



ลิขสิทธิ์มหาวิทยาลัยเชียงใหม่

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ภาคผนวก ก
ข้อมูลราคาที่ใช้ศึกษา

ตาราง ก ข้อมูลราคาที่ใช้ศึกษา

สัปดาห์	FFBKR	FFBSU	FFBCH	FFBTR	FFBSA	CPOA	RPO	CPOM
18/5/2003	2.03	2.05	1.95	2.03	1.88	16.38	21.69	16.72
25/5/2003	2.03	2.09	1.95	2.03	1.90	16.78	22.21	16.51
1/6/2003	2.03	2.10	1.95	2.05	1.93	16.18	21.88	16.28
8/6/2003	2.10	2.10	1.99	2.10	1.95	16.13	21.56	16.52
15/6/2003	2.18	2.13	2.15	2.14	2.06	16.43	21.06	16.67
22/6/2003	2.39	2.42	2.46	2.53	2.23	16.98	20.94	16.79
29/6/2003	2.58	2.62	2.62	2.64	2.41	17.18	20.94	16.52
6/7/2003	2.45	2.48	2.63	2.50	2.32	16.23	20.80	16.61
13/7/2003	2.49	2.51	2.58	2.48	2.31	16.38	20.76	16.73
20/7/2003	2.59	2.64	2.72	2.70	2.56	16.38	20.76	16.51
27/7/2003	2.45	2.48	2.51	2.59	2.36	15.68	20.08	16.11
3/8/2003	2.22	2.30	2.20	2.30	2.05	14.58	19.00	15.82
10/8/2003	2.24	2.31	2.26	2.35	2.10	14.58	18.60	15.41
17/8/2003	2.26	2.31	2.33	2.35	2.10	14.93	18.28	15.39
24/8/2003	2.50	2.50	2.48	2.54	2.34	15.88	19.50	15.26
31/8/2003	2.75	2.74	2.76	2.77	2.48	16.78	20.20	15.29
7/9/2003	2.72	2.72	2.80	2.80	2.60	16.58	20.49	15.15
14/9/2003	2.67	2.68	2.66	2.74	2.60	16.13	20.15	15.10
21/9/2003	2.66	2.67	2.66	2.62	2.45	16.15	20.23	15.36
28/9/2003	2.74	2.79	2.86	2.81	2.47	17.03	20.83	15.59
5/10/2003	2.94	2.96	2.95	2.99	2.58	17.38	20.94	16.07
12/10/2003	3.11	3.09	3.06	3.15	2.76	17.68	21.32	16.28
19/10/2003	3.26	3.27	3.22	3.34	2.90	18.88	21.99	18.07
26/10/2003	3.65	3.58	3.51	3.63	3.18	21.04	23.88	19.28
2/11/2003	4.04	3.90	3.82	4.10	3.54	24.43	27.15	20.11
9/11/2003	4.17	4.18	4.12	4.10	3.74	25.15	27.89	19.70
16/11/2003	3.72	3.76	3.86	3.78	3.45	21.00	26.84	19.45
23/11/2003	3.44	3.48	3.70	3.50	3.27	20.65	25.80	19.52
30/11/2003	3.38	3.40	3.46	3.42	3.00	19.95	23.90	19.44
7/12/2003	3.43	3.44	3.46	3.40	3.05	20.33	23.52	19.73
14/12/2003	3.53	3.57	3.52	3.40	3.05	21.05	23.34	19.59
21/12/2003	3.73	3.68	3.68	3.58	3.32	21.90	23.93	18.81
28/12/2003	3.60	3.59	3.60	3.70	3.35	21.05	23.93	18.24
4/1/2004	3.00	3.07	3.24	3.70	3.30	20.15	23.93	18.70
11/1/2004	3.08	3.10	3.20	3.19	3.06	19.75	23.86	18.40
18/1/2004	3.19	3.19	3.20	3.16	3.00	19.83	23.56	18.19
25/1/2004	3.06	3.12	3.20	3.17	3.00	19.58	23.56	18.44
1/2/2004	3.26	3.27	3.20	3.22	3.00	19.58	23.37	18.62

ตาราง ก (ต่อ) ข้อมูลราคาที่ใช้ศึกษา

สัปดาห์	FFBKR	FFBSU	FFBCH	FFBTR	FFBSA	CPOA	RPO	CPOM
8/2/2004	3.18	3.09	3.20	3.20	3.08	19.83	24.12	18.85
15/2/2004	3.34	3.40	3.46	3.20	3.14	20.58	24.42	19.44
22/2/2004	3.38	3.46	3.60	3.24	3.20	21.60	24.71	19.86
29/2/2004	3.56	3.60	3.62	3.48	3.40	22.88	25.69	20.40
7/3/2004	3.46	3.45	3.70	3.50	3.40	23.03	25.88	20.67
14/3/2004	3.33	3.32	3.68	3.50	3.28	21.95	25.80	20.72
21/3/2004	3.21	3.20	3.60	3.45	3.15	21.15	25.80	20.64
28/3/2004	3.21	3.20	3.60	3.49	3.05	21.08	26.26	20.83
4/4/2004	3.23	3.27	3.60	3.50	3.05	21.18	25.62	20.77
11/4/2004	3.34	3.38	3.60	3.50	3.05	21.38	25.62	20.61
18/4/2004	3.33	3.25	3.50	3.50	3.05	21.13	25.62	20.28
25/4/2004	3.21	3.23	3.48	3.50	3.10	21.13	25.62	20.19
2/5/2004	3.20	3.20	3.36	3.50	3.00	21.03	25.47	20.67
9/5/2004	3.20	3.00	3.20	3.20	2.96	20.88	25.24	20.92
16/5/2004	3.14	2.94	3.20	3.20	2.95	20.85	25.24	20.80
23/5/2004	3.12	2.93	3.00	3.20	2.98	20.30	25.09	19.48
30/5/2004	3.01	2.95	2.96	3.20	3.00	19.43	24.83	17.99
6/6/2004	2.52	2.60	2.80	2.80	2.66	17.50	24.08	17.35
13/6/2004	2.70	2.70	2.80	2.80	2.58	16.85	23.79	16.51
20/6/2004	2.82	2.80	2.86	2.88	2.70	17.05	23.30	16.29
27/6/2004	2.96	2.80	3.04	3.20	2.80	18.18	23.22	16.69
4/7/2004	3.22	3.14	3.20	3.32	2.94	19.53	24.68	16.86
11/7/2004	3.18	3.20	3.30	3.32	3.20	19.33	25.24	16.07
18/7/2004	3.34	3.30	3.39	3.41	3.20	20.08	25.39	15.46
25/7/2004	3.61	3.48	3.56	3.66	3.40	20.70	25.43	16.06
1/8/2004	3.71	3.65	3.62	3.82	3.51	20.85	25.43	16.01
8/8/2004	3.86	3.88	3.70	3.92	3.51	21.12	25.63	15.86
15/8/2004	3.98	3.92	3.73	4.00	3.70	21.53	26.28	16.13
22/8/2004	4.17	4.05	3.90	4.15	3.97	22.18	26.55	16.51
29/8/2004	4.24	4.13	4.10	4.18	4.00	22.53	26.77	16.96
5/9/2004	4.21	4.15	4.15	4.20	4.08	22.63	27.22	17.26
12/9/2004	4.16	4.23	4.22	4.12	4.06	22.18	27.67	17.28
19/9/2004	3.76	3.78	3.68	3.74	3.86	20.45	28.64	16.91
26/9/2004	3.60	3.50	3.50	3.55	3.50	20.15	27.69	16.56
3/10/2004	3.75	3.64	3.58	3.60	3.50	20.08	27.14	16.44
10/10/2004	3.64	3.58	3.60	3.62	3.46	20.08	26.55	16.51
17/10/2004	3.60	3.50	3.60	3.61	3.40	20.28	26.10	15.82
24/10/2004	3.72	3.64	3.60	3.77	3.54	20.38	26.18	15.54
31/10/2004	3.86	3.71	3.64	3.85	3.50	20.33	26.18	15.86
7/11/2004	3.85	3.75	3.62	3.84	3.50	20.18	26.18	15.95
14/11/2004	3.86	3.90	3.60	3.90	3.60	20.13	26.18	15.67
21/11/2004	3.88	3.94	3.60	3.90	3.60	20.13	26.18	15.79
28/11/2004	3.92	3.94	3.60	3.90	3.60	19.78	25.88	15.60
5/12/2004	3.67	3.66	3.42	3.63	3.56	19.33	25.20	15.10
12/12/2004	3.22	3.30	3.09	3.28	2.95	17.80	24.19	14.79
19/12/2004	2.86	2.80	2.70	2.90	2.65	16.58	23.52	14.63

