



ภาคผนวก

ลิขสิทธิ์มหาวิทยาลัยเชียงใหม่
Copyright© by Chiang Mai University
All rights reserved

ผลการทดสอบความนิ่งของตัวแปรดัชนีหลักทรัพย์ S&P 500 ณ ระดับ None

Null Hypothesis: INDEX has a unit root

Exogenous: None

Lag Length: 0 (Automatic - based on SIC, maxlag=21)

	t-Statistic	Prob.*
Augmented Dickey-Fuller test statistic	-35.71727	0.0000
Test critical values:		
1% level	-2.567179	
5% level	-1.941127	
10% level	-1.616495	

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

Augmented Dickey-Fuller Test Equation

Dependent Variable: D(INDEX)

Method: Least Squares

Date: 12/19/17 Time: 11:44

Sample (adjusted): 11/04/1997 10/31/2017

Included observations: 1044 after adjustments

Variable	Coefficient	Std. Error	t-Statistic	Prob.
INDEX(-1)	-1.100372	0.030808	-35.71727	0.0000
R-squared	0.550183	Mean dependent var		2.28E-06
Adjusted R-squared	0.550183	S.D. dependent var		0.035826
S.E. of regression	0.024028	Akaike info criterion		-4.618228
Sum squared resid	0.602176	Schwarz criterion		-4.613486
Log likelihood	2411.715	Hannan-Quinn criter.		-4.616429
Durbin-Watson stat	2.010641			

ลิขสิทธิ์มหาวิทยาลัยเชียงใหม่
Copyright© by Chiang Mai University
All rights reserved

ผลการทดสอบความนิ่งของตัวแปรดัชนีหลักทรัพย์ S&P 500 ณ ระดับ Intercept

Null Hypothesis: INDEX has a unit root

Exogenous: Constant

Lag Length: 0 (Automatic - based on SIC, maxlag=21)

	t-Statistic	Prob.*
Augmented Dickey-Fuller test statistic	-35.76624	0.0000
Test critical values:		
1% level	-3.436395	
5% level	-2.864098	
10% level	-2.568183	

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

Augmented Dickey-Fuller Test Equation

Dependent Variable: D(INDEX)

Method: Least Squares

Date: 12/19/17 Time: 11:44

Sample (adjusted): 11/04/1997 10/31/2017

Included observations: 1044 after adjustments

Variable	Coefficient	Std. Error	t-Statistic	Prob.
INDEX(-1)	-1.102199	0.030817	-35.76624	0.0000
C	0.001084	0.000744	1.457734	0.1452
R-squared	0.551099	Mean dependent var		2.28E-06
Adjusted R-squared	0.550668	S.D. dependent var		0.035826
S.E. of regression	0.024015	Akaike info criterion		-4.618349
Sum squared resid	0.600950	Schwarz criterion		-4.608865
Log likelihood	2412.778	Hannan-Quinn criter.		-4.614752
F-statistic	1279.224	Durbin-Watson stat		2.011294
Prob(F-statistic)	0.000000			

ลิขสิทธิ์มหาวิทยาลัยเชียงใหม่
Copyright© by Chiang Mai University
All rights reserved

ผลการทดสอบความนิ่งของตัวแปรดัชนีหลักทรัพย์ S&P 500 ณ ระดับ Trend & Intercept

Null Hypothesis: INDEX has a unit root

Exogenous: Constant, Linear Trend

Lag Length: 0 (Automatic - based on SIC, maxlag=21)

	t-Statistic	Prob.*
Augmented Dickey-Fuller test statistic	-35.76276	0.0000
Test critical values:		
1% level	-3.966862	
5% level	-3.414123	
10% level	-3.129165	

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

Augmented Dickey-Fuller Test Equation

Dependent Variable: D(INDEX)

Method: Least Squares

Date: 12/19/17 Time: 11:44

Sample (adjusted): 11/04/1997 10/31/2017

Included observations: 1044 after adjustments

Variable	Coefficient	Std. Error	t-Statistic	Prob.
INDEX(-1)	-1.102577	0.030830	-35.76276	0.0000
C	0.000230	0.001488	0.154829	0.8770
@TREND("10/28/1997")	1.64E-06	2.47E-06	0.662722	0.5077
R-squared	0.551288	Mean dependent var		2.28E-06
Adjusted R-squared	0.550426	S.D. dependent var		0.035826
S.E. of regression	0.024022	Akaike info criterion		-4.616855
Sum squared resid	0.600697	Schwarz criterion		-4.602629
Log likelihood	2412.999	Hannan-Quinn criter.		-4.611460
F-statistic	639.4874	Durbin-Watson stat		2.011431
Prob(F-statistic)	0.000000			

ลิขสิทธิ์มหาวิทยาลัยเชียงใหม่
Copyright© by Chiang Mai University
All rights reserved

