ภาคผนวก

ภาคผนวก ก

แสดงการเลือกช่วงเวลา (Lag Length) มี่เหมาะสม

1. กรณีประเทศไทยกับสหราชอาณาจักร

เมื่อช่วงเวลา = 2

Variable Addition Test (OLS case)

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Dependent variable is DLTEXP

List of the variables added to the regression:

LTEXP(-1)   LMPIUK(-1)   LMPITH(-1)   LRER(-1)

118 observations used for estimation from 1999M5 to 2009M2

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Regressor	Coefficient	Standard Error	T-Ratio[Prob]
INPT	-1.4670	2.0580	-.71284[.478]
DLTEXP(-1)	.0090138	.099299	.090774[.928]
DLTEXP(-2)	.071219	.091883	.77510[.440]
DLMPIUK(-1)	.19646	.92627	.21209[.832]
DLMPIUK(-2)	-.90800	.87717	-1.0351[.303]
DLMPITH(-1)	-1.1580	.17286	-6.6989[.000]
DLMPITH(-2)	-.64611	.19286	-3.3502[.001]
DLRER(-1)	.23209	.33877	.68508[.495]
DLRER(-2)	-.075560	.33132	-.22806[.820]
LTEXP(-1)	-.47876	.092623	-5.1689[.000]
LMPIUK(-1)	.90167	.43466	2.0744[.040]

LMPITH(-1)	.0056197	.034171	.16446[.870]
LRER(-1)	.45252	.13269	3.4103[.001]

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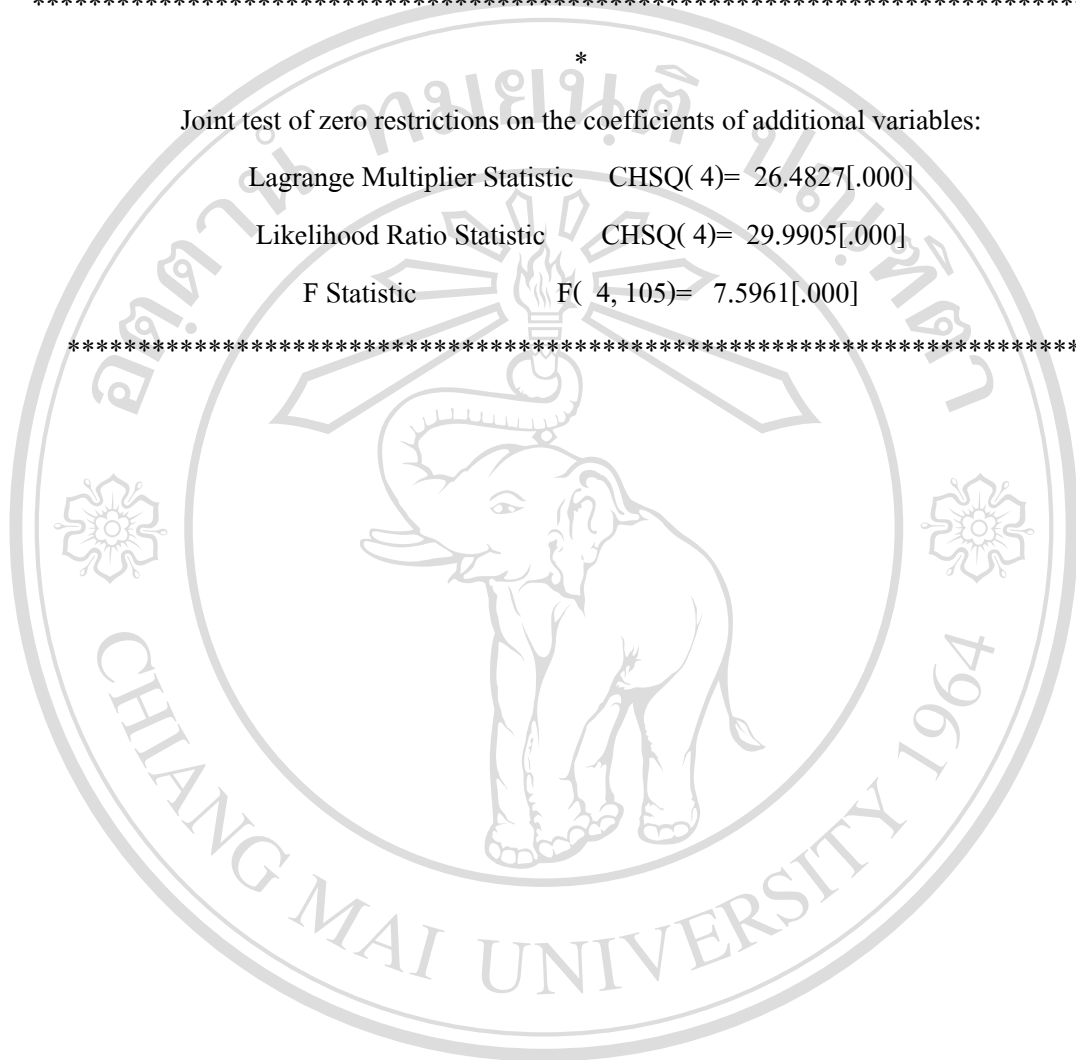
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Joint test of zero restrictions on the coefficients of additional variables:

Lagrange Multiplier Statistic   CHSQ(4)= 26.4827[.000]

Likelihood Ratio Statistic   CHSQ(4)= 29.9905[.000]

F Statistic   F(4, 105)= 7.5961[.000]

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เมื่อช่วงเวลา = 12

Variable Addition Test (OLS case)

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*

Dependent variable is DLTEXP

List of the variables added to the regression:

LTEXP(-1)   LMPIUK(-1)   LMPITH(-1)   LRER(-1)

108 observations used for estimation from 2000M3 to 2009M2

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Regressor	Coefficient	Standard Error	T-Ratio[Prob]
INPT	-3.6653	2.8427	-1.2894[.203]
DLTEXP(-1)	-.28180	.20439	-1.3787[.174]
DLTEXP(-2)	-.26038	.21332	-1.2206[.227]
DLTEXP(-3)	-.18451	.21086	-.87501[.385]
DLTEXP(-4)	-.34897	.17663	-1.9757[.053]
DLTEXP(-5)	-.25164	.16055	-1.5674[.123]
DLTEXP(-6)	-.061195	.15238	-.40161[.690]
DLTEXP(-7)	-.27494	.16190	-1.6983[.095]
DLTEXP(-8)	-.28781	.14946	-1.9257[.059]
DLTEXP(-9)	-.39358	.12631	-3.1158[.003]
DLTEXP(-10)	-.22593	.13345	-1.6930[.096]
DLTEXP(-11)	-.0057058	.14551	-.039213[.969]
DLTEXP(-12)	-.046080	.12633	-.36475[.717]
DLMPIUK(-1)	-1.4335	1.0412	-1.3768[.174]
DLMPIUK(-2)	-2.0663	1.0464	-1.9747[.053]
DLMPIUK(-3)	-2.5598	1.0403	-2.4607[.017]
DLMPIUK(-4)	-1.3575	1.0442	-1.3001[.199]
DLMPIUK(-5)	-1.1745	1.0996	-1.0681[.290]