ตาราง ก (ต่อ) ข้อมูลราคาที่ใช้ศึกษา

สัปดาห์	FFBKR	FFBSU	FFBCH	FFBTR	FFBSA	CPOA	RPO	CPOM
26/12/2004	2.93	2.86	2.70	2.88	2.65	16.35	22.92	14.42
2/1/2005	2.90	3.10	2.70	2.90	2.70	16.38	22.62	14.37
9/1/2005	2.90	3.10	2.70	3.00	2.70	16.38	22.62	14.04
16/1/2005	3.06	3.20	2.98	3.14	2.74	16.63	23.18	13.61
23/1/2005	3.00	3.10	3.15	2.95	2.70	16.43	23.14	13.36
30/1/2005	2.78	2.78	2.94	2.81	2.66	15.90	22.79	13.28
6/2/2005	2.40	2.48	2.54	2.49	2.20	14.58	21.83	12.95
13/2/2005	2.31	2.40	2.50	2.26	1.90	14.13	21.61	13.12
20/2/2005	2.30	2.46	2.50	2.33	2.06	14.13	21.61	13.41
27/2/2005	2.26	2.40	2.30	2.38	2.00	14.33	21.61	13.77
6/3/2005	2.35	2.44	2.34	2.45	2.10	14.63	20.56	14.10
13/3/2005	2.70	2.73	2.65	2.52	2.30	15.68	20.30	14.39
20/3/2005	2.70	2.72	2.65	2.67	2.42	15.98	20.38	14.73
27/3/2005	2.64	2.80	2.60	2.76	2.54	16.23	20.49	14.41
3/4/2005	2.46	2.62	2.56	2.59	2.34	15.98	20.49	14.81
10/4/2005	2.43	2.45	2.60	2.45	2.22	15.73	20.49	14.94
17/4/2005	2.62	2.45	2.44	2.59	2.20	15.88	20.49	14.88
24/4/2005	2.74	2.56	2.40	2.64	2.26	15.88	20.49	14.96
1/5/2005	2.54	2.68	2.40	2.66	2.45	15.78	20.49	15.00
8/5/2005	2.63	2.62	2.40	2.65	2.45	15.78	20.49	14.80
15/5/2005	2.87	2.70	2.40	2.75	2.46	16.08	20.49	14.73
22/5/2005	2.97	2.94	2.60	2.92	2.59	16.38	20.53	14.69
29/5/2005	3.09	3.00	2.79	3.03	2.74	16.75	20.82	14.84
5/6/2005	3.31	3.06	2.98	3.06	2.82	17.28	21.05	15.01
12/6/2005	3.46	3.58	3.25	3.30	2.97	17.58	21.05	14.87
19/6/2005	3.18	3.22	3.25	3.21	3.00	17.10	21.05	14.99
26/6/2005	3.27	3.27	3.28	3.26	3.00	16.98	21.05	15.55
3/7/2005	3.45	3.39	3.42	3.35	3.00	17.40	21.05	15.41
10/7/2005	3.38	3.60	3.62	3.42	3.00	17.68	21.20	15.61
17/7/2005	3.58	3.66	3.62	3.53	3.10	18.38	21.24	15.63
24/7/2005	3.98	4.05	3.80	3.98	3.56	20.68	24.75	15.46
31/7/2005	4.20	4.25	4.12	4.20	3.76	20.68	25.35	14.93
7/8/2005	3.94	4.19	4.12	3.96	3.80	20.13	25.35	14.69
14/8/2005	3.52	3.62	3.78	3.75	3.59	18.98	24.75	14.47
21/8/2005	3.34	3.52	3.64	3.47	3.20	17.43	24.60	14.85
28/8/2005	3.28	3.30	3.16	3.20	3.00	17.38	24.60	14.80
4/9/2005	3.35	3.27	3.00	3.30	3.00	17.48	23.41	14.76
11/9/2005	3.23	3.26	3.00	3.29	3.00	17.13	22.51	14.82
18/9/2005	3.15	3.07	3.00	3.22	3.00	17.13	22.36	14.85
25/9/2005	2.96	3.10	3.00	2.93	3.00	17.33	22.40	15.30
2/10/2005	3.04	2.98	3.00	3.00	2.80	17.38	22.55	15.68
9/10/2005	3.17	3.19	3.00	3.00	2.80	17.98	22.73	15.93
16/10/2005	3.40	3.43	3.24	3.10	2.96	18.13	22.73	15.76
23/10/2005	3.58	3.60	3.50	3.22	3.08	18.38	23.07	15.53
30/10/2005	3.69	3.74	3.50	3.35	3.31	18.38	23.29	15.35
6/11/2005	3.41	3.50	3.46	3.28	3.20	17.83	23.29	15.51

ตาราง ก (ต่อ) ข้อมูลราคาที่ใช้ศึกษา

สัปดาห์	FFBKR	FFBSU	FFBCH	FFBTR	FFBSA	CPOA	RPO	CPOM
13/11/2005	3.04	3.30	3.26	3.15	3.16	17.38	23.18	15.59
20/11/2005	3.09	3.28	3.16	3.13	3.02	17.13	22.81	15.40
27/11/2005	3.15	3.26	3.12	3.05	2.92	17.03	22.73	15.31
4/12/2005	3.07	3.24	2.94	3.05	3.00	16.78	22.73	15.16
11/12/2005	3.04	3.20	2.90	3.05	3.00	16.63	22.73	15.13
18/12/2005	3.16	3.21	2.99	3.05	3.00	16.68	21.55	14.98
25/12/2005	3.16	3.30	3.00	3.05	3.00	16.98	21.42	15.02
1/1/2006	3.20	3.36	3.00	3.05	3.00	17.13	21.42	15.16
8/1/2006	3.10	3.14	3.00	3.05	3.00	17.18	21.42	15.12
15/1/2006	3.21	3.19	3.15	3.08	3.00	17.58	21.42	14.71
22/1/2006	3.30	3.27	3.25	3.20	3.00	17.93	21.64	14.70
29/1/2006	3.26	3.20	3.25	3.20	3.02	18.13	21.79	14.60
5/2/2006	3.28	3.24	3.25	3.20	2.98	18.18	21.79	14.73
12/2/2006	3.19	3.29	3.23	3.20	2.90	18.48	21.79	14.96
19/2/2006	3.00	3.13	3.16	3.08	2.91	17.55	21.75	15.12
26/2/2006	2.76	2.90	3.10	3.00	2.75	16.38	21.61	15.10
5/3/2006	2.62	2.76	3.10	2.97	2.41	16.13	21.61	15.05
12/3/2006	2.70	2.66	2.94	2.86	2.31	16.13	21.31	14.84
19/3/2006	2.69	2.66	2.82	2.80	2.60	15.88	20.71	14.60
26/3/2006	2.45	2.56	2.50	2.79	2.42	14.93	20.07	14.43
2/4/2006	2.21	2.22	2.31	2.30	2.25	14.13	19.92	14.44
9/4/2006	2.12	2.03	2.10	2.07	2.04	14.13	19.76	14.17
16/4/2006	2.17	2.10	2.10	2.16	1.94	14.13	19.37	14.04
23/4/2006	2.15	2.10	2.00	2.14	1.90	14.13	19.37	14.23
30/4/2006	2.06	2.04	1.95	2.11	1.90	14.38	19.37	14.16
7/5/2006	2.01	2.00	1.95	2.00	1.88	14.38	19.37	14.19
14/5/2006	2.20	2.04	1.95	2.12	1.85	14.58	19.37	14.12
21/5/2006	2.43	2.35	2.19	2.32	1.96	14.88	19.37	14.32
28/5/2006	2.50	2.51	2.30	2.52	2.15	15.23	19.37	14.15
4/6/2006	2.47	2.46	2.37	2.53	2.25	15.13	19.14	14.10
11/6/2006	2.32	2.32	2.36	2.34	2.16	14.63	18.99	14.07
18/6/2006	2.29	2.30	2.38	2.30	2.11	14.63	18.99	14.15
25/6/2006	2.46	2.40	2.50	2.35	2.34	14.18	18.39	14.07
2/7/2006	2.47	2.34	2.46	2.30	2.30	14.13	18.24	14.25
9/7/2006	2.38	2.36	2.45	2.34	2.35	14.13	18.24	14.33
16/7/2006	2.51	2.50	2.45	2.44	2.35	14.13	18.24	14.40
23/7/2006	2.54	2.60	2.51	2.42	2.40	14.58	18.39	14.80
30/7/2006	2.63	2.60	2.62	2.48	2.45	15.28	18.88	15.19
6/8/2006	2.83	2.74	2.70	2.68	2.68	16.13	19.26	16.05
13/8/2006	2.77	2.84	2.80	2.78	2.76	16.38	19.37	16.09
20/8/2006	2.95	2.96	2.80	2.95	2.80	16.38	19.37	15.80
27/8/2006	2.88	2.80	2.90	2.74	2.85	16.18	19.52	15.54
3/9/2006	2.76	2.71	2.90	2.74	2.80	15.68	19.56	15.44
10/9/2006	2.70	2.75	2.90	2.67	2.78	15.38	19.56	15.25
17/9/2006	2.67	2.73	3.05	2.67	2.63	14.88	19.22	14.98
24/9/2006	2.70	2.71	3.05	2.61	2.61	14.43	18.99	14.88

