ภาคผนวก

ภาคผนวก

1) ผลการทดสอบ Unit root test ของตัวแปรระดับ (Level) กรณีผลกระทบต่อปริมาณการส่งออกสินค้าข้าวไปยังประเทศสหรัฐอเมริกา

1.1) ผลการทดสอบ Unit root test ของปริมาณการส่งออกสินค้าข้าวไปยังประเทศสหรัฐอเมริกา

a. แนวเดินเชิงสุ่ม (None)

Null Hypothesis: QUSA has a unit root
Exogenous: None
Lag Length: 5 (Automatic - based on SIC, maxlag=11)

		t-Statistic	Prob.*
Augmented Dickey-Fuller test statistic		0.803253	0.8838
Test critical values:	1% level	-2.596586	
	5% level	-1.945260	
	10% level	-1.613912	

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

Augmented Dickey-Fuller Test Equation
Dependent Variable: D(QUSA)
Method: Least Squares
Date: 08/05/12 Time: 14:20
Sample (adjusted): 2536Q3 2554Q4
Included observations: 74 after adjustments

Variable	Coefficient	Std. Error	t-Statistic	Prob.
QUSA(-1)	0.004685	0.005833	0.803253	0.4246
D(QUSA(-1))	-0.017858	0.120900	-0.147707	0.8830
D(QUSA(-2))	-0.029895	0.120860	-0.247356	0.8054
D(QUSA(-3))	-0.016423	0.120447	-0.136351	0.8919
D(QUSA(-4))	0.033224	0.120460	0.275812	0.7835
D(QUSA(-5))	-0.126759	0.120402	-1.052800	0.2962

R-squared	0.009236	Mean dependent var	0.106109
Adjusted R-squared	-0.063614	S.D. dependent var	0.836315
S.E. of regression	0.862506	Akaike info criterion	2.619655
Sum squared resid	50.58630	Schwarz criterion	2.806471
Log likelihood	-90.92723	Hannan-Quinn criter.	2.694178
Durbin-Watson stat	1.988651		

b. แนวเดินเชิงสุ่มและจุดตัดแกนตั้ง (Intercept)

Null Hypothesis: QUSA has a unit root
Exogenous: Constant
Lag Length: 5 (Automatic - based on SIC, maxlag=11)

		t-Statistic	Prob.*
Augmented Dickey-Fuller test statistic		-5.855124	0.0000
Test critical values:	1% level	-3.521579	
	5% level	-2.901217	
	10% level	-2.587981	

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

Augmented Dickey-Fuller Test Equation
Dependent Variable: D(QUSA)
Method: Least Squares
Date: 08/05/12 Time: 14:21
Sample (adjusted): 2536Q3 2554Q4
Included observations: 74 after adjustments

Variable	Coefficient	Std. Error	t-Statistic	Prob.
QUSA(-1)	-0.333570	0.056971	-5.855124	0.0000
D(QUSA(-1))	-0.014722	0.098475	-0.149500	0.8816
D(QUSA(-2))	-0.043163	0.098466	-0.438357	0.6625
D(QUSA(-3))	-0.009252	0.098112	-0.094297	0.9252
D(QUSA(-4))	0.032763	0.098116	0.333925	0.7395
D(QUSA(-5))	-0.127728	0.098068	-1.302444	0.1972
C	6.071492	1.019030	5.958111	0.0000

R-squared	0.352373	Mean dependent var	0.106109
Adjusted R-squared	0.294376	S.D. dependent var	0.836315
S.E. of regression	0.702516	Akaike info criterion	2.221521
Sum squared resid	33.06646	Schwarz criterion	2.439473
Log likelihood	-75.19627	Hannan-Quinn criter.	2.308465
F-statistic	6.075767	Durbin-Watson stat	2.195390
Prob(F-statistic)	0.000040		

c. แนวเดินเชิงสุ่มจุดตัดแกนตั้งและแนวโน้ม (Intercept&Trend)

Null Hypothesis: QUSA has a unit root
Exogenous: Constant, Linear Trend
Lag Length: 1 (Automatic - based on SIC, maxlag=11)

		t-Statistic	Prob.*
Augmented Dickey-Fuller test statistic		-2.990509	0.1415
Test critical values:	1% level	-4.080021	
	5% level	-3.468459	
	10% level	-3.161067	

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

Augmented Dickey-Fuller Test Equation
Dependent Variable: D(QUSA)
Method: Least Squares
Date: 08/05/12 Time: 14:23
Sample (adjusted): 2535Q3 2554Q4
Included observations: 78 after adjustments

Variable	Coefficient	Std. Error	t-Statistic	Prob.
QUSA(-1)	-0.156661	0.052386	-2.990509	0.0038
D(QUSA(-1))	-0.008412	0.110945	-0.075819	0.9398
C	2.720821	0.818203	3.325360	0.0014
@TREND(2535Q1)	0.002855	0.004905	0.582104	0.5623

R-squared	0.130812	Mean dependent var	0.098096
Adjusted R-squared	0.095575	S.D. dependent var	0.818430
S.E. of regression	0.778337	Akaike info criterion	2.386606
Sum squared resid	44.82985	Schwarz criterion	2.507463
Log likelihood	-89.07765	Hannan-Quinn criter.	2.434988
F-statistic	3.712316	Durbin-Watson stat	2.010615
Prob(F-statistic)	0.015150		

1.2) ผลการทดสอบ Unit root test ของผลิตภัณฑ์มวลรวมภายในประเทศเบื้องต้นของประเทศสหรัฐอเมริกา

a. แนวเดินเชิงสุ่ม (None)

Null Hypothesis: YUSA has a unit root
Exogenous: None
Lag Length: 1 (Automatic - based on SIC, maxlag=11)

		t-Statistic	Prob.*
Augmented Dickey-Fuller test statistic		3.746975	0.9999
Test critical values:	1% level	-2.594946	
	5% level	-1.945024	
	10% level	-1.614050	

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

Augmented Dickey-Fuller Test Equation
Dependent Variable: D(YUSA)
Method: Least Squares
Date: 08/05/12 Time: 14:24
Sample (adjusted): 2535Q3 2554Q4
Included observations: 78 after adjustments

Variable	Coefficient	Std. Error	t-Statistic	Prob.
YUSA(-1)	0.000509	0.000136	3.746975	0.0003
D(YUSA(-1))	0.577727	0.093454	6.181969	0.0000

R-squared	0.311197	Mean dependent var	0.011381
Adjusted R-squared	0.302134	S.D. dependent var	0.006991
S.E. of regression	0.005840	Akaike info criterion	-7.422865
Sum squared resid	0.002592	Schwarz criterion	-7.362436
Log likelihood	291.4917	Hannan-Quinn criter.	-7.398674
Durbin-Watson stat	2.248662		

b. แนวเดินเชิงสุ่มและจุดตัดแกนตั้ง (Intercept)

Null Hypothesis: YUSA has a unit root
Exogenous: Constant
Lag Length: 1 (Automatic - based on SIC, maxlag=11)

		t-Statistic	Prob.*
Augmented Dickey-Fuller test statistic		-1.818896	0.3689
Test critical values:	1% level	-3.516676	
	5% level	-2.899115	
	10% level	-2.586866	

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

Augmented Dickey-Fuller Test Equation
Dependent Variable: D(YUSA)
Method: Least Squares
Date: 08/05/12 Time: 14:26
Sample (adjusted): 2535Q3 2554Q4
Included observations: 78 after adjustments

Variable	Coefficient	Std. Error	t-Statistic	Prob.
YUSA(-1)	-0.004618	0.002539	-1.818896	0.0729
D(YUSA(-1))	0.504308	0.098543	5.117665	0.0000
C	0.048253	0.023862	2.022181	0.0467

R-squared	0.346811	Mean dependent var	0.011381
Adjusted R-squared	0.329392	S.D. dependent var	0.006991
S.E. of regression	0.005725	Akaike info criterion	-7.450312
Sum squared resid	0.002458	Schwarz criterion	-7.359669
Log likelihood	293.5622	Hannan-Quinn criter.	-7.414026
F-statistic	19.91063	Durbin-Watson stat	2.180143
Prob(F-statistic)	0.000000		

c. แนวเดินเชิงสุ่มจุดตัดแกนตั้งและแนวโน้ม (Intercept&Trend)

Null Hypothesis: YUSA has a unit root
Exogenous: Constant, Linear Trend
Lag Length: 1 (Automatic - based on SIC, maxlag=11)

		t-Statistic	Prob.*
Augmented Dickey-Fuller test statistic		-0.882591	0.9523
Test critical values:	1% level	-4.080021	
	5% level	-3.468459	
	10% level	-3.161067	

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

Augmented Dickey-Fuller Test Equation
Dependent Variable: D(YUSA)
Method: Least Squares
Date: 08/05/12 Time: 14:27
Sample (adjusted): 2535Q3 2554Q4
Included observations: 78 after adjustments

Variable	Coefficient	Std. Error	t-Statistic	Prob.
YUSA(-1)	-0.017273	0.019570	-0.882591	0.3803
D(YUSA(-1))	0.521285	0.102290	5.096146	0.0000
C	0.158725	0.171072	0.927826	0.3565
@TREND(2535Q1)	0.000155	0.000237	0.652186	0.5163

R-squared	0.350544	Mean dependent var	0.011381
Adjusted R-squared	0.324215	S.D. dependent var	0.006991
S.E. of regression	0.005747	Akaike info criterion	-7.430402
Sum squared resid	0.002444	Schwarz criterion	-7.309546
Log likelihood	293.7857	Hannan-Quinn criter.	-7.382021
F-statistic	13.31383	Durbin-Watson stat	2.207961
Prob(F-statistic)	0.000000		

1.3) ผลการทดสอบ Unit root test ของราคาส่งออกสินค้าข้าว

a. แนวเดินเชิงสุ่ม (None)

Null Hypothesis: PT has a unit root
Exogenous: None
Lag Length: 0 (Automatic - based on SIC, maxlag=11)

		t-Statistic	Prob.*
Augmented Dickey-Fuller test statistic		1.016741	0.9175
Test critical values:	1% level	-2.594563	
	5% level	-1.944969	
	10% level	-1.614082	

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

Augmented Dickey-Fuller Test Equation
Dependent Variable: D(PT)
Method: Least Squares
Date: 08/05/12 Time: 14:28
Sample (adjusted): 2535Q2 2554Q4
Included observations: 79 after adjustments

Variable	Coefficient	Std. Error	t-Statistic	Prob.
PT(-1)	0.001912	0.001881	1.016741	0.3124

R-squared	-0.000662	Mean dependent var	0.011411
Adjusted R-squared	-0.000662	S.D. dependent var	0.097326
S.E. of regression	0.097358	Akaike info criterion	-1.808267
Sum squared resid	0.739328	Schwarz criterion	-1.778274
Log likelihood	72.42656	Hannan-Quinn criter.	-1.796251
Durbin-Watson stat	1.623290		

b. แนวเดินเชิงสุ่มและจุดตัดแกนตั้ง (Intercept)

Null Hypothesis: PT has a unit root
Exogenous: Constant
Lag Length: 0 (Automatic - based on SIC, maxlag=11)

		t-Statistic	Prob.*
Augmented Dickey-Fuller test statistic		-0.420484	0.8997
Test critical values:	1% level	-3.515536	
	5% level	-2.898623	
	10% level	-2.586605	

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

Augmented Dickey-Fuller Test Equation
Dependent Variable: D(PT)
Method: Least Squares
Date: 08/05/12 Time: 14:29
Sample (adjusted): 2535Q2 2554Q4
Included observations: 79 after adjustments

Variable	Coefficient	Std. Error	t-Statistic	Prob.
PT(-1)	-0.014320	0.034055	-0.420484	0.6753
C	0.094686	0.198351	0.477367	0.6345

R-squared	0.002291	Mean dependent var	0.011411
Adjusted R-squared	-0.010666	S.D. dependent var	0.097326
S.E. of regression	0.097843	Akaike info criterion	-1.785906
Sum squared resid	0.737147	Schwarz criterion	-1.725920
Log likelihood	72.54329	Hannan-Quinn criter.	-1.761874
F-statistic	0.176806	Durbin-Watson stat	1.602211
Prob(F-statistic)	0.675303		

c. แนวเดินเชิงสุ่มจุดตัดแกนตั้งและแนวโน้ม (Intercept&Trend)

