



## รายงานต่อไป

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สถาบันวิทยบริการ  
จุฬาลงกรณ์มหาวิทยาลัย



ภาคผนวก

สถาบันวิทยบริการ  
จุฬาลงกรณ์มหาวิทยาลัย

LS // Dependent Variable is LNDTTLDP				
Date: 08/18/97 Time: 13:36				
Sample: 1986 2005				
Included observations: 20				
Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	-7.61627	0.383629	-19.85319	0.000000
LNRGDPTT	1.154811	0.047891	24.11324	0.000000
R-squared	0.969972	Mean dependent var	1.600965	
Adjusted R-squared	0.968304	S.D. dependent var	0.817102	
S.E. of regression	0.145471	Akaike info criterion	-3.760915	
Sum squared resid	0.380914	Schwarz criterion	-3.661341	
Log likelihood	11.23038	F-statistic	581.4482	
Durbin-Watson stat	1.093224	Prob(F-statistic)	0.000000	
Chow Breakpoint Test: 1996				
F-statistic	1.734621	Probability	0.20805	
Log likelihood ratio	3.924943	Probability	0.140511	

LS // Dependent Variable is LNDTTHDP				
Date: 08/18/97 Time: 14:17				
Sample: 1986 2005				
Included observations: 20				
Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	-7.027378	0.626576	-11.21553	0.000000
LNRGDPTT	1.089545	0.07822	13.92926	0.000000
R-squared	0.915104	Mean dependent var	1.668929	
Adjusted R-squared	0.910388	S.D. dependent var	0.793697	
S.E. of regression	0.237596	Akaike info criterion	-2.77973	
Sum squared resid	1.016131	Schwarz criterion	-2.680157	
Log likelihood	1.418531	F-statistic	194.0244	
Durbin-Watson stat	0.896425	Prob(F-statistic)	0.000000	
Chow Breakpoint Test: 1996				
F-statistic	7.668875	Probability	0.004618	
Log likelihood ratio	13.44469	Probability	0.001204	

LS // Dependent Variable is LNDTTPVC				
Date: 08/26/97 Time: 02:05				
Sample: 1986 2005				
Included observations: 20				
Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	-6.634376	0.58215	-11.39633	0.000000
LNRGDPTT	1.073192	0.072674	14.76723	0.000000
R-squared	0.923752	Mean dependent var	1.931412	
Adjusted R-squared	0.919516	S.D. dependent var	0.778117	
S.E. of regression	0.22075	Akaike info criterion	-2.92681	
Sum squared resid	0.877148	Schwarz criterion	-2.827239	
Log likelihood	2.889348	F-statistic	218.0711	
Durbin-Watson stat	0.917716	Prob(F-statistic)	0.000000	
Chow Breakpoint Test: 1996				
F-statistic	8.35246	Probability	0.003281	
Log likelihood ratio	14.29874	Probability	0.000785	

LS // Dependent Variable is LNDTTEG				
Date: 08/26/97 Time: 02:24				
Sample: 1986 2005				
Included observations: 20				
Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	-11.98376	0.431023	-27.80306	0.000000
LNRGDPTT	1.66961	0.053808	31.02924	0.000000
R-squared	0.981648	Mean dependent var	1.342393	
Adjusted R-squared	0.980628	S.D. dependent var	1.174308	
S.E. of regression	0.163443	Akaike info criterion	-3.52795	
Sum squared resid	0.480843	Schwarz criterion	-3.428373	
Log likelihood	8.900688	F-statistic	962.8135	
Durbin-Watson stat	0.771454	Prob(F-statistic)	0.000000	
Chow Breakpoint Test: 1996				
F-statistic	2.906593	Probability	0.083793	
Log likelihood ratio	6.198518	Probability	0.045083	

LS // Dependent Variable is LNDTJLDP

Date: 08/25/97 Time: 15:12

Sample: 1986 2007

Included observations: 22

Variable	Coefficient	Std. Error	T-Statistic	Prob.
C	-3.370113	0.268628	-12.54564	0.000000
LNRGDPTJ	0.57751	0.030143	19.15875	0.000000
R-squared	0.948328	Mean dependent var	1.713587	
Adjusted R-squared	0.945745	S.D. dependent var	0.842999	
S.E. of regression	0.196358	Akaike info criterion	-3.16912	
Sum squared resid	0.771131	Schwarz criterion	-3.069936	
Log likelihood	5.643692	F-statistic	367.0576	
Durbin-Watson stat	0.594854	Prob(F-statistic)	0.000000	
Chow Breakpoint Test: 1996				
F-statistic	18.75414	Probability	0.00004	
Log likelihood	24.77553	Probability	0.000004	

