ภาคผนวก

ภาคผนวก ก

แสดงผลการเลือกช่วงเวลา (Lag Length) ที่เหมาะสม

1. กรณีประเทศฟิลิปปินส์

เมื่อช่วงเวลา = 2

Variable Addition Test (OLS case)

……

Dependent variable is DLCA

List of the variables added to the regression:

LCA(-1) LRER(-1)

36 observations used for estimation from 1998Q4 to 2007Q3

Regressor	Coefficient	Standard Error	T-Ratio[Prob]
INPT	-.18553	.37413	-.49588[.624]
DLCA(-1)	.36962	.15711	2.3526[.026]
DLCA(-2)	-.18411	.14407	-1.2779[.211]
DLRER(-1)	.64751	.27596	2.3464[.026]
DLRER(-2)	-.91643	.26741	-3.4271[.002]
LCA(-1)	-.86841	.23316	-3.7245[.001]
LRER(-1)	.014964	.10120	.14787[.883]

……..

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

Lagrange Multiplier Statistic CHSQ(2)= 13.6902[.001]

Likelihood Ratio Statistic CHSQ(2)= 17.2258[.000]

F Statistic F(2, 29)= 8.8978[.001]

……

เมื่อช่วงเวลา = 3

Variable Addition Test (OLS case)

……

Dependent variable is DLCA

List of the variables added to the regression:

LCA(-1) LRER(-1)

35 observations used for estimation from 1999Q1 to 2007Q3

Regressor	Coefficient	Standard Error	T-Ratio[Prob]
INPT	.045251	.34317	.13186[.896]
DLCA(-1)	.67014	.21793	3.0751[.005]
DLCA(-2)	-.032466	.15128	-.21460[.832]
DLCA(-3)	.068047	.12572	.54126[.593]
DLRER(-1)	.030648	.27687	.11070[.913]
DLRER(-2)	-.48591	.26855	-1.8094[.082]
DLRER(-3)	.17058	.26378	.64668[.524]
LCA(-1)	-1.4144	.27702	-5.1059[.000]
LRER(-1)	-.066890	.094191	-.71016[.484]

……

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

Lagrange Multiplier Statistic CHSQ(2)= 18.8478[.000]

Likelihood Ratio Statistic CHSQ(2)= 27.0651[.000]

F Statistic F(2, 26)= 15.1695[.000]

……

เมื่อช่วงเวลา = 4

Variable Addition Test (OLS case)

……

Dependent variable is DLCA

List of the variables added to the regression:

LCA(-1) LRER(-1)

34 observations used for estimation from 1999Q2 to 2007Q3

Regressor	Coefficient	Standard Error	T-Ratio[Prob]
INPT	.047898	.38795	.12346[.903]
DLCA(-1)	.94479	.30220	3.1263[.005]
DLCA(-2)	.17004	.26434	.64328[.526]
DLCA(-3)	.17021	.15744	1.0811[.291]
DLCA(-4)	.079936	.12895	.61990[.541]
DLRER(-1)	.18103	.30805	.58766[.562]
DLRER(-2)	-.67143	.30966	-2.1683[.041]
DLRER(-3)	.24579	.29156	.84300[.408]
DLRER(-4)	-.18883	.30838	-.61232[.546]
LCA(-1)	-1.8052	.41487	-4.3512[.000]
LRER(-1)	-.082669	.10815	-.76438[.452]

……

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

Lagrange Multiplier Statistic CHSQ(2)= 16.4797[.000]

Likelihood Ratio Statistic CHSQ(2)= 22.5420[.000]

F Statistic F(2, 23)= 10.8170[.000]

……

การประมาณค่าของ Error Correction Model ตามกระบวนการ ARDL โดยใช้ AIC

ระยะสั้น

Error Correction Representation for the Selected ARDL Model

ARDL(2,0) selected based on Akaike Information Criterion

Dependent variable is dLCA

34 observations used for estimation from 1999Q2 to 2007Q3

Regressor	Coefficient	Standard Error	T-Ratio[Prob]
dLCA1	.63220	.097849	6.4610[.000]
dLRER	-.10894	.077120	-1.4126[.168]
dINPT	.18088	.29338	.61654[.542]
ecm(-1)	-1.5784	.15475	-10.1997[.000]

List of additional temporary variables created:

dLCA = LCA-LCA(-1)

dLCA1 = LCA(-1)-LCA(-2)

dLRER = LRER-LRER(-1)

dINPT = INPT-INPT(-1)

ecm = LCA + .069017*LRER -.11460*INPT

R-Squared .77648 R-Bar-Squared .75412

S.E. of Regression .043680 F-stat. F(3, 30) 34.7381[.000]

Mean of Dependent Variable .0012307 S.D. of Dependent Variable .088089

Residual Sum of Squares .057237 Equation Log-likelihood 60.3336

Akaike Info. Criterion 56.3336 Schwarz Bayesian Criterion 53.2809

DW-statistic 1.9364

R-Squared and R-Bar-Squared measures refer to the dependent variable dLCA 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(2,0) selected based on Akaike Information Criterion

Dependent variable is LCA
34 observations used for estimation from 1999Q2 to 2007Q3

Regressor	Coefficient	Standard Error	T-Ratio[Prob]
LRER	-.069017	.048373	-1.4268[.164]
INPT	.11460	.18551	0.61774[.541]

2. กรณีประเทศไทย

เมื่อช่วงเวลา = 2

Variable Addition Test (OLS case)

Dependent variable is DLCA

List of the variables added to the regression:

LCA(-1) LRER(-1)

35 observations used for estimation from 1998Q4 to 2007Q2

Regressor	Coefficient	Standard Error	T-Ratio[Prob]
INPT	.11740	.54971	.21357[.832]
DLCA(-1)	-.099309	.17025	-.58332[.564]
DLCA(-2)	-.12156	.18667	-.65118[.520]
DLRER(-1)	.28430	.31914	.89081[.381]
DLRER(-2)	-.31097	.22185	-1.4017[.172]
LCA(-1)	-.27293	.11198	-2.4373[.021]
LRER(-1)	-.022074	.14602	-.15117[.881]

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

Lagrange Multiplier Statistic CHSQ(2)= 6.8948[.032]

Likelihood Ratio Statistic CHSQ(2)= 7.6787[.022]

F Statistic F(2, 28)= 3.4345[.046]

เมื่อช่วงเวลา = 3

Variable Addition Test (OLS case)

Dependent variable is DLCA

List of the variables added to the regression:

LCA(-1) LRER(-1)

34 observations used for estimation from 1999Q1 to 2007Q2

Regressor	Coefficient	Standard Error	T-Ratio[Prob]
INPT	-.13908	.56756	-.24504[.808]
DLCA(-1)	-.21248	.16630	-1.2777[.213]
DLCA(-2)	-.095692	.19549	-.48949[.629]
DLCA(-3)	-.16721	.19164	-.87254[.391]
DLRER(-1)	.36291	.34663	1.0470[.305]
DLRER(-2)	-.28081	.30931	-.90788[.373]
DLRER(-3)	-.48372	.25075	-1.9291[.065]
LCA(-1)	-.34601	.11789	-2.9352[.007]
LRER(-1)	.048960	.15075	.32477[.748]

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

Lagrange Multiplier Statistic CHSQ(2)= 10.7096[.005]

Likelihood Ratio Statistic CHSQ(2)= 12.8628[.002]

F Statistic F(2, 25)= 5.7478[.009]

เมื่อช่วงเวลา = 4

Variable Addition Test (OLS case)

Dependent variable is DLCA

List of the variables added to the regression:

LCA(-1) LRER(-1)

33 observations used for estimation from 1999Q2 to 2007Q2

Regressor	Coefficient	Standard Error	T-Ratio[Prob]
INPT	.059714	.63435	.094136[.926]
DLCA(-1)	-.14825	.18710	-.79234[.437]
DLCA(-2)	.025277	.23893	.10580[.917]
DLCA(-3)	-.080563	.23812	-.33834[.738]
DLCA(-4)	.17655	.23184	.76154[.454]
DLRER(-1)	.56905	.44570	1.2768[.215]
DLRER(-2)	-.26946	.38499	-.69992[.491]
DLRER(-3)	-.36358	.32867	-1.1062[.281]
DLRER(-4)	.12110	.28160	.43005[.671]
LCA(-1)	-.34329	.14509	-2.3661[.027]
LRER(-1)	-.0036742	.16853	-.021802[.983]

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

Lagrange Multiplier Statistic CHSQ(2)= 7.2783[.026]

Likelihood Ratio Statistic CHSQ(2)= 8.2226[.016]

F Statistic F(2, 22)= 3.1126[.065]

การประมาณค่าของ Error Correction Model ตามกระบวนการ ARDL โดยใช้ AIC

ระยะสั้น

Error Correction Representation for the Selected ARDL Model

ARDL(1,0) selected based on Akaike Information Criterion

Dependent variable is dLCA

33 observations used for estimation from 1999Q2 to 2007Q2

Regressor	Coefficient	Standard Error	T-Ratio[Prob]
dLRER	.4214E-3	.12742	.0033072[.997]
dINPT	.048293	.47822	.10098[.920]
ecm(-1)	-.37069	.12211	-3.0358[.005]

List of additional temporary variables created:

dLCA = LCA-LCA(-1)

dLRER = LRER-LRER(-1)

dINPT = INPT-INPT(-1)

ecm = LCA -.0011367*LRER -.13028*INPT

R-Squared .25145 R-Bar-Squared .20155

S.E. of Regression .051471 F-stat. F(2, 30) 5.0387[.013]

Mean of Dependent Variable -.0058908 S.D. of Dependent Variable .057602

Residual Sum of Squares .079477 Equation Log-likelihood 52.6502

Akaike Info. Criterion 49.6502 Schwarz Bayesian Criterion 47.4054

DW-statistic 2.1602

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

dLCA and in cases where the error correction model is highly

restricted, these measures could become negative

ระยะยาว

Estimated Long Run Coefficients using the ARDL Approach

ARDL(1,0) selected based on Akaike Information Criterion

Dependent variable is LCA

33 observations used for estimation from 1999Q2 to 2007Q2

Regressor	Coefficient	Standard Error	T-Ratio[Prob]
LRER	.0011367	.34383	.0033061[.997]
INPT	.13028	1.2767	.10204[.919]

3. กรณีประเทศอินโดนีเซีย

เมื่อช่วงเวลา = 2

Variable Addition Test (OLS case)

Dependent variable is DLCA

List of the variables added to the regression:

LCA(-1) LRER(-1)

