



ภาคผนวก

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ภาคผนวก ก

ผลการทดสอบยูนิตรูท (Unit Root) ด้วยวิธีการ Augmented Dickey-Fuller (โดยข้อมูลได้
จากโปรแกรม Eview 6)

บริษัท อินโดรามา โพลีเมอร์ส จำกัด (มหาชน)

สมการแนวโน้มเชิงสุ่ม (None)

	t-Statistic	Prob.*
Augmented Dickey-Fuller test statistic	-14.88386	0.0000
Test critical values:		
1% level	-2.569945	
5% level	-1.941506	
10% level	-1.616242	

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

Augmented Dickey-Fuller Test Equation
Dependent Variable: D(IRP)
Method: Least Squares
Date: 08/20/09 Time: 16:37
Sample (adjusted): 2 466
Included observations: 465 after adjustments

Variable	Coefficient	Std. Error	t-Statistic	Prob.
IRP(-1)	-0.646500	0.043436	-14.88386	0.0000

R-squared	0.323151	Mean dependent var	0.001346
Adjusted R-squared	0.323151	S.D. dependent var	3.788048
S.E. of regression	3.116459	Akaike info criterion	5.113420
Sum squared resid	4506.515	Schwarz criterion	5.122328
Log likelihood	-1187.870	Hannan-Quinn criter.	5.116926
Durbin-Watson stat	1.952030		

สมการแนวโน้มเชิงสุ่ม และจุดตัดแกน (Intercept)

	t-Statistic	Prob.*
Augmented Dickey-Fuller test statistic	-14.87453	0.0000
Test critical values:		
1% level	-3.444189	
5% level	-2.867536	
10% level	-2.570027	

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

Augmented Dickey-Fuller Test Equation

Dependent Variable: D(IRP)

Method: Least Squares

Date: 08/20/09 Time: 16:35

Sample (adjusted): 2 466

Included observations: 465 after adjustments

Variable	Coefficient	Std. Error	t-Statistic	Prob.
IRP(-1)	-0.646905	0.043491	-14.87453	0.0000
C	-0.053231	0.144704	-0.367864	0.7131
R-squared	0.323348	Mean dependent var		0.001346
Adjusted R-squared	0.321887	S.D. dependent var		3.788048
S.E. of regression	3.119367	Akaike info criterion		5.117429
Sum squared resid	4505.199	Schwarz criterion		5.135244
Log likelihood	-1187.802	Hannan-Quinn criter.		5.124441
F-statistic	221.2517	Durbin-Watson stat		1.951842
Prob(F-statistic)	0.000000			

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สมการแนวโน้มเชิงเส้น จุดตัดแกนและแนวโน้ม (Trend & Intercept)

	t-Statistic	Prob.*
Augmented Dickey-Fuller test statistic	-14.88188	0.0000
Test critical values:		
1% level	-3.977916	
5% level	-3.419515	
10% level	-3.132357	

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

Augmented Dickey-Fuller Test Equation

Dependent Variable: D(IRP)

Method: Least Squares

Date: 08/20/09 Time: 16:35

Sample (adjusted): 2 466

Included observations: 465 after adjustments

Variable	Coefficient	Std. Error	t-Statistic	Prob.
IRP(-1)	-0.648478	0.043575	-14.88188	0.0000
C	0.120301	0.290101	0.414688	0.6786
@TREND(1)	-0.000745	0.001080	-0.690300	0.4904
R-squared	0.324046	Mean dependent var		0.001346
Adjusted R-squared	0.321119	S.D. dependent var		3.788048
S.E. of regression	3.121132	Akaike info criterion		5.120699
Sum squared resid	4500.557	Schwarz criterion		5.147422
Log likelihood	-1187.563	Hannan-Quinn criter.		5.131217
F-statistic	110.7390	Durbin-Watson stat		1.950913
Prob(F-statistic)	0.000000			

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บริษัท ปตท. เคมีคอล จำกัด (มหาชน)

สมการแนวโน้มเชิงสุ่ม (None)

	t-Statistic	Prob.*
Augmented Dickey-Fuller test statistic	-18.82078	0.0000
Test critical values:		
1% level	-2.569945	
5% level	-1.941506	
10% level	-1.616242	

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

Augmented Dickey-Fuller Test Equation
 Dependent Variable: D(PTTCH)
 Method: Least Squares
 Date: 08/20/09 Time: 16:38
 Sample (adjusted): 2 466
 Included observations: 465 after adjustments

