ภาคผนวก

ภาคผนวก ก

ข้อมูลที่นำมาใช้ในการวิเคราะห์

1. ASIA

Date	P	VO	Diesel	Exchange	Gold96.5	Interest
1/31/2007	27.00	2701.60	22.54	35.76	10697.39	3.88
2/28/2007	56.00	9740.10	22.94	35.39	10720.99	3.75
3/30/2007	49.50	1315.40	24.14	36.47	10115.08	3.50
4/30/2007	51.50	569.80	25.34	34.74	10502.72	2.88
5/31/2007	49.00	275.50	25.34	34.60	10242.60	2.38
6/29/2007	51.00	64.90	25.34	34.50	9698.97	2.38
7/31/2007	46.25	266.50	25.74	33.76	9313.88	2.13
8/31/2007	43.25	144.10	25.34	34.29	10282.27	2.13
9/28/2007	43.00	35.60	27.34	34.21	11186.28	2.13
10/31/2007	40.00	33.80	28.14	33.96	11894.65	2.13
11/30/2007	46.00	236.50	29.34	33.81	11333.14	2.13
12/31/2007	46.25	53.70	29.34	33.72	11783.69	2.13
1/31/2008	44.75	13.90	29.14	32.98	13563.26	2.13
2/29/2008	43.25	13.10	29.94	31.85	14207.91	2.13
3/31/2008	43.00	44.80	30.94	31.46	13576.89	2.13
4/30/2008	44.50	75.30	33.44	31.70	13019.42	2.13
5/30/2008	47.00	44.70	39.04	32.37	13610.11	2.13
6/30/2008	46.50	54.80	42.64	33.48	14590.36	2.50
7/31/2008	43.00	22.90	37.94	33.48	14460.23	2.50
8/29/2008	43.50	34.10	33.04	34.12	13419.41	2.50
9/30/2008	40.00	89.90	30.74	34.00	13908.23	2.50

Date	P	VO	Diesel	Exchange	Gold96.5	Interest
10/31/2008	34.75	90.30	22.84	34.93	11980.34	2.50
11/28/2008	34.00	10.20	21.04	35.38	13670.31	2.50
12/31/2008	40.50	74.20	18.74	34.90	14418.13	1.62
1/30/2009	36.75	1.60	18.34	34.88	15321.24	1.25
2/27/2009	38.25	63.70	19.59	36.00	16139.49	1.13
3/31/2009	40.00	67.90	22.69	35.48	15382.96	0.75
4/30/2009	38.00	6.80	22.79	35.27	14770.82	0.70
5/29/2009	37.25	4.80	24.59	34.33	15878.55	0.70
6/30/2009	35.00	57.30	27.39	33.98	14907.02	0.75
7/31/2009	36.00	1.60	28.09	33.99	15338.19	0.75
8/31/2009	35.00	0.50	27.69	33.97	15276.75	0.75
9/30/2009	35.00	13.90	26.29	33.51	15908.80	0.70
10/30/2009	36.75	20.50	28.19	33.38	16519.39	0.70
11/30/2009	35.75	13.10	28.19	33.16	18512.33	0.70
12/31/2009	34.00	80.10	27.19	33.33	17286.86	0.70
1/29/2010	33.50	45.20	27.59	33.10	16939.41	0.70
2/26/2010	34.00	11.40	28.69	33.03	17436.25	0.70
3/31/2010	34.00	23.20	28.79	32.32	17022.29	0.70
4/30/2010	33.00	32.50	29.89	32.25	18017.89	0.70
5/31/2010	31.25	6.90	27.99	32.49	18694.24	0.70
7/30/2010	35.00	40.60	28.59	32.22	17983.77	0.83
8/31/2010	35.00	76.30	27.79	31.25	18418.14	0.83
9/30/2010	32.00	17.70	27.79	30.37	18765.65	0.95
10/29/2010	32.00	13.50	28.79	29.92	19207.76	0.95
11/30/2010	32.00	16.20	29.78	30.17	19744.27	0.95
12/31/2010	33.75	10.40	29.99	30.10	20148.69	1.13

2. CAWOW

Date	P	VO	Diesel	Exchange	Gold96.5	Interest
1/31/2007	4.73	784.90	22.54	35.76	10697.39	3.88
2/28/2007	4.51	634.90	22.94	35.39	10720.99	3.75
3/30/2007	4.66	738.80	24.14	36.47	10115.08	3.50
4/30/2007	4.44	541.00	25.34	34.74	10502.72	2.88
5/31/2007	4.55	4114.00	25.34	34.60	10242.60	2.38
6/29/2007	4.51	482.30	25.34	34.50	9698.97	2.38
7/31/2007	4.36	722.70	25.74	33.76	9313.88	2.13
8/31/2007	4.44	1167.10	25.34	34.29	10282.27	2.13
9/28/2007	4.55	450.10	27.34	34.21	11186.28	2.13
10/31/2007	4.70	1278.80	28.14	33.96	11894.65	2.13
11/30/2007	4.70	1010.10	29.34	33.81	11333.14	2.13
12/31/2007	5.54	636.50	29.34	33.72	11783.69	2.13
1/31/2008	4.92	1146.70	29.14	32.98	13563.26	2.13
2/29/2008	4.44	668.70	29.94	31.85	14207.91	2.13
3/31/2008	4.07	756.50	30.94	31.46	13576.89	2.13
4/30/2008	3.90	391.90	33.44	31.70	13019.42	2.13
5/30/2008	3.34	138.40	39.04	32.37	13610.11	2.13
6/30/2008	3.37	905.90	42.64	33.48	14590.36	2.50
7/31/2008	2.93	689.60	37.94	33.48	14460.23	2.50
8/29/2008	2.87	1111.10	33.04	34.12	13419.41	2.50
9/30/2008	2.37	46.70	30.74	34.00	13908.23	2.50
10/31/2008	2.45	17.30	22.84	34.93	11980.34	2.50
11/28/2008	2.24	1.00	21.04	35.38	13670.31	2.50
12/31/2008	2.31	96.90	18.74	34.90	14418.13	1.62
1/30/2009	2.41	1.80	18.34	34.88	15321.24	1.25

Date	P	VO	Diesel	Exchange	Gold96.5	Interest
2/27/2009	2.02	2.40	19.59	36.00	16139.49	1.13
3/31/2009	1.29	158304.70	22.69	35.48	15382.96	0.75
4/30/2009	1.15	227102.30	22.79	35.27	14770.82	0.70
5/29/2009	1.05	76087.80	24.59	34.33	15878.55	0.70
6/30/2009	0.99	67160.20	27.39	33.98	14907.02	0.75
7/31/2009	0.93	13981.90	28.09	33.99	15338.19	0.75
8/31/2009	0.74	8495.30	27.69	33.97	15276.75	0.75
9/30/2009	0.85	42639.70	26.29	33.51	15908.80	0.70
10/30/2009	0.82	54563.40	28.19	33.38	16519.39	0.70
11/30/2009	0.56	325849.70	28.19	33.16	18512.33	0.70
12/31/2009	0.51	92476.40	27.19	33.33	17286.86	0.70
1/29/2010	0.45	67982.00	27.59	33.10	16939.41	0.70
2/26/2010	0.41	12060.00	28.69	33.03	17436.25	0.70
3/31/2010	0.39	46378.40	28.79	32.32	17022.29	0.70
4/30/2010	0.43	46151.00	29.89	32.25	18017.89	0.70
5/31/2010	0.45	33343.50	27.99	32.49	18694.24	0.70
6/30/2010	0.45	4936.40	28.89	32.39	19023.92	0.70
7/30/2010	0.47	17532.00	28.59	32.22	17983.77	0.83
8/31/2010	0.51	33809.70	27.79	31.25	18418.14	0.83
9/30/2010	0.51	13273.10	27.79	30.37	18765.65	0.95
10/29/2010	0.49	3324.60	28.79	29.92	19207.76	0.95
11/30/2010	0.33	20021.10	29.78	30.17	19744.27	0.95
12/31/2010	0.33	67236.30	29.99	30.10	20148.69	1.13

3. CENTEL

Date	P	VO	Diesel	Exchange	Gold96.5	Interest
1/31/2007	6.00	12412.40	22.54	35.76	10697.39	3.88
2/28/2007	6.15	5649.70	22.94	35.39	10720.99	3.75
3/30/2007	5.50	6371.20	24.14	36.47	10115.08	3.50
4/30/2007	5.10	10593.50	25.34	34.74	10502.72	2.88
5/31/2007	5.50	45962.60	25.34	34.60	10242.60	2.38
6/29/2007	5.85	9163.60	25.34	34.50	9698.97	2.38
7/31/2007	6.05	15643.50	25.74	33.76	9313.88	2.13
8/31/2007	5.45	6301.60	25.34	34.29	10282.27	2.13
9/28/2007	5.70	3190.10	27.34	34.21	11186.28	2.13
10/31/2007	6.10	6918.20	28.14	33.96	11894.65	2.13
11/30/2007	5.50	2583.20	29.34	33.81	11333.14	2.13
12/31/2007	5.60	5211.20	29.34	33.72	11783.69	2.13
1/31/2008	5.55	4107.60	29.14	32.98	13563.26	2.13
2/29/2008	5.80	11439.60	29.94	31.85	14207.91	2.13
3/31/2008	5.75	3611.30	30.94	31.46	13576.89	2.13
4/30/2008	5.60	1620.90	33.44	31.70	13019.42	2.13
5/30/2008	5.70	4500.80	39.04	32.37	13610.11	2.13
6/30/2008	6.00	24886.40	42.64	33.48	14590.36	2.50
7/31/2008	5.25	9320.60	37.94	33.48	14460.23	2.50
8/29/2008	4.82	18156.10	33.04	34.12	13419.41	2.50
9/30/2008	4.96	26497.20	30.74	34.00	13908.23	2.50
10/31/2008	3.80	8306.90	22.84	34.93	11980.34	2.50
11/28/2008	3.20	14018.40	21.04	35.38	13670.31	2.50
12/31/2008	3.06	5783.10	18.74	34.90	14418.13	1.62
1/30/2009	3.10	8009.20	18.34	34.88	15321.24	1.25

Date	P	VO	Diesel	Exchange	Gold96.5	Interest
2/27/2009	3.10	605.30	19.59	36.00	16139.49	1.13
3/31/2009	3.08	891.90	22.69	35.48	15382.96	0.75
4/30/2009	3.04	1905.90	22.79	35.27	14770.82	0.70
5/29/2009	2.90	25580.90	24.59	34.33	15878.55	0.70
6/30/2009	3.08	218686.60	27.39	33.98	14907.02	0.75
7/31/2009	3.10	16152.00	28.09	33.99	15338.19	0.75
8/31/2009	3.76	96183.00	27.69	33.97	15276.75	0.75
9/30/2009	4.44	74763.20	26.29	33.51	15908.80	0.70
10/30/2009	4.20	63819.20	28.19	33.38	16519.39	0.70
11/30/2009	4.18	46384.10	28.19	33.16	18512.33	0.70
12/31/2009	4.22	44944.90	27.19	33.33	17286.86	0.70
1/29/2010	3.90	48992.00	27.59	33.10	16939.41	0.70
2/26/2010	4.00	9456.50	28.69	33.03	17436.25	0.70
3/31/2010	4.12	66909.20	28.79	32.32	17022.29	0.70
4/30/2010	3.84	57983.20	29.89	32.25	18017.89	0.70
5/31/2010	3.82	50604.70	27.99	32.49	18694.24	0.70
6/30/2010	3.96	33597.60	28.89	32.39	19023.92	0.70
7/30/2010	5.20	75654.10	28.59	32.22	17983.77	0.83
8/31/2010	5.70	64848.00	27.79	31.25	18418.14	0.83
9/30/2010	5.50	84431.00	27.79	30.37	18765.65	0.95
10/29/2010	5.05	66236.10	28.79	29.92	19207.76	0.95
11/30/2010	4.62	30957.30	29.78	30.17	19744.27	0.95
12/31/2010	4.96	62523.80	29.99	30.10	20148.69	1.13