DLMPIUK(-6)	-.72270	1.0570	-.68373[.497]
DLMPIUK(-7)	-.34536	1.0214	-.33811[.737]
DLMPIUK(-8)	1.1921	1.0497	1.1356[.261]
DLMPIUK(-9)	1.8270	.93098	1.9625[.055]
DLMPIUK(-10)	3.1117	.94132	3.3056[.002]
DLMPIUK(-11)	.89694	.99235	.90386[.370]
DLMPIUK(-12)	1.1209	.84644	1.3243[.191]
DLMPITH(-1)	-.58001	.24264	-2.3904[.020]
DLMPITH(-2)	-.52397	.27133	-1.9311[.059]
DLMPITH(-3)	-.45748	.31971	-1.4309[.158]
DLMPITH(-4)	.18582	.34474	.53902[.592]
DLMPITH(-5)	.86948	.35865	2.4243[.019]
DLMPITH(-6)	.71668	.36559	1.9604[.055]
DLMPITH(-7)	.57185	.38448	1.4873[.143]
DLMPITH(-8)	.27773	.37932	.73217[.467]
DLMPITH(-9)	1.0439	.32947	3.1684[.003]
DLMPITH(-10)	.71537	.30866	2.3177[.024]
DLMPITH(-11)	.073958	.32374	.22845[.820]
DLMPITH(-12)	.48813	.28192	1.7314[.089]
DLRER(-1)	-.52823	.41396	-1.2760[.207]
DLRER(-2)	-.47770	.39611	-1.2060[.233]
DLRER(-3)	-.10266	.38153	-.26907[.789]
DLRER(-4)	-.65550	.37312	-1.7568[.085]
DLRER(-5)	-.61107	.34440	-1.7743[.082]
DLRER(-6)	-1.0448	.32881	-3.1775[.002]
DLRER(-7)	-.86433	.34830	-2.4815[.016]
DLRER(-8)	-1.0612	.35114	-3.0221[.004]
DLRER(-9)	-.67522	.35407	-1.9070[.062]
DLRER(-10)	-.40736	.33873	-1.2026[.234]
DLRER(-11)	-.56373	.31886	-1.7680[.083]

DLRER(-12)	-.0042406	.30456	-.013924[.989]
LTEXP(-1)	-.45446	.20143	-2.2562[.028]
LMPIUK(-1)	.95343	.60194	1.5839[.119]
LMPITH(-1)	-.10681	.042642	-2.5047[.015]
LRER(-1)	.97267	.27420	3.5473[.001]

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Joint test of zero restrictions on the coefficients of additional variables:

Lagrange Multiplier Statistic   CHSQ(4)= 22.5027[.000]

Likelihood Ratio Statistic   CHSQ(4)= 25.2338[.000]

F Statistic   F(4, 55)= 3.6190[.011]

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การประมาณค่าของ Error Correction Model ตามกระบวนการ ARDL

ระยะสั้น

Error Correction Representation for the Selected ARDL Model

ARDL(1,0,3,0) selected based on Schwarz Bayesian Criterion

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Dependent variable is dLTEXP

113 observations used for estimation from 1999M10 to 2009M2

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Regressor	Coefficient	Standard Error	T-Ratio[Prob]
dLMPIUK	.59365	.31572	1.8803[.063]
dLMPITH	.45647	.16364	2.7895[.006]
dLMPITH1	-.93730	.19380	-4.8363[.000]
dLMPITH2	-.44822	.16485	-2.7189[.008]
dLRER	.34063	.10262	3.3194[.001]
dINPT	-.31987	1.4966	-.21373[.831]
ecm(-1)	-.41046	.072602	-5.6535[.000]

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List of additional temporary variables created:

dLTEXP = LTEXP-LTEXP(-1)

dLMPIUK = LMPIUK-LMPIUK(-1)

dLMPITH = LMPITH-LMPITH(-1)

dLMPITH1 = LMPITH(-1)-LMPITH(-2)

dLMPITH2 = LMPITH(-2)-LMPITH(-3)

$$dLRER = LRER-LRER(-1)$$

$$dINPT = INPT-INPT(-1)$$

$$ecm = LTEXP - 1.4463*LMPIUK - .056060*LMPITH - .82987*LRER + .77931*INPT$$

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R-Squared	.60772	R-Bar-Squared	.58157
S.E. of Regression	.074795	F-stat. F(6, 106)	27.1111[.000]
Mean of Dependent Variable	-.7055E-3	S.D. of Dependent Variable	.11563
Residual Sum of Squares	.58740	Equation Log-likelihood	136.8183
Akaike Info. Criterion	128.8183	Schwarz Bayesian Criterion	117.9088
DW-statistic	1.9027		

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*

R-Squared and R-Bar-Squared measures refer to the dependent variable

dLTEXP and in cases where the error correction model is highly

restricted, these measures could become negative.