ตาราง ก (ต่อ) ข้อมูลราคาที่ใช้ศึกษา

สัปดาห์	FFBKR	FFBSU	FFBCH	FFBTR	FFBSA	CPOA	RPO	CPOM
1/10/2006	2.48	2.60	2.90	2.54	2.66	14.18	18.62	14.91
8/10/2006	2.40	2.52	2.68	2.38	2.45	14.13	18.62	14.97
15/10/2006	2.46	2.52	2.60	2.40	2.40	14.13	18.49	14.96
22/10/2006	2.57	2.58	2.60	2.48	2.46	14.58	17.95	15.08
29/10/2006	2.65	2.69	2.60	2.60	2.56	14.98	17.95	15.42
5/11/2006	2.84	2.80	2.60	2.74	2.70	15.58	19.18	15.85
12/11/2006	2.96	2.90	2.75	2.84	2.74	15.98	19.18	16.00
19/11/2006	2.96	2.96	2.81	2.94	2.90	16.28	20.12	16.18
26/11/2006	3.21	3.11	2.91	3.13	3.14	17.43	21.68	17.33
3/12/2006	3.29	3.30	3.24	3.30	3.26	18.13	22.58	17.84
10/12/2006	3.55	3.40	3.44	3.40	3.30	18.38	22.73	17.25
17/12/2006	3.31	3.36	3.41	3.32	3.30	18.33	22.73	17.44
24/12/2006	3.19	3.20	3.40	3.25	3.30	18.13	22.73	17.64
31/12/2006	3.24	3.20	3.40	3.16	3.30	18.43	22.73	18.86
7/1/2007	3.23	3.20	3.40	3.11	3.30	18.63	22.73	18.66
14/1/2007	3.14	3.22	3.48	3.23	3.18	18.63	22.73	18.34
21/1/2007	3.30	3.21	3.50	3.21	3.00	18.63	22.73	18.59
28/1/2007	3.27	3.25	3.50	3.22	3.00	18.63	22.73	18.27
4/2/2007	3.22	3.26	3.62	3.17	3.00	18.63	23.03	17.92
11/2/2007	3.18	3.20	3.65	3.19	3.05	18.83	23.48	18.19
18/2/2007	3.24	3.26	3.65	3.17	3.05	18.88	23.48	18.09

ที่มา : กรมการค้าภายใน

หมายเหตุ : (ก) FFBKR คือ ราคาผลปาล์มสดชนิดน้ำมันร้อยละ 17 จังหวัดกระบี่ (บาท/กิโลกรัม)

FFBSU คือ ราคาผลปาล์มสดชนิดน้ำมันร้อยละ 17 จังหวัดสุราษฎร์ธานี (บาท/กิโลกรัม)

FFBCH คือ ราคาผลปาล์มสดชนิดน้ำมันร้อยละ 17 จังหวัดชุมพร (บาท/กิโลกรัม)

FFBTR คือ ราคาผลปาล์มสดชนิดน้ำมันร้อยละ 17 จังหวัดตรัง (บาท/กิโลกรัม)

FFBSA คือ ราคาผลปาล์มสดชนิดน้ำมันร้อยละ 17 จังหวัดสตูล (บาท/กิโลกรัม)

CPOA คือ ราคาน้ำมันปาล์มชนิดสกัดแยกในประเทศ (บาท/กิโลกรัม)

RPO คือ ราคาน้ำมันปาล์มบริสุทธิ์ในประเทศ (บาท/กิโลกรัม)

CPOM คือ ราคาน้ำมันปาล์มดิบของประเทศมาเลเซีย (บาท/กิโลกรัม)

(ข) วันที่ที่แสดงคอลัมน์สัปดาห์ เป็นวันที่ของทุกๆวันเสาร์ ซึ่งข้อมูลในวันนั้นจะเป็นข้อมูลราคาที่เฉลี่ยจากวันจันทร์ - ศุกร์ ในสัปดาห์เดียวกัน

ภาคผนวก ข

ผลการทดสอบ unit root

ตาราง ข.1 ผลการทดสอบ unit root ของตัวแปร FFBKR ที่ level ด้วยสมการที่มีค่าคงที่
(with drift) แต่ไม่มีค่าแนวโน้ม

Null Hypothesis: FFBKR has a unit root

Exogenous: Constant

Lag Length: 2 (Automatic based on AIC, MAXLAG=8)

	t-Statistic	Prob.*
Augmented Dickey-Fuller test statistic	-3.191163	0.0220
Test critical values:		
1% level	-3.464101	
5% level	-2.876277	
10% level	-2.574704	

*MacKinnon (1996) one-sided p-values.

Augmented Dickey-Fuller Test Equation

Dependent Variable: D(FFBKR)

Method: Least Squares

Date: 03/26/07 Time: 09:35

Sample (adjusted): 6/08/2003 2/18/2007

Included observations: 194 after adjustments

Variable	Coefficient	Std. Error	t-Statistic	Prob.
FFBKR(-1)	-0.069275	0.021708	-3.191163	0.0017
D(FFBKR(-1))	0.395966	0.069481	5.698914	0.0000
D(FFBKR(-2))	-0.147614	0.070809	-2.084672	0.0384
C	0.077938	0.024079	3.236738	0.0014
R-squared	0.180912	Mean dependent var		0.002410
Adjusted R-squared	0.167979	S.D. dependent var		0.055437
S.E. of regression	0.050567	Akaike info criterion		-3.110628
Sum squared resid	0.485836	Schwarz criterion		-3.043249
Log likelihood	305.7309	F-statistic		13.98843
Durbin-Watson stat	1.981461	Prob(F-statistic)		0.000000

ตาราง ข.2 ผลการทดสอบ unit root ของตัวแปร FFBKR ที่ level ด้วยสมการที่มีค่าคงที่
และค่าแนวโน้ม (with drift and trend)

Null Hypothesis: FFBKR has a unit root

Exogenous: Constant, Linear Trend

Lag Length: 2 (Automatic based on AIC, MAXLAG=8)

	t-Statistic	Prob.*
Augmented Dickey-Fuller test statistic	-3.305976	0.0683
Test critical values:		
1% level	-4.006059	
5% level	-3.433156	
10% level	-3.140406	

*MacKinnon (1996) one-sided p-values.

Augmented Dickey-Fuller Test Equation

Dependent Variable: D(FFBKR)

Method: Least Squares

Date: 03/26/07 Time: 09:36

Sample (adjusted): 6/08/2003 2/18/2007

Included observations: 194 after adjustments

Variable	Coefficient	Std. Error	t-Statistic	Prob.
FFBKR(-1)	-0.072415	0.021904	-3.305976	0.0011
D(FFBKR(-1))	0.393595	0.069496	5.663563	0.0000
D(FFBKR(-2))	-0.148188	0.070790	-2.093357	0.0377
C	0.088285	0.025987	3.397250	0.0008
@TREND(5/18/2003)	-6.93E-05	6.55E-05	-1.056682	0.2920

R-squared	0.185723	Mean dependent var	0.002410
Adjusted R-squared	0.168489	S.D. dependent var	0.055437
S.E. of regression	0.050552	Akaike info criterion	-3.106209
Sum squared resid	0.482983	Schwarz criterion	-3.021986
Log likelihood	306.3023	F-statistic	10.77690
Durbin-Watson stat	1.982070	Prob(F-statistic)	0.000000

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ตาราง ข.3 ผลการทดสอบ unit root ของตัวแปร FFBSU ที่ Level ด้วยสมการที่มีค่าคงที่
(with drift) แต่ไม่มีค่าแนวโน้ม

Null Hypothesis: FFBSU has a unit root

Exogenous: Constant

Lag Length: 1 (Automatic based on AIC, MAXLAG=8)

	t-Statistic	Prob.*
Augmented Dickey-Fuller test statistic	-3.378918	0.0129
Test critical values:		
1% level	-3.463924	
5% level	-2.876200	
10% level	-2.574663	

*MacKinnon (1996) one-sided p-values.