4. CSR

Date	P	VO	Diesel	Exchange	Gold96.5	Interest
1/31/2007	50.00	NA	22.54	35.76	10697.39	3.88
2/28/2007	50.00	NA	22.94	35.39	10720.99	3.75
3/30/2007	50.00	17.20	24.14	36.47	10115.08	3.50
4/30/2007	48.25	1.70	25.34	34.74	10502.72	2.88
5/31/2007	50.00	0.60	25.34	34.60	10242.60	2.38
6/29/2007	54.00	3.50	25.34	34.50	9698.97	2.38
7/31/2007	54.00	NA	25.74	33.76	9313.88	2.13
8/31/2007	53.00	3.60	25.34	34.29	10282.27	2.13
9/28/2007	55.00	2.00	27.34	34.21	11186.28	2.13
10/31/2007	50.00	11.90	28.14	33.96	11894.65	2.13
11/30/2007	47.00	10.30	29.34	33.81	11333.14	2.13
12/31/2007	45.25	3.00	29.34	33.72	11783.69	2.13
1/31/2008	40.75	6.60	29.14	32.98	13563.26	2.13
2/29/2008	40.75	NA	29.94	31.85	14207.91	2.13
3/31/2008	45.50	0.20	30.94	31.46	13576.89	2.13
4/30/2008	47.00	1.10	33.44	31.70	13019.42	2.13
5/30/2008	52.00	3.90	39.04	32.37	13610.11	2.13
6/30/2008	50.00	1.00	42.64	33.48	14590.36	2.50
7/31/2008	50.00	NA	37.94	33.48	14460.23	2.50
8/29/2008	48.00	5.40	33.04	34.12	13419.41	2.50
9/30/2008	49.00	6.90	30.74	34.00	13908.23	2.50
10/31/2008	40.00	113.60	22.84	34.93	11980.34	2.50
11/28/2008	40.00	50.20	21.04	35.38	13670.31	2.50
12/31/2008	39.50	15.40	18.74	34.90	14418.13	1.62
1/30/2009	42.75	10.50	18.34	34.88	15321.24	1.25

Date	P	VO	Diesel	Exchange	Gold96.5	Interest
2/27/2009	43.75	8.30	19.59	36.00	16139.49	1.13
3/31/2009	38.00	6.10	22.69	35.48	15382.96	0.75
4/30/2009	38.50	2.60	22.79	35.27	14770.82	0.70
5/29/2009	39.75	1.20	24.59	34.33	15878.55	0.70
6/30/2009	40.00	4.10	27.39	33.98	14907.02	0.75
7/31/2009	40.00	NA	28.09	33.99	15338.19	0.75
8/31/2009	39.75	10.80	27.69	33.97	15276.75	0.75
9/30/2009	44.00	0.30	26.29	33.51	15908.80	0.70
10/30/2009	57.00	0.10	28.19	33.38	16519.39	0.70
11/30/2009	57.00	NA	28.19	33.16	18512.33	0.70
12/31/2009	52.00	0.10	27.19	33.33	17286.86	0.70
1/29/2010	50.00	2.00	27.59	33.10	16939.41	0.70
2/26/2010	49.00	19.30	28.69	33.03	17436.25	0.70
3/31/2010	49.00	15.50	28.79	32.32	17022.29	0.70
4/30/2010	48.00	1.20	29.89	32.25	18017.89	0.70
5/31/2010	50.00	0.60	27.99	32.49	18694.24	0.70
6/30/2010	49.00	4.70	28.89	32.39	19023.92	0.70
7/30/2010	49.50	7.40	28.59	32.22	17983.77	0.83
8/31/2010	49.00	10.20	27.79	31.25	18418.14	0.83
9/30/2010	48.00	2.00	27.79	30.37	18765.65	0.95
10/29/2010	48.00	3.20	28.79	29.92	19207.76	0.95
11/30/2010	48.25	4.60	29.78	30.17	19744.27	0.95
12/31/2010	48.50	2.00	29.99	30.10	20148.69	1.13

5. DTC

Date	DTC-P	DTC-VO	Diesel	Exchange	Gold96.5	Interest
1/31/2007	45.00	9.10	22.54	35.76	10697.39	3.88
2/28/2007	43.50	74.20	22.94	35.39	10720.99	3.75
3/30/2007	43.00	18.60	24.14	36.47	10115.08	3.50
4/30/2007	44.50	43.40	25.34	34.74	10502.72	2.88
5/31/2007	43.50	190.20	25.34	34.60	10242.60	2.38
6/29/2007	43.75	35.20	25.34	34.50	9698.97	2.38
7/31/2007	44.25	66.80	25.74	33.76	9313.88	2.13
8/31/2007	42.25	28.10	25.34	34.29	10282.27	2.13
9/28/2007	43.00	14.40	27.34	34.21	11186.28	2.13
10/31/2007	43.50	22.20	28.14	33.96	11894.65	2.13
11/30/2007	36.50	57.20	29.34	33.81	11333.14	2.13
12/31/2007	38.00	37.50	29.34	33.72	11783.69	2.13
1/31/2008	41.00	12.70	29.14	32.98	13563.26	2.13
2/29/2008	40.50	10.00	29.94	31.85	14207.91	2.13
3/31/2008	38.25	72.70	30.94	31.46	13576.89	2.13
4/30/2008	38.00	118.70	33.44	31.70	13019.42	2.13
5/30/2008	39.25	24.60	39.04	32.37	13610.11	2.13
6/30/2008	37.25	89.90	42.64	33.48	14590.36	2.50
7/31/2008	38.00	19.40	37.94	33.48	14460.23	2.50
8/29/2008	36.75	4.30	33.04	34.12	13419.41	2.50
9/30/2008	30.00	51.10	30.74	34.00	13908.23	2.50
10/31/2008	17.00	153.50	22.84	34.93	11980.34	2.50
11/28/2008	20.50	55.90	21.04	35.38	13670.31	2.50
12/31/2008	19.50	11.00	18.74	34.90	14418.13	1.62
1/30/2009	19.00	42.60	18.34	34.88	15321.24	1.25

Date	DTC-P	DTC-VO	Diesel	Exchange	Gold96.5	Interest
2/27/2009	20.10	46.00	19.59	36.00	16139.49	1.13
3/31/2009	21.30	3.00	22.69	35.48	15382.96	0.75
4/30/2009	20.10	6.80	22.79	35.27	14770.82	0.70
5/29/2009	23.00	15.80	24.59	34.33	15878.55	0.70
6/30/2009	26.00	143.80	27.39	33.98	14907.02	0.75
7/31/2009	27.50	15.70	28.09	33.99	15338.19	0.75
8/31/2009	28.50	72.90	27.69	33.97	15276.75	0.75
9/30/2009	32.50	37.90	26.29	33.51	15908.80	0.70
10/30/2009	31.00	48.10	28.19	33.38	16519.39	0.70
11/30/2009	29.50	27.50	28.19	33.16	18512.33	0.70
12/31/2009	29.00	69.70	27.19	33.33	17286.86	0.70
1/29/2010	27.00	24.60	27.59	33.10	16939.41	0.70
2/26/2010	25.75	37.80	28.69	33.03	17436.25	0.70
3/31/2010	27.00	31.10	28.79	32.32	17022.29	0.70
4/30/2010	27.25	19.60	29.89	32.25	18017.89	0.70
5/31/2010	27.75	23.00	27.99	32.49	18694.24	0.70
6/30/2010	28.75	62.70	28.89	32.39	19023.92	0.70
7/30/2010	29.00	142.90	28.59	32.22	17983.77	0.83
8/31/2010	30.00	242.10	27.79	31.25	18418.14	0.83
9/30/2010	31.50	354.40	27.79	30.37	18765.65	0.95
10/29/2010	30.25	357.00	28.79	29.92	19207.76	0.95
11/30/2010	30.50	310.00	29.78	30.17	19744.27	0.95
12/31/2010	34.75	72.80	29.99	30.10	20148.69	1.13

6. ERAWAN

Date	P	VO	Diesel	Exchange	Gold96.5	Interest
1/31/2007	3.52	63160.20	22.54	35.76	10697.39	3.88
2/28/2007	3.66	19475.20	22.94	35.39	10720.99	3.75
3/30/2007	3.40	17347.50	24.14	36.47	10115.08	3.50
4/30/2007	3.60	15344.30	25.34	34.74	10502.72	2.88
5/31/2007	3.78	47907.90	25.34	34.60	10242.60	2.38
6/29/2007	4.02	54729.30	25.34	34.50	9698.97	2.38
7/31/2007	4.42	73855.40	25.74	33.76	9313.88	2.13
8/31/2007	4.14	30072.50	25.34	34.29	10282.27	2.13
9/28/2007	4.14	31295.90	27.34	34.21	11186.28	2.13
10/31/2007	4.04	51769.80	28.14	33.96	11894.65	2.13
11/30/2007	4.00	23670.20	29.34	33.81	11333.14	2.13
12/31/2007	4.04	16937.80	29.34	33.72	11783.69	2.13
1/31/2008	4.20	69268.90	29.14	32.98	13563.26	2.13
2/29/2008	4.50	49329.40	29.94	31.85	14207.91	2.13
3/31/2008	4.30	26015.20	30.94	31.46	13576.89	2.13
4/30/2008	4.36	19138.20	33.44	31.70	13019.42	2.13
5/30/2008	4.44	24348.90	39.04	32.37	13610.11	2.13
6/30/2008	4.00	14021.70	42.64	33.48	14590.36	2.50
7/31/2008	3.46	7303.80	37.94	33.48	14460.23	2.50
8/29/2008	3.40	8673.40	33.04	34.12	13419.41	2.50
9/30/2008	3.14	2976.50	30.74	34.00	13908.23	2.50
10/31/2008	2.00	9301.90	22.84	34.93	11980.34	2.50
11/28/2008	1.47	2517.60	21.04	35.38	13670.31	2.50
12/31/2008	1.43	22175.80	18.74	34.90	14418.13	1.62
1/30/2009	1.20	10260.70	18.34	34.88	15321.24	1.25

Date	P	VO	Diesel	Exchange	Gold96.5	Interest
2/27/2009	1.27	19761.70	19.59	36.00	16139.49	1.13
3/31/2009	1.27	14070.10	22.69	35.48	15382.96	0.75
4/30/2009	1.33	14586.60	22.79	35.27	14770.82	0.70
5/29/2009	1.54	24362.60	24.59	34.33	15878.55	0.70
6/30/2009	1.70	12292.60	27.39	33.98	14907.02	0.75
7/31/2009	1.79	4213.50	28.09	33.99	15338.19	0.75
8/31/2009	2.24	110529.10	27.69	33.97	15276.75	0.75
9/30/2009	2.46	59606.20	26.29	33.51	15908.80	0.70
10/30/2009	2.42	95600.30	28.19	33.38	16519.39	0.70
11/30/2009	2.34	14861.00	28.19	33.16	18512.33	0.70
12/31/2009	2.36	9294.90	27.19	33.33	17286.86	0.70
1/29/2010	2.34	17289.40	27.59	33.10	16939.41	0.70
2/26/2010	2.26	25121.30	28.69	33.03	17436.25	0.70
3/31/2010	2.38	14915.70	28.79	32.32	17022.29	0.70
4/30/2010	2.16	9947.20	29.89	32.25	18017.89	0.70
5/31/2010	1.93	17719.10	27.99	32.49	18694.24	0.70
6/30/2010	2.00	36639.60	28.89	32.39	19023.92	0.70
7/30/2010	2.20	74561.20	28.59	32.22	17983.77	0.83
8/31/2010	2.46	69999.30	27.79	31.25	18418.14	0.83
9/30/2010	2.38	24507.70	27.79	30.37	18765.65	0.95
10/29/2010	2.28	33353.20	28.79	29.92	19207.76	0.95
11/30/2010	2.30	12765.00	29.78	30.17	19744.27	0.95
12/31/2010	2.50	47626.10	29.99	30.10	20148.69	1.13