ระยะยาว

Estimated Long Run Coefficients using the ARDL Approach

ARDL(1,0,3,0) selected based on Schwarz Bayesian Criterion

****

*

Dependent variable is LTEXP

113 observations used for estimation from 1999M10 to 2009M2

****

*

Regressor	Coefficient	Standard Error	T-Ratio[Prob]
LMPIUK	1.4463	.80366	1.7997[.075]
LMPITH	.056060	.073371	.76406[.447]
LRER	.82987	.23676	3.5051[.001]
INPT	-.77931	3.6908	-.21115[.833]

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แสดงการเลือกช่วงเวลา (Lag Length) มี่เหมาะสม

2. กรณีประเทศไทยกับประเทศสหรัฐอเมริกา

เมื่อช่วงเวลา = 2

Variable Addition Test (OLS case)

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*

Dependent variable is DLTEXP

List of the variables added to the regression:

LTEXP(-1)   LMPIUS(-1)   LMPITH(-1)   LRER(-1)

118 observations used for estimation from 1999M5 to 2009M2

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Regressor	Coefficient	Standard Error	T-Ratio[Prob]
INPT	-2.0087	1.8506	-1.0854[.280]
DLTEXP(-1)	.069493	.10317	.67357[.502]
DLTEXP(-2)	.032369	.092212	.35103[.726]
DLMPIUS(-1)	-.44588	1.2004	-.37144[.711]
DLMPIUS(-2)	3.0896	1.1487	2.6895[.008]
DLMPITH(-1)	-1.1447	.17591	-6.5072[.000]
DLMPITH(-2)	-.52187	.18634	-2.8006[.006]
DLRER(-1)	.36799	.37579	.97923[.330]
DLRER(-2)	-.020240	.39886	-.050743[.960]
LTEXP(-1)	-.48995	.10591	-4.6263[.000]
LMPIUS(-1)	1.1362	.42738	2.6587[.009]
LMPITH(-1)	-.039649	.064724	-.61258[.541]
LRER(-1)	.37541	.13616	2.7571[.007]

