ภาคผนวก

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ภาคผนวก ก

แสดงผลการเลือกช่วงเวลา (Lag Length) ที่เหมาะสม

1. กรณีผลิตภัณฑ์มวลรวมภายในประเทศของประเทศไทยและอัตราแลกเปลี่ยนค่ากลางของเงินสกุลดอลลาร์สหรัฐต่อเงินบาท

เมื่อช่วงเวลา = 1

Variable Addition Test (OLS case)

****

Dependent variable is DLGDP

List of the variables added to the regression:

LGDP(-1)　LTB(-1)　LNEXUSD(-1)

50 observations used for estimation from 1997Q3 to 2009Q4

****

Regressor	Coefficient	Standard Error	T-Ratio[Prob]
INPT	0.69475	0.85316	0.81433[.420]
DLGDP(-1)	0.098697	0.15778	0.62555[.535]
DLTB(-1)	0.14514	0.10376	1.3988[.169]
DLNEXUSD(-1)	-0.18426	0.13162	-1.3999[.169]
LGDP(-1)	-0.049135	0.053541	-.91770[.364]
LTB(-1)	-0.059814	0.087511	-0.68350[.498]
LNEXUSD(-1)	-0.0032187	0.068309	-0.047120[.963]

****

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

Lagrange Multiplier Statistic　CHSQ(3)=　1.1244[.771]

Likelihood Ratio Statistic　CHSQ(3)=　1.1373[.768]

F Statistic　F(3, 43)=　.32975[.804]

****

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เมื่อช่วงเวลา = 2

Variable Addition Test (OLS case)

****

Dependent variable is DLGDP

List of the variables added to the regression:

LGDP(-1) LTB(-1) LNEXUSD(-1)

49 observations used for estimation from 1997Q4 to 2009Q4

****

Regressor	Coefficient	Standard Error	T-Ratio[Prob]
INPT	.036241	.75508	.047996[.962]
DLGDP(-1)	.14636	.087844	1.6661[.104]
DLGDP(-2)	-.84037	.088301	-9.5171[.000]
DLTB(-1)	-.0064407	.075194	-.085654[.932]
DLTB(-2)	-.085454	.061272	-1.3947[.171]
DLNEXUSD(-1)	-.092334	.084005	-1.0991[.278]
DLNEXUSD(-2)	-.18517	.077191	-2.3989[.021]
LGDP(-1)	-.0091254	.043717	-.20874[.836]
LTB(-1)	-.046011	.072506	-.63458[.529]
LNEXUSD(-1)	.028936	.055361	.52268[.604]

****

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

Lagrange Multiplier Statistic CHSQ(3)= 1.6079[.658]

Likelihood Ratio Statistic CHSQ(3)= 1.6349[.652]

F Statistic F(3, 39)= .44107[.725]

****

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เมื่อช่วงเวลา = 3

Variable Addition Test (OLS case)

****

Dependent variable is DLGDP

List of the variables added to the regression:

LGDP(-1) LTB(-1) LNEXUSD(-1)

48 observations used for estimation from 1998Q1 to 2009Q4

****

Regressor	Coefficient	Standard Error	T-Ratio[Prob]
INPT	-1.8060	1.2189	-1.4817[.147]
DLGDP(-1)	-.074593	.16361	-.45593[.651]
DLGDP(-2)	-.88520	.084607	-10.4625[.000]
DLGDP(-3)	-.070432	.15302	-.46028[.648]
DLTB(-1)	-.10858	.10377	-1.0463[.303]
DLTB(-2)	-.091625	.081302	-1.1270[.267]
DLTB(-3)	.033249	.061184	.54342[.590]
DLNEXUSD(-1)	-.068430	.077206	-.88633[.381]
DLNEXUSD(-2)	-.15712	.080787	-1.9449[.060]
DLNEXUSD(-3)	-.28664	.084583	-3.3889[.002]
LGDP(-1)	.080936	.067565	1.1979[.239]
LTB(-1)	.11085	.11373	.97473[.336]
LNEXUSD(-1)	.19353	.087346	2.2157[.033]

****

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

Lagrange Multiplier Statistic CHSQ(3)= 8.1527[.043]

Likelihood Ratio Statistic CHSQ(3)= 8.9350[.030]

F Statistic F(3, 35)= 2.3870[.086]

****

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เมื่อช่วงเวลา = 4

Variable Addition Test (OLS case)

****

Dependent variable is DLGDP

List of the variables added to the regression:

LGDP(-1) LTB(-1) LNEXUSD(-1)

47 observations used for estimation from 1998Q2 to 2009Q4

****

Regressor	Coefficient	Standard Error	T-Ratio[Prob]
INPT	-1.9174	1.3457	-1.4249[.164]
DLGDP(-1)	-.20912	.15744	-1.3283[.194]
DLGDP(-2)	-.47603	.13111	-3.6309[.001]
DLGDP(-3)	-.14937	.13594	-1.0988[.280]
DLGDP(-4)	.55564	.12282	4.5239[.000]
DLTB(-1)	-.11811	.11376	-1.0383[.307]
DLTB(-2)	-.094915	.092512	-1.0260[.313]
DLTB(-3)	.039125	.067496	.57967[.566]
DLTB(-4)	-.078429	.054231	-1.4462[.158]
DLNEXUSD(-1)	-.17849	.086660	-2.0597[.048]
DLNEXUSD(-2)	-.22964	.064133	-3.5807[.001]
DLNEXUSD(-3)	-.22631	.070264	-3.2209[.003]
DLNEXUSD(-4)	-.0042070	.077006	-.054632[.957]
LGDP(-1)	.086965	.074210	1.1719[.250]
LTB(-1)	.21342	.12426	1.7175[.096]
LNEXUSD(-1)	.19806	.094389	2.0984[.044]

****

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

Lagrange Multiplier Statistic CHSQ(3)= 12.8718[.005]

Likelihood Ratio Statistic CHSQ(3)= 15.0411[.002]

F Statistic F(3, 31)= 3.8973[.018]

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การประมาณค่าของ Error Correction Model ตามกระบวนการ ARDL โดยใช้ AIC

ระยะสั้น

Error Correction Representation for the Selected ARDL Model

ARDL(3,0,4) selected based on Akaike Information Criterion

****

Dependent variable is dLGDP

48 observations used for estimation from 1998Q1 to 2009Q4

****

Regressor	Coefficient	Standard Error	T-Ratio[Prob]
dLGDP1	-.012769	.084535	-.15105[.881]
dLGDP2	-.85137	.079608	-10.6946[.000]
dLTB	-.020726	.059385	-.34901[.729]
dLNEXUSD	-.059260	.10327	-.57383[.569]
dLNEXUSD1	-.10284	.072222	-1.4239[.162]
dLNEXUSD2	-.18639	.067627	-2.7561[.009]
dLNEXUSD3	-.24529	.073320	-3.3455[.002]
dINPT	-.29786	.74835	-.39802[.693]
ecm(-1)	-.7142E-3	.040165	-.017783[.986]

****

List of additional temporary variables created:

dLGDP = LGDP-LGDP(-1)

dLGDP1 = LGDP(-1)-LGDP(-2)

dLGDP2 = LGDP(-2)-LGDP(-3)

dLTB = LTB-LTB(-1)

dLNEXUSD = LNEXUSD-LNEXUSD(-1)

dLNEXUSD1 = LNEXUSD(-1)-LNEXUSD(-2)

dLNEXUSD2 = LNEXUSD(-2)-LNEXUSD(-3)

dLNEXUSD3 = LNEXUSD(-3)-LNEXUSD(-4)

dINPT = INPT-INPT(-1)

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ecm = LGDP + 29.0185*LTB -124.2162*LNEXUSD + 417.0378*INPT

****

R-Squared	.80621	R-Bar-Squared	.76031
S.E. of Regression	.023022	F-stat. F(8, 39)	19.7605[.000]
Mean of Dependent Variable	.0084155	S.D. of Dependent Variable	.047024
Residual Sum of Squares	.020141	Equation Log-likelihood	118.5199
Akaike Info. Criterion	108.5199	Schwarz Bayesian Criterion	99.1639
DW-statistic	2.1464		

****

R-Squared and R-Bar-Squared measures refer to the dependent variable dLGDP 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(3,0,4) selected based on Akaike Information Criterion

****

Dependent variable is LGDP

48 observations used for estimation from 1998Q1 to 2009Q4

****

Regressor	Coefficient	Standard Error	T-Ratio[Prob]
LTB	-29.0185	1576.0	-.018413[.985]
LNEXUSD	124.2162	7054.8	.017607[.986]
INPT	-417.0378	24479.7	-.017036[.986]

****

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2. กรณีผลิตภัณฑ์มวลรวมภายในประเทศของประเทศไทยและอัตราแลกเปลี่ยนที่แท้จริงของเงินสกุลดอลลาร์สหรัฐต่อเงินบาท

เมื่อช่วงเวลา = 1

Variable Addition Test (OLS case)

****

Dependent variable is DLGDP

List of the variables added to the regression:

LGDP(-1) LTB(-1) LREXUSD(-1)

50 observations used for estimation from 1997Q3 to 2009Q4

****

Regressor	Coefficient	Standard Error	T-Ratio[Prob]
INPT	.64055	.84745	.75585[.454]
DLGDP(-1)	.10335	.15900	.64999[.519]
DLTB(-1)	.13252	.10187	1.3010[.200]
DLREXUSD(-1)	-.17095	.13551	-1.2615[.214]
LGDP(-1)	-.046118	.053710	-.85865[.395]
LTB(-1)	-.053847	.086775	-.62053[.538]
LREXUSD(-1)	.1739E-3	.064860	.0026818[.998]

****

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

Lagrange Multiplier Statistic CHSQ(3)= .99993[.801]

Likelihood Ratio Statistic CHSQ(3)= 1.0101[.799]

F Statistic F(3, 43)= .29250[.831]

****

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เมื่อช่วงเวลา = 2

Variable Addition Test (OLS case)

****

Dependent variable is DLGDP

List of the variables added to the regression:

LGDP(-1) LTB(-1) LREXUSD(-1)

49 observations used for estimation from 1997Q4 to 2009Q4

****

Regressor	Coefficient	Standard Error	T-Ratio[Prob]
INPT	-.27853	.71452	-.38981[.699]
DLGDP(-1)	.14608	.089073	1.6400[.109]
DLGDP(-2)	-.84543	.089771	-9.4176[.000]
DLTB(-1)	-.041138	.073014	-.56342[.576]
DLTB(-2)	-.11101	.059432	-1.8679[.069]
DLREXUSD(-1)	-.067888	.083838	-.80976[.423]
DLREXUSD(-2)	-.17422	.078543	-2.2181[.032]
LGDP(-1)	.0079758	.042277	.18866[.851]
LTB(-1)	-.013613	.073434	-.18537[.854]
LREXUSD(-1)	.050569	.049988	1.0116[.318]

****

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

Lagrange Multiplier Statistic CHSQ(3)= 2.0712[.558]

Likelihood Ratio Statistic CHSQ(3)= 2.1163[.549]

F Statistic F(3, 39)= .57376[.636]

****

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เมื่อช่วงเวลา = 3

Variable Addition Test (OLS case)

****

Dependent variable is DLGDP

List of the variables added to the regression:

LGDP(-1) LTB(-1) LREXUSD(-1)

48 observations used for estimation from 1998Q1 to 2009Q4

****

Regressor	Coefficient	Standard Error	T-Ratio[Prob]
INPT	-1.9365	1.0628	-1.8220[.077]
DLGDP(-1)	-.051858	.16708	-.31038[.758]
DLGDP(-2)	-.88361	.087211	-10.1319[.000]
DLGDP(-3)	-.051710	.15687	-.32963[.744]
DLTB(-1)	-.15008	.097211	-1.5439[.132]
DLTB(-2)	-.13733	.076785	-1.7885[.082]
DLTB(-3)	-.0017226	.060354	-.028541[.977]
DLREXUSD(-1)	-.066488	.078303	-.84911[.402]
DLREXUSD(-2)	-.13332	.080672	-1.6527[.107]
DLREXUSD(-3)	-.24577	.084080	-2.9231[.006]
LGDP(-1)	.092330	.060387	1.5290[.135]
LTB(-1)	.16104	.10976	1.4672[.151]
LREXUSD(-1)	.18610	.072845	2.5547[.015]

****

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

Lagrange Multiplier Statistic CHSQ(3)= 8.6107[.035]

Likelihood Ratio Statistic CHSQ(3)= 9.4899[.023]

F Statistic F(3, 35)= 2.5504[.071]

****

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เมื่อช่วงเวลา = 4

Variable Addition Test (OLS case)

****

Dependent variable is DLGDP

List of the variables added to the regression:

LGDP(-1) LTB(-1) LREXUSD(-1)

47 observations used for estimation from 1998Q2 to 2009Q4

****

Regressor	Coefficient	Standard Error	T-Ratio[Prob]
INPT	-1.7654	1.1070	-1.5948[.121]
DLGDP(-1)	-.18826	.15809	-1.1908[.243]
DLGDP(-2)	-.47620	.13442	-3.5426[.001]
DLGDP(-3)	-.12532	.13752	-.91128[.369]
DLGDP(-4)	.54797	.12656	4.3297[.000]
DLTB(-1)	-.14114	.10347	-1.3640[.182]
DLTB(-2)	-.12953	.084172	-1.5388[.134]
DLTB(-3)	.0041701	.064202	.064952[.949]
DLTB(-4)	-.10149	.055681	-1.8227[.078]
DLREXUSD(-1)	-.18727	.085642	-2.1867[.036]
DLREXUSD(-2)	-.22084	.065959	-3.3481[.002]
DLREXUSD(-3)	-.19903	.069595	-2.8598[.008]
DLREXUSD(-4)	.0052131	.074787	.069706[.945]
LGDP(-1)	.082668	.062382	1.3252[.195]
LTB(-1)	.24656	.11326	2.1770[.037]
LREXUSD(-1)	.17242	.074918	2.3014[.028]

****

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

Lagrange Multiplier Statistic CHSQ(3)= 13.3223[.004]

Likelihood Ratio Statistic CHSQ(3)= 15.6657[.001]

F Statistic F(3, 31)= 4.0877[.015]

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การประมาณค่าของ Error Correction Model ตามกระบวนการ ARDL โดยใช้ AIC

ระยะสั้น

Error Correction Representation for the Selected ARDL Model

ARDL(3,0,4) selected based on Akaike Information Criterion

****

Dependent variable is dLGDP

48 observations used for estimation from 1998Q1 to 2009Q4

****

Regressor	Coefficient	Standard Error	T-Ratio[Prob]
dLGDP1	.0066941	.086463	.077422[.939]
dLGDP2	-.84372	.083111	-10.1518[.000]
dLTB	-.014502	.062810	-.23088[.819]
dLREXUSD	-.042572	.10215	-.41676[.679]
dLREXUSD1	-.10530	.074659	-1.4105[.166]
dLREXUSD2	-.20282	.069969	-2.8986[.006]
dLREXUSD3	-.23501	.077214	-3.0437[.004]
dINPT	-.27912	.68927	-.40495[.688]
ecm(-1)	-.0020498	.038447	-.053315[.958]

****

List of additional temporary variables created:

dLGDP = LGDP-LGDP(-1)

dLGDP1 = LGDP(-1)-LGDP(-2)

dLGDP2 = LGDP(-2)-LGDP(-3)

dLTB = LTB-LTB(-1)

dLREXUSD = LREXUSD-LREXUSD(-1)

dLREXUSD1 = LREXUSD(-1)-LREXUSD(-2)

dLREXUSD2 = LREXUSD(-2)-LREXUSD(-3)

dLREXUSD3 = LREXUSD(-3)-LREXUSD(-4)

dINPT = INPT-INPT(-1)

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ecm = LGDP + 7.0747*LTB -43.2144*LREXUSD + 136.1722*INPT

****

R-Squared	.78817	R-Bar-Squared	.73800
S.E. of Regression	.024069	F-stat. F(8, 39)	17.6740[.000]
Mean of Dependent Variable	.0084155	S.D. of Dependent Variable	.047024
Residual Sum of Squares	.022015	Equation Log-likelihood	116.3846
Akaike Info. Criterion	106.3846	Schwarz Bayesian Criterion	97.0286
DW-statistic	1.9913		

****

R-Squared and R-Bar-Squared measures refer to the dependent variable dLGDP 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(3,0,4) selected based on Akaike Information Criterion

****

Dependent variable is LGDP

48 observations used for estimation from 1998Q1 to 2009Q4

****

Regressor	Coefficient	Standard Error	T-Ratio[Prob]
LTB	-7.0747	114.0805	-.062015[.951]
LREXUSD	43.2144	830.1978	.052053[.959]
INPT	-136.1722	2883.8	-.047219[.963]

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3. กรณีผลิตภัณฑ์มวลรวมภายในประเทศของประเทศไทยและอัตราแลกเปลี่ยนค่ากลางของเงินสกุลเยนญี่ปุ่นต่อเงินบาท

เมื่อช่วงเวลา = 1

Variable Addition Test (OLS case)

****

Dependent variable is DLGDP

List of the variables added to the regression:

LGDP(-1) LTB(-1) LNEXJPY(-1)

50 observations used for estimation from 1997Q3 to 2009Q4

****

Regressor	Coefficient	Standard Error	T-Ratio[Prob]
INPT	.42037	.70301	.59795[.553]
DLGDP(-1)	.12417	.16263	.76349[.449]
DLTB(-1)	.099736	.096728	1.0311[.308]
DLNEXJPY(-1)	-.089906	.11058	-.81301[.421]
LGDP(-1)	-.034317	.049350	-.69538[.491]
LTB(-1)	-.035236	.085529	-.41197[.682]
LNEXJPY(-1)	.016643	.063368	.26264[.794]

****

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

Lagrange Multiplier Statistic CHSQ(3)= .62347[.891]

Likelihood Ratio Statistic CHSQ(3)= .62738[.890]

F Statistic F(3, 43)= .18098[.909]

****

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เมื่อช่วงเวลา = 2

Variable Addition Test (OLS case)

****

Dependent variable is DLGDP

List of the variables added to the regression:

LGDP(-1) LTB(-1) LNEXJPY(-1)

49 observations used for estimation from 1997Q4 to 2009Q4

****

Regressor	Coefficient	Standard Error	T-Ratio[Prob]
INPT	-.15175	.47227	-.32133[.750]
DLGDP(-1)	.17335	.091999	1.8843[.067]
DLGDP(-2)	-.80083	.094816	-8.4462[.000]
DLTB(-1)	-.052735	.061111	-.86293[.393]
DLTB(-2)	-.13176	.053924	-2.4434[.019]
DLNEXJPY(-1)	-.051429	.061196	-.84039[.406]
DLNEXJPY(-2)	-.13364	.067656	-1.9753[.055]
LGDP(-1)	.0039524	.030013	.13169[.896]
LTB(-1)	-.0018355	.059245	-.030982[.975]
LNEXJPY(-1)	.031920	.045284	.70489[.485]

****

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

Lagrange Multiplier Statistic CHSQ(3)= .68827[.876]

Likelihood Ratio Statistic CHSQ(3)= .69315[.875]

F Statistic F(3, 39)= .18520[.906]

****

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เมื่อช่วงเวลา = 3

Variable Addition Test (OLS case)

****

Dependent variable is DLGDP

List of the variables added to the regression:

LGDP(-1) LTB(-1) LNEXJPY(-1)

48 observations used for estimation from 1998Q1 to 2009Q4

****

Regressor	Coefficient	Standard Error	T-Ratio[Prob]
INPT	-.78037	.54701	-1.4266[.163]
DLGDP(-1)	.10219	.15449	.66148[.513]
DLGDP(-2)	-.82552	.092467	-8.9278[.000]
DLGDP(-3)	.10034	.15425	.65052[.520]
DLTB(-1)	-.096252	.064961	-1.4817[.147]
DLTB(-2)	-.10532	.059944	-1.7570[.088]
DLTB(-3)	-.010756	.055517	-.19375[.847]
DLNEXJPY(-1)	-.11168	.065857	-1.6958[.099]
DLNEXJPY(-2)	-.12223	.063551	-1.9233[.063]
DLNEXJPY(-3)	-.18216	.067626	-2.6936[.011]
LGDP(-1)	.030602	.032314	.94701[.350]
LTB(-1)	.10532	.073385	1.4352[.160]
LNEXJPY(-1)	.10517	.053144	1.9789[.056]

****

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

Lagrange Multiplier Statistic CHSQ(3)= 5.2313[.156]

Likelihood Ratio Statistic CHSQ(3)= 5.5390[.136]

F Statistic F(3, 35)= 1.4270[.251]

****

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เมื่อช่วงเวลา = 4

Variable Addition Test (OLS case)

****

Dependent variable is DLGDP

List of the variables added to the regression:

LGDP(-1) LTB(-1) LNEXJPY(-1)

47 observations used for estimation from 1998Q2 to 2009Q4

****

Regressor	Coefficient	Standard Error	T-Ratio[Prob]
INPT	-1.4959	.49601	-3.0158[.005]
DLGDP(-1)	-.16680	.12893	-1.2937[.205]
DLGDP(-2)	-.39054	.11560	-3.3783[.002]
DLGDP(-3)	-.11337	.12027	-.94266[.353]
DLGDP(-4)	.63150	.11472	5.5048[.000]
DLTB(-1)	-.18627	.057380	-3.2463[.003]
DLTB(-2)	-.14359	.049331	-2.9108[.007]
DLTB(-3)	.019490	.045745	.42605[.673]
DLTB(-4)	-.031734	.050343	-.63034[.533]
DLNEXJPY(-1)	-.24277	.057477	-4.2238[.000]
DLNEXJPY(-2)	-.20491	.053088	-3.8597[.001]
DLNEXJPY(-3)	-.20641	.048719	-4.2367[.000]
DLNEXJPY(-4)	-.11008	.053192	-2.0694[.047]
LGDP(-1)	.064740	.027341	2.3678[.024]
LTB(-1)	.30514	.069241	4.4070[.000]
LNEXJPY(-1)	.17110	.049313	3.4696[.002]

****

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

Lagrange Multiplier Statistic CHSQ(3)= 20.2254[.000]

Likelihood Ratio Statistic CHSQ(3)= 26.4466[.000]

F Statistic F(3, 31)= 7.8057[.001]

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การประมาณค่าของ Error Correction Model ตามกระบวนการ ARDL โดยใช้ AIC

ระยะสั้น

Error Correction Representation for the Selected ARDL Model

ARDL(3,0,4) selected based on Akaike Information Criterion

****

Dependent variable is dLGDP

48 observations used for estimation from 1998Q1 to 2009Q4

****

Regressor	Coefficient	Standard Error	T-Ratio[Prob]
dLGDP1	.023294	.091215	.25538[.800]
dLGDP2	-.75993	.089654	-8.4762[.000]
dLTB	.021818	.065039	.33546[.739]
dLNEXJPY	.058925	.071399	.82529[.414]
dLNEXJPY1	-.12179	.072218	-1.6865[.100]
dLNEXJPY2	-.17782	.058405	-3.0446[.004]
dLNEXJPY3	-.19886	.063164	-3.1483[.003]
dINPT	-.44599	.52286	-.85298[.399]
ecm(-1)	.0049082	.029453	.16664[.869]

****

List of additional temporary variables created:

dLGDP = LGDP-LGDP(-1)

dLGDP1 = LGDP(-1)-LGDP(-2)

dLGDP2 = LGDP(-2)-LGDP(-3)

dLTB = LTB-LTB(-1)

dLNEXJPY = LNEXJPY-LNEXJPY(-1)

dLNEXJPY1 = LNEXJPY(-1)-LNEXJPY(-2)

dLNEXJPY2 = LNEXJPY(-2)-LNEXJPY(-3)

dLNEXJPY3 = LNEXJPY(-3)-LNEXJPY(-4)

dINPT = INPT-INPT(-1)

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ecm = LGDP +   4.4452*LTB + 22.7660*LNEXJPY -90.8663*INPT

****

R-Squared	.77377	R-Bar-Squared	.72019
S.E. of Regression	.024874	F-stat. F(8, 39)	16.2462[.000]
Mean of Dependent Variable	.0084155	S.D. of Dependent Variable	.047024
Residual Sum of Squares	.023512	Equation Log-likelihood	114.8056
Akaike Info. Criterion	104.8056	Schwarz Bayesian Criterion	95.4496
DW-statistic	1.8901		

****

R-Squared and R-Bar-Squared measures refer to the dependent variable dLGDP 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(3,0,4) selected based on Akaike Information Criterion