36 observations used for estimation from 1998Q4 to 2007Q3

Regressor	Coefficient	Standard Error	T-Ratio[Prob]
INPT	-.85548	.76727	-1.1150[.274]
DLCA(-1)	-.14435	.19714	-.73222[.470]
DLCA(-2)	.0078439	.18467	.042476[.966]
DLRER(-1)	-.12643	.13584	-.93074[.360]
DLRER(-2)	.065635	.13577	.48342[.632]
LCA(-1)	-.28859	.15791	-1.8276[.078]
LRER(-1)	.10866	.089544	1.2135[.235]

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

Lagrange Multiplier Statistic CHSQ(2)= 3.8126[.149]

Likelihood Ratio Statistic CHSQ(2)= 4.0299[.133]

F Statistic F(2, 29)= 1.7175[.197]

เมื่อช่วงเวลา = 3

Variable Addition Test (OLS case)

Dependent variable is DLCA

List of the variables added to the regression:

LCA(-1) LRER(-1)

35 observations used for estimation from 1999Q1 to 2007Q3

Regressor	Coefficient	Standard Error	T-Ratio[Prob]
INPT	-1.8954	.89673	-2.1137[.044]
DLCA(-1)	-.11248	.18872	-.59602[.556]
DLCA(-2)	-.068917	.18585	-.37082[.714]
DLCA(-3)	-.23911	.17177	-1.3920[.176]
DLRER(-1)	-.13316	.12349	-1.0783[.291]
DLRER(-2)	-.0074970	.12352	-.060697[.952]
DLRER(-3)	-.22151	.12538	-1.7666[.089]
LCA(-1)	-.33159	.16161	-2.0519[.050]
LRER(-1)	.22681	.10512	2.1576[.040]

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

Lagrange Multiplier Statistic CHSQ(2)= 6.0910[.048]

Likelihood Ratio Statistic CHSQ(2)= 6.6918[.035]

F Statistic F(2, 26)= 2.7390[.083]

เมื่อช่วงเวลา = 4

Variable Addition Test (OLS case)

Dependent variable is DLCA

List of the variables added to the regression:

LCA(-1) LRER(-1)

34 observations used for estimation from 1999Q2 to 2007Q3

Regressor	Coefficient	Standard Error	T-Ratio[Prob]
INPT	-2.5524	1.0518	-2.4268[.023]
DLCA(-1)	-.083552	.23096	-.36175[.721]
DLCA(-2)	-.010786	.21378	-.050456[.960]
DLCA(-3)	-.18744	.20297	-.92347[.365]
DLCA(-4)	.10952	.19031	.57551[.571]
DLRER(-1)	-.25781	.24248	-1.0632[.299]
DLRER(-2)	-.0055305	.13431	-.041178[.968]
DLRER(-3)	-.22676	.13089	-1.7325[.097]
DLRER(-4)	-.13401	.13804	-.97078[.342]
LCA(-1)	-.43187	.18440	-2.3420[.028]
LRER(-1)	.30496	.12364	2.4664[.022]

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

Lagrange Multiplier Statistic CHSQ(2)= 7.8344[.020]

Likelihood Ratio Statistic CHSQ(2)= 8.9051[.012]

F Statistic F(2, 23)= 3.4433[.049]

การประมาณค่าของ Error Correction Model ตามกระบวนการ ARDL โดยใช้ AIC

ระยะสั้น

Error Correction Representation for the Selected ARDL Model

ARDL(1,4) selected based on Akaike Information Criterion

Dependent variable is dLCA

34 observations used for estimation from 1999Q2 to 2007Q3

Regressor	Coefficient	Standard Error	T-Ratio[Prob]
dLRER	-.11833	.21338	-.55456[.584]
dLRER1	-.22503	.23019	-.97761[.337]
dLRER2	.015019	.13323	.11272[.911]
dLRER3	-.23256	.12509	-1.8592[.074]
dINPT	-2.3257	.95974	-2.4233[.022]
ecm(-1)	-.44057	.13860	-3.1788[.004]

List of additional temporary variables created:

dLCA = LCA-LCA(-1)

dLRER = LRER-LRER(-1)

dLRER1 = LRER(-1)-LRER(-2)

dLRER2 = LRER(-2)-LRER(-3)

dLRER3 = LRER(-3)-LRER(-4)

dINPT = INPT-INPT(-1)

ecm = LCA -.63622*LRER + 5.2789*INPT

……..

R-Squared .37668 R-Bar-Squared .23817

S.E. of Regression .069918 F-stat. F(5, 28) 3.2633[.019]

Mean of Dependent Variable -.0050735 S.D. of Dependent Variable .080105

Residual Sum of Squares	.13199	Equation Log-likelihood	46.1297
Akaike Info. Criterion	39.1297	Schwarz Bayesian Criterion	33.7875
DW-statistic	2.2610		

……..

R-Squared and R-Bar-Squared measures refer to the dependent variable dLCA and in cases where the error correction model is highly restricted, these measures could become negative.

ระยะยาว

Estimated Long Run Coefficients using the ARDL Approach

ARDL(1,4) selected based on Akaike Information Criterion

Dependent variable is LCA

34 observations used for estimation from 1999Q2 to 2007Q3

Regressor	Coefficient	Standard Error	T-Ratio[Prob]
LRER	.63622	.20581	3.0913[.005]
INPT	-5.2789	1.8367	-2.8741[.008]

4.กรณีประเทศบราซิล

เมื่อช่วงเวลา = 2

Variable Addition Test (OLS case)

Dependent variable is DLCA

List of the variables added to the regression:

LCA(-1) LRER(-1)

36 observations used for estimation from 1998Q4 to 2007Q3

Regressor	Coefficient	Standard Error	T-Ratio[Prob]
INPT	-.088228	.036415	-2.4228[.022]
DLCA(-1)	-.18128	.14836	-1.2219[.232]
DLCA(-2)	-.64231	.13549	-4.7405[.000]
DLRER(-1)	.020558	.12390	.16593[.869]
DLRER(-2)	.0059784	.12306	.048581[.962]
LCA(-1)	-.11375	.056370	-2.0178[.053]
LRER(-1)	.19791	.055028	3.5966[.001]

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

Lagrange Multiplier Statistic CHSQ(2)= 11.8100[.003]

Likelihood Ratio Statistic CHSQ(2)= 14.3129[.001]

F Statistic F(2, 29)= 7.0792[.003]

เมื่อช่วงเวลา = 3

Variable Addition Test (OLS case)

Dependent variable is DLCA

List of the variables added to the regression:

LCA(-1) LRER(-1)

35 observations used for estimation from 1999Q1 to 2007Q3

Regressor	Coefficient	Standard Error	T-Ratio[Prob]
INPT	-.098672	.046775	-2.1095[.045]
DLCA(-1)	-.29123	.21352	-1.3639[.184]
DLCA(-2)	-.67519	.16373	-4.1239[.000]
DLCA(-3)	-.15002	.20247	-.74097[.465]
DLRER(-1)	.021521	.13427	.16028[.874]
DLRER(-2)	.0072304	.12957	.055803[.956]
DLRER(-3)	.082805	.13055	.63427[.531]
LCA(-1)	-.10483	.066601	-1.5740[.128]
LRER(-1)	.21511	.073060	2.9443[.007]

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

Lagrange Multiplier Statistic CHSQ(2)= 9.3134[.009]

Likelihood Ratio Statistic CHSQ(2)= 10.8282[.004]

F Statistic F(2, 26)= 4.7135[.018]

เมื่อช่วงเวลา = 4

Variable Addition Test (OLS case)

Dependent variable is DLCA

List of the variables added to the regression:

LCA(-1) LRER(-1)

34 observations used for estimation from 1999Q2 to 2007Q3

Regressor	Coefficient	Standard Error	T-Ratio[Prob]
INPT	-.14491	.058277	-2.4867[.021]
DLCA(-1)	-.36878	.23987	-1.5374[.138]
DLCA(-2)	-.72158	.23226	-3.1068[.005]
DLCA(-3)	-.30647	.23485	-1.3050[.205]
DLCA(-4)	-.074357	.20958	-.35480[.726]
DLRER(-1)	.017090	.14948	.11433[.910]
DLRER(-2)	-.0018159	.13566	-.013385[.989]
DLRER(-3)	.12323	.13398	.91978[.367]
DLRER(-4)	.057288	.14591	.39264[.698]
LCA(-1)	-.070007	.079254	-.88332[.386]
LRER(-1)	.27135	.090459	2.9997[.006]

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

Lagrange Multiplier Statistic CHSQ(2)= 9.7347[.008]

Likelihood Ratio Statistic CHSQ(2)= 11.4686[.003]

F Statistic F(2, 23)= 4.6135[.021]

การประมาณค่าของ Error Correction Model ตามกระบวนการ ARDL โดยใช้ AIC

ระยะสั้น

Error Correction Representation for the Selected ARDL Model

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

Dependent variable is dLCA

34 observations used for estimation from 1999Q2 to 2007Q3

Regressor	Coefficient	Standard Error	T-Ratio[Prob]
dLCA1	-.19414	.13370	-1.4521[.157]
dLCA2	-.59893	.13040	-4.5931[.000]
dLRER	.21883	.054561	4.0107[.000]
dINPT	-.11381	.040889	-2.7835[.009]
ecm(-1)	-.070916	.046149	-1.5367[.135]

List of additional temporary variables created:

dLCA = LCA-LCA(-1)

dLCA1 = LCA(-1)-LCA(-2)

dLCA2 = LCA(-2)-LCA(-3)

dLRER = LRER-LRER(-1)

dINPT = INPT-INPT(-1)

ecm = LCA -3.0857*LRER + 1.6049*INPT

……

R-Squared .52893 R-Bar-Squared .46395

S.E. of Regression .054366 F-stat. F(4, 29) 8.1405[.000]

Mean of Dependent Variable .010340 S.D. of Dependent Variable .074255

Residual Sum of Squares .085714 Equation Log-likelihood 53.4688

Akaike Info. Criterion 48.4688 Schwarz Bayesian Criterion 44.6529

DW-statistic 2.1021

…….

