ภาคผนวก

ภาคผนวก ก
ดัชนีราราวัสดุก่อสร้าง

ตาราง ดัชนีราคาวัสดุก่อสร้างรวม ตั้งแต่ มกราคม 2538 ถึงธันวาคม 2546

ปี/เดือน	ม.ค.	ก.พ.	มี.ค.	เม.ย.	พ.ค.	มิ.ย.	ก.ค.	ส.ค.	ก.ย.	ต.ค.	พ.ย.	ธ.ค.
2538	97.5	98.4	99.6	99.8	100.0	100.0	100.2	100.5	100.4	101.4	101.4	100.9
2539	101.1	101.0	101.1	101.4	101.1	101.1	101.4	101.1	101.2	101.2	101.3	100.9
2540	100.8	100.8	101.6	101.4	101.5	101.6	102.7	109.6	112.0	113.2	115.9	116.5
2541	121.0	125.3	126.1	126.2	125.8	125.6	127.5	126.7	126.4	126.8	126.2	123.7
2542	122.5	122.6	120.4	120.1	118.9	118.9	119.0	119.0	119.0	119.0	119.0	119.1
2543	120.2	119.9	119.9	120.7	120.8	121.0	120.5	120.4	118.6	119.6	123.3	123.6
2544	124.2	125.1	125.1	125.4	126.2	126.8	126.6	126.5	126.8	126.7	124.8	120.8
2545	121.3	118.5	122.4	127.2	128.4	127.3	128.2	129.2	128.8	128.8	128.5	128.8
2546	131.8	134.5	136.8	136.4	135.9	135.5	135.8	136.6	136.7	136.8	137.4	139.5

ตาราง ลอกกาลิทึมธรรมชาติดัชนีราคาวัสดุก่อสร้างรวม ตั้งแต่ มกราคม 2538 ถึงธันวาคม 2546

ปี/เดือน	ม.ค.	ก.พ.	มี.ค.	เม.ย.	พ.ค.	มิ.ย.	ก.ค.	ส.ค.	ก.ย.	ต.ค.	พ.ย.	ธ.ค.
2538	4.579852	4.58904	4.60116	4.60317	4.60517	4.60517	4.60717	4.61016	4.60916	4.61907	4.61907	4.61413
2539	4.61611	4.61512	4.61611	4.61907	4.61611	4.61611	4.61907	4.61611	4.6171	4.6171	4.61809	4.61413
2540	4.61314	4.61314	4.62104	4.61907	4.62006	4.62104	4.63181	4.69684	4.7185	4.72916	4.75273	4.75789
2541	4.79579	4.83071	4.83708	4.83787	4.83469	4.8331	4.84812	4.84182	4.83945	4.84261	4.83787	4.81786
2542	4.80811	4.80893	4.79082	4.78832	4.77828	4.77828	4.77912	4.77912	4.77912	4.77912	4.77912	4.77996
2543	4.78916	4.78666	4.78666	4.79331	4.79414	4.79579	4.79165	4.79082	4.77576	4.78415	4.81462	4.81705
2544	4.82189	4.82911	4.82911	4.83151	4.83787	4.84261	4.84103	4.84024	4.84261	4.84182	4.82671	4.79414
2545	4.79827	4.77491	4.80729	4.84576	4.85515	4.84655	4.85359	4.86136	4.85826	4.85826	4.85593	4.85826
2546	4.88129	4.90156	4.91852	4.91559	4.91192	4.90897	4.91118	4.91706	4.91779	4.91852	4.9229	4.93806

ภาคผนวก ข
ผลการทดสอบความนิ่งของข้อมูล

ตาราง การทดสอบ unit root โดย การทดสอบ Augmented Dickey-Fuller

At level without intercept and trend

ADF Test Statistic	1.788988	1% Critical Value*	-2.5852
		5% Critical Value	-1.9431
		10% Critical Value	-1.6173

*MacKinnon critical values for rejection of hypothesis of a unit root.

Augmented Dickey-Fuller Test Equation

Dependent Variable: D(LMP)

Method: Least Squares

Sample(adjusted): 3 108

Included observations: 106 after adjusting endpoints

Variable	Coefficient	Std. Error	t-Statistic	Prob.
LMP(-1)	0.000443	0.000248	1.788988	0.0765
D(LMP(-1))	0.357534	0.091976	3.887240	0.0002

R-squared	0.126151	Mean dependent var	0.003293
Adjusted R-squared	0.117749	S.D. dependent var	0.012531
S.E. of regression	0.011770	Akaike info criterion	-6.027783
Sum squared resid	0.014408	Schwarz criterion	-5.977530
Log likelihood	321.4725	F-statistic	15.01369
Durbin-Watson stat	1.988286	Prob(F-statistic)	0.000187

At level with intercept

ADF Test Statistic	-0.859995	1%	Critical Value*	-3.4928
		5%	Critical Value	-2.8887
		10%	Critical Value	-2.5811

*MacKinnon critical values for rejection of hypothesis of a unit root.