****

Dependent variable is LGDP

48 observations used for estimation from 1998Q1 to 2009Q4

****

Regressor	Coefficient	Standard Error	T-Ratio[Prob]
LTB	-4.4452	21.6489	-.20533[.838]
LNEXJPY	-22.7660	132.1720	-.17225[.864]
INPT	90.8663	447.0677	.20325[.840]

****

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4. กรณีผลิตภัณฑ์มวลรวมภายในประเทศของประเทศไทยและอัตราแลกเปลี่ยนที่แท้จริงของเงินสกุลเยนญี่ปุ่นต่อเงินบาท

เมื่อช่วงเวลา = 1

Variable Addition Test (OLS case)

****

Dependent variable is DLGDP

List of the variables added to the regression:

LGDP(-1)   LTB(-1)   LREXJPY(-1)

50 observations used for estimation from 1997Q3 to 2009Q4

****

Regressor	Coefficient	Standard Error	T-Ratio[Prob]
INPT	1.2278	1.0497	1.1697[.249]
DLGDP(-1)	.16728	.16745	.99898[.323]
DLTB(-1)	.084628	.094266	.89776[.374]
DLREXJPY(-1)	-.057795	.10885	-.53094[.598]
LGDP(-1)	-.072628	.064354	-1.1286[.265]
LTB(-1)	-.033783	.084201	-.40122[.690]
LREXJPY(-1)	-.063216	.065928	-.95886[.343]

****

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

Lagrange Multiplier Statistic   CHSQ(3)= 1.5392[.673]

Likelihood Ratio Statistic   CHSQ(3)= 1.5634[.668]

F Statistic   F(3, 43)= .45525[.715]

****

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เมื่อช่วงเวลา = 2

Variable Addition Test (OLS case)

****

Dependent variable is DLGDP

List of the variables added to the regression:

LGDP(-1)   LTB(-1)   LREXJPY(-1)

49 observations used for estimation from 1997Q4 to 2009Q4

****

Regressor	Coefficient	Standard Error	T-Ratio[Prob]
INPT	-.39375	.80950	-.48641[.629]
DLGDP(-1)	.17654	.098616	1.7902[.081]
DLGDP(-2)	-.80865	.098482	-8.2111[.000]
DLTB(-1)	-.064195	.060689	-1.0578[.297]
DLTB(-2)	-.14489	.053116	-2.7278[.010]
DLREXJPY(-1)	-.051736	.060774	-.85129[.400]
DLREXJPY(-2)	-.12043	.069440	-1.7343[.091]
LGDP(-1)	.022681	.048536	.46730[.643]
LTB(-1)	.0060674	.063127	.096114[.924]
LREXJPY(-1)	.027034	.048136	.56162[.578]

****

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

Lagrange Multiplier Statistic   CHSQ(3)= .44407[.931]

Likelihood Ratio Statistic   CHSQ(3)= .44610[.931]

F Statistic   F(3, 39)= .11889[.948]

****

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เมื่อช่วงเวลา = 3

Variable Addition Test (OLS case)

****

Dependent variable is DLGDP

List of the variables added to the regression:

LGDP(-1) LTB(-1) LREXJPY(-1)

48 observations used for estimation from 1998Q1 to 2009Q4

****

Regressor	Coefficient	Standard Error	T-Ratio[Prob]
INPT	-1.9471	1.0214	-1.9063[.065]
DLGDP(-1)	.059856	.16556	.36154[.720]
DLGDP(-2)	-.85200	.098920	-8.6131[.000]
DLGDP(-3)	.092704	.15771	.58781[.560]
DLTB(-1)	-.12965	.068082	-1.9043[.065]
DLTB(-2)	-.13662	.059852	-2.2826[.029]
DLTB(-3)	-.035588	.056081	-.63458[.530]
DLREXJPY(-1)	-.12460	.067314	-1.8510[.073]
DLREXJPY(-2)	-.12343	.065656	-1.8800[.068]
DLREXJPY(-3)	-.17339	.070908	-2.4453[.020]
LGDP(-1)	.11304	.060789	1.8595[.071]
LTB(-1)	.15051	.084171	1.7882[.082]
LREXJPY(-1)	.11328	.058243	1.9450[.060]

****

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

Lagrange Multiplier Statistic CHSQ(3)= 5.3089[.151]

Likelihood Ratio Statistic CHSQ(3)= 5.6261[.131]

F Statistic F(3, 35)= 1.4508[.245]

****

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เมื่อช่วงเวลา = 4

Variable Addition Test (OLS case)

****

Dependent variable is DLGDP

List of the variables added to the regression:

LGDP(-1) LTB(-1) LREXJPY(-1)

47 observations used for estimation from 1998Q2 to 2009Q4

****

Regressor	Coefficient	Standard Error	T-Ratio[Prob]
INPT	-3.5029	1.0188	-3.4384[.002]
DLGDP(-1)	-.28486	.15213	-1.8724[.071]
DLGDP(-2)	-.48161	.12309	-3.9125[.000]
DLGDP(-3)	-.13565	.12740	-1.0647[.295]
DLGDP(-4)	.60383	.11941	5.0568[.000]
DLTB(-1)	-.25080	.067006	-3.7429[.001]
DLTB(-2)	-.20032	.053465	-3.7467[.001]
DLTB(-3)	-.028670	.047947	-.59794[.554]
DLTB(-4)	-.077478	.052247	-1.4829[.148]
DLREXJPY(-1)	-.27466	.062582	-4.3888[.000]
DLREXJPY(-2)	-.22184	.059147	-3.7506[.001]
DLREXJPY(-3)	-.21715	.053155	-4.0852[.000]
DLREXJPY(-4)	-.12076	.057878	-2.0864[.045]
LGDP(-1)	.20527	.060261	3.4064[.002]
LTB(-1)	.40112	.087517	4.5833[.000]
LREXJPY(-1)	.18991	.056851	3.3405[.002]

****

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

Lagrange Multiplier Statistic CHSQ(3)= 20.0407[.000]

Likelihood Ratio Statistic CHSQ(3)= 26.1235[.000]

F Statistic F(3, 31)= 7.6815[.001]

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การประมาณค่าของ Error Correction Model ตามกระบวนการ ARDL โดยใช้ AIC

ระยะสั้น

Error Correction Representation for the Selected ARDL Model

ARDL(3,3,4) selected based on Akaike Information Criterion

****

Dependent variable is dLGDP

48 observations used for estimation from 1998Q1 to 2009Q4

****

Regressor	Coefficient	Standard Error	T-Ratio[Prob]
dLGDP1	-.0025371	.11411	-.022234[.982]
dLGDP2	-.83504	.10089	-8.2765[.000]
dLTB	.019646	.072653	.27042[.788]
dLTB1	-.11279	.067225	-1.6778[.102]
dLTB2	-.12615	.054480	-2.3155[.026]
dLREXJPY	.047684	.073086	.65243[.518]
dLREXJPY1	-.14200	.077440	-1.8337[.075]
dLREXJPY2	-.13430	.069698	-1.9269[.062]
dLREXJPY3	-.19137	.072767	-2.6299[.012]
dINPT	-2.2570	1.2580	-1.7941[.081]
ecm(-1)	.12950	.074085	1.7480[.089]

****

List of additional temporary variables created:

dLGDP = LGDP-LGDP(-1)

dLGDP1 = LGDP(-1)-LGDP(-2)

dLGDP2 = LGDP(-2)-LGDP(-3)

dLTB = LTB-LTB(-1)

dLTB1 = LTB(-1)-LTB(-2)

dLTB2 = LTB(-2)-LTB(-3)

dLREXJPY = LREXJPY-LREXJPY(-1)

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dLREXJPY1 = LREXJPY(-1)-LREXJPY(-2)

dLREXJPY2 = LREXJPY(-2)-LREXJPY(-3)

dLREXJPY3 = LREXJPY(-3)-LREXJPY(-4)

dINPT = INPT-INPT(-1)

ecm = LGDP + 1.1453*LTB + 1.0593*LREXJPY -17.4286*INPT

****

R-Squared	.78737	R-Bar-Squared	.71447
S.E. of Regression	.025127	F-stat. F(10, 37)	12.9606[.000]
Mean of Dependent Variable	.0084155	S.D. of Dependent Variable	.047024
Residual Sum of Squares	.022098	Equation Log-likelihood	116.2938
Akaike Info. Criterion	103.2938	Schwarz Bayesian Criterion	91.1310
DW-statistic	2.0609		

****

R-Squared and R-Bar-Squared measures refer to the dependent variable dLGDP 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(3,3,4) selected based on Akaike Information Criterion

****

Dependent variable is LGDP

48 observations used for estimation from 1998Q1 to 2009Q4

****

Regressor	Coefficient	Standard Error	T-Ratio[Prob]
LTB	-1.1453	.42370	-2.7030[.011]
LREXJPY	-1.0593	.24818	-4.2682[.000]
INPT	17.4286	.86148	20.2311[.000]

****

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5. กรณีดัชนีผลผลิตอุตสาหกรรมและอัตราแลกเปลี่ยนค่ากลางของเงินสกุลดอลลาร์สหรัฐต่อเงินบาท

เมื่อช่วงเวลา = 1

Variable Addition Test (OLS case)

****

Dependent variable is DLMPI

List of the variables added to the regression:

LMPI(-1)   LTB(-1)   LNEXUSD(-1)

154 observations used for estimation from 1997M3 to 2009M12

****

Regressor	Coefficient	Standard Error	T-Ratio[Prob]
INPT	-.033619	.16438	-.20452[.838]
DLMPI(-1)	-.52938	.074408	-7.1145[.000]
DLTB(-1)	.077354	.051671	1.4971[.137]
DLNEXUSD(-1)	-.048618	.13109	-.37087[.711]
LMPI(-1)	.0035727	.014899	.23980[.811]
LTB(-1)	.059220	.047377	1.2500[.213]
LNEXUSD(-1)	.0060126	.037722	.15940[.874]

****

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

Lagrange Multiplier Statistic   CHSQ(3)=   1.9890[.575]

Likelihood Ratio Statistic   CHSQ(3)=   2.0019[.572]

F Statistic   F(3, 147)=   .64113[.590]

****

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เมื่อช่วงเวลา = 2

Variable Addition Test (OLS case)

****

Dependent variable is DLMPI

List of the variables added to the regression:

LMPI(-1) LTB(-1) LNEXUSD(-1)

153 observations used for estimation from 1997M4 to 2009M12

****

Regressor	Coefficient	Standard Error	T-Ratio[Prob]
INPT	-.19353	.16365	-1.1826[.239]
DLMPI(-1)	-.65359	.080911	-8.0779[.000]
DLMPI(-2)	-.28077	.082482	-3.4040[.001]
DLTB(-1)	-.056938	.061289	-.92900[.354]
DLTB(-2)	-.087859	.052340	-1.6786[.095]
DLNEXUSD(-1)	.0091734	.13065	.070213[.944]
DLNEXUSD(-2)	.046828	.13314	.35172[.726]
LMPI(-1)	.020922	.014648	1.4283[.155]
LTB(-1)	.13641	.047980	2.8430[.005]
LNEXUSD(-1)	.026133	.037034	.70565[.482]

****

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

Lagrange Multiplier Statistic CHSQ(3)= 9.9352[.019]

Likelihood Ratio Statistic CHSQ(3)= 10.2724[.016]

F Statistic F(3, 143)= 3.3102[.022]

****

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เมื่อช่วงเวลา = 3

Variable Addition Test (OLS case)

****

Dependent variable is DLMPI

List of the variables added to the regression:

LMPI(-1)　　LTB(-1)　　LNEXUSD(-1)

152 observations used for estimation from 1997M5 to 2009M12

****

Regressor	Coefficient	Standard Error	T-Ratio[Prob]
INPT	-.16583	.17666	-.93867[.350]
DLMPI(-1)	-.62772	.088484	-7.0942[.000]
DLMPI(-2)	-.23061	.10085	-2.2868[.024]
DLMPI(-3)	.072551	.088098	.82353[.412]
DLTB(-1)	-.039241	.069756	-.56255[.575]
DLTB(-2)	-.065935	.069049	-.95489[.341]
DLTB(-3)	-.0082996	.055813	-.14870[.882]
DLNEXUSD(-1)	.0043988	.13796	.031885[.975]
DLNEXUSD(-2)	.073682	.14298	.51535[.607]
DLNEXUSD(-3)	-.10705	.13634	-.78519[.434]
LMPI(-1)	.016786	.015663	1.0717[.286]
LTB(-1)	.12479	.052654	2.3700[.019]
LNEXUSD(-1)	.024035	.039063	.61528[.539]

****

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

Lagrange Multiplier Statistic　CHSQ(3)= 6.8385[.077]

Likelihood Ratio Statistic　CHSQ(3)= 6.9971[.072]

F Statistic　F(3, 139)= 2.1828[.093]

****

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เมื่อช่วงเวลา = 4

Variable Addition Test (OLS case)

****

Dependent variable is DLMPI

List of the variables added to the regression:

LMPI(-1) LTB(-1) LNEXUSD(-1)

151 observations used for estimation from 1997M6 to 2009M12

****

Regressor	Coefficient	Standard Error	T-Ratio[Prob]
INPT	-.19628	.19258	-1.0192[.310]
DLMPI(-1)	-.64166	.089028	-7.2074[.000]
DLMPI(-2)	-.21929	.10630	-2.0629[.041]
DLMPI(-3)	.11683	.10619	1.1002[.273]
DLMPI(-4)	.080040	.091238	.87726[.382]
DLTB(-1)	-.020742	.073824	-.28097[.779]
DLTB(-2)	-.039175	.077628	-.50466[.615]
DLTB(-3)	.031527	.072313	.43598[.664]
DLTB(-4)	.0070762	.056159	.12600[.900]
DLNEXUSD(-1)	-.0014793	.13977	-.010584[.992]
DLNEXUSD(-2)	.048753	.14771	.33006[.742]
DLNEXUSD(-3)	-.047887	.14485	-.33060[.741]
DLNEXUSD(-4)	-.21833	.13743	-1.5887[.114]
LMPI(-1)	.015499	.016849	.91983[.359]
LTB(-1)	.12463	.057615	2.1632[.032]
LNEXUSD(-1)	.033906	.041365	.81967[.414]

****

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

Lagrange Multiplier Statistic CHSQ(3)= 6.1701[.104]

Likelihood Ratio Statistic CHSQ(3)= 6.2997[.098]

F Statistic F(3, 135)= 1.9171[.130]

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เมื่อช่วงเวลา = 5

Variable Addition Test (OLS case)

****

Dependent variable is DLMPI

List of the variables added to the regression:

LMPI(-1) LTB(-1) LNEXUSD(-1)

150 observations used for estimation from 1997M7 to 2009M12

****

Regressor	Coefficient	Standard Error	T-Ratio[Prob]
INPT	-.15503	.22027	-.70381[.483]
DLMPI(-1)	-.63446	.091968	-6.8987[.000]
DLMPI(-2)	-.21085	.10890	-1.9363[.055]
DLMPI(-3)	.10837	.11274	.96124[.338]
DLMPI(-4)	.038044	.11127	.34190[.733]
DLMPI(-5)	-.071024	.093105	-.76284[.447]
DLTB(-1)	-.0084374	.081095	-.10404[.917]
DLTB(-2)	-.040157	.083693	-.47982[.632]
DLTB(-3)	.028494	.083037	.34315[.732]
DLTB(-4)	.0029887	.073559	.040630[.968]
DLTB(-5)	.013303	.057751	.23035[.818]
DLNEXUSD(-1)	-.022632	.14600	-.15502[.877]
DLNEXUSD(-2)	.042195	.15063	.28013[.780]
DLNEXUSD(-3)	-.067891	.15209	-.44639[.656]
DLNEXUSD(-4)	-.19738	.14718	-1.3411[.182]
DLNEXUSD(-5)	-.037508	.14134	-.26538[.791]
LMPI(-1)	.011969	.018801	.63660[.525]
LTB(-1)	.11184	.065126	1.7172[.088]
LNEXUSD(-1)	.027708	.045533	.60853[.544]

****

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

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Lagrange Multiplier Statistic CHSQ(3)= 3.9771[.264]

Likelihood Ratio Statistic CHSQ(3)= 4.0308[.258]

F Statistic F(3, 131)= 1.1893[.316]

****

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เมื่อช่วงเวลา = 6

Variable Addition Test (OLS case)

****

Dependent variable is DLMPI

List of the variables added to the regression:

LMPI(-1) LTB(-1) LNEXUSD(-1)

149 observations used for estimation from 1997M8 to 2009M12

****

Regressor	Coefficient	Standard Error	T-Ratio[Prob]
INPT	-.27815	.27414	-1.0146[.312]
DLMPI(-1)	-.64513	.093895	-6.8708[.000]
DLMPI(-2)	-.21829	.11206	-1.9479[.054]
DLMPI(-3)	.10858	.11497	.94441[.347]
DLMPI(-4)	.027062	.11908	.22726[.821]
DLMPI(-5)	-.085079	.11469	-.74178[.460]
DLMPI(-6)	-.013169	.097245	-.13542[.892]
DLTB(-1)	-.022145	.090371	-.24504[.807]
DLTB(-2)	-.054545	.092719	-.58828[.557]
DLTB(-3)	.014810	.091240	.16232[.871]
DLTB(-4)	-.0033960	.085323	-.039802[.968]
DLTB(-5)	.019133	.076497	.25012[.803]
DLTB(-6)	.026495	.059088	.44840[.655]
DLNEXUSD(-1)	.0076528	.15429	.049599[.961]
DLNEXUSD(-2)	.034101	.15469	.22044[.826]
DLNEXUSD(-3)	-.056428	.15497	-.36414[.716]
DLNEXUSD(-4)	-.20492	.15475	-1.3242[.188]
DLNEXUSD(-5)	-.035813	.15125	-.23679[.813]
DLNEXUSD(-6)	-.013358	.14495	-.092158[.927]
LMPI(-1)	.020637	.022369	.92255[.358]
LTB(-1)	.13690	.077969	1.7558[.082]

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LNEXUSD(-1)	.049474	.053821	.91922[.360]

****

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

Lagrange Multiplier Statistic CHSQ(3)= 4.1082[.250]

Likelihood Ratio Statistic CHSQ(3)= 4.1659[.244]

F Statistic F(3, 127)= 1.2003[.312]

****

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เมื่อช่วงเวลา = 7

Variable Addition Test (OLS case)

****

Dependent variable is DLMPI

List of the variables added to the regression:

LMPI(-1) LTB(-1) LNEXUSD(-1)

148 observations used for estimation from 1997M9 to 2009M12

****

Regressor	Coefficient	Standard Error	T-Ratio[Prob]
INPT	-.26406	.31674	-.83366[.406]
DLMPI(-1)	-.63689	.096152	-6.6238[.000]
DLMPI(-2)	-.21269	.11394	-1.8667[.064]
DLMPI(-3)	.092151	.11736	.78521[.434]
DLMPI(-4)	.012125	.12031	.10078[.920]
DLMPI(-5)	-.065757	.12193	-.53931[.591]
DLMPI(-6)	.021081	.11928	.17674[.860]
DLMPI(-7)	.037817	.098458	.38409[.702]
DLTB(-1)	-.014976	.098512	-.15202[.879]
DLTB(-2)	-.047873	.10016	-.47794[.634]
DLTB(-3)	.033576	.098556	.34068[.734]
DLTB(-4)	.020303	.092797	.21879[.827]
DLTB(-5)	.042491	.087190	.48734[.627]
DLTB(-6)	.053626	.077565	.69136[.491]
DLTB(-7)	-.0031068	.060642	-.051231[.959]
DLNEXUSD(-1)	.016265	.15938	.10205[.919]
DLNEXUSD(-2)	.044663	.16208	.27556[.783]
DLNEXUSD(-3)	-.055143	.15758	-.34995[.727]
DLNEXUSD(-4)	-.23080	.15652	-1.4745[.143]
DLNEXUSD(-5)	-.057316	.15791	-.36297[.717]
DLNEXUSD(-6)	.045957	.15366	.29908[.765]

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DLNEXUSD(-7)	-.21170	.14593	-1.4506[.149]
LMPI(-1)	.016821	.025271	.66563[.507]
LTB(-1)	.13233	.088720	1.4915[.138]
LNEXUSD(-1)	.050740	.060622	.83699[.404]

****

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

Lagrange Multiplier Statistic   CHSQ(3)=   3.5853[.310]

Likelihood Ratio Statistic   CHSQ(3)=   3.6294[.304]

F Statistic   F(3, 123)=   1.0179[.387]

****

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เมื่อช่วงเวลา = 8

Variable Addition Test (OLS case)

****

Dependent variable is DLMPI

List of the variables added to the regression:

LMPI(-1) LTB(-1) LNEXUSD(-1)

147 observations used for estimation from 1997M10 to 2009M12

****

Regressor	Coefficient	Standard Error	T-Ratio[Prob]
INPT	-.15067	.37243	-.40455[.687]
DLMPI(-1)	-.65093	.096448	-6.7490[.000]
DLMPI(-2)	-.20729	.11456	-1.8094[.073]
DLMPI(-3)	.087090	.11700	.74436[.458]
DLMPI(-4)	-.0098546	.12057	-.081731[.935]
DLMPI(-5)	-.088887	.12132	-.73267[.465]
DLMPI(-6)	.0035315	.12433	.028405[.977]
DLMPI(-7)	-.023791	.11908	-.19979[.842]
DLMPI(-8)	-.11205	.098742	-1.1347[.259]
DLTB(-1)	.032577	.11025	.29548[.768]
DLTB(-2)	-.011138	.10899	-.10219[.919]
DLTB(-3)	.049830	.10624	.46905[.640]
DLTB(-4)	.049612	.099829	.49697[.620]
DLTB(-5)	.059838	.094279	.63469[.527]
DLTB(-6)	.067138	.087058	.77119[.442]
DLTB(-7)	.017856	.076951	.23204[.817]
DLTB(-8)	.031004	.060808	.50986[.611]
DLNEXUSD(-1)	-.048397	.16123	-.30017[.765]
DLNEXUSD(-2)	.092031	.16719	.55044[.583]
DLNEXUSD(-3)	-.074653	.16407	-.45501[.650]
DLNEXUSD(-4)	-.25542	.15670	-1.6300[.106]

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DLNEXUSD(-5)	-.10518	.15742	-.66815[.505]
DLNEXUSD(-6)	-.013977	.15768	-.088647[.930]
DLNEXUSD(-7)	-.094815	.15229	-.62261[.535]
DLNEXUSD(-8)	-.32288	.14648	-2.2043[.029]
LMPI(-1)	.0030833	.029160	.10574[.916]
LTB(-1)	.093916	.10168	.92366[.358]
LNEXUSD(-1)	.039125	.069286	.56469[.573]

****

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

Lagrange Multiplier Statistic CHSQ(3)= 3.1322[.372]

Likelihood Ratio Statistic CHSQ(3)= 3.1660[.367]

F Statistic F(3, 119)= .86359[.462]

****

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เมื่อช่วงเวลา = 9

Variable Addition Test (OLS case)

****

Dependent variable is DLMPI

List of the variables added to the regression:

LMPI(-1) LTB(-1) LNEXUSD(-1)

146 observations used for estimation from 1997M11 to 2009M12

****

Regressor	Coefficient	Standard Error	T-Ratio[Prob]
INPT	-.10334	.42201	-.24487[.807]
DLMPI(-1)	-.62411	.097687	-6.3889[.000]
DLMPI(-2)	-.18264	.11555	-1.5805[.117]
DLMPI(-3)	.099616	.11620	.85731[.393]
DLMPI(-4)	.013822	.11895	.11620[.908]
DLMPI(-5)	-.092809	.11997	-.77363[.441]
DLMPI(-6)	.0018114	.12250	.014787[.988]
DLMPI(-7)	.0012680	.12277	.010328[.992]
DLMPI(-8)	.024490	.11735	.20870[.835]
DLMPI(-9)	.20873	.098810	2.1124[.037]
DLTB(-1)	.034703	.11859	.29263[.770]
DLTB(-2)	-.056069	.11756	-.47696[.634]
DLTB(-3)	.029246	.11292	.25900[.796]
DLTB(-4)	.026750	.10643	.25133[.802]
DLTB(-5)	.044313	.099929	.44344[.658]
DLTB(-6)	.070216	.093476	.75116[.454]
DLTB(-7)	.0015527	.085962	.018062[.986]
DLTB(-8)	.1845E-3	.076485	.0024120[.998]
DLTB(-9)	-.13566	.060149	-2.2554[.026]
DLNEXUSD(-1)	-.070567	.16239	-.43455[.665]
DLNEXUSD(-2)	.081812	.16941	.48293[.630]