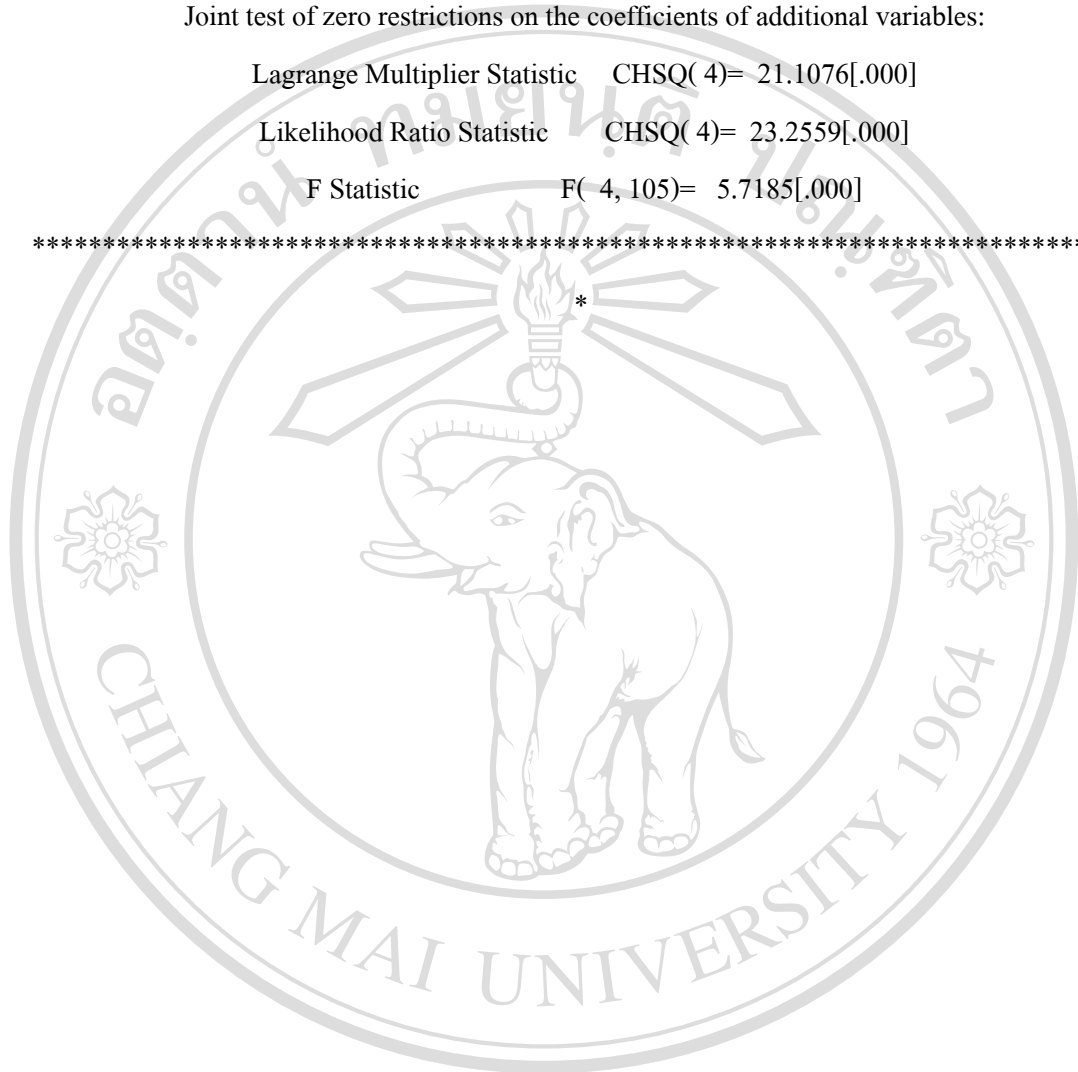***

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Joint test of zero restrictions on the coefficients of additional variables:

Lagrange Multiplier Statistic   CHSQ(4)= 21.1076[.000]

Likelihood Ratio Statistic   CHSQ(4)= 23.2559[.000]

F Statistic   F(4, 105)=   5.7185[.000]

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เมื่อช่วงเวลา = 6

Variable Addition Test (OLS case)

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Dependent variable is DLTEXP

List of the variables added to the regression:

LTEXP(-1)   LMPIUS(-1)   LMPITH(-1)   LRER(-1)

114 observations used for estimation from 1999M9 to 2009M2

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Regressor	Coefficient	Standard Error	T-Ratio[Prob]
INPT	-2.9849	1.9141	-1.5594[.123]
DLTEXP(-1)	.41473	.15347	2.7024[.008]
DLTEXP(-2)	.11554	.14624	.79010[.432]
DLTEXP(-3)	.37199	.12504	2.9750[.004]
DLTEXP(-4)	.23440	.12629	1.8560[.067]
DLTEXP(-5)	.29918	.12371	2.4183[.018]
DLTEXP(-6)	.17032	.10355	1.6448[.104]
DLMPIUS(-1)	-1.4174	1.2671	-1.1186[.266]
DLMPIUS(-2)	1.8811	1.2233	1.5377[.128]
DLMPIUS(-3)	-.21084	1.3400	-.15734[.875]
DLMPIUS(-4)	4.2528	1.3944	3.0500[.003]
DLMPIUS(-5)	1.2524	1.5671	.79917[.426]
DLMPIUS(-6)	-.49299	1.5673	-.31455[.754]
DLMPITH(-1)	-1.5798	.21181	-7.4586[.000]
DLMPITH(-2)	-.91704	.28578	-3.2088[.002]
DLMPITH(-3)	-.71919	.32127	-2.2386[.028]
DLMPITH(-4)	-.043428	.31782	-.13665[.892]

