ภาคผนวก

ภาคผนวก ก

ตัวแปรที่ใช้ในแบบจำลอง

BLO_{EX}	=	Bills, Loans and Overdrafts of Commercial Banks of Export sector (Millions of Baht)
BLO_{IM}	=	Bills, Loans and Overdrafts of Commercial Banks of Import sector (Millions of Baht)
BOP	=	Balance of Payment (Millions of Baht)
BOT	=	Balance of Trade (Millions of Baht)
CA	=	Current Account (Millions of Baht)
CPI	=	Consumer Price Index
CPIUS	=	Consumer Price Index of U.S.A
E	=	Exchange Rate (BHT/USD)
EO	=	Error and Omissions
EX	=	Total Export Goods (Millions of Baht)
EX1	=	Export of Foods (Millions of Baht)
EX2	=	Export of Beverage and Tobacco (Millions of Baht)
EX3	=	Export of Crude Material (Millions of Baht)
EX4	=	Export of Mineral fuels and Lubricant (Millions of Baht)
EX5	=	Export of Animal and Vegetable Oils and Fats (Millions of Baht)
EX6	=	Export of Chemicals (Millions of Baht)
EX7	=	Export of Manufactured Goods (Millions of Baht)
EX8	=	Export of Machinery (Millions of Baht)
EX9	=	Export of Miscellaneous Manufactured Goods (Millions of Baht)
EX_{OTHER}	=	Export of Other Goods (Millions of Baht)
EXPI	=	Export Price Index
EXPI1	=	Export Price Index of Foods
EXPI2	=	Export Price Index of Beverage and Tobacco
EXPI3	=	Export Price Index of Crude Material

EXPI4	=	Export Price Index of Mineral fuels and Lubricant
EXPI5	=	Export Price Index of Animal and Vegetable Oils and Fats
EXPI6	=	Export Price Index of Chemicals
EXPI7	=	Export Price Index of Manufactured Goods
EXPI8	=	Export Price Index of Machinery
EXPI9	=	Export Price Index of Miscellaneous Manufactured Goods
GDPT	=	Gross Domestic Product (Billions of Baht)
IM	=	Total Import Goods (Millions of Baht)
IM1	=	Import of Foods (Millions of Baht)
IM2	=	Import of Beverage and Tobacco (Millions of Baht)
IM3	=	Import of Crude Material (Millions of Baht)
IM4	=	Import of Mineral fuels and Lubricant (Millions of Baht)
IM5	=	Import of Animal and Vegetable Oils and Fats (Millions of Baht)
IM6	=	Import of Chemicals (Millions of Baht)
IM7	=	Import of Manufactured Goods (Millions of Baht)
IM8	=	Import of Machinery (Millions of Baht)
IM9	=	Import of Miscellaneous Manufactured Goods (Millions of Baht)
IM_{OTHER}	=	Import of Other Goods (Millions of Baht)
imlr	=	Interest Rate
IMPI	=	Import Price Index
IMPI1	=	Import Price Index of Foods (= IMPIF)
IMPI2	=	Import Price Index of Beverage and Tobacco (= IMPIBT)
IMPI3	=	Import Price Index of Crude Material
IMPI4	=	Import Price Index of Mineral Fuels and Lubricant
IMPI5	=	Import Price Index of Animal and Vegetable Oils and Fats
IMPI6	=	Import Price Index of Chemicals
IMPI7	=	Import Price Index of Manufactured Goods
IMPI8	=	Import Price Index of Machinery
IMPI9	=	Import Price Index of Miscellaneous Manufactured
ius	=	Foreign Interest Rate