LS // Dependent Variable is LNDTJHDP

Date: 08/25/97 Time: 14:41

Sample: 1986 2007

Included observations: 22

Variable	Coefficient	Std. Error	T-Statistic	Prob.
C	-1.682103	0.414756	-4.055642	0.000600
LNRGDPTJ	0.359835	0.046541	7.731619	0.000000
R-squared	0.749304	Mean dependent var	1.485454	
Adjusted R-squared	0.736769	S.D. dependent var	0.590911	
S.E. of regression	0.303173	Akaike info criterion	-2.30040	
Sum squared resid	1.838274	Schwarz criterion	-2.201211	
Log likelihood	-3.912281	F-statistic	59.77793	
Durbin-Watson stat	1.17312	Prob(F-statistic)	0.000000	
Chow Breakpoint Test: 1996				
F-statistic	52.33974	Probability	0.000000	
Log likelihood	42.22247	Probability	0.000000	

LS // Dependent Variable is LNDTJPVC

Date: 08/25/97 Time: 15:17

Sample: 1986 2007

Included observations: 22

Variable	Coefficient	Std. Error	T-Statistic	Prob.
C	-2.407738	0.38222	-6.299357	0.000000
LNRGDPTJ	0.503037	0.04289	11.7286	0.000000
R-squared	0.873064	Mean dependent var	2.020391	
Adjusted R-squared	0.866717	S.D. dependent var	0.765286	
S.E. of regression	0.27939	Akaike info criterion	-2.46379	
Sum squared resid	1.561171	Schwarz criterion	-2.364602	
Log likelihood	-2.114981	F-statistic	137.56	
Durbin-Watson stat	0.317975	Prob(F-statistic)	0.000000	
Chow Breakpoint Test: 1996				
F-statistic	34.51013	Probability	0.000001	
Log likelihood	34.66692	Probability	0.000000	

LS // Dependent Variable is LNDTJEG

Date: 08/25/97 Time: 15:21

Sample: 1986 2007

Included observations: 22

Variable	Coefficient	Std. Error	T-Statistic	Prob.
C	-3.195866	0.454328	-7.034277	0.000000
LNRGDPTJ	0.475263	0.050981	9.322327	0.000000
R-squared	0.812919	Mean dependent var	0.987776	
Adjusted R-squared	0.803565	S.D. dependent var	0.749303	
S.E. of regression	0.332098	Akaike info criterion	-2.11814	
Sum squared resid	2.205783	Schwarz criterion	-2.018956	
Log likelihood	-5.917087	F-statistic	86.90578	
Durbin-Watson stat	0.252364	Prob(F-statistic)	0.000000	
Chow Breakpoint Test: 1996				
F-statistic	67.26471	Probability	0.00000	
Log likelihood	47.01369	Probability	0.00000	

LS // Dependent Variable is LNDTTLDP				
Date: 09/03/97 Time: 04:03				
Sample: 1996 2017				
Included observations: 22				
Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	0.865351	0.536419	1.6132	0.122400
LNRGDPTT	0.161075	0.056944	2.828625	0.010400
R-squared	0.285743	Mean dependent var	2.377334	
Adjusted R-squared	0.25003	S.D. dependent var	0.243632	
S.E. of regression	0.210987	Akaike info criterion	-3.02541	
Sum squared resid	0.89031	Schwarz criterion	-2.926225	
Log likelihood	4.062866	F-statistic	8.001118	
Durbin-Watson stat	0.763795	Prob(F-statistic)		0.010378
Chow Breakpoint Test: 2006				
F-statistic	24.2228	Probability		0.000008
Log likelihood ratio	28.73226	Probability		0.000001