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DLNEXUSD(-3)	-.10622	.16787	-.63278[.528]
DLNEXUSD(-4)	-.22534	.16178	-1.3929[.166]
DLNEXUSD(-5)	-.046210	.15657	-.29513[.768]
DLNEXUSD(-6)	-.010355	.15633	-.066235[.947]
DLNEXUSD(-7)	.012614	.15523	.081264[.935]
DLNEXUSD(-8)	-.35004	.15145	-2.3113[.023]
DLNEXUSD(-9)	.071340	.14967	.47665[.635]
LMPI(-1)	.0042287	.032487	.13016[.897]
LTB(-1)	.11456	.11331	1.0110[.314]
LNEXUSD(-1)	.023753	.077346	.30710[.759]

****

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

Lagrange Multiplier Statistic   CHSQ(3)=   3.8470[.278]

Likelihood Ratio Statistic   CHSQ(3)=   3.8985[.273]

F Statistic   F(3, 115)=   1.0374[.379]

****

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เมื่อช่วงเวลา = 10

Variable Addition Test (OLS case)

****

Dependent variable is DLMPI

List of the variables added to the regression:

LMPI(-1) LTB(-1) LNEXUSD(-1)

145 observations used for estimation from 1997M12 to 2009M12

****

Regressor	Coefficient	Standard Error	T-Ratio[Prob]
INPT	-.15633	.50239	-.31117[.756]
DLMPI(-1)	-.59652	.10304	-5.7890[.000]
DLMPI(-2)	-.21342	.11869	-1.7982[.075]
DLMPI(-3)	.056151	.11962	.46939[.640]
DLMPI(-4)	-.024330	.12158	-.20011[.842]
DLMPI(-5)	-.10770	.12055	-.89343[.374]
DLMPI(-6)	-.014860	.12332	-.12050[.904]
DLMPI(-7)	-.013339	.12302	-.10843[.914]
DLMPI(-8)	.063019	.12285	.51298[.609]
DLMPI(-9)	.23200	.11826	1.9619[.052]
DLMPI(-10)	.033634	.10114	.33254[.740]
DLTB(-1)	.012237	.13725	.089156[.929]
DLTB(-2)	-.057328	.13175	-.43511[.664]
DLTB(-3)	.048696	.12699	.38346[.702]
DLTB(-4)	.041598	.11732	.35458[.724]
DLTB(-5)	.081279	.10887	.74660[.457]
DLTB(-6)	.11524	.10097	1.1413[.256]
DLTB(-7)	.060702	.094362	.64329[.521]
DLTB(-8)	.067147	.085980	.78096[.436]
DLTB(-9)	-.032751	.078856	-.41532[.679]
DLTB(-10)	.11564	.065081	1.7768[.078]

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DLNEXUSD(-1)	-.077154	.16302	-.47329[.637]
DLNEXUSD(-2)	.12716	.17702	.71833[.474]
DLNEXUSD(-3)	-.16829	.17369	-.96889[.335]
DLNEXUSD(-4)	-.18795	.16753	-1.1219[.264]
DLNEXUSD(-5)	-.035276	.16510	-.21367[.831]
DLNEXUSD(-6)	-.058017	.15741	-.36858[.713]
DLNEXUSD(-7)	-.026395	.15647	-.16869[.866]
DLNEXUSD(-8)	-.43419	.15713	-2.7633[.007]
DLNEXUSD(-9)	.13002	.15838	.82093[.413]
DLNEXUSD(-10)	-.27071	.15291	-1.7704[.079]
LMPI(-1)	.0011123	.038255	.029075[.977]
LTB(-1)	.098430	.13308	.73964[.461]
LNEXUSD(-1)	.042616	.090590	.47043[.639]

****

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

Lagrange Multiplier Statistic CHSQ(3)= 3.8637[.277]

Likelihood Ratio Statistic CHSQ(3)= 3.9161[.271]

F Statistic F(3, 111)= 1.0129[.390]

****

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เมื่อช่วงเวลา = 11

Variable Addition Test (OLS case)

****

Dependent variable is DLMPI

List of the variables added to the regression:

LMPI(-1) LTB(-1) LNEXUSD(-1)

144 observations used for estimation from 1998M1 to 2009M12

****

Regressor	Coefficient	Standard Error	T-Ratio[Prob]
INPT	-.43892	.50978	-.86100[.391]
DLMPI(-1)	-.61481	.092589	-6.6402[.000]
DLMPI(-2)	-.14954	.10699	-1.3978[.165]
DLMPI(-3)	.013422	.10753	.12483[.901]
DLMPI(-4)	-.13047	.10924	-1.1943[.235]
DLMPI(-5)	-.19075	.10782	-1.7692[.080]
DLMPI(-6)	-.097454	.10859	-.89744[.371]
DLMPI(-7)	-.082553	.10836	-.76183[.448]
DLMPI(-8)	.0093412	.10778	.086667[.931]
DLMPI(-9)	.050882	.10870	.46811[.641]
DLMPI(-10)	-.30695	.10539	-2.9125[.004]
DLMPI(-11)	-.51648	.088685	-5.8237[.000]
DLTB(-1)	-.034952	.13812	-.25305[.801]
DLTB(-2)	-.11235	.13258	-.84739[.399]
DLTB(-3)	-.054891	.12514	-.43865[.662]
DLTB(-4)	.016851	.11653	.14460[.885]
DLTB(-5)	.020968	.10588	.19803[.843]
DLTB(-6)	.016237	.097410	.16668[.868]
DLTB(-7)	-.016497	.090349	-.18259[.855]
DLTB(-8)	-.042333	.083231	-.50863[.612]
DLTB(-9)	-.12676	.077388	-1.6380[.104]

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DLTB(-10)	.034308	.071542	.47956[.633]
DLTB(-11)	.047093	.057750	.81547[.417]
DLNEXUSD(-1)	-.082552	.14781	-.55849[.578]
DLNEXUSD(-2)	.038072	.15538	.24503[.807]
DLNEXUSD(-3)	-.093219	.15751	-.59181[.555]
DLNEXUSD(-4)	-.20200	.15241	-1.3253[.188]
DLNEXUSD(-5)	-.010454	.14801	-.070628[.944]
DLNEXUSD(-6)	-.027504	.14491	-.18979[.850]
DLNEXUSD(-7)	-.048043	.13772	-.34884[.728]
DLNEXUSD(-8)	-.47179	.13928	-3.3872[.001]
DLNEXUSD(-9)	.031310	.14388	.21761[.828]
DLNEXUSD(-10)	-.078943	.14047	-.56199[.575]
DLNEXUSD(-11)	-.26968	.13677	-1.9718[.051]
LMPI(-1)	.012167	.038948	.31240[.755]
LTB(-1)	.12163	.13476	.90259[.369]
LNEXUSD(-1)	.10686	.090487	1.1810[.240]

****

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

Lagrange Multiplier Statistic CHSQ(3)= 7.0296[.071]

Likelihood Ratio Statistic CHSQ(3)= 7.2069[.066]

F Statistic F(3, 107)= 1.8305[.146]

****

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เมื่อช่วงเวลา = 12

Variable Addition Test (OLS case)

****

Dependent variable is DLMPI

List of the variables added to the regression:

LMPI(-1) LTB(-1) LNEXUSD(-1)

143 observations used for estimation from 1998M2 to 2009M12

****

Regressor	Coefficient	Standard Error	T-Ratio[Prob]
INPT	-.62404	.48613	-1.2837[.202]
DLMPI(-1)	-.42933	.094367	-4.5496[.000]
DLMPI(-2)	-.064484	.099476	-.64823[.518]
DLMPI(-3)	-.0089417	.095866	-.093273[.926]
DLMPI(-4)	-.15541	.097120	-1.6001[.113]
DLMPI(-5)	-.15052	.097286	-1.5472[.125]
DLMPI(-6)	-.049472	.097570	-.50704[.613]
DLMPI(-7)	-.029047	.096078	-.30232[.763]
DLMPI(-8)	.034230	.095718	.35761[.721]
DLMPI(-9)	.080659	.095958	.84057[.403]
DLMPI(-10)	-.16952	.096410	-1.7583[.082]
DLMPI(-11)	-.18680	.096856	-1.9286[.057]
DLMPI(-12)	.50559	.089688	5.6372[.000]
DLTB(-1)	-.048128	.12809	-.37575[.708]
DLTB(-2)	-.14531	.12569	-1.1561[.250]
DLTB(-3)	-.10979	.12032	-.91244[.364]
DLTB(-4)	.010177	.11175	.091074[.928]
DLTB(-5)	-.025478	.10257	-.24839[.804]
DLTB(-6)	-.0044305	.093367	-.047453[.962]
DLTB(-7)	.017246	.086341	.19975[.842]
DLTB(-8)	.017579	.079536	.22102[.826]

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DLTB(-9)	-.033996	.074705	-.45507[.650]
DLTB(-10)	.14556	.070112	2.0760[.040]
DLTB(-11)	.18474	.063082	2.9286[.004]
DLTB(-12)	.061111	.052440	1.1653[.247]
DLNEXUSD(-1)	-.12171	.15050	-.80871[.421]
DLNEXUSD(-2)	-.084300	.14154	-.59560[.553]
DLNEXUSD(-3)	-.053138	.13870	-.38312[.702]
DLNEXUSD(-4)	-.24227	.14016	-1.7285[.087]
DLNEXUSD(-5)	-.034331	.13547	-.25343[.800]
DLNEXUSD(-6)	-.077862	.13016	-.59822[.551]
DLNEXUSD(-7)	.054022	.12949	.41718[.677]
DLNEXUSD(-8)	-.47900	.12251	-3.9100[.000]
DLNEXUSD(-9)	.090158	.13181	.68398[.496]
DLNEXUSD(-10)	-.075649	.12772	-.59231[.555]
DLNEXUSD(-11)	-.27873	.12541	-2.2226[.028]
DLNEXUSD(-12)	-.17510	.12487	-1.4023[.164]
LMPI(-1)	.030665	.037085	.82687[.410]
LTB(-1)	.18998	.12883	1.4746[.143]
LNEXUSD(-1)	.12945	.085962	1.5059[.135]

****

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

Lagrange Multiplier Statistic CHSQ(3)= 8.4960[.037]

Likelihood Ratio Statistic CHSQ(3)= 8.7588[.033]

F Statistic F(3, 103)= 2.1687[.096]

****

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การประมาณค่าของ Error Correction Model ตามกระบวนการ ARDL โดยใช้ AIC

ระยะสั้น

Error Correction Representation for the Selected ARDL Model

ARDL(12,1,12) selected based on Akaike Information Criterion

****

Dependent variable is dLMPI

144 observations used for estimation from 1998M1 to 2009M12

****

Regressor	Coefficient	Standard Error	T-Ratio[Prob]
dLMPI1	-.61712	.083903	-7.3552[.000]
dLMPI2	-.15442	.091639	-1.6851[.095]
dLMPI3	.059301	.094887	.62496[.533]
dLMPI4	-.082146	.097785	-.84006[.403]
dLMPI5	-.16091	.097478	-1.6507[.101]
dLMPI6	-.12457	.096339	-1.2930[.199]
dLMPI7	-.097377	.094206	-1.0337[.303]
dLMPI8	-.027664	.097113	-.28487[.776]
dLMPI9	.046420	.094847	.48942[.625]
dLMPI10	-.20581	.097162	-2.1183[.036]
dLMPI11	-.48744	.082171	-5.9321[.000]
dLTB	.019458	.057818	.33653[.737]
dLNEXUSD	.047949	.17050	.28122[.779]
dLNEXUSD1	-.085023	.15735	-.54034[.590]
dLNEXUSD2	.044954	.15613	.28792[.774]
dLNEXUSD3	-.10671	.15627	-.68284[.496]
dLNEXUSD4	-.22287	.14767	-1.5092[.134]
dLNEXUSD5	-.016956	.14231	-.11915[.905]
dLNEXUSD6	-.011720	.13282	-.088241[.930]
dLNEXUSD7	-.090098	.13055	-.69012[.491]

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dLNEXUSD8	-.42488	.13185	-3.2224[.002]
dLNEXUSD9	.013938	.13328	.10458[.917]
dLNEXUSD10	-.14451	.13344	-1.0829[.281]
dLNEXUSD11	-.21948	.12698	-1.7285[.087]
dINPT	-.38305	.33211	-1.1534[.251]
ecm(-1)	.0077964	.023461	.33232[.740]

****

List of additional temporary variables created:

dLMPI = LMPI-LMPI(-1)

dLMPI1 = LMPI(-1)-LMPI(-2)

dLMPI2 = LMPI(-2)-LMPI(-3)

dLMPI3 = LMPI(-3)-LMPI(-4)

dLMPI4 = LMPI(-4)-LMPI(-5)

dLMPI5 = LMPI(-5)-LMPI(-6)

dLMPI6 = LMPI(-6)-LMPI(-7)

dLMPI7 = LMPI(-7)-LMPI(-8)

dLMPI8 = LMPI(-8)-LMPI(-9)

dLMPI9 = LMPI(-9)-LMPI(-10)

dLMPI10 = LMPI(-10)-LMPI(-11)

dLMPI11 = LMPI(-11)-LMPI(-12)

dLTB = LTB-LTB(-1)

dLNEXUSD = LNEXUSD-LNEXUSD(-1)

dLNEXUSD1 = LNEXUSD(-1)-LNEXUSD(-2)

dLNEXUSD2 = LNEXUSD(-2)-LNEXUSD(-3)

dLNEXUSD3 = LNEXUSD(-3)-LNEXUSD(-4)

dLNEXUSD4 = LNEXUSD(-4)-LNEXUSD(-5)

dLNEXUSD5 = LNEXUSD(-5)-LNEXUSD(-6)

dLNEXUSD6 = LNEXUSD(-6)-LNEXUSD(-7)

dLNEXUSD7 = LNEXUSD(-7)-LNEXUSD(-8)

dLNEXUSD8 = LNEXUSD(-8)-LNEXUSD(-9)

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dLNEXUSD9 = LNEXUSD(-9)-LNEXUSD(-10)

dLNEXUSD10 = LNEXUSD(-10)-LNEXUSD(-11)

dLNEXUSD11 = LNEXUSD(-11)-LNEXUSD(-12)

dINPT = INPT-INPT(-1)

ecm = LMPI + 14.0255*LTB + 12.4923*LNEXUSD -49.1292*INPT

****

R-Squared	.57328	R-Bar-Squared	.47396
S.E. of Regression	.043415	F-stat. F(25, 118)	6.2336[.000]
Mean of Dependent Variable	.0068047	S.D. of Dependent Variable	.059859
Residual Sum of Squares	.21864	Equation Log-likelihood	262.9623
Akaike Info. Criterion	234.9623	Schwarz Bayesian Criterion	193.3850
DW-statistic	1.5935		

****

R-Squared and R-Bar-Squared measures refer to the dependent variable dLMPI 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(12,1,12) selected based on Akaike Information Criterion

****

Dependent variable is LMPI

144 observations used for estimation from 1998M1 to 2009M12

****

Regressor	Coefficient	Standard Error	T-Ratio[Prob]
LTB	-14.0255	35.9143	-.39053[.697]
LNEXUSD	-12.4923	32.1316	-.38878[.698]
INPT	49.1292	112.8045	.43552[.664]

****

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6. กรณีดัชนีผลผลิตอุตสาหกรรมและอัตราแลกเปลี่ยนที่แท้จริงของเงินสกุลดอลลาร์สหรัฐต่อเงินบาท

เมื่อช่วงเวลา = 1

Variable Addition Test (OLS case)

****

Dependent variable is DLMPI

List of the variables added to the regression:

LMPI(-1) LTB(-1) LREXUSD(-1)

154 observations used for estimation from 1997M3 to 2009M12

****

Regressor	Coefficient	Standard Error	T-Ratio[Prob]
INPT	-.047796	.15860	-.30136[.764]
DLMPI(-1)	-.52921	.074426	-7.1106[.000]
DLTB(-1)	.077445	.051274	1.5104[.133]
DLREXUSD(-1)	-.053426	.13222	-.40408[.687]
LMPI(-1)	.0037767	.014854	.25426[.800]
LTB(-1)	.059198	.046069	1.2850[.201]
LREXUSD(-1)	.0096523	.036069	.26760[.789]

****

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

Lagrange Multiplier Statistic CHSQ(3)= 2.0471[.563]

Likelihood Ratio Statistic CHSQ(3)= 2.0609[.560]

F Statistic F(3, 147)= .66014[.578]

****

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เมื่อช่วงเวลา = 2

Variable Addition Test (OLS case)

****

Dependent variable is DLMPI

List of the variables added to the regression:

LMPI(-1) LTB(-1) LREXUSD(-1)

153 observations used for estimation from 1997M4 to 2009M12

****

Regressor	Coefficient	Standard Error	T-Ratio[Prob]
INPT	-.21704	.15729	-1.3799[.170]
DLMPI(-1)	-.65601	.081033	-8.0956[.000]
DLMPI(-2)	-.28375	.082575	-3.4363[.001]
DLTB(-1)	-.059111	.060585	-.97566[.331]
DLTB(-2)	-.088312	.051959	-1.6996[.091]
DLREXUSD(-1)	.010133	.13036	.077728[.938]
DLREXUSD(-2)	.051756	.13282	.38967[.697]
LMPI(-1)	.021525	.014587	1.4756[.142]
LTB(-1)	.13939	.046850	2.9751[.003]
LREXUSD(-1)	.031824	.035205	.90396[.368]

****

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

Lagrange Multiplier Statistic CHSQ(3)= 10.3449[.016]

Likelihood Ratio Statistic CHSQ(3)= 10.7113[.013]

F Statistic F(3, 143)= 3.4567[.018]

****

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เมื่อช่วงเวลา = 3

Variable Addition Test (OLS case)

****

Dependent variable is DLMPI

List of the variables added to the regression:

LMPI(-1) LTB(-1) LREXUSD(-1)

152 observations used for estimation from 1997M5 to 2009M12

****

Regressor	Coefficient	Standard Error	T-Ratio[Prob]
INPT	-.19396	.16945	-1.1446[.254]
DLMPI(-1)	-.63104	.088751	-7.1102[.000]
DLMPI(-2)	-.23635	.10109	-2.3380[.021]
DLMPI(-3)	.071036	.088345	.80408[.423]
DLTB(-1)	-.041119	.068926	-.59656[.552]
DLTB(-2)	-.064813	.068200	-.95034[.344]
DLTB(-3)	-.0070940	.055148	-.12864[.898]
DLREXUSD(-1)	.0047169	.13695	.034443[.973]
DLREXUSD(-2)	.077953	.14128	.55179[.582]
DLREXUSD(-3)	-.12675	.13564	-.93448[.352]
LMPI(-1)	.017449	.015568	1.1208[.264]
LTB(-1)	.12803	.051776	2.4727[.015]
LREXUSD(-1)	.030910	.037023	.83488[.405]

****

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

Lagrange Multiplier Statistic CHSQ(3)= 7.2436[.065]

Likelihood Ratio Statistic CHSQ(3)= 7.4219[.060]

F Statistic F(3, 139)= 2.3185[.078]

****

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เมื่อช่วงเวลา = 4

Variable Addition Test (OLS case)

****

Dependent variable is DLMPI

List of the variables added to the regression:

LMPI(-1)   LTB(-1)   LREXUSD(-1)

151 observations used for estimation from 1997M6 to 2009M12

****

Regressor	Coefficient	Standard Error	T-Ratio[Prob]
INPT	-.22497	.18350	-1.2259[.222]
DLMPI(-1)	-.64694	.089219	-7.2511[.000]
DLMPI(-2)	-.22665	.10657	-2.1269[.035]
DLMPI(-3)	.11369	.10645	1.0680[.287]
DLMPI(-4)	.084516	.091305	.92564[.356]
DLTB(-1)	-.025685	.072786	-.35288[.725]
DLTB(-2)	-.039222	.076364	-.51362[.608]
DLTB(-3)	.033470	.071012	.47132[.638]
DLTB(-4)	.0070164	.055399	.12665[.899]
DLREXUSD(-1)	-.0066091	.13838	-.047760[.962]
DLREXUSD(-2)	.060139	.14510	.41446[.679]
DLREXUSD(-3)	-.077263	.14289	-.54071[.590]
DLREXUSD(-4)	-.22775	.13663	-1.6669[.098]
LMPI(-1)	.016234	.016665	.97414[.332]
LTB(-1)	.12992	.056974	2.2803[.024]
LREXUSD(-1)	.040816	.038959	1.0477[.297]

****

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

Lagrange Multiplier Statistic   CHSQ(3)= 6.6996[.082]

Likelihood Ratio Statistic   CHSQ(3)= 6.8527[.077]

F Statistic   F(3, 135)= 2.0893[.105]

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เมื่อช่วงเวลา = 5

Variable Addition Test (OLS case)

****

Dependent variable is DLMPI

List of the variables added to the regression:

LMPI(-1) LTB(-1) LREXUSD(-1)

150 observations used for estimation from 1997M7 to 2009M12

****

Regressor	Coefficient	Standard Error	T-Ratio[Prob]
INPT	-.19498	.20762	-.93915[.349]
DLMPI(-1)	-.64163	.092309	-6.9509[.000]
DLMPI(-2)	-.22024	.10930	-2.0151[.046]
DLMPI(-3)	.10485	.11304	.92757[.355]
DLMPI(-4)	.043042	.11131	.38668[.700]
DLMPI(-5)	-.069057	.093101	-.74175[.460]
DLTB(-1)	-.013746	.079999	-.17183[.864]
DLTB(-2)	-.040456	.082043	-.49311[.623]
DLTB(-3)	.030268	.081207	.37273[.710]
DLTB(-4)	.0044100	.072165	.061110[.951]
DLTB(-5)	.014559	.056942	.25568[.799]
DLREXUSD(-1)	-.026544	.14403	-.18429[.854]
DLREXUSD(-2)	.053021	.14800	.35824[.721]
DLREXUSD(-3)	-.10095	.14936	-.67588[.500]
DLREXUSD(-4)	-.20016	.14519	-1.3785[.170]
DLREXUSD(-5)	-.055543	.14050	-.39532[.693]
LMPI(-1)	.013139	.018461	.71169[.478]
LTB(-1)	.11809	.064855	1.8209[.071]
LREXUSD(-1)	.037098	.042474	.87341[.384]

****

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

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Lagrange Multiplier Statistic   CHSQ(3)=   4.4964[.213]

Likelihood Ratio Statistic   CHSQ(3)=   4.5652[.207]

F Statistic   F(3, 131)=   1.3494[.261]

****

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เมื่อช่วงเวลา = 6

Variable Addition Test (OLS case)

****

Dependent variable is DLMPI

List of the variables added to the regression:

LMPI(-1) LTB(-1) LREXUSD(-1)

149 observations used for estimation from 1997M8 to 2009M12

****

Regressor	Coefficient	Standard Error	T-Ratio[Prob]
INPT	-.30402	.25121	-1.2102[.228]
DLMPI(-1)	-.65219	.094244	-6.9202[.000]
DLMPI(-2)	-.22419	.11251	-1.9926[.048]
DLMPI(-3)	.10708	.11528	.92889[.355]
DLMPI(-4)	.027008	.11908	.22681[.821]
DLMPI(-5)	-.087400	.11447	-.76350[.447]
DLMPI(-6)	-.016572	.097174	-.17053[.865]
DLTB(-1)	-.031855	.088781	-.35881[.720]
DLTB(-2)	-.061251	.090366	-.67781[.499]
DLTB(-3)	.010834	.088671	.12218[.903]
DLTB(-4)	-.0095471	.083162	-.11480[.909]
DLTB(-5)	.010177	.074910	.13586[.892]
DLTB(-6)	.017682	.058129	.30418[.761]
DLREXUSD(-1)	-.0020040	.15064	-.013303[.989]
DLREXUSD(-2)	.051724	.15187	.34059[.734]
DLREXUSD(-3)	-.085986	.15207	-.56544[.573]
DLREXUSD(-4)	-.19524	.15202	-1.2843[.201]
DLREXUSD(-5)	-.064662	.14928	-.43317[.666]
DLREXUSD(-6)	.038627	.14337	.26942[.788]
LMPI(-1)	.022051	.021523	1.0245[.308]
LTB(-1)	.14654	.077658	1.8870[.061]

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LREXUSD(-1)	.054682	.048915	1.1179[.266]

****

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

Lagrange Multiplier Statistic   CHSQ(3)=   4.6602[.198]

Likelihood Ratio Statistic   CHSQ(3)=   4.7347[.192]

F Statistic   F(3, 127)=   1.3668[.256]

****

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เมื่อช่วงเวลา = 7

Variable Addition Test (OLS case)

****

Dependent variable is DLMPI

List of the variables added to the regression:

LMPI(-1) LTB(-1) LREXUSD(-1)