Augmented Dickey-Fuller Test Equation

Dependent Variable: D(FFBSU)

Method: Least Squares

Date: 03/26/07 Time: 09:36

Sample (adjusted): 6/01/2003 2/18/2007

Included observations: 195 after adjustments

Variable	Coefficient	Std. Error	t-Statistic	Prob.
FFBSU(-1)	-0.071490	0.021158	-3.378918	0.0009
D(FFBSU(-1))	0.315626	0.067594	4.669426	0.0000
C	0.080191	0.023533	3.407543	0.0008
R-squared	0.134842	Mean dependent var		0.002280
Adjusted R-squared	0.125830	S.D. dependent var		0.054027
S.E. of regression	0.050513	Akaike info criterion		-3.117896
Sum squared resid	0.489905	Schwarz criterion		-3.067542
Log likelihood	306.9949	F-statistic		14.96241
Durbin-Watson stat	1.962248	Prob(F-statistic)		0.000001

ตาราง ข.4 ผลการทดสอบ unit root ของตัวแปร FFBSU ที่ Level ด้วยสมการที่มีค่าคงที่และมีค่า
แนวโน้ม (with drift and trend)

Null Hypothesis: FFBSU has a unit root

Exogenous: Constant, Linear Trend

Lag Length: 1 (Automatic based on AIC, MAXLAG=8)

	t-Statistic	Prob.*
Augmented Dickey-Fuller test statistic	-3.454743	0.0473
Test critical values:		
1% level	-4.005809	
5% level	-3.433036	
10% level	-3.140335	

*MacKinnon (1996) one-sided p-values.

Augmented Dickey-Fuller Test Equation

Dependent Variable: D(FFBSU)

Method: Least Squares

Date: 03/26/07 Time: 09:37

Sample (adjusted): 6/01/2003 2/18/2007

Included observations: 195 after adjustments

Variable	Coefficient	Std. Error	t-Statistic	Prob.
FFBSU(-1)	-0.073638	0.021315	-3.454743	0.0007
D(FFBSU(-1))	0.313363	0.067687	4.629557	0.0000
C	0.088135	0.025261	3.488944	0.0006
@TREND(5/18/2003)	-5.63E-05	6.48E-05	-0.868819	0.3860
R-squared	0.138248	Mean dependent var		0.002280
Adjusted R-squared	0.124712	S.D. dependent var		0.054027
S.E. of regression	0.050546	Akaike info criterion		-3.111584
Sum squared resid	0.487977	Schwarz criterion		-3.044446
Log likelihood	307.3795	F-statistic		10.21382
Durbin-Watson stat	1.961463	Prob(F-statistic)		0.000003

ตาราง ข.5 ผลการทดสอบ unit root ของตัวแปร FF BCH ที่ Level ด้วยสมการที่มีค่าคงที่
(with drift) แต่ไม่มีค่าแนวโน้ม

Null Hypothesis: FF BCH has a unit root
Exogenous: Constant
Lag Length: 1 (Automatic based on AIC, MAXLAG=8)

	t-Statistic	Prob.*
Augmented Dickey-Fuller test statistic	-3.702668	0.0047
Test critical values:		
1% level	-3.463924	
5% level	-2.876200	
10% level	-2.574663	

*MacKinnon (1996) one-sided p-values.

Augmented Dickey-Fuller Test Equation
Dependent Variable: D(FF BCH)
Method: Least Squares
Date: 03/26/07 Time: 09:37
Sample (adjusted): 6/01/2003 2/18/2007
Included observations: 195 after adjustments

Variable	Coefficient	Std. Error	t-Statistic	Prob.
FF BCH(-1)	-0.064202	0.017339	-3.702668	0.0003
D(FF BCH(-1))	0.484598	0.062125	7.800336	0.0000
C	0.072120	0.019256	3.745270	0.0002
R-squared	0.266011	Mean dependent var		0.003215
Adjusted R-squared	0.258365	S.D. dependent var		0.049587
S.E. of regression	0.042704	Akaike info criterion		-3.453790
Sum squared resid	0.350135	Schwarz criterion		-3.403436
Log likelihood	339.7445	F-statistic		34.79213
Durbin-Watson stat	1.922264	Prob(F-statistic)		0.000000

ตาราง ข.6 ผลการทดสอบ unit root ของตัวแปร FF BCH ที่ Level ด้วยสมการที่มีค่าคงที่และมีค่า
แนวโน้ม (with drift and trend)

Null Hypothesis: FF BCH has a unit root
Exogenous: Constant, Linear Trend
Lag Length: 1 (Automatic based on AIC, MAXLAG=8)

	t-Statistic	Prob.*
Augmented Dickey-Fuller test statistic	-3.768396	0.0203
Test critical values:		
1% level	-4.005809	
5% level	-3.433036	
10% level	-3.140335	

*MacKinnon (1996) one-sided p-values.

Augmented Dickey-Fuller Test Equation
Dependent Variable: D(FF BCH)
Method: Least Squares
Date: 03/26/07 Time: 09:39
Sample (adjusted): 6/01/2003 2/18/2007
Included observations: 195 after adjustments

Variable	Coefficient	Std. Error	t-Statistic	Prob.
FF BCH(-1)	-0.065844	0.017473	-3.768396	0.0002
D(FF BCH(-1))	0.483090	0.062209	7.765641	0.0000
C	0.078325	0.020737	3.777069	0.0002
@TREND(5/18/2003)	-4.44E-05	5.48E-05	-0.810867	0.4185
R-squared	0.268529	Mean dependent var		0.003215
Adjusted R-squared	0.257040	S.D. dependent var		0.049587
S.E. of regression	0.042742	Akaike info criterion		-3.446970
Sum squared resid	0.348934	Schwarz criterion		-3.379831
Log likelihood	340.0796	F-statistic		23.37255
Durbin-Watson stat	1.922830	Prob(F-statistic)		0.000000

ตาราง ข.7 ผลการทดสอบ unit root ของตัวแปร FFBTR ที่ Level ค่ายสมการที่มีค่าคงที่ (with drift) แต่ไม่มีค่าแนวโน้ม

Null Hypothesis: FFBTR has a unit root

Exogenous: Constant

Lag Length: 2 (Automatic based on AIC, MAXLAG=8)

	t-Statistic	Prob.*
Augmented Dickey-Fuller test statistic	-3.211775	0.0208
Test critical values:		
1% level	-3.464101	
5% level	-2.876277	
10% level	-2.574704	

*MacKinnon (1996) one-sided p-values.

Augmented Dickey-Fuller Test Equation

Dependent Variable: D(FFBTR)

Method: Least Squares

Date: 03/26/07 Time: 09:40

Sample (adjusted): 6/08/2003 2/18/2007

Included observations: 194 after adjustments

Variable	Coefficient	Std. Error	t-Statistic	Prob.
FFBTR(-1)	-0.063259	0.019696	-3.211775	0.0015
D(FFBTR(-1))	0.440413	0.069766	6.312737	0.0000
D(FFBTR(-2))	-0.116419	0.071055	-1.638429	0.1030
C	0.071222	0.021925	3.248486	0.0014
R-squared	0.205642	Mean dependent var		0.002247
Adjusted R-squared	0.193099	S.D. dependent var		0.050838
S.E. of regression	0.045666	Akaike info criterion		-3.314508
Sum squared resid	0.396229	Schwarz criterion		-3.247129
Log likelihood	325.5073	F-statistic		16.39558
Durbin-Watson stat	2.001162	Prob(F-statistic)		0.000000

ตาราง ข.8 ผลการทดสอบ unit root ของตัวแปร FFBTR ที่ Level ด้วยสมการที่มีค่าคงที่และมีค่า
แนวโน้ม (with drift and trend)

Null Hypothesis: FFBTR has a unit root
Exogenous: Constant, Linear Trend
Lag Length: 1 (Automatic based on AIC, MAXLAG=8)

	t-Statistic	Prob.*
Augmented Dickey-Fuller test statistic	-3.769972	0.0202
Test critical values:		
1% level	-4.005809	
5% level	-3.433036	
10% level	-3.140335	

*MacKinnon (1996) one-sided p-values.

Augmented Dickey-Fuller Test Equation
Dependent Variable: D(FFBTR)
Method: Least Squares
Date: 03/26/07 Time: 09:41
Sample (adjusted): 6/01/2003 2/18/2007
Included observations: 195 after adjustments

Variable	Coefficient	Std. Error	t-Statistic	Prob.
FFBTR(-1)	-0.073343	0.019454	-3.769972	0.0002
D(FFBTR(-1))	0.395214	0.065058	6.074817	0.0000
C	0.089880	0.023510	3.823121	0.0002
@TREND(5/18/2003)	-7.88E-05	5.94E-05	-1.327211	0.1860
R-squared	0.201352	Mean dependent var		0.002296
Adjusted R-squared	0.188808	S.D. dependent var		0.050711
S.E. of regression	0.045674	Akaike info criterion		-3.314295
Sum squared resid	0.398440	Schwarz criterion		-3.247156
Log likelihood	327.1437	F-statistic		16.05144
Durbin-Watson stat	1.906982	Prob(F-statistic)		0.000000

ตาราง ข.9 ผลการทดสอบ unit root ของตัวแปร FFBSA ที่ Level ด้วยสมการที่มีค่าคงที่
(with drift) แต่ไม่มีค่าแนวโน้ม

Null Hypothesis: FFBSA has a unit root

Exogenous: Constant

Lag Length: 1 (Automatic based on AIC, MAXLAG=8)

	t-Statistic	Prob.*
Augmented Dickey-Fuller test statistic	-3.509742	0.0087
Test critical values:		
1% level	-3.463924	
5% level	-2.876200	
10% level	-2.574663	

*MacKinnon (1996) one-sided p-values.