Null Hypothesis: PT has a unit root
Exogenous: Constant, Linear Trend
Lag Length: 0 (Automatic - based on SIC, maxlag=11)

		t-Statistic	Prob.*
Augmented Dickey-Fuller test statistic		-1.274303	0.8870
Test critical values:	1% level	-4.078420	
	5% level	-3.467703	
	10% level	-3.160627	

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

Augmented Dickey-Fuller Test Equation
Dependent Variable: D(PT)
Method: Least Squares
Date: 08/05/12 Time: 14:30
Sample (adjusted): 2535Q2 2554Q4
Included observations: 79 after adjustments

Variable	Coefficient	Std. Error	t-Statistic	Prob.
PT(-1)	-0.051856	0.040694	-1.274303	0.2064
C	0.275046	0.224784	1.223599	0.2249
@TREND(2535Q1)	0.000948	0.000577	1.643985	0.1043

R-squared	0.036553	Mean dependent var	0.011411
Adjusted R-squared	0.011199	S.D. dependent var	0.097326
S.E. of regression	0.096779	Akaike info criterion	-1.795534
Sum squared resid	0.711833	Schwarz criterion	-1.705555
Log likelihood	73.92358	Hannan-Quinn criter.	-1.759485
F-statistic	1.441702	Durbin-Watson stat	1.599010
Prob(F-statistic)	0.242919		

1.4) ผลการทดสอบ Unit root test ของอัตราแลกเปลี่ยนที่แท้จริงของไทย (บาท) ต่อหน่วยเงินของประเทศสหรัฐอเมริกา (ดอลลาร์)

a. แนวเดินเชิงสุ่ม (None)

Null Hypothesis: RERUSA has a unit root
Exogenous: None
Lag Length: 1 (Automatic - based on SIC, maxlag=11)

		t-Statistic	Prob.*
Augmented Dickey-Fuller test statistic		-0.020005	0.6731
Test critical values:	1% level	-2.594946	
	5% level	-1.945024	
	10% level	-1.614050	

*MacKinnon (1996) one-sided p-values.
Augmented Dickey-Fuller Test Equation
Dependent Variable: D(RERUSA)
Method: Least Squares
Date: 08/05/12 Time: 14:39
Sample (adjusted): 2535Q3 2554Q4
Included observations: 78 after adjustments

Variable	Coefficient	Std. Error	t-Statistic	Prob.
RERUSA(-1)	-3.02E-05	0.001510	-0.020005	0.9841
D(RERUSA(-1))	0.291545	0.109951	2.651586	0.0097

R-squared	0.084639	Mean dependent var	0.000319
Adjusted R-squared	0.072595	S.D. dependent var	0.049003
S.E. of regression	0.047191	Akaike info criterion	-3.243938
Sum squared resid	0.169248	Schwarz criterion	-3.183510
Log likelihood	128.5136	Hannan-Quinn criter.	-3.219748
Durbin-Watson stat	1.992580		

b. แนวเดินเชิงสุ่มและจุดตัดแกนตั้ง (Intercept)

Null Hypothesis: RERUSA has a unit root
Exogenous: Constant
Lag Length: 1 (Automatic - based on SIC, maxlag=11)

		t-Statistic	Prob.*
Augmented Dickey-Fuller test statistic		-1.746284	0.4043
Test critical values:	1% level	-3.516676	
	5% level	-2.899115	
	10% level	-2.586866	

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

Augmented Dickey-Fuller Test Equation
Dependent Variable: D(RERUSA)
Method: Least Squares
Date: 08/05/12 Time: 14:40
Sample (adjusted): 2535Q3 2554Q4
Included observations: 78 after adjustments

Variable	Coefficient	Std. Error	t-Statistic	Prob.
RERUSA(-1)	-0.053538	0.030658	-1.746284	0.0849
D(RERUSA(-1))	0.318604	0.109595	2.907103	0.0048
C	0.189625	0.108520	1.747363	0.0847

R-squared	0.120446	Mean dependent var	0.000319
Adjusted R-squared	0.096992	S.D. dependent var	0.049003
S.E. of regression	0.046566	Akaike info criterion	-3.258201
Sum squared resid	0.162628	Schwarz criterion	-3.167558
Log likelihood	130.0698	Hannan-Quinn criter.	-3.221915
F-statistic	5.135259	Durbin-Watson stat	2.020745
Prob(F-statistic)	0.008125		

c. แนวเดินเชิงสุ่มจุดตัดแกนตั้งและแนวโน้ม (Intercept&Trend)

Null Hypothesis: RERUSA has a unit root
Exogenous: Constant, Linear Trend
Lag Length: 1 (Automatic - based on SIC, maxlag=11)

		t-Statistic	Prob.*
Augmented Dickey-Fuller test statistic		-1.510712	0.8177
Test critical values:	1% level	-4.080021	
	5% level	-3.468459	
	10% level	-3.161067	

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

Augmented Dickey-Fuller Test Equation
Dependent Variable: D(RERUSA)
Method: Least Squares
Date: 08/05/12 Time: 14:40
Sample (adjusted): 2535Q3 2554Q4
Included observations: 78 after adjustments

Variable	Coefficient	Std. Error	t-Statistic	Prob.
RERUSA(-1)	-0.049697	0.032896	-1.510712	0.1351
D(RERUSA(-1))	0.310567	0.112820	2.752761	0.0074
C	0.179501	0.113260	1.584865	0.1173
@TREND(2535Q1)	-8.53E-05	0.000254	-0.335575	0.7381

R-squared	0.121783	Mean dependent var	0.000319
Adjusted R-squared	0.086179	S.D. dependent var	0.049003
S.E. of regression	0.046844	Akaike info criterion	-3.234080
Sum squared resid	0.162381	Schwarz criterion	-3.113224
Log likelihood	130.1291	Hannan-Quinn criter.	-3.185699
F-statistic	3.420537	Durbin-Watson stat	2.014990
Prob(F-statistic)	0.021554		

1.5) ผลการทดสอบ Unit root test ของราคาน้ำมันดิบ

a. แนวเดินเชิงสุ่ม (None)

Null Hypothesis: OILT has a unit root
Exogenous: None
Lag Length: 2 (Automatic - based on SIC, maxlag=11)

		t-Statistic	Prob.*
Augmented Dickey-Fuller test statistic		1.244343	0.9446
Test critical values:	1% level	-2.595340	
	5% level	-1.945081	
	10% level	-1.614017	

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

Augmented Dickey-Fuller Test Equation
Dependent Variable: D(OILT)
Method: Least Squares
Date: 08/05/12 Time: 14:41
Sample (adjusted): 2535Q4 2554Q4
Included observations: 77 after adjustments

Variable	Coefficient	Std. Error	t-Statistic	Prob.
OILT(-1)	0.005737	0.004611	1.244343	0.2173
D(OILT(-1))	0.352419	0.111652	3.156413	0.0023
D(OILT(-2))	-0.295410	0.111850	-2.641123	0.0101

R-squared	0.152204	Mean dependent var	0.022088
Adjusted R-squared	0.129291	S.D. dependent var	0.148916
S.E. of regression	0.138956	Akaike info criterion	-1.071137
Sum squared resid	1.428848	Schwarz criterion	-0.979820
Log likelihood	44.23879	Hannan-Quinn criter.	-1.034611
Durbin-Watson stat	1.958431		

b. แนวเดินเชิงสุ่มและจุดตัดแกนตั้ง (Intercept)

Null Hypothesis: OILT has a unit root
Exogenous: Constant
Lag Length: 2 (Automatic - based on SIC, maxlag=11)

		t-Statistic	Prob.*
Augmented Dickey-Fuller test statistic		-0.238196	0.9281
Test critical values:	1% level	-3.517847	
	5% level	-2.899619	
	10% level	-2.587134	

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

Augmented Dickey-Fuller Test Equation
Dependent Variable: D(OILT)
Method: Least Squares
Date: 08/05/12 Time: 14:42
Sample (adjusted): 2535Q4 2554Q4
Included observations: 77 after adjustments

Variable	Coefficient	Std. Error	t-Statistic	Prob.
OILT(-1)	-0.005929	0.024892	-0.238196	0.8124
D(OILT(-1))	0.358647	0.112996	3.173984	0.0022
D(OILT(-2))	-0.284688	0.114663	-2.482815	0.0153
C	0.041582	0.087170	0.477022	0.6348

R-squared	0.154839	Mean dependent var	0.022088
Adjusted R-squared	0.120106	S.D. dependent var	0.148916
S.E. of regression	0.139687	Akaike info criterion	-1.048276
Sum squared resid	1.424408	Schwarz criterion	-0.926520
Log likelihood	44.35861	Hannan-Quinn criter.	-0.999574
F-statistic	4.458011	Durbin-Watson stat	1.955277
Prob(F-statistic)	0.006237		

c. แนวเดินเชิงสุ่มจุดตัดแกนตั้งและแนวโน้ม (Intercept&Trend)

Null Hypothesis: OILT has a unit root
Exogenous: Constant, Linear Trend
Lag Length: 1 (Automatic - based on SIC, maxlag=11)

		t-Statistic	Prob.*
Augmented Dickey-Fuller test statistic		-3.568392	0.0392
Test critical values:	1% level	-4.080021	
	5% level	-3.468459	
	10% level	-3.161067	

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

Augmented Dickey-Fuller Test Equation
Dependent Variable: D(OILT)
Method: Least Squares
Date: 08/05/12 Time: 14:42
Sample (adjusted): 2535Q3 2554Q4
Included observations: 78 after adjustments

Variable	Coefficient	Std. Error	t-Statistic	Prob.
OILT(-1)	-0.192122	0.053840	-3.568392	0.0006
D(OILT(-1))	0.352337	0.106198	3.317720	0.0014
C	0.453637	0.132551	3.422350	0.0010
@TREND(2535Q1)	0.005611	0.001575	3.563715	0.0006

R-squared	0.216476	Mean dependent var	0.021847
Adjusted R-squared	0.184712	S.D. dependent var	0.147961
S.E. of regression	0.133599	Akaike info criterion	-1.138031
Sum squared resid	1.320798	Schwarz criterion	-1.017175
Log likelihood	48.38323	Hannan-Quinn criter.	-1.089650
F-statistic	6.815048	Durbin-Watson stat	1.876013
Prob(F-statistic)	0.000405		

2) ผลการทดสอบ Unit root test ของตัวแปรในระดับผลต่างลำดับที่หนึ่ง (First Difference) กรณีผลกระทบต่อปริมาณการส่งออกสินค้าข้าวไปยังประเทศสหรัฐอเมริกา

2.1) ผลการทดสอบ Unit root test ของปริมาณการส่งออกสินค้าข้าวไปยังประเทศสหรัฐอเมริกา

a. แนวเดินเชิงสุ่ม (None)

Null Hypothesis: D(QUSA) has a unit root
Exogenous: None
Lag Length: 2 (Automatic - based on SIC, maxlag=11)

		t-Statistic	Prob.*
Augmented Dickey-Fuller test statistic		-5.018131	0.0000
Test critical values:	1% level	-2.595745	
	5% level	-1.945139	
	10% level	-1.613983	

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

Augmented Dickey-Fuller Test Equation
Dependent Variable: D(QUSA,2)
Method: Least Squares
Date: 08/05/12 Time: 20:29
Sample (adjusted): 2536Q1 2554Q4
Included observations: 76 after adjustments

Variable	Coefficient	Std. Error	t-Statistic	Prob.
D(QUSA(-1))	-1.031533	0.205561	-5.018131	0.0000
D(QUSA(-1),2)	0.016922	0.166236	0.101793	0.9192
D(QUSA(-2),2)	0.000861	0.116612	0.007387	0.9941

R-squared	0.508449	Mean dependent var	0.011189
Adjusted R-squared	0.494982	S.D. dependent var	1.187059
S.E. of regression	0.843579	Akaike info criterion	2.536346
Sum squared resid	51.94862	Schwarz criterion	2.628349
Log likelihood	-93.38116	Hannan-Quinn criter.	2.573115
Durbin-Watson stat	1.991117		

b. แนวเดินเชิงสุ่มและจุดตัดแกนตั้ง (Intercept)