148 observations used for estimation from 1997M9 to 2009M12

****

Regressor	Coefficient	Standard Error	T-Ratio[Prob]
INPT	-.29255	.28563	-1.0242[.308]
DLMPI(-1)	-.64201	.096578	-6.6475[.000]
DLMPI(-2)	-.21752	.11468	-1.8968[.060]
DLMPI(-3)	.093615	.11797	.79352[.429]
DLMPI(-4)	.012836	.12073	.10632[.916]
DLMPI(-5)	-.074445	.12203	-.61007[.543]
DLMPI(-6)	.0092115	.11940	.077147[.939]
DLMPI(-7)	.030692	.098747	.31081[.756]
DLTB(-1)	-.024678	.096782	-.25498[.799]
DLTB(-2)	-.056563	.097568	-.57974[.563]
DLTB(-3)	.024853	.095613	.25994[.795]
DLTB(-4)	.0069081	.090194	.076592[.939]
DLTB(-5)	.025510	.085159	.29956[.765]
DLTB(-6)	.034661	.076070	.45565[.649]
DLTB(-7)	-.010380	.059755	-.17372[.862]
DLREXUSD(-1)	.0088822	.15656	.056735[.955]
DLREXUSD(-2)	.054963	.15837	.34705[.729]
DLREXUSD(-3)	-.087113	.15505	-.56184[.575]
DLREXUSD(-4)	-.21728	.15413	-1.4097[.161]
DLREXUSD(-5)	-.077197	.15549	-.49646[.620]
DLREXUSD(-6)	.081251	.15155	.53614[.593]

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DLREXUSD(-7)	-.17350	.14500	-1.1966[.234]
LMPI(-1)	.018904	.024001	.78764[.432]
LTB(-1)	.14357	.088315	1.6256[.107]
LREXUSD(-1)	.055762	.054240	1.0281[.306]

****

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

Lagrange Multiplier Statistic CHSQ(3)= 3.9956[.262]

Likelihood Ratio Statistic CHSQ(3)= 4.0505[.256]

F Statistic F(3, 123)= 1.1376[.337]

****

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เมื่อช่วงเวลา = 8

Variable Addition Test (OLS case)

****

Dependent variable is DLMPI

List of the variables added to the regression:

LMPI(-1) LTB(-1) LREXUSD(-1)

147 observations used for estimation from 1997M10 to 2009M12

****

Regressor	Coefficient	Standard Error	T-Ratio[Prob]
INPT	-.19859	.33215	-.59789[.551]
DLMPI(-1)	-.65078	.096865	-6.7184[.000]
DLMPI(-2)	-.20537	.11534	-1.7805[.078]
DLMPI(-3)	.090640	.11785	.76913[.443]
DLMPI(-4)	-.0083635	.12131	-.068943[.945]
DLMPI(-5)	-.10059	.12180	-.82584[.411]
DLMPI(-6)	-.014045	.12480	-.11254[.911]
DLMPI(-7)	-.035456	.11975	-.29607[.768]
DLMPI(-8)	-.11362	.099296	-1.1443[.255]
DLTB(-1)	.017721	.10825	.16370[.870]
DLTB(-2)	-.022229	.10612	-.20947[.834]
DLTB(-3)	.035884	.10300	.34839[.728]
DLTB(-4)	.028971	.096859	.29910[.765]
DLTB(-5)	.033013	.091846	.35944[.720]
DLTB(-6)	.037279	.085135	.43789[.662]
DLTB(-7)	-.0017782	.075625	-.023513[.981]
DLTB(-8)	.018074	.060028	.30109[.764]
DLREXUSD(-1)	-.064698	.16096	-.40195[.688]
DLREXUSD(-2)	.10905	.16504	.66073[.510]
DLREXUSD(-3)	-.11323	.16053	-.70538[.482]
DLREXUSD(-4)	-.24422	.15470	-1.5786[.117]

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DLREXUSD(-5)	-.11880	.15532	-.76484[.446]
DLREXUSD(-6)	.027875	.15513	.17969[.858]
DLREXUSD(-7)	-.065947	.15091	-.43701[.663]
DLREXUSD(-8)	-.30061	.14635	-2.0540[.042]
LMPI(-1)	.0064904	.027443	.23650[.813]
LTB(-1)	.10786	.10147	1.0630[.290]
LREXUSD(-1)	.047609	.061127	.77886[.438]

****

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

Lagrange Multiplier Statistic   CHSQ(3)=   3.3111[.346]

Likelihood Ratio Statistic   CHSQ(3)=   3.3490[.341]

F Statistic   F(3, 119)=   .91406[.436]

****

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เมื่อช่วงเวลา = 9

Variable Addition Test (OLS case)

****

Dependent variable is DLMPI

List of the variables added to the regression:

LMPI(-1) LTB(-1) LREXUSD(-1)

146 observations used for estimation from 1997M11 to 2009M12

****

Regressor	Coefficient	Standard Error	T-Ratio[Prob]
INPT	-.17562	.36511	-.48099[.631]
DLMPI(-1)	-.62076	.096975	-6.4013[.000]
DLMPI(-2)	-.17529	.11495	-1.5249[.130]
DLMPI(-3)	.099365	.11605	.85620[.394]
DLMPI(-4)	.013841	.11902	.11629[.908]
DLMPI(-5)	-.10593	.11992	-.88333[.379]
DLMPI(-6)	-.0073040	.12245	-.059649[.953]
DLMPI(-7)	-.013544	.12270	-.11038[.912]
DLMPI(-8)	.023048	.11750	.19615[.845]
DLMPI(-9)	.21332	.098960	2.1556[.033]
DLTB(-1)	.014203	.11481	.12370[.902]
DLTB(-2)	-.074968	.11264	-.66556[.507]
DLTB(-3)	.0089934	.10775	.083466[.934]
DLTB(-4)	.0019701	.10183	.019347[.985]
DLTB(-5)	.013028	.095981	.13574[.892]
DLTB(-6)	.037816	.090261	.41896[.676]
DLTB(-7)	-.022895	.083428	-.27442[.784]
DLTB(-8)	-.020717	.074839	-.27682[.782]
DLTB(-9)	-.14719	.059196	-2.4865[.014]
DLREXUSD(-1)	-.12145	.16255	-.74715[.456]
DLREXUSD(-2)	.11719	.16882	.69421[.489]

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DLREXUSD(-3)	-.16811	.16566	-1.0148[.312]
DLREXUSD(-4)	-.20377	.15730	-1.2955[.198]
DLREXUSD(-5)	-.058432	.15357	-.38049[.704]
DLREXUSD(-6)	.033940	.15287	.22202[.825]
DLREXUSD(-7)	.050330	.15235	.33036[.742]
DLREXUSD(-8)	-.34910	.15004	-2.3267[.022]
DLREXUSD(-9)	.11247	.14785	.76069[.448]
LMPI(-1)	.0097710	.029712	.32886[.743]
LTB(-1)	.13472	.11070	1.2170[.226]
LREXUSD(-1)	.035895	.066194	.54227[.589]

****

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

Lagrange Multiplier Statistic CHSQ(3)= 4.0510[.256]

Likelihood Ratio Statistic CHSQ(3)= 4.1082[.250]

F Statistic F(3, 115)= 1.0940[.355]

****

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เมื่อช่วงเวลา = 10

Variable Addition Test (OLS case)

****

Dependent variable is DLMPI

List of the variables added to the regression:

LMPI(-1) LTB(-1) LREXUSD(-1)

145 observations used for estimation from 1997M12 to 2009M12

****

Regressor	Coefficient	Standard Error	T-Ratio[Prob]
INPT	-.21552	.42082	-.51215[.610]
DLMPI(-1)	-.58569	.10257	-5.7102[.000]
DLMPI(-2)	-.20062	.11695	-1.7154[.089]
DLMPI(-3)	.059762	.11805	.50623[.614]
DLMPI(-4)	-.015258	.12072	-.12640[.900]
DLMPI(-5)	-.11839	.12025	-.98449[.327]
DLMPI(-6)	-.025275	.12313	-.20527[.838]
DLMPI(-7)	-.035528	.12285	-.28920[.773]
DLMPI(-8)	.052979	.12265	.43195[.667]
DLMPI(-9)	.22829	.11831	1.9296[.056]
DLMPI(-10)	.023084	.10158	.22725[.821]
DLTB(-1)	-.0064959	.13047	-.049788[.960]
DLTB(-2)	-.076704	.12420	-.61761[.538]
DLTB(-3)	.027861	.11917	.23379[.816]
DLTB(-4)	.016649	.11029	.15096[.880]
DLTB(-5)	.045506	.10314	.44119[.660]
DLTB(-6)	.078088	.096271	.81113[.419]
DLTB(-7)	.026730	.090501	.29536[.768]
DLTB(-8)	.037489	.083350	.44977[.654]
DLTB(-9)	-.051279	.077105	-.66505[.507]
DLTB(-10)	.10839	.064120	1.6904[.094]

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DLREXUSD(-1)	-.12948	.16362	-.79134[.430]
DLREXUSD(-2)	.18099	.17802	1.0167[.312]
DLREXUSD(-3)	-.24577	.17438	-1.4094[.162]
DLREXUSD(-4)	-.15867	.16541	-.95925[.340]
DLREXUSD(-5)	-.049951	.15972	-.31273[.755]
DLREXUSD(-6)	-.013455	.15350	-.087655[.930]
DLREXUSD(-7)	.0086804	.15309	.056703[.955]
DLREXUSD(-8)	-.42642	.15530	-2.7458[.007]
DLREXUSD(-9)	.18452	.15664	1.1780[.241]
DLREXUSD(-10)	-.29841	.15020	-1.9867[.049]
LMPI(-1)	.0060708	.033924	.17895[.858]
LTB(-1)	.11961	.12717	.94055[.349]
LREXUSD(-1)	.051989	.074937	.69377[.489]

****

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

Lagrange Multiplier Statistic CHSQ(3)= 4.0367[.258]

Likelihood Ratio Statistic CHSQ(3)= 4.0939[.252]

F Statistic F(3, 111)= 1.0595[.369]

****

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เมื่อช่วงเวลา = 11

Variable Addition Test (OLS case)

****

Dependent variable is DLMPI

List of the variables added to the regression:

LMPI(-1)   LTB(-1)   LREXUSD(-1)

144 observations used for estimation from 1998M1 to 2009M12

****

Regressor	Coefficient	Standard Error	T-Ratio[Prob]
INPT	-.48443	.41508	-1.1671[.246]
DLMPI(-1)	-.60577	.092328	-6.5610[.000]
DLMPI(-2)	-.14305	.10619	-1.3471[.181]
DLMPI(-3)	.028128	.10633	.26454[.792]
DLMPI(-4)	-.10898	.10850	-1.0045[.317]
DLMPI(-5)	-.19449	.10795	-1.8016[.074]
DLMPI(-6)	-.10473	.10940	-.95734[.341]
DLMPI(-7)	-.10086	.10922	-.92346[.358]
DLMPI(-8)	.0035686	.10874	.032818[.974]
DLMPI(-9)	.043625	.10947	.39850[.691]
DLMPI(-10)	-.31127	.10652	-2.9222[.004]
DLMPI(-11)	-.50034	.089877	-5.5669[.000]
DLTB(-1)	-.068691	.12864	-.53399[.594]
DLTB(-2)	-.13820	.12326	-1.1212[.265]
DLTB(-3)	-.084289	.11574	-.72826[.468]
DLTB(-4)	-.024323	.10792	-.22539[.822]
DLTB(-5)	-.024214	.098863	-.24492[.807]
DLTB(-6)	-.032203	.091955	-.35021[.727]
DLTB(-7)	-.064140	.085957	-.74619[.457]
DLTB(-8)	-.086939	.080045	-1.0861[.280]
DLTB(-9)	-.16463	.075301	-2.1864[.031]

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DLTB(-10)	.0053030	.070458	.075264[.940]
DLTB(-11)	.024038	.057209	.42017[.675]
DLREXUSD(-1)	-.13680	.14918	-.91698[.361]
DLREXUSD(-2)	.082531	.15841	.52098[.603]
DLREXUSD(-3)	-.19361	.16183	-1.1964[.234]
DLREXUSD(-4)	-.15689	.15481	-1.0134[.313]
DLREXUSD(-5)	-.040963	.14725	-.27819[.781]
DLREXUSD(-6)	.018207	.14131	.12884[.898]
DLREXUSD(-7)	.0058566	.13578	.043135[.966]
DLREXUSD(-8)	-.44422	.13863	-3.2043[.002]
DLREXUSD(-9)	.093598	.14370	.65132[.516]
DLREXUSD(-10)	-.10479	.13998	-.74865[.456]
DLREXUSD(-11)	-.21324	.13601	-1.5677[.120]
LMPI(-1)	.019250	.033567	.57349[.568]
LTB(-1)	.15987	.12581	1.2707[.207]
LREXUSD(-1)	.10945	.072790	1.5036[.136]

****

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

Lagrange Multiplier Statistic CHSQ(3)= 7.2515[.064]

Likelihood Ratio Statistic CHSQ(3)= 7.4404[.059]

F Statistic F(3, 107)= 1.8913[.135]

****

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เมื่อช่วงเวลา = 12

Variable Addition Test (OLS case)

****

Dependent variable is DLMPI

List of the variables added to the regression:

LMPI(-1) LTB(-1) LREXUSD(-1)

143 observations used for estimation from 1998M2 to 2009M12

****

Regressor	Coefficient	Standard Error	T-Ratio[Prob]
INPT	-.64469	.38696	-1.6660[.099]
DLMPI(-1)	-.42195	.092807	-4.5465[.000]
DLMPI(-2)	-.051842	.098098	-.52846[.598]
DLMPI(-3)	-.0071369	.095085	-.075058[.940]
DLMPI(-4)	-.13604	.095913	-1.4184[.159]
DLMPI(-5)	-.14622	.096402	-1.5168[.132]
DLMPI(-6)	-.043508	.097734	-.44517[.657]
DLMPI(-7)	-.037219	.096726	-.38478[.701]
DLMPI(-8)	.028690	.096451	.29745[.767]
DLMPI(-9)	.076017	.096561	.78725[.433]
DLMPI(-10)	-.18799	.097353	-1.9310[.056]
DLMPI(-11)	-.17236	.097529	-1.7673[.080]
DLMPI(-12)	.51611	.089740	5.7512[.000]
DLTB(-1)	-.088557	.11749	-.75372[.453]
DLTB(-2)	-.18325	.11518	-1.5909[.115]
DLTB(-3)	-.14592	.11003	-1.3262[.188]
DLTB(-4)	-.033245	.10222	-.32524[.746]
DLTB(-5)	-.076152	.094465	-.80614[.422]
DLTB(-6)	-.052830	.086934	-.60770[.545]
DLTB(-7)	-.031481	.081537	-.38609[.700]
DLTB(-8)	-.031181	.076529	-.40744[.685]

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DLTB(-9)	-.079654	.072771	-1.0946[.276]
DLTB(-10)	.11073	.068915	1.6068[.111]
DLTB(-11)	.15426	.062391	2.4724[.015]
DLTB(-12)	.040373	.052568	.76801[.444]
DLREXUSD(-1)	-.20146	.15450	-1.3040[.195]
DLREXUSD(-2)	-.017147	.14376	-.11927[.905]
DLREXUSD(-3)	-.13556	.14223	-.95313[.343]
DLREXUSD(-4)	-.20852	.14481	-1.4400[.153]
DLREXUSD(-5)	-.045010	.13698	-.32859[.743]
DLREXUSD(-6)	-.055723	.12937	-.43074[.668]
DLREXUSD(-7)	.10539	.12709	.82927[.409]
DLREXUSD(-8)	-.46409	.12141	-3.8225[.000]
DLREXUSD(-9)	.14780	.13080	1.1300[.261]
DLREXUSD(-10)	-.069176	.12740	-.54298[.588]
DLREXUSD(-11)	-.25501	.12569	-2.0289[.045]
DLREXUSD(-12)	-.14630	.12436	-1.1764[.242]
LMPI(-1)	.037275	.031181	1.1954[.235]
LTB(-1)	.23294	.11781	1.9773[.051]
LREXUSD(-1)	.12580	.067730	1.8574[.066]

****

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

Lagrange Multiplier Statistic   CHSQ(3)= 9.5866[.022]

Likelihood Ratio Statistic   CHSQ(3)= 9.9231[.019]

F Statistic   F(3, 103)= 2.4671[.066]

****

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การประมาณค่าของ Error Correction Model ตามกระบวนการ ARDL โดยใช้ AIC

ระยะสั้น

Error Correction Representation for the Selected ARDL Model

ARDL(12,1,12) selected based on Akaike Information Criterion

****

Dependent variable is dLMPI

143 observations used for estimation from 1998M2 to 2009M12

****

Regressor	Coefficient	Standard Error	T-Ratio[Prob]
dLMPI1	-.60734	.085180	-7.1301[.000]
dLMPI2	-.13330	.092892	-1.4350[.154]
dLMPI3	.081458	.095147	.85613[.394]
dLMPI4	-.052530	.097711	-.53760[.592]
dLMPI5	-.15657	.098469	-1.5901[.115]
dLMPI6	-.12205	.097722	-1.2490[.214]
dLMPI7	-.098621	.096775	-1.0191[.310]
dLMPI8	-.013781	.098824	-.13945[.889]
dLMPI9	.070696	.097916	.72201[.472]
dLMPI10	-.19043	.097380	-1.9556[.053]
dLMPI11	-.46497	.082784	-5.6167[.000]
dLTB	.024860	.058522	.42480[.672]
dLREXUSD	.093775	.20905	.44858[.655]
dLREXUSD1	-.12954	.16833	-.76952[.443]
dLREXUSD2	.096319	.16261	.59232[.555]
dLREXUSD3	-.19893	.16291	-1.2211[.225]
dLREXUSD4	-.19193	.16629	-1.1542[.251]
dLREXUSD5	-.046694	.14448	-.32319[.747]
dLREXUSD6	.6891E-3	.14260	.0048323[.996]
dLREXUSD7	-.052092	.13213	-.39424[.694]

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dLREXUSD8	-.42122	.13215	-3.1873[.002]
dLREXUSD9	.039805	.13348	.29822[.766]
dLREXUSD10	-.16877	.13468	-1.2531[.213]
dLREXUSD11	-.18870	.12920	-1.4606[.147]
dINPT	-.39914	.28382	-1.4063[.162]
ecm(-1)	.010302	.021727	.47413[.636]

****

List of additional temporary variables created:

dLMPI = LMPI-LMPI(-1)

dLMPI1 = LMPI(-1)-LMPI(-2)

dLMPI2 = LMPI(-2)-LMPI(-3)

dLMPI3 = LMPI(-3)-LMPI(-4)

dLMPI4 = LMPI(-4)-LMPI(-5)

dLMPI5 = LMPI(-5)-LMPI(-6)

dLMPI6 = LMPI(-6)-LMPI(-7)

dLMPI7 = LMPI(-7)-LMPI(-8)

dLMPI8 = LMPI(-8)-LMPI(-9)

dLMPI9 = LMPI(-9)-LMPI(-10)

dLMPI10 = LMPI(-10)-LMPI(-11)

dLMPI11 = LMPI(-11)-LMPI(-12)

dLTB = LTB-LTB(-1)

dLREXUSD = LREXUSD-LREXUSD(-1)

dLREXUSD1 = LREXUSD(-1)-LREXUSD(-2)

dLREXUSD2 = LREXUSD(-2)-LREXUSD(-3)

dLREXUSD3 = LREXUSD(-3)-LREXUSD(-4)

dLREXUSD4 = LREXUSD(-4)-LREXUSD(-5)

dLREXUSD5 = LREXUSD(-5)-LREXUSD(-6)

dLREXUSD6 = LREXUSD(-6)-LREXUSD(-7)

dLREXUSD7 = LREXUSD(-7)-LREXUSD(-8)

dLREXUSD8 = LREXUSD(-8)-LREXUSD(-9)

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dLREXUSD9 = LREXUSD(-9)-LREXUSD(-10)

dLREXUSD10 = LREXUSD(-10)-LREXUSD(-11)

dLREXUSD11 = LREXUSD(-11)-LREXUSD(-12)

dINPT = INPT-INPT(-1)

ecm = LMPI + 11.9617*LTB + 9.5288*LREXUSD -38.7505*INPT

****

R-Squared	.56727	R-Bar-Squared	.46568
S.E. of Regression	.043789	F-stat. F(25, 117)	6.0302[.000]
Mean of Dependent Variable	.0071734	S.D. of Dependent Variable	.059905
Residual Sum of Squares	.22051	Equation Log-likelihood	260.0301
Akaike Info. Criterion	232.0301	Schwarz Bayesian Criterion	190.5503
DW-statistic	1.5932		

****

R-Squared and R-Bar-Squared measures refer to the dependent variable dLMPI 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(12,1,12) selected based on Akaike Information Criterion

****

Dependent variable is LMPI

143 observations used for estimation from 1998M2 to 2009M12

****

Regressor	Coefficient	Standard Error	T-Ratio[Prob]
LTB	-11.9617	20.6156	-.58022[.563]
LREXUSD	-9.5288	17.1286	-.55631[.579]
INPT	38.7505	60.3466	.64213[.522]

****

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7. กรณีดัชนีผลผลิตอุตสาหกรรมและอัตราแลกเปลี่ยนค่ากลางของเงินสกุลเยนญี่ปุ่นต่อเงินบาท

เมื่อช่วงเวลา = 1

Variable Addition Test (OLS case)

****

Dependent variable is DLMPI

List of the variables added to the regression:

LMPI(-1)   LTB(-1)   LNEXJPY(-1)

154 observations used for estimation from 1997M3 to 2009M12

****

Regressor	Coefficient	Standard Error	T-Ratio[Prob]
INPT	-.081833	.12856	-.63655[.525]
DLMPI(-1)	-.52043	.073960	-7.0367[.000]
DLTB(-1)	.089442	.051116	1.7498[.082]
DLNEXJPY(-1)	-.18220	.11907	-1.5302[.128]
LMPI(-1)	-.0014980	.014893	-.10058[.920]
LTB(-1)	.043903	.046766	.93876[.349]
LNEXJPY(-1)	.027292	.036192	.75410[.452]

****

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

Lagrange Multiplier Statistic   CHSQ(3)= 2.2780[.517]

Likelihood Ratio Statistic   CHSQ(3)= 2.2950[.513]

F Statistic   F(3, 147)= .73571[.532]

****

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เมื่อช่วงเวลา = 2

Variable Addition Test (OLS case)

****

Dependent variable is DLMPI

List of the variables added to the regression:

LMPI(-1) LTB(-1) LNEXJPY(-1)

153 observations used for estimation from 1997M4 to 2009M12

****

Regressor	Coefficient	Standard Error	T-Ratio[Prob]
INPT	-.18594	.12881	-1.4435[.151]
DLMPI(-1)	-.63742	.081542	-7.8171[.000]
DLMPI(-2)	-.28127	.081690	-3.4431[.001]
DLTB(-1)	-.044429	.060380	-.73583[.463]
DLTB(-2)	-.087229	.052387	-1.6651[.098]
DLNEXJPY(-1)	-.16159	.12040	-1.3421[.182]
DLNEXJPY(-2)	.079252	.12573	.63032[.529]
LMPI(-1)	.011834	.014351	.82461[.411]
LTB(-1)	.11631	.047052	2.4719[.015]
LNEXJPY(-1)	.037829	.035719	1.0591[.291]

****

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

Lagrange Multiplier Statistic CHSQ(3)= 9.1889[.027]

Likelihood Ratio Statistic CHSQ(3)= 9.4764[.024]

F Statistic F(3, 143)= 3.0457[.031]

****

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เมื่อช่วงเวลา = 3

Variable Addition Test (OLS case)

****

Dependent variable is DLMPI

List of the variables added to the regression:

LMPI(-1) LTB(-1) LNEXJPY(-1)

152 observations used for estimation from 1997M5 to 2009M12

****

Regressor	Coefficient	Standard Error	T-Ratio[Prob]
INPT	-.17487	.13904	-1.2577[.211]
DLMPI(-1)	-.60920	.088646	-6.8722[.000]
DLMPI(-2)	-.24621	.10063	-2.4467[.016]
DLMPI(-3)	.068514	.086956	.78791[.432]
DLTB(-1)	-.028321	.066934	-.42312[.673]
DLTB(-2)	-.058594	.066730	-.87807[.381]
DLTB(-3)	.0097192	.054910	.17700[.860]
DLNEXJPY(-1)	-.16869	.12461	-1.3537[.178]
DLNEXJPY(-2)	.11241	.13520	.83145[.407]
DLNEXJPY(-3)	-.10647	.12746	-.83535[.405]
LMPI(-1)	.0088223	.014847	.59420[.553]
LTB(-1)	.10517	.050783	2.0709[.040]
LNEXJPY(-1)	.038869	.037748	1.0297[.305]