Augmented Dickey-Fuller Test Equation

Dependent Variable: D(FFBSA)

Method: Least Squares

Date: 03/26/07 Time: 09:42

Sample (adjusted): 6/01/2003 2/18/2007

Included observations: 195 after adjustments

Variable	Coefficient	Std. Error	t-Statistic	Prob.
FFBSA(-1)	-0.068106	0.019405	-3.509742	0.0006
D(FFBSA(-1))	0.391733	0.065457	5.984542	0.0000
C	0.071669	0.020284	3.533218	0.0005
R-squared	0.186850	Mean dependent var		0.002438
Adjusted R-squared	0.178380	S.D. dependent var		0.053442
S.E. of regression	0.048442	Akaike info criterion		-3.201635
Sum squared resid	0.450552	Schwarz criterion		-3.151281
Log likelihood	315.1594	F-statistic		22.05941
Durbin-Watson stat	1.916339	Prob(F-statistic)		0.000000

ตาราง ข.10 ผลการทดสอบ unit root ของตัวแปร FFBSA ที่ Level ด้วยสมการที่มีค่าคงที่และมี
ค่าแนวโน้ม (with drift and trend)

Null Hypothesis: FFBSA has a unit root

Exogenous: Constant, Linear Trend

Lag Length: 1 (Automatic based on AIC, MAXLAG=8)

	t-Statistic	Prob.*
Augmented Dickey-Fuller test statistic	-3.553689	0.0366
Test critical values:		
1% level	-4.005809	
5% level	-3.433036	
10% level	-3.140335	

*MacKinnon (1996) one-sided p-values.

Augmented Dickey-Fuller Test Equation

Dependent Variable: D(FFBSA)

Method: Least Squares

Date: 03/26/07 Time: 09:43

Sample (adjusted): 6/01/2003 2/18/2007

Included observations: 195 after adjustments

Variable	Coefficient	Std. Error	t-Statistic	Prob.
FFBSA(-1)	-0.069231	0.019481	-3.553689	0.0005
D(FFBSA(-1))	0.389535	0.065591	5.938817	0.0000
C	0.077525	0.021702	3.572260	0.0004
@TREND(5/18/2003)	-4.74E-05	6.20E-05	-0.764802	0.4453
R-squared	0.189333	Mean dependent var		0.002438
Adjusted R-squared	0.176600	S.D. dependent var		0.053442
S.E. of regression	0.048494	Akaike info criterion		-3.194436
Sum squared resid	0.449177	Schwarz criterion		-3.127298
Log likelihood	315.4575	F-statistic		14.86945
Durbin-Watson stat	1.916035	Prob(F-statistic)		0.000000

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ตาราง ข.11 ผลการทดสอบ unit root ของตัวแปร CPOA ที่ Level ด้วยสมการที่มีค่าคงที่ (with drift) แต่ไม่มีค่าแนวโน้ม

Null Hypothesis: CPOA has a unit root

Exogenous: Constant

Lag Length: 2 (Automatic based on AIC, MAXLAG=8)

	t-Statistic	Prob.*
Augmented Dickey-Fuller test statistic	-2.645446	0.0857
Test critical values:		
1% level	-3.464101	
5% level	-2.876277	
10% level	-2.574704	

*MacKinnon (1996) one-sided p-values.

Augmented Dickey-Fuller Test Equation

Dependent Variable: D(CPOA)

Method: Least Squares

Date: 03/26/07 Time: 09:44

Sample (adjusted): 6/08/2003 2/18/2007

Included observations: 194 after adjustments

Variable	Coefficient	Std. Error	t-Statistic	Prob.
CPOA(-1)	-0.044833	0.016947	-2.645446	0.0088
D(CPOA(-1))	0.595466	0.068823	8.652085	0.0000
D(CPOA(-2))	-0.192582	0.070615	-2.727214	0.0070
C	0.129078	0.048616	2.655034	0.0086
R-squared	0.301222	Mean dependent var		0.000795
Adjusted R-squared	0.290189	S.D. dependent var		0.036529
S.E. of regression	0.030776	Akaike info criterion		-4.103789
Sum squared resid	0.179956	Schwarz criterion		-4.036410
Log likelihood	402.0675	F-statistic		27.30109
Durbin-Watson stat	2.005344	Prob(F-statistic)		0.000000

ตาราง ข.12 ผลการทดสอบ unit root ของตัวแปร CPOA ที่ Level ด้วยสมการที่มีค่าคงที่และแนวโน้ม (with drift and trend)

Null Hypothesis: CPOA has a unit root

Exogenous: Constant, Linear Trend

Lag Length: 2 (Automatic based on AIC, MAXLAG=8)

	t-Statistic	Prob.*
Augmented Dickey-Fuller test statistic	-3.056387	0.1200
Test critical values:		
1% level	-4.006059	
5% level	-3.433156	
10% level	-3.140406	

*MacKinnon (1996) one-sided p-values.

Augmented Dickey-Fuller Test Equation

Dependent Variable: D(CPOA)

Method: Least Squares

Date: 03/26/07 Time: 09:54

Sample (adjusted): 6/08/2003 2/18/2007

Included observations: 194 after adjustments

Variable	Coefficient	Std. Error	t-Statistic	Prob.
CPOA(-1)	-0.058277	0.019067	-3.056387	0.0026
D(CPOA(-1))	0.597088	0.068596	8.704416	0.0000
D(CPOA(-2))	-0.180515	0.070820	-2.548931	0.0116
C	0.174316	0.056869	3.065194	0.0025
@TREND(5/18/2003)	-6.74E-05	4.44E-05	-1.519158	0.1304
R-squared	0.309652	Mean dependent var		0.000795
Adjusted R-squared	0.295041	S.D. dependent var		0.036529
S.E. of regression	0.030670	Akaike info criterion		-4.105616
Sum squared resid	0.177785	Schwarz criterion		-4.021393
Log likelihood	403.2448	F-statistic		21.19372
Durbin-Watson stat	2.005103	Prob(F-statistic)		0.000000

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ตาราง ข.13 ผลการทดสอบ unit root ของตัวแปร RPO ที่ Level ด้วยสมการที่มีค่าคงที่
(with drift) แต่ไม่มีค่าแนวโน้ม

Null Hypothesis: RPO has a unit root

Exogenous: Constant

Lag Length: 1 (Automatic based on AIC, MAXLAG=8)

	t-Statistic	Prob.*
Augmented Dickey-Fuller test statistic	-2.541531	0.1073
Test critical values:		
1% level	-3.463924	
5% level	-2.876200	
10% level	-2.574663	

*MacKinnon (1996) one-sided p-values.

Augmented Dickey-Fuller Test Equation

Dependent Variable: D(RPO)

Method: Least Squares

Date: 03/26/07 Time: 10:23

Sample (adjusted): 6/01/2003 2/18/2007

Included observations: 195 after adjustments

Variable	Coefficient	Std. Error	t-Statistic	Prob.
RPO(-1)	-0.037027	0.014569	-2.541531	0.0118
D(RPO(-1))	0.454481	0.064153	7.084383	0.0000
C	0.115002	0.045236	2.542265	0.0118
R-squared	0.216964	Mean dependent var		0.000285
Adjusted R-squared	0.208807	S.D. dependent var		0.025534
S.E. of regression	0.022712	Akaike info criterion		-4.716578
Sum squared resid	0.099041	Schwarz criterion		-4.666224
Log likelihood	462.8664	F-statistic		26.59971
Durbin-Watson stat	1.944464	Prob(F-statistic)		0.000000

ตาราง ข.14 ผลการทดสอบ unit root ของตัวแปร RPO ที่ Level ด้วยสมการที่มีค่าคงที่และค่า
แนวโน้ม (with drift and trend)

Null Hypothesis: RPO has a unit root

Exogenous: Constant, Linear Trend

Lag Length: 1 (Automatic based on AIC, MAXLAG=8)

	t-Statistic	Prob.*
Augmented Dickey-Fuller test statistic	-2.725696	0.2275
Test critical values:		
1% level	-4.005809	
5% level	-3.433036	
10% level	-3.140335	

*MacKinnon (1996) one-sided p-values.