LS // Dependent Variable is LNDTTHDP				
Date: 09/03/97 Time: 04:23				
Sample: 1996 2017				
Included observations: 22				
Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	2.750493	1.087543	2.52909	0.020000
LNRGDPTT	-0.071787	0.11545	-0.621803	0.541100
R-squared	0.018965	Mean dependent var	2.076638	
Adjusted R-squared	-0.030086	S.D. dependent var	0.421465	
S.E. of regression	0.427758	Akaike info criterion	-1.61189	
Sum squared resid	3.659533	Schwarz criterion	-1.512703	
Log likelihood	-11.48587	F-statistic	0.386639	
Durbin-Watson stat	1.021195	Prob(F-statistic)		0.541095
Chow Breakpoint Test: 2006				
F-statistic	63.40365	Probability		0.00000
Log likelihood ratio	45.87071	Probability		0.00000

**LS // Dependent Variable is LNDTPVC**

Date: 09/03/97 Time: 04:27

Sample: 1996 2017

Included observations: 22

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	1.481071	0.582451	2.542827	0.019400
LNRGDPTT	0.119926	0.061831	1.939577	0.066700
R-squared	0.158319	Mean dependent var		2.6068
Adjusted R-squared	0.116235	S.D. dependent var		0.243693
S.E. of regression	0.229092	Akaike info criterion		-2.86075
Sum squared resid	1.049667	Schwarz criterion		-2.761566
Log likelihood	2.25162	F-statistic		3.761961
Durbin-Watson stat	0.726633	Prob(F-statistic)		0.066667
Chow Breakpoint Test: 2006				
F-statistic	25.48802	Probability		0.00001
Log likelihood ratio	29.55452	Probability		0.00000

**LS // Dependent Variable is LNDTTEG**

Date: 09/03/97 Time: 04:29

Sample: 1996 2017

Included observations: 22

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	5.732316	0.937087	6.117165	0.000000
LNRGDPTT	-0.402851	0.099478	-4.04965	0.000600
R-squared	0.450544	Mean dependent var		1.950808
Adjusted R-squared	0.423072	S.D. dependent var		0.485256
S.E. of regression	0.36858	Akaike info criterion		-1.90969
Sum squared resid	2.717021	Schwarz criterion		-1.810503
Log likelihood	-8.210077	F-statistic		16.39966
Durbin-Watson stat	0.876184	Prob(F-statistic)		0.000626
Chow Breakpoint Test: 2006				
F-statistic	98.60203	Probability		0.00000
Log likelihood ratio	54.58673	Probability		0.00000

LS // Dependent Variable is LNDTTLDP

Date: 09/10/97 Time: 12:31

Sample: 1986 2005

Included observations: 20

Variable	Coefficient	Std. Error	t-Statistic	.Prob.
C	-8.961517	1.140137	-7.860037	0.000000
LNRGDPT	1.339873	0.155319	8.626597	0.000000
LNRGDPK	1.309296	0.132231	9.901598	0.000000
R-squared	0.972502	Mean dependent var	1.600965	
Adjusted R-squared	0.969267	S.D. dependent var	0.817102	
S.E. of regression	0.143245	Akaike info criterion	-3.74892	
Sum squared resid	0.348825	Schwarz criterion	-3.599559	
Log likelihood	12.11041	F-statistic	300.6133	
Durbin-Watson stat	1.3734	Prob(F-statistic)	0.000000	
Covariance				
	LNRGDPT	LNRGDPK		
LNRGDPT	0.024124	0.020506		
LNRGDPK	0.020506	0.017485		
t-test cal		1.2514		

LS // Dependent Variable is LNDTTHDP

Date: 09/10/97 Time: 12:45

Sample: 1986 2005

Included observations: 20

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	-12.25825	1.406644	-8.714538	0.000000
LNRGDPT	1.809144	0.191625	9.44108	0.000000
LNRGDPK	1.690249	0.16314	10.36074	0.000000
R-squared	0.955639	Mean dependent var	1.668929	
Adjusted R-squared	0.95042	S.D. dependent var	0.793697	
S.E. of regression	0.176728	Akaike info criterion	-3.32880	
Sum squared resid	0.53096	Schwarz criterion	-3.179442	
Log likelihood	7.909248	F-statistic	183.111	
Durbin-Watson stat	1.137362	Prob(F-statistic)	0.000000	
Covariance				
	LNRGDPT	LNRGDPK		
LNRGDPT	0.03672	0.031212		
LNRGDPK	0.031212	0.026615		
t-test cal		3.94		