Augmented Dickey-Fuller Test Equation

Dependent Variable: D(LMP)

Method: Least Squares

Sample(adjusted): 3 108

Included observations: 106 after adjusting endpoints

Variable	Coefficient	Std. Error	t-Statistic	Prob.
LMP(-1)	-0.009506	0.011053	-0.859995	0.3918
D(LMP(-1))	0.359519	0.092087	3.904142	0.0002
C	0.047424	0.052673	0.900345	0.3700

R-squared	0.132975	Mean dependent var	0.003293
Adjusted R-squared	0.116139	S.D. dependent var	0.012531
S.E. of regression	0.011781	Akaike info criterion	-6.016755
Sum squared resid	0.014296	Schwarz criterion	-5.941374
Log likelihood	321.8880	F-statistic	7.898488
Durbin-Watson stat	1.988080	Prob(F-statistic)	0.000644

At level with intercept and trend

ADF Test Statistic	-2.028675	1%	Critical Value*	-4.0468
		5%	Critical Value	-3.4523
		10%	Critical Value	-3.1514

*MacKinnon critical values for rejection of hypothesis of a unit root.

Augmented Dickey-Fuller Test Equation

Dependent Variable: D(LMP)

Method: Least Squares

Sample(adjusted): 3 108

Included observations: 106 after adjusting endpoints

Variable	Coefficient	Std. Error	t-Statistic	Prob.
LMP(-1)	-0.050017	0.024655	-2.028675	0.0451
D(LMP(-1))	0.381488	0.091835	4.154069	0.0001
C	0.232057	0.113392	2.046501	0.0433
@TREND(1)	0.000153	8.35E-05	1.833047	0.0697

R-squared	0.160625	Mean dependent var	0.003293
Adjusted R-squared	0.135938	S.D. dependent var	0.012531
S.E. of regression	0.011648	Akaike info criterion	-6.030298
Sum squared resid	0.013840	Schwarz criterion	-5.929790
Log likelihood	323.6058	F-statistic	6.506332
Durbin-Watson stat	2.016863	Prob(F-statistic)	0.000451

At first difference without intercept and trend

ADF Test Statistic	-5.450521	1%	Critical Value*	-2.5854
		5%	Critical Value	-1.9431
		10%	Critical Value	-1.6173

*MacKinnon critical values for rejection of hypothesis of a unit root.

Augmented Dickey-Fuller Test Equation

Dependent Variable: D(LMP,2)

Method: Least Squares

Sample(adjusted): 4 108

Included observations: 105 after adjusting endpoints

Variable	Coefficient	Std. Error	t-Statistic	Prob.
D(LMP(-1))	-0.591517	0.108525	-5.450521	0.0000
D(LMP(-1),2)	-0.023001	0.098686	-0.233075	0.8162

R-squared	0.301867	Mean dependent var	2.90E-05
Adjusted R-squared	0.295089	S.D. dependent var	0.014264
S.E. of regression	0.011976	Akaike info criterion	-5.993011
Sum squared resid	0.014772	Schwarz criterion	-5.942459
Log likelihood	316.6331	F-statistic	44.53636
Durbin-Watson stat	1.988492	Prob(F-statistic)	0.000000

At first difference with intercept

ADF Test Statistic	-5.767347	1% Critical Value*	-3.4934
		5% Critical Value	-2.8889
		10% Critical Value	-2.5812

*MacKinnon critical values for rejection of hypothesis of a unit root.

Augmented Dickey-Fuller Test Equation

Dependent Variable: D(LMP,2)

Method: Least Squares

Sample(adjusted): 4 108

Included observations: 105 after adjusting endpoints

Variable	Coefficient	Std. Error	t-Statistic	Prob.
D(LMP(-1))	-0.649338	0.112589	-5.767347	0.0000
D(LMP(-1),2)	0.006298	0.099211	0.063485	0.9495
C	0.002094	0.001212	1.726981	0.0872

R-squared	0.321700	Mean dependent var	2.90E-05
Adjusted R-squared	0.308400	S.D. dependent var	0.014264
S.E. of regression	0.011862	Akaike info criterion	-6.002783
Sum squared resid	0.014352	Schwarz criterion	-5.926956
Log likelihood	318.1461	F-statistic	24.18801
Durbin-Watson stat	1.984391	Prob(F-statistic)	0.000000

At first difference with intercept and trend

ADF Test Statistic	-5.731429	1% Critical Value*	-4.0477
		5% Critical Value	-3.4527
		10% Critical Value	-3.1516

*MacKinnon critical values for rejection of hypothesis of a unit root.