7. GRAND

Date	P	VO	Diesel	Exchange	Gold96.5	Interest
1/31/2007	4.80	0.70	22.54	35.76	10697.39	3.88
2/28/2007	4.70	13.00	22.94	35.39	10720.99	3.75
3/30/2007	4.74	786.30	24.14	36.47	10115.08	3.50
4/30/2007	4.50	349.50	25.34	34.74	10502.72	2.88
5/31/2007	4.50	290.50	25.34	34.60	10242.60	2.38
6/29/2007	4.70	142.30	25.34	34.50	9698.97	2.38
7/31/2007	4.72	325.20	25.74	33.76	9313.88	2.13
8/31/2007	4.46	242.30	25.34	34.29	10282.27	2.13
9/28/2007	4.64	335.10	27.34	34.21	11186.28	2.13
10/31/2007	4.20	330.50	28.14	33.96	11894.65	2.13
11/30/2007	3.62	233.90	29.34	33.81	11333.14	2.13
12/31/2007	4.30	35.30	29.34	33.72	11783.69	2.13
1/31/2008	4.48	178.60	29.14	32.98	13563.26	2.13
2/29/2008	4.50	15.10	29.94	31.85	14207.91	2.13
3/31/2008	4.10	155.20	30.94	31.46	13576.89	2.13
4/30/2008	3.84	10.40	33.44	31.70	13019.42	2.13
5/30/2008	3.80	2.30	39.04	32.37	13610.11	2.13
6/30/2008	4.10	2.90	42.64	33.48	14590.36	2.50
7/31/2008	3.50	13.10	37.94	33.48	14460.23	2.50
8/29/2008	3.30	0.90	33.04	34.12	13419.41	2.50
9/30/2008	3.20	2.30	30.74	34.00	13908.23	2.50
10/31/2008	2.30	22.70	22.84	34.93	11980.34	2.50
11/28/2008	1.90	1.20	21.04	35.38	13670.31	2.50
12/31/2008	2.18	1.90	18.74	34.90	14418.13	1.62
1/30/2009	2.18	0.10	18.34	34.88	15321.24	1.25

Date	P	VO	Diesel	Exchange	Gold96.5	Interest
2/27/2009	1.60	67.80	19.59	36.00	16139.49	1.13
3/31/2009	1.60	3.60	22.69	35.48	15382.96	0.75
4/30/2009	1.69	12.30	22.79	35.27	14770.82	0.70
5/29/2009	1.53	9.00	24.59	34.33	15878.55	0.70
6/30/2009	1.53	11.70	27.39	33.98	14907.02	0.75
7/31/2009	1.40	146.20	28.09	33.99	15338.19	0.75
8/31/2009	1.45	39.00	27.69	33.97	15276.75	0.75
9/30/2009	1.32	1055.00	26.29	33.51	15908.80	0.70
10/30/2009	1.32	299.00	28.19	33.38	16519.39	0.70
11/30/2009	1.39	15.20	28.19	33.16	18512.33	0.70
12/31/2009	1.25	130.30	27.19	33.33	17286.86	0.70
1/29/2010	1.30	0.40	27.59	33.10	16939.41	0.70
2/26/2010	1.25	7.70	28.69	33.03	17436.25	0.70
3/31/2010	1.29	418.10	28.79	32.32	17022.29	0.70
4/30/2010	1.25	146.70	29.89	32.25	18017.89	0.70
5/31/2010	1.20	52.00	27.99	32.49	18694.24	0.70
6/30/2010	0.92	4986.20	28.89	32.39	19023.92	0.70
7/30/2010	1.70	26933.60	28.59	32.22	17983.77	0.83
8/31/2010	1.47	4992.00	27.79	31.25	18418.14	0.83
9/30/2010	1.44	180.40	27.79	30.37	18765.65	0.95
10/29/2010	1.45	86.90	28.79	29.92	19207.76	0.95
11/30/2010	1.45	1367.00	29.78	30.17	19744.27	0.95
12/31/2010	3.54	45531.00	29.99	30.10	20148.69	1.13

8. LRH

Date	P	VO	Diesel	Exchange	Gold96.5	Interest
1/31/2007	36.05	46.90	22.54	35.76	10697.39	3.88
2/28/2007	35.12	113.30	22.94	35.39	10720.99	3.75
3/30/2007	36.28	57.80	24.14	36.47	10115.08	3.50
4/30/2007	37.21	70.30	25.34	34.74	10502.72	2.88
5/31/2007	37.45	78.20	25.34	34.60	10242.60	2.38
6/29/2007	50.00	260.20	25.34	34.50	9698.97	2.38
7/31/2007	50.00	172.90	25.74	33.76	9313.88	2.13
8/31/2007	43.00	104.70	25.34	34.29	10282.27	2.13
9/28/2007	43.00	58.60	27.34	34.21	11186.28	2.13
10/31/2007	42.75	132.50	28.14	33.96	11894.65	2.13
11/30/2007	44.00	502.60	29.34	33.81	11333.14	2.13
12/31/2007	44.00	92.70	29.34	33.72	11783.69	2.13
1/31/2008	46.00	117.60	29.14	32.98	13563.26	2.13
2/29/2008	48.00	43.50	29.94	31.85	14207.91	2.13
3/31/2008	49.00	305.80	30.94	31.46	13576.89	2.13
4/30/2008	48.25	216.30	33.44	31.70	13019.42	2.13
5/30/2008	54.00	338.70	39.04	32.37	13610.11	2.13
6/30/2008	52.00	171.10	42.64	33.48	14590.36	2.50
7/31/2008	42.00	130.10	37.94	33.48	14460.23	2.50
8/29/2008	40.00	915.30	33.04	34.12	13419.41	2.50
9/30/2008	32.00	192.80	30.74	34.00	13908.23	2.50
10/31/2008	24.20	701.30	22.84	34.93	11980.34	2.50
11/28/2008	22.60	372.10	21.04	35.38	13670.31	2.50
12/31/2008	25.50	80.00	18.74	34.90	14418.13	1.62
1/30/2009	24.30	52.30	18.34	34.88	15321.24	1.25

Date	P	VO	Diesel	Exchange	Gold96.5	Interest
2/27/2009	23.70	326.60	19.59	36.00	16139.49	1.13
3/31/2009	24.10	512.10	22.69	35.48	15382.96	0.75
4/30/2009	24.10	76.10	22.79	35.27	14770.82	0.70
5/29/2009	25.75	604.30	24.59	34.33	15878.55	0.70
6/30/2009	25.25	381.90	27.39	33.98	14907.02	0.75
7/31/2009	26.25	338.70	28.09	33.99	15338.19	0.75
8/31/2009	32.00	333.00	27.69	33.97	15276.75	0.75
9/30/2009	34.50	362.90	26.29	33.51	15908.80	0.70
10/30/2009	38.25	611.80	28.19	33.38	16519.39	0.70
11/30/2009	43.00	568.20	28.19	33.16	18512.33	0.70
12/31/2009	42.75	84.70	27.19	33.33	17286.86	0.70
1/29/2010	40.00	42.60	27.59	33.10	16939.41	0.70
2/26/2010	38.50	38.80	28.69	33.03	17436.25	0.70
3/31/2010	40.50	84.10	28.79	32.32	17022.29	0.70
4/30/2010	39.25	58.20	29.89	32.25	18017.89	0.70
5/31/2010	38.00	79.30	27.99	32.49	18694.24	0.70
6/30/2010	43.00	175.20	28.89	32.39	19023.92	0.70
7/30/2010	50.00	75.90	28.59	32.22	17983.77	0.83
8/31/2010	57.00	303.80	27.79	31.25	18418.14	0.83
9/30/2010	54.00	195.30	27.79	30.37	18765.65	0.95
10/29/2010	53.25	87.90	28.79	29.92	19207.76	0.95
11/30/2010	51.75	174.30	29.78	30.17	19744.27	0.95
12/31/2010	56.00	279.10	29.99	30.10	20148.69	1.13

9. MANRIN

Date	P	VO	Diesel	Exchange	Gold96.5	Interest
1/31/2007	23.45	70.30	22.54	35.76	10697.39	3.88
2/28/2007	25.58	40.00	22.94	35.39	10720.99	3.75
3/30/2007	23.64	99.90	24.14	36.47	10115.08	3.50
4/30/2007	25.08	39.00	25.34	34.74	10502.72	2.88
5/31/2007	24.34	23.80	25.34	34.60	10242.60	2.38
6/29/2007	24.34	14.30	25.34	34.50	9698.97	2.38
7/31/2007	25.08	139.20	25.74	33.76	9313.88	2.13
8/31/2007	24.84	40.10	25.34	34.29	10282.27	2.13
9/28/2007	22.35	185.70	27.34	34.21	11186.28	2.13
10/31/2007	21.66	9.00	28.14	33.96	11894.65	2.13
11/30/2007	22.45	1.90	29.34	33.81	11333.14	2.13
12/31/2007	21.86	12.20	29.34	33.72	11783.69	2.13
1/31/2008	17.88	28.70	29.14	32.98	13563.26	2.13
2/29/2008	19.47	15.00	29.94	31.85	14207.91	2.13
3/31/2008	15.00	338.50	30.94	31.46	13576.89	2.13
4/30/2008	15.10	257.20	33.44	31.70	13019.42	2.13
5/30/2008	11.42	333.00	39.04	32.37	13610.11	2.13
6/30/2008	10.93	167.30	42.64	33.48	14590.36	2.50
7/31/2008	10.43	2.00	37.94	33.48	14460.23	2.50
8/29/2008	10.43	1.20	33.04	34.12	13419.41	2.50
9/30/2008	11.42	8.30	30.74	34.00	13908.23	2.50
10/31/2008	7.65	50.50	22.84	34.93	11980.34	2.50
11/28/2008	8.30	11.30	21.04	35.38	13670.31	2.50
12/31/2008	5.27	38.90	18.74	34.90	14418.13	1.62
1/30/2009	6.36	1.80	18.34	34.88	15321.24	1.25

Date	P	VO	Diesel	Exchange	Gold96.5	Interest
2/27/2009	5.41	73.10	19.59	36.00	16139.49	1.13
3/31/2009	5.56	18.50	22.69	35.48	15382.96	0.75
4/30/2009	5.96	1.40	22.79	35.27	14770.82	0.70
5/29/2009	6.46	41.40	24.59	34.33	15878.55	0.70
6/30/2009	7.55	13.00	27.39	33.98	14907.02	0.75
7/31/2009	7.55	0.10	28.09	33.99	15338.19	0.75
8/31/2009	7.95	16.20	27.69	33.97	15276.75	0.75
9/30/2009	9.93	53.90	26.29	33.51	15908.80	0.70
10/30/2009	11.92	115.80	28.19	33.38	16519.39	0.70
11/30/2009	11.62	109.60	28.19	33.16	18512.33	0.70
12/31/2009	11.42	131.30	27.19	33.33	17286.86	0.70
1/29/2010	8.99	36.80	27.59	33.10	16939.41	0.70
2/26/2010	10.43	0.20	28.69	33.03	17436.25	0.70
3/31/2010	9.14	39.00	28.79	32.32	17022.29	0.70
4/30/2010	9.93	39.00	29.89	32.25	18017.89	0.70
5/31/2010	9.93	54.40	27.99	32.49	18694.24	0.70
6/30/2010	10.03	129.40	28.89	32.39	19023.92	0.70
7/30/2010	12.12	19.10	28.59	32.22	17983.77	0.83
8/31/2010	11.62	53.40	27.79	31.25	18418.14	0.83
9/30/2010	10.30	218.80	27.79	30.37	18765.65	0.95
10/29/2010	9.90	334.60	28.79	29.92	19207.76	0.95
11/30/2010	10.00	104.90	29.78	30.17	19744.27	0.95
12/31/2010	11.10	206.30	29.99	30.10	20148.69	1.13

10. MME

Date	P	VO	Diesel	Exchange	Gold96.5	Interest
1/31/2007	2.44	130705.40	22.54	35.76	10697.39	3.88
2/28/2007	2.78	410367.80	22.94	35.39	10720.99	3.75
3/30/2007	2.98	262520.50	24.14	36.47	10115.08	3.50
4/30/2007	2.80	74651.00	25.34	34.74	10502.72	2.88
5/31/2007	2.76	67616.90	25.34	34.60	10242.60	2.38
6/29/2007	2.88	252068.20	25.34	34.50	9698.97	2.38
7/31/2007	2.98	338731.40	25.74	33.76	9313.88	2.13
8/31/2007	2.76	30297.30	25.34	34.29	10282.27	2.13
9/28/2007	2.76	34273.10	27.34	34.21	11186.28	2.13
10/31/2007	2.66	22010.20	28.14	33.96	11894.65	2.13
11/30/2007	2.46	16100.60	29.34	33.81	11333.14	2.13
12/31/2007	2.22	20393.60	29.34	33.72	11783.69	2.13
1/31/2008	2.02	49447.20	29.14	32.98	13563.26	2.13
2/29/2008	2.02	40547.30	29.94	31.85	14207.91	2.13
3/31/2008	2.22	82355.30	30.94	31.46	13576.89	2.13
4/30/2008	3.42	316783.60	33.44	31.70	13019.42	2.13
5/30/2008	3.22	49951.90	39.04	32.37	13610.11	2.13
6/30/2008	2.02	11264.30	42.64	33.48	14590.36	2.50
7/31/2008	1.93	38226.20	37.94	33.48	14460.23	2.50
8/29/2008	2.30	80157.40	33.04	34.12	13419.41	2.50
9/30/2008	1.40	274148.80	30.74	34.00	13908.23	2.50
10/31/2008	0.85	10797.70	22.84	34.93	11980.34	2.50
11/28/2008	0.79	4524.80	21.04	35.38	13670.31	2.50
12/31/2008	0.78	1592.30	18.74	34.90	14418.13	1.62
1/30/2009	0.98	177161.60	18.34	34.88	15321.24	1.25