Variable	Coefficient	Std. Error	t-Statistic	Prob.
PTTCH(-1)	-0.866914	0.046062	-18.82078	0.0000
R-squared	0.432914	Mean dependent var		-0.010838
Adjusted R-squared	0.432914	S.D. dependent var		4.674500
S.E. of regression	3.520139	Akaike info criterion		5.357026
Sum squared resid	5749.599	Schwarz criterion		5.365934
Log likelihood	-1244.509	Hannan-Quinn criter.		5.360532
Durbin-Watson stat	2.010339			

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สมการแนวโน้มเชิงสุ่ม และจุดตัดแกน (Intercept)

	t-Statistic	Prob.*
Augmented Dickey-Fuller test statistic	-18.83208	0.0000
Test critical values:		
1% level	-3.444189	
5% level	-2.867536	
10% level	-2.570027	

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

Augmented Dickey-Fuller Test Equation

Dependent Variable: D(PTTCH)

Method: Least Squares

Date: 08/20/09 Time: 16:40

Sample (adjusted): 2 466

Included observations: 465 after adjustments

Variable	Coefficient	Std. Error	t-Statistic	Prob.
PTTCH(-1)	-0.868438	0.046115	-18.83208	0.0000
C	-0.134436	0.163431	-0.822585	0.4112
R-squared	0.433741	Mean dependent var		-0.010838
Adjusted R-squared	0.432518	S.D. dependent var		4.674500
S.E. of regression	3.521366	Akaike info criterion		5.359867
Sum squared resid	5741.208	Schwarz criterion		5.377682
Log likelihood	-1244.169	Hannan-Quinn criter.		5.366879
F-statistic	354.6473	Durbin-Watson stat		2.010089
Prob(F-statistic)	0.000000			

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สมการแนวโน้มเชิงเส้น จุดตัดแกนและแนวโน้ม (Trend & Intercept)

	t-Statistic	Prob.*
Augmented Dickey-Fuller test statistic	-18.88604	0.0000
Test critical values:		
1% level	-3.977916	
5% level	-3.419515	
10% level	-3.132357	

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

Augmented Dickey-Fuller Test Equation

Dependent Variable: D(PTTCH)

Method: Least Squares

Date: 08/20/09 Time: 16:41

Sample (adjusted): 2 466

Included observations: 465 after adjustments

Variable	Coefficient	Std. Error	t-Statistic	Prob.
PTTCH(-1)	-0.872164	0.046180	-18.88604	0.0000
C	0.222698	0.327125	0.680775	0.4964
@TREND(1)	-0.001535	0.001218	-1.260027	0.2083
R-squared	0.435680	Mean dependent var		-0.010838
Adjusted R-squared	0.433238	S.D. dependent var		4.674500
S.E. of regression	3.519133	Akaike info criterion		5.360737
Sum squared resid	5721.546	Schwarz criterion		5.387460
Log likelihood	-1243.371	Hannan-Quinn criter.		5.371255
F-statistic	178.3425	Durbin-Watson stat		2.009204
Prob(F-statistic)	0.000000			

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บริษัท ไทยพลาสติกและเคมีภัณฑ์ จำกัด (มหาชน)

สมการแนวโน้มเชิงสุ่ม (None)

	t-Statistic	Prob.*
Augmented Dickey-Fuller test statistic	-18.62590	0.0000
Test critical values:		
1% level	-2.569945	
5% level	-1.941506	
10% level	-1.616242	

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

Augmented Dickey-Fuller Test Equation
 Dependent Variable: D(TPC)
 Method: Least Squares
 Date: 08/20/09 Time: 16:43
 Sample (adjusted): 2 466
 Included observations: 465 after adjustments

Variable	Coefficient	Std. Error	t-Statistic	Prob.
TPC(-1)	-0.855930	0.045954	-18.62590	0.0000
R-squared	0.427812	Mean dependent var		-0.004067
Adjusted R-squared	0.427812	S.D. dependent var		2.953973
S.E. of regression	2.234477	Akaike info criterion		4.448040
Sum squared resid	2316.699	Schwarz criterion		4.456947
Log likelihood	-1033.169	Hannan-Quinn criter.		4.451546
Durbin-Watson stat	1.979224			

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สมการแนวโน้มเชิงสุ่ม และจุดตัดแกน (Intercept)

	t-Statistic	Prob.*
Augmented Dickey-Fuller test statistic	-18.60999	0.0000
Test critical values:		
1% level	-3.444189	
5% level	-2.867536	
10% level	-2.570027	

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

Augmented Dickey-Fuller Test Equation

Dependent Variable: D(TPC)