Augmented Dickey-Fuller Test Equation

Dependent Variable: D(LMP,2)

Method: Least Squares

Sample(adjusted): 4 108

Included observations: 105 after adjusting endpoints

Variable	Coefficient	Std. Error	t-Statistic	Prob.
D(LMP(-1))	-0.648834	0.113206	-5.731429	0.0000
D(LMP(-1),2)	0.005960	0.099729	0.059763	0.9525
C	0.001826	0.002450	0.745314	0.4578
@TREND(1)	4.85E-06	3.84E-05	0.126230	0.8998

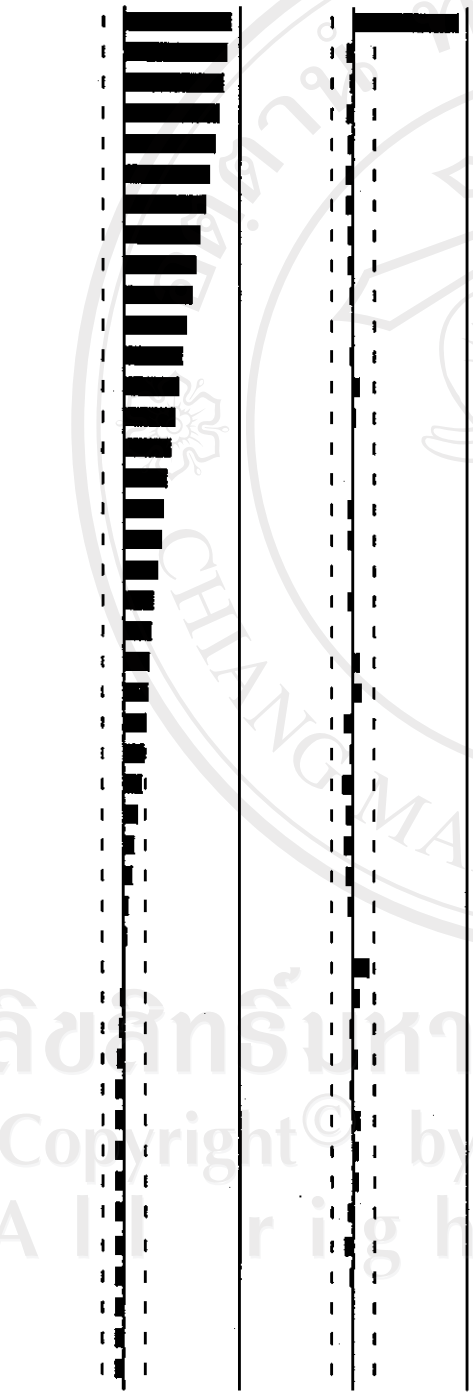
R-squared	0.321807	Mean dependent var	2.90E-05
Adjusted R-squared	0.301663	S.D. dependent var	0.014264
S.E. of regression	0.011920	Akaike info criterion	-5.983894
Sum squared resid	0.014350	Schwarz criterion	-5.882790
Log likelihood	318.1544	F-statistic	15.97508
Durbin-Watson stat	1.985069	Prob(F-statistic)	0.000000

ภาคผนวก ค

คอเรลโลแกรมของ ACF และ PACF

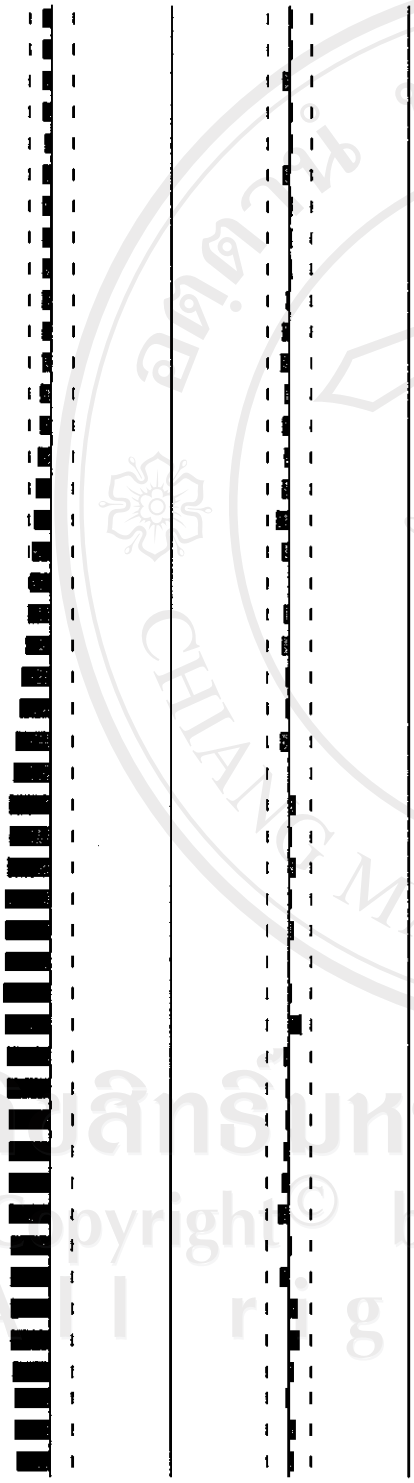
คอเรลโลแกรมจาก Level และ P-lag 1 (with intercept and trend)

