ภาคผนวก ค.

ผลการ RUN สมการส่วนที่ 1

<u>ผลการ Run Intra & Extra-Export</u>

Dependent Variable: EXP?

Method: Pooled Least Squares

Date: 02/21/08 Time: 16:28

Sample: 1980 2006

Included observations: 27

Cross-sections included: 45

Total pool (balanced) observations: 1215

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	18.08083	0.339544	53.25038	0.0000
GDPI?	0.244198	0.036262	6.734213	0.0000
GDPJ?	0.467831	0.024519	19.08064	0.0000
POPI?	-0.296199	0.025539	-11.59775	0.0000
POPJ?	-0.022793	0.025371	-0.898380	0.3692
DIS?	-0.038333	0.055783	-0.687178	0.4921
AFTATRADE?	-0.684502	0.186299	-3.674213	0.0002

R-squared	0.564827	Mean dependent var	21.14199
Adjusted R-squared	0.562666	S.D. dependent var	1.685435
S.E. of regression	1.114599	Akaike info criterion	3.060611
Sum squared resid	1500.735	Schwarz criterion	3.090008
Log likelihood	-1852.321	F-statistic	261.3184
Durbin-Watson stat	0.121667	Prob(F-statistic)	0.000000

เพิ่ม CRISIS

Dependent Variable: EXP?

Method: Pooled Least Squares

Date: 02/21/08 Time: 16:29

Sample: 1980 2006

Included observations: 27

Cross-sections included: 45

Total pool (balanced) observations: 1215

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	18.08321	0.339579	53.25188	0.0000
GDPI?	0.243269	0.036279	6.705420	0.0000
GDPJ?	0.467334	0.024527	19.05421	0.0000
POPI?	-0.296617	0.025545	-11.61138	0.0000
POPJ?	-0.023036	0.025375	-0.907821	0.3642
DIS?	-0.037486	0.055795	-0.671862	0.5018
AFTATRADE?	-0.662412	0.187897	-3.525393	0.0004
CRISIS?	-0.115194	0.126998	-0.907058	0.3646

R-squared	0.565124	Mean dependent var	21.14199
Adjusted R-squared	0.562602	S.D. dependent var	1.685435
S.E. of regression	1.114681	Akaike info criterion	3.061576
Sum squared resid	1499.713	Schwarz criterion	3.095172
Log likelihood	-1851.907	F-statistic	224.0719
Durbin-Watson stat	0.124285	Prob(F-statistic)	0.000000

<u>ผลการ RUN Intra-Export</u>

Dependent Variable: EXP?

Method: Pooled Least Squares

Date: 02/21/08 Time: 16:09

Sample: 1980 2006

Included observations: 27

Cross-sections included: 19

Total pool (balanced) observations: 513

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	28.58230	0.640388	44.63277	0.0000
GDPI?	0.134109	0.040281	3.329320	0.0009
GDPJ?	0.141160	0.042951	3.286500	0.0011
POPI?	-0.369800	0.031454	-11.75689	0.0000
POPJ?	-0.324637	0.031970	-10.15431	0.0000
DIS?	-1.121391	0.084118	-13.33114	0.0000
AFTATRADE?	0.952108	0.281009	3.388176	0.0008

R-squared	0.768259	Mean dependent var	20.48069
Adjusted R-squared	0.765511	S.D. dependent var	1.628496
S.E. of regression	0.788584	Akaike info criterion	2.376395
Sum squared resid	314.6632	Schwarz criterion	2.434254
Log likelihood	-602.5452	F-statistic	279.5787
Durbin-Watson stat	0.345841	Prob(F-statistic)	0.000000

เพิ่ม CRISIS

Dependent Variable: EXP?