**LS // Dependent Variable is LNDTTPVC**

Date: 09/10/97 Time: 12:48

Sample: 1986 2005

Included observations: 20

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	-11.38736	1.332662	-8.544828	0.000000
LNRGDPT	1.72705	0.181546	9.513003	0.000000
LNRGDPK	1.619017	0.154559	10.47504	0.000000
R-squared	0.958572	Mean dependent var	1.931412	
Adjusted R-squared	0.953699	S.D. dependent var	0.778117	
S.E. of regression	0.167433	Akaike info criterion	-3.43686	
Sum squared resid	0.476577	Schwarz criterion	-3.287499	
Log likelihood	8.989816	F-statistic	196.6772	
Durbin-Watson stat	1.685631	Prob(F-statistic)	0.000000	
Covance	LNRGDPT	LNRGDPK		
LNRGDPT	0.032959	0.028015		
LNRGDPK	0.028015	0.023889		
t-test cal		3.779		

**LS // Dependent Variable is LNDTTBEG**

Date: 09/10/97 Time: 12:50

Sample: 1986 2005

Included observations: 20

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	-13.55161	1.276502	-10.6162	0.000000
LNRGDPT	1.885295	0.173896	10.84153	0.000000
LNRGDPK	1.849659	0.148046	12.49379	0.000000
R-squared	0.983311	Mean dependent var	1.342393	
Adjusted R-squared	0.981348	S.D. dependent var	1.174308	
S.E. of regression	0.160378	Akaike info criterion	-3.52297	
Sum squared resid	0.437257	Schwarz criterion	-3.373608	
Log likelihood	9.850905	F-statistic	500.8312	
Durbin-Watson stat	1.035262	Prob(F-statistic)	0.000000	
Covance	LNRGDPT	LNRGDPK		
LNRGDPT	0.03024	0.025704		
LNRGDPK	0.025704	0.021918		
t-test cal		1.3017		

LS // Dependent Variable is LNDTJLDP				
Date: 09/10/97 Time: 13:02				
Sample: 1986 2007				
Included observations: 22				
Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	-4.058983	1.049425	-3.867816	0.001000
LNRGDPT	0.672536	0.143106	4.699584	0.000200
LNRGDPJ	0.645531	0.104636	6.169295	0.000000
R-squared	0.949555	Mean dependent var	1.713587	
Adjusted R-squared	0.944245	S.D. dependent var	0.842999	
S.E. of regression	0.199054	Akaike info criterion	-3.10224	
Sum squared resid	0.752826	Schwarz criterion	-2.953458	
Log likelihood	5.907958	F-statistic	178.8227	
Durbin-Watson stat	0.685617	Prob(F-statistic)	0.000000	
Covance	LNRGDPT	LNRGDPJ		
LNRGDPT	0.020479	0.014925		
LNRGDPJ	0.014925	0.010949		
t-test cal	2.6698			

LS // Dependent Variable is LNDTJHDP				
Date: 09/10/97 Time: 13:04				
Sample: 1986 2007				
Included observations: 22				
Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	-6.983058	1.050449	-6.647687	0.000000
LNRGDPT	1.09108	0.143245	7.616871	0.000000
LNRGDPJ	0.883273	0.104738	8.433144	0.000000
R-squared	0.897132	Mean dependent var	1.485454	
Adjusted R-squared	0.886304	S.D. dependent var	0.590911	
S.E. of regression	0.199248	Akaike info criterion	-3.10029	
Sum squared resid	0.754296	Schwarz criterion	-2.951507	
Log likelihood	5.886496	F-statistic	82.85172	
Durbin-Watson stat	0.77225	Prob(F-statistic)	0.000000	
Covance	LNRGDPT	LNRGDPJ		
LNRGDPT	0.020519	0.014954		
LNRGDPJ	0.014954	0.01097		
t-test cal	5.2263			

LS // Dependent Variable is LNDTJPVC				
Date: 09/10/97 Time: 13:06				
Sample: 1986 2007				
Included observations: 22				
Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	-3.338772	1.494955	-2.233359	0.037700
LNRGDPT	0.631469	0.203861	3.097553	0.005900
LNRGDPJ	0.594971	0.149059	3.991507	0.000800
R-squared	0.875783	Mean dependent var		2.020391
Adjusted R-squared	0.862707	S.D. dependent var		0.765286
S.E. of regression	0.283561	Akaike info criterion		-2.39453
Sum squared resid	1.527735	Schwarz criterion		-2.245751
Log likelihood	-1.876826	F-statistic		66.97903
Durbin-Watson stat	0.343396	Prob(F-statistic)		0.000000
Covance	LNRGDPT	LNRGDPJ		
LNRGDPT	0.041539	0.030287		
LNRGDPJ	0.030287	0.022219		
t-test cal		2.6448		