Augmented Dickey-Fuller Test Equation

Dependent Variable: D(RPO)

Method: Least Squares

Date: 03/26/07 Time: 10:23

Sample (adjusted): 6/01/2003 2/18/2007

Included observations: 195 after adjustments

Variable	Coefficient	Std. Error	t-Statistic	Prob.
RPO(-1)	-0.044177	0.016208	-2.725696	0.0070
D(RPO(-1))	0.458785	0.064293	7.135893	0.0000
C	0.140394	0.051792	2.710717	0.0073
@TREND(5/18/2003)	-3.24E-05	3.21E-05	-1.006641	0.3154

R-squared	0.221096	Mean dependent var	0.000285
Adjusted R-squared	0.208862	S.D. dependent var	0.025534
S.E. of regression	0.022711	Akaike info criterion	-4.711613
Sum squared resid	0.098518	Schwarz criterion	-4.644475
Log likelihood	463.3823	F-statistic	18.07214
Durbin-Watson stat	1.948800	Prob(F-statistic)	0.000000

ตาราง ข.15 ผลการทดสอบ unit root ของตัวแปร CPOM ที่ Level ด้วยสมการที่มีค่าคงที่
(with drift) แต่ไม่มีค่าแนวโน้ม

Null Hypothesis: CPOM has a unit root

Exogenous: Constant

Lag Length: 1 (Automatic based on AIC, MAXLAG=8)

	t-Statistic	Prob.*
Augmented Dickey-Fuller test statistic	-2.032334	0.2729
Test critical values:		
1% level	-3.463924	
5% level	-2.876200	
10% level	-2.574663	

*MacKinnon (1996) one-sided p-values.

Augmented Dickey-Fuller Test Equation

Dependent Variable: D(CPOM)

Method: Least Squares

Date: 03/26/07 Time: 10:13

Sample (adjusted): 6/01/2003 2/18/2007

Included observations: 195 after adjustments

Variable	Coefficient	Std. Error	t-Statistic	Prob.
CPOM(-1)	-0.025956	0.012771	-2.032334	0.0435
D(CPOM(-1))	0.432973	0.065224	6.638247	0.0000
C	0.072324	0.035474	2.038802	0.0428
R-squared	0.192404	Mean dependent var		0.000470
Adjusted R-squared	0.183992	S.D. dependent var		0.022213
S.E. of regression	0.020066	Akaike info criterion		-4.964363
Sum squared resid	0.077304	Schwarz criterion		-4.914009
Log likelihood	487.0254	F-statistic		22.87134
Durbin-Watson stat	1.966784	Prob(F-statistic)		0.000000

ตาราง ข.16 ผลการทดสอบ unit root ของตัวแปร CPOM ที่ Level ด้วยสมการที่มีค่าคงที่และค่า
แนวโน้ม (with drift and trend)

Null Hypothesis: CPOM has a unit root
Exogenous: Constant, Linear Trend
Lag Length: 1 (Automatic based on AIC, MAXLAG=8)

	t-Statistic	Prob.*
Augmented Dickey-Fuller test statistic	-2.011735	0.5909
Test critical values:		
1% level	-4.005809	
5% level	-3.433036	
10% level	-3.140335	

*MacKinnon (1996) one-sided p-values.

Augmented Dickey-Fuller Test Equation
Dependent Variable: D(CPOM)
Method: Least Squares
Date: 03/26/07 Time: 10:14
Sample (adjusted): 6/01/2003 2/18/2007
Included observations: 195 after adjustments

Variable	Coefficient	Std. Error	t-Statistic	Prob.
CPOM(-1)	-0.028396	0.014115	-2.011735	0.0457
D(CPOM(-1))	0.436339	0.065879	6.623301	0.0000
C	0.080242	0.040458	1.983340	0.0488
@TREND(5/18/2003)	-1.16E-05	2.83E-05	-0.409997	0.6823
R-squared	0.193114	Mean dependent var		0.000470
Adjusted R-squared	0.180441	S.D. dependent var		0.022213
S.E. of regression	0.020109	Akaike info criterion		-4.954986
Sum squared resid	0.077236	Schwarz criterion		-4.887848
Log likelihood	487.1112	F-statistic		15.23753
Durbin-Watson stat	1.970108	Prob(F-statistic)		0.000000

ตาราง ข.17 ผลการทดสอบ unit root ของตัวแปร RPO ที่ first different ด้วยสมการที่มีค่าคงที่
(with drift) แต่ไม่มีค่าแนวโน้ม

Null Hypothesis: D(RPO) has a unit root

Exogenous: Constant

Lag Length: 0 (Automatic based on AIC, MAXLAG=8)

	t-Statistic	Prob.*
Augmented Dickey-Fuller test statistic	-8.733472	0.0000
Test critical values:		
1% level	-3.463924	
5% level	-2.876200	
10% level	-2.574663	

*MacKinnon (1996) one-sided p-values.

Augmented Dickey-Fuller Test Equation

Dependent Variable: D(RPO,2)

Method: Least Squares

Date: 03/26/07 Time: 12:37

Sample (adjusted): 6/01/2003 2/18/2007

Included observations: 195 after adjustments

Variable	Coefficient	Std. Error	t-Statistic	Prob.
D(RPO(-1))	-0.564344	0.064618	-8.733472	0.0000
C	0.000108	0.001649	0.065193	0.9481
R-squared	0.283257	Mean dependent var		-0.000122
Adjusted R-squared	0.279543	S.D. dependent var		0.027134
S.E. of regression	0.023031	Akaike info criterion		-4.693745
Sum squared resid	0.102373	Schwarz criterion		-4.660176
Log likelihood	459.6402	F-statistic		76.27353
Durbin-Watson stat	1.918895	Prob(F-statistic)		0.000000

ตาราง ข.18 ผลการทดสอบ unit root ของตัวแปร RPO ที่ first different ด้วยสมการที่มีค่าคงที่
และค่าแนวโน้ม (with drift and trend)

Null Hypothesis: D(RPO) has a unit root

Exogenous: Constant, Linear Trend

Lag Length: 0 (Automatic based on AIC, MAXLAG=8)

	t-Statistic	Prob.*
Augmented Dickey-Fuller test statistic	-8.713322	0.0000
Test critical values:		
1% level	-4.005809	
5% level	-3.433036	
10% level	-3.140335	

*MacKinnon (1996) one-sided p-values.

Augmented Dickey-Fuller Test Equation

Dependent Variable: D(RPO,2)

Method: Least Squares

Date: 03/26/07 Time: 12:38

Sample (adjusted): 6/01/2003 2/18/2007

Included observations: 195 after adjustments

Variable	Coefficient	Std. Error	t-Statistic	Prob.
D(RPO(-1))	-0.564469	0.064782	-8.713322	0.0000
C	-0.000491	0.003345	-0.146676	0.8835
@TREND(5/18/2003)	6.04E-06	2.94E-05	0.205718	0.8372
R-squared	0.283415	Mean dependent var		-0.000122
Adjusted R-squared	0.275950	S.D. dependent var		0.027134
S.E. of regression	0.023088	Akaike info criterion		-4.683709
Sum squared resid	0.102350	Schwarz criterion		-4.633356
Log likelihood	459.6617	F-statistic		37.96869
Durbin-Watson stat	1.919086	Prob(F-statistic)		0.000000

ตาราง ข.19 ผลการทดสอบ unit root ของตัวแปร CPOM ที่ first different ด้วยสมการที่มี
ค่าคงที่ (with drift) แต่ไม่มีค่าแนวโน้ม

Null Hypothesis: D(CPOM) has a unit root

Exogenous: Constant

Lag Length: 0 (Automatic based on AIC, MAXLAG=8)

	t-Statistic	Prob.*
Augmented Dickey-Fuller test statistic	-8.906769	0.0000
Test critical values:		
1% level	-3.463924	
5% level	-2.876200	
10% level	-2.574663	

*MacKinnon (1996) one-sided p-values.

Augmented Dickey-Fuller Test Equation

Dependent Variable: D(CPOM,2)

Method: Least Squares

Date: 03/26/07 Time: 12:42

Sample (adjusted): 6/01/2003 2/18/2007

Included observations: 195 after adjustments

Variable	Coefficient	Std. Error	t-Statistic	Prob.
D(CPOM(-1))	-0.581920	0.065335	-8.906769	0.0000
C	0.000289	0.001449	0.199238	0.8423
R-squared	0.291302	Mean dependent var		3.56E-05
Adjusted R-squared	0.287630	S.D. dependent var		0.023966
S.E. of regression	0.020228	Akaike info criterion		-4.953335
Sum squared resid	0.078967	Schwarz criterion		-4.919766
Log likelihood	484.9502	F-statistic		79.33054
Durbin-Watson stat	1.948811	Prob(F-statistic)		0.000000

ตาราง ข.20 ผลการทดสอบ unit root ของตัวแปร CPOM ที่ first different ด้วยสมการที่มี
ค่าคงที่และค่าแนวโน้ม (with drift and trend)

Null Hypothesis: D(CPOM) has a unit root

Exogenous: Constant, Linear Trend

Lag Length: 0 (Automatic based on AIC, MAXLAG=8)

	t-Statistic	Prob.*
Augmented Dickey-Fuller test statistic	-8.901151	0.0000
Test critical values:		
1% level	-4.005809	
5% level	-3.433036	
10% level	-3.140335	

*MacKinnon (1996) one-sided p-values.