****

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

Lagrange Multiplier Statistic CHSQ(3)= 6.6230[.085]

Likelihood Ratio Statistic CHSQ(3)= 6.7716[.080]

F Statistic F(3, 139)= 2.1108[.102]

****

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เมื่อช่วงเวลา = 4

Variable Addition Test (OLS case)

****

Dependent variable is DLMPI

List of the variables added to the regression:

LMPI(-1) LTB(-1) LNEXJPY(-1)

151 observations used for estimation from 1997M6 to 2009M12

****

Regressor	Coefficient	Standard Error	T-Ratio[Prob]
INPT	-.20179	.15348	-1.3147[.191]
DLMPI(-1)	-.62041	.089951	-6.8973[.000]
DLMPI(-2)	-.23290	.10618	-2.1935[.030]
DLMPI(-3)	.099901	.10590	.94332[.347]
DLMPI(-4)	.075208	.090491	.83111[.407]
DLTB(-1)	-.015772	.070718	-.22303[.824]
DLTB(-2)	-.048086	.073659	-.65283[.515]
DLTB(-3)	.028797	.069238	.41591[.678]
DLTB(-4)	-.0067118	.056068	-.11971[.905]
DLNEXJPY(-1)	-.17059	.12738	-1.3392[.183]
DLNEXJPY(-2)	.10318	.14079	.73283[.465]
DLNEXJPY(-3)	-.064848	.13760	-.47128[.638]
DLNEXJPY(-4)	-.11232	.13034	-.86177[.390]
LMPI(-1)	.0084872	.015402	.55103[.583]
LTB(-1)	.11144	.054852	2.0316[.044]
LNEXJPY(-1)	.046720	.040563	1.1518[.251]

****

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

Lagrange Multiplier Statistic CHSQ(3)= 6.4158[.093]

Likelihood Ratio Statistic CHSQ(3)= 6.5560[.087]

F Statistic F(3, 135)= 1.9968[.117]

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เมื่อช่วงเวลา = 5

Variable Addition Test (OLS case)

****

Dependent variable is DLMPI

List of the variables added to the regression:

LMPI(-1) LTB(-1) LNEXJPY(-1)

150 observations used for estimation from 1997M7 to 2009M12

****

Regressor	Coefficient	Standard Error	T-Ratio[Prob]
INPT	-.16629	.16946	-.98129[.328]
DLMPI(-1)	-.60470	.091524	-6.6070[.000]
DLMPI(-2)	-.21697	.10768	-2.0149[.046]
DLMPI(-3)	.073840	.11163	.66146[.509]
DLMPI(-4)	.021930	.10985	.19963[.842]
DLMPI(-5)	-.10178	.091838	-1.1082[.270]
DLTB(-1)	-.021622	.074851	-.28887[.773]
DLTB(-2)	-.073374	.078177	-.93857[.350]
DLTB(-3)	.0057044	.076343	.074721[.941]
DLTB(-4)	-.041230	.070240	-.58698[.558]
DLTB(-5)	-.0060005	.056787	-.10567[.916]
DLNEXJPY(-1)	-.17845	.12888	-1.3846[.169]
DLNEXJPY(-2)	.11904	.14420	.82557[.411]
DLNEXJPY(-3)	-.054828	.14302	-.38336[.702]
DLNEXJPY(-4)	-.15133	.13977	-1.0827[.281]
DLNEXJPY(-5)	.12071	.13356	.90376[.368]
LMPI(-1)	.0086480	.015933	.54276[.588]
LTB(-1)	.10421	.059034	1.7652[.080]
LNEXJPY(-1)	.036764	.043733	.84064[.402]

****

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

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Lagrange Multiplier Statistic CHSQ(3)= 4.3289[.228]

Likelihood Ratio Statistic CHSQ(3)= 4.3926[.222]

F Statistic F(3, 131)= 1.2977[.278]

****

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เมื่อช่วงเวลา = 6

Variable Addition Test (OLS case)

****

Dependent variable is DLMPI

List of the variables added to the regression:

LMPI(-1) LTB(-1) LNEXJPY(-1)

149 observations used for estimation from 1997M8 to 2009M12

****

Regressor	Coefficient	Standard Error	T-Ratio[Prob]
INPT	-.22039	.18970	-1.1618[.248]
DLMPI(-1)	-.62465	.092850	-6.7275[.000]
DLMPI(-2)	-.20831	.10876	-1.9154[.058]
DLMPI(-3)	.084944	.11267	.75392[.452]
DLMPI(-4)	-.0023539	.11609	-.020277[.984]
DLMPI(-5)	-.12354	.11343	-1.0891[.278]
DLMPI(-6)	-.044056	.096532	-.45639[.649]
DLTB(-1)	-.019243	.079055	-.24342[.808]
DLTB(-2)	-.089989	.081807	-1.1000[.273]
DLTB(-3)	-.020372	.081127	-.25112[.802]
DLTB(-4)	-.057655	.077512	-.74382[.458]
DLTB(-5)	-.027959	.071458	-.39127[.696]
DLTB(-6)	.0069478	.057464	.12091[.904]
DLNEXJPY(-1)	-.16725	.13260	-1.2613[.210]
DLNEXJPY(-2)	.087546	.14720	.59473[.553]
DLNEXJPY(-3)	-.012705	.14656	-.086687[.931]
DLNEXJPY(-4)	-.15179	.14490	-1.0476[.297]
DLNEXJPY(-5)	.071197	.14407	.49418[.622]
DLNEXJPY(-6)	.15990	.13599	1.1758[.242]
LMPI(-1)	.013847	.016649	.83169[.407]
LTB(-1)	.12092	.064264	1.8816[.062]

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LNEXJPY(-1)	.044628	.047470	.94013[.349]

****

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

Lagrange Multiplier Statistic   CHSQ(3)= 4.6136[.202]

Likelihood Ratio Statistic   CHSQ(3)= 4.6865[.196]

F Statistic   F(3, 127)= 1.3527[.260]

****

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เมื่อช่วงเวลา = 7

Variable Addition Test (OLS case)

****

Dependent variable is DLMPI

List of the variables added to the regression:

LMPI(-1) LTB(-1) LNEXJPY(-1)

148 observations used for estimation from 1997M9 to 2009M12

****

Regressor	Coefficient	Standard Error	T-Ratio[Prob]
INPT	-.26143	.20241	-1.2916[.199]
DLMPI(-1)	-.59516	.092894	-6.4069[.000]
DLMPI(-2)	-.15721	.10955	-1.4351[.154]
DLMPI(-3)	.077448	.11159	.69401[.489]
DLMPI(-4)	-.019323	.11498	-.16805[.867]
DLMPI(-5)	-.10344	.11764	-.87923[.381]
DLMPI(-6)	-.016540	.11568	-.14298[.887]
DLMPI(-7)	.078287	.096787	.80886[.420]
DLTB(-1)	-.012447	.080867	-.15392[.878]
DLTB(-2)	-.11094	.084070	-1.3197[.189]
DLTB(-3)	-.010527	.083169	-.12657[.899]
DLTB(-4)	-.026495	.081090	-.32673[.744]
DLTB(-5)	-.013859	.077288	-.17932[.858]
DLTB(-6)	.035353	.070999	.49793[.619]
DLTB(-7)	-.022200	.058124	-.38193[.703]
DLNEXJPY(-1)	-.19573	.13909	-1.4072[.162]
DLNEXJPY(-2)	.080371	.15105	.53208[.596]
DLNEXJPY(-3)	.014930	.14724	.10140[.919]
DLNEXJPY(-4)	-.20393	.14568	-1.3998[.164]
DLNEXJPY(-5)	.057365	.14699	.39027[.697]
DLNEXJPY(-6)	.27425	.14436	1.8997[.060]

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DLNEXJPY(-7)	-.32478	.13571	-2.3931[.018]
LMPI(-1)	.012381	.017055	.72593[.469]
LTB(-1)	.13274	.068087	1.9496[.053]
LNEXJPY(-1)	.058007	.049619	1.1690[.245]

****

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

Lagrange Multiplier Statistic   CHSQ(3)=   5.3918[.145]

Likelihood Ratio Statistic   CHSQ(3)=   5.4925[.139]

F Statistic   F(3, 123)=   1.5501[.205]

****

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เมื่อช่วงเวลา = 8

Variable Addition Test (OLS case)

****

Dependent variable is DLMPI

List of the variables added to the regression:

LMPI(-1) LTB(-1) LNEXJPY(-1)

147 observations used for estimation from 1997M10 to 2009M12

****

Regressor	Coefficient	Standard Error	T-Ratio[Prob]
INPT	-.23772	.21969	-1.0821[.281]
DLMPI(-1)	-.63464	.094121	-6.7428[.000]
DLMPI(-2)	-.15432	.10843	-1.4232[.157]
DLMPI(-3)	.11425	.11173	1.0226[.309]
DLMPI(-4)	-.029306	.11395	-.25718[.797]
DLMPI(-5)	-.12816	.11661	-1.0991[.274]
DLMPI(-6)	-.043445	.11984	-.36254[.718]
DLMPI(-7)	-.0026938	.11561	-.023300[.981]
DLMPI(-8)	-.095852	.096612	-.99213[.323]
DLTB(-1)	.0041041	.083783	.048984[.961]
DLTB(-2)	-.084530	.085743	-.98585[.326]
DLTB(-3)	-.043383	.085305	-.50857[.612]
DLTB(-4)	-.034096	.082965	-.41097[.682]
DLTB(-5)	-.013246	.080820	-.16390[.870]
DLTB(-6)	.016828	.076618	.21964[.827]
DLTB(-7)	-.027964	.071063	-.39351[.695]
DLTB(-8)	-.0044263	.058238	-.076005[.940]
DLNEXJPY(-1)	-.24682	.13892	-1.7767[.078]
DLNEXJPY(-2)	.11351	.15829	.71710[.475]
DLNEXJPY(-3)	-.051476	.15081	-.34133[.733]
DLNEXJPY(-4)	-.15571	.14602	-1.0664[.288]

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DLNEXJPY(-5)	.0034504	.14753	.023388[.981]
DLNEXJPY(-6)	.25041	.14624	1.7122[.089]
DLNEXJPY(-7)	-.19000	.14508	-1.3096[.193]
DLNEXJPY(-8)	-.31874	.13821	-2.3062[.023]
LMPI(-1)	.0072886	.017586	.41446[.679]
LTB(-1)	.12710	.072386	1.7558[.082]
LNEXJPY(-1)	.059038	.052624	1.1219[.264]

****

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

Lagrange Multiplier Statistic   CHSQ(3)=   5.0525[.168]

Likelihood Ratio Statistic   CHSQ(3)=   5.1414[.162]

F Statistic   F(3, 119)=   1.4119[.243]

****

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เมื่อช่วงเวลา = 9

Variable Addition Test (OLS case)

****

Dependent variable is DLMPI

List of the variables added to the regression:

LMPI(-1) LTB(-1) LNEXJPY(-1)

146 observations used for estimation from 1997M11 to 2009M12

****

Regressor	Coefficient	Standard Error	T-Ratio[Prob]
INPT	-.28529	.23363	-1.2211[.225]
DLMPI(-1)	-.62071	.094167	-6.5916[.000]
DLMPI(-2)	-.15005	.10986	-1.3658[.175]
DLMPI(-3)	.11837	.10932	1.0827[.281]
DLMPI(-4)	-.022892	.11373	-.20128[.841]
DLMPI(-5)	-.12444	.11451	-1.0867[.279]
DLMPI(-6)	-.025574	.11769	-.21729[.828]
DLMPI(-7)	.0095184	.11829	.080469[.936]
DLMPI(-8)	.034695	.11350	.30569[.760]
DLMPI(-9)	.20631	.096365	2.1409[.034]
DLTB(-1)	-.016964	.084966	-.19965[.842]
DLTB(-2)	-.13617	.086884	-1.5672[.120]
DLTB(-3)	-.077834	.085534	-.90999[.365]
DLTB(-4)	-.050779	.084299	-.60237[.548]
DLTB(-5)	-.017953	.081822	-.21942[.827]
DLTB(-6)	.023371	.079599	.29361[.770]
DLTB(-7)	-.031193	.075944	-.41074[.682]
DLTB(-8)	-.026902	.070638	-.38085[.704]
DLTB(-9)	-.12967	.057051	-2.2729[.025]
DLNEXJPY(-1)	-.27275	.13886	-1.9642[.052]
DLNEXJPY(-2)	.11276	.15710	.71772[.474]

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DLNEXJPY(-3)	-.14957	.15718	-.95163[.343]
DLNEXJPY(-4)	-.041378	.14795	-.27966[.780]
DLNEXJPY(-5)	-.027372	.14600	-.18748[.852]
DLNEXJPY(-6)	.24053	.14484	1.6607[.100]
DLNEXJPY(-7)	-.12495	.14500	-.86172[.391]
DLNEXJPY(-8)	-.36141	.14352	-2.5182[.013]
DLNEXJPY(-9)	.077916	.13901	.56053[.576]
LMPI(-1)	.014428	.017972	.80285[.424]
LTB(-1)	.17298	.076543	2.2599[.026]
LNEXJPY(-1)	.061308	.054872	1.1173[.266]

****

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

Lagrange Multiplier Statistic   CHSQ(3)=   7.2692[.064]

Likelihood Ratio Statistic   CHSQ(3)=   7.4564[.059]

F Statistic   F(3, 115)=   2.0086[.117]

****

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เมื่อช่วงเวลา = 10

Variable Addition Test (OLS case)

****

Dependent variable is DLMPI

List of the variables added to the regression:

LMPI(-1) LTB(-1) LNEXJPY(-1)

145 observations used for estimation from 1997M12 to 2009M12

****

Regressor	Coefficient	Standard Error	T-Ratio[Prob]
INPT	-.35564	.25407	-1.3998[.164]
DLMPI(-1)	-.59696	.098728	-6.0465[.000]
DLMPI(-2)	-.17646	.11205	-1.5748[.118]
DLMPI(-3)	.068703	.11322	.60680[.545]
DLMPI(-4)	-.035832	.11414	-.31391[.754]
DLMPI(-5)	-.085517	.11655	-.73375[.465]
DLMPI(-6)	-.013252	.11771	-.11258[.911]
DLMPI(-7)	-.0021727	.11850	-.018335[.985]
DLMPI(-8)	.077205	.11847	.65167[.516]
DLMPI(-9)	.21720	.11498	1.8890[.061]
DLMPI(-10)	.051246	.099032	.51747[.606]
DLTB(-1)	-.045175	.091176	-.49548[.621]
DLTB(-2)	-.13993	.089650	-1.5608[.121]
DLTB(-3)	-.060595	.088506	-.68464[.495]
DLTB(-4)	-.024119	.086321	-.27941[.780]
DLTB(-5)	-.0056220	.084440	-.066580[.947]
DLTB(-6)	.049512	.081900	.60454[.547]
DLTB(-7)	.014549	.080803	.18005[.857]
DLTB(-8)	.014675	.076611	.19156[.848]
DLTB(-9)	-.052212	.071840	-.72678[.469]
DLTB(-10)	.084382	.061423	1.3738[.172]

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DLNEXJPY(-1)	-.25042	.13951	-1.7949[.075]
DLNEXJPY(-2)	.096170	.16087	.59781[.551]
DLNEXJPY(-3)	-.18203	.15931	-1.1426[.256]
DLNEXJPY(-4)	-.035118	.15773	-.22264[.824]
DLNEXJPY(-5)	-.056504	.14945	-.37809[.706]
DLNEXJPY(-6)	.23513	.14628	1.6074[.111]
DLNEXJPY(-7)	-.15143	.14648	-1.0338[.303]
DLNEXJPY(-8)	-.40204	.14551	-2.7629[.007]
DLNEXJPY(-9)	.18096	.14903	1.2142[.227]
DLNEXJPY(-10)	-.27092	.14066	-1.9261[.057]
LMPI(-1)	.013145	.018919	.69478[.489]
LTB(-1)	.17169	.084253	2.0378[.044]
LNEXJPY(-1)	.082970	.058553	1.4170[.159]

****

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

Lagrange Multiplier Statistic CHSQ(3)= 6.8818[.076]

Likelihood Ratio Statistic CHSQ(3)= 7.0505[.070]

F Statistic F(3, 111)= 1.8435[.143]

****

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เมื่อช่วงเวลา = 11

Variable Addition Test (OLS case)

****

Dependent variable is DLMPI

List of the variables added to the regression:

LMPI(-1) LTB(-1) LNEXJPY(-1)

144 observations used for estimation from 1998M1 to 2009M12

****

Regressor	Coefficient	Standard Error	T-Ratio[Prob]
INPT	-.31524	.24857	-1.2682[.207]
DLMPI(-1)	-.59728	.090241	-6.6188[.000]
DLMPI(-2)	-.088921	.10226	-.86954[.387]
DLMPI(-3)	.049949	.10187	.49031[.625]
DLMPI(-4)	-.11423	.10363	-1.1023[.273]
DLMPI(-5)	-.13028	.10379	-1.2551[.212]
DLMPI(-6)	-.033281	.10694	-.31121[.756]
DLMPI(-7)	-.056145	.10567	-.53133[.596]
DLMPI(-8)	.036597	.10566	.34636[.730]
DLMPI(-9)	.058193	.10784	.53963[.591]
DLMPI(-10)	-.26981	.10476	-2.5755[.011]
DLMPI(-11)	-.47251	.089948	-5.2532[.000]
DLTB(-1)	-.028947	.086488	-.33469[.739]
DLTB(-2)	-.12650	.084819	-1.4914[.139]
DLTB(-3)	-.098588	.081193	-1.2142[.227]
DLTB(-4)	.2004E-3	.079568	.0025183[.998]
DLTB(-5)	-.0048192	.076818	-.062735[.950]
DLTB(-6)	-.028390	.075076	-.37815[.706]
DLTB(-7)	-.048398	.073822	-.65561[.513]
DLTB(-8)	-.077777	.072709	-1.0697[.287]
DLTB(-9)	-.15324	.068452	-2.2386[.027]

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DLTB(-10)	-.0045263	.064959	-.069680[.945]
DLTB(-11)	.015974	.055139	.28970[.773]
DLNEXJPY(-1)	-.16094	.12685	-1.2687[.207]
DLNEXJPY(-2)	.017445	.14342	.12164[.903]
DLNEXJPY(-3)	-.11518	.14584	-.78974[.431]
DLNEXJPY(-4)	-.093592	.14285	-.65516[.514]
DLNEXJPY(-5)	.0078172	.14167	.055179[.956]
DLNEXJPY(-6)	.10825	.13310	.81331[.418]
DLNEXJPY(-7)	-.10013	.13162	-.76071[.449]
DLNEXJPY(-8)	-.43411	.13132	-3.3058[.001]
DLNEXJPY(-9)	.17335	.13578	1.2767[.204]
DLNEXJPY(-10)	-.11915	.13588	-.87688[.383]
DLNEXJPY(-11)	-.23594	.13001	-1.8147[.072]
LMPI(-1)	.0052007	.017911	.29036[.772]
LTB(-1)	.14034	.083215	1.6864[.095]
LNEXJPY(-1)	.084804	.056162	1.5100[.134]

****

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

Lagrange Multiplier Statistic   CHSQ(3)=   6.9418[.074]

Likelihood Ratio Statistic   CHSQ(3)=   7.1147[.068]

F Statistic   F(3, 107)=   1.8065[.150]

****

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เมื่อช่วงเวลา = 12

Variable Addition Test (OLS case)

****

Dependent variable is DLMPI

List of the variables added to the regression:

LMPI(-1) LTB(-1) LNEXJPY(-1)

143 observations used for estimation from 1998M2 to 2009M12

****

Regressor	Coefficient	Standard Error	T-Ratio[Prob]
INPT	-.74100	.23703	-3.1261[.002]
DLMPI(-1)	-.42171	.086320	-4.8854[.000]
DLMPI(-2)	-.036191	.092624	-.39072[.697]
DLMPI(-3)	-.0081682	.088211	-.092598[.926]
DLMPI(-4)	-.12547	.089189	-1.4068[.163]
DLMPI(-5)	-.070915	.090425	-.78424[.435]
DLMPI(-6)	.055602	.092132	.60350[.547]
DLMPI(-7)	.043713	.092578	.47217[.638]
DLMPI(-8)	.12989	.090942	1.4282[.156]
DLMPI(-9)	.11141	.092558	1.2037[.231]
DLMPI(-10)	-.086195	.094874	-.90852[.366]
DLMPI(-11)	-.13857	.093624	-1.4801[.142]
DLMPI(-12)	.54595	.086443	6.3158[.000]
DLTB(-1)	-.10508	.078377	-1.3407[.183]
DLTB(-2)	-.17969	.076568	-2.3468[.021]
DLTB(-3)	-.16471	.073811	-2.2315[.028]
DLTB(-4)	-.1824E-3	.071483	-.0025512[.998]
DLTB(-5)	-.036577	.068550	-.53358[.595]
DLTB(-6)	-.015347	.066199	-.23183[.817]
DLTB(-7)	.018349	.065582	.27979[.780]
DLTB(-8)	.0095124	.065208	.14588[.884]

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DLTB(-9)	-.024099	.063417	-.38001[.705]
DLTB(-10)	.12044	.061134	1.9701[.052]
DLTB(-11)	.16119	.058209	2.7691[.007]
DLTB(-12)	.076065	.050412	1.5088[.134]
DLNEXJPY(-1)	-.19108	.12046	-1.5863[.116]
DLNEXJPY(-2)	-.12249	.12530	-.97757[.331]
DLNEXJPY(-3)	-.10408	.12514	-.83174[.407]
DLNEXJPY(-4)	-.20975	.12528	-1.6742[.097]
DLNEXJPY(-5)	.0022610	.12421	.018203[.986]
DLNEXJPY(-6)	-.039984	.12110	-.33019[.742]
DLNEXJPY(-7)	-.040092	.11488	-.34898[.728]
DLNEXJPY(-8)	-.47538	.11351	-4.1880[.000]
DLNEXJPY(-9)	.24393	.11969	2.0380[.044]
DLNEXJPY(-10)	-.24190	.11990	-2.0175[.046]
DLNEXJPY(-11)	-.18302	.11891	-1.5391[.127]
DLNEXJPY(-12)	-.15681	.11791	-1.3300[.186]
LMPI(-1)	.032445	.016416	1.9764[.051]
LTB(-1)	.26978	.079382	3.3986[.001]
LNEXJPY(-1)	.16303	.052758	3.0901[.003]

****

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

Lagrange Multiplier Statistic CHSQ(3)= 17.7827[.000]

Likelihood Ratio Statistic CHSQ(3)= 18.9895[.000]

F Statistic F(3, 103)= 4.8758[.003]

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การประมาณค่าของ Error Correction Model ตามกระบวนการ ARDL โดยใช้ AIC

ระยะสั้น

Error Correction Representation for the Selected ARDL Model

ARDL(12,1,12) selected based on Akaike Information Criterion

****

Dependent variable is dLMPI

143 observations used for estimation from 1998M2 to 2009M12

****

Regressor	Coefficient	Standard Error	T-Ratio[Prob]
dLMPI1	-.58210	.086703	-6.7137[.000]
dLMPI2	-.10817	.090145	-1.1999[.233]
dLMPI3	.10366	.091173	1.1369[.258]
dLMPI4	.7326E-3	.094014	.0077926[.994]
dLMPI5	-.050634	.095432	-.53057[.597]
dLMPI6	-.027803	.094733	-.29349[.770]
dLMPI7	-.023251	.090500	-.25691[.798]
dLMPI8	.029302	.092579	.31651[.752]
dLMPI9	.089497	.091719	.97577[.331]
dLMPI10	-.12497	.093074	-1.3427[.182]
dLMPI11	-.40859	.081677	-5.0025[.000]
dLTB	.085868	.059429	1.4449[.151]
dLNEXJPY	.12403	.15191	.81649[.416]
dLNEXJPY1	-.30297	.14264	-2.1240[.036]
dLNEXJPY2	.069846	.14159	.49332[.623]
dLNEXJPY3	-.16969	.13854	-1.2249[.223]
dLNEXJPY4	-.21725	.14300	-1.5192[.131]
dLNEXJPY5	.098643	.13535	.72881[.468]
dLNEXJPY6	.048676	.13020	.37386[.709]
dLNEXJPY7	-.11344	.12019	-.94385[.347]