Date	P	VO	Diesel	Exchange	Gold96.5	Interest
2/27/2009	0.70	58087.70	19.59	36.00	16139.49	1.13
3/31/2009	0.74	147320.40	22.69	35.48	15382.96	0.75
4/30/2009	0.79	29347.30	22.79	35.27	14770.82	0.70
5/29/2009	0.81	28040.10	24.59	34.33	15878.55	0.70
6/30/2009	0.80	25609.30	27.39	33.98	14907.02	0.75
7/31/2009	0.79	1929.10	28.09	33.99	15338.19	0.75
8/31/2009	0.82	4298.90	27.69	33.97	15276.75	0.75
9/30/2009	0.93	154825.80	26.29	33.51	15908.80	0.70
10/30/2009	0.98	225896.80	28.19	33.38	16519.39	0.70
11/30/2009	0.97	43425.90	28.19	33.16	18512.33	0.70
12/31/2009	0.92	10451.40	27.19	33.33	17286.86	0.70
1/29/2010	0.85	6295.50	27.59	33.10	16939.41	0.70
2/26/2010	0.84	2323.00	28.69	33.03	17436.25	0.70
3/31/2010	0.82	3944.30	28.79	32.32	17022.29	0.70
4/30/2010	0.86	11083.00	29.89	32.25	18017.89	0.70
5/31/2010	0.93	202483.90	27.99	32.49	18694.24	0.70
6/30/2010	0.97	16604.30	28.89	32.39	19023.92	0.70
7/30/2010	0.97	12949.00	28.59	32.22	17983.77	0.83
8/31/2010	0.96	25278.40	27.79	31.25	18418.14	0.83
9/30/2010	0.88	8065.70	27.79	30.37	18765.65	0.95
10/29/2010	0.86	18042.90	28.79	29.92	19207.76	0.95
11/30/2010	0.81	11086.20	29.78	30.17	19744.27	0.95
12/31/2010	0.85	16802.30	29.99	30.10	20148.69	1.13

11. OHTL

Date	P	VO	Diesel	Exchange	Gold96.5	Interest
1/31/2007	424.00	10.70	22.54	35.76	10697.39	3.88
2/28/2007	440.00	3.50	22.94	35.39	10720.99	3.75
3/30/2007	448.00	3.20	24.14	36.47	10115.08	3.50
4/30/2007	504.00	4.70	25.34	34.74	10502.72	2.88
5/31/2007	512.00	10.10	25.34	34.60	10242.60	2.38
6/29/2007	516.00	4.70	25.34	34.50	9698.97	2.38
7/31/2007	508.00	8.50	25.74	33.76	9313.88	2.13
8/31/2007	512.00	5.00	25.34	34.29	10282.27	2.13
9/28/2007	520.00	3.50	27.34	34.21	11186.28	2.13
10/31/2007	516.00	3.20	28.14	33.96	11894.65	2.13
11/30/2007	508.00	13.40	29.34	33.81	11333.14	2.13
12/31/2007	504.00	4.00	29.34	33.72	11783.69	2.13
1/31/2008	512.00	6.50	29.14	32.98	13563.26	2.13
2/29/2008	532.00	6.60	29.94	31.85	14207.91	2.13
3/31/2008	544.00	1.20	30.94	31.46	13576.89	2.13
4/30/2008	548.00	1.20	33.44	31.70	13019.42	2.13
5/30/2008	528.00	12.50	39.04	32.37	13610.11	2.13
6/30/2008	524.00	12.20	42.64	33.48	14590.36	2.50
7/31/2008	512.00	2.80	37.94	33.48	14460.23	2.50
8/29/2008	520.00	0.40	33.04	34.12	13419.41	2.50
9/30/2008	520.00	5.60	30.74	34.00	13908.23	2.50
10/31/2008	492.00	6.80	22.84	34.93	11980.34	2.50
11/28/2008	500.00	2.10	21.04	35.38	13670.31	2.50
12/31/2008	496.00	1.40	18.74	34.90	14418.13	1.62
1/30/2009	500.00	2.30	18.34	34.88	15321.24	1.25

Date	P	VO	Diesel	Exchange	Gold96.5	Interest
2/27/2009	496.00	3.10	19.59	36.00	16139.49	1.13
3/31/2009	496.00	2.50	22.69	35.48	15382.96	0.75
4/30/2009	502.00	1.20	22.79	35.27	14770.82	0.70
5/29/2009	486.00	4.50	24.59	34.33	15878.55	0.70
6/30/2009	502.00	1.70	27.39	33.98	14907.02	0.75
7/31/2009	504.00	6.00	28.09	33.99	15338.19	0.75
8/31/2009	514.00	2.20	27.69	33.97	15276.75	0.75
9/30/2009	500.00	1.60	26.29	33.51	15908.80	0.70
10/30/2009	500.00	5.10	28.19	33.38	16519.39	0.70
11/30/2009	480.00	1.20	28.19	33.16	18512.33	0.70
12/31/2009	492.00	1.00	27.19	33.33	17286.86	0.70
1/29/2010	492.00	3.10	27.59	33.10	16939.41	0.70
2/26/2010	490.00	0.60	28.69	33.03	17436.25	0.70
3/31/2010	470.00	8.00	28.79	32.32	17022.29	0.70
4/30/2010	490.00	2.40	29.89	32.25	18017.89	0.70
5/31/2010	500.00	5.20	27.99	32.49	18694.24	0.70
6/30/2010	482.00	1.60	28.89	32.39	19023.92	0.70
7/30/2010	500.00	3.40	28.59	32.22	17983.77	0.83
8/31/2010	488.00	3.40	27.79	31.25	18418.14	0.83
9/30/2010	480.00	4.20	27.79	30.37	18765.65	0.95
10/29/2010	500.00	2.60	28.79	29.92	19207.76	0.95
11/30/2010	470.00	3.80	29.78	30.17	19744.27	0.95
12/31/2010	474.00	1.00	29.99	30.10	20148.69	1.13

12. ROH

Date	P	VO	Diesel	Exchange	Gold96.5	Interest
1/31/2007	39.00	2.00	22.54	35.76	10697.39	3.88
2/28/2007	39.00	5.80	22.94	35.39	10720.99	3.75
3/30/2007	39.00	33.30	24.14	36.47	10115.08	3.50
4/30/2007	38.00	5.30	25.34	34.74	10502.72	2.88
5/31/2007	39.00	14.90	25.34	34.60	10242.60	2.38
6/29/2007	36.00	17.30	25.34	34.50	9698.97	2.38
7/31/2007	37.50	27.20	25.74	33.76	9313.88	2.13
8/31/2007	38.25	6.50	25.34	34.29	10282.27	2.13
9/28/2007	37.00	6.20	27.34	34.21	11186.28	2.13
10/31/2007	38.00	8.90	28.14	33.96	11894.65	2.13
11/30/2007	39.00	16.80	29.34	33.81	11333.14	2.13
12/31/2007	41.00	7.80	29.34	33.72	11783.69	2.13
1/31/2008	37.00	1.20	29.14	32.98	13563.26	2.13
2/29/2008	36.00	1.00	29.94	31.85	14207.91	2.13
3/31/2008	36.00	1.40	30.94	31.46	13576.89	2.13
4/30/2008	37.00	3.00	33.44	31.70	13019.42	2.13
5/30/2008	36.00	3.00	39.04	32.37	13610.11	2.13
6/30/2008	36.00	12.90	42.64	33.48	14590.36	2.50
7/31/2008	37.00	0.60	37.94	33.48	14460.23	2.50
8/29/2008	38.00	2.00	33.04	34.12	13419.41	2.50
9/30/2008	33.50	2.70	30.74	34.00	13908.23	2.50
10/31/2008	33.50	NA	22.84	34.93	11980.34	2.50
11/28/2008	28.00	3.60	21.04	35.38	13670.31	2.50
12/31/2008	30.00	1.50	18.74	34.90	14418.13	1.62
1/30/2009	33.00	0.20	18.34	34.88	15321.24	1.25

Date	P	VO	Diesel	Exchange	Gold96.5	Interest
2/27/2009	33.00	NA	19.59	36.00	16139.49	1.13
3/31/2009	32.00	0.20	22.69	35.48	15382.96	0.75
4/30/2009	32.00	NA	22.79	35.27	14770.82	0.70
5/29/2009	31.75	0.40	24.59	34.33	15878.55	0.70
6/30/2009	26.00	5.50	27.39	33.98	14907.02	0.75
7/31/2009	25.50	0.50	28.09	33.99	15338.19	0.75
8/31/2009	24.00	1.10	27.69	33.97	15276.75	0.75
9/30/2009	25.00	0.90	26.29	33.51	15908.80	0.70
10/30/2009	24.10	5.50	28.19	33.38	16519.39	0.70
11/30/2009	27.00	4.50	28.19	33.16	18512.33	0.70
12/31/2009	31.00	1.70	27.19	33.33	17286.86	0.70
1/29/2010	31.00	0.10	27.59	33.10	16939.41	0.70
2/26/2010	31.00	NA	28.69	33.03	17436.25	0.70
3/31/2010	30.00	7.70	28.79	32.32	17022.29	0.70
4/30/2010	25.75	5.50	29.89	32.25	18017.89	0.70
5/31/2010	28.00	0.20	27.99	32.49	18694.24	0.70
6/30/2010	26.50	0.90	28.89	32.39	19023.92	0.70
7/30/2010	27.75	15.00	28.59	32.22	17983.77	0.83
8/31/2010	26.75	9.50	27.79	31.25	18418.14	0.83
9/30/2010	26.50	28.10	27.79	30.37	18765.65	0.95
10/29/2010	25.00	11.30	28.79	29.92	19207.76	0.95
11/30/2010	25.75	1.70	29.78	30.17	19744.27	0.95
12/31/2010	25.00	1.70	29.99	30.10	20148.69	1.13

13. SHANG

Date	P	VO	Diesel	Exchange	Gold96.5	Interest
1/31/2007	45.00	11.40	22.54	35.76	10697.39	3.88
2/28/2007	51.50	44.10	22.94	35.39	10720.99	3.75
3/30/2007	55.00	20.70	24.14	36.47	10115.08	3.50
4/30/2007	53.00	8.10	25.34	34.74	10502.72	2.88
5/31/2007	52.00	12.00	25.34	34.60	10242.60	2.38
6/29/2007	53.50	96.70	25.34	34.50	9698.97	2.38
7/31/2007	55.00	60.90	25.74	33.76	9313.88	2.13
8/31/2007	52.00	14.00	25.34	34.29	10282.27	2.13
9/28/2007	54.50	17.50	27.34	34.21	11186.28	2.13
10/31/2007	54.50	93.20	28.14	33.96	11894.65	2.13
11/30/2007	52.00	16.80	29.34	33.81	11333.14	2.13
12/31/2007	51.00	31.50	29.34	33.72	11783.69	2.13
1/31/2008	51.00	3.00	29.14	32.98	13563.26	2.13
2/29/2008	51.00	9.20	29.94	31.85	14207.91	2.13
3/31/2008	51.00	5.70	30.94	31.46	13576.89	2.13
4/30/2008	50.50	8.60	33.44	31.70	13019.42	2.13
5/30/2008	54.00	6.10	39.04	32.37	13610.11	2.13
6/30/2008	50.50	3.60	42.64	33.48	14590.36	2.50
7/31/2008	49.00	5.10	37.94	33.48	14460.23	2.50
8/29/2008	48.00	0.20	33.04	34.12	13419.41	2.50
9/30/2008	48.00	0.40	30.74	34.00	13908.23	2.50
10/31/2008	35.00	9.50	22.84	34.93	11980.34	2.50
11/28/2008	40.00	3.60	21.04	35.38	13670.31	2.50
12/31/2008	40.00	0.40	18.74	34.90	14418.13	1.62
1/30/2009	37.00	0.30	18.34	34.88	15321.24	1.25