Augmented Dickey-Fuller Test Equation

Dependent Variable: D(CPOM,2)

Method: Least Squares

Date: 03/26/07 Time: 12:43

Sample (adjusted): 6/01/2003 2/18/2007

Included observations: 195 after adjustments

Variable	Coefficient	Std. Error	t-Statistic	Prob.
D(CPOM(-1))	-0.584021	0.065612	-8.901151	0.0000
C	-0.000937	0.002940	-0.318719	0.7503
@TREND(5/18/2003)	1.24E-05	2.58E-05	0.479434	0.6322
R-squared	0.292150	Mean dependent var		3.56E-05
Adjusted R-squared	0.284776	S.D. dependent var		0.023966
S.E. of regression	0.020268	Akaike info criterion		-4.944275
Sum squared resid	0.078873	Schwarz criterion		-4.893921
Log likelihood	485.0668	F-statistic		39.62192
Durbin-Watson stat	1.947209	Prob(F-statistic)		0.000000

ภาคผนวก ค

ผลการทดสอบ Granger Causality

ตาราง ค ผลการทดสอบ Granger Causality

Pairwise Granger Causality Tests

Date: 04/20/07 Time: 08:59

Sample: 5/18/2003 2/24/2007

Lags: 2

Null Hypothesis:	Obs	F-Statistic	Probability
FFBSU does not Granger Cause FFBKR FFBKR does not Granger Cause FFBSU	195	1.20337 21.6329	0.30246 3.4E-09
FFBCH does not Granger Cause FFBKR FFBKR does not Granger Cause FFBCH	195	0.96730 11.1163	0.38197 2.7E-05
FFBTR does not Granger Cause FFBKR FFBKR does not Granger Cause FFBTR	195	1.73389 22.3292	0.17938 2.0E-09
FFBSA does not Granger Cause FFBKR FFBKR does not Granger Cause FFBSA	195	1.33539 47.6898	0.26551 1.6E-17
FFBCH does not Granger Cause FFBSU FFBSU does not Granger Cause FFBCH	195	3.05360 3.72925	0.04951 0.02579
FFBTR does not Granger Cause FFBSU FFBSU does not Granger Cause FFBTR	195	6.62291 7.42956	0.00166 0.00078
FFBSA does not Granger Cause FFBSU FFBSU does not Granger Cause FFBSA	195	1.08213 22.3344	0.34095 1.9E-09
FFBTR does not Granger Cause FFBCH FFBCH does not Granger Cause FFBTR	195	7.56628 7.82482	0.00069 0.00054
FFBSA does not Granger Cause FFBCH FFBCH does not Granger Cause FFBSA	195	3.69843 14.0309	0.02656 2.1E-06
FFBSA does not Granger Cause FFBTR FFBTR does not Granger Cause FFBSA	195	1.85636 15.4750	0.15906 5.9E-07

ภาคผนวก ง

ผลการประมาณ VAR, Cointegration และ VEC

ตาราง ง.1 ผลการทดสอบหาจำนวนตัวแปรที่เหมาะสมในสมการ VAR

VAR Lag Order Selection Criteria

Endogenous variables: FFBKR CPOA RPO CPOM

Exogenous variables: C

Date: 04/08/07 Time: 16:51

Sample: 5/18/2003 2/18/2007

Included observations: 189

Lag	LogL	LR	FPE	AIC	SC	HQ
0	899.7852	NA	8.98e-10	-9.479209	-9.410600	-9.451414
1	1714.301	1585.936	1.92e-13	-17.92911	-17.58607	-17.79014
2	1774.038	113.7841	1.21e-13*	-18.39193*	-17.77446*	-18.14178*
3	1789.861	29.46990*	1.21e-13	-18.39006	-17.49816	-18.02873
4	1802.950	23.82322	1.25e-13	-18.35926	-17.19292	-17.88675
5	1810.423	13.28494	1.37e-13	-18.26902	-16.82825	-17.68533
6	1819.906	16.45689	1.47e-13	-18.20006	-16.48485	-17.50519
7	1832.015	20.50254	1.54e-13	-18.15889	-16.16924	-17.35284
8	1842.303	16.98391	1.65e-13	-18.09845	-15.83437	-17.18121

* indicates lag order selected by the criterion

LR: sequential modified LR test statistic (each test at 5% level)

FPE: Final prediction error

AIC: Akaike information criterion

SC: Schwarz information criterion

HQ: Hannan-Quinn information criterion

ตาราง ง.2 ผลการประมาณแบบจำลอง VAR โดยกำหนดให้มีตัวล่าเท่ากับ 2 สัปดาห์

Vector Autoregression Estimates

Date: 04/08/07 Time: 17:18

Sample (adjusted): 6/01/2003 2/18/2007

Included observations: 195 after adjustments

Standard errors in () & t-statistics in []

	FFBKR	CPOA	RPO	CPOM
FFBKR(-1)	0.994362 (0.10127) [9.81904]	0.170202 (0.06111) [2.78505]	0.047313 (0.04402) [1.07473]	0.043512 (0.04284) [1.01575]
FFBKR(-2)	-0.086412 (0.09795) [-0.88222]	-0.114247 (0.05911) [-1.93280]	-0.025590 (0.04258) [-0.60099]	-0.043531 (0.04143) [-1.05063]
CPOA(-1)	0.459879 (0.19373) [2.37380]	1.085374 (0.11691) [9.28374]	0.182219 (0.08422) [2.16365]	0.007123 (0.08195) [0.08692]
CPOA(-2)	-0.569819 (0.18859) [-3.02140]	-0.343521 (0.11381) [-3.01833]	-0.085974 (0.08199) [-1.04865]	0.050825 (0.07978) [0.63710]
RPO(-1)	0.033307 (0.20235) [0.16460]	-0.010699 (0.12211) [-0.08761]	1.033810 (0.08797) [11.7525]	-0.149075 (0.08560) [-1.74162]
RPO(-2)	0.099000 (0.18000) [0.55000]	0.109430 (0.10863) [1.00741]	-0.179785 (0.07825) [-2.29759]	0.083869 (0.07614) [1.10149]
CPOM(-1)	0.599634 (0.17388) [3.44853]	0.638289 (0.10493) [6.08285]	0.219583 (0.07559) [2.90495]	1.406162 (0.07355) [19.1177]
CPOM(-2)	-0.534559 (0.17906) [-2.98530]	-0.516664 (0.10806) [-4.78127]	-0.228217 (0.07784) [-2.93178]	-0.443703 (0.07575) [-5.85784]
C	-0.173567 (0.13721) [-1.26496]	0.034497 (0.08280) [0.41661]	0.177279 (0.05965) [2.97208]	0.140722 (0.05804) [2.42452]

R-squared	0.927150	0.957111	0.967966	0.970242
Adj. R-squared	0.924017	0.955267	0.966588	0.968962
Sum sq. resids	0.418018	0.152234	0.078997	0.074798
S.E. equation	0.047407	0.028609	0.020609	0.020053
F-statistic	295.9001	518.8531	702.5344	758.0523
Log likelihood	322.4669	420.9524	484.9131	490.2386
Akaike AIC	-3.215045	-4.225153	-4.881160	-4.935781
Schwarz SC	-3.063983	-4.074091	-4.730099	-4.784719
Mean dependent	1.098811	2.866777	3.103521	2.776003
S.D. dependent	0.171982	0.135265	0.112745	0.113826
Determinant resid covariance (dof adj.)		9.45E-14		
Determinant resid covariance		7.83E-14		
Log likelihood		1835.653		
Akaike information criterion		-18.45798		
Schwarz criterion		-17.85373		

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ตาราง ง.3 ผลการทดสอบ Cointegration ตามวิธีของ Johansen and Juselius

Date: 04/09/07 Time: 14:42

Sample (adjusted): 6/08/2003 2/18/2007

Included observations: 194 after adjustments

Trend assumption: No deterministic trend (restricted constant)

Series: FFBKR CPOA RPO CPOM

Lags interval (in first differences): 1 to 2

Unrestricted Cointegration Rank Test (Trace)

Hypothesized No. of CE(s)	Eigenvalue	Trace Statistic	0.05 Critical Value	Prob.**
None *	0.152845	65.56567	54.07904	0.0034
At most 1	0.111251	33.38669	35.19275	0.0773
At most 2	0.033780	10.50619	20.26184	0.5901
At most 3	0.019597	3.839529	9.164546	0.4365