MS	=	Supply of Money
NCI	=	Net Capital Inflow (Millions of Baht)
NST	=	Net Service and Transfer (Millions of Baht)
RPEX	=	Relative Export Price Index
RPEX1	=	Relative Export Price Index of Foods
RPEX2	=	Relative Export Price Index of Beverage and Tobacco
RPEX3	=	Relative Export Price Index of Crude Material
RPEX4	=	Relative Export Price Index of Mineral fuels and Lubricant
RPEX5	=	Relative Export Price Index of Animal and Vegetable Oils and Fats
RPEX6	=	Relative Export Price Index of Chemicals
RPEX7	=	Relative Export Price Index of Manufactured Goods
RPEX8	=	Relative Export Price Index of Machinery
RPEX9	=	Relative Export Price Index of Miscellaneous Manufactured Goods
RPIM	=	Relative Export Price Index
RPIM1	=	Relative Export Price Index of Foods
RPIM2	=	Relative Export Price Index of Beverage and Tobacco
RPIM3	=	Relative Export Price Index of Crude Material
RPIM4	=	Relative Export Price Index of Mineral fuels and Lubricant
RPIM5	=	Relative Export Price Index of Animal and Vegetable Oils and Fats
RPIM6	=	Relative Export Price Index of Chemicals
RPIM7	=	Relative Export Price Index of Manufactured Goods
RPIM8	=	Relative Export Price Index of Machinery
RPIM9	=	Relative Export Price Index of Miscellaneous Manufactured Goods
RES	=	International Reserve (Millions of U.S. dollars)
SET	=	Index of Stock Exchange of Thailand
W	=	Minimum Wage Rate
WGDP	=	World GDP (Billions of Baht)
WSPI	=	Wholesale Price Index
WSPI1	=	Wholesale Price Index of Foods
WSPI2	=	Wholesale Price Index of Beverage and Tobacco

WSPI3	=	Wholesale Price Index of Crude Material
WSPI4	=	Wholesale Price Index of Mineral fuels and Lubricant
WSPI5	=	Wholesale Price Index of Animal and Vegetable Oils and Fats
WSPI6	=	Wholesale Price Index of Chemicals
WSPI7	=	Wholesale Price Index of Manufactured Goods
WSPI8	=	Wholesale Price Index of Machinery
WSPI9	=	Wholesale Price Index of Miscellaneous Manufactured Goods

ภาคผนวก ข

ค่าสถิติในการทดสอบ unit root , λ_{max} และ λ_{trace}

การทดสอบของ Dickey-Fuller

Model	Hypothesis	Test Statistic	Critical values for 95% and 99% Confidence Intervals
$\Delta y_t = \alpha_0 + \gamma y_{t-1} + \alpha_2 t + \varepsilon_t$	$\gamma = 0$	τ_τ	-3.45 and –4.04
	$\alpha_0 = 0$ given $\gamma = 0$	$\tau_{\alpha\tau}$	3.11 and 3.78
	$a_2 = 0$ given $\gamma = 0$	$\tau_{\beta\tau}$	2.79 and 3.53
	$\gamma = \alpha_2 = 0$	ϕ_3	6.49 and 8.73
	$\alpha_0 = \gamma = \alpha_2 = 0$	ϕ_2	4.88 and 6.50
$\Delta y_t = \alpha_0 + \gamma y_{t-1} + \varepsilon_t$	$\gamma = 0$	τ_μ	-2.89 and –3.51
	$\alpha_0 = 0$ given $\gamma = 0$	$\tau_{\alpha\mu}$	2.54 and 3.22
	$\alpha_0 = \gamma = 0$	ϕ_1	4.71 and 6.70
$\Delta y_t = \gamma y_{t-1} + \varepsilon_t$	$\gamma = 0$	τ	-1.95 and –2.60

ที่มา : Walter Enders, 1995

หมายเหตุ : Critical values are for a sample size of 100.