Null Hypothesis: D(QUSA) has a unit root
Exogenous: Constant
Lag Length: 4 (Automatic - based on SIC, maxlag=11)

		t-Statistic	Prob.*
Augmented Dickey-Fuller test statistic		-4.245331	0.0011
Test critical values:	1% level	-3.521579	
	5% level	-2.901217	
	10% level	-2.587981	

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

Augmented Dickey-Fuller Test Equation
Dependent Variable: D(QUSA,2)
Method: Least Squares
Date: 08/05/12 Time: 20:31
Sample (adjusted): 2536Q3 2554Q4
Included observations: 74 after adjustments

Variable	Coefficient	Std. Error	t-Statistic	Prob.
D(QUSA(-1))	-1.188827	0.280032	-4.245331	0.0001
D(QUSA(-1),2)	0.165085	0.250259	0.659658	0.5117
D(QUSA(-2),2)	0.128470	0.214078	0.600108	0.5504
D(QUSA(-3),2)	0.105972	0.171873	0.616575	0.5396
D(QUSA(-4),2)	0.132862	0.119681	1.110135	0.2709
C	0.125727	0.103706	1.212346	0.2296

R-squared	0.523260	Mean dependent var	0.004733
Adjusted R-squared	0.488206	S.D. dependent var	1.198454
S.E. of regression	0.857372	Akaike info criterion	2.607715
Sum squared resid	49.98587	Schwarz criterion	2.794531
Log likelihood	-90.48544	Hannan-Quinn criter.	2.682238
F-statistic	14.92709	Durbin-Watson stat	1.990883
Prob(F-statistic)	0.000000		

c. แนวเดินเชิงสุ่มจุดตัดแกนตั้งและแนวโน้ม (Intercept&Trend)

Null Hypothesis: D(QUSA) has a unit root
Exogenous: Constant, Linear Trend
Lag Length: 4 (Automatic - based on SIC, maxlag=11)

		t-Statistic	Prob.*
Augmented Dickey-Fuller test statistic		-4.765637	0.0013
Test critical values:	1% level	-4.086877	
	5% level	-3.471693	
	10% level	-3.162948	

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

Augmented Dickey-Fuller Test Equation
Dependent Variable: D(QUSA,2)
Method: Least Squares
Date: 08/05/12 Time: 20:32
Sample (adjusted): 2536Q3 2554Q4
Included observations: 74 after adjustments

Variable	Coefficient	Std. Error	t-Statistic	Prob.
D(QUSA(-1))	-1.421734	0.298330	-4.765637	0.0000
D(QUSA(-1),2)	0.349829	0.262183	1.334291	0.1866
D(QUSA(-2),2)	0.262363	0.220240	1.191259	0.2378
D(QUSA(-3),2)	0.193531	0.173996	1.112275	0.2700
D(QUSA(-4),2)	0.176266	0.119216	1.478538	0.1440
C	0.568284	0.245361	2.316117	0.0236
@TREND(2535Q1)	-0.009852	0.004972	-1.981343	0.0517

R-squared	0.549648	Mean dependent var	0.004733
Adjusted R-squared	0.509318	S.D. dependent var	1.198454
S.E. of regression	0.839502	Akaike info criterion	2.577801
Sum squared resid	47.21917	Schwarz criterion	2.795753
Log likelihood	-88.37864	Hannan-Quinn criter.	2.664745
F-statistic	13.62873	Durbin-Watson stat	2.008274
Prob(F-statistic)	0.000000		

2.2) ผลการทดสอบ Unit root test ของผลิตภัณฑ์มวลรวมภายในประเทศเบื้องต้นของประเทศสหรัฐอเมริกา

a. แนวเดินเชิงสุ่ม (None)

Null Hypothesis: D(YUSA) has a unit root
Exogenous: None
Lag Length: 1 (Automatic - based on SIC, maxlag=11)

		t-Statistic	Prob.*
Augmented Dickey-Fuller test statistic		-1.643784	0.0943
Test critical values:	1% level	-2.595340	
	5% level	-1.945081	
	10% level	-1.614017	

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

Augmented Dickey-Fuller Test Equation
Dependent Variable: D(YUSA,2)
Method: Least Squares
Date: 08/05/12 Time: 20:38
Sample (adjusted): 2535Q4 2554Q4
Included observations: 77 after adjustments

Variable	Coefficient	Std. Error	t-Statistic	Prob.
D(YUSA(-1))	-0.086471	0.052605	-1.643784	0.1044
D(YUSA(-1),2)	-0.340193	0.107921	-3.152238	0.0023

R-squared	0.174670	Mean dependent var	-9.27E-05
Adjusted R-squared	0.163665	S.D. dependent var	0.006575
S.E. of regression	0.006013	Akaike info criterion	-7.364214
Sum squared resid	0.002712	Schwarz criterion	-7.303336
Log likelihood	285.5222	Hannan-Quinn criter.	-7.339863
Durbin-Watson stat	1.968154		

b. แนวเดินเชิงสุ่มและจุดตัดแกนตั้ง(Intercept)

Null Hypothesis: D(YUSA) has a unit root
Exogenous: Constant
Lag Length: 0 (Automatic - based on SIC, maxlag=11)

		t-Statistic	Prob.*
Augmented Dickey-Fuller test statistic		-4.623892	0.0003
Test critical values:	1% level	-3.516676	
	5% level	-2.899115	
	10% level	-2.586866	

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

Augmented Dickey-Fuller Test Equation
Dependent Variable: D(YUSA,2)
Method: Least Squares
Date: 08/05/12 Time: 20:39
Sample (adjusted): 2535Q3 2554Q4
Included observations: 78 after adjustments

Variable	Coefficient	Std. Error	t-Statistic	Prob.
D(YUSA(-1))	-0.437175	0.094547	-4.623892	0.0000
C	0.004911	0.001271	3.864924	0.0002

R-squared	0.219555	Mean dependent var	-0.000115
Adjusted R-squared	0.209286	S.D. dependent var	0.006535
S.E. of regression	0.005811	Akaike info criterion	-7.432787
Sum squared resid	0.002566	Schwarz criterion	-7.372358
Log likelihood	291.8787	Hannan-Quinn criter.	-7.408596
F-statistic	21.38038	Durbin-Watson stat	2.233794
Prob(F-statistic)	0.000015		

c. แนวเดินเชิงสุ่มจุดตัดแกนตั้งและแนวโน้ม (Intercept&Trend)

Null Hypothesis: D(YUSA) has a unit root
Exogenous: Constant, Linear Trend
Lag Length: 0 (Automatic - based on SIC, maxlag=11)

		t-Statistic	Prob.*
Augmented Dickey-Fuller test statistic		-4.986041	0.0006
Test critical values:	1% level	-4.080021	
	5% level	-3.468459	
	10% level	-3.161067	

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

Augmented Dickey-Fuller Test Equation
Dependent Variable: D(YUSA,2)
Method: Least Squares
Date: 08/05/12 Time: 20:39
Sample (adjusted): 2535Q3 2554Q4
Included observations: 78 after adjustments

Variable	Coefficient	Std. Error	t-Statistic	Prob.
D(YUSA(-1))	-0.497782	0.099835	-4.986041	0.0000
C	0.007749	0.002078	3.729639	0.0004
@TREND(2535Q1)	-5.29E-05	3.09E-05	-1.714080	0.0906

R-squared	0.248976	Mean dependent var	-0.000115
Adjusted R-squared	0.228949	S.D. dependent var	0.006535
S.E. of regression	0.005738	Akaike info criterion	-7.445572
Sum squared resid	0.002470	Schwarz criterion	-7.354929
Log likelihood	293.3773	Hannan-Quinn criter.	-7.409286
F-statistic	12.43184	Durbin-Watson stat	2.174097
Prob(F-statistic)	0.000022		

2.3) ผลการทดสอบ Unit root test ของราคาส่งออกสินค้าข้าว

a. แนวเดินเชิงสุ่ม (None)

Null Hypothesis: D(PT) has a unit root
Exogenous: None
Lag Length: 1 (Automatic - based on SIC, maxlag=11)

		t-Statistic	Prob.*
Augmented Dickey-Fuller test statistic		-7.548767	0.0000
Test critical values:	1% level	-2.595340	
	5% level	-1.945081	
	10% level	-1.614017	

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

Augmented Dickey-Fuller Test Equation
Dependent Variable: D(PT,2)
Method: Least Squares
Date: 08/05/12 Time: 20:42
Sample (adjusted): 2535Q4 2554Q4
Included observations: 77 after adjustments

Variable	Coefficient	Std. Error	t-Statistic	Prob.
D(PT(-1))	-1.072060	0.142018	-7.548767	0.0000
D(PT(-1),2)	0.323742	0.111275	2.909402	0.0048

R-squared	0.458947	Mean dependent var	0.001562
Adjusted R-squared	0.451733	S.D. dependent var	0.125515
S.E. of regression	0.092938	Akaike info criterion	-1.888145
Sum squared resid	0.647805	Schwarz criterion	-1.827267
Log likelihood	74.69359	Hannan-Quinn criter.	-1.863795
Durbin-Watson stat	1.988853		

b. แนวเดินเชิงสุ่มและจุดตัดแกนตั้ง (Intercept)

Null Hypothesis: D(PT) has a unit root
Exogenous: Constant
Lag Length: 1 (Automatic - based on SIC, maxlag=11)

		t-Statistic	Prob.*
Augmented Dickey-Fuller test statistic		-7.643774	0.0000
Test critical values:	1% level	-3.517847	
	5% level	-2.899619	
	10% level	-2.587134	

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

Augmented Dickey-Fuller Test Equation
Dependent Variable: D(PT,2)
Method: Least Squares
Date: 08/05/12 Time: 20:42
Sample (adjusted): 2535Q4 2554Q4
Included observations: 77 after adjustments

Variable	Coefficient	Std. Error	t-Statistic	Prob.
D(PT(-1))	-1.092094	0.142874	-7.643774	0.0000
D(PT(-1),2)	0.332798	0.111365	2.988342	0.0038
C	0.012007	0.010656	1.126840	0.2635

R-squared	0.468075	Mean dependent var	0.001562
Adjusted R-squared	0.453698	S.D. dependent var	0.125515
S.E. of regression	0.092771	Akaike info criterion	-1.879185
Sum squared resid	0.636877	Schwarz criterion	-1.787868
Log likelihood	75.34861	Hannan-Quinn criter.	-1.842659
F-statistic	32.55863	Durbin-Watson stat	2.001473
Prob(F-statistic)	0.000000		

c. แนวเดินเชิงสุ่มจุดตัดแกนตั้งและแนวโน้ม (Intercept&Trend)

Null Hypothesis: D(PT) has a unit root
Exogenous: Constant, Linear Trend
Lag Length: 1 (Automatic - based on SIC, maxlag=11)

		t-Statistic	Prob.*
Augmented Dickey-Fuller test statistic		-7.759241	0.0000
Test critical values:	1% level	-4.081666	
	5% level	-3.469235	
	10% level	-3.161518	

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

Augmented Dickey-Fuller Test Equation
Dependent Variable: D(PT,2)
Method: Least Squares
Date: 08/05/12 Time: 20:46
Sample (adjusted): 2535Q4 2554Q4
Included observations: 77 after adjustments

Variable	Coefficient	Std. Error	t-Statistic	Prob.
D(PT(-1))	-1.113711	0.143533	-7.759241	0.0000
D(PT(-1),2)	0.341465	0.111243	3.069537	0.0030
C	-0.011550	0.022143	-0.521628	0.6035
@TREND(2535Q1)	0.000580	0.000478	1.212503	0.2292

R-squared	0.478576	Mean dependent var	0.001562
Adjusted R-squared	0.457147	S.D. dependent var	0.125515
S.E. of regression	0.092478	Akaike info criterion	-1.873150
Sum squared resid	0.624304	Schwarz criterion	-1.751394
Log likelihood	76.11627	Hannan-Quinn criter.	-1.824448
F-statistic	22.33372	Durbin-Watson stat	2.016511
Prob(F-statistic)	0.000000		