R-Squared and R-Bar-Squared measures refer to the dependent variable dLCA 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) selected based on Akaike Information Criterion

Regressor	Coefficient	Standard Error	T-Ratio[Prob]
LRER	3.0857	2.2371	1.3793[.178]
INPT	-1.6049	1.3760	-1.1664[.253]

5. กรณีประเทศเม็กซิโก

เมื่อช่วงเวลา = 2

Variable Addition Test (OLS case)

Dependent variable is DLCA

List of the variables added to the regression:

LCA(-1) LRER(-1)

36 observations used for estimation from 1998Q4 to 2007Q3

Regressor	Coefficient	Standard Error	T-Ratio[Prob]
INPT	.10797	.88165	.12246[.903]
DLCA(-1)	.037996	.17574	.21620[.830]
DLCA(-2)	.24970	.17207	1.4511[.157]
DLRER(-1)	-.36570	.53274	-.68646[.498]
DLRER(-2)	-1.4130	.53093	-2.6613[.013]
LCA(-1)	-.49336	.14404	-3.4250[.002]
LRER(-1)	.087511	.37214	.23515[.816]

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

Lagrange Multiplier Statistic CHSQ(2)= 11.9145[.003]

Likelihood Ratio Statistic CHSQ(2)= 14.4687[.001]

F Statistic F(2, 29)= 7.1728[.003]

เมื่อช่วงเวลา = 3

Variable Addition Test (OLS case)

Dependent variable is DLCA

List of the variables added to the regression:

LCA(-1) LRER(-1)

35 observations used for estimation from 1999Q1 to 2007Q3

Regressor	Coefficient	Standard Error	T-Ratio[Prob]
INPT	-.059875	.95910	-.062428[.951]
DLCA(-1)	-.17444	.17747	-.98291[.335]
DLCA(-2)	.16801	.17107	.98211[.335]
DLCA(-3)	-.066294	.16568	-.40014[.692]
DLRER(-1)	-.70806	.53211	-1.3307[.195]
DLRER(-2)	-1.2501	.48820	-2.5607[.017]
DLRER(-3)	-.33256	.55365	-.60067[.553]
LCA(-1)	-.29285	.16459	-1.7793[.087]
LRER(-1)	.10239	.40646	.25191[.803]

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

Lagrange Multiplier Statistic CHSQ(2)= 4.5705[.102]

Likelihood Ratio Statistic CHSQ(2)= 4.8977[.086]

F Statistic F(2, 26)= 1.9526[.162]

เมื่อช่วงเวลา = 4

Variable Addition Test (OLS case)

Dependent variable is DLCA

List of the variables added to the regression:

LCA(-1) LRER(-1)

34 observations used for estimation from 1999Q2 to 2007Q3

Regressor	Coefficient	Standard Error	T-Ratio[Prob]
INPT	.46764	1.0358	.45148[.656]
DLCA(-1)	.12655	.20226	.62569[.538]
DLCA(-2)	.21317	.18183	1.1724[.253]
DLCA(-3)	.056153	.15380	.36511[.718]
DLCA(-4)	.45001	.14917	3.0167[.006]
DLRER(-1)	-.13481	.51615	-.26119[.796]
DLRER(-2)	-.55628	.48355	-1.1504[.262]
DLRER(-3)	-.46842	.50939	-.91956[.367]
DLRER(-4)	-.78800	.58147	-1.3552[.189]
LCA(-1)	-.49956	.16137	-3.0957[.005]
LRER(-1)	-.072828	.44875	-.16229[.872]

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

Lagrange Multiplier Statistic CHSQ(2)= 10.0571[.007]

Likelihood Ratio Statistic CHSQ(2)= 11.9235[.003]

F Statistic F(2, 23)= 4.8305[.018]

การประมาณค่าของ Error Correction Model ตามกระบวนการ ARDL โดยใช้ AIC

ระยะสั้น

Error Correction Representation for the Selected ARDL Model

ARDL(2,4) selected based on Akaike Information Criterion

Dependent variable is dLCA

34 observations used for estimation from 1999Q2 to 2007Q3

Regressor	Coefficient	Standard Error	T-Ratio[Prob]
dLCA1	-.42404	.18951	-2.2376[.034]
dLRER	1.4856	.61723	2.4068[.023]
dLRER1	-.58337	.45380	-1.2855[.210]
dLRER2	-1.2959	.47315	-2.7390[.011]
dLRER3	-1.0091	.50866	-1.9839[.058]
dINPT	-1.8641	.86029	-2.1668[.039]
ecm(-1)	-.21321	.13648	-1.5623[.130]

List of additional temporary variables created:

dLCA = LCA-LCA(-1)

dLCA1 = LCA(-1)-LCA(-2)

dLRER = LRER-LRER(-1)

dLRER1 = LRER(-1)-LRER(-2)

dLRER2 = LRER(-2)-LRER(-3)

dLRER3 = LRER(-3)-LRER(-4)

dINPT = INPT-INPT(-1)

ecm = LCA -4.1188*LRER + 8.7427*INPT

……

R-Squared .44810 R-Bar-Squared .29951

S.E. of Regression .080524 F-stat. F(6, 27) 3.5184[.011]

Mean of Dependent Variable -.0023905 S.D. of Dependent Variable .096212

Residual Sum of Squares .16859 Equation Log-likelihood 41.9692

Akaike Info. Criterion 33.9692 Schwarz Bayesian Criterion 27.8638

DW-statistic 1.8151

……

R-Squared and R-Bar-Squared measures refer to the dependent variable dLCA 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(2,4) selected based on Akaike Information Criterion

……

Dependent variable is LCA

34 observations used for estimation from 1999Q2 to 2007Q3

Regressor	Coefficient	Standard Error	T-Ratio[Prob]
LRER	4.1188	3.3132	1.2431[.225]
INPT	-8.7427	7.5347	-1.1603[.256]

6. กรณีประเทศแอฟริกาใต้

เมื่อช่วงเวลา = 2

Variable Addition Test (OLS case)

Dependent variable is DLXM

List of the variables added to the regression:

LXM(-1) LREX(-1)

36 observations used for estimation from 1998Q4 to 2007Q3

Regressor	Coefficient	Standard Error	T-Ratio[Prob]
INPT	.10863	.13403	.81049[.424]
DLXM(-1)	-.40645	.16188	-2.5108[.018]
DLXM(-2)	-.39236	.14744	-2.6613[.013]
DLREX(-1)	-.16688	.13019	-1.2818[.210]
DLREX(-2)	.45644	.13689	3.3344[.002]
LXM(-1)	.056142	.13631	.41186[.683]
LREX(-1)	-.063746	.074360	-.85726[.398]

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

Lagrange Multiplier Statistic CHSQ(2)= 1.0113[.603]

Likelihood Ratio Statistic CHSQ(2)= 1.0258[.599]

F Statistic F(2, 29)= .41911[.662]

เมื่อช่วงเวลา = 3

Variable Addition Test (OLS case)

Dependent variable is DLXM

List of the variables added to the regression:

LXM(-1) LREX(-1)

35 observations used for estimation from 1999Q1 to 2007Q3

Regressor	Coefficient	Standard Error	T-Ratio[Prob]
INPT	.18782	.13455	1.3959[.175]
DLXM(-1)	-.74547	.22705	-3.2832[.003]
DLXM(-2)	-.66856	.17306	-3.8633[.001]
DLXM(-3)	-.42224	.15979	-2.6425[.014]
DLREX(-1)	-.064216	.13955	-.46017[.649]
DLREX(-2)	.45280	.13463	3.3633[.002]
DLREX(-3)	.065718	.15026	.43737[.665]
LXM(-1)	.19713	.13903	1.4179[.168]
LREX(-1)	-.11331	.075096	-1.5088[.143]

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

Lagrange Multiplier Statistic CHSQ(2)= 3.0192[.221]

Likelihood Ratio Statistic CHSQ(2)= 3.1574[.206]

F Statistic F(2, 26)= 1.2273[.310]

เมื่อช่วงเวลา = 4

Variable Addition Test (OLS case)

List of the variables added to the regression:

LXM(-1) LREX(-1)

34 observations used for estimation from 1999Q2 to 2007Q3

Regressor	Coefficient	Standard Error	T-Ratio[Prob]
INPT	.20079	.13375	1.5013[.147]
DLXM(-1)	-.80755	.23137	-3.4903[.002]
DLXM(-2)	-.74713	.23886	-3.1278[.005]
DLXM(-3)	-.43294	.18821	-2.3003[.031]
DLXM(-4)	-.14272	.15025	-.94990[.352]
DLREX(-1)	.029784	.12895	.23097[.819]
DLREX(-2)	.32161	.14353	2.2407[.035]
DLREX(-3)	.018387	.13517	.13603[.893]
DLREX(-4)	.27618	.13608	2.0295[.054]
LXM(-1)	.20715	.13578	1.5256[.141]
LREX(-1)	-.12336	.075198	-1.6405[.115]

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

Lagrange Multiplier Statistic CHSQ(2)= 3.6937[.158]

Likelihood Ratio Statistic CHSQ(2)= 3.9102[.142]

F Statistic F(2, 23)= 1.4016[.266]

การประมาณค่าของ Error Correction Model ตามกระบวนการ ARDL โดยใช้ AIC

ระยะสั้น

Error Correction Representation for the Selected ARDL Model

ARDL(4,1) selected based on Akaike Information Criterion

Dependent variable is dLXM

34 observations used for estimation from 1999Q2 to 2007Q3

Regressor	Coefficient	Standard Error	T-Ratio[Prob]
dLXM1	-.55226	.15287	-3.6126[.001]
dLXM2	-.31948	.14764	-2.1639[.039]
dLXM3	-.24539	.12966	-1.8925[.069]
dLREX	.23002	.10978	2.0952[.045]
dINPT	-.11131	.10246	-1.0863[.287]
ecm(-1)	-.036374	.11090	-.32798[.745]

List of additional temporary variables created:

dLXM = LXM-LXM(-1)

dLXM1 = LXM(-1)-LXM(-2)

dLXM2 = LXM(-2)-LXM(-3)

dLXM3 = LXM(-3)-LXM(-4)

dLREX = LREX-LREX(-1)

dINPT = INPT-INPT(-1)

ecm = LXM -1.4445*LREX + 3.0601*INPT

……

R-Squared .48119 R-Bar-Squared .36590

S.E. of Regression .040679 F-stat. F(5, 28) 5.0084[.002]

Mean of Dependent Variable -.010791 S.D. of Dependent Variable .051085

Residual Sum of Squares .044680 Equation Log-likelihood 64.5443

Akaike Info. Criterion 57.5443 Schwarz Bayesian Criterion 52.2020

DW-statistic 1.9301

……

R-Squared and R-Bar-Squared measures refer to the dependent variable dLXM 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(4,1) selected based on Akaike Information Criterion

……

Dependent variable is LXM

34 observations used for estimation from 1999Q2 to 2007Q3

Regressor	Coefficient	Standard Error	T-Ratio[Prob]
LREX	1.4445	3.4358	.42044[.677]
INPT	-3.0601	7.6793	-.39849[.693]

7.กรณีประเทศรัสเซีย

เมื่อช่วงเวลา = 2

Variable Addition Test (OLS case)

Dependent variable is DLCA

List of the variables added to the regression:

LCA(-1) LRER(-1)

36 observations used for estimation from 1998Q4 to 2007Q3

Regressor	Coefficient	Standard Error	T-Ratio[Prob]
INPT	-.15252	.21186	-.71992[.477]
DLCA(-1)	.084453	.19859	.42527[.674]
DLCA(-2)	.25828	.18533	1.3936[.174]
DLRER(-1)	-.057689	.40029	-.14412[.886]
DLRER(-2)	-.56625	.30432	-1.8607[.073]
LCA(-1)	-.63334	.17022	-3.7208[.001]
LRER(-1)	.18160	.077311	2.3490[.026]