Sample: 1 108
Included observations: 108



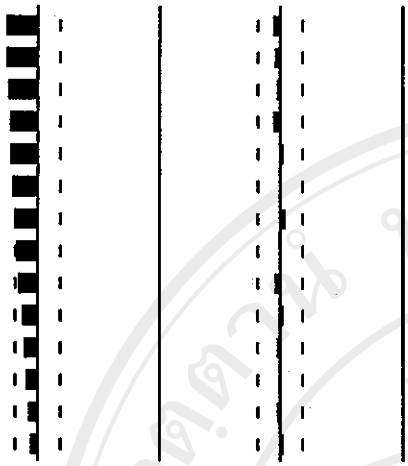
Autocorrelation	Partial Correlation		AC	PAC	Q-Stat	Prob
		1	0.966	0.966	103.58	0.000
		2	0.930	-0.050	200.43	0.000
		3	0.893	-0.019	290.69	0.000
		4	0.855	-0.048	374.17	0.000
		5	0.816	-0.025	451.00	0.000
		6	0.775	-0.051	521.02	0.000
		7	0.732	-0.056	584.10	0.000
		8	0.688	-0.036	640.39	0.000
		9	0.644	-0.029	690.18	0.000
		10	0.600	-0.016	733.89	0.000
		11	0.558	-0.008	772.02	0.000
		12	0.516	-0.012	805.04	0.000
		13	0.480	0.049	833.84	0.000
		14	0.447	0.023	859.08	0.000
		15	0.415	-0.005	881.09	0.000
		16	0.386	0.006	900.30	0.000
		17	0.356	-0.035	916.83	0.000
		18	0.326	-0.027	930.86	0.000
		19	0.298	-0.003	942.74	0.000
		20	0.270	-0.033	952.61	0.000
		21	0.245	0.008	960.79	0.000
		22	0.225	0.054	967.76	0.000
		23	0.209	0.058	973.88	0.000
		24	0.191	-0.074	979.02	0.000
		25	0.172	-0.011	983.26	0.000
		26	0.149	-0.092	986.46	0.000
		27	0.124	-0.044	988.71	0.000
		28	0.097	-0.065	990.10	0.000
		29	0.068	-0.042	990.80	0.000
		30	0.039	-0.038	991.04	0.000
		31	0.011	0.000	991.06	0.000
		32	-0.006	0.142	991.07	0.000
		33	-0.021	0.042	991.14	0.000
		34	-0.036	-0.009	991.35	0.000
		35	-0.049	0.026	991.75	0.000
		36	-0.062	-0.020	992.38	0.000
		37	-0.069	0.050	993.19	0.000
		38	-0.071	0.037	994.05	0.000
		39	-0.069	0.027	994.86	0.000
		40	-0.066	-0.031	995.63	0.000
		41	-0.066	-0.062	996.41	0.000
		42	-0.067	-0.021	997.21	0.000
		43	-0.066	0.004	998.01	0.000
		44	-0.066	0.002	998.81	0.000
		45	-0.066	-0.006	999.64	0.000

คอเรลโลแกรมจาก Level **และ** P-lag 1 (with intercept and trend) **(ต่อ)**



46	-0.065	0.010	1000.4	0.000
47	-0.063	0.019	1001.2	0.000
48	-0.062	-0.050	1002.0	0.000
49	-0.060	0.016	1002.7	0.000
50	-0.057	0.017	1003.4	0.000
51	-0.058	-0.052	1004.1	0.000
52	-0.059	0.012	1004.8	0.000
53	-0.060	0.018	1005.6	0.000
54	-0.061	0.019	1006.4	0.000
55	-0.063	-0.013	1007.3	0.000
56	-0.066	-0.042	1008.3	0.000
57	-0.074	-0.080	1009.5	0.000
58	-0.083	-0.030	1011.2	0.000
59	-0.094	-0.043	1013.3	0.000
60	-0.106	-0.030	1016.1	0.000
61	-0.119	-0.054	1019.6	0.000
62	-0.137	-0.113	1024.5	0.000
63	-0.158	-0.048	1031.1	0.000
64	-0.176	0.007	1039.5	0.000
65	-0.196	-0.034	1050.1	0.000
66	-0.219	-0.055	1063.7	0.000
67	-0.242	-0.014	1080.6	0.000
68	-0.266	-0.019	1101.6	0.000
69	-0.293	-0.060	1127.7	0.000
70	-0.320	-0.002	1159.6	0.000
71	-0.341	0.051	1197.0	0.000
72	-0.358	0.015	1239.3	0.000
73	-0.370	0.056	1285.6	0.000
74	-0.380	0.010	1336.0	0.000
75	-0.386	0.029	1389.8	0.000
76	-0.392	-0.001	1446.8	0.000
77	-0.394	0.012	1506.1	0.000
78	-0.386	0.109	1565.0	0.000
79	-0.377	-0.036	1623.2	0.000
80	-0.368	-0.020	1680.5	0.000
81	-0.358	-0.011	1736.9	0.000
82	-0.348	-0.029	1792.4	0.000
83	-0.340	-0.041	1847.3	0.000
84	-0.337	-0.095	1903.4	0.000
85	-0.333	0.021	1960.6	0.000
86	-0.334	-0.078	2020.7	0.000
87	-0.330	0.070	2082.3	0.000
88	-0.320	0.097	2143.2	0.000
89	-0.309	0.038	2203.0	0.000
90	-0.300	-0.018	2262.5	0.000
91	-0.290	0.042	2321.2	0.000
92	-0.278	0.039	2378.7	0.000