2.4) ผลการทดสอบ Unit root test ของอัตราแลกเปลี่ยนที่แท้จริงของไทย (บาท) ต่อหน่วยเงินของประเทศสหรัฐอเมริกา (ดอลลาร์)

a. แนวเดินเชิงสุ่ม (None)

Null Hypothesis: D(RERUSA) has a unit root
Exogenous: None
Lag Length: 0 (Automatic - based on SIC, maxlag=11)

		t-Statistic	Prob.*
Augmented Dickey-Fuller test statistic		-6.485785	0.0000
Test critical values:	1% level	-2.594946	
	5% level	-1.945024	
	10% level	-1.614050	

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

Augmented Dickey-Fuller Test Equation
Dependent Variable: D(RERUSA,2)
Method: Least Squares
Date: 08/05/12 Time: 20:49
Sample (adjusted): 2535Q3 2554Q4
Included observations: 78 after adjustments

Variable	Coefficient	Std. Error	t-Statistic	Prob.
D(RERUSA(-1))	-0.708466	0.109234	-6.485785	0.0000

R-squared	0.353267	Mean dependent var	0.000395
Adjusted R-squared	0.353267	S.D. dependent var	0.058298
S.E. of regression	0.046883	Akaike info criterion	-3.269574
Sum squared resid	0.169249	Schwarz criterion	-3.239360
Log likelihood	128.5134	Hannan-Quinn criter.	-3.257479
Durbin-Watson stat	1.992606		

b. แนวเดินเชิงสุ่มและจุดตัดแกนตั้ง (Intercept)

Null Hypothesis: D(RERUSA) has a unit root
Exogenous: Constant
Lag Length: 0 (Automatic - based on SIC, maxlag=11)

		t-Statistic	Prob.*
Augmented Dickey-Fuller test statistic		-6.443597	0.0000
Test critical values:	1% level	-3.516676	
	5% level	-2.899115	
	10% level	-2.586866	

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

Augmented Dickey-Fuller Test Equation
Dependent Variable: D(RERUSA,2)
Method: Least Squares
Date: 08/05/12 Time: 20:49
Sample (adjusted): 2535Q3 2554Q4
Included observations: 78 after adjustments

Variable	Coefficient	Std. Error	t-Statistic	Prob.
D(RERUSA(-1))	-0.708455	0.109947	-6.443597	0.0000
C	0.000341	0.005343	0.063792	0.9493

R-squared	0.353301	Mean dependent var	0.000395
Adjusted R-squared	0.344792	S.D. dependent var	0.058298
S.E. of regression	0.047189	Akaike info criterion	-3.243987
Sum squared resid	0.169240	Schwarz criterion	-3.183558
Log likelihood	128.5155	Hannan-Quinn criter.	-3.219796
F-statistic	41.51994	Durbin-Watson stat	1.992735
Prob(F-statistic)	0.000000		

c. แนวเดินเชิงสุ่มจุดตัดแกนตั้งและแนวโน้ม (Intercept&Trend)

Null Hypothesis: D(RERUSA) has a unit root
Exogenous: Constant, Linear Trend
Lag Length: 2 (Automatic - based on SIC, maxlag=11)

		t-Statistic	Prob.*
Augmented Dickey-Fuller test statistic		-6.123431	0.0000
Test critical values:	1% level	-4.083355	
	5% level	-3.470032	
	10% level	-3.161982	

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

Augmented Dickey-Fuller Test Equation
Dependent Variable: D(RERUSA,2)
Method: Least Squares
Date: 08/05/12 Time: 20:49
Sample (adjusted): 2536Q1 2554Q4
Included observations: 76 after adjustments

Variable	Coefficient	Std. Error	t-Statistic	Prob.
D(RERUSA(-1))	-0.974192	0.159093	-6.123431	0.0000
D(RERUSA(-1),2)	0.248567	0.138615	1.793219	0.0772
D(RERUSA(-2),2)	0.323067	0.112445	2.873106	0.0054
C	0.013594	0.011506	1.181424	0.2414
@TREND(2535Q1)	-0.000319	0.000246	-1.293142	0.2002

R-squared	0.427097	Mean dependent var	0.000155
Adjusted R-squared	0.394821	S.D. dependent var	0.058923
S.E. of regression	0.045838	Akaike info criterion	-3.263872
Sum squared resid	0.149181	Schwarz criterion	-3.110535
Log likelihood	129.0271	Hannan-Quinn criter.	-3.202591
F-statistic	13.23256	Durbin-Watson stat	1.920833
Prob(F-statistic)	0.000000		

2.5) ผลการทดสอบ Unit root test ของราคาน้ำมันดิบ

a. แนวเดินเชิงสุ่ม (None)

Null Hypothesis: D(OILT) has a unit root
Exogenous: None
Lag Length: 1 (Automatic - based on SIC, maxlag=11)

		t-Statistic	Prob.*
Augmented Dickey-Fuller test statistic		-6.823873	0.0000
Test critical values:	1% level	-2.595340	
	5% level	-1.945081	
	10% level	-1.614017	

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

Augmented Dickey-Fuller Test Equation
Dependent Variable: D(OILT,2)
Method: Least Squares
Date: 08/05/12 Time: 20:51
Sample (adjusted): 2535Q4 2554Q4
Included observations: 77 after adjustments

Variable	Coefficient	Std. Error	t-Statistic	Prob.
D(OILT(-1))	-0.901522	0.132113	-6.823873	0.0000
D(OILT(-1),2)	0.272451	0.110721	2.460713	0.0162

R-squared	0.402320	Mean dependent var	-0.000439
Adjusted R-squared	0.394351	S.D. dependent var	0.179204
S.E. of regression	0.139463	Akaike info criterion	-1.076403
Sum squared resid	1.458746	Schwarz criterion	-1.015525
Log likelihood	43.44152	Hannan-Quinn criter.	-1.052052
Durbin-Watson stat	1.947437		

b. แนวเดินเชิงสุ่มและจุดตัดแกนตั้ง (Intercept)

Null Hypothesis: D(OILT) has a unit root
Exogenous: Constant
Lag Length: 1 (Automatic - based on SIC, maxlag=11)

		t-Statistic	Prob.*
Augmented Dickey-Fuller test statistic		-6.981266	0.0000
Test critical values:	1% level	-3.517847	
	5% level	-2.899619	
	10% level	-2.587134	

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

Augmented Dickey-Fuller Test Equation
Dependent Variable: D(OILT,2)
Method: Least Squares
Date: 08/05/12 Time: 20:52
Sample (adjusted): 2535Q4 2554Q4
Included observations: 77 after adjustments

Variable	Coefficient	Std. Error	t-Statistic	Prob.
D(OILT(-1))	-0.935842	0.134051	-6.981266	0.0000
D(OILT(-1),2)	0.290771	0.111068	2.617942	0.0107
C	0.021182	0.016127	1.313403	0.1931

R-squared	0.415936	Mean dependent var	-0.000439
Adjusted R-squared	0.400150	S.D. dependent var	0.179204
S.E. of regression	0.138794	Akaike info criterion	-1.073473
Sum squared resid	1.425515	Schwarz criterion	-0.982156
Log likelihood	44.32870	Hannan-Quinn criter.	-1.036947
F-statistic	26.34918	Durbin-Watson stat	1.957226
Prob(F-statistic)	0.000000		

c. แนวเดินเชิงสุ่มจุดตัดแกนตั้งและแนวโน้ม (Intercept&Trend)

Null Hypothesis: D(OILT) has a unit root
Exogenous: Constant, Linear Trend
Lag Length: 1 (Automatic - based on SIC, maxlag=11)

		t-Statistic	Prob.*
Augmented Dickey-Fuller test statistic		-7.039992	0.0000
Test critical values:	1% level	-4.081666	
	5% level	-3.469235	
	10% level	-3.161518	

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

Augmented Dickey-Fuller Test Equation
Dependent Variable: D(OILT,2)
Method: Least Squares
Date: 08/05/12 Time: 20:52
Sample (adjusted): 2535Q4 2554Q4
Included observations: 77 after adjustments

Variable	Coefficient	Std. Error	t-Statistic	Prob.
D(OILT(-1))	-0.954881	0.135637	-7.039992	0.0000
D(OILT(-1),2)	0.299984	0.111568	2.688789	0.0089
C	-0.006364	0.033234	-0.191503	0.8487
@TREND(2535Q1)	0.000683	0.000720	0.948148	0.3462

R-squared	0.423041	Mean dependent var	-0.000439
Adjusted R-squared	0.399330	S.D. dependent var	0.179204
S.E. of regression	0.138889	Akaike info criterion	-1.059738
Sum squared resid	1.408174	Schwarz criterion	-0.937982
Log likelihood	44.79993	Hannan-Quinn criter.	-1.011037
F-statistic	17.84181	Durbin-Watson stat	1.960268
Prob(F-statistic)	0.000000		

3) ผลการทดสอบ Unit root test ของตัวแปรระดับ (Level) กรณีผลกระทบต่อปริมาณการส่งออกสินค้าข้าวไปยังประเทศจีน

3.1) ผลการทดสอบ Unit root test ของปริมาณการส่งออกสินค้าข้าวไปยังประเทศจีน

a. แนวเดินเชิงสุ่ม (None)

Null Hypothesis: QCHINA has a unit root
Exogenous: None
Lag Length: 3 (Automatic based on SIC, MAXLAG=11)

		t-Statistic	Prob.*
Augmented Dickey-Fuller test statistic		0.531346	0.8285
Test critical values:	1% level	-2.595745	
	5% level	-1.945139	
	10% level	-1.613983	

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

Augmented Dickey-Fuller Test Equation
Dependent Variable: D(QCHINA)
Method: Least Squares
Date: 08/19/12 Time: 18:34
Sample (adjusted): 2536Q1 2554Q4
Included observations: 76 after adjustments

Variable	Coefficient	Std. Error	t-Statistic	Prob.
QCHINA(-1)	0.004512	0.008492	0.531346	0.5968
D(QCHINA(-1))	-0.268100	0.117709	-2.277653	0.0257
D(QCHINA(-2))	-0.065441	0.121692	-0.537760	0.5924
D(QCHINA(-3))	-0.054775	0.117406	-0.466548	0.6422

R-squared	0.064193	Mean dependent var	0.097224
Adjusted R-squared	0.025201	S.D. dependent var	1.309844
S.E. of regression	1.293234	Akaike info criterion	3.403365
Sum squared resid	120.4166	Schwarz criterion	3.526035
Log likelihood	-125.3279	Hannan-Quinn criter.	3.452390
Durbin-Watson stat	1.974667		

b. แนวเดินเชิงสุ่มและจุดตัดแกนตั้ง (Intercept)

Null Hypothesis: QCHINA has a unit root
Exogenous: Constant
Lag Length: 0 (Automatic based on SIC, MAXLAG=11)

		t-Statistic	Prob.*
Augmented Dickey-Fuller test statistic		-3.384708	0.0144
Test critical values:	1% level	-3.515536	
	5% level	-2.898623	
	10% level	-2.586605	

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

Augmented Dickey-Fuller Test Equation
Dependent Variable: D(QCHINA)
Method: Least Squares
Date: 08/19/12 Time: 18:38
Sample (adjusted): 2535Q2 2554Q4
Included observations: 79 after adjustments

Variable	Coefficient	Std. Error	t-Statistic	Prob.
QCHINA(-1)	-0.179465	0.053022	-3.384708	0.0011
C	3.222901	0.931391	3.460310	0.0009

R-squared	0.129513	Mean dependent var	0.104722
Adjusted R-squared	0.118208	S.D. dependent var	1.297061
S.E. of regression	1.217990	Akaike info criterion	3.257271
Sum squared resid	114.2294	Schwarz criterion	3.317257
Log likelihood	-126.6622	Hannan-Quinn criter.	3.281303
F-statistic	11.45625	Durbin-Watson stat	2.415008
Prob(F-statistic)	0.001124		

c. แนวเดินเชิงสุ่มจุดตัดแกนตั้งและแนวโน้ม (Intercept&Trend)

Null Hypothesis: QCHINA has a unit root
Exogenous: Constant, Linear Trend
Lag Length: 0 (Automatic based on SIC, MAXLAG=11)

		t-Statistic	Prob.*
Augmented Dickey-Fuller test statistic		-3.219927	0.0880
Test critical values:	1% level	-4.078420	
	5% level	-3.467703	
	10% level	-3.160627	