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dLNEXJPY8	-.39906	.12100	-3.2979[.001]
dLNEXJPY9	.099393	.12191	.81532[.417]
dLNEXJPY10	-.21005	.12495	-1.6811[.095]
dLNEXJPY11	-.21564	.12168	-1.7721[.079]
dINPT	-.47761	.23194	-2.0592[.042]
ecm(-1)	.011468	.016220	.70703[.481]

****

List of additional temporary variables created:

dLMPI = LMPI-LMPI(-1)

dLMPI1 = LMPI(-1)-LMPI(-2)

dLMPI2 = LMPI(-2)-LMPI(-3)

dLMPI3 = LMPI(-3)-LMPI(-4)

dLMPI4 = LMPI(-4)-LMPI(-5)

dLMPI5 = LMPI(-5)-LMPI(-6)

dLMPI6 = LMPI(-6)-LMPI(-7)

dLMPI7 = LMPI(-7)-LMPI(-8)

dLMPI8 = LMPI(-8)-LMPI(-9)

dLMPI9 = LMPI(-9)-LMPI(-10)

dLMPI10 = LMPI(-10)-LMPI(-11)

dLMPI11 = LMPI(-11)-LMPI(-12)

dLTB = LTB-LTB(-1)

dLNEXJPY = LNEXJPY-LNEXJPY(-1)

dLNEXJPY1 = LNEXJPY(-1)-LNEXJPY(-2)

dLNEXJPY2 = LNEXJPY(-2)-LNEXJPY(-3)

dLNEXJPY3 = LNEXJPY(-3)-LNEXJPY(-4)

dLNEXJPY4 = LNEXJPY(-4)-LNEXJPY(-5)

dLNEXJPY5 = LNEXJPY(-5)-LNEXJPY(-6)

dLNEXJPY6 = LNEXJPY(-6)-LNEXJPY(-7)

dLNEXJPY7 = LNEXJPY(-7)-LNEXJPY(-8)

dLNEXJPY8 = LNEXJPY(-8)-LNEXJPY(-9)

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dLNEXJPY9 = LNEXJPY(-9)-LNEXJPY(-10)

dLNEXJPY10 = LNEXJPY(-10)-LNEXJPY(-11)

dLNEXJPY11 = LNEXJPY(-11)-LNEXJPY(-12)

dINPT = INPT-INPT(-1)

ecm = LMPI + 15.3658*LTB + 10.5259*LNEXJPY -41.6474*INPT

****

R-Squared	.59127	R-Bar-Squared	.49531
S.E. of Regression	.042557	F-stat. F(25, 117)	6.6545[.000]
Mean of Dependent Variable	.0071734	S.D. of Dependent Variable	.059905
Residual Sum of Squares	.20828	Equation Log-likelihood	264.1102
Akaike Info. Criterion	236.1102	Schwarz Bayesian Criterion	194.6304
DW-statistic	1.6033		

****

R-Squared and R-Bar-Squared measures refer to the dependent variable dLMPI 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(12,1,12) selected based on Akaike Information Criterion

****

Dependent variable is LMPI

143 observations used for estimation from 1998M2 to 2009M12

****

Regressor	Coefficient	Standard Error	T-Ratio[Prob]
LTB	-15.3658	18.3675	-.83658[.405]
LNEXJPY	-10.5259	13.9952	-.75211[.454]
INPT	41.6474	48.6554	.85597[.394]

****

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8. กรณีดัชนีผลผลิตอุตสาหกรรมและอัตราแลกเปลี่ยนที่แท้จริงของเงินสกุลเยนญี่ปุ่นต่อเงินบาท

เมื่อช่วงเวลา = 1

Variable Addition Test (OLS case)

****

Dependent variable is DLMPI

List of the variables added to the regression:

LMPI(-1) LTB(-1) LREXJPY(-1)

154 observations used for estimation from 1997M3 to 2009M12

****

Regressor	Coefficient	Standard Error	T-Ratio[Prob]
INPT	-.057137	.17628	-.32413[.746]
DLMPI(-1)	-.52153	.074037	-7.0442[.000]
DLTB(-1)	.086643	.050532	1.7146[.089]
DLREXJPY(-1)	-.21405	.11585	-1.8476[.067]
LMPI(-1)	.0038595	.016457	.23452[.815]
LTB(-1)	.050793	.044703	1.1362[.258]
LREXJPY(-1)	.012499	.034476	.36255[.717]

****

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

Lagrange Multiplier Statistic CHSQ(3)= 1.7537[.625]

Likelihood Ratio Statistic CHSQ(3)= 1.7638[.623]

F Statistic F(3, 147)= .56443[.639]

****

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เมื่อช่วงเวลา = 2

Variable Addition Test (OLS case)

****

Dependent variable is DLMPI

List of the variables added to the regression:

LMPI(-1)   LTB(-1)   LREXJPY(-1)

153 observations used for estimation from 1997M4 to 2009M12

****

Regressor	Coefficient	Standard Error	T-Ratio[Prob]
INPT	-.21940	.17699	-1.2396[.217]
DLMPI(-1)	-.64343	.083066	-7.7461[.000]
DLMPI(-2)	-.28630	.081722	-3.5034[.001]
DLTB(-1)	-.047554	.059302	-.80191[.424]
DLTB(-2)	-.089057	.051912	-1.7155[.088]
DLREXJPY(-1)	-.19680	.11753	-1.6744[.096]
DLREXJPY(-2)	.071895	.12311	.58398[.560]
LMPI(-1)	.022593	.016411	1.3767[.171]
LTB(-1)	.12341	.045429	2.7166[.007]
LREXJPY(-1)	.031965	.034052	.93871[.349]

****

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

Lagrange Multiplier Statistic   CHSQ(3)= 8.6417[.034]

Likelihood Ratio Statistic   CHSQ(3)= 8.8954[.031]

F Statistic   F(3, 143)= 2.8535[.039]

****

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เมื่อช่วงเวลา = 3

Variable Addition Test (OLS case)

****

Dependent variable is DLMPI

List of the variables added to the regression:

LMPI(-1) LTB(-1) LREXJPY(-1)

152 observations used for estimation from 1997M5 to 2009M12

****

Regressor	Coefficient	Standard Error	T-Ratio[Prob]
INPT	-.19880	.19114	-1.0401[.300]
DLMPI(-1)	-.61451	.090950	-6.7566[.000]
DLMPI(-2)	-.25482	.10187	-2.5014[.014]
DLMPI(-3)	.062878	.086937	.72326[.471]
DLTB(-1)	-.032033	.065884	-.48620[.628]
DLTB(-2)	-.062548	.065796	-.95063[.343]
DLTB(-3)	.0087317	.054351	.16065[.873]
DLREXJPY(-1)	-.20590	.12123	-1.6984[.092]
DLREXJPY(-2)	.10463	.13260	.78906[.431]
DLREXJPY(-3)	-.098487	.12488	-.78866[.432]
LMPI(-1)	.019266	.017676	1.0900[.278]
LTB(-1)	.11197	.049815	2.2477[.026]
LREXJPY(-1)	.030720	.036076	.85156[.396]

****

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

Lagrange Multiplier Statistic CHSQ(3)= 6.0083[.111]

Likelihood Ratio Statistic CHSQ(3)= 6.1303[.105]

F Statistic F(3, 139)= 1.9068[.131]

****

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เมื่อช่วงเวลา = 4

Variable Addition Test (OLS case)

****

Dependent variable is DLMPI

List of the variables added to the regression:

LMPI(-1)　　LTB(-1)　　LREXJPY(-1)

151 observations used for estimation from 1997M6 to 2009M12

****

Regressor	Coefficient	Standard Error	T-Ratio[Prob]
INPT	-.23915	.20912	-1.1436[.255]
DLMPI(-1)	-.62952	.092419	-6.8115[.000]
DLMPI(-2)	-.24280	.10782	-2.2520[.026]
DLMPI(-3)	.085827	.10694	.80254[.424]
DLMPI(-4)	.073669	.090401	.81491[.417]
DLTB(-1)	-.020995	.069552	-.30186[.763]
DLTB(-2)	-.053281	.072336	-.73658[.463]
DLTB(-3)	.030134	.068100	.44250[.659]
DLTB(-4)	-.0039789	.055322	-.071923[.943]
DLREXJPY(-1)	-.20841	.12286	-1.6962[.092]
DLREXJPY(-2)	.088634	.13734	.64536[.520]
DLREXJPY(-3)	-.044726	.13487	-.33163[.741]
DLREXJPY(-4)	-.13944	.12751	-1.0936[.276]
LMPI(-1)	.021519	.019219	1.1197[.265]
LTB(-1)	.12046	.054579	2.2071[.029]
LREXJPY(-1)	.038655	.038668	.99968[.319]

****

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

Lagrange Multiplier Statistic　CHSQ(3)= 5.9755[.113]

Likelihood Ratio Statistic　CHSQ(3)= 6.0970[.107]

F Statistic　F(3, 135)= 1.8542[.140]

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เมื่อช่วงเวลา = 5

Variable Addition Test (OLS case)

****

Dependent variable is DLMPI

List of the variables added to the regression:

LMPI(-1) LTB(-1) LREXJPY(-1)

150 observations used for estimation from 1997M7 to 2009M12

****

Regressor	Coefficient	Standard Error	T-Ratio[Prob]
INPT	-.17930	.22919	-.78234[.435]
DLMPI(-1)	-.60503	.094660	-6.3915[.000]
DLMPI(-2)	-.22064	.10949	-2.0150[.046]
DLMPI(-3)	.061380	.11280	.54416[.587]
DLMPI(-4)	.022989	.11033	.20836[.835]
DLMPI(-5)	-.11006	.091488	-1.2030[.231]
DLTB(-1)	-.024304	.073623	-.33012[.742]
DLTB(-2)	-.077956	.076413	-1.0202[.310]
DLTB(-3)	.0065454	.074672	.087656[.930]
DLTB(-4)	-.043523	.068822	-.63239[.528]
DLTB(-5)	-.011956	.055878	-.21397[.831]
DLREXJPY(-1)	-.21651	.12395	-1.7467[.083]
DLREXJPY(-2)	.10728	.13938	.76971[.443]
DLREXJPY(-3)	-.029524	.13926	-.21201[.832]
DLREXJPY(-4)	-.18868	.13654	-1.3819[.169]
DLREXJPY(-5)	.13896	.13057	1.0643[.289]
LMPI(-1)	.017478	.020905	.83608[.405]
LTB(-1)	.10771	.059712	1.8038[.074]
LREXJPY(-1)	.027866	.041576	.67023[.504]

****

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

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Lagrange Multiplier Statistic CHSQ(3)= 3.8906[.274]

Likelihood Ratio Statistic CHSQ(3)= 3.9420[.268]

F Statistic F(3, 131)= 1.1628[.327]

****

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เมื่อช่วงเวลา = 6

Variable Addition Test (OLS case)

****

Dependent variable is DLMPI

List of the variables added to the regression:

LMPI(-1)   LTB(-1)   LREXJPY(-1)

149 observations used for estimation from 1997M8 to 2009M12

****

Regressor	Coefficient	Standard Error	T-Ratio[Prob]
INPT	-.23683	.25244	-.93820[.350]
DLMPI(-1)	-.62927	.096315	-6.5335[.000]
DLMPI(-2)	-.21248	.11088	-1.9164[.058]
DLMPI(-3)	.073544	.11414	.64433[.521]
DLMPI(-4)	-.0033421	.11670	-.028638[.977]
DLMPI(-5)	-.13340	.11366	-1.1737[.243]
DLMPI(-6)	-.052795	.095767	-.55129[.582]
DLTB(-1)	-.022838	.078102	-.29241[.770]
DLTB(-2)	-.093763	.080037	-1.1715[.244]
DLTB(-3)	-.019423	.079143	-.24542[.807]
DLTB(-4)	-.060129	.075549	-.79589[.428]
DLTB(-5)	-.033752	.070008	-.48212[.631]
DLTB(-6)	.0078721	.056511	.13930[.889]
DLREXJPY(-1)	-.20206	.12812	-1.5772[.117]
DLREXJPY(-2)	.079332	.14154	.56050[.576]
DLREXJPY(-3)	-.0018353	.14132	-.012987[.990]
DLREXJPY(-4)	-.18001	.14071	-1.2793[.203]
DLREXJPY(-5)	.085120	.14118	.60291[.548]
DLREXJPY(-6)	.16049	.13348	1.2024[.231]
LMPI(-1)	.024542	.023022	1.0660[.288]
LTB(-1)	.12417	.066029	1.8806[.062]

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LREXJPY(-1)	.034187	.044738	.76415[.446]

****

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

Lagrange Multiplier Statistic   CHSQ(3)=   4.1341[.247]

Likelihood Ratio Statistic   CHSQ(3)=   4.1925[.241]

F Statistic   F(3, 127)=   1.2081[.310]

****

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เมื่อช่วงเวลา = 7

Variable Addition Test (OLS case)

****

Dependent variable is DLMPI

List of the variables added to the regression:

LMPI(-1) LTB(-1) LREXJPY(-1)

148 observations used for estimation from 1997M9 to 2009M12

****

Regressor	Coefficient	Standard Error	T-Ratio[Prob]
INPT	-.29554	.26956	-1.0964[.275]
DLMPI(-1)	-.60779	.097488	-6.2345[.000]
DLMPI(-2)	-.16879	.11292	-1.4948[.138]
DLMPI(-3)	.063079	.11408	.55293[.581]
DLMPI(-4)	-.019979	.11670	-.17119[.864]
DLMPI(-5)	-.12111	.11885	-1.0190[.310]
DLMPI(-6)	-.029162	.11634	-.25067[.802]
DLMPI(-7)	.076660	.096803	.79192[.430]
DLTB(-1)	-.020795	.081039	-.25660[.798]
DLTB(-2)	-.11342	.082973	-1.3669[.174]
DLTB(-3)	-.014679	.081793	-.17947[.858]
DLTB(-4)	-.038134	.079427	-.48011[.632]
DLTB(-5)	-.025799	.075906	-.33989[.735]
DLTB(-6)	.025976	.070104	.37053[.712]
DLTB(-7)	-.029894	.057581	-.51916[.605]
DLREXJPY(-1)	-.23409	.13491	-1.7351[.085]
DLREXJPY(-2)	.070958	.14692	.48298[.630]
DLREXJPY(-3)	.017010	.14238	.11947[.905]
DLREXJPY(-4)	-.21474	.14128	-1.5199[.131]
DLREXJPY(-5)	.070050	.14450	.48476[.629]
DLREXJPY(-6)	.25257	.14341	1.7612[.081]

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DLREXJPY(-7)	-.25639	.13467	-1.9039[.059]
LMPI(-1)	.028036	.024628	1.1384[.257]
LTB(-1)	.14214	.071398	1.9908[.049]
LREXJPY(-1)	.045369	.047001	.96528[.336]

****

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

Lagrange Multiplier Statistic CHSQ(3)= 4.9193[.178]

Likelihood Ratio Statistic CHSQ(3)= 5.0029[.172]

F Statistic F(3, 123)= 1.4096[.243]

****

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เมื่อช่วงเวลา = 8

Variable Addition Test (OLS case)

****

Dependent variable is DLMPI

List of the variables added to the regression:

LMPI(-1) LTB(-1) LREXJPY(-1)

147 observations used for estimation from 1997M10 to 2009M12

****

Regressor	Coefficient	Standard Error	T-Ratio[Prob]
INPT	-.30280	.29039	-1.0428[.299]
DLMPI(-1)	-.64479	.098407	-6.5523[.000]
DLMPI(-2)	-.16369	.11149	-1.4682[.145]
DLMPI(-3)	.10851	.11394	.95231[.343]
DLMPI(-4)	-.036379	.11479	-.31693[.752]
DLMPI(-5)	-.15396	.11710	-1.3148[.191]
DLMPI(-6)	-.059657	.11946	-.49938[.618]
DLMPI(-7)	-.023420	.11583	-.20220[.840]
DLMPI(-8)	-.10836	.095957	-1.1292[.261]
DLTB(-1)	-.0056096	.084138	-.066672[.947]
DLTB(-2)	-.083348	.084500	-.98637[.326]
DLTB(-3)	-.050431	.083361	-.60497[.546]
DLTB(-4)	-.048118	.080598	-.59702[.552]
DLTB(-5)	-.029235	.078573	-.37207[.711]
DLTB(-6)	.0044630	.074720	.059729[.952]
DLTB(-7)	-.037686	.069468	-.54249[.588]
DLTB(-8)	-.0040858	.057292	-.071316[.943]
DLREXJPY(-1)	-.28882	.13421	-2.1519[.033]
DLREXJPY(-2)	.10027	.15382	.65186[.516]
DLREXJPY(-3)	-.070583	.14549	-.48514[.628]
DLREXJPY(-4)	-.17030	.14006	-1.2159[.226]

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DLREXJPY(-5)	.037128	.14281	.25998[.795]
DLREXJPY(-6)	.20740	.14355	1.4448[.151]
DLREXJPY(-7)	-.10846	.14301	-.75841[.450]
DLREXJPY(-8)	-.34999	.13521	-2.5885[.011]
LMPI(-1)	.024995	.026554	.94132[.348]
LTB(-1)	.13944	.076886	1.8136[.072]
LREXJPY(-1)	.052074	.049629	1.0493[.296]

****

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

Lagrange Multiplier Statistic   CHSQ(3)=   4.8939[.180]

Likelihood Ratio Statistic   CHSQ(3)=   4.9772[.173]

F Statistic   F(3, 119)=   1.3661[.257]

****

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เมื่อช่วงเวลา = 9

Variable Addition Test (OLS case)

****

Dependent variable is DLMPI

List of the variables added to the regression:

LMPI(-1)   LTB(-1)   LREXJPY(-1)

146 observations used for estimation from 1997M11 to 2009M12

****

Regressor	Coefficient	Standard Error	T-Ratio[Prob]
INPT	-.28766	.30565	-.94113[.349]
DLMPI(-1)	-.61590	.098834	-6.2317[.000]
DLMPI(-2)	-.14922	.11265	-1.3246[.188]
DLMPI(-3)	.11584	.11113	1.0424[.299]
DLMPI(-4)	-.041168	.11416	-.36062[.719]
DLMPI(-5)	-.15332	.11418	-1.3428[.182]
DLMPI(-6)	-.036808	.11675	-.31526[.753]
DLMPI(-7)	-.024589	.11719	-.20983[.834]
DLMPI(-8)	.016156	.11281	.14321[.886]
DLMPI(-9)	.18332	.095020	1.9292[.056]
DLTB(-1)	-.023699	.086181	-.27499[.784]
DLTB(-2)	-.13785	.085699	-1.6086[.110]
DLTB(-3)	-.089417	.083364	-1.0726[.286]
DLTB(-4)	-.068478	.081568	-.83953[.403]
DLTB(-5)	-.039369	.078874	-.49913[.619]
DLTB(-6)	.0035071	.076758	.045691[.964]
DLTB(-7)	-.053830	.073659	-.73081[.466]
DLTB(-8)	-.048512	.068753	-.70560[.482]
DLTB(-9)	-.15291	.055911	-2.7349[.007]
DLREXJPY(-1)	-.32145	.13469	-2.3867[.019]
DLREXJPY(-2)	.12117	.15279	.79301[.429]

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DLREXJPY(-3)	-.16412	.15239	-1.0770[.284]
DLREXJPY(-4)	-.045855	.14192	-.32311[.747]
DLREXJPY(-5)	.013743	.13975	.098337[.922]
DLREXJPY(-6)	.18768	.14008	1.3399[.183]
DLREXJPY(-7)	-.035422	.14123	-.25081[.802]
DLREXJPY(-8)	-.41728	.14020	-2.9763[.004]
DLREXJPY(-9)	.14511	.13587	1.0680[.288]
LMPI(-1)	.027874	.027999	.99554[.322]
LTB(-1)	.17622	.081806	2.1541[.033]
LREXJPY(-1)	.042821	.051413	.83289[.407]

****

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

Lagrange Multiplier Statistic CHSQ(3)= 6.7559[.080]

Likelihood Ratio Statistic CHSQ(3)= 6.9172[.075]

F Statistic F(3, 115)= 1.8599[.140]

****

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เมื่อช่วงเวลา = 10

Variable Addition Test (OLS case)

****

Dependent variable is DLMPI

List of the variables added to the regression:

LMPI(-1) LTB(-1) LREXJPY(-1)

145 observations used for estimation from 1997M12 to 2009M12

****

Regressor	Coefficient	Standard Error	T-Ratio[Prob]
INPT	-.37055	.33348	-1.1111[.269]
DLMPI(-1)	-.59321	.10479	-5.6611[.000]
DLMPI(-2)	-.17055	.11604	-1.4697[.144]
DLMPI(-3)	.076645	.11616	.65984[.511]
DLMPI(-4)	-.056064	.11582	-.48407[.629]
DLMPI(-5)	-.11805	.11759	-1.0039[.318]
DLMPI(-6)	-.029754	.11740	-.25343[.800]
DLMPI(-7)	-.040214	.11831	-.33991[.735]
DLMPI(-8)	.048596	.11790	.41218[.681]
DLMPI(-9)	.18744	.11465	1.6348[.105]
DLMPI(-10)	.040013	.097738	.40939[.683]
DLTB(-1)	-.045677	.094116	-.48532[.628]
DLTB(-2)	-.14330	.090452	-1.5843[.116]
DLTB(-3)	-.076284	.087604	-.87078[.386]
DLTB(-4)	-.045579	.084512	-.53931[.591]
DLTB(-5)	-.028568	.082166	-.34768[.729]
DLTB(-6)	.023470	.079360	.29574[.768]
DLTB(-7)	-.018961	.078440	-.24173[.809]
DLTB(-8)	-.013732	.074962	-.18318[.855]
DLTB(-9)	-.086607	.071082	-1.2184[.226]
DLTB(-10)	.074661	.061396	1.2160[.227]

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DLREXJPY(-1)	-.28893	.13644	-2.1176[.036]
DLREXJPY(-2)	.11384	.15963	.71316[.477]
DLREXJPY(-3)	-.19039	.15645	-1.2170[.226]
DLREXJPY(-4)	-.039416	.15426	-.25552[.799]
DLREXJPY(-5)	-.019823	.14475	-.13695[.891]
DLREXJPY(-6)	.18862	.14147	1.3333[.185]
DLREXJPY(-7)	-.052385	.14246	-.36772[.714]
DLREXJPY(-8)	-.45308	.14252	-3.1791[.002]
DLREXJPY(-9)	.23657	.14785	1.6000[.112]
DLREXJPY(-10)	-.21557	.13920	-1.5486[.124]
LMPI(-1)	.032612	.030630	1.0647[.289]
LTB(-1)	.17694	.091395	1.9360[.055]
LREXJPY(-1)	.059392	.055270	1.0746[.285]

****

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

Lagrange Multiplier Statistic   CHSQ(3)= 5.8205[.121]

Likelihood Ratio Statistic   CHSQ(3)= 5.9405[.115]

F Statistic   F(3, 111)= 1.5473[.206]

****

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เมื่อช่วงเวลา = 11

Variable Addition Test (OLS case)

****

Dependent variable is DLMPI

List of the variables added to the regression:

LMPI(-1) LTB(-1) LREXJPY(-1)

144 observations used for estimation from 1998M1 to 2009M12

****

Regressor	Coefficient	Standard Error	T-Ratio[Prob]
INPT	-.47957	.32310	-1.4843[.141]
DLMPI(-1)	-.60091	.095806	-6.2722[.000]
DLMPI(-2)	-.10557	.10611	-.99489[.322]
DLMPI(-3)	.040385	.10459	.38614[.700]
DLMPI(-4)	-.14231	.10505	-1.3547[.178]
DLMPI(-5)	-.16100	.10470	-1.5378[.127]
DLMPI(-6)	-.044853	.10686	-.41972[.676]
DLMPI(-7)	-.094802	.10491	-.90365[.368]
DLMPI(-8)	.0062450	.10501	.059473[.953]
DLMPI(-9)	.032498	.10624	.30589[.760]
DLMPI(-10)	-.28752	.10340	-2.7807[.006]
DLMPI(-11)	-.46998	.088382	-5.3176[.000]
DLTB(-1)	-.057801	.089872	-.64315[.522]
DLTB(-2)	-.14481	.086453	-1.6751[.097]
DLTB(-3)	-.12786	.081452	-1.5698[.119]
DLTB(-4)	-.033733	.078382	-.43037[.668]
DLTB(-5)	-.031789	.074836	-.42478[.672]
DLTB(-6)	-.058302	.072698	-.80197[.424]
DLTB(-7)	-.084448	.071237	-1.1855[.238]
DLTB(-8)	-.10813	.070239	-1.5395[.127]
DLTB(-9)	-.18886	.067288	-2.8067[.006]

