(KFLRMF)

Method: ML - ARCH (Marquardt) - Normal distribution

Date: 08/18/08 Time: 15:25

Sample (adjusted): 6 156

Included observations: 151 after adjustments

Convergence achieved after 24 iterations

MA backcast: 2 5, Variance backcast: ON

LOG(GARCH) = C(7) + C(8)\*ABS(RESID(-1)/@SQRT(GARCH(-1))) +  
C(9)\*ABS(RESID(-2)/@SQRT(GARCH(-2))) + C(10)\*RESID(-1)  
/@SQRT(GARCH(-1)) + C(11)\*LOG(GARCH(-1)) + C(12)  
\*LOG(GARCH(-2))

	Coefficient	Std. Error	z-Statistic	Prob.
C	0.003374	0.072874	0.046302	0.9631
AR(2)	0.135841	0.036629	3.708584	0.0002
AR(3)	0.443817	0.094436	4.699642	0.0000
AR(4)	-0.495262	0.107089	-4.624756	0.0000
MA(3)	-0.264091	0.090290	-2.924906	0.0034
MA(4)	0.480744	0.133555	3.599581	0.0003

#### Variance Equation

C(7)	-0.250482	0.067096	-3.733174	0.0002
C(8)	-0.840084	0.238535	-3.521850	0.0004
C(9)	1.085679	0.238661	4.549045	0.0000
C(10)	-0.161576	0.076249	-2.119044	0.0341
C(11)	1.257208	0.116017	10.83638	0.0000
C(12)	-0.387106	0.111556	-3.470049	0.0005

R-squared	-0.005879	Mean dependent var	0.092139
Adjusted R-squared	-0.085481	S.D. dependent var	0.882880
S.E. of regression	0.919841	Akaike info criterion	2.506102
Sum squared resid	117.6088	Schwarz criterion	2.745885
Log likelihood	-177.2107	Durbin-Watson stat	2.042344

Inverted AR Roots	.63+.39i	.63-.39i	-.63-.71i	-.63+.71i
Inverted MA Roots	.59+.49i	.59-.49i	-.59-.68i	-.59+.68i

## ประวัติผู้เขียน

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