Method: Pooled Least Squares

Date: 02/25/08 Time: 13:26

Sample: 1980 2006

Included observations: 27

Cross-sections included: 19

Total pool (balanced) observations: 513

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	28.59913	0.640660	44.64011	0.0000
GDPI?	0.132742	0.040308	3.293160	0.0011
GDPJ?	0.139598	0.042984	3.247669	0.0012
POPI?	-0.370248	0.031459	-11.76918	0.0000
POPJ?	-0.325168	0.031977	-10.16884	0.0000
DIS?	-1.121724	0.084124	-13.33423	0.0000
AFTATRADE?	0.983631	0.282897	3.476998	0.0006
CRISIS?	-0.134238	0.138341	-0.970344	0.3323

R-squared	0.768690	Mean dependent var	20.48069
Adjusted R-squared	0.765484	S.D. dependent var	1.628496
S.E. of regression	0.788629	Akaike info criterion	2.378430
Sum squared resid	314.0776	Schwarz criterion	2.444556
Log likelihood	-602.07	F-statistic	239.7458
Durbin-Watson stat	0.354523	Prob(F-statistic)	0.000000

เพิ่ม CRISIS แต่ตัดตัวแปร Dummy Variable AFTATRADE ออก

Dependent Variable: EXP?

Method: Pooled Least Squares

Date: 04/26/08 Time: 21:16

Sample: 1980 2006

Included observations: 27

Cross-sections included: 19

Total pool (balanced) observations: 513

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	27.27731	0.521297	52.32583	0.0000
GDPI?	0.237810	0.026967	8.818498	0.0000
GDPJ?	0.254262	0.027870	9.123146	0.0000
POPI?	-0.354686	0.031478	-11.26756	0.0000
POPJ?	-0.305351	0.031808	-9.599885	0.0000
DIS?	-1.064504	0.083397	-12.76423	0.0000
CRISIS?	-0.079000	0.138923	-0.568662	0.5698

R-squared	0.763153	Mean dependent var	20.48069
Adjusted R-squared	0.760344	S.D. dependent var	1.628496
S.E. of regression	0.797224	Akaike info criterion	2.398189
Sum squared resid	321.5965	Schwarz criterion	2.456049
Log likelihood	-608.1356	F-statistic	271.7332
Durbin-Watson stat	0.298667	Prob(F-statistic)	0.000000

<u>ผลการ RUN Extra-Export</u>

Dependent Variable: EXP?

Method: Pooled Least Squares

Date: 02/21/08 Time: 21:22

Sample: 1980 2006

Included observations: 27

Cross-sections included: 25

Total pool (balanced) observations: 675

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	10.95531	0.477727	22.93218	0.0000
GDPI?	0.213812	0.039107	5.467391	0.0000
GDPJ?	0.402828	0.034295	11.74611	0.0000
POPI?	-0.155747	0.026899	-5.790033	0.0000
POPJ?	0.133877	0.029001	4.616269	0.0000
DIS?	0.724049	0.073274	9.881353	0.0000
AFTATRADE?	-0.186351	0.196340	-0.949124	0.3429

R-squared	0.675266	Mean dependent var	21.57108
Adjusted R-squared	0.672349	S.D. dependent var	1.564006
S.E. of regression	0.895250	Akaike info criterion	2.626888
Sum squared resid	535.3833	Schwarz criterion	2.673707
Log likelihood	-879.5747	F-statistic	231.5112
Durbin-Watson stat	0.165517	Prob(F-statistic)	0.000000

เพิ่ม CRISIS

Dependent Variable: EXP?

Method: Pooled Least Squares

Date: 03/09/08 Time: 13:21

Sample: 1980 2006

Included observations: 27

Cross-sections included: 25

Total pool (balanced) observations: 675

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	10.93888	0.477100	22.92786	0.0000
GDPI?	0.217000	0.039091	5.551166	0.0000
GDPJ?	0.401059	0.034258	11.70702	0.0000
POPI?	-0.155410	0.026859	-5.786090	0.0000
POPJ?	0.133027	0.028961	4.593248	0.0000
DIS?	0.726521	0.073178	9.928198	0.0000
AFTATRADE?	-0.161695	0.196557	-0.822639	0.4110
CRISIS?	-0.237713	0.136794	-1.737746	0.0827

R-squared	0.676729	Mean dependent var	21.57108
Adjusted R-squared	0.673337	S.D. dependent var	1.564006
S.E. of regression	0.893899	Akaike info criterion	2.625334
Sum squared resid	532.9703	Schwarz criterion	2.678842
Log likelihood	-878.0502	F-statistic	199.4695
Durbin-Watson stat	0.174157	Prob(F-statistic)	0.000000

เพิ่ม CRISIS แต่ตัดตัวแปร Dummy Variable AFTATRADE ออก

Dependent Variable: EXP?