DLMPITH(-5)	-.054296	.28270	-.19206[.848]
DLMPITH(-6)	.054740	.23090	.23708[.813]
DLRER(-1)	.035320	.39934	.088444[.930]
DLRER(-2)	-.35319	.40609	-.86973[.387]
DLRER(-3)	.32896	.38844	.84686[.399]
DLRER(-4)	-.39381	.38804	-1.0149[.313]
DLRER(-5)	.40369	.39455	1.0232[.309]
DLRER(-6)	-1.1656	.41009	-2.8422[.006]
LTEXP(-1)	-.81499	.17238	-4.7280[.000]
LMPIUS(-1)	1.6451	.47651	3.4524[.001]
LMPITH(-1)	.020522	.071075	.28873[.773]
LRER(-1)	.70487	.17009	4.1440[.000]

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Joint test of zero restrictions on the coefficients of additional variables:

Lagrange Multiplier Statistic   CHSQ(4)= 26.6997[.000]

Likelihood Ratio Statistic   CHSQ(4)= 30.4202[.000]

F Statistic   F(4, 85)= 6.4990[.000]

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เมื่อช่วงเวลา = 12

Variable Addition Test (OLS case)

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*

Dependent variable is DLTEXP

List of the variables added to the regression:

LTEXP(-1)   LMPIUS(-1)   LMPITH(-1)   LRER(-1)

108 observations used for estimation from 2000M3 to 2009M2

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Regressor	Coefficient	Standard Error	T-Ratio[Prob]
INPT	-.055057	2.9361	-.018752[.985]
DLTEXP(-1)	-.29711	.32924	-.90243[.371]
DLTEXP(-2)	-.20366	.30981	-.65736[.514]
DLTEXP(-3)	-.15273	.30011	-.50890[.613]
DLTEXP(-4)	-.29923	.27289	-1.0965[.278]
DLTEXP(-5)	-.27017	.25033	-1.0793[.285]
DLTEXP(-6)	-.15686	.24467	-.64112[.524]
DLTEXP(-7)	-.36488	.21913	-1.6652[.102]
DLTEXP(-8)	-.27800	.19397	-1.4332[.157]
DLTEXP(-9)	-.37698	.18622	-2.0243[.048]
DLTEXP(-10)	-.23849	.17789	-1.3406[.186]
DLTEXP(-11)	-.098321	.16942	-.58033[.564]
DLTEXP(-12)	.052022	.13552	.38387[.703]
DLMPIUS(-1)	-.43210	1.4054	-.30747[.760]
DLMPIUS(-2)	1.0675	1.3086	.81581[.418]
DLMPIUS(-3)	1.5530	1.3304	1.1673[.248]

DLMPIUS(-4)	2.2634	1.4650	1.5449[.128]
DLMPIUS(-5)	-.092666	1.4537	-.063744[.949]
DLMPIUS(-6)	-.75643	1.5023	-.50353[.617]
DLMPIUS(-7)	1.5390	1.5493	.99338[.325]
DLMPIUS(-8)	1.2249	1.7517	.69924[.487]
DLMPIUS(-9)	.37666	1.7626	.21370[.832]
DLMPIUS(-10)	1.0763	1.6249	.66237[.510]
DLMPIUS(-11)	-.59378	1.6506	-.35974[.720]
DLMPIUS(-12)	-1.7977	1.5319	-1.1735[.246]
DLMPITH(-1)	-.69974	.29159	-2.3998[.020]
DLMPITH(-2)	-.32347	.35846	-.90238[.371]
DLMPITH(-3)	-.052886	.39877	-.13262[.895]
DLMPITH(-4)	.35060	.41080	.85345[.397]
DLMPITH(-5)	.50580	.45763	1.1053[.274]
DLMPITH(-6)	.30536	.50996	.59879[.552]
DLMPITH(-7)	.29122	.52001	.56003[.578]
DLMPITH(-8)	.18936	.51458	.36799[.714]
DLMPITH(-9)	1.1825	.48027	2.4621[.017]
DLMPITH(-10)	.87167	.38210	2.2813[.026]
DLMPITH(-11)	.20479	.35117	.58317[.562]
DLMPITH(-12)	.51158	.30860	1.6578[.103]
DLRER(-1)	.39324	.43438	.90528[.369]
DLRER(-2)	.12861	.42839	.30021[.765]
DLRER(-3)	.26981	.44325	.60870[.545]
DLRER(-4)	.071124	.45329	.15691[.876]
DLRER(-5)	.72245	.46964	1.5383[.130]
DLRER(-6)	-.16775	.46904	-.35764[.722]
DLRER(-7)	.28164	.46689	.60322[.549]
DLRER(-8)	.81684	.47988	1.7022[.094]
DLRER(-9)	.0039233	.43391	.0090418[.993]