LS // Dependent Variable is LNDTJEG				
Date: 09/10/97 Time: 13:07				
Sample: 1986 2007				
Included observations: 22				
Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	-3.415227	1.795572	-1.902027	0.072400
LNRGDPT	0.505523	0.244854	2.064585	0.052900
LNRGDPJ	0.496923	0.179033	2.775595	0.012000
R-squared	0.813077	Mean dependent var		0.987776
Adjusted R-squared	0.793401	S.D. dependent var		0.749303
S.E. of regression	0.340582	Akaike info criterion		-2.02807
Sum squared resid	2.203928	Schwarz criterion		-1.879295
Log likelihood	-5.907834	F-statistic		41.32298
Durbin-Watson stat	0.255837	Prob(F-statistic)		0.000000
Covance	LNRGDPT	LNRGDPJ		
LNRGDPT	0.059954	0.043693		
LNRGDPJ	0.043693	0.032053		
t-test cal		0.1265		

LS // Dependent Variable is LNDTTLDP

Date: 09/10/97 Time: 13:11

Sample: 1996 2017

Included observations: 22

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	-2.718901	0.784391	-3.466257	0.002600
LNRGDPK	0.585861	0.091045	6.434818	0.000000
LNRGDPJJ	0.512115	0.078197	6.549033	0.000000
R-squared	0.700497	Mean dependent var		2.377334
Adjusted R-squared	0.668971	S.D. dependent var		0.243632
S.E. of regression	0.140174	Akaike info criterion		-3.80362
Sum squared resid	0.373325	Schwarz criterion		-3.654843
Log likelihood	13.62319	F-statistic		22.21926
Durbin-Watson stat	0.637072	Prob(F-statistic)		0.000011
Covariance	LNRGDPK LNRGDPJJ			
LNRGDPK	0.008289	0.007099		
LNRGDPJJ	0.007099	0.006115		
t-test cal		5.1381		

LS // Dependent Variable is LNDTTTHDP

Date: 09/10/97 Time: 13:13

Sample: 1996 2017

Included observations: 22

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	-5.895879	1.035844	-5.69186	0.000000
LNRGDPK	0.952936	0.120232	7.925805	0.000000
LNRGDPJJ	0.775035	0.103265	7.505328	0.000000
R-squared	0.82547	Mean dependent var		2.076638
Adjusted R-squared	0.807099	S.D. dependent var		0.421465
S.E. of regression	0.185109	Akaike info criterion		-3.24749
Sum squared resid	0.651044	Schwarz criterion		-3.098715
Log likelihood	7.50578	F-statistic		44.93204
Durbin-Watson stat	0.457534	Prob(F-statistic)		0.000000
Covariance	LNRGDPK LNRGDPJJ			
LNRGDPK	0.014456	0.012379		
LNRGDPJJ	0.012379	0.010664		
t-test cal		9.35026		

LS // Dependent Variable is LNDTTPVC				
Date: 09/10/97 Time: 13:15				
Sample: 1996 2017				
Included observations: 22				
Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	-1.491366	1.069557	-1.394377	0.179300
LNRGDPK	0.472204	0.124145	3.803642	0.001200
LNRGDPJJ	0.411045	0.106626	3.855036	0.001100
R-squared	0.443422	Mean dependent var	2.6068	
Adjusted R-squared	0.384835	S.D. dependent var	0.243693	
S.E. of regression	0.191134	Akaike info criterion	-3.18344	
Sum squared resid	0.694112	Schwarz criterion	-3.034658	
Log likelihood	6.801157	F-statistic	7.568587	
Durbin-Watson stat	0.652712	Prob(F-statistic)	0.003824	
Covariance	LNRGDPK	LNRGDPJJ		
LNRGDPK	0.015412	0.013198		
LNRGDPJJ	0.013198	0.011369		
t-test cal	3.00695			