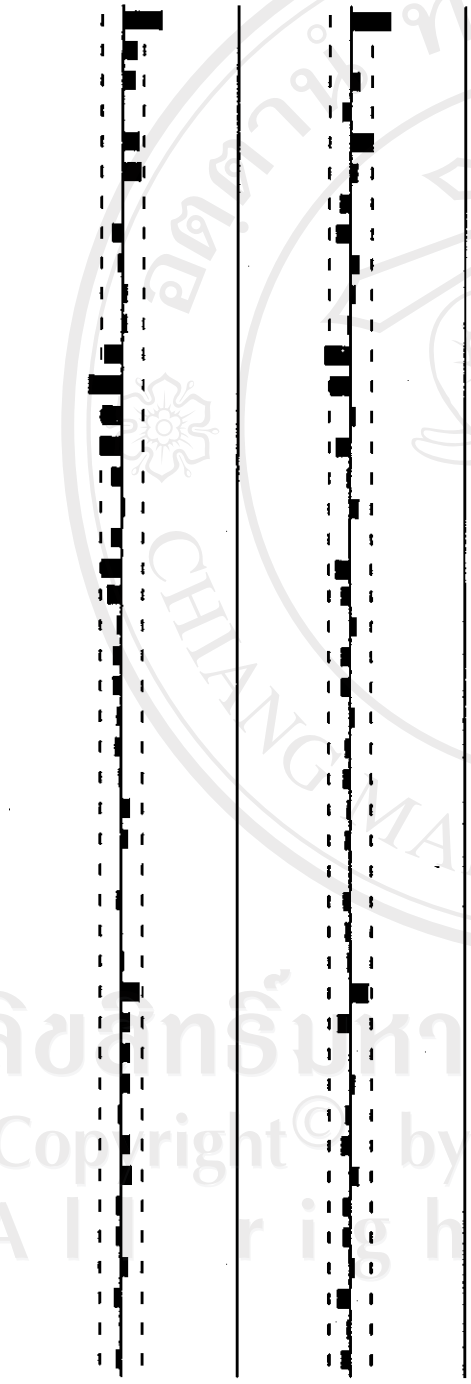
คอเรลโลแกรมจาก Level และ P-lag 1 (with intercept and trend)(ต่อ)



93	-0.268	-0.046	2435.5	0.000
94	-0.257	-0.029	2491.4	0.000
95	-0.246	-0.017	2546.8	0.000
96	-0.236	-0.052	2602.0	0.000
97	-0.222	0.013	2655.3	0.000
98	-0.206	0.001	2705.9	0.000
99	-0.188	0.033	2752.3	0.000
10	-0.168	-0.006	2794.2	0.000
10	-0.149	-0.038	2831.9	0.000
10	-0.130	0.009	2865.6	0.000
10	-0.111	-0.013	2894.9	0.000
10	-0.091	-0.001	2919.4	0.000
10	-0.070	-0.018	2939.0	0.000
10	-0.050	0.009	2953.7	0.000