Method: Least Squares

Date: 08/20/09 Time: 16:43

Sample (adjusted): 2 466

Included observations: 465 after adjustments

Variable	Coefficient	Std. Error	t-Statistic	Prob.
TPC(-1)	-0.856122	0.046003	-18.60999	0.0000
C	-0.031058	0.103733	-0.299406	0.7648
R-squared	0.427923	Mean dependent var		-0.004067
Adjusted R-squared	0.426687	S.D. dependent var		2.953973
S.E. of regression	2.236672	Akaike info criterion		4.452147
Sum squared resid	2316.251	Schwarz criterion		4.469962
Log likelihood	-1033.124	Hannan-Quinn criter.		4.459159
F-statistic	346.3316	Durbin-Watson stat		1.979221
Prob(F-statistic)	0.000000			

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สมการแนวโน้มเชิงเส้น จุดตัดแกนและแนวโน้ม (Trend & Intercept)

	t-Statistic	Prob.*
Augmented Dickey-Fuller test statistic	-18.60189	0.0000
Test critical values:		
1% level	-3.977916	
5% level	-3.419515	
10% level	-3.132357	

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

Augmented Dickey-Fuller Test Equation

Dependent Variable: D(TPC)

Method: Least Squares

Date: 08/20/09 Time: 16:44

Sample (adjusted): 2 466

Included observations: 465 after adjustments

Variable	Coefficient	Std. Error	t-Statistic	Prob.
TPC(-1)	-0.856725	0.046056	-18.60189	0.0000
C	0.060109	0.207973	0.289022	0.7727
@TREND(1)	-0.000391	0.000774	-0.505900	0.6132
R-squared	0.428240	Mean dependent var		-0.004067
Adjusted R-squared	0.425765	S.D. dependent var		2.953973
S.E. of regression	2.238471	Akaike info criterion		4.455894
Sum squared resid	2314.969	Schwarz criterion		4.482617
Log likelihood	-1032.995	Hannan-Quinn criter.		4.466412
F-statistic	173.0155	Durbin-Watson stat		1.979111
Prob(F-statistic)	0.000000			

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บริษัท วินไทย จำกัด (มหาชน)

สมการแนวโน้มเชิงสุ่ม (None)

	t-Statistic	Prob.*
Augmented Dickey-Fuller test statistic	-12.88345	0.0000
Test critical values:		
1% level	-2.569955	
5% level	-1.941507	
10% level	-1.616241	

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

Augmented Dickey-Fuller Test Equation
 Dependent Variable: D(VNT)
 Method: Least Squares
 Date: 08/20/09 Time: 16:45
 Sample (adjusted): 3 466
 Included observations: 464 after adjustments

Variable	Coefficient	Std. Error	t-Statistic	Prob.
VNT(-1)	-0.811657	0.063000	-12.88345	0.0000
D(VNT(-1))	-0.126959	0.046261	-2.744387	0.0063
R-squared	0.473429	Mean dependent var		-7.66E-18
Adjusted R-squared	0.472289	S.D. dependent var		2.754357
S.E. of regression	2.000868	Akaike info criterion		4.229340
Sum squared resid	1849.604	Schwarz criterion		4.247184
Log likelihood	-979.2069	Hannan-Quinn criter.		4.236364
Durbin-Watson stat	2.005325			

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สมการแนวโน้มเชิงเส้น และจุดตัดแกน (Intercept)

	t-Statistic	Prob.*
Augmented Dickey-Fuller test statistic	-12.91965	0.0000
Test critical values:		
1% level	-3.444219	
5% level	-2.867549	
10% level	-2.570034	

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

Augmented Dickey-Fuller Test Equation

Dependent Variable: D(VNT)

Method: Least Squares

Date: 08/20/09 Time: 16:46

Sample (adjusted): 3 466

Included observations: 464 after adjustments

Variable	Coefficient	Std. Error	t-Statistic	Prob.
VNT(-1)	-0.816493	0.063198	-12.91965	0.0000
D(VNT(-1))	-0.124456	0.046335	-2.686030	0.0075
C	-0.090936	0.093180	-0.975916	0.3296
R-squared	0.474514	Mean dependent var		-7.66E-18
Adjusted R-squared	0.472235	S.D. dependent var		2.754357
S.E. of regression	2.000971	Akaike info criterion		4.231587
Sum squared resid	1845.791	Schwarz criterion		4.258353
Log likelihood	-978.7281	Hannan-Quinn criter.		4.242123
F-statistic	208.1418	Durbin-Watson stat		2.004696
Prob(F-statistic)	0.000000			