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

Augmented Dickey-Fuller Test Equation
Dependent Variable: D(QCHINA)
Method: Least Squares
Date: 08/19/12 Time: 18:39
Sample (adjusted): 2535Q2 2554Q4
Included observations: 79 after adjustments

Variable	Coefficient	Std. Error	t-Statistic	Prob.
QCHINA(-1)	-0.194289	0.060340	-3.219927	0.0019
C	3.337339	0.961035	3.472650	0.0009
@TREND(2535Q1)	0.003578	0.006839	0.523210	0.6024

R-squared	0.132637	Mean dependent var	0.104722
Adjusted R-squared	0.109812	S.D. dependent var	1.297061
S.E. of regression	1.223774	Akaike info criterion	3.278992
Sum squared resid	113.8194	Schwarz criterion	3.368971
Log likelihood	-126.5202	Hannan-Quinn criter.	3.315040
F-statistic	5.810971	Durbin-Watson stat	2.386929
Prob(F-statistic)	0.004484		

3.2) ผลการทดสอบ Unit root test ของผลิตภัณฑ์มวลรวมภายในประเทศเบื้องต้นของประเทศจีน

a. แนวเดินเชิงสุ่ม (None)

Null Hypothesis: YCHINA has a unit root
Exogenous: None
Lag Length: 4 (Automatic based on SIC, MAXLAG=11)

		t-Statistic	Prob.*
Augmented Dickey-Fuller test statistic		1.513082	0.9670
Test critical values:	1% level	-2.596160	
	5% level	-1.945199	
	10% level	-1.613948	

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

Augmented Dickey-Fuller Test Equation
Dependent Variable: D(YCHINA)
Method: Least Squares
Date: 08/19/12 Time: 18:44
Sample (adjusted): 2536Q2 2554Q4
Included observations: 75 after adjustments

Variable	Coefficient	Std. Error	t-Statistic	Prob.
YCHINA(-1)	0.000913	0.000603	1.513082	0.1348
D(YCHINA(-1))	-0.056704	0.040281	-1.407718	0.1636
D(YCHINA(-2))	-0.068644	0.039473	-1.739030	0.0864
D(YCHINA(-3))	-0.089758	0.038992	-2.301973	0.0243
D(YCHINA(-4))	0.922676	0.039446	23.39063	0.0000

R-squared	0.986871	Mean dependent var	0.041881
Adjusted R-squared	0.986121	S.D. dependent var	0.200898
S.E. of regression	0.023667	Akaike info criterion	-4.585088
Sum squared resid	0.039211	Schwarz criterion	-4.430588
Log likelihood	176.9408	Hannan-Quinn criter.	-4.523398
Durbin-Watson stat	1.645633		

b. แนวเดินเชิงสุ่มและจุดตัดแกนตั้ง (Intercept)

Null Hypothesis: YCHINA has a unit root
Exogenous: Constant
Lag Length: 4 (Automatic based on SIC, MAXLAG=11)

		t-Statistic	Prob.*
Augmented Dickey-Fuller test statistic		-0.031282	0.9522
Test critical values:	1% level	-3.520307	
	5% level	-2.900670	
	10% level	-2.587691	

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

Augmented Dickey-Fuller Test Equation
Dependent Variable: D(YCHINA)
Method: Least Squares
Date: 08/19/12 Time: 18:45
Sample (adjusted): 2536Q2 2554Q4
Included observations: 75 after adjustments

Variable	Coefficient	Std. Error	t-Statistic	Prob.
YCHINA(-1)	-0.000126	0.004022	-0.031282	0.9751
D(YCHINA(-1))	-0.060672	0.043302	-1.401146	0.1657
D(YCHINA(-2))	-0.072858	0.042886	-1.698877	0.0938
D(YCHINA(-3))	-0.094280	0.042900	-2.197678	0.0313
D(YCHINA(-4))	0.917883	0.043744	20.98323	0.0000
C	0.011500	0.044012	0.261296	0.7946

R-squared	0.986884	Mean dependent var	0.041881
Adjusted R-squared	0.985934	S.D. dependent var	0.200898
S.E. of regression	0.023827	Akaike info criterion	-4.559410
Sum squared resid	0.039172	Schwarz criterion	-4.374011
Log likelihood	176.9779	Hannan-Quinn criter.	-4.485382
F-statistic	1038.375	Durbin-Watson stat	1.639114
Prob(F-statistic)	0.000000		

c. แนวเดินเชิงสุ่มจุดตัดแกนตั้งและแนวโน้ม (Intercept&Trend)

Null Hypothesis: YCHINA has a unit root
Exogenous: Constant, Linear Trend
Lag Length: 4 (Automatic based on SIC, MAXLAG=11)

		t-Statistic	Prob.*
Augmented Dickey-Fuller test statistic		-3.640746	0.0330
Test critical values:	1% level	-4.085092	
	5% level	-3.470851	
	10% level	-3.162458	

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

Augmented Dickey-Fuller Test Equation
Dependent Variable: D(YCHINA)
Method: Least Squares
Date: 08/19/12 Time: 18:45
Sample (adjusted): 2536Q2 2554Q4
Included observations: 75 after adjustments

Variable	Coefficient	Std. Error	t-Statistic	Prob.
YCHINA(-1)	-0.101075	0.027762	-3.640746	0.0005
D(YCHINA(-1))	-0.012755	0.041938	-0.304146	0.7619
D(YCHINA(-2))	-0.049870	0.039964	-1.247874	0.2164
D(YCHINA(-3))	-0.096502	0.039487	-2.443885	0.0171
D(YCHINA(-4))	0.889823	0.040979	21.71408	0.0000
C	0.918100	0.250397	3.666574	0.0005
@TREND(2535Q1)	0.003353	0.000914	3.668970	0.0005

R-squared	0.989052	Mean dependent var	0.041881
Adjusted R-squared	0.988086	S.D. dependent var	0.200898
S.E. of regression	0.021929	Akaike info criterion	-4.713364
Sum squared resid	0.032699	Schwarz criterion	-4.497065
Log likelihood	183.7512	Hannan-Quinn criter.	-4.626998
F-statistic	1023.830	Durbin-Watson stat	1.861244
Prob(F-statistic)	0.000000		

3.3) ผลการทดสอบ Unit root test ของราคาส่งออกสินค้าข้าว

a. แนวเดินเชิงสุ่ม (None)

Null Hypothesis: PT has a unit root
Exogenous: None
Lag Length: 0 (Automatic based on SIC, MAXLAG=11)

		t-Statistic	Prob.*
Augmented Dickey-Fuller test statistic		1.016741	0.9175
Test critical values:	1% level	-2.594563	
	5% level	-1.944969	
	10% level	-1.614082	

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

Augmented Dickey-Fuller Test Equation
Dependent Variable: D(PT)
Method: Least Squares
Date: 08/19/12 Time: 18:45
Sample (adjusted): 2535Q2 2554Q4
Included observations: 79 after adjustments

Variable	Coefficient	Std. Error	t-Statistic	Prob.
PT(-1)	0.001912	0.001881	1.016741	0.3124

R-squared	-0.000662	Mean dependent var	0.011411
Adjusted R-squared	-0.000662	S.D. dependent var	0.097326
S.E. of regression	0.097358	Akaike info criterion	-1.808267
Sum squared resid	0.739328	Schwarz criterion	-1.778274
Log likelihood	72.42656	Hannan-Quinn criter.	-1.796251
Durbin-Watson stat	1.623290		

b. แนวเดินเชิงสุ่มและจุดตัดแกนตั้ง (Intercept)

Null Hypothesis: PT has a unit root
Exogenous: Constant
Lag Length: 0 (Automatic based on SIC, MAXLAG=11)

		t-Statistic	Prob.*
Augmented Dickey-Fuller test statistic		-0.420484	0.8997
Test critical values:	1% level	-3.515536	
	5% level	-2.898623	
	10% level	-2.586605	

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

Augmented Dickey-Fuller Test Equation
Dependent Variable: D(PT)
Method: Least Squares
Date: 08/19/12 Time: 18:45
Sample (adjusted): 2535Q2 2554Q4
Included observations: 79 after adjustments

Variable	Coefficient	Std. Error	t-Statistic	Prob.
PT(-1)	-0.014320	0.034055	-0.420484	0.6753
C	0.094686	0.198351	0.477367	0.6345

R-squared	0.002291	Mean dependent var	0.011411
Adjusted R-squared	-0.010666	S.D. dependent var	0.097326
S.E. of regression	0.097843	Akaike info criterion	-1.785906
Sum squared resid	0.737147	Schwarz criterion	-1.725920
Log likelihood	72.54329	Hannan-Quinn criter.	-1.761874
F-statistic	0.176806	Durbin-Watson stat	1.602211
Prob(F-statistic)	0.675303		

c. แนวเดินเชิงสุ่มจุดตัดแกนตั้งและแนวโน้ม (Intercept&Trend)

Null Hypothesis: PT has a unit root
Exogenous: Constant, Linear Trend
Lag Length: 0 (Automatic based on SIC, MAXLAG=11)

		t-Statistic	Prob.*
Augmented Dickey-Fuller test statistic		-1.274303	0.8870
Test critical values:	1% level	-4.078420	
	5% level	-3.467703	
	10% level	-3.160627	

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

Augmented Dickey-Fuller Test Equation
Dependent Variable: D(PT)
Method: Least Squares
Date: 08/19/12 Time: 18:46
Sample (adjusted): 2535Q2 2554Q4
Included observations: 79 after adjustments

Variable	Coefficient	Std. Error	t-Statistic	Prob.
PT(-1)	-0.051856	0.040694	-1.274303	0.2064
C	0.275046	0.224784	1.223599	0.2249
@TREND(2535Q1)	0.000948	0.000577	1.643985	0.1043

R-squared	0.036553	Mean dependent var	0.011411
Adjusted R-squared	0.011199	S.D. dependent var	0.097326
S.E. of regression	0.096779	Akaike info criterion	-1.795534
Sum squared resid	0.711833	Schwarz criterion	-1.705555
Log likelihood	73.92358	Hannan-Quinn criter.	-1.759485
F-statistic	1.441702	Durbin-Watson stat	1.599010
Prob(F-statistic)	0.242919		

3.4) ผลการทดสอบ Unit root test ของอัตราแลกเปลี่ยนที่แท้จริงของไทย (บาท) ต่อหน่วยเงินของประเทศจีน (หยวน)

a. แนวเดินเชิงสุ่ม (None)

Null Hypothesis: RERCHINA has a unit root
Exogenous: None
Lag Length: 1 (Automatic based on SIC, MAXLAG=11)

		t-Statistic	Prob.*
Augmented Dickey-Fuller test statistic		-0.442952	0.5196
Test critical values:	1% level	-2.594946	
	5% level	-1.945024	
	10% level	-1.614050	

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

Augmented Dickey-Fuller Test Equation
Dependent Variable: D(RERCHINA)
Method: Least Squares
Date: 08/19/12 Time: 18:47
Sample (adjusted): 2535Q3 2554Q4
Included observations: 78 after adjustments

Variable	Coefficient	Std. Error	t-Statistic	Prob.
RERCHINA(-1)	-0.002121	0.004788	-0.442952	0.6591
D(RERCHINA(-1))	0.173411	0.113529	1.527451	0.1308

R-squared	0.031619	Mean dependent var	-0.002176
Adjusted R-squared	0.018877	S.D. dependent var	0.069125
S.E. of regression	0.068469	Akaike info criterion	-2.499550
Sum squared resid	0.356293	Schwarz criterion	-2.439122
Log likelihood	99.48247	Hannan-Quinn criter.	-2.475360
Durbin-Watson stat	1.995055		

b. แนวเดินเชิงสุ่มและจุดตัดแกนตั้ง (Intercept)

Null Hypothesis: RERCHINA has a unit root
Exogenous: Constant
Lag Length: 1 (Automatic based on SIC, MAXLAG=11)

		t-Statistic	Prob.*
Augmented Dickey-Fuller test statistic		-2.593281	0.0987
Test critical values:	1% level	-3.516676	
	5% level	-2.899115	
	10% level	-2.586866	