Date	P	VO	Diesel	Exchange	Gold96.5	Interest
2/27/2009	43.00	0.60	19.59	36.00	16139.49	1.13
3/31/2009	36.75	17.00	22.69	35.48	15382.96	0.75
4/30/2009	37.00	0.30	22.79	35.27	14770.82	0.70
5/29/2009	36.50	6.30	24.59	34.33	15878.55	0.70
6/30/2009	34.00	25.00	27.39	33.98	14907.02	0.75
7/31/2009	30.75	6.20	28.09	33.99	15338.19	0.75
8/31/2009	31.25	2.00	27.69	33.97	15276.75	0.75
9/30/2009	32.00	9.30	26.29	33.51	15908.80	0.70
10/30/2009	35.00	6.10	28.19	33.38	16519.39	0.70
11/30/2009	35.00	4.60	28.19	33.16	18512.33	0.70
12/31/2009	33.00	8.80	27.19	33.33	17286.86	0.70
1/29/2010	31.75	4.20	27.59	33.10	16939.41	0.70
2/26/2010	31.50	2.10	28.69	33.03	17436.25	0.70
3/31/2010	32.00	4.30	28.79	32.32	17022.29	0.70
4/30/2010	33.00	5.10	29.89	32.25	18017.89	0.70
5/31/2010	34.00	13.80	27.99	32.49	18694.24	0.70
6/30/2010	33.50	16.80	28.89	32.39	19023.92	0.70
7/30/2010	35.00	32.30	28.59	32.22	17983.77	0.83
8/31/2010	34.00	19.40	27.79	31.25	18418.14	0.83
9/30/2010	33.50	27.70	27.79	30.37	18765.65	0.95
10/29/2010	33.50	18.80	28.79	29.92	19207.76	0.95
11/30/2010	33.50	9.60	29.78	30.17	19744.27	0.95
12/31/2010	32.75	22.60	29.99	30.10	20148.69	1.13

ภาคผนวก ข

ข้อมูล Unit root โดยวิธี ADF Test

ผลตอบแทนหลักทรัพย์ (P)

ASIA I(0)

Null Hypothesis: LOGASIA has a unit root
Exogenous: Constant, Linear Trend
Lag Length: 0 (Automatic based on SIC, MAXLAG=9)

		t-Statistic	Prob.*
Augmented Dickey-Fuller test statistic		-10.60826	0.0000
Test critical values:	1% level	-4.165756	
	5% level	-3.508508	
	10% level	-3.184230	

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

Augmented Dickey-Fuller Test Equation
Dependent Variable: D(LOGASIA)
Method: Least Squares
Date: 02/13/11 Time: 20:52
Sample (adjusted): 2 48
Included observations: 47 after adjustments

Variable	Coefficient	Std. Error	t-Statistic	Prob.
LOGASIA(-1)	-1.020106	0.096161	-10.60826	0.0000
C	50.56079	4.707486	10.74051	0.0000
@TREND(1)	-0.423148	0.045489	-9.302207	0.0000

R-squared	0.724176	Mean dependent var	0.143617
Adjusted R-squared	0.711638	S.D. dependent var	4.991227
S.E. of regression	2.680256	Akaike info criterion	4.871403
Sum squared resid	316.0859	Schwarz criterion	4.989498
Log likelihood	-111.4780	F-statistic	57.76090
Durbin-Watson stat	0.906938	Prob(F-statistic)	0.000000

CAWOW I(0)

Null Hypothesis: LOGCAWOW has a unit root
Exogenous: Constant, Linear Trend
Lag Length: 0 (Automatic based on SIC, MAXLAG=9)

		t-Statistic	Prob.*
Augmented Dickey-Fuller test statistic		-1.323263	0.8698
Test critical values:	1% level	-4.165756	
	5% level	-3.508508	
	10% level	-3.184230	

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

Augmented Dickey-Fuller Test Equation
Dependent Variable: D(LOGCAWOW)
Method: Least Squares
Date: 02/03/11 Time: 23:38
Sample (adjusted): 2 48
Included observations: 47 after adjustments

Variable	Coefficient	Std. Error	t-Statistic	Prob.
LOGCAWOW(-1)	-0.090740	0.068573	-1.323263	0.1926
C	0.370615	0.375274	0.987586	0.3288
@TREND(1)	-0.010244	0.008874	-1.154427	0.2546

R-squared	0.040666	Mean dependent var	-0.093617
Adjusted R-squared	-0.002940	S.D. dependent var	0.254289
S.E. of regression	0.254662	Akaike info criterion	0.163944
Sum squared resid	2.853526	Schwarz criterion	0.282039
Log likelihood	-0.852692	F-statistic	0.932569
Durbin-Watson stat	1.903551	Prob(F-statistic)	0.401180

CAWOW I(1)

Null Hypothesis: D(LOGCAWOW) has a unit root

Exogenous: Constant, Linear Trend
Lag Length: 0 (Automatic based on SIC, MAXLAG=9)

		t-Statistic	Prob.*
Augmented Dickey-Fuller test statistic		-6.596964	0.0000
Test critical values:	1% level	-4.170583	
	5% level	-3.510740	
	10% level	-3.185512	

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

Augmented Dickey-Fuller Test Equation
Dependent Variable: D(LOGCAWOW,2)
Method: Least Squares
Date: 02/03/11 Time: 23:39
Sample (adjusted): 3 48
Included observations: 46 after adjustments

Variable	Coefficient	Std. Error	t-Statistic	Prob.
D(LOGCAWOW(-1))	-1.004938	0.152333	-6.596964	0.0000
C	-0.106629	0.082940	-1.285618	0.2055
@TREND(1)	0.000624	0.002913	0.214163	0.8314

R-squared	0.503011	Mean dependent var	0.004783
Adjusted R-squared	0.479895	S.D. dependent var	0.363494
S.E. of regression	0.262146	Akaike info criterion	0.223160
Sum squared resid	2.954972	Schwarz criterion	0.342419
Log likelihood	-2.132674	F-statistic	21.76050
Durbin-Watson stat	1.954885	Prob(F-statistic)	0.000000

CENTEL I(0)

Null Hypothesis: LOGCENTEL has a unit root
Exogenous: Constant, Linear Trend
Lag Length: 0 (Automatic based on SIC, MAXLAG=9)

		t-Statistic	Prob.*
Augmented Dickey-Fuller test statistic		-1.302946	0.8750
Test critical values:	1% level	-4.165756	
	5% level	-3.508508	
	10% level	-3.184230	

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

Augmented Dickey-Fuller Test Equation
Dependent Variable: D(LOGCENTEL)
Method: Least Squares
Date: 02/03/11 Time: 23:42
Sample (adjusted): 2 48
Included observations: 47 after adjustments

Variable	Coefficient	Std. Error	t-Statistic	Prob.
LOGCENTEL(-1)	-0.088778	0.068137	-1.302946	0.1994
C	0.375266	0.405599	0.925213	0.3599
@TREND(1)	0.000749	0.005292	0.141527	0.8881

R-squared	0.057166	Mean dependent var	-0.022128
Adjusted R-squared	0.014310	S.D. dependent var	0.419850
S.E. of regression	0.416835	Akaike info criterion	1.149448
Sum squared resid	7.645055	Schwarz criterion	1.267543
Log likelihood	-24.01203	F-statistic	1.333897
Durbin-Watson stat	1.588223	Prob(F-statistic)	0.273892

CENTEL I(1)

Null Hypothesis: D(LOGCENTEL) has a unit root
Exogenous: Constant, Linear Trend
Lag Length: 0 (Automatic based on SIC, MAXLAG=9)

		t-Statistic	Prob.*
Augmented Dickey-Fuller test statistic		-5.589899	0.0002
Test critical values:	1% level	-4.170583	
	5% level	-3.510740	
	10% level	-3.185512	

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

Augmented Dickey-Fuller Test Equation
Dependent Variable: D(LOGCENTEL,2)
Method: Least Squares
Date: 02/03/11 Time: 23:43
Sample (adjusted): 3 48
Included observations: 46 after adjustments

Variable	Coefficient	Std. Error	t-Statistic	Prob.
D(LOGCENTEL(-1))	-0.841219	0.150489	-5.589899	0.0000
C	-0.134469	0.131855	-1.019824	0.3135
@TREND(1)	0.004627	0.004720	0.980370	0.3324

R-squared	0.421702	Mean dependent var	0.004130
Adjusted R-squared	0.394804	S.D. dependent var	0.542544
S.E. of regression	0.422068	Akaike info criterion	1.175694
Sum squared resid	7.660088	Schwarz criterion	1.294953
Log likelihood	-24.04096	F-statistic	15.67806
Durbin-Watson stat	1.833235	Prob(F-statistic)	0.000008

CRS I(0)

Null Hypothesis: LOGCRS has a unit root

Exogenous: Constant, Linear Trend
Lag Length: 0 (Automatic based on SIC, MAXLAG=9)

		t-Statistic	Prob.*
Augmented Dickey-Fuller test statistic		-2.269708	0.4415
Test critical values:	1% level	-4.165756	
	5% level	-3.508508	
	10% level	-3.184230	

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

Augmented Dickey-Fuller Test Equation
Dependent Variable: D(LOGCRS)
Method: Least Squares
Date: 02/03/11 Time: 23:46
Sample (adjusted): 2 48
Included observations: 47 after adjustments

Variable	Coefficient	Std. Error	t-Statistic	Prob.
LOGCRS(-1)	-0.209666	0.092376	-2.269708	0.0282
C	9.792425	4.544514	2.154779	0.0367
@TREND(1)	0.003153	0.034293	0.091952	0.9272

R-squared	0.106744	Mean dependent var	-0.031915
Adjusted R-squared	0.066142	S.D. dependent var	3.282702
S.E. of regression	3.172283	Akaike info criterion	5.208482
Sum squared resid	442.7887	Schwarz criterion	5.326576
Log likelihood	-119.3993	F-statistic	2.629011
Durbin-Watson stat	1.570315	Prob(F-statistic)	0.083458

CRS I(1)

Null Hypothesis: D(LOGCRS) has a unit root

Exogenous: Constant, Linear Trend
Lag Length: 0 (Automatic based on SIC, MAXLAG=9)

		t-Statistic	Prob.*
Augmented Dickey-Fuller test statistic		-5.704860	0.0001
Test critical values:	1% level	-4.170583	
	5% level	-3.510740	
	10% level	-3.185512	

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

Augmented Dickey-Fuller Test Equation
Dependent Variable: D(LOGCRS,2)
Method: Least Squares
Date: 02/03/11 Time: 23:47
Sample (adjusted): 3 48
Included observations: 46 after adjustments

Variable	Coefficient	Std. Error	t-Statistic	Prob.
D(LOGCRS(-1))	-0.861522	0.151015	-5.704860	0.0000
C	-0.282959	1.040460	-0.271956	0.7870
@TREND(1)	0.010433	0.037338	0.279430	0.7813

R-squared	0.430811	Mean dependent var	0.005435
Adjusted R-squared	0.404337	S.D. dependent var	4.351720
S.E. of regression	3.358624	Akaike info criterion	5.323934
Sum squared resid	485.0554	Schwarz criterion	5.443193
Log likelihood	-119.4505	F-statistic	16.27301
Durbin-Watson stat	1.965477	Prob(F-statistic)	0.000005

DTC I(0)

Null Hypothesis: LOGDTC has a unit root

Exogenous: Constant, Linear Trend
Lag Length: 0 (Automatic based on SIC, MAXLAG=9)

		t-Statistic	Prob.*
Augmented Dickey-Fuller test statistic		-1.053293	0.9261
Test critical values:	1% level	-4.165756	
	5% level	-3.508508	
	10% level	-3.184230	

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

Augmented Dickey-Fuller Test Equation
Dependent Variable: D(LOGDTC)
Method: Least Squares
Date: 02/03/11 Time: 23:49
Sample (adjusted): 2 48
Included observations: 47 after adjustments

Variable	Coefficient	Std. Error	t-Statistic	Prob.
LOGDTC(-1)	-0.074009	0.070264	-1.053293	0.2980
C	1.957864	3.107812	0.629982	0.5320
@TREND(1)	0.009654	0.042582	0.226711	0.8217

R-squared	0.060352	Mean dependent var	-0.218085
Adjusted R-squared	0.017640	S.D. dependent var	2.900345
S.E. of regression	2.874650	Akaike info criterion	5.011440
Sum squared resid	363.5989	Schwarz criterion	5.129535
Log likelihood	-114.7688	F-statistic	1.413016
Durbin-Watson stat	1.711609	Prob(F-statistic)	0.254236