LS // Dependent Variable is LNDTTEG				
Date: 09/10/97 Time: 13:17				
Sample: 1996 2017				
Included observations: 22				
Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	-1.026107	1.203544	-0.852572	0.404500
LNRGDPK	0.398121	0.139697	2.849889	0.010200
LNRGDPJJ	0.259066	0.119983	2.159191	0.043800
R-squared	0.82226	Mean dependent var	1.950808	
Adjusted R-squared	0.803551	S.D. dependent var	0.485256	
S.E. of regression	0.215078	Akaike info criterion	-2.94739	
Sum squared resid	0.878912	Schwarz criterion	-2.798607	
Log likelihood	4.204599	F-statistic	43.94889	
Durbin-Watson stat	0.287143	Prob(F-statistic)	0.000000	
Covariance	LNRGDPK	LNRGDPJJ		
LNRGDPK	0.019515	0.016712		
LNRGDPJJ	0.016712	0.014396		
t-test cal	6.3012			

LS // Dependent Variable is LNDTHLDP					
Variable	Coefficient	Std. Error	t-Statistic	Prob.	
C	-10.120213	1.424576495	-7.1040148	0.00010159	
LNRGDPHTH	1.4975957	0.194010649	7.71914178	5.64E-05	
R-squared	0.8816308	Mean dependent var	0.87084311		
Adjusted R-squared	0.8668347	S.D. dependent var	0.38870003		
S.E. of regression	0.1418437	Akaike info criterion	-3.729202		
Sum squared resid	0.1609572	Schwarz criterion	-3.668685		
Log likelihood	6.4566249	F-statistic	59.5851499		
Durbin-Watson stat	1.601844	Prob(F-statistic)	5.60E-05		

LS // Dependent Variable is LNDTHHDP					
Variable	Coefficient	Std. Error	t-Statistic	Prob.	
C	-12.933632	1.450266008	-8.9181098	1.98E-05	
LNRGDPHTH	1.9010769	0.19750926	9.62525456	1.13E-05	
R-squared	0.9205131	Mean dependent var	1.01862671		
Adjusted R-squared	0.9105772	S.D. dependent var	0.48288983		
S.E. of regression	0.1444016	Akaike info criterion	-3.6934571		
Sum squared resid	0.1668146	Schwarz criterion	-3.6329401		
Log likelihood	6.2779007	F-statistic	92.6455253		
Durbin-Watson stat	1.8304188	Prob(F-statistic)	1.13E-05		

LS // Dependent Variable is LNDTHPVC					
Date: 02/20/98 Time: 11:37					
Sample(adjusted): 1986 1995					
Included observations: 10 after adjusting endpoints					
Variable	Coefficient	Std. Error	t-Statistic	Prob.	
C	-12.721664	1.736148653	-7.3275201	8.17E-05	
LNRGDPTH	1.9086755	0.236443131	8.07245057	4.09E-05	
R-squared	0.8906573	Mean dependent var	1.28636108		
Adjusted R-squared	0.8769895	S.D. dependent var	0.49287881		
S.E. of regression	0.1728667	Akaike info criterion	-3.3336126		
Sum squared resid	0.2390631	Schwarz criterion	-3.2730956		
Log likelihood	4.4786782	F-statistic	65.1644583		
Durbin-Watson stat	1.4146835	Prob(F-statistic)	4.09E-05		

LS // Dependent Variable is LNDTHEG					
Date: 02/20/98 Time: 11:40					
Sample(adjusted): 1986 1995					
Included observations: 10 after adjusting endpoints					
Variable	Coefficient	Std. Error	t-Statistic	Prob.	
C	-15.332691	1.559436447	-9.8322003	9.63E-06	
LNRGDPTH	2.1277373	0.212376996	10.0186807	8.37E-06	
R-squared	0.9261815	Mean dependent var	0.28305791		
Adjusted R-squared	0.9169542	S.D. dependent var	0.53880711		
S.E. of regression	0.1552716	Akaike info criterion	-3.5483021		
Sum squared resid	0.1928742	Schwarz criterion	-3.4877851		
Log likelihood	5.5521256	F-statistic	100.373963		
Durbin-Watson stat	1.2725594	Prob(F-statistic)	8.37E-06		