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

Lagrange Multiplier Statistic CHSQ(2)= 12.0121[.002]

Likelihood Ratio Statistic CHSQ(2)= 14.6149[.001]

F Statistic F(2, 29)= 7.2610[.003]

เมื่อช่วงเวลา = 3

Variable Addition Test (OLS case)

Dependent variable is DLCA

List of the variables added to the regression:

LCA(-1) LRER(-1)

35 observations used for estimation from 1999Q1 to 2007Q3

Regressor	Coefficient	Standard Error	T-Ratio[Prob]
INPT	-.099901	.19975	-.50013[.621]
DLCA(-1)	-.086975	.19297	-.45072[.656]
DLCA(-2)	.19699	.19463	1.0121[.321]
DLCA(-3)	-.11802	.18094	-.65229[.520]
DLRER(-1)	-.12062	.50124	-.24064[.812]
DLRER(-2)	-.57391	.45157	-1.2709[.215]
DLRER(-3)	.59451	.33735	1.7623[.090]
LCA(-1)	-.32000	.19897	-1.6083[.120]
LRER(-1)	.097539	.076061	1.2824[.211]

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

Lagrange Multiplier Statistic CHSQ(2)= 3.4930[.174]

Likelihood Ratio Statistic CHSQ(2)= 3.6799[.159]

F Statistic F(2, 26)= 1.4412[.255]

เมื่อช่วงเวลา = 4

Variable Addition Test (OLS case)

Dependent variable is DLCA

List of the variables added to the regression:

LCA(-1) LRER(-1)

34 observations used for estimation from 1999Q2 to 2007Q3

Regressor	Coefficient	Standard Error	T-Ratio[Prob]
INPT	-.014096	.18723	-.075285[.941]
DLCA(-1)	.24043	.21366	1.1253[.272]
DLCA(-2)	.27774	.18059	1.5380[.138]
DLCA(-3)	.034755	.18671	.18614[.854]
DLCA(-4)	.53716	.17458	3.0769[.005]
DLRER(-1)	.82750	.73005	1.1335[.269]
DLRER(-2)	-.95347	.50520	-1.8873[.072]
DLRER(-3)	.37489	.45427	.82526[.418]
DLRER(-4)	-.34916	.34955	-.99887[.328]
LCA(-1)	-.49869	.18886	-2.6405[.015]
LRER(-1)	.10888	.070778	1.5384[.138]

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

Lagrange Multiplier Statistic CHSQ(2)= 7.9581[.019]

Likelihood Ratio Statistic CHSQ(2)= 9.0662[.011]

F Statistic F(2, 23)= 3.5143[.047]

การประมาณค่าของ Error Correction Model ตามกระบวนการ ARDL โดยใช้ AIC

ระยะสั้น

Error Correction Representation for the Selected ARDL Model

ARDL(1,0) selected based on Akaike Information Criterion

Dependent variable is dLCA

34 observations used for estimation from 1999Q2 to 2007Q3

Regressor	Coefficient	Standard Error	T-Ratio[Prob]
dLRER	.12232	.061567	1.9868[.056]
dINPT	-.12105	.17290	-.70011[.489]
ecm(-1)	-.38647	.13476	-2.8678[.007]

List of additional temporary variables created:

dLCA = LCA-LCA(-1)

dLRER = LRER-LRER(-1)

dINPT = INPT-INPT(-1)

ecm = LCA -.31651*LRER + .31323*INPT

R-Squared .22887 R-Bar-Squared .17912

S.E. of Regression .087170 F-stat. F(2, 31) 4.6003[.018]

Mean of Dependent Variable -.0023905 S.D. of Dependent Variable .096212

Residual Sum of Squares .23556 Equation Log-likelihood 36.2827

Akaike Info. Criterion 33.2827 Schwarz Bayesian Criterion 30.9932

DW-statistic 2.2403

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

dLCA and in cases where the error correction model is highly restricted, these measures could become negative.

ระยะยาว

Estimated Long Run Coefficients using the ARDL Approach

ARDL(1,0) selected based on Akaike Information Criterion

Dependent variable is LCA

34 observations used for estimation from 1999Q2 to 2007Q3

Regressor	Coefficient	Standard Error	T-Ratio[Prob]
LRER	.31651	.15633	2.0247[.052]
INPT	-.31323	.47124	-.66468[.511]

8.กรณีประเทศอินเดีย

เมื่อช่วงเวลา = 2

Variable Addition Test (OLS case)

Dependent variable is DLXM

List of the variables added to the regression:

LXM(-1) LREX(-1)

31 observations used for estimation from 1998Q4 to 2006Q2

Regressor	Coefficient	Standard Error	T-Ratio[Prob]
INPT	-4.1444	1.5851	-2.6145[.015]
DLXM(-1)	.087743	.24122	.36375[.719]
DLXM(-2)	.36946	.19422	1.9023[.069]
DLREX(-1)	-1.7474	1.0712	-1.6312[.116]
DLREX(-2)	-1.2388	.90479	-1.3691[.184]
LXM(-1)	-.84044	.25685	-3.2721[.003]
LREX(-1)	1.0624	.41417	2.5650[.017]

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

Lagrange Multiplier Statistic CHSQ(2)= 10.2932[.006]

Likelihood Ratio Statistic CHSQ(2)= 12.5093[.002]

F Statistic F(2, 24)= 5.9651[.008]

เมื่อช่วงเวลา = 3

Variable Addition Test (OLS case)

Dependent variable is DLXM

List of the variables added to the regression:

LXM(-1) LREX(-1)

30 observations used for estimation from 1999Q1 to 2006Q2

Regressor	Coefficient	Standard Error	T-Ratio[Prob]
INPT	-4.3049	1.6970	-2.5367[.019]
DLXM(-1)	-.073333	.26604	-.27565[.786]
DLXM(-2)	.036589	.25119	.14566[.886]
DLXM(-3)	-.39469	.20529	-1.9226[.068]
DLREX(-1)	-1.1261	1.1636	-.96773[.344]
DLREX(-2)	-.49322	1.0639	-.46360[.648]
DLREX(-3)	-.77543	.90497	-.85686[.401]
LXM(-1)	-.58794	.31454	-1.8692[.076]
LREX(-1)	1.1142	.44158	2.5232[.020]

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

Lagrange Multiplier Statistic CHSQ (2)= 7.2209[.027]

Likelihood Ratio Statistic CHSQ (2)= 8.2607[.016]

F Statistic F (2, 21)= 3.3285[.056]

เมื่อช่วงเวลา = 4

Variable Addition Test (OLS case)

Dependent variable is DLXM

List of the variables added to the regression:

LXM(-1) LREX(-1)

29 observations used for estimation from 1999Q2 to 2006Q2

Regressor	Coefficient	Standard Error	T-Ratio[Prob]
INPT	-6.2223	1.8932	-3.2867[.004]
DLXM(-1)	.30645	.39677	.77238[.450]
DLXM(-2)	.29906	.31692	.94363[.358]
DLXM(-3)	-.21161	.27775	-.76187[.456]
DLXM(-4)	.19468	.24897	.78196[.444]
DLREX(-1)	-2.3754	1.3209	-1.7983[.089]
DLREX(-2)	-1.3688	1.1796	-1.1603[.261]
DLREX(-3)	-1.2911	1.0651	-1.2121[.241]
DLREX(-4)	-1.9965	.96319	-2.0728[.053]
LXM(-1)	-1.0388	.40373	-2.5731[.019]
LREX(-1)	1.6034	.49111	3.2650[.004]

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

Lagrange Multiplier Statistic CHSQ(2)= 11.2087[.004]

Likelihood Ratio Statistic CHSQ(2)= 14.1691[.001]

F Statistic F(2, 18)= 5.6701[.012]

การประมาณค่าของ Error Correction Model ตามกระบวนการ ARDL โดยใช้ AIC

ระยะสั้น

Error Correction Representation for the Selected ARDL Model

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

Dependent variable is dLXM

30 observations used for estimation from 1999Q1 to 2006Q2

Regressor	Coefficient	Standard Error	T-Ratio[Prob]
dLXM1	-.32197	.20350	-1.5822[.127]
dLXM2	-.15664	.19345	-.80970[.426]
dLXM3	-.50862	.16262	-3.1276[.005]
dLREX	.77715	.31069	2.5014[.020]
dINPT	-2.9815	1.1786	-2.5297[.018]
ecm(-1)	-.27043	.19651	-1.3762[.181]

List of additional temporary variables created:

dLXM = LXM-LXM(-1)

dLXM1 = LXM(-1)-LXM(-2)

dLXM2 = LXM(-2)-LXM(-3)

dLXM3 = LXM(-3)-LXM(-4)

dLREX = LREX-LREX(-1)

dINPT = INPT-INPT(-1)

ecm = LXM -2.8738*LREX + 11.0249*INPT

R-Squared .58535 R-Bar-Squared .49896

S.E. of Regression .082037 F-stat. F(5, 24) 6.7759[.000]

Mean of Dependent Variable -.0054458 S.D. of Dependent Variable .11590

Residual Sum of Squares	.16152	Equation Log-likelihood	35.7965
Akaike Info. Criterion	29.7965	Schwarz Bayesian Criterion	25.5929
DW-statistic	2.0510		

ระยะยาว

Estimated Long Run Coefficients using the ARDL Approach

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

Dependent variable is LXM

30 observations used for estimation from 1999Q1 to 2006Q2

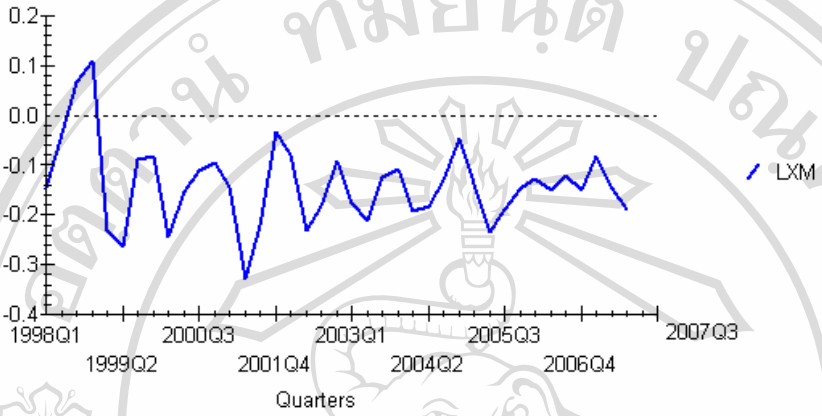
Regressor	Coefficient	Standard Error	T-Ratio[Prob]
LREX	2.8738	2.2634	1.2696[.216]
INPT	-11.0249	8.5720	-1.2862[.211]