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สมการแนวโน้มเชิงเส้น จุดตัดแกนและแนวโน้ม (Trend & Intercept)

	t-Statistic	Prob.*
Augmented Dickey-Fuller test statistic	-12.91255	0.0000
Test critical values:		
1% level	-3.977959	
5% level	-3.419536	
10% level	-3.132369	

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

Augmented Dickey-Fuller Test Equation

Dependent Variable: D(VNT)

Method: Least Squares

Date: 08/20/09 Time: 16:47

Sample (adjusted): 3 466

Included observations: 464 after adjustments

Variable	Coefficient	Std. Error	t-Statistic	Prob.
VNT(-1)	-0.817299	0.063295	-12.91255	0.0000
D(VNT(-1))	-0.123997	0.046395	-2.672641	0.0078
C	-0.031298	0.186871	-0.167483	0.8671
@TREND(1)	-0.000256	0.000695	-0.368291	0.7128
R-squared	0.474669	Mean dependent var		-7.66E-18
Adjusted R-squared	0.471243	S.D. dependent var		2.754357
S.E. of regression	2.002849	Akaike info criterion		4.235602
Sum squared resid	1845.247	Schwarz criterion		4.271291
Log likelihood	-978.6597	Hannan-Quinn criter.		4.249651
F-statistic	138.5463	Durbin-Watson stat		2.004576
Prob(F-statistic)	0.000000			

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ตลาดหลักทรัพย์แห่งประเทศไทย

สมการแนวโน้มเชิงสุ่ม (None)

	t-Statistic	Prob.*
Augmented Dickey-Fuller test statistic	-19.85906	0.0000
Test critical values:		
1% level	-2.569945	
5% level	-1.941506	
10% level	-1.616242	

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

Augmented Dickey-Fuller Test Equation
 Dependent Variable: D(SET)
 Method: Least Squares
 Date: 08/20/09 Time: 16:48
 Sample (adjusted): 2 466
 Included observations: 465 after adjustments

Variable	Coefficient	Std. Error	t-Statistic	Prob.
SET(-1)	-0.918679	0.046260	-19.85906	0.0000
R-squared	0.459448	Mean dependent var		-0.000972
Adjusted R-squared	0.459448	S.D. dependent var		2.542943
S.E. of regression	1.869628	Akaike info criterion		4.091505
Sum squared resid	1621.917	Schwarz criterion		4.100412
Log likelihood	-950.2748	Hannan-Quinn criter.		4.095011
Durbin-Watson stat	2.000073			

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สมการแนวโน้มเชิงเส้น และจุดตัดแกน (Intercept)

	t-Statistic	Prob.*
Augmented Dickey-Fuller test statistic	-19.86992	0.0000
Test critical values:		
1% level	-3.444189	
5% level	-2.867536	
10% level	-2.570027	

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

Augmented Dickey-Fuller Test Equation

Dependent Variable: D(SET)

Method: Least Squares

Date: 08/20/09 Time: 16:48

Sample (adjusted): 2 466

Included observations: 465 after adjustments

Variable	Coefficient	Std. Error	t-Statistic	Prob.
SET(-1)	-0.920272	0.046315	-19.86992	0.0000
C	-0.072255	0.086805	-0.832379	0.4056
R-squared	0.460256	Mean dependent var		-0.000972
Adjusted R-squared	0.459090	S.D. dependent var		2.542943
S.E. of regression	1.870247	Akaike info criterion		4.094310
Sum squared resid	1619.493	Schwarz criterion		4.112126
Log likelihood	-949.9272	Hannan-Quinn criter.		4.101322
F-statistic	394.8139	Durbin-Watson stat		1.999885
Prob(F-statistic)	0.000000			

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สมการแนวโน้มเชิงเส้น จุดตัดแกนและแนวโน้ม (Trend & Intercept)

	t-Statistic	Prob.*
Augmented Dickey-Fuller test statistic	-19.93908	0.0000
Test critical values:		
1% level	-3.977916	
5% level	-3.419515	
10% level	-3.132357	

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

Augmented Dickey-Fuller Test Equation

Dependent Variable: D(SET)