LS // Dependent Variable is LNDKOLDP					
Date: 02/20/98 Time: 11:43					
Sample(adjusted): 1986 1995					
Included observations: 10 after adjusting endpoints					
Variable	Coefficient	Std. Error	t-Statistic	Prob.	
C	-7.0048889	1.799439746	-3.8928166	0.00459094	
LNRGDPKO	1.0825496	0.208592116	5.18979166	8.33E-04	
R-squared	0.7709963	Mean dependent var	2.33108669		
Adjusted R-squared	0.7423709	S.D. dependent var	0.2716411		
S.E. of regression	0.1378774	Akaike info criterion	-3.7859249		
Sum squared resid	0.1520813	Schwarz criterion	-3.7254079		
Log likelihood	6.7402394	F-statistic	26.9339375		
Durbin-Watson stat	0.9376382	Prob(F-statistic)	8.33E-04		

LS // Dependent Variable is LNDKOHDP					
Date: 02/20/98 Time: 11:44					
Sample(adjusted): 1986 1995					
Included observations: 10 after adjusting endpoints					
Variable	Coefficient	Std. Error	t-Statistic	Prob.	
C	-11.117767	2.737555896	-4.0612019	0.00362739	
LNRGDPKO	1.5580823	0.317339093	4.90983399	1.18E-03	
R-squared	0.750829	Mean dependent var	2.31923149		
Adjusted R-squared	0.7196827	S.D. dependent var	0.39618103		
S.E. of regression	0.2097581	Akaike info criterion	-2.9467446		
Sum squared resid	0.3519875	Schwarz criterion	-2.8862276		
Log likelihood	2.544338	F-statistic	24.1064698		
Durbin-Watson stat	0.7385449	Prob(F-statistic)	1.18E-03		

LS // Dependent Variable is LNDKOPVC					
Date: 02/20/98 Time: 11:46					
Sample(adjusted): 1986 1995					
Included observations: 10 after adjusting endpoints					
Variable	Coefficient	Std. Error	t-Statistic	Prob.	
C	-9.1342063	2.011605109	-4.5407552	0.00189731	
LNRGDPKO	1.3579063	0.23318645	5.82326406	3.95E-04	
R-squared	0.8091166	Mean dependent var	2.57646221		
Adjusted R-squared	0.7852562	S.D. dependent var	0.33261211		
S.E. of regression	0.154134	Akaike info criterion	-3.5630097		
Sum squared resid	0.1900583	Schwarz criterion	-3.5024927		
Log likelihood	5.6256634	F-statistic	33.9104043		
Durbin-Watson stat	2.0012903	Prob(F-statistic)	3.95E-04		

LS // Dependent Variable is LNDKOEG					
Date: 02/20/98 Time: 11:47					
Sample(adjusted): 1986 1995					
Included observations: 10 after adjusting endpoints					
Variable	Coefficient	Std. Error	t-Statistic	Prob.	
C	-10.543999	1.8446852	-5.71588	0.00044614	
LNRGDPKO	1.5011171	0.213836996	7.0199132	1.10E-04	
R-squared	0.8603332	Mean dependent var	2.40172893		
Adjusted R-squared	0.8428748	S.D. dependent var	0.35657843		
S.E. of regression	0.1413442	Akaike info criterion	-3.7362583		
Sum squared resid	0.1598254	Schwarz criterion	-3.6757413		
Log likelihood	6.4919067	F-statistic	49.2791813		
Durbin-Watson stat	0.7488739	Prob(F-statistic)	1.10E-04		

LS // Dependent Variable is LNDJALDP					
Date: 02/20/98 Time: 11:50					
Sample: 1984 1995					
Included observations: 12					
Variable	Coefficient	Std. Error	t-Statistic	Prob.	
C	-1.7534766	0.584686323	-2.999004	0.01336638	
LNRGDPJA	0.4159984	0.058273907	7.1386735	3.15E-05	
R-squared	0.8359598	Mean dependent var	2.41587282		
Adjusted R-squared	0.8195558	S.D. dependent var	0.22221451		
S.E. of regression	0.0943939	Akaike info criterion	-4.5695458		
Sum squared resid	0.0891021	Schwarz criterion	-4.4887281		
Log likelihood	12.390013	F-statistic	50.9606593		
Durbin-Watson stat	1.0512779	Prob(F-statistic)	3.15E-05		