DTC I(1)

Null Hypothesis: D(LOGDTC) has a unit root

Exogenous: Constant, Linear Trend
Lag Length: 0 (Automatic based on SIC, MAXLAG=9)

		t-Statistic	Prob.*
Augmented Dickey-Fuller test statistic		-5.882677	0.0001
Test critical values:	1% level	-4.170583	
	5% level	-3.510740	
	10% level	-3.185512	

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

Augmented Dickey-Fuller Test Equation
Dependent Variable: D(LOGDTC,2)
Method: Least Squares
Date: 02/03/11 Time: 23:50
Sample (adjusted): 3 48
Included observations: 46 after adjustments

Variable	Coefficient	Std. Error	t-Statistic	Prob.
D(LOGDTC(-1))	-0.910248	0.154734	-5.882677	0.0000
C	-1.062793	0.922091	-1.152590	0.2554
@TREND(1)	0.036770	0.032901	1.117594	0.2699

R-squared	0.446492	Mean dependent var	0.125000
Adjusted R-squared	0.420747	S.D. dependent var	3.852831
S.E. of regression	2.932338	Akaike info criterion	5.052470
Sum squared resid	369.7400	Schwarz criterion	5.171730
Log likelihood	-113.2068	F-statistic	17.34315
Durbin-Watson stat	1.938731	Prob(F-statistic)	0.000003

ERAWAN I(0)

Null Hypothesis: LOGERAWAN has a unit root

Exogenous: Constant, Linear Trend
Lag Length: 3 (Automatic based on SIC, MAXLAG=9)

		t-Statistic	Prob.*
Augmented Dickey-Fuller test statistic		-2.388218	0.3803
Test critical values:	1% level	-4.180911	
	5% level	-3.515523	
	10% level	-3.188259	

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

Augmented Dickey-Fuller Test Equation
Dependent Variable: D(LOGERAWAN)
Method: Least Squares
Date: 02/04/11 Time: 00:49
Sample (adjusted): 5 48
Included observations: 44 after adjustments

Variable	Coefficient	Std. Error	t-Statistic	Prob.
LOGERAWAN(-1)	-0.123343	0.051646	-2.388218	0.0220
D(LOGERAWAN(-1))	0.493614	0.141603	3.485891	0.0013
D(LOGERAWAN(-2))	-0.125709	0.154171	-0.815387	0.4199
D(LOGERAWAN(-3))	0.402650	0.145084	2.775281	0.0085
C	0.490764	0.239926	2.045478	0.0478
@TREND(1)	-0.005912	0.004169	-1.418099	0.1643

R-squared	0.370677	Mean dependent var	-0.025000
Adjusted R-squared	0.287871	S.D. dependent var	0.277384
S.E. of regression	0.234078	Akaike info criterion	0.059799
Sum squared resid	2.082115	Schwarz criterion	0.303098
Log likelihood	4.684421	F-statistic	4.476468
Durbin-Watson stat	2.010201	Prob(F-statistic)	0.002642

ERAWAN I(1)

Null Hypothesis: D(LOGERAWAN) has a unit root
Exogenous: Constant, Linear Trend
Lag Length: 2 (Automatic based on SIC, MAXLAG=9)

		t-Statistic	Prob.*
Augmented Dickey-Fuller test statistic		-2.266885	0.4424
Test critical values:	1% level	-4.180911	
	5% level	-3.515523	
	10% level	-3.188259	

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

Augmented Dickey-Fuller Test Equation
Dependent Variable: D(LOGERAWAN,2)
Method: Least Squares
Date: 02/04/11 Time: 00:51
Sample (adjusted): 5 48
Included observations: 44 after adjustments

Variable	Coefficient	Std. Error	t-Statistic	Prob.
D(LOGERAWAN(-1))	-0.420372	0.185440	-2.266885	0.0290
D(LOGERAWAN(-1),2)	-0.106616	0.171824	-0.620499	0.5385
D(LOGERAWAN(-2),2)	-0.301378	0.146878	-2.051898	0.0469
C	-0.049881	0.084134	-0.592872	0.5567
@TREND(1)	0.001506	0.002944	0.511638	0.6118

R-squared	0.359759	Mean dependent var	-2.84E-17
Adjusted R-squared	0.294093	S.D. dependent var	0.294926
S.E. of regression	0.247792	Akaike info criterion	0.154189
Sum squared resid	2.394629	Schwarz criterion	0.356937
Log likelihood	1.607853	F-statistic	5.478643
Durbin-Watson stat	1.939525	Prob(F-statistic)	0.001342

ERAWAN I(2)

Null Hypothesis: D(LOGERAWAN,2) has a unit root
Exogenous: Constant, Linear Trend
Lag Length: 1 (Automatic based on SIC, MAXLAG=9)

		t-Statistic	Prob.*
Augmented Dickey-Fuller test statistic		-8.418572	0.0000
Test critical values:	1% level	-4.180911	
	5% level	-3.515523	
	10% level	-3.188259	

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

Augmented Dickey-Fuller Test Equation
Dependent Variable: D(LOGERAWAN,3)
Method: Least Squares
Date: 02/04/11 Time: 00:52
Sample (adjusted): 5 48
Included observations: 44 after adjustments

Variable	Coefficient	Std. Error	t-Statistic	Prob.
D(LOGERAWAN(-1),2)	-1.825320	0.216821	-8.418572	0.0000
D(LOGERAWAN(-1),3)	0.464895	0.134401	3.459005	0.0013
C	-0.034166	0.088079	-0.387900	0.7001
@TREND(1)	0.001330	0.003091	0.430364	0.6692

R-squared	0.713618	Mean dependent var	-0.006364
Adjusted R-squared	0.692139	S.D. dependent var	0.469126
S.E. of regression	0.260296	Akaike info criterion	0.232511
Sum squared resid	2.710153	Schwarz criterion	0.394710
Log likelihood	-1.115237	F-statistic	33.22452
Durbin-Watson stat	2.014219	Prob(F-statistic)	0.000000

GRAND I(0)

Null Hypothesis: LOGGRAND has a unit root

Exogenous: Constant, Linear Trend
Lag Length: 0 (Automatic based on SIC, MAXLAG=9)

		t-Statistic	Prob.*
Augmented Dickey-Fuller test statistic		0.335465	0.9983
Test critical values:	1% level	-4.165756	
	5% level	-3.508508	
	10% level	-3.184230	

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

Augmented Dickey-Fuller Test Equation
Dependent Variable: D(LOGGRAND)
Method: Least Squares
Date: 02/04/11 Time: 00:54
Sample (adjusted): 2 48
Included observations: 47 after adjustments

Variable	Coefficient	Std. Error	t-Statistic	Prob.
LOGGRAND(-1)	0.040274	0.120055	0.335465	0.7389
C	-0.419977	0.617846	-0.679744	0.5002
@TREND(1)	0.011810	0.012443	0.949076	0.3478

R-squared	0.066116	Mean dependent var	-0.026809
Adjusted R-squared	0.023667	S.D. dependent var	0.430597
S.E. of regression	0.425471	Akaike info criterion	1.190461
Sum squared resid	7.965116	Schwarz criterion	1.308555
Log likelihood	-24.97582	F-statistic	1.557530
Durbin-Watson stat	1.686473	Prob(F-statistic)	0.222047

GRAND I(1)

Null Hypothesis: D(LOGGRAND) has a unit root
Exogenous: Constant, Linear Trend
Lag Length: 0 (Automatic based on SIC, MAXLAG=9)

		t-Statistic	Prob.*
Augmented Dickey-Fuller test statistic		-5.106806	0.0007
Test critical values:	1% level	-4.170583	
	5% level	-3.510740	
	10% level	-3.185512	

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

Augmented Dickey-Fuller Test Equation
Dependent Variable: D(LOGGRAND,2)
Method: Least Squares
Date: 02/04/11 Time: 00:55
Sample (adjusted): 3 48
Included observations: 46 after adjustments

Variable	Coefficient	Std. Error	t-Statistic	Prob.
D(LOGGRAND(-1))	-1.109211	0.217202	-5.106806	0.0000
C	-0.241363	0.135820	-1.777084	0.0826
@TREND(1)	0.008498	0.004795	1.772309	0.0834

R-squared	0.391132	Mean dependent var	0.047609
Adjusted R-squared	0.362812	S.D. dependent var	0.537844
S.E. of regression	0.429329	Akaike info criterion	1.209807
Sum squared resid	7.925905	Schwarz criterion	1.329066
Log likelihood	-24.82556	F-statistic	13.81141
Durbin-Watson stat	1.557142	Prob(F-statistic)	0.000023

LRH- I(0)

Null Hypothesis: LOGLRH has a unit root
Exogenous: Constant, Linear Trend
Lag Length: 1 (Automatic based on SIC, MAXLAG=9)

		t-Statistic	Prob.*
Augmented Dickey-Fuller test statistic		-1.494987	0.8170
Test critical values:	1% level	-4.170583	
	5% level	-3.510740	
	10% level	-3.185512	

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

Augmented Dickey-Fuller Test Equation
Dependent Variable: D(LOGLRH)
Method: Least Squares
Date: 02/04/11 Time: 01:00
Sample (adjusted): 3 48
Included observations: 46 after adjustments

Variable	Coefficient	Std. Error	t-Statistic	Prob.
LOGLRH(-1)	-0.091031	0.060891	-1.494987	0.1424
D(LOGLRH(-1))	0.333042	0.149898	2.221790	0.0317
C	3.270453	2.663752	1.227762	0.2264
@TREND(1)	0.027048	0.043527	0.621411	0.5377

R-squared	0.133987	Mean dependent var	0.453913
Adjusted R-squared	0.072129	S.D. dependent var	4.052703
S.E. of regression	3.903808	Akaike info criterion	5.644724
Sum squared resid	640.0682	Schwarz criterion	5.803736
Log likelihood	-125.8286	F-statistic	2.166043
Durbin-Watson stat	1.906158	Prob(F-statistic)	0.106273

LRH I(1)

Null Hypothesis: D(LOGLRH) has a unit root
Exogenous: Constant, Linear Trend
Lag Length: 0 (Automatic based on SIC, MAXLAG=9)

		t-Statistic	Prob.*
Augmented Dickey-Fuller test statistic		-4.889317	0.0014
Test critical values:	1% level	-4.170583	
	5% level	-3.510740	
	10% level	-3.185512	

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

Augmented Dickey-Fuller Test Equation
Dependent Variable: D(LOGLRH,2)
Method: Least Squares
Date: 02/04/11 Time: 01:00
Sample (adjusted): 3 48
Included observations: 46 after adjustments

Variable	Coefficient	Std. Error	t-Statistic	Prob.
D(LOGLRH(-1))	-0.721225	0.147510	-4.889317	0.0000
C	-0.278086	1.226152	-0.226796	0.8217
@TREND(1)	0.025994	0.044142	0.588870	0.5590

R-squared	0.357556	Mean dependent var	0.112609
Adjusted R-squared	0.327675	S.D. dependent var	4.828894
S.E. of regression	3.959471	Akaike info criterion	5.653092
Sum squared resid	674.1288	Schwarz criterion	5.772351
Log likelihood	-127.0211	F-statistic	11.96598
Durbin-Watson stat	1.892022	Prob(F-statistic)	0.000074

MANRIN I(0)

Null Hypothesis: LOGMANRIN has a unit root
Exogenous: Constant, Linear Trend
Lag Length: 1 (Automatic based on SIC, MAXLAG=9)

		t-Statistic	Prob.*
Augmented Dickey-Fuller test statistic		-0.539137	0.9779
Test critical values:	1% level	-4.170583	
	5% level	-3.510740	
	10% level	-3.185512	

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

Augmented Dickey-Fuller Test Equation
Dependent Variable: D(LOGMANRIN)
Method: Least Squares
Date: 02/04/11 Time: 01:02
Sample (adjusted): 3 48
Included observations: 46 after adjustments

Variable	Coefficient	Std. Error	t-Statistic	Prob.
LOGMANRIN(-1)	-0.028915	0.053633	-0.539137	0.5926
D(LOGMANRIN(-1))	-0.306542	0.143484	-2.136422	0.0385
C	-0.609747	1.313418	-0.464245	0.6449
@TREND(1)	0.024150	0.026483	0.911913	0.3670