Method: Pooled Least Squares

Date: 03/09/08   Time: 21:25

Sample: 1980 2006

Included observations: 27

Cross-sections included: 25

Total pool (balanced) observations: 675

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	11.01487	0.467959	23.53813	0.0000
GDPI?	0.190080	0.021378	8.891576	0.0000
GDPJ?	0.390176	0.031593	12.35017	0.0000
POPI?	-0.162269	0.025526	-6.356870	0.0000
POPJ?	0.128295	0.028378	4.521001	0.0000
DIS?	0.743680	0.070125	10.60506	0.0000
CRISIS?	-0.245836	0.136404	-1.802265	0.0720

R-squared	0.676401	Mean dependent var	21.57108
Adjusted R-squared	0.673495	S.D. dependent var	1.564006
S.E. of regression	0.893683	Akaike info criterion	2.623385
Sum squared resid	533.5111	Schwarz criterion	2.670204
Log likelihood	-878.3924	F-statistic	232.7143
Durbin-Watson stat	0.178970	Prob(F-statistic)	0.000000

<u>ผลการทดสอบวิธี Chow – Test</u>

Intra ตัดตัวแปร AFTATRADE และ CRISIS

Dependent Variable: EXP?

Method: Pooled Least Squares

Date: 02/25/08   Time: 13:32

Sample: 1980 2006

Included observations: 27

Cross-sections included: 19

Total pool (balanced) observations: 513

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	27.29254	0.520261	52.45927	0.0000
GDPI?	0.236617	0.026868	8.806806	0.0000
GDPJ?	0.253002	0.027763	9.112845	0.0000
POPI?	-0.354716	0.031457	-11.27607	0.0000
POPJ?	-0.305413	0.031786	-9.608307	0.0000
DIS?	-1.065399	0.083327	-12.78577	0.0000

R-squared	0.763001	Mean dependent var	20.48069
Adjusted R-squared	0.760664	S.D. dependent var	1.628496
S.E. of regression	0.796692	Akaike info criterion	2.394930
Sum squared resid	321.8021	Schwarz criterion	2.444524
Log likelihood	-608.2995	F-statistic	326.4508
Durbin-Watson stat	0.295103	Prob(F-statistic)	0.000000

Intra 1980 – 1992

Dependent Variable: EXP?

Method: Pooled Least Squares

Date: 02/25/08 Time: 13:35

Sample: 1980 1992

Included observations: 13

Cross-sections included: 19

Total pool (balanced) observations: 247

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	23.16913	0.939145	24.67046	0.0000
GDPI?	1.391851	0.132760	10.48392	0.0000
GDPJ?	0.559977	0.134150	4.174263	0.0000
POPI?	-1.042566	0.066059	-15.78244	0.0000
POPJ?	-0.661836	0.066226	-9.993635	0.0000
DIS?	-0.754959	0.115496	-6.536668	0.0000

R-squared	0.776325	Mean dependent var	19.49528
Adjusted R-squared	0.771685	S.D. dependent var	1.470000
S.E. of regression	0.702400	Akaike info criterion	2.155365
Sum squared resid	118.9013	Schwarz criterion	2.240613
Log likelihood	-260.1876	F-statistic	167.2915
Durbin-Watson stat	0.322300	Prob(F-statistic)	0.000000

Intra 1993 – 2006

Dependent Variable: EXP?

Method: Pooled Least Squares

Date: 02/25/08 Time: 13:37

Sample: 1993 2006

Included observations: 14

Cross-sections included: 19

Total pool (balanced) observations: 266

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	9.427373	1.789512	5.268126	0.0000
GDPI?	1.214371	0.099387	12.21858	0.0000
GDPJ?	0.519744	0.096332	5.395356	0.0000
POPI?	0.566326	0.082136	6.894992	0.0000
POPJ?	0.012979	0.080621	0.160992	0.8722
DIS?	-0.572753	0.086455	-6.624904	0.0000

R-squared	0.796080	Mean dependent var	21.39573
Adjusted R-squared	0.792158	S.D. dependent var	1.171479
S.E. of regression	0.534074	Akaike info criterion	1.605732
Sum squared resid	74.16101	Schwarz criterion	1.686563
Log likelihood	-207.5624	F-statistic	203.0014
Durbin-Watson stat	0.263719	Prob(F-statistic)	0.000000