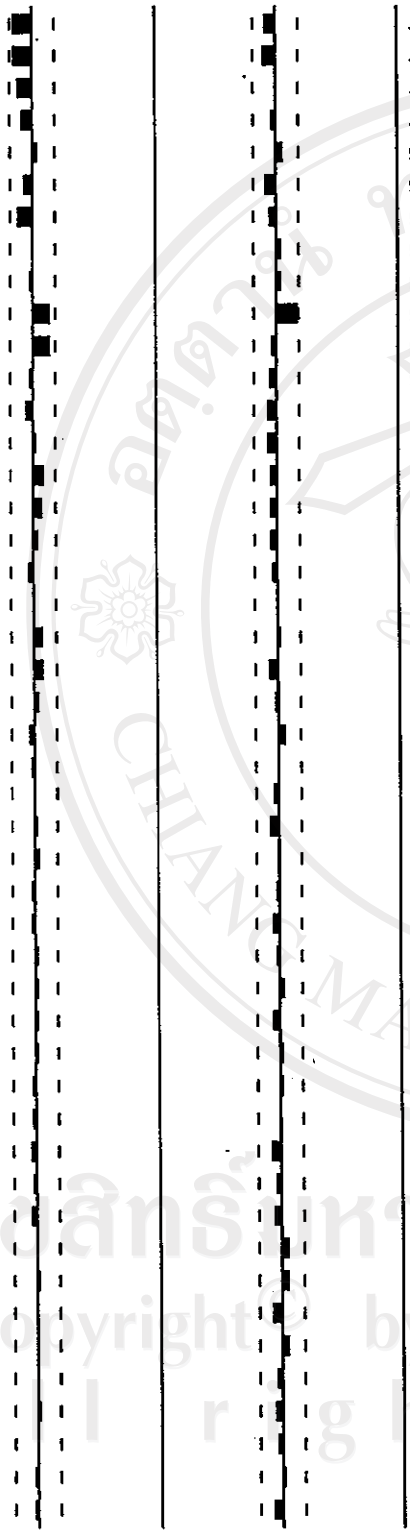
คอเรลโลแกรมจาก ผลต่างอันดับ 1 และ P-lag 1 (without intercept and trend)

Sample: 1 108
Included observations: 107



Autocorrelation	Partial Correlation		AC	PAC	Q-Stat	Prob
		1	0.354	0.354	13.801	0.000
		2	0.120	-0.006	15.400	0.000
		3	0.106	0.075	16.657	0.001
		4	-0.005	-0.075	16.659	0.002
		5	0.141	0.186	18.927	0.002
		6	0.151	0.045	21.559	0.001
		7	-0.002	-0.086	21.560	0.003
		8	-0.094	-0.118	22.600	0.004
		9	-0.029	0.060	22.699	0.007
		10	0.026	0.040	22.777	0.012
		11	0.027	-0.018	22.866	0.018
		12	-0.156	-0.230	25.854	0.011
		13	-0.292	-0.173	36.415	0.001
		14	-0.173	0.037	40.171	0.000
		15	-0.193	-0.129	44.898	0.000
		16	-0.095	-0.020	46.055	0.000
		17	0.013	0.076	46.077	0.000
		18	-0.096	0.007	47.277	0.000
		19	-0.170	-0.124	51.087	0.000
		20	-0.121	-0.075	53.058	0.000
		21	-0.038	0.052	53.255	0.000
		22	-0.070	-0.059	53.926	0.000
		23	-0.078	-0.077	54.760	0.000
		24	-0.034	0.028	54.925	0.000
		25	-0.057	-0.028	55.384	0.000
		26	-0.019	-0.054	55.436	0.001
		27	0.069	-0.009	56.138	0.001
		28	0.052	-0.029	56.543	0.001
		29	-0.003	0.004	56.544	0.002
		30	-0.033	-0.055	56.708	0.002
		31	-0.007	-0.039	56.717	0.003
		32	0.024	-0.014	56.804	0.004
		33	0.152	0.159	60.454	0.002
		34	0.067	-0.112	61.166	0.003
		35	0.068	0.004	61.907	0.003
		36	0.060	0.034	62.491	0.004
		37	-0.013	-0.031	62.518	0.005
		38	0.062	-0.071	63.169	0.006
		39	0.094	0.062	64.674	0.006
		40	-0.028	-0.049	64.810	0.008
		41	-0.033	-0.046	65.000	0.010
		42	0.044	0.041	65.346	0.012
		43	-0.045	-0.099	65.717	0.014
		44	-0.001	-0.023	65.717	0.019
		45	-0.029	-0.065	65.870	0.023

คอเรลโลแกรมจาก ผลต่างอันดับ 1 และ P-lag 1 (without intercept and trend) (ต่อ)