ภาคผนวก ข

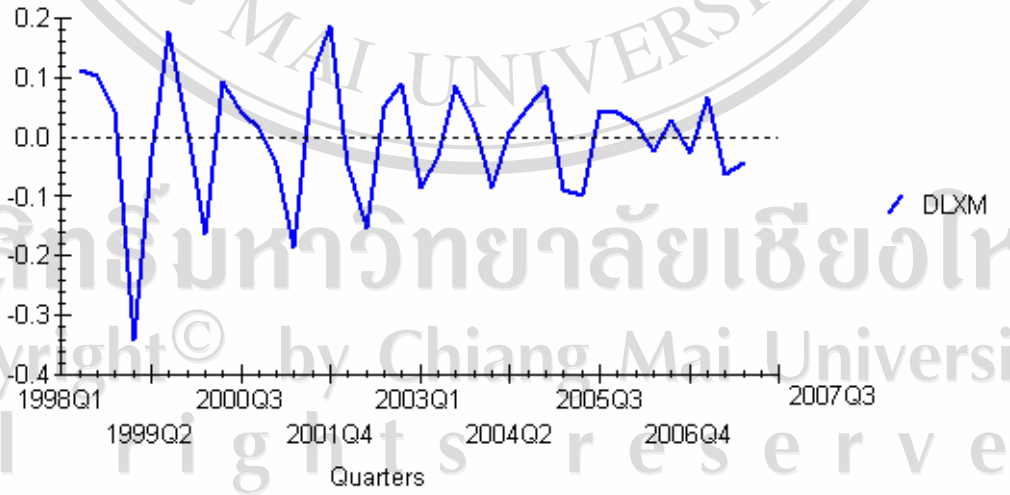
แผนภูมิแบบจำลองในรูป Log ของตัวแปรที่ศึกษา และ รูป Log ของผลต่างลำดับที่หนึ่งของตัวแปรที่ศึกษา

1. กรณีประเทศฟิลิปินส์

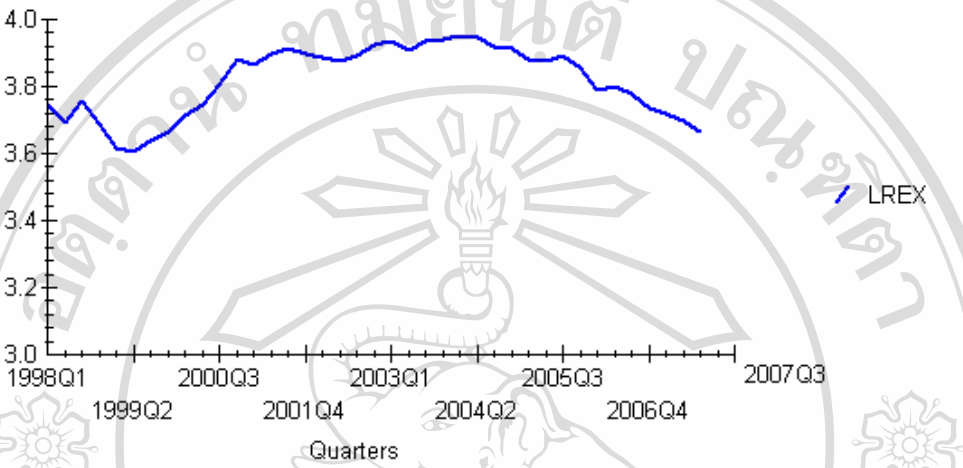
1.1 แผนภูมิในรูป Log ของดุลสินค้าและบริการ



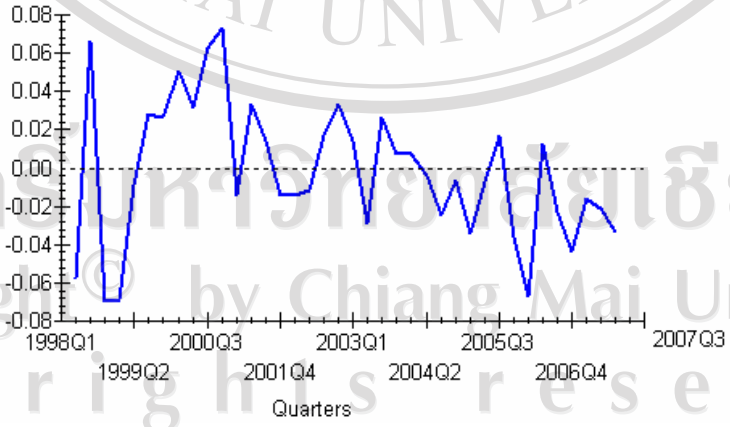
1.2 แผนภูมิในรูป Log ของผลต่างลำดับที่ 1 ของดุลสินค้าและบริการ



1.3แผนภูมิในรูป Log ของอัตราแลกเปลี่ยนที่แท้จริง

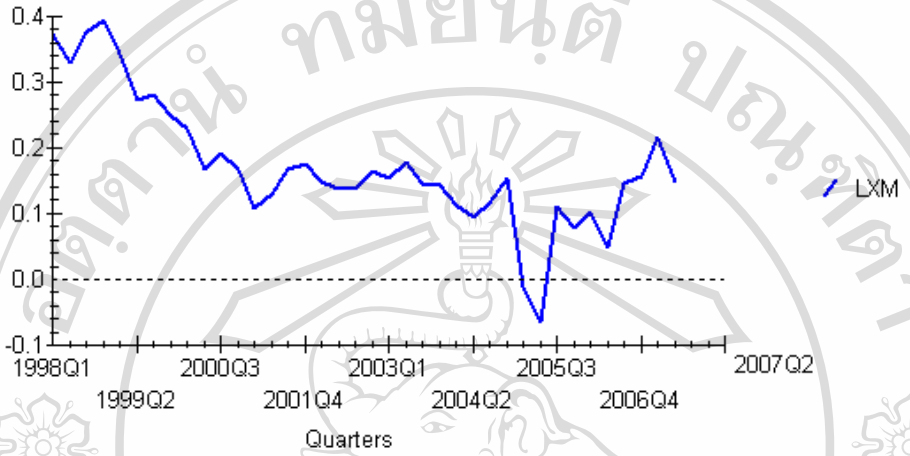


1.4 แผนภูมิในรูป Log ของผลต่างลำดับที่ 1 ของอัตราแลกเปลี่ยนที่แท้จริง

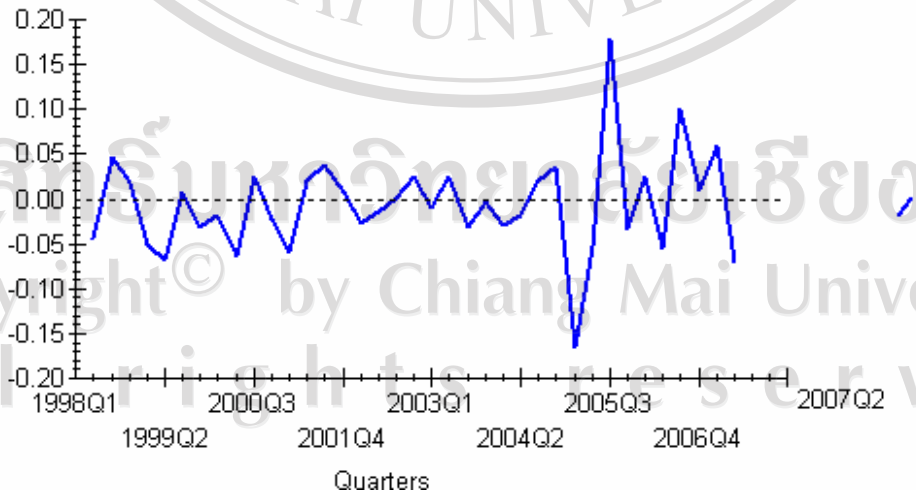


2. กรณีประเทศไทย

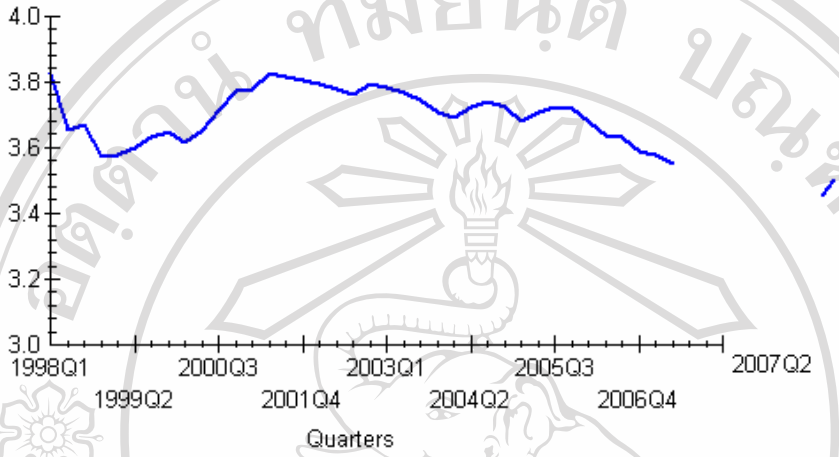
2.1แผนภูมิในรูป Log ของดุลสินค้าและบริการ



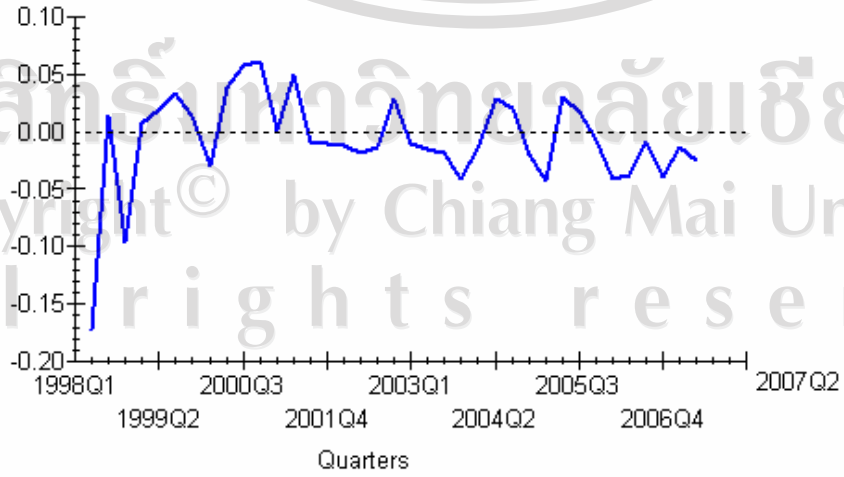
2.2แผนภูมิในรูป Log ของผลต่างลำดับที่ 1 ของดุลสินค้าและบริการ