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

Augmented Dickey-Fuller Test Equation
Dependent Variable: D(RERCHINA)
Method: Least Squares
Date: 08/19/12 Time: 18:47
Sample (adjusted): 2535Q3 2554Q4
Included observations: 78 after adjustments

Variable	Coefficient	Std. Error	t-Statistic	Prob.
RERCHINA(-1)	-0.131093	0.050551	-2.593281	0.0114
D(RERCHINA(-1))	0.237861	0.112439	2.115471	0.0377
C	0.209910	0.081930	2.562058	0.0124

R-squared	0.109553	Mean dependent var	-0.002176
Adjusted R-squared	0.085807	S.D. dependent var	0.069125
S.E. of regression	0.066093	Akaike info criterion	-2.557811
Sum squared resid	0.327620	Schwarz criterion	-2.467168
Log likelihood	102.7546	Hannan-Quinn criter.	-2.521525
F-statistic	4.613667	Durbin-Watson stat	2.045919
Prob(F-statistic)	0.012892		

c. แนวเดินเชิงสุ่มจุดตัดแกนตั้งและแนวโน้ม (Intercept&Trend)

Null Hypothesis: RERCHINA has a unit root
Exogenous: Constant, Linear Trend
Lag Length: 1 (Automatic based on SIC, MAXLAG=11)

		t-Statistic	Prob.*
Augmented Dickey-Fuller test statistic		-2.559881	0.2996
Test critical values:	1% level	-4.080021	
	5% level	-3.468459	
	10% level	-3.161067	

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

Augmented Dickey-Fuller Test Equation
Dependent Variable: D(RERCHINA)
Method: Least Squares
Date: 08/19/12 Time: 18:48
Sample (adjusted): 2535Q3 2554Q4
Included observations: 78 after adjustments

Variable	Coefficient	Std. Error	t-Statistic	Prob.
RERCHINA(-1)	-0.131871	0.051515	-2.559881	0.0125
D(RERCHINA(-1))	0.238342	0.113297	2.103692	0.0388
C	0.212498	0.086674	2.451687	0.0166
@TREND(2535Q1)	-3.29E-05	0.000339	-0.097124	0.9229

R-squared	0.109666	Mean dependent var	-0.002176
Adjusted R-squared	0.073572	S.D. dependent var	0.069125
S.E. of regression	0.066534	Akaike info criterion	-2.532297
Sum squared resid	0.327578	Schwarz criterion	-2.411441
Log likelihood	102.7596	Hannan-Quinn criter.	-2.483916
F-statistic	3.038299	Durbin-Watson stat	2.045713
Prob(F-statistic)	0.034279		

3.5) ผลการทดสอบ Unit root test ของราคาน้ำมันดิบ

a. แนวเดินเชิงสุ่ม (None)

Null Hypothesis: OILT has a unit root
Exogenous: None
Lag Length: 2 (Automatic based on SIC, MAXLAG=11)

		t-Statistic	Prob.*
Augmented Dickey-Fuller test statistic		1.244343	0.9446
Test critical values:	1% level	-2.595340	
	5% level	-1.945081	
	10% level	-1.614017	

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

Augmented Dickey-Fuller Test Equation
Dependent Variable: D(OILT)
Method: Least Squares
Date: 08/19/12 Time: 18:48
Sample (adjusted): 2535Q4 2554Q4
Included observations: 77 after adjustments

Variable	Coefficient	Std. Error	t-Statistic	Prob.
OILT(-1)	0.005737	0.004611	1.244343	0.2173
D(OILT(-1))	0.352419	0.111652	3.156413	0.0023
D(OILT(-2))	-0.295410	0.111850	-2.641123	0.0101

R-squared	0.152204	Mean dependent var	0.022088
Adjusted R-squared	0.129291	S.D. dependent var	0.148916
S.E. of regression	0.138956	Akaike info criterion	-1.071137
Sum squared resid	1.428848	Schwarz criterion	-0.979820
Log likelihood	44.23879	Hannan-Quinn criter.	-1.034611
Durbin-Watson stat	1.958431		

b. แนวเดินเชิงสุ่มและจุดตัดแกนตั้ง (Intercept)

Null Hypothesis: OILT has a unit root
Exogenous: Constant
Lag Length: 2 (Automatic based on SIC, MAXLAG=11)

		t-Statistic	Prob.*
Augmented Dickey-Fuller test statistic		-0.238196	0.9281
Test critical values:	1% level	-3.517847	
	5% level	-2.899619	
	10% level	-2.587134	

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

Augmented Dickey-Fuller Test Equation
Dependent Variable: D(OILT)
Method: Least Squares
Date: 08/19/12 Time: 18:48
Sample (adjusted): 2535Q4 2554Q4
Included observations: 77 after adjustments

Variable	Coefficient	Std. Error	t-Statistic	Prob.
OILT(-1)	-0.005929	0.024892	-0.238196	0.8124
D(OILT(-1))	0.358647	0.112996	3.173984	0.0022
D(OILT(-2))	-0.284688	0.114663	-2.482815	0.0153
C	0.041582	0.087170	0.477022	0.6348

R-squared	0.154839	Mean dependent var	0.022088
Adjusted R-squared	0.120106	S.D. dependent var	0.148916
S.E. of regression	0.139687	Akaike info criterion	-1.048276
Sum squared resid	1.424408	Schwarz criterion	-0.926520
Log likelihood	44.35861	Hannan-Quinn criter.	-0.999574
F-statistic	4.458011	Durbin-Watson stat	1.955277
Prob(F-statistic)	0.006237		

c. แนวเดินเชิงสุ่มจุดตัดแกนตั้งและแนวโน้ม (Intercept&Trend)

Null Hypothesis: OILT has a unit root
Exogenous: Constant, Linear Trend
Lag Length: 1 (Automatic based on SIC, MAXLAG=11)

		t-Statistic	Prob.*
Augmented Dickey-Fuller test statistic		-3.568392	0.0392
Test critical values:	1% level	-4.080021	
	5% level	-3.468459	
	10% level	-3.161067	

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

Augmented Dickey-Fuller Test Equation
Dependent Variable: D(OILT)
Method: Least Squares
Date: 08/19/12 Time: 18:49
Sample (adjusted): 2535Q3 2554Q4
Included observations: 78 after adjustments

Variable	Coefficient	Std. Error	t-Statistic	Prob.
OILT(-1)	-0.192122	0.053840	-3.568392	0.0006
D(OILT(-1))	0.352337	0.106198	3.317720	0.0014
C	0.453637	0.132551	3.422350	0.0010
@TREND(2535Q1)	0.005611	0.001575	3.563715	0.0006

R-squared	0.216476	Mean dependent var	0.021847
Adjusted R-squared	0.184712	S.D. dependent var	0.147961
S.E. of regression	0.133599	Akaike info criterion	-1.138031
Sum squared resid	1.320798	Schwarz criterion	-1.017175
Log likelihood	48.38323	Hannan-Quinn criter.	-1.089650
F-statistic	6.815048	Durbin-Watson stat	1.876013
Prob(F-statistic)	0.000405		

4) ผลการทดสอบ Unit root test ของตัวแปรในระดับผลต่างลำดับที่หนึ่ง (First Difference) กรณีผลกระทบต่อปริมาณการส่งออกสินค้าข้าวไปยังประเทศจีน

4.1) ผลการทดสอบ Unit root test ของปริมาณการส่งออกสินค้าข้าวไปยังประเทศจีน

a. แนวเดินเชิงสุ่ม (None)

Null Hypothesis: D(QCHINA) has a unit root
Exogenous: None
Lag Length: 2 (Automatic based on SIC, MAXLAG=11)

		t-Statistic	Prob.*
Augmented Dickey-Fuller test statistic		-5.723497	0.0000
Test critical values:	1% level	-2.595745	
	5% level	-1.945139	
	10% level	-1.613983	

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

Augmented Dickey-Fuller Test Equation
Dependent Variable: D(QCHINA,2)
Method: Least Squares
Date: 08/19/12 Time: 18:51
Sample (adjusted): 2536Q1 2554Q4
Included observations: 76 after adjustments

Variable	Coefficient	Std. Error	t-Statistic	Prob.
D(QCHINA(-1))	-1.363182	0.238173	-5.723497	0.0000
D(QCHINA(-1),2)	0.103510	0.186892	0.553850	0.5814
D(QCHINA(-2),2)	0.047298	0.115985	0.407792	0.6846

R-squared	0.629011	Mean dependent var	-0.016641
Adjusted R-squared	0.618847	S.D. dependent var	2.084404
S.E. of regression	1.286861	Akaike info criterion	3.380962
Sum squared resid	120.8888	Schwarz criterion	3.472965
Log likelihood	-125.4766	Hannan-Quinn criter.	3.417731
Durbin-Watson stat	1.977499		

b. แนวเดินเชิงสุ่มและจุดตัดแกนตั้ง (Intercept)

Null Hypothesis: D(QCHINA) has a unit root
Exogenous: Constant
Lag Length: 2 (Automatic based on SIC, MAXLAG=11)

		t-Statistic	Prob.*
Augmented Dickey-Fuller test statistic		-5.797804	0.0000
Test critical values:	1% level	-3.519050	
	5% level	-2.900137	
	10% level	-2.587409	

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

Augmented Dickey-Fuller Test Equation
Dependent Variable: D(QCHINA,2)
Method: Least Squares
Date: 08/19/12 Time: 18:51
Sample (adjusted): 2536Q1 2554Q4
Included observations: 76 after adjustments

Variable	Coefficient	Std. Error	t-Statistic	Prob.
D(QCHINA(-1))	-1.405173	0.242363	-5.797804	0.0000
D(QCHINA(-1),2)	0.132364	0.189445	0.698693	0.4870
D(QCHINA(-2),2)	0.060307	0.116858	0.516070	0.6074
C	0.143134	0.150210	0.952892	0.3438

R-squared	0.633631	Mean dependent var	-0.016641
Adjusted R-squared	0.618366	S.D. dependent var	2.084404
S.E. of regression	1.287673	Akaike info criterion	3.394746
Sum squared resid	119.3833	Schwarz criterion	3.517416
Log likelihood	-125.0003	Hannan-Quinn criter.	3.443771
F-statistic	41.50777	Durbin-Watson stat	1.971313
Prob(F-statistic)	0.000000		

c. แนวเดินเชิงสุ่มจุดตัดแกนตั้งและแนวโน้ม (Intercept&Trend)

Null Hypothesis: D(QCHINA) has a unit root
Exogenous: Constant, Linear Trend
Lag Length: 2 (Automatic based on SIC, MAXLAG=11)

		t-Statistic	Prob.*
Augmented Dickey-Fuller test statistic		-6.077928	0.0000
Test critical values:	1% level	-4.083355	
	5% level	-3.470032	
	10% level	-3.161982	

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

Augmented Dickey-Fuller Test Equation
Dependent Variable: D(QCHINA,2)
Method: Least Squares
Date: 08/19/12 Time: 18:51
Sample (adjusted): 2536Q1 2554Q4
Included observations: 76 after adjustments

Variable	Coefficient	Std. Error	t-Statistic	Prob.
D(QCHINA(-1))	-1.514248	0.249139	-6.077928	0.0000
D(QCHINA(-1),2)	0.204444	0.192673	1.061094	0.2922
D(QCHINA(-2),2)	0.092026	0.117260	0.784798	0.4352
C	0.617585	0.330253	1.870039	0.0656
@TREND(2535Q1)	-0.011136	0.006923	-1.608628	0.1121

R-squared	0.646514	Mean dependent var	-0.016641
Adjusted R-squared	0.626600	S.D. dependent var	2.084404
S.E. of regression	1.273706	Akaike info criterion	3.385264
Sum squared resid	115.1852	Schwarz criterion	3.538602
Log likelihood	-123.6400	Hannan-Quinn criter.	3.446545
F-statistic	32.46422	Durbin-Watson stat	1.957962
Prob(F-statistic)	0.000000		

4.2) ผลการทดสอบ Unit root test ของผลิตภัณฑ์มวลรวมภายในประเทศเบื้องต้นของประเทศจีน

a. แนวเดินเชิงสุ่ม (None)