46	-0.159	-0.087	70.734	0.011
47	-0.151	-0.111	75.185	0.006
48	-0.125	0.002	78.270	0.004
49	-0.083	-0.040	79.656	0.004
50	0.033	0.055	79.878	0.005
51	-0.073	-0.096	80.996	0.005
52	-0.120	-0.052	84.066	0.003
53	-0.005	0.035	84.072	0.004
54	-0.010	0.026	84.093	0.005
55	0.135	0.166	88.185	0.003
56	0.137	-0.037	92.475	0.002
57	-0.017	-0.043	92.544	0.002
58	-0.041	-0.060	92.947	0.002
59	0.009	-0.063	92.965	0.003
60	0.086	-0.043	94.815	0.003
61	0.068	-0.048	95.987	0.003
62	0.028	-0.044	96.183	0.004
63	-0.034	-0.034	96.492	0.004
64	0.007	0.006	96.504	0.005
65	0.076	0.017	98.103	0.005
66	0.077	-0.077	99.772	0.005
67	0.030	-0.016	100.03	0.006
68	-0.032	0.055	100.33	0.007
69	-0.021	0.001	100.47	0.008
70	-0.004	-0.036	100.47	0.010
71	0.022	-0.060	100.62	0.012
72	0.030	-0.001	100.92	0.014
73	-0.014	-0.010	100.98	0.017
74	-0.023	-0.050	101.17	0.020
75	0.008	-0.016	101.19	0.024
76	0.015	0.029	101.27	0.028
77	0.014	-0.048	101.35	0.033
78	0.015	0.015	101.44	0.039
79	-0.009	0.011	101.47	0.045
80	-0.023	0.008	101.70	0.051
81	-0.025	-0.061	101.98	0.058
82	-0.021	-0.028	102.19	0.065
83	-0.026	-0.055	102.52	0.072
84	-0.003	0.042	102.52	0.083
85	0.016	0.054	102.65	0.093
86	0.005	-0.058	102.66	0.106
87	-0.005	0.042	102.67	0.120
88	0.000	-0.026	102.67	0.136
89	0.012	-0.043	102.77	0.151
90	-0.007	-0.039	102.81	0.168
91	-0.012	0.014	102.91	0.185
92	-0.011	-0.065	103.01	0.203

คอเรลโลแกรมจาก ผลต่างอันดับ 1 และ P-lag 1 (without intercept and trend) (ต่อ)

93	-0.007	-0.020	103.06	0.223
94	0.010	-0.024	103.14	0.244
95	0.015	-0.050	103.35	0.262
96	0.009	-0.005	103.44	0.284
97	0.001	-0.034	103.44	0.309
98	-0.001	-0.010	103.44	0.334
99	-0.008	-0.015	103.54	0.357
10	-0.003	0.036	103.55	0.384
10	0.000	0.025	103.55	0.411
10	-0.003	0.020	103.57	0.438
10	-0.003	-0.021	103.60	0.465
10	-0.001	0.008	103.61	0.492
10	0.007	-0.053	103.87	0.513

ภาคผนวก ง
ผลการประมาณค่าพารามิเตอร์

ตาราง การประมาณค่าพารามิเตอร์

แบบจำลอง $\Delta \ln MP_t$ ค่าคงที่ AR(1)

Dependent Variable: D(LMP)

Method: Least Squares

Sample(adjusted): 3 108

Included observations: 106 after adjusting endpoints

Convergence achieved after 3 iterations

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	0.003324	0.001778	1.869646	0.0643
AR(1)	0.357175	0.091931	3.885252	0.0002

R-squared	0.126749	Mean dependent var	0.003293
Adjusted R-squared	0.118352	S.D. dependent var	0.012531
S.E. of regression	0.011766	Akaike info criterion	-6.028468
Sum squared resid	0.014398	Schwarz criterion	-5.978214
Log likelihood	321.5088	F-statistic	15.09518
Durbin-Watson stat	1.988057	Prob(F-statistic)	0.000180

Inverted AR Roots	.36

แบบจำลอง $\Delta \ln MP_t$ ค่าคงที่ AR(1) AR(12)

Dependent Variable: D(LMP)

Method: Least Squares

Sample(adjusted): 14 108

Included observations: 95 after adjusting endpoints

Convergence achieved after 2 iterations

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	0.003353	0.001547	2.167939	0.0327
AR(1)	0.362925	0.096134	3.775191	0.0003
AR(12)	-0.172716	0.098471	-1.753977	0.0828

R-squared	0.157156	Mean dependent var	0.003389
Adjusted R-squared	0.138833	S.D. dependent var	0.013148
S.E. of regression	0.012202	Akaike info criterion	-5.943424
Sum squared resid	0.013697	Schwarz criterion	-5.862775
Log likelihood	285.3126	F-statistic	8.577107
Durbin-Watson stat	2.061988	Prob(F-statistic)	0.000384

Inverted AR Roots	.87 -.22i	.87+.22i	.64 -.61i	.64+.61i
	.25+.83i	.25 -.83i	-.20+.83i	-.20 -.83i
	-.58+.61i	-.58 -.61i	-.81 -.22i	-.81+.22i

แบบจำลอง $\Delta \ln MP_t$ ค่าคงที่ AR(1) AR(13)

Dependent Variable: D(LMP)

Method: Least Squares

Sample(adjusted): 15 108

Included observations: 94 after adjusting endpoints

Convergence achieved after 2 iterations

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	0.003356	0.001317	2.549053	0.0125
AR(1)	0.318842	0.095910	3.324392	0.0013
AR(13)	-0.260359	0.098237	-2.650307	0.0095
R-squared	0.191310	Mean dependent var		0.003436
Adjusted R-squared	0.173537	S.D. dependent var		0.013211
S.E. of regression	0.012010	Akaike info criterion		-5.974729
Sum squared resid	0.013126	Schwarz criterion		-5.893560
Log likelihood	283.8123	F-statistic		10.76384
Durbin-Watson stat	2.000344	Prob(F-statistic)		0.000064
Inverted AR Roots	.90 -.21i	.90+.21i	.70 -.59i	.70+.59i
	.34+.84i	.34 -.84i	-.09 -.89i	-.09+.89i
	-.49+.74i	-.49 -.74i	-.78+.42i	-.78 -.42i
	-.88			