LS // Dependent Variable is LNDJAHDP					
Date: 02/20/98 Time: 11:51					
Sample: 1984 1995					
Included observations: 12					
Variable	Coefficient	Std. Error	t-Statistic	Prob.	
C	-4.7196446	0.628340288	-7.5112875	2.04E-05	
LNRGDPJA	0.6579309	0.062624765	10.5059227	1.01E-06	
R-squared	0.9169259	Mean dependent var	1.874477		
Adjusted R-squared	0.9086185	S.D. dependent var	0.33557272		
S.E. of regression	0.1014416	Akaike info criterion	-4.4255331		
Sum squared resid	0.1029039	Schwarz criterion	-4.3447153		
Log likelihood	11.525937	F-statistic	110.374411		
Durbin-Watson stat	1.1480483	Prob(F-statistic)	1.01E-06		

LS // Dependent Variable is LNDJAPVC

Date: 02/20/98 Time: 11:53

Sample: 1984 1995

Included observations: 12

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	0.2301936	0.567236557	0.40581584	0.69342505
LNRGDPJA	0.2396493	0.056534742	4.23897441	1.72E-03
R-squared	0.6424601	Mean dependent var	2.63208212	
Adjusted R-squared	0.6067061	S.D. dependent var	0.14602479	
S.E. of regression	0.0915767	Akaike info criterion	-4.630144	
Sum squared resid	0.083863	Schwarz criterion	-4.5493262	
Log likelihood	12.753602	F-statistic	17.968904	
Durbin-Watson stat	0.5872999	Prob(F-statistic)		1.72E-03

LS // Dependent Variable is LNDJAEG

Date: 02/20/98 Time: 11:54

Sample: 1984 1995

Included observations: 12

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	1.1178145	0.508636059	2.19767065	0.05264821
LNRGDPJA	0.0456199	0.050694208	0.89990431	3.89E-01
R-squared	0.0749159	Mean dependent var	1.57504096	
Adjusted R-squared	-0.0175925	S.D. dependent var	0.08140315	
S.E. of regression	0.0821161	Akaike info criterion	-4.8482314	
Sum squared resid	0.0674305	Schwarz criterion	-4.7674136	
Log likelihood	14.062126	F-statistic	0.80982776	
Durbin-Watson stat	1.6390321	Prob(F-statistic)		3.89E-01

ประวัติผู้เขียน



ข้าพเจ้า ศูรังก์ รุกขอนันตฤกุล เกิดเมื่อวันที่ 21 ธันวาคม พ.ศ. 2512 จบการศึกษาระดับ มัธยมศึกษาตอนปลายที่โรงเรียนเตรียมทหารดุษฎี ปีการศึกษา 2531 จบอนุปริญญา ผลงาน ศึกษาเกี่ยวกับดัชนีของกรมวิทยาศาสตร์บริการและฐานลงกรณ์ภูมิมหาวิทยาลัย ปีการศึกษา 2534 จบ ปริญญาโทวิทยาศาสตร์บัณฑิต ภาควิชาเคมีเทคนิค สาขาวิชาวัสดุ ฐานลงกรณ์ภูมิมหาวิทยาลัย ปี การศึกษา 2537 และเรียนปริญญาโทห้านั่นๆ ภาควิชาเคมีเทคนิค ภาควิชาเคมีสูตร คณะเคมีสูตร ฐานลงกรณ์มหาวิทยาลัยสำเร็จในปีการศึกษา 2540 ระหว่างศึกษาปริญญาโทห้านั่นๆ ได้เกียรติเป็นผู้ช่วยสอนวิชาพื้นฐานเคมีศาสตร์ของนิสิตปี 1 คณะเคมีสูตร ฐานลงกรณ์ มหาวิทยาลัย กับอาจารย์คุณหญิง ดร. สุชาวดี เสรียรักษ์ ไทย และอาจารย์ ดร. ราภ麻 อัชกุล และเป็น ผู้ช่วยวิจัยผู้ช่วยศาสตราจารย์ พงศ์พันธุ์ พงศา พรชัยวงศ์ ฐานลงกรณ์มหาวิทยาลัย เรื่องความเป็นไปได้ในการเพิ่มประสิทธิภาพ แห่งขันทางด้านอุดหนาทกรรมปัตตรเคมีของประเทศไทย

สถาบันวิทยบริการ  
จุฬาลงกรณ์มหาวิทยาลัย