2.3 แผนภูมิในรูป Log ของอัตราแลกเปลี่ยนที่แท้จริง

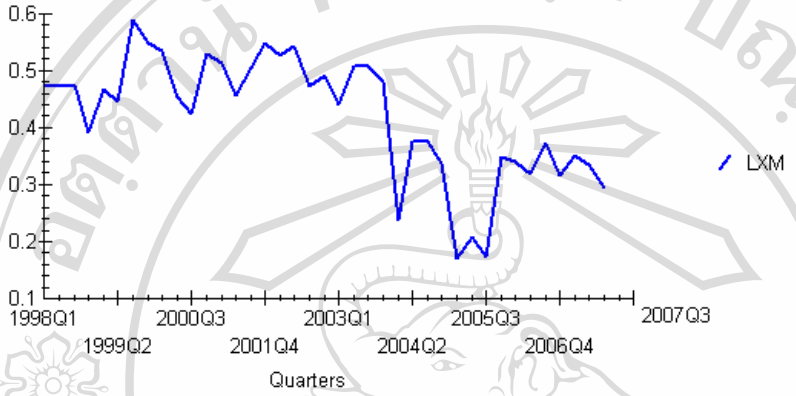


2.4แผนภูมิในรูป Log ของผลต่างลำดับที่ 1 ของดุลสินค้าและบริการ

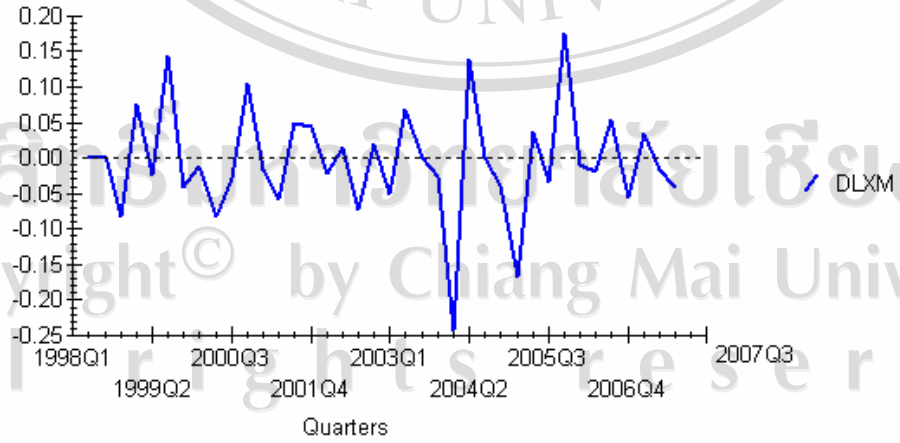


3. กรณีประเทศอินโดนีเซีย

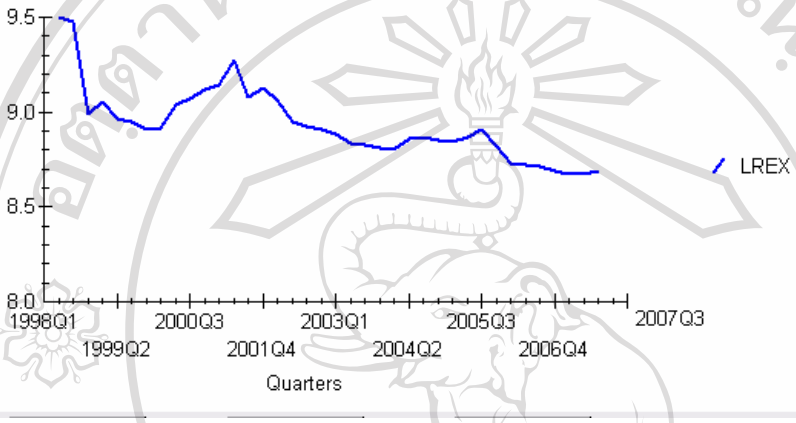
3.1 แผนภูมในรูป Log ของดุลสินค้าและบริการ



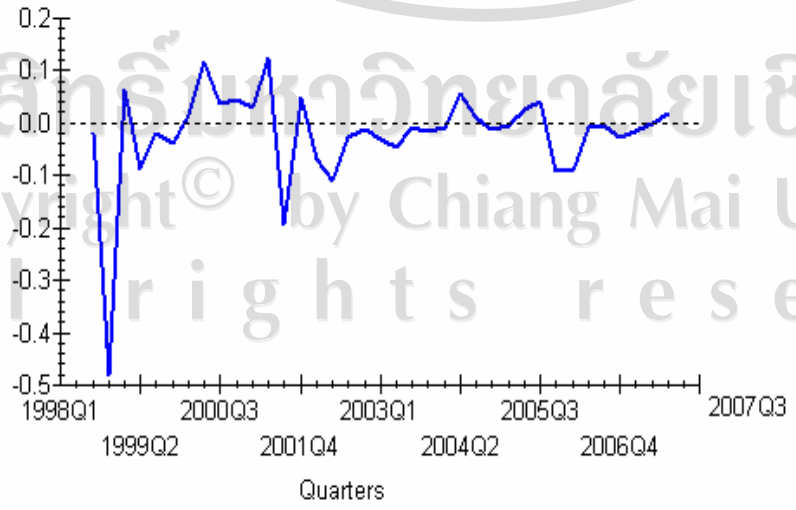
3.2 แผนภูมในรูป Log ของผลต่างลำดับที่ 1 ของดุลสินค้าและบริการ



3.3 แผนภูมในรูป Log ของอัตราแลกเปลี่ยนที่แท้จริง

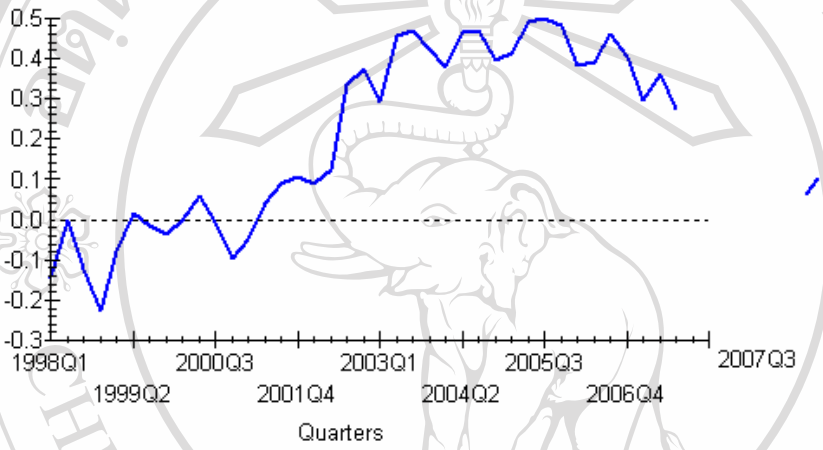


3.4 แผนภูมในรูป Log ของผลต่างลำดับที่ 1 ของดุลสินค้าและบริการ

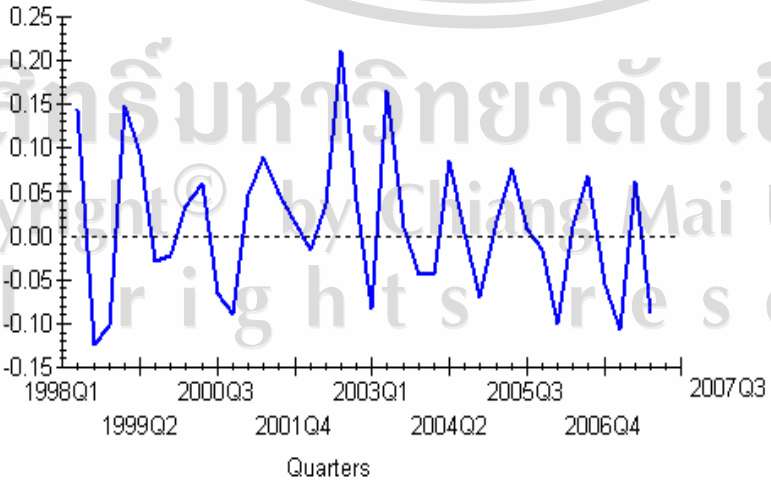


4. กรณีประเทศบราซิล

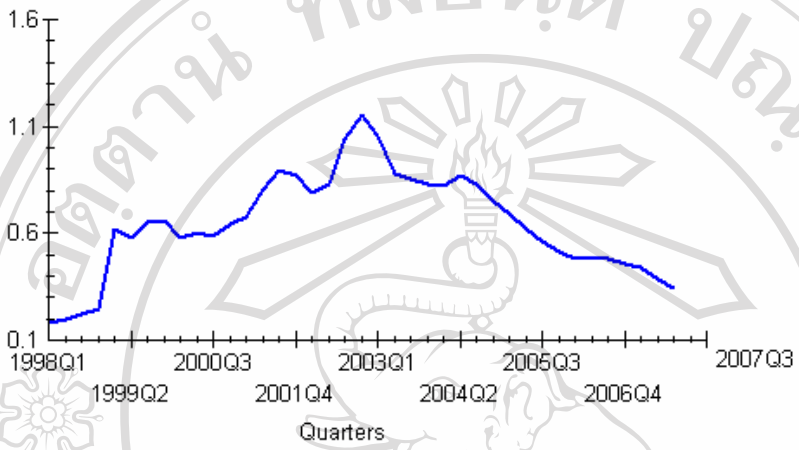
4.1 แผนภูมิในรูป Log ของดุลสินค้าและบริการ



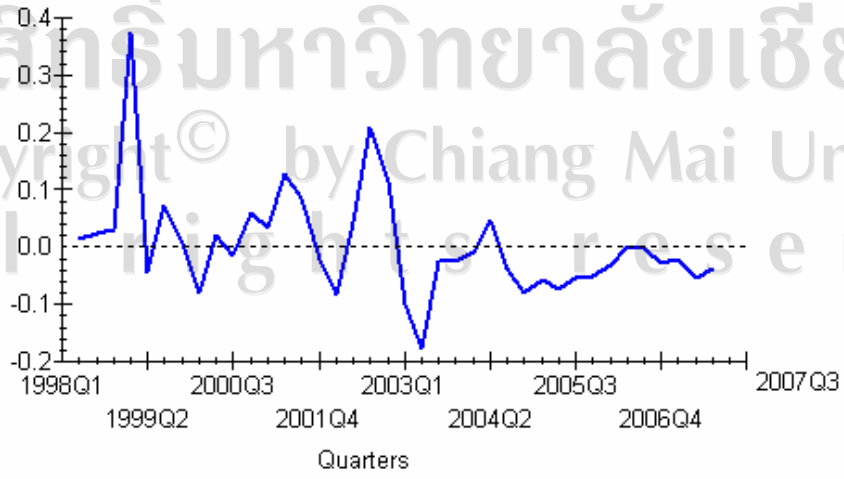
4.2แผนภูมิในรูป Log ของผลต่างลำดับที่ 1 ของดุลสินค้าและบริการ