DLRER(-10)	.73124	.41955	1.7429[.087]
DLRER(-11)	.26110	.42465	.61487[.541]
DLRER(-12)	.35802	.43774	.81787[.417]
LTEXP(-1)	-.24233	.30079	-.80564[.424]
LMPIUS(-1)	.099523	.77902	.12775[.899]
LMPITH(-1)	.15848	.090576	1.7497[.086]
LRER(-1)	.25576	.28682	.89171[.376]

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Joint test of zero restrictions on the coefficients of additional variables:

Lagrange Multiplier Statistic   CHSQ(4)= 7.6260[.106]

Likelihood Ratio Statistic   CHSQ(4)= 7.9086[.095]

F Statistic   F(4, 55)= 1.0447[.393]

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การประมาณค่าของ Error Correction Model ตามกระบวนการ ARDL

ระยะสั้น

Error Correction Representation for the Selected ARDL Model

ARDL(1,0,2,0) selected based on Schwarz Bayesian Criterion

****

*

Dependent variable is dLTEXP

114 observations used for estimation from 1999M9 to 2009M2

****

*

Regressor	Coefficient	Standard Error	T-Ratio[Prob]
dLMPIUS	.84293	.29714	2.8368[.005]
dLMPITH	.68009	.14941	4.5518[.000]
dLMPITH1	-.53687	.14880	-3.6081[.000]
dLRER	.37155	.11962	3.1060[.002]
dINPT	-1.5689	1.4673	-1.0692[.287]
ecm(-1)	-.43112	.078357	-5.5020[.000]

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List of additional temporary variables created:

dLTEXP = LTEXP-LTEXP(-1)

dLMPIUS = LMPIUS-LMPIUS(-1)

dLMPITH = LMPITH-LMPITH(-1)

dLMPITH1 = LMPITH(-1)-LMPITH(-2)

dLRER = LRER-LRER(-1)

dINPT = INPT-INPT(-1)

ecm = LTEXP -1.9552*LMPIUS -.079974*LMPITH -.86183*LRER + 3.6391*INPT

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R-Squared   .58431   R-Bar-Squared   .56100

S.E. of Regression   .076303   F-stat.   F(5, 108) 30.0801[.000]

Mean of Dependent Variable -.0010146 S.D. of Dependent Variable   .11516

Residual Sum of Squares   .62297   Equation Log-likelihood   135.1798

Akaike Info. Criterion   128.1798   Schwarz Bayesian Criterion   118.6031

DW-statistic   1.8961

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*

R-Squared and R-Bar-Squared measures refer to the dependent variable

dLTEXP and in cases where the error correction model is highly

restricted, these measures could become negative.

ระยะยาว

Estimated Long Run Coefficients using the ARDL Approach

ARDL(1,0,2,0) selected based on Schwarz Bayesian Criterion

****

*

Dependent variable is LTEXP

114 observations used for estimation from 1999M9 to 2009M2

****

*

Regressor	Coefficient	Standard Error	T-Ratio[Prob]
LMPIUS	1.9552	.64681	3.0229[.003]
LMPITH	.079974	.13012	.61460[.540]
LRER	.86183	.24615	3.5012[.001]
INPT	-3.6391	3.4405	-1.0577[.293]

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ประวัติผู้เขียน

ชื่อ นางสาวภัทรศยา ศรีเพชรวรรณดี

วัน เดือน ปีเกิด 11 กันยายน 2527

ประวัติการศึกษา สำเร็จการศึกษาระดับมัธยมศึกษา โรงเรียนปรินส์รอแยลส์วิทยาลัย
สำเร็จการศึกษาระดับปริญญาตรี วิทยาศาสตร์ เอกเคมี
มหาวิทยาลัยเชียงใหม่