R-squared	0.170606	Mean dependent var	-0.314783
Adjusted R-squared	0.111363	S.D. dependent var	1.613606
S.E. of regression	1.521106	Akaike info criterion	3.759694
Sum squared resid	97.17811	Schwarz criterion	3.918707
Log likelihood	-82.47297	F-statistic	2.879785
Durbin-Watson stat	1.791321	Prob(F-statistic)	0.047106

MANRIN I(1)

Null Hypothesis: D(LOGMANRIN) has a unit root
Exogenous: Constant, Linear Trend
Lag Length: 0 (Automatic based on SIC, MAXLAG=9)

		t-Statistic	Prob.*
Augmented Dickey-Fuller test statistic		-9.550971	0.0000
Test critical values:	1% level	-4.170583	
	5% level	-3.510740	
	10% level	-3.185512	

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

Augmented Dickey-Fuller Test Equation
Dependent Variable: D(LOGMANRIN,2)
Method: Least Squares
Date: 02/04/11 Time: 01:03
Sample (adjusted): 3 48
Included observations: 46 after adjustments

Variable	Coefficient	Std. Error	t-Statistic	Prob.
D(LOGMANRIN(-1))	-1.323999	0.138625	-9.550971	0.0000
C	-1.268460	0.477976	-2.653814	0.0111
@TREND(1)	0.035059	0.016944	2.069159	0.0446

R-squared	0.680637	Mean dependent var	-0.022391
Adjusted R-squared	0.665783	S.D. dependent var	2.609358
S.E. of regression	1.508508	Akaike info criterion	3.723113
Sum squared resid	97.85065	Schwarz criterion	3.842372
Log likelihood	-82.63159	F-statistic	45.82161
Durbin-Watson stat	1.790315	Prob(F-statistic)	0.000000

MME I(0)

Null Hypothesis: LOGMME has a unit root
Exogenous: Constant, Linear Trend
Lag Length: 2 (Automatic based on SIC, MAXLAG=9)

		t-Statistic	Prob.*
Augmented Dickey-Fuller test statistic		-1.374715	0.8550
Test critical values:	1% level	-4.175640	
	5% level	-3.513075	
	10% level	-3.186854	

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

Augmented Dickey-Fuller Test Equation
Dependent Variable: D(LOGMME)
Method: Least Squares
Date: 02/04/11 Time: 01:05
Sample (adjusted): 4 48
Included observations: 45 after adjustments

Variable	Coefficient	Std. Error	t-Statistic	Prob.
LOGMME(-1)	-0.141987	0.103285	-1.374715	0.1769
D(LOGMME(-1))	0.212012	0.143039	1.482192	0.1461
D(LOGMME(-2))	-0.386738	0.144953	-2.668031	0.0110
C	0.320309	0.327179	0.979004	0.3335
@TREND(1)	-0.006016	0.006785	-0.886670	0.3806

R-squared	0.275896	Mean dependent var	-0.047333
Adjusted R-squared	0.203486	S.D. dependent var	0.321236
S.E. of regression	0.286696	Akaike info criterion	0.443649
Sum squared resid	3.287779	Schwarz criterion	0.644389
Log likelihood	-4.982105	F-statistic	3.810173
Durbin-Watson stat	1.751390	Prob(F-statistic)	0.010236

MME I(1)

Null Hypothesis: D(LOGMME) has a unit root
Exogenous: Constant, Linear Trend
Lag Length: 1 (Automatic based on SIC, MAXLAG=9)

		t-Statistic	Prob.*
Augmented Dickey-Fuller test statistic		-7.344203	0.0000
Test critical values:	1% level	-4.175640	
	5% level	-3.513075	
	10% level	-3.186854	

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

Augmented Dickey-Fuller Test Equation
Dependent Variable: D(LOGMME,2)
Method: Least Squares
Date: 02/04/11 Time: 01:06
Sample (adjusted): 4 48
Included observations: 45 after adjustments

Variable	Coefficient	Std. Error	t-Statistic	Prob.
D(LOGMME(-1))	-1.320857	0.179850	-7.344203	0.0000
D(LOGMME(-1),2)	0.467232	0.134032	3.485984	0.0012
C	-0.110775	0.094351	-1.174070	0.2471
@TREND(1)	0.002138	0.003331	0.641843	0.5245

R-squared	0.582624	Mean dependent var	-0.003556
Adjusted R-squared	0.552084	S.D. dependent var	0.432998
S.E. of regression	0.289790	Akaike info criterion	0.445369
Sum squared resid	3.443114	Schwarz criterion	0.605961
Log likelihood	-6.020793	F-statistic	19.07760
Durbin-Watson stat	1.777190	Prob(F-statistic)	0.000000

OHTL I(0)

Null Hypothesis: LOGOHTL has a unit root
Exogenous: Constant, Linear Trend
Lag Length: 0 (Automatic based on SIC, MAXLAG=9)

		t-Statistic	Prob.*
Augmented Dickey-Fuller test statistic		-4.206222	0.0090
Test critical values:	1% level	-4.165756	
	5% level	-3.508508	
	10% level	-3.184230	

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

Augmented Dickey-Fuller Test Equation
Dependent Variable: D(LOGOHTL)
Method: Least Squares
Date: 02/04/11 Time: 01:08
Sample (adjusted): 2 48
Included observations: 47 after adjustments

Variable	Coefficient	Std. Error	t-Statistic	Prob.
LOGOHTL(-1)	-0.335684	0.079807	-4.206222	0.0001
C	177.2048	40.46604	4.379100	0.0001
@TREND(1)	-0.353527	0.135858	-2.602176	0.0126

R-squared	0.332595	Mean dependent var	1.063830
Adjusted R-squared	0.302258	S.D. dependent var	14.98899
S.E. of regression	12.52044	Akaike info criterion	7.954304
Sum squared resid	6897.506	Schwarz criterion	8.072399
Log likelihood	-183.9261	F-statistic	10.96348
Durbin-Watson stat	2.366434	Prob(F-statistic)	0.000137

OHTL I(1)

Null Hypothesis: D(LOGOHTL) has a unit root
Exogenous: Constant, Linear Trend
Lag Length: 0 (Automatic based on SIC, MAXLAG=9)

		t-Statistic	Prob.*
Augmented Dickey-Fuller test statistic		-7.980055	0.0000
Test critical values:	1% level	-4.170583	
	5% level	-3.510740	
	10% level	-3.185512	

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

Augmented Dickey-Fuller Test Equation
Dependent Variable: D(LOGOHTL,2)
Method: Least Squares
Date: 02/04/11 Time: 01:08
Sample (adjusted): 3 48
Included observations: 46 after adjustments

Variable	Coefficient	Std. Error	t-Statistic	Prob.
D(LOGOHTL(-1))	-1.194617	0.149700	-7.980055	0.0000
C	8.563217	4.706841	1.819313	0.0758
@TREND(1)	-0.311407	0.168945	-1.843244	0.0722

R-squared	0.597313	Mean dependent var	-0.260870
Adjusted R-squared	0.578583	S.D. dependent var	22.56687
S.E. of regression	14.64965	Akaike info criterion	8.269704
Sum squared resid	9228.328	Schwarz criterion	8.388963
Log likelihood	-187.2032	F-statistic	31.89133
Durbin-Watson stat	1.990842	Prob(F-statistic)	0.000000

ROH I(0)

Null Hypothesis: LOGROH has a unit root
Exogenous: Constant, Linear Trend
Lag Length: 0 (Automatic based on SIC, MAXLAG=9)

		t-Statistic	Prob.*
Augmented Dickey-Fuller test statistic		-3.171246	0.1026
Test critical values:	1% level	-4.165756	
	5% level	-3.508508	
	10% level	-3.184230	

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

Augmented Dickey-Fuller Test Equation
Dependent Variable: D(LOGROH)
Method: Least Squares
Date: 02/04/11 Time: 01:10
Sample (adjusted): 2 48
Included observations: 47 after adjustments

Variable	Coefficient	Std. Error	t-Statistic	Prob.
LOGROH(-1)	-0.369832	0.116620	-3.171246	0.0028
C	14.72914	4.758185	3.095537	0.0034
@TREND(1)	-0.125442	0.044043	-2.848188	0.0067

R-squared	0.186165	Mean dependent var	-0.297872
Adjusted R-squared	0.149173	S.D. dependent var	2.069051
S.E. of regression	1.908499	Akaike info criterion	4.192213
Sum squared resid	160.2642	Schwarz criterion	4.310307
Log likelihood	-95.51700	F-statistic	5.032517
Durbin-Watson stat	1.914721	Prob(F-statistic)	0.010760

ROH I(1)

Null Hypothesis: D(LOGROH) has a unit root
Exogenous: Constant, Linear Trend
Lag Length: 0 (Automatic based on SIC, MAXLAG=9)

		t-Statistic	Prob.*
Augmented Dickey-Fuller test statistic		-7.461562	0.0000
Test critical values:	1% level	-4.170583	
	5% level	-3.510740	
	10% level	-3.185512	

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

Augmented Dickey-Fuller Test Equation
Dependent Variable: D(LOGROH,2)
Method: Least Squares
Date: 02/04/11 Time: 01:11
Sample (adjusted): 3 48
Included observations: 46 after adjustments

Variable	Coefficient	Std. Error	t-Statistic	Prob.
D(LOGROH(-1))	-1.128735	0.151273	-7.461562	0.0000
C	-0.311800	0.657890	-0.473940	0.6379
@TREND(1)	-0.001209	0.023563	-0.051323	0.9593

R-squared	0.564227	Mean dependent var	-0.016304
Adjusted R-squared	0.543959	S.D. dependent var	3.141780
S.E. of regression	2.121670	Akaike info criterion	4.405278
Sum squared resid	193.5639	Schwarz criterion	4.524537
Log likelihood	-98.32139	F-statistic	27.83764
Durbin-Watson stat	1.990981	Prob(F-statistic)	0.000000

SHANG I(0)

Null Hypothesis: LOGSHANG has a unit root
Exogenous: Constant, Linear Trend
Lag Length: 0 (Automatic based on SIC, MAXLAG=9)

		t-Statistic	Prob.*
Augmented Dickey-Fuller test statistic		-3.542967	0.0463
Test critical values:	1% level	-4.165756	
	5% level	-3.508508	
	10% level	-3.184230	

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

Augmented Dickey-Fuller Test Equation
Dependent Variable: D(LOGSHANG)
Method: Least Squares
Date: 02/04/11 Time: 01:13
Sample (adjusted): 2 48
Included observations: 47 after adjustments

Variable	Coefficient	Std. Error	t-Statistic	Prob.
LOGSHANG(-1)	-0.360273	0.101687	-3.542967	0.0010
C	20.38455	5.767066	3.534648	0.0010
@TREND(1)	-0.226704	0.066043	-3.432686	0.0013

R-squared	0.226703	Mean dependent var	-0.260638
Adjusted R-squared	0.191554	S.D. dependent var	3.052065
S.E. of regression	2.744223	Akaike info criterion	4.918575
Sum squared resid	331.3535	Schwarz criterion	5.036669
Log likelihood	-112.5865	F-statistic	6.449626
Durbin-Watson stat	2.116817	Prob(F-statistic)	0.003496

SHANG I(1)

Null Hypothesis: D(LOGSHANG) has a unit root
Exogenous: Constant, Linear Trend
Lag Length: 0 (Automatic based on SIC, MAXLAG=9)

		t-Statistic	Prob.*
Augmented Dickey-Fuller test statistic		-9.121200	0.0000
Test critical values:	1% level	-4.170583	
	5% level	-3.510740	
	10% level	-3.185512	

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

Augmented Dickey-Fuller Test Equation
Dependent Variable: D(LOGSHANG,2)
Method: Least Squares
Date: 02/04/11 Time: 01:13
Sample (adjusted): 3 48
Included observations: 46 after adjustments

Variable	Coefficient	Std. Error	t-Statistic	Prob.
D(LOGSHANG(-1))	-1.264549	0.138638	-9.121200	0.0000
C	-0.388888	0.885737	-0.439056	0.6628
@TREND(1)	-0.003464	0.031863	-0.108702	0.9139

R-squared	0.660142	Mean dependent var	-0.157609
Adjusted R-squared	0.644335	S.D. dependent var	4.797383
S.E. of regression	2.861047	Akaike info criterion	5.003246
Sum squared resid	351.9803	Schwarz criterion	5.122505
Log likelihood	-112.0746	F-statistic	41.76179
Durbin-Watson stat	2.201637	Prob(F-statistic)	0.000000