4.3แผนภูมิในรูป Log ของอัตราแลกเปลี่ยนที่แท้จริง

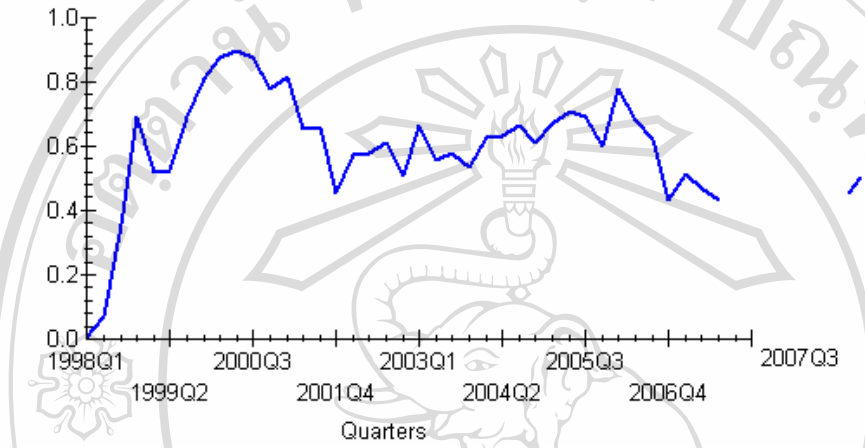


4.4แผนภูมิในรูป Log ของผลต่างลำดับที่ 1 ของอัตราแลกเปลี่ยนที่แท้จริง

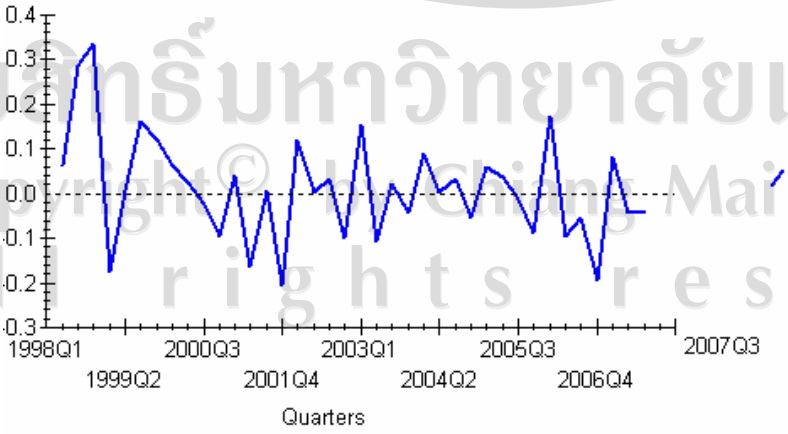


5. กรณีประเทศเม็กซิโก

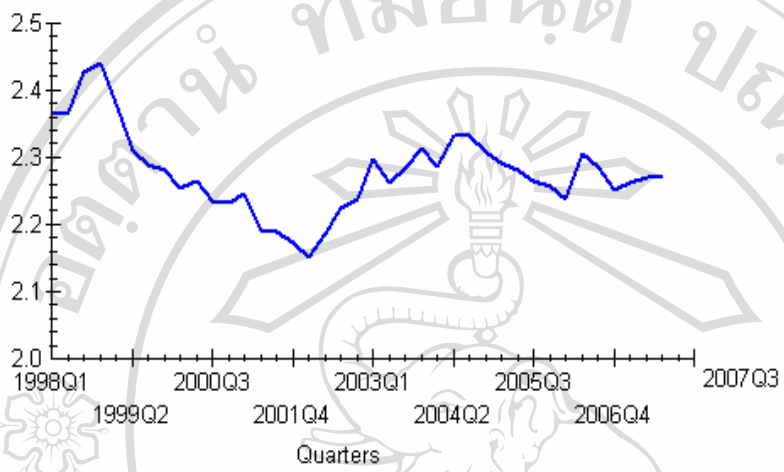
5.1แผนภูมในรูป Log ของดุลสินค้าและบริการ



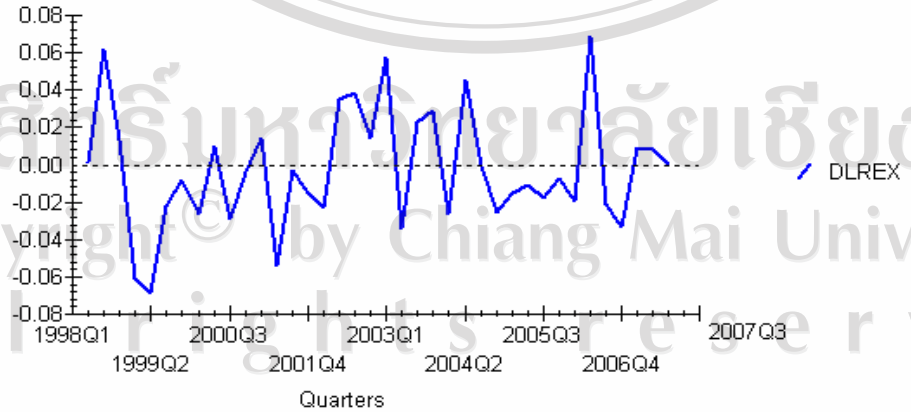
5.2แผนภูมในรูป Log ของผลต่างลำดับที่ 1 ของดุลสินค้าและบริการ



5.3แผนภูมในรูป Log ของอัตราแลกเปลี่ยนที่แท้จริง

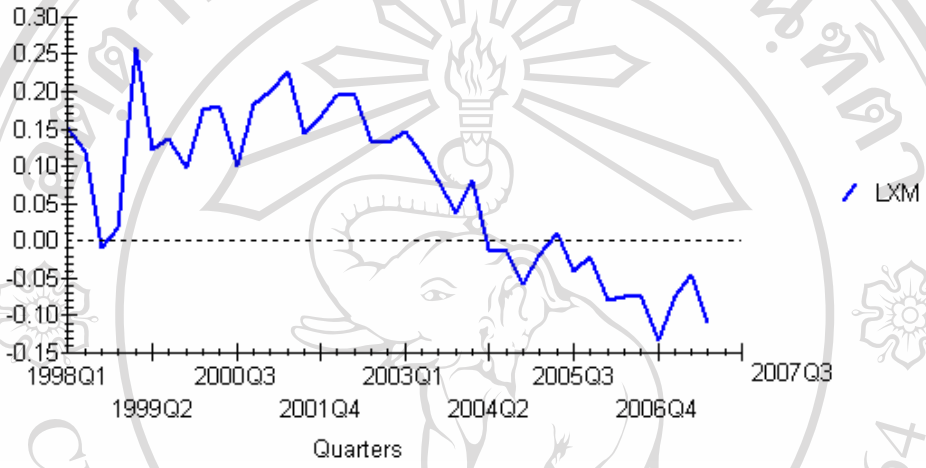


5.4แผนภูมในรูป Log ของผลต่างลำดับที่ 1 ของอัตราแลกเปลี่ยนที่แท้จริง

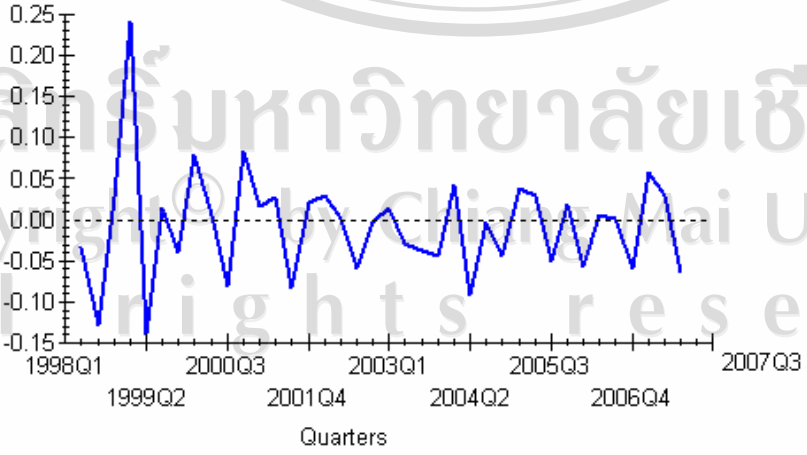


6. กรณีประเทศแอฟริกาใต้

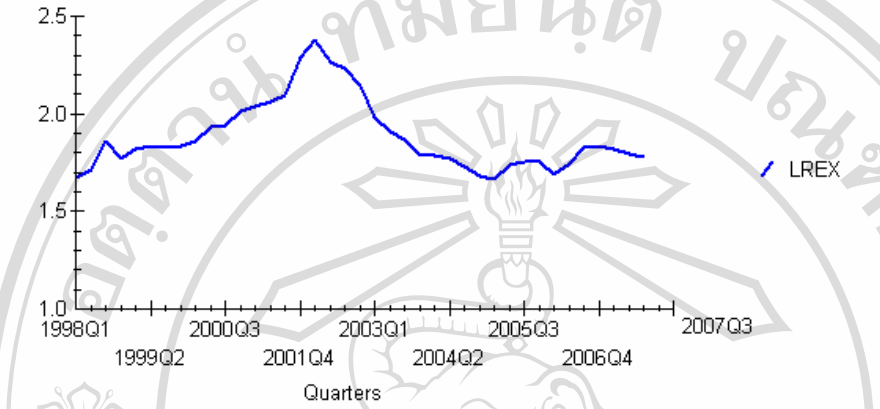
6.1แผนภูมในรูป Log ของอัตราแลกเปลี่ยนที่แท้จริง



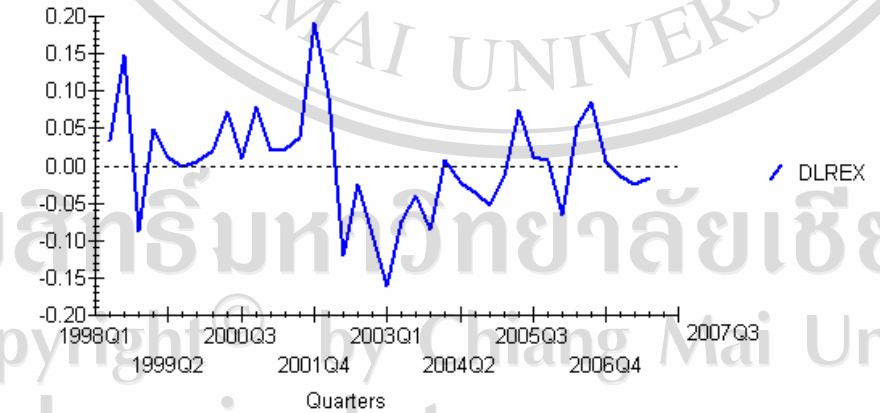
6.2แผนภูมในรูป Log ของผลต่างลำดับที่ 1 ของอัตราแลกเปลี่ยนที่แท้จริง