ผลการทดสอบความนิ่งของตัวแปรทองคำ ณ ระดับ None

Null Hypothesis: GOLD has a unit root

Exogenous: None

Lag Length: 0 (Automatic - based on SIC, maxlag=21)

	t-Statistic	Prob.*
Augmented Dickey-Fuller test statistic	-30.94863	0.0000
Test critical values:		
1% level	-2.567179	
5% level	-1.941127	
10% level	-1.616495	

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

Augmented Dickey-Fuller Test Equation

Dependent Variable: D(GOLD)

Method: Least Squares

Date: 12/19/17 Time: 11:45

Sample (adjusted): 11/04/1997 10/31/2017

Included observations: 1044 after adjustments

Variable	Coefficient	Std. Error	t-Statistic	Prob.
GOLD(-1)	-0.957447	0.030937	-30.94863	0.0000
R-squared	0.478713	Mean dependent var		-4.74E-06
Adjusted R-squared	0.478713	S.D. dependent var		0.032996
S.E. of regression	0.023823	Akaike info criterion		-4.635335
Sum squared resid	0.591962	Schwarz criterion		-4.630593
Log likelihood	2420.645	Hannan-Quinn criter.		-4.633537
Durbin-Watson stat	1.997032			

ลิขสิทธิ์มหาวิทยาลัยเชียงใหม่
Copyright© by Chiang Mai University
All rights reserved

ผลการทดสอบความนิ่งของตัวแปรทองคำ ณ ระดับ Intercept

Null Hypothesis: GOLD has a unit root

Exogenous: Constant

Lag Length: 0 (Automatic - based on SIC, maxlag=21)

	t-Statistic	Prob.*
Augmented Dickey-Fuller test statistic	-31.02850	0.0000
Test critical values:		
1% level	-3.436395	
5% level	-2.864098	
10% level	-2.568183	

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

Augmented Dickey-Fuller Test Equation

Dependent Variable: D(GOLD)

Method: Least Squares

Date: 12/19/17 Time: 11:46

Sample (adjusted): 11/04/1997 10/31/2017

Included observations: 1044 after adjustments

Variable	Coefficient	Std. Error	t-Statistic	Prob.
GOLD(-1)	-0.960510	0.030956	-31.02850	0.0000
C	0.001290	0.000738	1.749046	0.0806
R-squared	0.480239	Mean dependent var		-4.74E-06
Adjusted R-squared	0.479740	S.D. dependent var		0.032996
S.E. of regression	0.023800	Akaike info criterion		-4.636351
Sum squared resid	0.590229	Schwarz criterion		-4.626867
Log likelihood	2422.175	Hannan-Quinn criter.		-4.632754
F-statistic	962.7678	Durbin-Watson stat		1.996969
Prob(F-statistic)	0.000000			

ลิขสิทธิ์มหาวิทยาลัยเชียงใหม่
Copyright© by Chiang Mai University
All rights reserved

ผลการทดสอบความนิ่งของตัวแปรทองคำ ณ ระดับ Trend & Intercept

Null Hypothesis: GOLD has a unit root

Exogenous: Constant, Linear Trend

Lag Length: 0 (Automatic - based on SIC, maxlag=21)

	t-Statistic	Prob.*
Augmented Dickey-Fuller test statistic	-31.01607	0.0000
Test critical values:		
1% level	-3.966862	
5% level	-3.414123	
10% level	-3.129165	

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

Augmented Dickey-Fuller Test Equation

Dependent Variable: D(GOLD)

Method: Least Squares

Date: 12/19/17 Time: 11:46

Sample (adjusted): 11/04/1997 10/31/2017

Included observations: 1044 after adjustments

Variable	Coefficient	Std. Error	t-Statistic	Prob.
GOLD(-1)	-0.960585	0.030971	-31.01607	0.0000
C	0.001651	0.001476	1.118401	0.2637
@TREND("10/28/1997")	-6.89E-07	2.45E-06	-0.281825	0.7781
R-squared	0.480279	Mean dependent var		-4.74E-06
Adjusted R-squared	0.479280	S.D. dependent var		0.032996
S.E. of regression	0.023810	Akaike info criterion		-4.634512
Sum squared resid	0.590184	Schwarz criterion		-4.620285
Log likelihood	2422.215	Hannan-Quinn criter.		-4.629116
F-statistic	480.9983	Durbin-Watson stat		1.996978
Prob(F-statistic)	0.000000			

ลิขสิทธิ์มหาวิทยาลัยเชียงใหม่
Copyright© by Chiang Mai University
All rights reserved

ผลการทดสอบความนิ่งของตัวแปรน้ำมัน ณ ระดับ None

Null Hypothesis: OIL has a unit root

Exogenous: None

Lag Length: 0 (Automatic - based on SIC, maxlag=21)

	t-Statistic	Prob.*
Augmented Dickey-Fuller test statistic	-35.47081	0.0000
Test critical values:		
1% level	-2.567179	
5% level	-1.941127	
10% level	-1.616495	