Null Hypothesis: D(YCHINA) has a unit root
Exogenous: None
Lag Length: 1 (Fixed)

		t-Statistic	Prob.*
Augmented Dickey-Fuller test statistic		-8.133800	0.0000
Test critical values:	1% level	-2.595340	
	5% level	-1.945081	
	10% level	-1.614017	

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

Augmented Dickey-Fuller Test Equation
Dependent Variable: D(YCHINA,2)
Method: Least Squares
Date: 08/19/12 Time: 18:52
Sample (adjusted): 2535Q4 2554Q4
Included observations: 77 after adjustments

Variable	Coefficient	Std. Error	t-Statistic	Prob.
D(YCHINA(-1))	-1.616595	0.198750	-8.133800	0.0000
D(YCHINA(-1),2)	0.082848	0.114809	0.721613	0.4728

R-squared	0.743890	Mean dependent var	0.001961
Adjusted R-squared	0.740475	S.D. dependent var	0.353526
S.E. of regression	0.180099	Akaike info criterion	-0.564988
Sum squared resid	2.432676	Schwarz criterion	-0.504110
Log likelihood	23.75205	Hannan-Quinn criter.	-0.540638
Durbin-Watson stat	2.087592		

b. แนวเดินเชิงสุ่มและจุดตัดแกนตั้ง (Intercept)

Null Hypothesis: D(YCHINA) has a unit root
Exogenous: Constant
Lag Length: 1 (Fixed)

		t-Statistic	Prob.*
Augmented Dickey-Fuller test statistic		-9.443288	0.0000
Test critical values:	1% level	-3.517847	
	5% level	-2.899619	
	10% level	-2.587134	

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

Augmented Dickey-Fuller Test Equation
Dependent Variable: D(YCHINA,2)
Method: Least Squares
Date: 08/19/12 Time: 18:53
Sample (adjusted): 2535Q4 2554Q4
Included observations: 77 after adjustments

Variable	Coefficient	Std. Error	t-Statistic	Prob.
D(YCHINA(-1))	-1.884028	0.199510	-9.443288	0.0000
D(YCHINA(-1),2)	0.217199	0.113244	1.917979	0.0590
C	0.073418	0.020603	3.563435	0.0006

R-squared	0.781401	Mean dependent var	0.001961
Adjusted R-squared	0.775492	S.D. dependent var	0.353526
S.E. of regression	0.167509	Akaike info criterion	-0.697381
Sum squared resid	2.076379	Schwarz criterion	-0.606064
Log likelihood	29.84917	Hannan-Quinn criter.	-0.660855
F-statistic	132.2594	Durbin-Watson stat	2.374699
Prob(F-statistic)	0.000000		

c. แนวเดินเชิงสุ่มจุดตัดแกนตั้งและแนวโน้ม (Intercept&Trend)

Null Hypothesis: D(YCHINA) has a unit root
Exogenous: Constant, Linear Trend
Lag Length: 1 (Fixed)

		t-Statistic	Prob.*
Augmented Dickey-Fuller test statistic		-9.371358	0.0000
Test critical values:	1% level	-4.081666	
	5% level	-3.469235	
	10% level	-3.161518	

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

Augmented Dickey-Fuller Test Equation
Dependent Variable: D(YCHINA,2)
Method: Least Squares
Date: 08/19/12 Time: 18:53
Sample (adjusted): 2535Q4 2554Q4
Included observations: 77 after adjustments

Variable	Coefficient	Std. Error	t-Statistic	Prob.
D(YCHINA(-1))	-1.888481	0.201516	-9.371358	0.0000
D(YCHINA(-1),2)	0.219624	0.114349	1.920639	0.0587
C	0.082793	0.041754	1.982862	0.0511
@TREND(2535Q1)	-0.000224	0.000868	-0.258679	0.7966

R-squared	0.781601	Mean dependent var	0.001961
Adjusted R-squared	0.772625	S.D. dependent var	0.353526
S.E. of regression	0.168575	Akaike info criterion	-0.672323
Sum squared resid	2.074477	Schwarz criterion	-0.550567
Log likelihood	29.88444	Hannan-Quinn criter.	-0.623622
F-statistic	87.08342	Durbin-Watson stat	2.377154
Prob(F-statistic)	0.000000		

4.3) ผลการทดสอบ Unit root test ของราคาส่งออกสินค้าข้าว

a. แนวเดินเชิงสุ่ม (None)

Null Hypothesis: D(PT) has a unit root
Exogenous: None
Lag Length: 1 (Automatic based on SIC, MAXLAG=11)

		t-Statistic	Prob.*
Augmented Dickey-Fuller test statistic		-7.548767	0.0000
Test critical values:	1% level	-2.595340	
	5% level	-1.945081	
	10% level	-1.614017	

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

Augmented Dickey-Fuller Test Equation
Dependent Variable: D(PT,2)
Method: Least Squares
Date: 08/19/12 Time: 18:54
Sample (adjusted): 2535Q4 2554Q4
Included observations: 77 after adjustments

Variable	Coefficient	Std. Error	t-Statistic	Prob.
D(PT(-1))	-1.072060	0.142018	-7.548767	0.0000
D(PT(-1),2)	0.323742	0.111275	2.909402	0.0048

R-squared	0.458947	Mean dependent var	0.001562
Adjusted R-squared	0.451733	S.D. dependent var	0.125515
S.E. of regression	0.092938	Akaike info criterion	-1.888145
Sum squared resid	0.647805	Schwarz criterion	-1.827267
Log likelihood	74.69359	Hannan-Quinn criter.	-1.863795
Durbin-Watson stat	1.988853		

b. แนวเดินเชิงสุ่มและจุดตัดแกนตั้ง (Intercept)

Null Hypothesis: D(PT) has a unit root
Exogenous: Constant
Lag Length: 1 (Automatic based on SIC, MAXLAG=11)

		t-Statistic	Prob.*
Augmented Dickey-Fuller test statistic		-7.643774	0.0000
Test critical values:	1% level	-3.517847	
	5% level	-2.899619	
	10% level	-2.587134	

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

Augmented Dickey-Fuller Test Equation
Dependent Variable: D(PT,2)
Method: Least Squares
Date: 08/19/12   Time: 18:54
Sample (adjusted): 2535Q4 2554Q4
Included observations: 77 after adjustments

Variable	Coefficient	Std. Error	t-Statistic	Prob.
D(PT(-1))	-1.092094	0.142874	-7.643774	0.0000
D(PT(-1),2)	0.332798	0.111365	2.988342	0.0038
C	0.012007	0.010656	1.126840	0.2635

R-squared	0.468075	Mean dependent var	0.001562
Adjusted R-squared	0.453698	S.D. dependent var	0.125515
S.E. of regression	0.092771	Akaike info criterion	-1.879185
Sum squared resid	0.636877	Schwarz criterion	-1.787868
Log likelihood	75.34861	Hannan-Quinn criter.	-1.842659
F-statistic	32.55863	Durbin-Watson stat	2.001473
Prob(F-statistic)	0.000000		

c. แนวเดินเชิงสุ่มจุดตัดแกนตั้งและแนวโน้ม (Intercept&Trend)

Null Hypothesis: D(PT) has a unit root
Exogenous: Constant, Linear Trend
Lag Length: 1 (Automatic based on SIC, MAXLAG=11)

		t-Statistic	Prob.*
Augmented Dickey-Fuller test statistic		-7.759241	0.0000
Test critical values:	1% level	-4.081666	
	5% level	-3.469235	
	10% level	-3.161518	

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

Augmented Dickey-Fuller Test Equation
Dependent Variable: D(PT,2)
Method: Least Squares
Date: 08/19/12 Time: 18:54
Sample (adjusted): 2535Q4 2554Q4
Included observations: 77 after adjustments

Variable	Coefficient	Std. Error	t-Statistic	Prob.
D(PT(-1))	-1.113711	0.143533	-7.759241	0.0000
D(PT(-1),2)	0.341465	0.111243	3.069537	0.0030
C	-0.011550	0.022143	-0.521628	0.6035
@TREND(2535Q1)	0.000580	0.000478	1.212503	0.2292

R-squared	0.478576	Mean dependent var	0.001562
Adjusted R-squared	0.457147	S.D. dependent var	0.125515
S.E. of regression	0.092478	Akaike info criterion	-1.873150
Sum squared resid	0.624304	Schwarz criterion	-1.751394
Log likelihood	76.11627	Hannan-Quinn criter.	-1.824448
F-statistic	22.33372	Durbin-Watson stat	2.016511
Prob(F-statistic)	0.000000		

4.4) ผลการทดสอบ Unit root test ของอัตราแลกเปลี่ยนที่แท้จริงของไทย (บาท) ต่อหน่วยเงินของประเทศจีน (หยวน)

a. แนวเดินเชิงสุ่ม (None)

Null Hypothesis: D(RERCHINA) has a unit root
Exogenous: None
Lag Length: 0 (Automatic based on SIC, MAXLAG=11)

		t-Statistic	Prob.*
Augmented Dickey-Fuller test statistic		-7.311119	0.0000
Test critical values:	1% level	-2.594946	
	5% level	-1.945024	
	10% level	-1.614050	

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

Augmented Dickey-Fuller Test Equation
Dependent Variable: D(RERCHINA,2)
Method: Least Squares
Date: 08/19/12 Time: 18:55
Sample (adjusted): 2535Q3 2554Q4
Included observations: 78 after adjustments

Variable	Coefficient	Std. Error	t-Statistic	Prob.
D(RERCHINA(-1))	-0.825484	0.112908	-7.311119	0.0000

R-squared	0.409704	Mean dependent var	0.000751
Adjusted R-squared	0.409704	S.D. dependent var	0.088651
S.E. of regression	0.068111	Akaike info criterion	-2.522613
Sum squared resid	0.357213	Schwarz criterion	-2.492399
Log likelihood	99.38191	Hannan-Quinn criter.	-2.510518
Durbin-Watson stat	1.996337		

b. แนวเดินเชิงสุ่มและจุดตัดแกนตั้ง (Intercept)

Null Hypothesis: D(RERCHINA) has a unit root
Exogenous: Constant
Lag Length: 0 (Automatic based on SIC, MAXLAG=11)

		t-Statistic	Prob.*
Augmented Dickey-Fuller test statistic		-7.268223	0.0000
Test critical values:	1% level	-3.516676	
	5% level	-2.899115	
	10% level	-2.586866	

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

Augmented Dickey-Fuller Test Equation
Dependent Variable: D(RERCHINA,2)
Method: Least Squares
Date: 08/19/12 Time: 18:55
Sample (adjusted): 2535Q3 2554Q4
Included observations: 78 after adjustments

Variable	Coefficient	Std. Error	t-Statistic	Prob.
D(RERCHINA(-1))	-0.826530	0.113718	-7.268223	0.0000
C	-0.001668	0.007767	-0.214782	0.8305

R-squared	0.410062	Mean dependent var	0.000751
Adjusted R-squared	0.402300	S.D. dependent var	0.088651
S.E. of regression	0.068537	Akaike info criterion	-2.497579
Sum squared resid	0.356997	Schwarz criterion	-2.437150
Log likelihood	99.40558	Hannan-Quinn criter.	-2.473388
F-statistic	52.82707	Durbin-Watson stat	1.995425
Prob(F-statistic)	0.000000		

c. แนวเดินเชิงสุ่มจุดตัดแกนตั้งและแนวโน้ม (Intercept&Trend)

Null Hypothesis: D(RERCHINA) has a unit root
Exogenous: Constant, Linear Trend
Lag Length: 0 (Automatic based on SIC, MAXLAG=11)

		t-Statistic	Prob.*
Augmented Dickey-Fuller test statistic		-7.226783	0.0000
Test critical values:	1% level	-4.080021	
	5% level	-3.468459	
	10% level	-3.161067	

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

Augmented Dickey-Fuller Test Equation
Dependent Variable: D(RERCHINA,2)
Method: Least Squares
Date: 08/19/12 Time: 18:55
Sample (adjusted): 2535Q3 2554Q4
Included observations: 78 after adjustments

Variable	Coefficient	Std. Error	t-Statistic	Prob.
D(RERCHINA(-1))	-0.826837	0.114413	-7.226783	0.0000
C	-0.005796	0.016075	-0.360552	0.7194
@TREND(2535Q1)	0.000102	0.000347	0.293825	0.7697