6.3 แผนภูมในรูป Log ของอัตราแลกเปลี่ยนที่แท้จริง

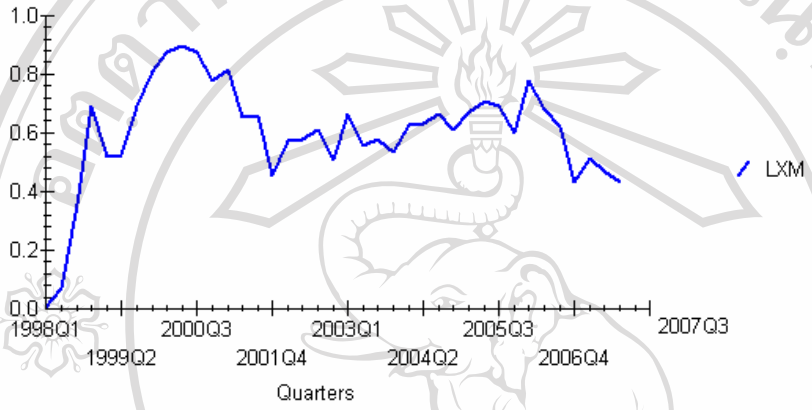


6.4แผนภูมในรูป Log ของผลต่างลำดับที่ 1 ของอัตราแลกเปลี่ยนที่แท้จริง

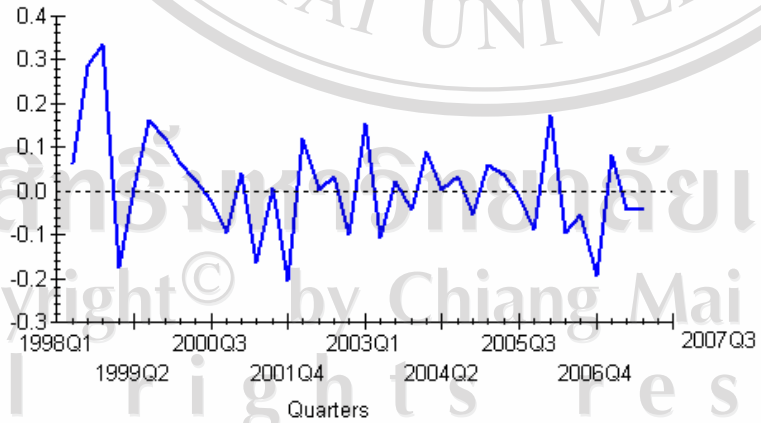


7. กรณีประเทศรัสเซีย

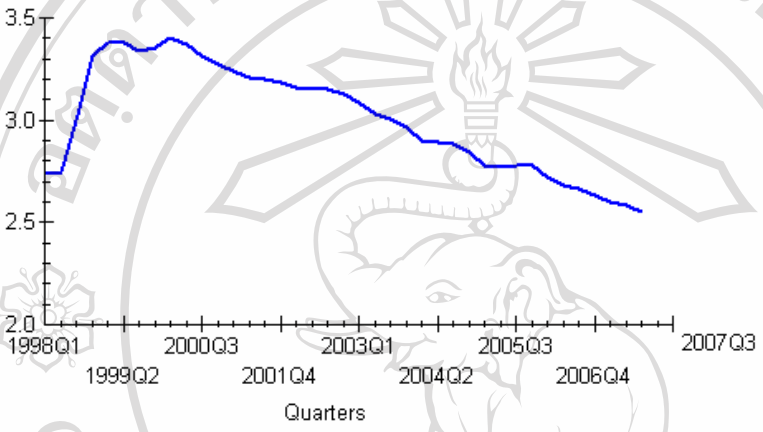
7.1แผนภูมในรูป Log ของดุลสินค้าและบริการ



7.2แผนภูมในรูป Log ของผลต่างลำดับที่ 1 ของดุลสินค้าและบริการ



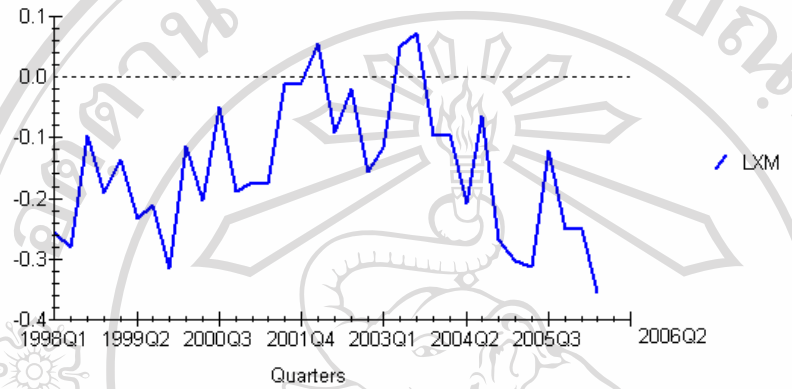
7.3 แผนภูมในรูป Log ของอัตราแลกเปลี่ยนที่แท้จริง



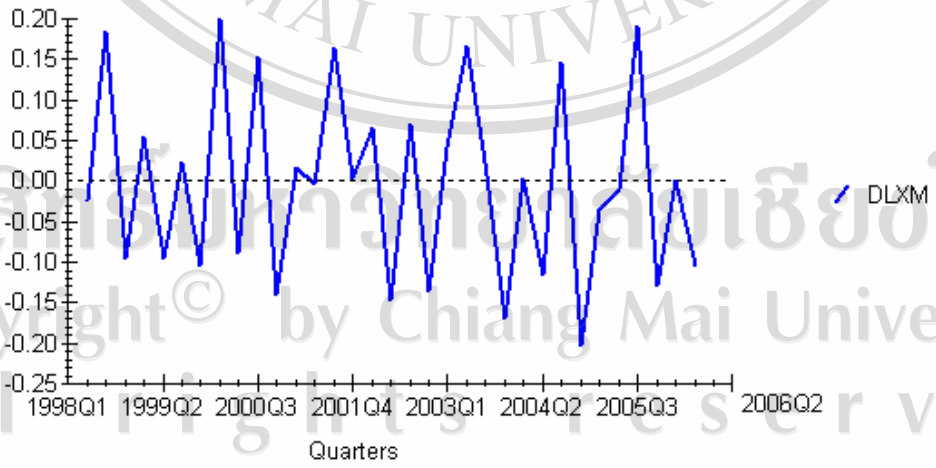
7.4 แผนภูมในรูป Log ของผลต่างลำดับที่ 1 ของอัตราแลกเปลี่ยนที่แท้จริง

8. กรณีประเทศอินเดีย

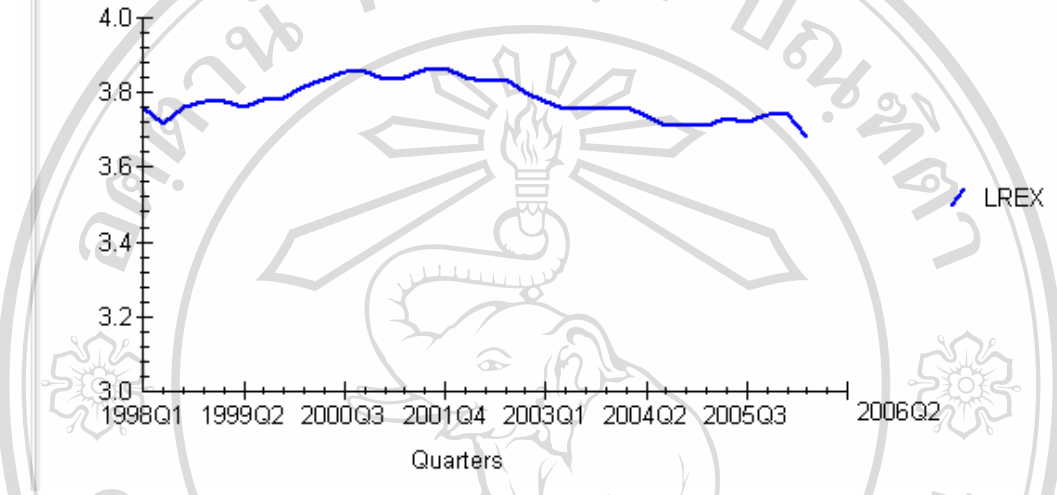
8.1แผนภูมในรูป Log ของดุลสินค้าและบริการ



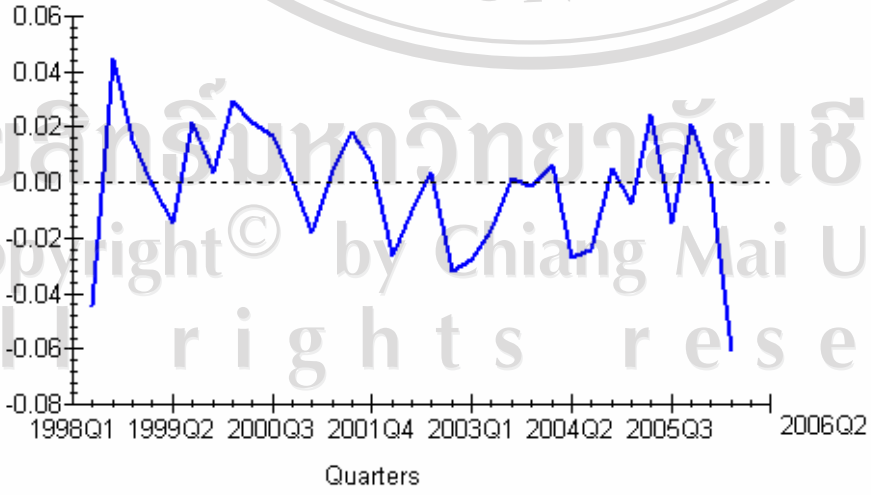
8.2แผนภูมในรูป Log ของผลต่างลำดับที่ 1 ของดุลสินค้าและบริการ



8.3 แผนภูมิในรูป Log ของอัตราแลกเปลี่ยนที่แท้จริง



8.4แผนภูมในรูป Log ของผลต่างลำดับที่ 1 ของอัตราแลกเปลี่ยนที่แท้จริง



ประวัติผู้เขียน

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วัน เดือน ปี เกิด	21 มีนาคม 2527
ประวัติการศึกษา	สำเร็จการศึกษามัธยมศึกษาตอนปลาย โรงเรียนอุดรพิทยานุกูล จังหวัดอุดรธานี ปีการศึกษา 2544
	สำเร็จการศึกษาปริญญาบัญชีบัณฑิต มหาวิทยาลัยเชียงใหม่ ปีการศึกษา 2549