Trace test indicates 1 cointegrating eqn(s) at the 0.05 level

* denotes rejection of the hypothesis at the 0.05 level

**MacKinnon-Haug-Michelis (1999) p-values

Unrestricted Cointegration Rank Test (Maximum Eigenvalue)

Hypothesized No. of CE(s)	Eigenvalue	Max-Eigen Statistic	0.05 Critical Value	Prob.**
None *	0.152845	32.17898	28.58808	0.0166
At most 1 *	0.111251	22.88050	22.29962	0.0415
At most 2	0.033780	6.666659	15.89210	0.7100
At most 3	0.019597	3.839529	9.164546	0.4365

Max-eigenvalue test indicates 2 cointegrating eqn(s) at the 0.05 level

* denotes rejection of the hypothesis at the 0.05 level

**MacKinnon-Haug-Michelis (1999) p-values

Unrestricted Cointegrating Coefficients (normalized by b*S11*b=I):

FFBKR	CPOA	RPO	CPOM	C
-1.924544	33.02060	-27.06674	-11.71479	24.01424
-14.67184	25.15786	-5.041459	-11.29413	-8.841595
3.796839	-8.948989	-7.602744	6.873704	26.09845
-1.254529	-0.200123	-1.935567	10.57339	-21.34141

Unrestricted Adjustment Coefficients (alpha):

D(FFBKR)	-0.004318	0.009540	0.005540	0.002508
D(CPOA)	-0.003161	-0.001218	0.004756	0.000814
D(RPO)	0.004566	-0.001883	0.002468	0.001247
D(CPOM)	0.002474	0.000476	0.002132	-0.002081

1 Cointegrating Equation(s): Log likelihood 1823.420

Normalized cointegrating coefficients (standard error in parentheses)

FFBKR	CPOA	RPO	CPOM	C
1.000000	-17.15763 (2.66441)	14.06398 (2.51072)	6.087049 (1.42860)	-12.47789 (3.60619)

Adjustment coefficients (standard error in parentheses)

D(FFBKR)	0.008310 (0.00656)
D(CPOA)	0.006083 (0.00393)
D(RPO)	-0.008787 (0.00285)
D(CPOM)	-0.004762 (0.00280)

2 Cointegrating Equation(s): Log likelihood 1834.860

Normalized cointegrating coefficients (standard error in parentheses)

FFBKR	CPOA	RPO	CPOM	C
1.000000	0.000000	-1.179825 (0.21344)	0.179380 (0.20755)	2.055018 (0.57609)
0.000000	1.000000	-0.888456 (0.06752)	-0.344317 (0.06566)	0.847023 (0.18224)

Adjustment coefficients (standard error in parentheses)

D(FFBKR)	-0.131654 (0.04938)	0.097417 (0.13852)
D(CPOA)	0.023950 (0.03020)	-0.135003 (0.08473)
D(RPO)	0.018841 (0.02185)	0.103386 (0.06130)
D(CPOM)	-0.011742 (0.02152)	0.093668 (0.06037)

3 Cointegrating Equation(s): Log likelihood 1838.193

Normalized cointegrating coefficients (standard error in parentheses)

FFBKR	CPOA	RPO	CPOM	C
1.000000	0.000000	0.000000	-0.152104 (0.43466)	-0.701821 (1.20710)
0.000000	1.000000	0.000000	-0.593938 (0.29411)	-1.228988 (0.81677)
0.000000	0.000000	1.000000	-0.280960 (0.32638)	-2.336650 (0.90641)

Adjustment coefficients (standard error in parentheses)

D(FFBKR)	-0.110618 (0.05060)	0.047836 (0.14065)	0.026657 (0.09460)
D(CPOA)	0.042007 (0.03072)	-0.177565 (0.08539)	0.055530 (0.05743)
D(RPO)	0.028210 (0.02239)	0.081304 (0.06224)	-0.132844 (0.04186)
D(CPOM)	-0.003646 (0.02209)	0.074587 (0.06140)	-0.085576 (0.04130)

ตาราง ง.4 ผลการประมาณแบบจำลอง VEC โดยกำหนดให้มีตัวแปรเท่ากับ 2 สัปดาห์

Vector Error Correction Estimates

Date: 04/08/07 Time: 17:21

Sample (adjusted): 6/08/2003 2/18/2007

Included observations: 194 after adjustments

Standard errors in () & t-statistics in []

Cointegrating Eq:	CointEq1	CointEq2		
FFBKR(-1)	1.000000	0.000000		
CPOA(-1)	0.000000	1.000000		
RPO(-1)	-1.179825 (0.21402) [-5.51275]	-0.888456 (0.06770) [-13.1231]		
CPOM(-1)	0.179380 (0.20812) [0.86193]	-0.344317 (0.06583) [-5.23002]		
C	2.055018 (0.57765) [3.55755]	0.847023 (0.18273) [4.63532]		
Error Correction:	D(FFBKR)	D(CPOA)	D(RPO)	D(CPOM)
CointEq1	-0.131654 (0.04951) [-2.65903]	0.023950 (0.03028) [0.79085]	0.018841 (0.02191) [0.85987]	-0.011742 (0.02158) [-0.54415]
CointEq2	0.097417 (0.13890) [0.70135]	-0.135003 (0.08496) [-1.58911]	0.103386 (0.06147) [1.68186]	0.093668 (0.06054) [1.54733]
D(FFBKR(-1))	0.122647 (0.09736) [1.25973]	0.151549 (0.05955) [2.54497]	0.026889 (0.04309) [0.62406]	0.054967 (0.04243) [1.29544]
D(FFBKR(-2))	-0.176910 (0.09714) [-1.82118]	-0.008659 (0.05941) [-0.14573]	-0.051298 (0.04299) [-1.19326]	-0.005687 (0.04234) [-0.13433]
D(CPOA(-1))	0.569066 (0.19345) [2.94167]	0.289325 (0.11832) [2.44527]	0.076810 (0.08561) [0.89717]	-0.037079 (0.08431) [-0.43980]

D(CPOA(-2))	-0.105066 (0.19148) [-0.54870]	-0.066654 (0.11712) [-0.56912]	0.144544 (0.08474) [1.70569]	-0.047841 (0.08345) [-0.57328]
D(RPO(-1))	-0.007362 (0.18891) [-0.03897]	-0.016615 (0.11555) [-0.14380]	0.194210 (0.08361) [2.32293]	-0.096221 (0.08233) [-1.16869]
D(RPO(-2))	-0.090898 (0.18127) [-0.50144]	-0.245916 (0.11087) [-2.21800]	-0.174903 (0.08022) [-2.18018]	0.027549 (0.07900) [0.34871]
D(CPOM(-1))	0.567006 (0.17837) [3.17878]	0.549053 (0.10910) [5.03264]	0.246908 (0.07894) [3.12778]	0.469377 (0.07774) [6.03793]
D(CPOM(-2))	0.123307 (0.19342) [0.63752]	0.071510 (0.11830) [0.60449]	0.005443 (0.08560) [0.06359]	-0.059545 (0.08429) [-0.70639]
R-squared	0.326239	0.419477	0.380001	0.205340
Adj. R-squared	0.293283	0.391082	0.349675	0.166471
Sum sq. resids	0.399637	0.149502	0.078272	0.075906
S.E. equation	0.046604	0.028505	0.020625	0.020311
F-statistic	9.899302	14.77282	12.53054	5.282837
Log likelihood	324.6765	420.0516	482.8214	485.7990
Akaike AIC	-3.244088	-4.227336	-4.874448	-4.905145
Schwarz SC	-3.075641	-4.058890	-4.706001	-4.736698
Mean dependent	0.002410	0.000795	0.000364	0.000543
S.D. dependent	0.055437	0.036529	0.025576	0.022247
Determinant resid covariance (dof adj.)		8.85E-14		
Determinant resid covariance		7.16E-14		
Log likelihood		1834.860		
Akaike information criterion		-18.40062		
Schwarz criterion		-17.55839		

ประวัติผู้เขียน

ชื่อ

นายรหัท รวมพรรณพงศ์

วัน เดือน ปี เกิด

22 มีนาคม 2523

ประวัติการศึกษา

สำเร็จการศึกษามัธยมศึกษาตอนปลาย โรงเรียนภูเก็ควิทยาลัย
จังหวัดภูเก็ต ปีการศึกษา 2540สำเร็จการศึกษาระดับปริญญาวิทยาศาสตรบัณฑิต (เศรษฐศาสตร์เกษตร) คณะ
ทรัพยากรธรรมชาติ มหาวิทยาลัยสงขลานครินทร์ ปีการศึกษา 2544

ลิขสิทธิ์มหาวิทยาลัยเชียงใหม่
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