Method: Least Squares

Date: 08/20/09 Time: 16:48

Sample (adjusted): 2 466

Included observations: 465 after adjustments

Variable	Coefficient	Std. Error	t-Statistic	Prob.
SET(-1)	-0.925048	0.046394	-19.93908	0.0000
C	0.137916	0.173727	0.793869	0.4277
@TREND(1)	-0.000904	0.000647	-1.396143	0.1633
R-squared	0.462524	Mean dependent var		-0.000972
Adjusted R-squared	0.460197	S.D. dependent var		2.542943
S.E. of regression	1.868333	Akaike info criterion		4.094401
Sum squared resid	1612.689	Schwarz criterion		4.121124
Log likelihood	-948.9483	Hannan-Quinn criter.		4.104919
F-statistic	198.7863	Durbin-Watson stat		1.998805
Prob(F-statistic)	0.000000			

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ภาคผนวก ข

ผลการประมาณค่าสัมประสิทธิ์โดยแบบจำลองถดถอยแบบสลับเปลี่ยน (Switching Regression Model)

บริษัท อินโดรามา โพลีเมอร์ส จำกัด (มหาชน)

Variable	Coefficient	Standard Error	b/St. Er.	P[Z >z]	Mean of X
Switching Regressions Maximum Likelihood Estimates					
Dependent variable				IRP	
Weighting variable				ONE	
Number of observations				466	
Iterations completed				10	
Log likelihood function				-1310.185	
Sample separation variable is I IRP is the minimum of $y^*(1)$ and $y^*(0)$					
RHS for Regime 1					
Constant	2.797789337	.25986785	10.766	.0000	
SET	2.082854239	.47888768E-01	43.494	.0000	1.2031997
RHS for Regime 2					
Constant	2.243323436	.20303897	11.049	.0000	
SET	-.6326078693	.88442117E-01	-7.153	.0000	-1.3016297
Sigma(1)	3.272421413	.62088522E-01	52.706	.0000	
Sigma(0)	2.843560130	.97667429E-01	29.115	.0000	

บริษัท ปตท. เคมีคอล จำกัด (มหาชน)

Variable	Coefficient	Standard Error	b/St. Er.	P[Z >z]	Mean of X
Switching Regressions Maximum Likelihood Estimates					
Dependent variable				PTTCH	
Weighting variable				ONE	
Number of observations				467	
Iterations completed				14	
Log likelihood function				-1389.234	
Sample separation variable is I PTTCH is the minimum of $y^*(1)$ and $y^*(0)$					
RHS for Regime 1					
Constant	1.525832994	.18574716	8.215	.0000	
SET	.9998012075	.49020397E-01	20.396	.0000	-3.1644999
RHS for Regime 2					
Constant	1.614579959	.15153965	10.655	.0000	
SET	1.001140136	.10006469	10.005	.0000	-1.3016297
Sigma(1)	3.291596495	.16105814	20.437	.0000	
Sigma(0)	2.541582013	.95655376E-01	26.570	.0000	

บริษัท ไทยพลาสติกและเคมีภัณฑ์ จำกัด (มหาชน)

Variable	Coefficient	Standard Error	b/St.Er.	P[Z >z]	Mean of X
Switching Regressions Maximum Likelihood Estimates					
Dependent variable				TPC	
Weighting variable				ONE	
Number of observations				467	
Iterations completed				16	
Log likelihood function				-1307.162	
Sample separation variable is I					
TPC				is the minimum of $y^*(1)$ and $y^*(0)$	
RHS for Regime 1					
Constant	1.439518892	.13182304	10.920	.0000	
SET	.9984190996	.34388490E-01	29.034	.0000	-3.1644999
RHS for Regime 2					
Constant	1.462467204	.16075300	9.098	.0000	
SET	1.000056614	.15892991E-01	62.924	.0000	-1.3016297
Sigma(1)	2.097330505	.64355079E-01	32.590	.0000	
Sigma(0)	2.895026798	.15743659	18.389	.0000	

บริษัท วินไทย จำกัด (มหาชน)

Variable	Coefficient	Standard Error	b/St.Er.	P[Z >z]	Mean of X
Switching Regressions Maximum Likelihood Estimates					
Dependent variable				VNT	
Weighting variable				ONE	
Number of observations				467	
Iterations completed				17	
Log likelihood function				-1303.229	
Sample separation variable is I					
VNT				is the minimum of $y^*(1)$ and $y^*(0)$	
RHS for Regime 1					
Constant	1.398447496	.12761675	10.958	.0000	
SET	.9979156758	.58124238E-01	17.169	.0000	-3.1644999
RHS for Regime 2					
Constant	1.394802115	.16261783	8.577	.0000	
SET	.9997683892	.15872245E-01	62.988	.0000	-1.3016297
Sigma(1)	2.010402748	.51813533E-01	38.801	.0000	
Sigma(0)	3.006422164	.17023427	17.660	.0000	

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