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DLTB(-10)	-.021150	.064552	-.32764[.744]
DLTB(-11)	.0058591	.054842	.10684[.915]
DLREXJPY(-1)	-.23035	.12393	-1.8587[.066]
DLREXJPY(-2)	.046228	.14150	.32671[.745]
DLREXJPY(-3)	-.18307	.14494	-1.2631[.209]
DLREXJPY(-4)	-.067332	.13991	-.48126[.631]
DLREXJPY(-5)	.0027634	.13862	.019935[.984]
DLREXJPY(-6)	.058008	.12864	.45095[.653]
DLREXJPY(-7)	-.026113	.12685	-.20585[.837]
DLREXJPY(-8)	-.46026	.12687	-3.6278[.000]
DLREXJPY(-9)	.22046	.13368	1.6492[.102]
DLREXJPY(-10)	-.085934	.13501	-.63648[.526]
DLREXJPY(-11)	-.23151	.12744	-1.8167[.072]
LMPI(-1)	.037726	.029790	1.2664[.208]
LTB(-1)	.17776	.090628	1.9614[.052]
LREXJPY(-1)	.084690	.052724	1.6063[.111]

****

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

Lagrange Multiplier Statistic CHSQ(3)= 7.4522[.059]

Likelihood Ratio Statistic CHSQ(3)= 7.6520[.054]

F Statistic F(3, 107)= 1.9465[.126]

****

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เมื่อช่วงเวลา = 12

Variable Addition Test (OLS case)

****

Dependent variable is DLMPI

List of the variables added to the regression:

LMPI(-1) LTB(-1) LREXJPY(-1)

143 observations used for estimation from 1998M2 to 2009M12

****

Regressor	Coefficient	Standard Error	T-Ratio[Prob]
INPT	-.87677	.31169	-2.8130[.006]
DLMPI(-1)	-.44359	.094100	-4.7141[.000]
DLMPI(-2)	-.057686	.097816	-.58974[.557]
DLMPI(-3)	-.028187	.092053	-.30621[.760]
DLMPI(-4)	-.16443	.091621	-1.7947[.076]
DLMPI(-5)	-.11534	.092738	-1.2437[.216]
DLMPI(-6)	.022397	.093089	.24060[.810]
DLMPI(-7)	-.014378	.092947	-.15469[.877]
DLMPI(-8)	.077272	.091188	.84739[.399]
DLMPI(-9)	.074590	.092288	.80822[.421]
DLMPI(-10)	-.14642	.093616	-1.5640[.121]
DLMPI(-11)	-.16258	.093270	-1.7431[.084]
DLMPI(-12)	.52116	.086037	6.0574[.000]
DLTB(-1)	-.13834	.083735	-1.6521[.102]
DLTB(-2)	-.21016	.079783	-2.6341[.010]
DLTB(-3)	-.20164	.076150	-2.6479[.009]
DLTB(-4)	-.046058	.072879	-.63198[.529]
DLTB(-5)	-.080019	.068131	-1.1745[.243]
DLTB(-6)	-.061830	.065123	-.94944[.345]
DLTB(-7)	-.033739	.064645	-.52192[.603]
DLTB(-8)	-.038904	.063881	-.60900[.544]

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DLTB(-9)	-.078363	.063302	-1.2379[.219]
DLTB(-10)	.084961	.062208	1.3657[.175]
DLTB(-11)	.12883	.058843	2.1894[.031]
DLTB(-12)	.045442	.051123	.88887[.376]
DLREXJPY(-1)	-.24900	.12218	-2.0379[.044]
DLREXJPY(-2)	-.063679	.12753	-.49932[.619]
DLREXJPY(-3)	-.15437	.12559	-1.2291[.222]
DLREXJPY(-4)	-.16549	.12650	-1.3082[.194]
DLREXJPY(-5)	.013712	.12431	.11030[.912]
DLREXJPY(-6)	-.094471	.12153	-.77736[.439]
DLREXJPY(-7)	.043795	.11319	.38691[.700]
DLREXJPY(-8)	-.49832	.11062	-4.5048[.000]
DLREXJPY(-9)	.27159	.11796	2.3023[.023]
DLREXJPY(-10)	-.18227	.12132	-1.5024[.136]
DLREXJPY(-11)	-.19673	.12028	-1.6356[.105]
DLREXJPY(-12)	-.10317	.11938	-.86418[.389]
LMPI(-1)	.079436	.028685	2.7692[.007]
LTB(-1)	.30553	.088610	3.4480[.001]
LREXJPY(-1)	.13446	.050269	2.6748[.009]

****

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

Lagrange Multiplier Statistic CHSQ(3)= 15.9480[.001]

Likelihood Ratio Statistic CHSQ(3)= 16.9095[.001]

F Statistic F(3, 103)= 4.3096[.007]

****

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การประมาณค่าของ Error Correction Model ตามกระบวนการ ARDL โดยใช้ AIC

ระยะสั้น

Error Correction Representation for the Selected ARDL Model

ARDL(12,10,12) selected based on Akaike Information Criterion

****

Dependent variable is dLMPI

143 observations used for estimation from 1998M2 to 2009M12

****

Regressor	Coefficient	Standard Error	T-Ratio[Prob]
dLMPI1	-.58685	.094154	-6.2329[.000]
dLMPI2	-.10195	.10385	-.98171[.328]
dLMPI3	.043793	.10371	.42226[.674]
dLMPI4	-.12748	.10574	-1.2056[.231]
dLMPI5	-.13083	.10607	-1.2335[.220]
dLMPI6	-.028665	.10450	-.27431[.784]
dLMPI7	-.096284	.10247	-.93965[.349]
dLMPI8	.049747	.10387	.47894[.633]
dLMPI9	.061260	.10373	.59055[.556]
dLMPI10	-.24989	.10191	-2.4520[.016]
dLMPI11	-.42583	.082617	-5.1543[.000]
dLTB	.12690	.060929	2.0828[.040]
dLTB1	-.084400	.096480	-.87479[.384]
dLTB2	-.18859	.094308	-1.9997[.048]
dLTB3	-.17280	.091129	-1.8962[.061]
dLTB4	-.071978	.083547	-.86152[.391]
dLTB5	-.050070	.075733	-.66114[.510]
dLTB6	-.074414	.073868	-1.0074[.316]
dLTB7	-.077488	.071396	-1.0853[.280]
dLTB8	-.12053	.067715	-1.7800[.078]

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dLTB9	-.19630	.056499	-3.4744[.001]
dLREXJPY	-.023944	.15921	-.15040[.881]
dLREXJPY1	-.37056	.14337	-2.5846[.011]
dLREXJPY2	.026927	.14094	.19105[.849]
dLREXJPY3	-.22992	.14264	-1.6119[.110]
dLREXJPY4	-.16848	.14325	-1.1761[.242]
dLREXJPY5	.028701	.13670	.20996[.834]
dLREXJPY6	-.036259	.13605	-.26650[.790]
dLREXJPY7	-.017425	.12515	-.13923[.890]
dLREXJPY8	-.53628	.12690	-4.2259[.000]
dLREXJPY9	.25729	.13091	1.9654[.052]
dLREXJPY10	-.13262	.13003	-1.0199[.310]
dLREXJPY11	-.27905	.12356	-2.2584[.026]
dINPT	-.83346	.34326	-2.4281[.017]
ecm(-1)	.073002	.032249	2.2637[.026]

****

List of additional temporary variables created:

dLMPI = LMPI-LMPI(-1)

dLMPI1 = LMPI(-1)-LMPI(-2)

dLMPI2 = LMPI(-2)-LMPI(-3)

dLMPI3 = LMPI(-3)-LMPI(-4)

dLMPI4 = LMPI(-4)-LMPI(-5)

dLMPI5 = LMPI(-5)-LMPI(-6)

dLMPI6 = LMPI(-6)-LMPI(-7)

dLMPI7 = LMPI(-7)-LMPI(-8)

dLMPI8 = LMPI(-8)-LMPI(-9)

dLMPI9 = LMPI(-9)-LMPI(-10)

dLMPI10 = LMPI(-10)-LMPI(-11)

dLMPI11 = LMPI(-11)-LMPI(-12)

dLTB = LTB-LTB(-1)

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dLTB1 = LTB(-1)-LTB(-2)

dLTB2 = LTB(-2)-LTB(-3)

dLTB3 = LTB(-3)-LTB(-4)

dLTB4 = LTB(-4)-LTB(-5)

dLTB5 = LTB(-5)-LTB(-6)

dLTB6 = LTB(-6)-LTB(-7)

dLTB7 = LTB(-7)-LTB(-8)

dLTB8 = LTB(-8)-LTB(-9)

dLTB9 = LTB(-9)-LTB(-10)

dLREXJPY = LREXJPY-LREXJPY(-1)

dLREXJPY1 = LREXJPY(-1)-LREXJPY(-2)

dLREXJPY2 = LREXJPY(-2)-LREXJPY(-3)

dLREXJPY3 = LREXJPY(-3)-LREXJPY(-4)

dLREXJPY4 = LREXJPY(-4)-LREXJPY(-5)

dLREXJPY5 = LREXJPY(-5)-LREXJPY(-6)

dLREXJPY6 = LREXJPY(-6)-LREXJPY(-7)

dLREXJPY7 = LREXJPY(-7)-LREXJPY(-8)

dLREXJPY8 = LREXJPY(-8)-LREXJPY(-9)

dLREXJPY9 = LREXJPY(-9)-LREXJPY(-10)

dLREXJPY10 = LREXJPY(-10)-LREXJPY(-11)

dLREXJPY11 = LREXJPY(-11)-LREXJPY(-12)

dINPT = INPT-INPT(-1)

ecm = LMPI + 4.1205*LTB + 1.8222*LREXJPY -11.4169*INPT

****

R-Squared .64723 R-Bar-Squared .52742

S.E. of Regression .041181 F-stat. F(34, 108) 5.7200[.000]

Mean of Dependent Variable .0071734 S.D. of Dependent Variable .059905

Residual Sum of Squares .17976 Equation Log-likelihood 274.6373

Akaike Info. Criterion 237.6373 Schwarz Bayesian Criterion 182.8247

DW-statistic 1.6476

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****

R-Squared and R-Bar-Squared measures refer to the dependent variable dLMPI 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(12,10,12) selected based on Akaike Information Criterion

****

Dependent variable is LMPI

143 observations used for estimation from 1998M2 to 2009M12

****

Regressor	Coefficient	Standard Error	T-Ratio[Prob]
LTB	-4.1205	.97257	-4.2367[.000]
LREXJPY	-1.8222	.42277	-4.3101[.000]
INPT	11.4169	1.4815	7.7066[.000]

****

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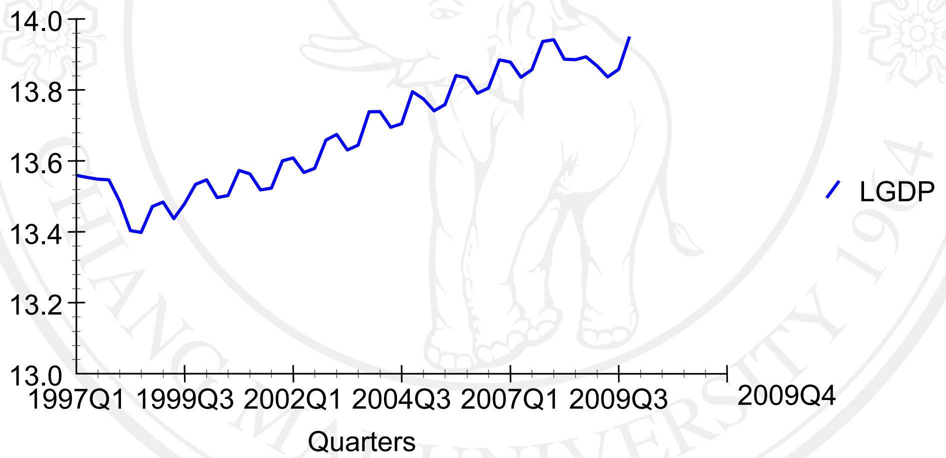
ภาคผนวก ข

แผนภูมิแบบจำลองของตัวแปรที่ศึกษาและแผนภูมิแบบจำลองของผลต่างลำดับที่ 1 ของตัวแปร

1. กรณีผลิตภัณฑ์มวลรวมภายในประเทศของประเทศไทยและอัตราแลกเปลี่ยนค่ากลางของเงินสกุลดอลลาร์สหรัฐต่อเงินบาท

แผนภูมิในรูป Log ของผลิตภัณฑ์มวลรวมภายในประเทศของประเทศไทย (GDP)



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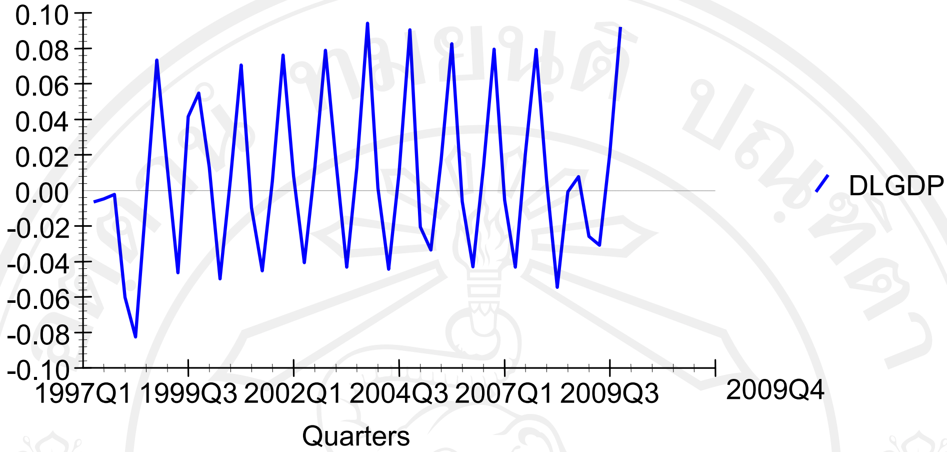
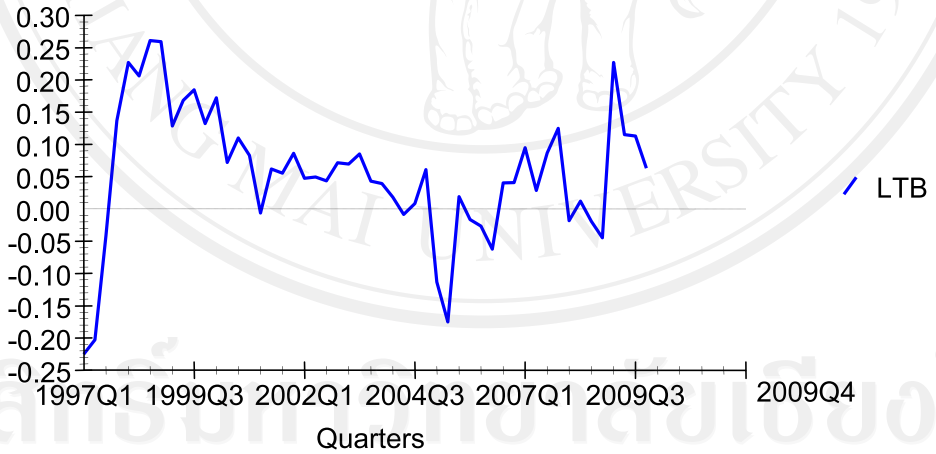
แผนภูมิในรูป Log ของผลต่างลำดับที่ 1 ของผลิตภัณฑ์มวลรวมภายในประเทศของประเทศไทย (GDP)



แผนภูมิในรูป Log ของดุลการค้า (TB)



แผนภูมิในรูป Log ของผลต่างลำดับที่ 1 ของดุลการค้า (TB)

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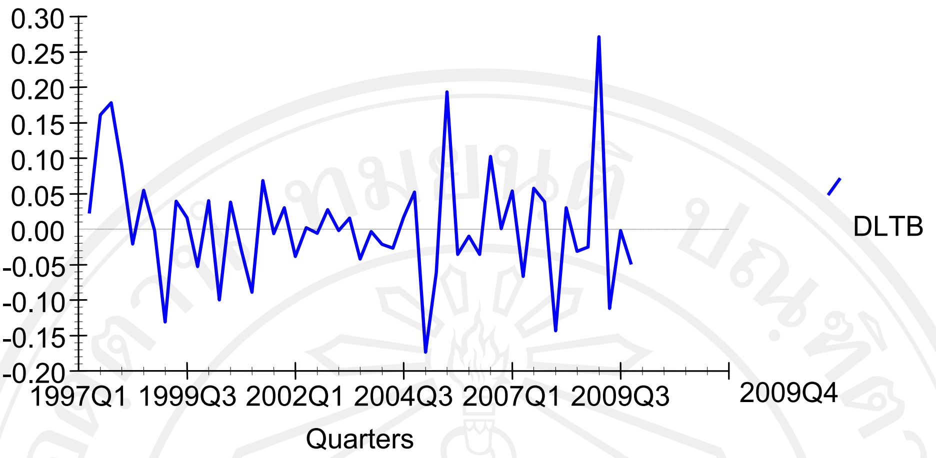
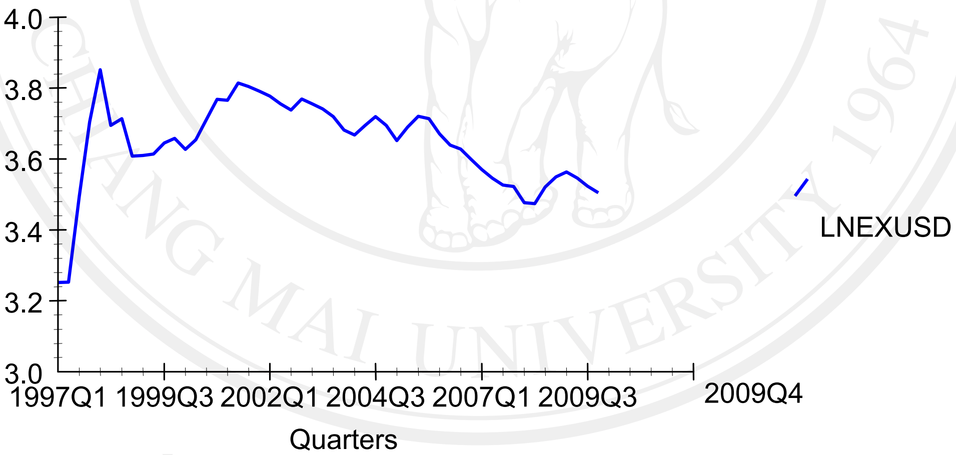


แผนภูมิในรูป Log ของอัตราแลกเปลี่ยนค่ากลางของเงินสกุลดอลลาร์สหรัฐต่อเงินบาท (NEXUSD)



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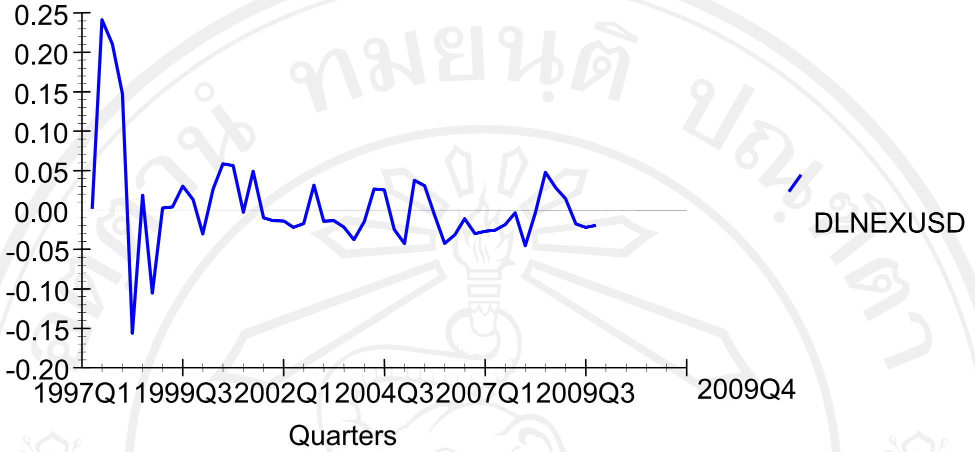
แผนภูมิในรูป Log ของผลต่างลำดับที่ 1 ของอัตราแลกเปลี่ยนค่ากลางของเงินสกุลดอลลาร์สหรัฐ ต่อเงินบาท (NEXUSD)



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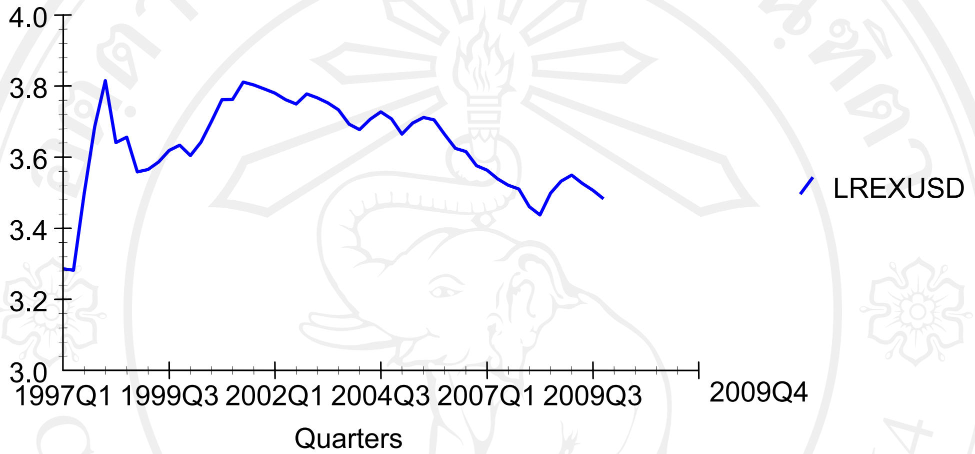
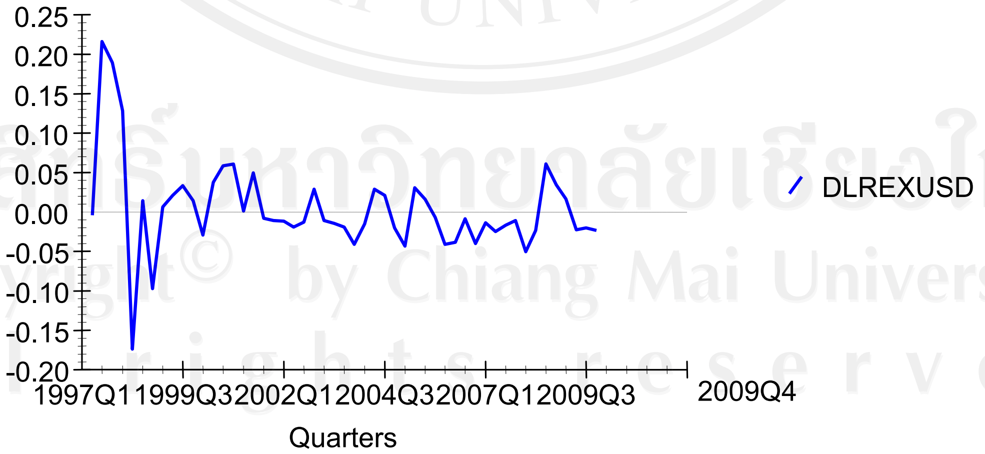
2. กรณีผลิตภัณฑ์มวลรวมภายในประเทศของประเทศไทยและอัตราแลกเปลี่ยนที่แท้จริงของเงินสกุลดอลลาร์สหรัฐต่อเงินบาท

แผนภูมิในรูป Log ของอัตราแลกเปลี่ยนที่แท้จริงของเงินสกุลดอลลาร์สหรัฐต่อเงินบาท (REXUSD)



แผนภูมิในรูป Log ของผลต่างลำดับที่ 1 ของอัตราแลกเปลี่ยนที่แท้จริงของเงินสกุลดอลลาร์สหรัฐต่อเงินบาท (REXUSD)