R-squared	0.410740	Mean dependent var	0.000751
Adjusted R-squared	0.395027	S.D. dependent var	0.088651
S.E. of regression	0.068953	Akaike info criterion	-2.473088
Sum squared resid	0.356586	Schwarz criterion	-2.382446
Log likelihood	99.45044	Hannan-Quinn criter.	-2.436802
F-statistic	26.13916	Durbin-Watson stat	1.997056
Prob(F-statistic)	0.000000		

4.5) ผลการทดสอบ Unit root test ของราคาน้ำมันดิบ

a. แนวเดินเชิงสุ่ม (None)

Null Hypothesis: D(OILT) has a unit root
Exogenous: None
Lag Length: 1 (Automatic based on SIC, MAXLAG=11)

		t-Statistic	Prob.*
Augmented Dickey-Fuller test statistic		-6.823873	0.0000
Test critical values:	1% level	-2.595340	
	5% level	-1.945081	
	10% level	-1.614017	

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

Augmented Dickey-Fuller Test Equation
Dependent Variable: D(OILT,2)
Method: Least Squares
Date: 08/19/12 Time: 18:56
Sample (adjusted): 2535Q4 2554Q4
Included observations: 77 after adjustments

Variable	Coefficient	Std. Error	t-Statistic	Prob.
D(OILT(-1))	-0.901522	0.132113	-6.823873	0.0000
D(OILT(-1),2)	0.272451	0.110721	2.460713	0.0162

R-squared	0.402320	Mean dependent var	-0.000439
Adjusted R-squared	0.394351	S.D. dependent var	0.179204
S.E. of regression	0.139463	Akaike info criterion	-1.076403
Sum squared resid	1.458746	Schwarz criterion	-1.015525
Log likelihood	43.44152	Hannan-Quinn criter.	-1.052052
Durbin-Watson stat	1.947437		

b. แนวเดินเชิงสุ่มและจุดตัดแกนตั้ง (Intercept)

Null Hypothesis: D(OILT) has a unit root
Exogenous: Constant
Lag Length: 1 (Automatic based on SIC, MAXLAG=11)

		t-Statistic	Prob.*
Augmented Dickey-Fuller test statistic		-6.981266	0.0000
Test critical values:	1% level	-3.517847	
	5% level	-2.899619	
	10% level	-2.587134	

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

Augmented Dickey-Fuller Test Equation
Dependent Variable: D(OILT,2)
Method: Least Squares
Date: 08/19/12 Time: 18:56
Sample (adjusted): 2535Q4 2554Q4
Included observations: 77 after adjustments

Variable	Coefficient	Std. Error	t-Statistic	Prob.
D(OILT(-1))	-0.935842	0.134051	-6.981266	0.0000
D(OILT(-1),2)	0.290771	0.111068	2.617942	0.0107
C	0.021182	0.016127	1.313403	0.1931

R-squared	0.415936	Mean dependent var	-0.000439
Adjusted R-squared	0.400150	S.D. dependent var	0.179204
S.E. of regression	0.138794	Akaike info criterion	-1.073473
Sum squared resid	1.425515	Schwarz criterion	-0.982156
Log likelihood	44.32870	Hannan-Quinn criter.	-1.036947
F-statistic	26.34918	Durbin-Watson stat	1.957226
Prob(F-statistic)	0.000000		

c. แนวเดินเชิงสุ่มจุดตัดแกนตั้งและแนวโน้ม (Intercept&Trend)

Null Hypothesis: D(OILT) has a unit root
Exogenous: Constant, Linear Trend
Lag Length: 1 (Automatic based on SIC, MAXLAG=11)

		t-Statistic	Prob.*
Augmented Dickey-Fuller test statistic		-7.039992	0.0000
Test critical values:	1% level	-4.081666	
	5% level	-3.469235	
	10% level	-3.161518	

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

Augmented Dickey-Fuller Test Equation
Dependent Variable: D(OILT,2)
Method: Least Squares
Date: 08/19/12 Time: 18:56
Sample (adjusted): 2535Q4 2554Q4
Included observations: 77 after adjustments

Variable	Coefficient	Std. Error	t-Statistic	Prob.
D(OILT(-1))	-0.954881	0.135637	-7.039992	0.0000
D(OILT(-1),2)	0.299984	0.111568	2.688789	0.0089
C	-0.006364	0.033234	-0.191503	0.8487
@TREND(2535Q1)	0.000683	0.000720	0.948148	0.3462

R-squared	0.423041	Mean dependent var	-0.000439
Adjusted R-squared	0.399330	S.D. dependent var	0.179204
S.E. of regression	0.138889	Akaike info criterion	-1.059738
Sum squared resid	1.408174	Schwarz criterion	-0.937982
Log likelihood	44.79993	Hannan-Quinn criter.	-1.011037
F-statistic	17.84181	Durbin-Watson stat	1.960268
Prob(F-statistic)	0.000000		

5) ผลการทดสอบ Cointegration กรณีผลกระทบต่อปริมาณการส่งออกสินค้าข้าวไปยังประเทศสหรัฐอเมริกา

Dependent Variable: QUSA
Method: Least Squares
Date: 08/17/12 Time: 13:25
Sample: 2535Q1 2554Q4
Included observations: 80

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	-94.89227	11.51314	-8.242086	0.0000
YUSA	15.48389	2.172358	7.127685	0.0000
PT	-0.232958	1.035995	-0.224864	0.8227
RERUSA	-4.089104	2.107941	-1.939857	0.0562
OILT	-4.297439	0.682399	-6.297551	0.0000

R-squared	0.615590	Mean dependent var	17.40217
Adjusted R-squared	0.595088	S.D. dependent var	2.210051
S.E. of regression	1.406314	Akaike info criterion	3.580283
Sum squared resid	148.3290	Schwarz criterion	3.729160
Log likelihood	-138.2113	Hannan-Quinn criter.	3.639972
F-statistic	30.02608	Durbin-Watson stat	0.455526
Prob(F-statistic)	0.000000		

5.1) ผลการทดสอบ Unit root ของค่า $\hat{\varepsilon}_t$ จากสมการถดถอย (regression equation)

Null Hypothesis: RESID01 has a unit root
Exogenous: None
Lag Length: 2 (Automatic based on SIC, MAXLAG=11)

		t-Statistic	Prob.*
Augmented Dickey-Fuller test statistic		-3.521045	0.0006
Test critical values:	1% level	-2.595340	
	5% level	-1.945081	
	10% level	-1.614017	

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

Augmented Dickey-Fuller Test Equation
Dependent Variable: D(RESID01)
Method: Least Squares
Date: 08/17/12 Time: 14:18
Sample (adjusted): 2535Q4 2554Q4
Included observations: 77 after adjustments

Variable	Coefficient	Std. Error	t-Statistic	Prob.
RESID01(-1)	-0.293543	0.083368	-3.521045	0.0007
D(RESID01(-1))	0.213064	0.112328	1.896805	0.0618
D(RESID01(-2))	-0.021654	0.113920	-0.190084	0.8498

R-squared	0.171830	Mean dependent var	0.021618
Adjusted R-squared	0.149447	S.D. dependent var	0.940506
S.E. of regression	0.867385	Akaike info criterion	2.591515
Sum squared resid	55.67446	Schwarz criterion	2.682832
Log likelihood	-96.77334	Hannan-Quinn criter.	2.628041
Durbin-Watson stat	1.998585		

6) ผลการทดสอบ Error Correction Model (ECM) กรณีผลกระทบต่อปริมาณการส่งออกสินค้าข้าวไปยังประเทศสหรัฐอเมริกา

Dependent Variable: D(QUSA)
Method: Least Squares
Date: 08/17/12 Time: 17:04
Sample (adjusted): 2535Q2 2554Q4
Included observations: 79 after adjustments

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	-0.005793	0.159968	-0.036214	0.9712
D(YUSA)	9.421228	12.64458	0.745081	0.4586
D(PT)	3.057478	0.869271	3.517291	0.0008
D(RERUSA)	1.975292	1.722123	1.147010	0.2551
D(OILT)	-1.566397	0.600589	-2.608101	0.0110
RESID01(-1)	-0.209301	0.058747	-3.562742	0.0007

R-squared	0.299117	Mean dependent var	0.101219
Adjusted R-squared	0.251111	S.D. dependent var	0.813640
S.E. of regression	0.704111	Akaike info criterion	2.209148
Sum squared resid	36.19136	Schwarz criterion	2.389106
Log likelihood	-81.26136	Hannan-Quinn criter.	2.281245
F-statistic	6.230870	Durbin-Watson stat	1.948946
Prob(F-statistic)	0.000073		

7) ผลการทดสอบ Cointegration กรณีผลกระทบต่อปริมาณการส่งออกสินค้าข้าวไปยังประเทศจีน

Dependent Variable: QCHINA
Method: Least Squares
Date: 08/18/12 Time: 17:53
Sample: 2535Q1 2554Q4
Included observations: 80

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	12.27828	4.920980	2.495089	0.0148
YCHINA	4.979448	0.428151	11.63013	0.0000
PT	-2.923825	0.703277	-4.157432	0.0001
RERCHINA	-9.756650	1.248164	-7.816801	0.0000
OILT	-3.890351	0.520393	-7.475788	0.0000

R-squared	0.709461	Mean dependent var	17.38327
Adjusted R-squared	0.693965	S.D. dependent var	2.585564
S.E. of regression	1.430345	Akaike info criterion	3.614170
Sum squared resid	153.4415	Schwarz criterion	3.763047
Log likelihood	-139.5668	Hannan-Quinn criter.	3.673859
F-statistic	45.78513	Durbin-Watson stat	1.006736
Prob(F-statistic)	0.000000		

7.1) ผลการทดสอบ Unit root ของค่า $\hat{\varepsilon}_t$ จากสมการถดถอย (regression equation)

Null Hypothesis: RESID02 has a unit root
Exogenous: None
Lag Length: 0 (Automatic based on SIC, MAXLAG=11)

		t-Statistic	Prob.*
Augmented Dickey-Fuller test statistic		-5.111117	0.0000
Test critical values:	1% level	-2.594563	
	5% level	-1.944969	
	10% level	-1.614082	

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

Augmented Dickey-Fuller Test Equation
Dependent Variable: D(RESID02)
Method: Least Squares
Date: 08/18/12 Time: 17:55
Sample (adjusted): 2535Q2 2554Q4
Included observations: 79 after adjustments

Variable	Coefficient	Std. Error	t-Statistic	Prob.
RESID02(-1)	-0.503443	0.098500	-5.111117	0.0000

R-squared	0.250868	Mean dependent var	-0.007450
Adjusted R-squared	0.250868	S.D. dependent var	1.407264
S.E. of regression	1.218021	Akaike info criterion	3.244909
Sum squared resid	115.7188	Schwarz criterion	3.274902
Log likelihood	-127.1739	Hannan-Quinn criter.	3.256925
Durbin-Watson stat	2.072092		

8) ผลการทดสอบ Error Correction Model (ECM) กรณีผลกระทบต่อปริมาณการส่งออกสินค้าข้าวไปยังประเทศจีน

Dependent Variable: D(QCHINA)
Method: Least Squares
Date: 08/19/12 Time: 17:38
Sample (adjusted): 2535Q2 2554Q4
Included observations: 79 after adjustments

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	0.053415	0.119256	0.447907	0.6555
D(YCHINA)	2.054215	0.586544	3.502232	0.0008
D(PT)	0.819314	1.305931	0.627379	0.5324
D(RERCHINA)	-3.802016	1.881372	-2.020874	0.0470
D(OILT)	-2.189985	0.798955	-2.741060	0.0077
RESID02(-1)	-0.456158	0.087010	-5.242602	0.0000

R-squared	0.421758	Mean dependent var	0.104722
Adjusted R-squared	0.382153	S.D. dependent var	1.297061
S.E. of regression	1.019533	Akaike info criterion	2.949476
Sum squared resid	75.87960	Schwarz criterion	3.129434
Log likelihood	-110.5043	Hannan-Quinn criter.	3.021573
F-statistic	10.64896	Durbin-Watson stat	2.158105
Prob(F-statistic)	0.000000		

ประวัติผู้เขียน

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