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

Augmented Dickey-Fuller Test Equation

Dependent Variable: D(OIL)

Method: Least Squares

Date: 12/19/17 Time: 11:46

Sample (adjusted): 11/04/1997 10/31/2017

Included observations: 1044 after adjustments

Variable	Coefficient	Std. Error	t-Statistic	Prob.
OIL(-1)	-1.093508	0.030828	-35.47081	0.0000
R-squared	0.546754	Mean dependent var		0.000000
Adjusted R-squared	0.546754	S.D. dependent var		0.058912
S.E. of regression	0.039661	Akaike info criterion		-3.615920
Sum squared resid	1.640665	Schwarz criterion		-3.611178
Log likelihood	1888.510	Hannan-Quinn criter.		-3.614122
Durbin-Watson stat	2.004489			

ลิขสิทธิ์มหาวิทยาลัยเชียงใหม่
Copyright© by Chiang Mai University
All rights reserved

ผลการทดสอบความนิ่งของตัวแปรน้ำมัน ณ ระดับ Intercept

Null Hypothesis: OIL has a unit root

Exogenous: Constant

Lag Length: 0 (Automatic - based on SIC, maxlag=21)

	t-Statistic	Prob.*
Augmented Dickey-Fuller test statistic	-35.45554	0.0000
Test critical values:		
1% level	-3.436395	
5% level	-2.864098	
10% level	-2.568183	

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

Augmented Dickey-Fuller Test Equation

Dependent Variable: D(OIL)

Method: Least Squares

Date: 12/19/17 Time: 11:46

Sample (adjusted): 11/04/1997 10/31/2017

Included observations: 1044 after adjustments

Variable	Coefficient	Std. Error	t-Statistic	Prob.
OIL(-1)	-1.093557	0.030843	-35.45554	0.0000
C	0.000291	0.001228	0.236802	0.8129
R-squared	0.546778	Mean dependent var		0.000000
Adjusted R-squared	0.546343	S.D. dependent var		0.058912
S.E. of regression	0.039679	Akaike info criterion		-3.614058
Sum squared resid	1.640577	Schwarz criterion		-3.604574
Log likelihood	1888.539	Hannan-Quinn criter.		-3.610461
F-statistic	1257.096	Durbin-Watson stat		2.004502
Prob(F-statistic)	0.000000			

ลิขสิทธิ์มหาวิทยาลัยเชียงใหม่
Copyright© by Chiang Mai University
All rights reserved

ผลการทดสอบความนิ่งของตัวแปรน้ำมัน ณ ระดับ Trend & Intercept

Null Hypothesis: OIL has a unit root

Exogenous: Constant, Linear Trend

Lag Length: 0 (Automatic - based on SIC, maxlag=21)

	t-Statistic	Prob.*
Augmented Dickey-Fuller test statistic	-35.43855	0.0000
Test critical values:		
1% level	-3.966862	
5% level	-3.414123	
10% level	-3.129165	

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

Augmented Dickey-Fuller Test Equation

Dependent Variable: D(OIL)

Method: Least Squares

Date: 12/19/17 Time: 11:46

Sample (adjusted): 11/04/1997 10/31/2017

Included observations: 1044 after adjustments

Variable	Coefficient	Std. Error	t-Statistic	Prob.
OIL(-1)	-1.093557	0.030858	-35.43855	0.0000
C	0.000349	0.002459	0.141828	0.8872
@TREND("10/28/1997")	-1.11E-07	4.08E-06	-0.027207	0.9783
R-squared	0.546779	Mean dependent var		0.000000
Adjusted R-squared	0.545908	S.D. dependent var		0.058912
S.E. of regression	0.039698	Akaike info criterion		-3.612143
Sum squared resid	1.640576	Schwarz criterion		-3.597917
Log likelihood	1888.539	Hannan-Quinn criter.		-3.606748
F-statistic	627.9454	Durbin-Watson stat		2.004502
Prob(F-statistic)	0.000000			

ลิขสิทธิ์มหาวิทยาลัยเชียงใหม่
Copyright© by Chiang Mai University
All rights reserved

ประวัติผู้เขียน

ชื่อ – สกุล	นายสุกฤษฎี ทองไกรรัตน์
วัน เดือน ปี เกิด	12 กันยายน 2534
ประวัติการศึกษา	สำเร็จการศึกษาระดับมัธยมศึกษาตอนปลาย โรงเรียนพหุชมภูมิพิสัย ปีการศึกษา 2552 สำเร็จการศึกษาระดับปริญญาตรี คณะเศรษฐศาสตร์ มหาวิทยาลัยแม่โจ้ ปีการศึกษา 2556



ลิขสิทธิ์มหาวิทยาลัยเชียงใหม่
Copyright© by Chiang Mai University
All rights reserved