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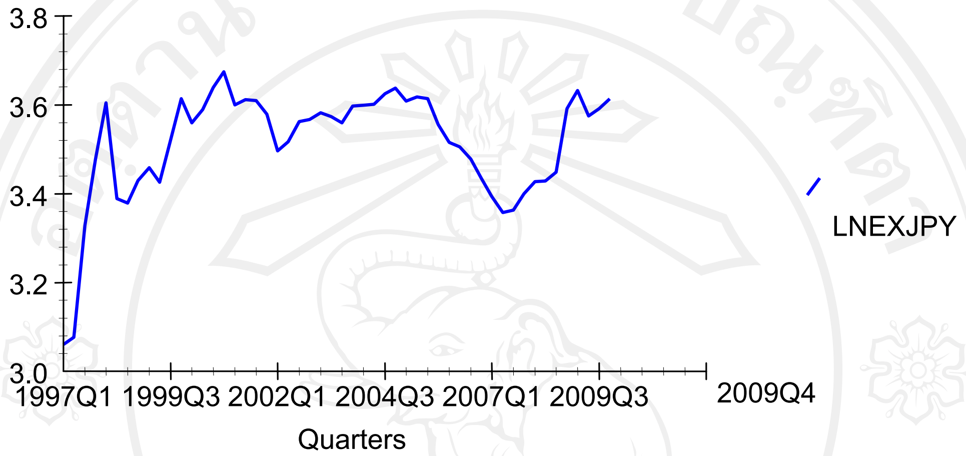
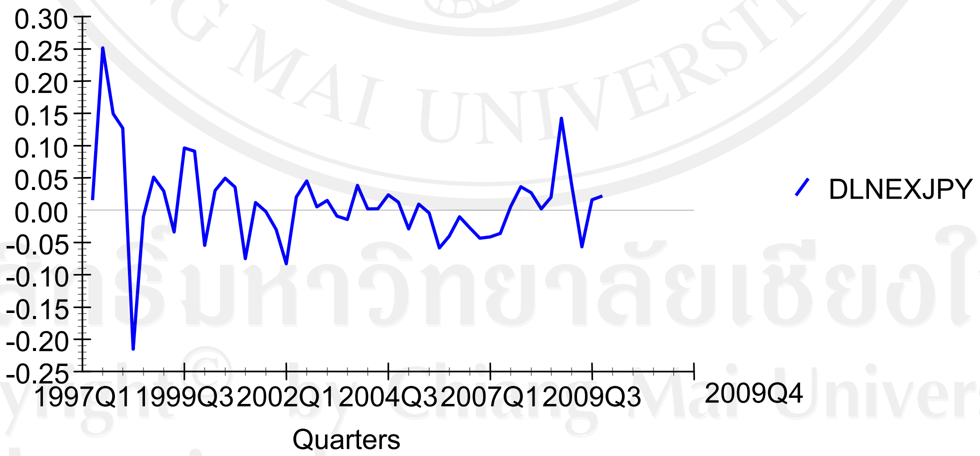
3. กรณีผลิตภัณฑ์มวลรวมภายในประเทศของประเทศไทยและอัตราแลกเปลี่ยนค่ากลางของเงินสกุลเยนญี่ปุ่นต่อเงินบาท

แผนภูมิในรูป Log ของอัตราแลกเปลี่ยนค่ากลางของเงินสกุลเยนญี่ปุ่นต่อเงินบาท (NEXJPY)



แผนภูมิในรูป Log ของผลต่างลำดับที่ 1 ของอัตราแลกเปลี่ยนค่ากลางของเงินสกุลเยนญี่ปุ่นต่อเงินบาท (NEXJPY)



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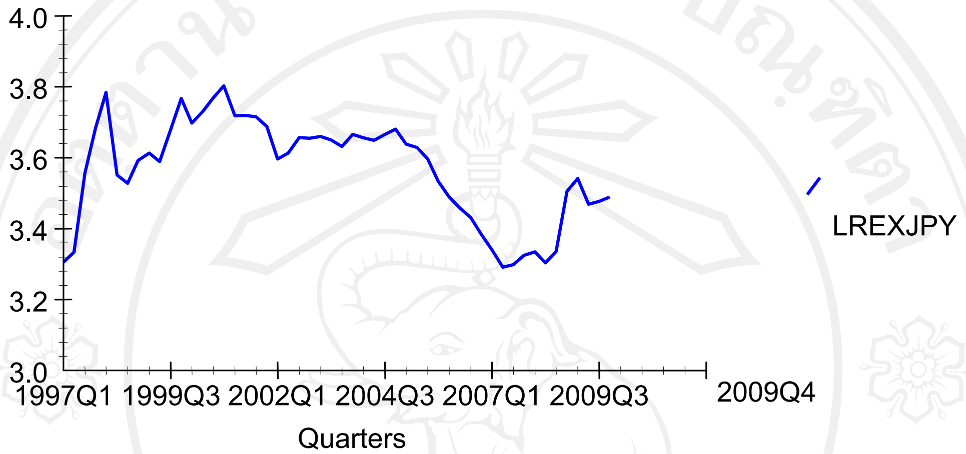
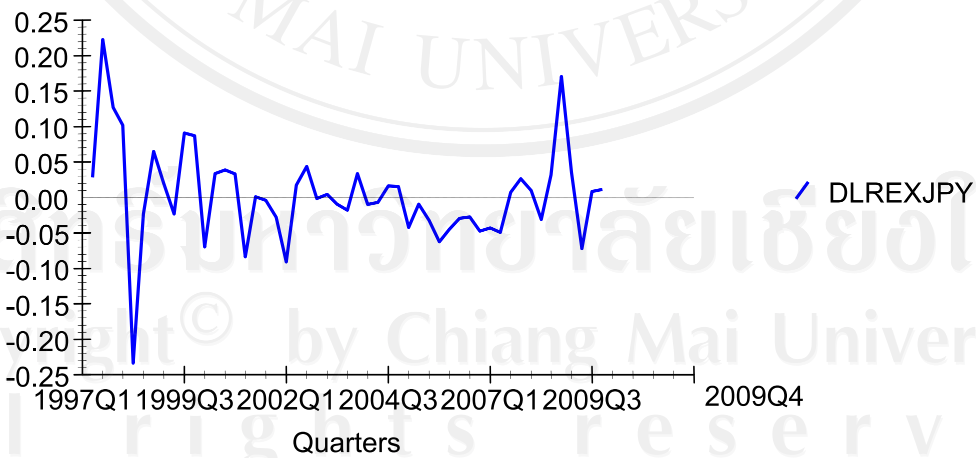
4. กรณีผลิตภัณฑ์มวลรวมภายในประเทศของประเทศไทยและอัตราแลกเปลี่ยนที่แท้จริงของเงินสกุลเยนญี่ปุ่นต่อเงินบาท

แผนภูมิในรูป Log ของอัตราแลกเปลี่ยนที่แท้จริงของเงินสกุลเยนญี่ปุ่นต่อเงินบาท (REXJPY)



แผนภูมิในรูป Log ของผลต่างลำดับที่ 1 ของอัตราแลกเปลี่ยนที่แท้จริงของเงินสกุลเยนญี่ปุ่นต่อเงินบาท (REXJPY)



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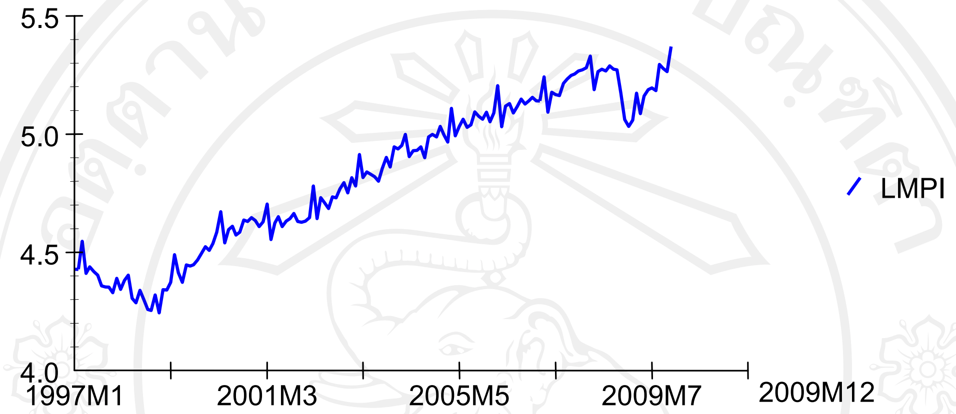
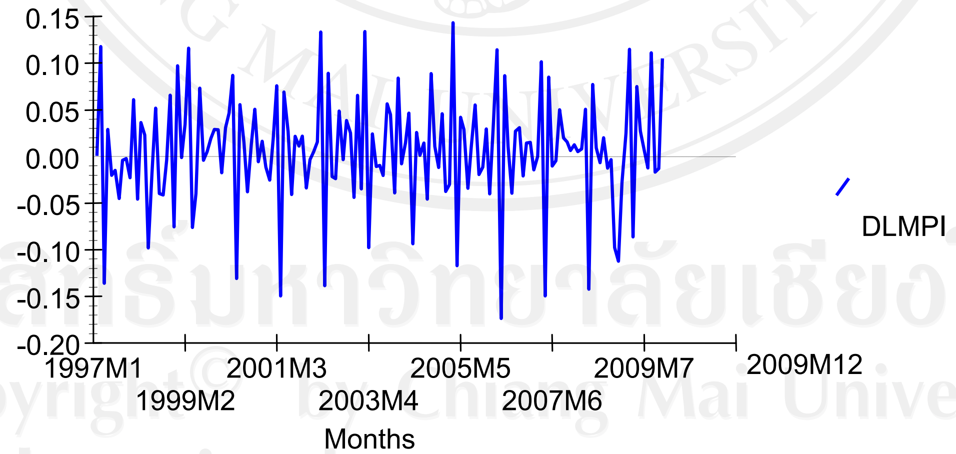
5. กรณีดัชนีผลผลิตอุตสาหกรรมและอัตราแลกเปลี่ยนค่ากลางของเงินสกุลดอลลาร์สหรัฐต่อเงินบาท

แผนภูมิในรูป Log ของดัชนีผลผลิตอุตสาหกรรม (MPI)



แผนภูมิในรูป Log ของผลต่างลำดับที่ 1 ของดัชนีผลผลิตอุตสาหกรรม (MPI)



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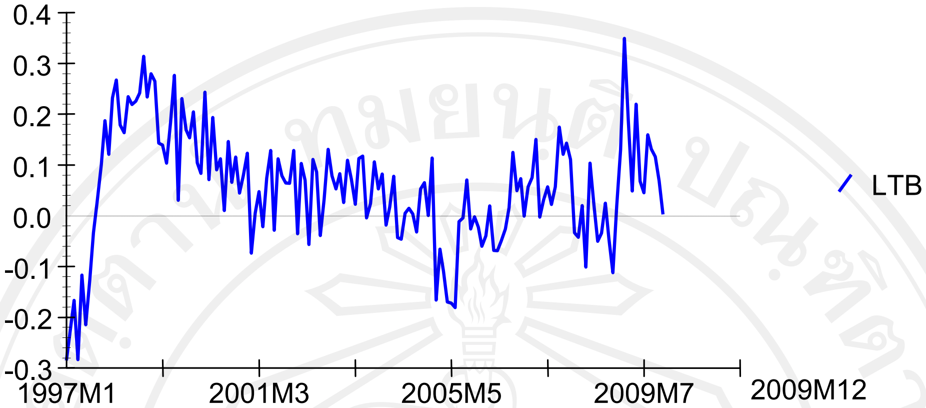
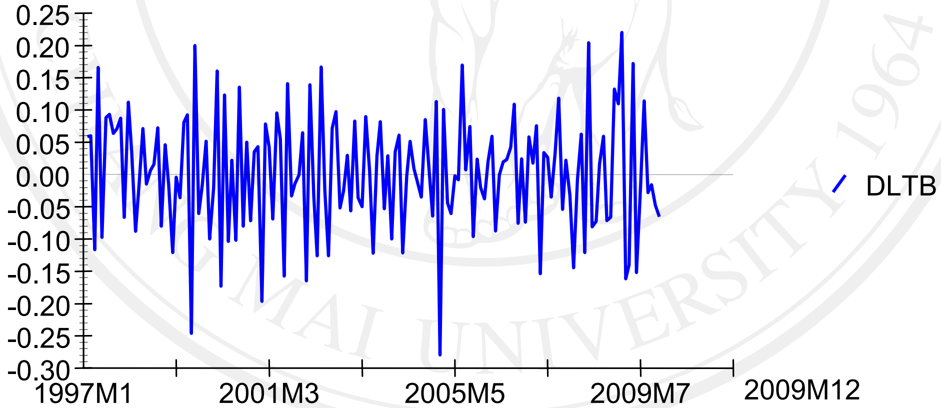
แผนภูมิในรูป Log ของดุลการค้า (TB)



แผนภูมิในรูป Log ของผลต่างลำดับที่ 1 ของดุลการค้า (TB)



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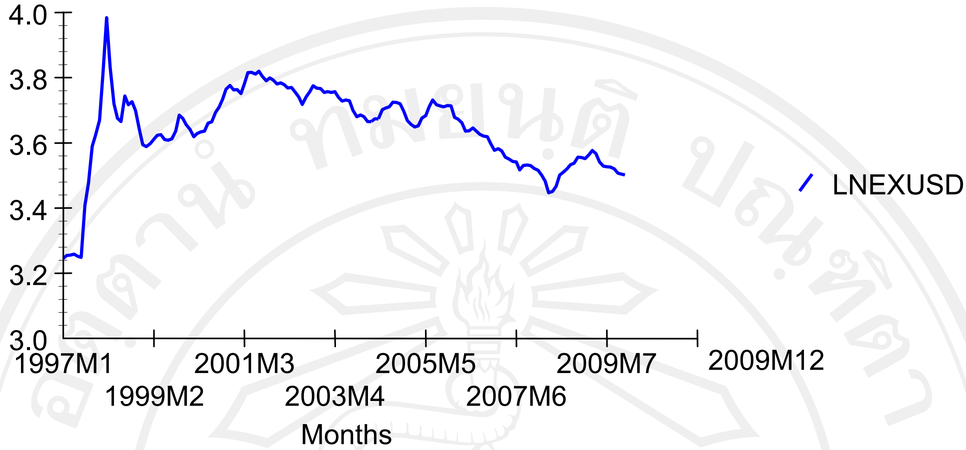
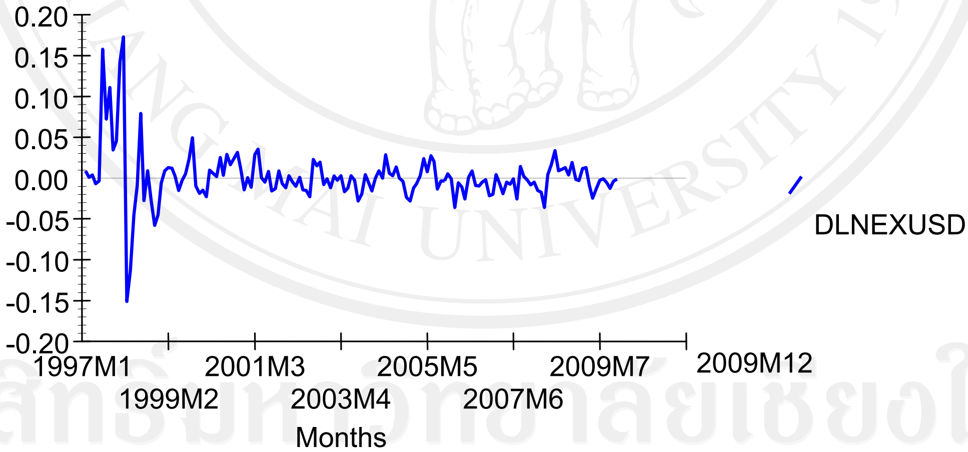
แผนภูมิในรูป Log ของอัตราแลกเปลี่ยนค่ากลางของเงินสกุลดอลลาร์สหรัฐต่อเงินบาท (NEXUSD)



แผนภูมิในรูป Log ของผลต่างลำดับที่ 1 ของอัตราแลกเปลี่ยนค่ากลางของเงินสกุลดอลลาร์สหรัฐต่อเงินบาท (NEXUSD)



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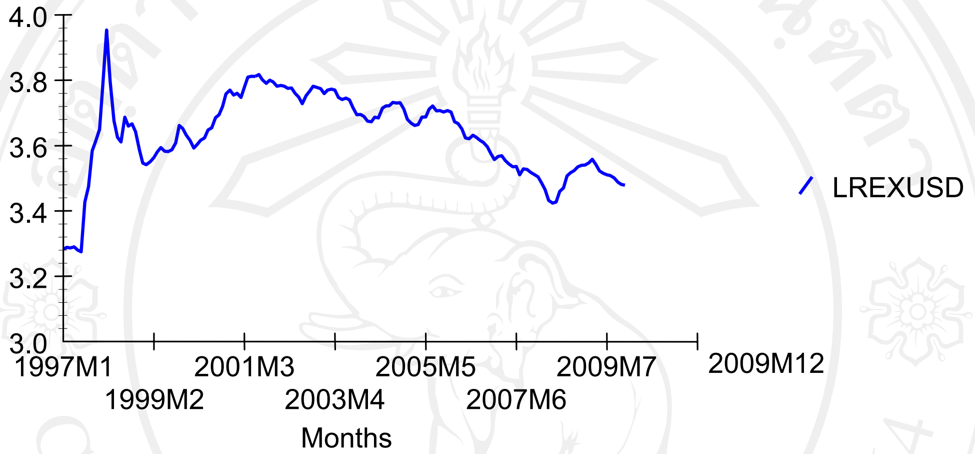
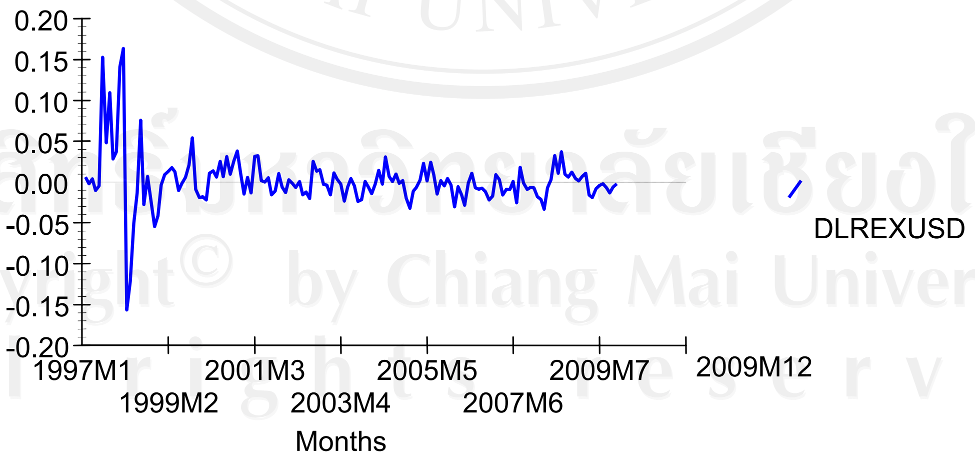
6. กรณีดัชนีผลผลิตอุตสาหกรรมและอัตราแลกเปลี่ยนที่แท้จริงของเงินสกุลดอลลาร์สหรัฐต่อเงินบาท

แผนภูมิในรูป Log ของอัตราแลกเปลี่ยนที่แท้จริงของเงินสกุลดอลลาร์สหรัฐต่อเงินบาท (REXUSD)



แผนภูมิในรูป Log ของผลต่างลำดับที่ 1 ของอัตราแลกเปลี่ยนที่แท้จริงของเงินสกุลดอลลาร์สหรัฐต่อเงินบาท (REXUSD)



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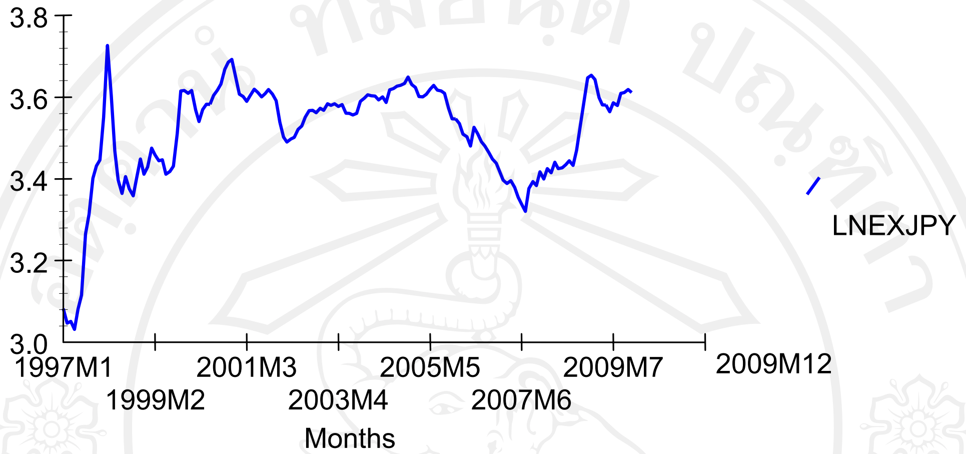
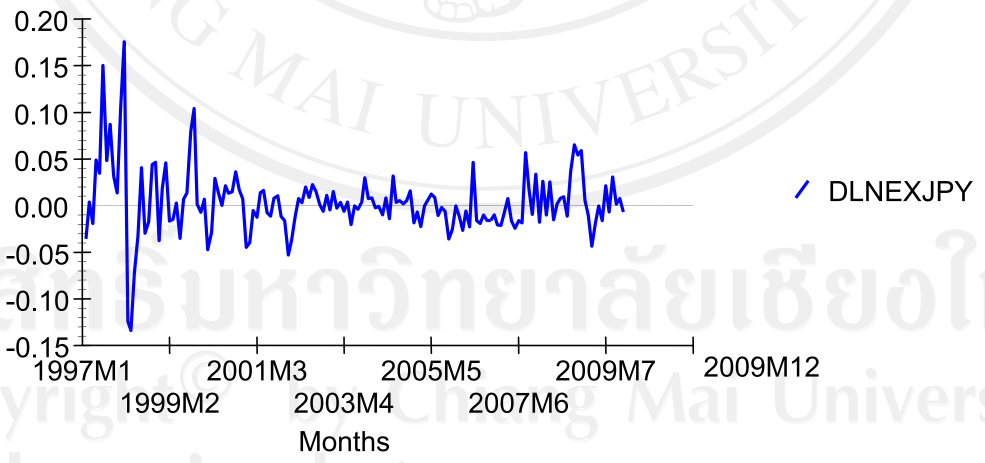
7. กรณีดัชนีผลผลิตอุตสาหกรรมและอัตราแลกเปลี่ยนค่ากลางของเงินสกุลเยนญี่ปุ่นต่อเงินบาท

แผนภูมิในรูป Log ของอัตราแลกเปลี่ยนค่ากลางของเงินสกุลเยนญี่ปุ่นต่อเงินบาท (NEXJPY)



แผนภูมิในรูป Log ของผลต่างลำดับที่ 1 ของอัตราแลกเปลี่ยนค่ากลางของเงินสกุลเยนญี่ปุ่นต่อเงินบาท (NEXJPY)



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8. กรณีดัชนีผลผลิตอุตสาหกรรมและอัตราแลกเปลี่ยนที่แท้จริงของเงินสกุลเยนญี่ปุ่นต่อเงินบาท

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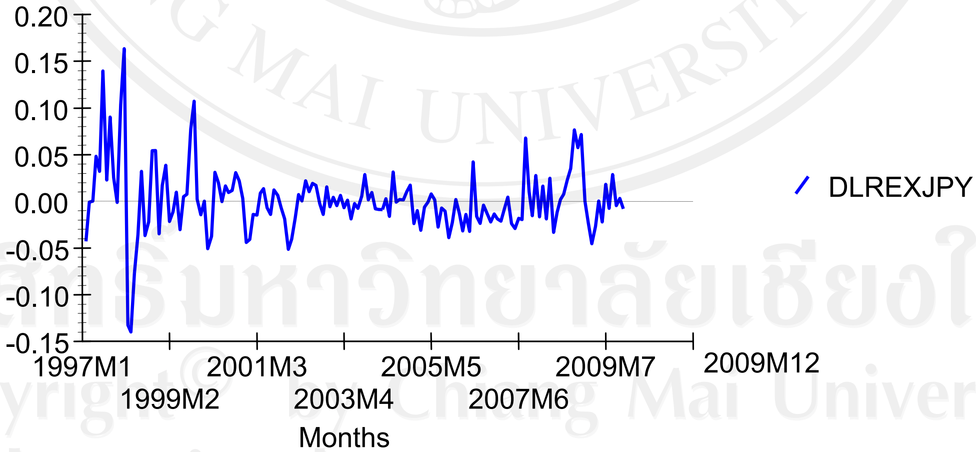

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ประวัติผู้เขียน

ชื่อ – สกุล นาย เอกจรินทร์ รอดเจริญ

วัน เดือน ปี เกิด 30 มกราคม 2525

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ตำแหน่ง เจ้าหน้าที่บริการลูกค้า เมื่อ พฤศจิกายน 2549 ถึง ตุลาคม 2552

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