Empirical Cumulative Distribution of τ

	Probability of a Smaller Value							
Sample Size	0.01	0.025	0.05	0.10	0.90	0.95	0.975	0.99
Empirical Distribution of τ for $(\rho) = (1)$ in $Y_t = \rho Y_{t-1} + \varepsilon_t$								
25	-2.66	-2.26	-1.95	-1.60	0.92	1.33	1.70	2.16
50	-2.62	-2.25	-1.95	-1.61	0.91	1.31	1.66	2.08
100	-2.60	-2.24	-1.95	-1.61	0.90	1.29	1.64	2.03
250	-2.58	-2.23	-1.95	-1.62	0.89	1.29	1.63	2.01
500	-2.58	-2.23	-1.95	-1.62	0.89	1.28	1.62	2.00
∞	-2.58	-2.23	-1.95	-1.62	0.89	1.28	1.62	2.00
Empirical Distribution of τ_μ for $(\alpha_0, \rho) = (\alpha_0, 1)$ in $Y_t = \alpha_0 + \rho Y_{t-1} + \varepsilon_t$								
25	-3.75	-3.33	-3.00	-2.62	-0.37	0.00	0.34	0.72
50	-3.58	-3.22	-2.93	-2.60	-0.40	-0.03	0.29	0.66
100	-3.51	-3.17	-2.89	-2.58	-0.42	-0.05	0.26	0.63
250	-3.46	-3.14	-2.88	-2.57	-0.42	-0.06	0.24	0.62
500	-3.44	-3.13	-2.87	-2.57	-0.43	-0.07	0.24	0.61
∞	-3.43	-3.12	-2.86	-2.57	-0.44	-0.07	0.03	0.60
Empirical Distribution of τ_τ for $(\alpha_0, \rho, \alpha_2) = (\alpha_0, 1, \alpha_2)$ in $Y_t = \alpha_0 + \rho Y_{t-1} + \alpha_2 t + \varepsilon_t$								
25	-4.38	-3.95	-3.60	-3.24	-1.14	-0.80	-0.50	-0.15
50	-4.15	-3.80	-3.50	-3.18	-1.19	-0.87	-0.58	-0.24
100	-4.04	-3.73	-3.45	-3.15	-1.22	-0.90	-0.62	-0.28
250	-3.99	-3.69	-3.43	-3.13	-1.23	-0.92	-0.64	-0.31
500	-3.98	-3.68	-3.42	-3.13	-1.24	-0.93	-0.65	-0.32
∞	-3.96	-3.66	-3.41	-3.12	-1.25	-0.94	-0.66	-0.33

Empirical Cumulative Distribution of τ (continued)

	Probability of a Smaller Value			
Sample Size	0.90	0.95	0.975	0.99
Empirical Distribution of $\tau_{\alpha\mu}$ for $(\alpha_0, \rho) = (0, 1)$ in $Y_t = \alpha_0 + \rho Y_{t-1} + \varepsilon_t$				
25	2.20	2.61	2.97	2.41
50	2.18	2.56	2.89	3.28
100	2.17	2.54	2.86	3.22
250	2.16	2.53	2.84	3.19
500	2.16	2.52	2.83	3.18
∞	2.16	2.52	2.83	3.18
Empirical Distribution of $\tau_{\alpha\tau}$ for $(\alpha_0, \rho, \alpha_2) = (0, 1, \alpha_2)$ in $Y_t = \alpha_0 + \rho Y_{t-1} + \alpha_2 t + \varepsilon_t$				
25	2.77	3.20	3.59	4.05
50	2.75	3.14	3.47	3.87
100	2.73	3.11	3.42	3.78
250	2.73	3.09	3.39	3.74
500	2.72	3.08	3.38	3.72
∞	2.72	3.08	3.38	3.71
Empirical Distribution of $\tau_{\beta\tau}$ for $(\alpha_0, \rho, \alpha_2) = (\alpha_0, 1, 0)$ in $Y_t = \alpha_0 + \rho Y_{t-1} + \alpha_2 t + \varepsilon_t$				
25	2.39	2.85	3.25	3.74
50	2.38	2.81	3.18	3.60
100	2.38	2.79	3.14	3.53
250	2.38	2.79	3.12	3.49
500	2.38	2.78	3.11	3.48
∞	2.38	2.78	3.11	3.46