Chow Test

$$F = \frac{(SSR\_u-(SSR\_r_{1980\text{-}1992} + SSR\_r_{1993\text{-}2006}))/k}{(SSR\_r_{1980\text{-}1992} + SSR\_r_{1993\text{-}2006})/(T- 2k)}$$

$$= \frac{(321.8021-(118.9013+74.16101))/6}{(118.9013+74.16101)/(513-12)}$$

$$= 55.68$$

Extra ตัดตัวแปร AFTATRADE และ CRISIS ออก

Dependent Variable: EXP?

Method: Pooled Least Squares

Date: 03/09/08 Time: 13:15

Sample: 1980 2006

Included observations: 27

Cross-sections included: 25

Total pool (balanced) observations: 675

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	11.04400	0.468464	23.57490	0.0000
GDPI?	0.182499	0.020995	8.692579	0.0000
GDPJ?	0.390290	0.031646	12.33310	0.0000
POPI?	-0.163706	0.025557	-6.405553	0.0000
POPJ?	0.128428	0.028425	4.518122	0.0000
DIS?	0.743829	0.070243	10.58942	0.0000

R-squared	0.674828	Mean dependent var	21.57108
Adjusted R-squared	0.672398	S.D. dependent var	1.564006
S.E. of regression	0.895183	Akaike info criterion	2.625273
Sum squared resid	536.1053	Schwarz criterion	2.665403
Log likelihood	-880.0295	F-statistic	277.6744
Durbin-Watson stat	0.170028	Prob(F-statistic)	0.000000

Extra 1980-1992

Dependent Variable: EXP?

Method: Pooled Least Squares

Date: 03/09/08   Time: 13:17

Sample: 1980 1992

Included observations: 13

Cross-sections included: 25

Total pool (balanced) observations: 325

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	15.27779	0.765608	19.95511	0.0000
GDPI?	0.319951	0.074483	4.295602	0.0000
GDPJ?	0.949876	0.062528	15.19132	0.0000
POPI?	-0.312179	0.040615	-7.686286	0.0000
POPJ?	-0.213615	0.033279	-6.418903	0.0000
DIS?	-0.043412	0.123811	-0.350629	0.7261

R-squared	0.729759	Mean dependent var	20.75625
Adjusted R-squared	0.725523	S.D. dependent var	1.523044
S.E. of regression	0.797932	Akaike info criterion	2.404701
Sum squared resid	203.1056	Schwarz criterion	2.474556
Log likelihood	-384.7639	F-statistic	172.2852
Durbin-Watson stat	0.311934	Prob(F-statistic)	0.000000

Extra 1993 – 2006

Dependent Variable: EXP?

Method: Pooled Least Squares

Date: 03/09/08   Time: 13:18

Sample: 1993 2006

Included observations: 14

Cross-sections included: 25

Total pool (balanced) observations: 350

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	8.275823	0.667439	12.39936	0.0000
GDPI?	0.254471	0.051823	4.910402	0.0000
GDPJ?	0.660361	0.042319	15.60451	0.0000
POPI?	-0.029970	0.048252	-0.621123	0.5349
POPJ?	0.635979	0.041907	15.17610	0.0000
DIS?	0.312302	0.070502	4.429657	0.0000

R-squared	0.743609	Mean dependent var	22.32771
Adjusted R-squared	0.739882	S.D. dependent var	1.173919
S.E. of regression	0.598719	Akaike info criterion	1.828946
Sum squared resid	123.3119	Schwarz criterion	1.895082
Log likelihood	-314.0656	F-statistic	199.5399
Durbin-Watson stat	0.274169	Prob(F-statistic)	0.000000

<u>Chow Test</u>

$$F = \frac{(SSR\_u-(SSR\_r_{1980-1992} + SSR\_r_{1993-2006}))/k}{(SSR\_r_{1980-1992} + SSR\_r_{1993-2006})/(T- 2k)}$$

$$= \frac{(536.1053-(203.1056+123.3119))/6}{(203.1056+123.3119)/(675-12)}$$

$$= 70.98$$