แบบจำลอง $\Delta \ln MP_t$ ค่าคงที่ AR(1) MA(13)

Dependent Variable: D(LMP)

Method: Least Squares

Sample(adjusted): 3 108

Included observations: 106 after adjusting endpoints

Convergence achieved after 5 iterations

Backcast: -10 2

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	0.003273	0.001224	2.675221	0.0087
AR(1)	0.317267	0.094208	3.367727	0.0011
MA(13)	-0.288016	0.097817	-2.944437	0.0040

R-squared	0.188845	Mean dependent var	0.003293
Adjusted R-squared	0.173094	S.D. dependent var	0.012531
S.E. of regression	0.011395	Akaike info criterion	-6.083364
Sum squared resid	0.013375	Schwarz criterion	-6.007983
Log likelihood	325.4183	F-statistic	11.98970
Durbin-Watson stat	1.986325	Prob(F-statistic)	0.000021

Inverted AR Roots	.32			
Inverted MA Roots	.91	.80 -.42i	.80+.42i	.52+.75i
	.52 -.75i	.11+.90i	.11 -.90i	-.32+.85i
	-.32 -.85i	-.68+.60i	-.68 -.60i	-.88+.22i
	-.88 -.22i			

แบบจำลอง $\Delta \ln MP_t$ ค่าคงที่ MA(1)

Dependent Variable: D(LMP)

Method: Least Squares

Sample(adjusted): 2 108

Included observations: 107 after adjusting endpoints

Convergence achieved after 4 iterations

Backcast: 1

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	0.003390	0.001547	2.192011	0.0306
MA(1)	0.363942	0.091258	3.988058	0.0001

R-squared	0.122390	Mean dependent var	0.003348
Adjusted R-squared	0.114031	S.D. dependent var	0.012485
S.E. of regression	0.011752	Akaike info criterion	-6.031144
Sum squared resid	0.014500	Schwarz criterion	-5.981185
Log likelihood	324.6662	F-statistic	14.64308
Durbin-Watson stat	1.967478	Prob(F-statistic)	0.000221

Inverted MA Roots	-.36

แบบจำลอง $\Delta \ln MP_t$ ค่าคงที่ MA(1) AR(13)

Dependent Variable: D(LMP)

Method: Least Squares

Sample(adjusted): 15 108

Included observations: 94 after adjusting endpoints

Convergence achieved after 4 iterations

Backcast: 14

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	0.003354	0.001305	2.570418	0.0118
AR(13)	-0.270604	0.103914	-2.604109	0.0108
MA(1)	0.335038	0.099671	3.361434	0.0011

R-squared	0.184464	Mean dependent var		0.003436
Adjusted R-squared	0.166540	S.D. dependent var		0.013211
S.E. of regression	0.012061	Akaike info criterion		-5.966299
Sum squared resid	0.013237	Schwarz criterion		-5.885130
Log likelihood	283.4161	F-statistic		10.29153
Durbin-Watson stat	1.984452	Prob(F-statistic)		0.000093

Inverted AR Roots	.88 -.22i	.88+.22i	.68 -.60i	.68+.60i
	.32 -.85i	.32+.85i	-.11 -.90i	-.11+.90i
	-.51 -.74i	-.51+.74i	-.80+.42i	-.80 -.42i
	-.90			
Inverted MA Roots	-.34			

แบบจำลอง $\Delta \ln MP_t$ ค่าคงที่ MA(1) MA(13)

Dependent Variable: D(LMP)

Method: Least Squares

Sample(adjusted): 2 108

Included observations: 107 after adjusting endpoints

Convergence achieved after 6 iterations

Backcast: -11 1

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	0.003322	0.001189	2.792881	0.0062
MA(1)	0.337487	0.088165	3.827893	0.0002
MA(13)	-0.299225	0.091369	-3.274894	0.0014
R-squared	0.187136	Mean dependent var		0.003348
Adjusted R-squared	0.171504	S.D. dependent var		0.012485
S.E. of regression	0.011364	Akaike info criterion		-6.089091
Sum squared resid	0.013431	Schwarz criterion		-6.014152
Log likelihood	328.7664	F-statistic		11.97131
Durbin-Watson stat	1.977364	Prob(F-statistic)		0.000021
Inverted MA Roots	.89	.78 -.42i	.78+.42i	.49+.75i
	.49 -.75i	.09+.90i	.09 -.90i	-.35 -.85i
	-.35+.85i	-.71+.60i	-.71 -.60i	-.92+.22i
	-.92 -.22i			

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