ที่มา : Walter Enders, 1995 และ David A. Dickey and Wayne A. Fuller, 1981

Empirical Distribution of Φ

Sample Size	0.01	0.025	0.05	0.10	0.90	0.95	0.975	0.99
Empirical Distribution of Φ_1 for $(\alpha_0, \rho) = (0, 1)$ in $Y_t = \alpha_0 + \rho Y_{t-1} + \varepsilon_t$								
25	0.29	0.38	0.49	0.65	4.12	5.18	6.30	7.88
50	0.29	0.39	0.50	0.66	3.94	4.86	5.80	7.06
100	0.29	0.39	0.50	0.67	3.86	4.71	5.57	6.70
250	0.30	0.39	0.51	0.67	2.81	4.63	5.45	6.52
500	0.30	0.39	0.51	0.67	3.79	4.61	5.41	6.47
∞	0.30	0.40	0.51	0.67	3.78	4.59	5.38	6.43
Empirical Distribution of Φ_2 for $(\alpha_0, \rho, \alpha_2) = (0, 1, 0)$ in $Y_t = \alpha_0 + \rho Y_{t-1} + \alpha_2 t + \varepsilon_t$								
25	0.61	0.75	0.89	1.10	4.67	5.68	6.75	8.21
50	0.62	0.77	0.91	1.12	4.31	5.13	5.94	7.02
100	0.63	0.77	0.92	1.12	4.16	4.88	5.59	6.50
250	0.63	0.77	0.92	1.13	4.07	4.75	5.40	6.22
500	0.63	0.77	0.92	1.13	4.05	4.71	5.35	6.15
∞	0.63	0.77	0.92	1.13	4.03	4.68	5.31	6.09
Empirical Distribution of Φ_3 for $(\alpha_0, \rho, \alpha_2) = (\alpha_0, 1, 0)$ in $Y_t = \alpha_0 + \rho Y_{t-1} + \alpha_2 t + \varepsilon_t$								
25	0.74	0.90	1.08	1.33	5.91	7.24	8.65	10.61
50	0.76	0.93	1.11	1.37	5.61	6.73	7.81	9.31
100	0.76	0.94	1.12	1.38	5.47	6.49	7.44	8.73
250	0.76	0.94	1.13	1.39	5.39	6.34	7.25	8.43
500	0.76	0.94	1.13	1.39	5.36	6.30	7.20	8.34
∞	0.77	0.94	1.13	1.39	5.34	6.25	7.16	8.27

ที่มา : Walter Enders, 1995 และ David A. Dickey and Wayne A. Fuller, 1981

Distribution of the λ_{max} and λ_{trace} Statistics

	.80	.90	.95	.975	.99
	λ_{max} and λ_{trace} Statistics with trend drift				
n-r			λ_{max}		
1	1.699	2.816	3.962	5.332	6.936
2	10.125	12.099	14.036	15.810	17.936
3	16.324	18.697	20.778	23.002	25.521
4	22.113	24.712	27.169	29.335	31.943
5	27.889	30.774	33.178	35.546	38.341
			λ_{trace}		
1	1.699	2.816	3.962	5.332	6.936
2	11.164	13.338	15.197	17.299	19.310
3	23.868	26.791	29.509	32.313	35.397
4	40.250	43.964	47.181	50.424	53.792
5	60.215	65.063	68.905	72.140	76.955
	λ_{max} and λ_{trace} Statistics without trend or constant				
			λ_{max}		
1	4.905	6.691	8.083	9.658	11.576
2	10.666	12.783	14.595	16.403	18.782
3	16.521	18.959	21.279	23.362	26.154
4	22.341	24.917	27.341	29.599	32.616
5	27.953	30.818	33.262	35.700	38.858
			λ_{trace}		
1	4.905	6.691	8.083	9.658	11.576
2	13.038	15.583	17.844	19.611	21.962
3	25.445	28.436	31.256	34.062	37.291
4	41.623	45.248	48.419	51.801	55.551
5	61.566	65.956	69.977	73.031	77.911
	λ_{max} and λ_{trace} Statistics a constant in the cointegrating vector				
			λ_{max}		
1	5.877	7.563	9.094	10.709	12.740
2	11.628	13.781	15.752	17.622	19.834
3	17.474	19.796	21.894	23.836	26.409
4	22.938	25.611	28.167	30.262	33.121
5	28.643	31.592	34.397	36.625	39.672
			λ_{trace}		
1	5.877	7.563	9.094	10.709	12.741
2	15.359	17.957	20.168	22.202	24.988
3	28.768	32.093	35.068	37.603	40.198
4	45.635	49.925	53.347	56.449	60.054
5	66.624	71.472	75.328	78.857	82.969

ที่มา : Walter Enders, 1995

ประวัติผู้เขียน

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ประวัติการศึกษา	สำเร็จการศึกษามัธยมศึกษาตอนปลาย โรงเรียนสามัคคีวิทยาคม ปีการศึกษา 2536
	สำเร็จการศึกษาปริญญาเศรษฐศาสตรบัณฑิต สาขาวิชาเศรษฐศาสตร์ มหาวิทยาลัยเชียงใหม่ ปีการศึกษา 2540
ทุนการศึกษา	ทุนการศึกษาสำหรับนักศึกษาบัณฑิตศึกษา จากเงินค่าบำรุงพิเศษ คณะเศรษฐศาสตร์ มหาวิทยาลัยเชียงใหม่ ประจำปี 2544