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ASIA I(0)

Null Hypothesis: LOGASIA has a unit root
Exogenous: Constant, Linear Trend
Lag Length: 8 (Automatic based on SIC, MAXLAG=9)

		t-Statistic	Prob.*
Augmented Dickey-Fuller test statistic		-4.815294	0.0021
Test critical values:	1% level	-4.211868	
	5% level	-3.529758	
	10% level	-3.196411	

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

Augmented Dickey-Fuller Test Equation
Dependent Variable: D(LOGASIA)
Method: Least Squares
Date: 02/11/11 Time: 15:55
Sample (adjusted): 10 48
Included observations: 39 after adjustments

Variable	Coefficient	Std. Error	t-Statistic	Prob.
LOGASIA(-1)	-1.563222	0.324637	-4.815294	0.0000
D(LOGASIA(-1))	0.519731	0.300103	1.731844	0.0943
D(LOGASIA(-2))	0.250035	0.270152	0.925533	0.3626
D(LOGASIA(-3))	0.157514	0.238547	0.660304	0.5145
D(LOGASIA(-4))	0.086469	0.187912	0.460157	0.6490
D(LOGASIA(-5))	0.044205	0.137686	0.321055	0.7506
D(LOGASIA(-6))	0.059527	0.088343	0.673817	0.5060
D(LOGASIA(-7))	-0.031559	0.017118	-1.843557	0.0759
D(LOGASIA(-8))	-0.024013	0.005603	-4.285357	0.0002
C	101.0722	32.48409	3.111438	0.0043
@TREND(1)	-1.520477	0.704008	-2.159743	0.0395

R-squared	0.826085	Mean dependent var	-0.646154
Adjusted R-squared	0.763973	S.D. dependent var	57.69804
S.E. of regression	28.03123	Akaike info criterion	9.737261
Sum squared resid	22001.00	Schwarz criterion	10.20647
Log likelihood	-178.8766	F-statistic	13.29983
Durbin-Watson stat	2.065223	Prob(F-statistic)	0.000000

CAWOW I(0)

Null Hypothesis: LOGCAWOW has a unit root
Exogenous: Constant, Linear Trend
Lag Length: 0 (Automatic based on SIC, MAXLAG=9)

		t-Statistic	Prob.*
Augmented Dickey-Fuller test statistic		-4.383934	0.0056
Test critical values:	1% level	-4.165756	
	5% level	-3.508508	
	10% level	-3.184230	

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

Augmented Dickey-Fuller Test Equation
Dependent Variable: D(LOGCAWOW)
Method: Least Squares
Date: 02/11/11 Time: 15:59
Sample (adjusted): 2 48
Included observations: 47 after adjustments

Variable	Coefficient	Std. Error	t-Statistic	Prob.
LOGCAWOW(-1)	-0.607943	0.138675	-4.383934	0.0001
C	-2537.815	16447.79	-0.154295	0.8781
@TREND(1)	910.5737	629.5433	1.446404	0.1552

R-squared	0.304019	Mean dependent var	1413.860
Adjusted R-squared	0.272384	S.D. dependent var	64969.57
S.E. of regression	55419.32	Akaike info criterion	24.74495
Sum squared resid	1.35E+11	Schwarz criterion	24.86304
Log likelihood	-578.5062	F-statistic	9.610059
Durbin-Watson stat	1.953619	Prob(F-statistic)	0.000344

CENTEL I(0)

Null Hypothesis: LOGCENTEL has a unit root
Exogenous: Constant, Linear Trend
Lag Length: 0 (Automatic based on SIC, MAXLAG=9)

		t-Statistic	Prob.*
Augmented Dickey-Fuller test statistic		-6.622108	0.0000
Test critical values:	1% level	-4.165756	
	5% level	-3.508508	
	10% level	-3.184230	

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

Augmented Dickey-Fuller Test Equation
Dependent Variable: D(LOGCENTEL)
Method: Least Squares
Date: 02/11/11 Time: 16:07
Sample (adjusted): 2 48
Included observations: 47 after adjustments

Variable	Coefficient	Std. Error	t-Statistic	Prob.
LOGCENTEL(-1)	-0.996056	0.150414	-6.622108	0.0000
C	-3633.877	10044.77	-0.361768	0.7193
@TREND(1)	1476.092	424.0115	3.481254	0.0011

R-squared	0.499207	Mean dependent var	1066.200
Adjusted R-squared	0.476443	S.D. dependent var	46747.58
S.E. of regression	33825.25	Akaike info criterion	23.75750
Sum squared resid	5.03E+10	Schwarz criterion	23.87560
Log likelihood	-555.3013	F-statistic	21.93029
Durbin-Watson stat	2.004941	Prob(F-statistic)	0.000000

CENTEL I(1)

Null Hypothesis: D(LOGCENTEL) has a unit root
Exogenous: Constant, Linear Trend
Lag Length: 1 (Automatic based on SIC, MAXLAG=9)

		t-Statistic	Prob.*
Augmented Dickey-Fuller test statistic		-7.786833	0.0000
Test critical values:	1% level	-4.175640	
	5% level	-3.513075	
	10% level	-3.186854	

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

Augmented Dickey-Fuller Test Equation
Dependent Variable: D(LOGCENTEL,2)
Method: Least Squares
Date: 02/11/11 Time: 16:08
Sample (adjusted): 4 48
Included observations: 45 after adjustments

Variable	Coefficient	Std. Error	t-Statistic	Prob.
D(LOGCENTEL(-1))	-2.073863	0.266329	-7.786833	0.0000
D(LOGCENTEL(-1),2)	0.302629	0.149957	2.018113	0.0502
C	2870.078	12311.85	0.233115	0.8168
@TREND(1)	-33.06153	436.9305	-0.075668	0.9401

R-squared	0.813454	Mean dependent var	685.4444
Adjusted R-squared	0.799805	S.D. dependent var	85055.73
S.E. of regression	38056.64	Akaike info criterion	24.01623
Sum squared resid	5.94E+10	Schwarz criterion	24.17682
Log likelihood	-536.3651	F-statistic	59.59514
Durbin-Watson stat	2.083938	Prob(F-statistic)	0.000000

CRS I(0)

Null Hypothesis: LOGCRS has a unit root
Exogenous: Constant, Linear Trend
Lag Length: 0 (Automatic based on SIC, MAXLAG=9)

		t-Statistic	Prob.*
Augmented Dickey-Fuller test statistic		-4.393387	0.0056
Test critical values:	1% level	-4.175640	
	5% level	-3.513075	
	10% level	-3.186854	

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

Augmented Dickey-Fuller Test Equation
Dependent Variable: D(LOGCRS)
Method: Least Squares
Date: 02/12/11 Time: 01:47
Sample (adjusted): 4 48
Included observations: 45 after adjustments

Variable	Coefficient	Std. Error	t-Statistic	Prob.
LOGCRS(-1)	-0.628736	0.143110	-4.393387	0.0001
C	5.775034	5.707171	1.011891	0.3174
@TREND(1)	-0.026215	0.196279	-0.133561	0.8944

R-squared	0.314878	Mean dependent var	-0.337778
Adjusted R-squared	0.282253	S.D. dependent var	20.16954
S.E. of regression	17.08763	Akaike info criterion	8.578927
Sum squared resid	12263.45	Schwarz criterion	8.699371
Log likelihood	-190.0258	F-statistic	9.651465
Durbin-Watson stat	1.898624	Prob(F-statistic)	0.000356

DTC I(0)

Null Hypothesis: LOGDTC has a unit root
Exogenous: Constant, Linear Trend
Lag Length: 0 (Automatic based on SIC, MAXLAG=9)

		t-Statistic	Prob.*
Augmented Dickey-Fuller test statistic		-3.338908	0.0725
Test critical values:	1% level	-4.165756	
	5% level	-3.508508	
	10% level	-3.184230	

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

Augmented Dickey-Fuller Test Equation
Dependent Variable: D(LOGDTC)
Method: Least Squares
Date: 02/12/11 Time: 01:49
Sample (adjusted): 2 48
Included observations: 47 after adjustments

Variable	Coefficient	Std. Error	t-Statistic	Prob.
LOGDTC(-1)	-0.410424	0.122922	-3.338908	0.0017
C	8.452952	19.60353	0.431195	0.6684
@TREND(1)	0.925239	0.782305	1.182710	0.2433

R-squared	0.202971	Mean dependent var	1.355319
Adjusted R-squared	0.166742	S.D. dependent var	72.36481
S.E. of regression	66.05673	Akaike info criterion	11.28061
Sum squared resid	191993.6	Schwarz criterion	11.39870
Log likelihood	-262.0942	F-statistic	5.602509
Durbin-Watson stat	1.808331	Prob(F-statistic)	0.006799

DTC I(1)

Null Hypothesis: D(LOGDTC) has a unit root
Exogenous: Constant, Linear Trend
Lag Length: 0 (Automatic based on SIC, MAXLAG=9)

		t-Statistic	Prob.*
Augmented Dickey-Fuller test statistic		-7.088591	0.0000
Test critical values:	1% level	-4.170583	
	5% level	-3.510740	
	10% level	-3.185512	

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

Augmented Dickey-Fuller Test Equation
Dependent Variable: D(LOGDTC,2)
Method: Least Squares
Date: 02/12/11 Time: 01:50
Sample (adjusted): 3 48
Included observations: 46 after adjustments

Variable	Coefficient	Std. Error	t-Statistic	Prob.
D(LOGDTC(-1))	-1.215455	0.171466	-7.088591	0.0000
C	-1.424679	22.57573	-0.063107	0.9500
@TREND(1)	0.114433	0.814054	0.140571	0.8889

R-squared	0.540795	Mean dependent var	-6.571739
Adjusted R-squared	0.519437	S.D. dependent var	105.1214
S.E. of regression	72.87294	Akaike info criterion	11.47831
Sum squared resid	228350.0	Schwarz criterion	11.59756
Log likelihood	-261.0010	F-statistic	25.32005
Durbin-Watson stat	1.711984	Prob(F-statistic)	0.000000

ERAWAN I(0)

Null Hypothesis: LOGERAWAN has a unit root
Exogenous: Constant, Linear Trend
Lag Length: 0 (Automatic based on SIC, MAXLAG=9)

		t-Statistic	Prob.*
Augmented Dickey-Fuller test statistic		-4.792096	0.0018
Test critical values:	1% level	-4.165756	
	5% level	-3.508508	
	10% level	-3.184230	

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

Augmented Dickey-Fuller Test Equation
Dependent Variable: D(LOGERAWAN)
Method: Least Squares
Date: 02/12/11 Time: 02:00
Sample (adjusted): 2 48
Included observations: 47 after adjustments

Variable	Coefficient	Std. Error	t-Statistic	Prob.
LOGERAWAN(-1)	-0.672334	0.140301	-4.792096	0.0000
C	17880.39	8447.372	2.116681	0.0400
@TREND(1)	91.70002	259.8101	0.352950	0.7258

R-squared	0.345651	Mean dependent var	-330.5128
Adjusted R-squared	0.315908	S.D. dependent var	29192.38
S.E. of regression	24144.98	Akaike info criterion	23.08324
Sum squared resid	2.57E+10	Schwarz criterion	23.20134
Log likelihood	-539.4562	F-statistic	11.62120
Durbin-Watson stat	1.953121	Prob(F-statistic)	0.000089

ERAWAN I(1)

Null Hypothesis: D(LOGERAWAN) has a unit root
Exogenous: Constant, Linear Trend
Lag Length: 0 (Automatic based on SIC, MAXLAG=9)

		t-Statistic	Prob.*
Augmented Dickey-Fuller test statistic		-9.550803	0.0000
Test critical values:	1% level	-4.170583	
	5% level	-3.510740	
	10% level	-3.185512	

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

Augmented Dickey-Fuller Test Equation
Dependent Variable: D(LOGERAWAN,2)
Method: Least Squares
Date: 02/12/11 Time: 02:01
Sample (adjusted): 3 48
Included observations: 46 after adjustments

Variable	Coefficient	Std. Error	t-Statistic	Prob.
D(LOGERAWAN(-1))	-1.350722	0.141425	-9.550803	0.0000
C	-651.1711	8528.437	-0.076353	0.9395
@TREND(1)	35.87405	305.9188	0.117267	0.9072

R-squared	0.679640	Mean dependent var	1707.524
Adjusted R-squared	0.664739	S.D. dependent var	47562.86
S.E. of regression	27539.71	Akaike info criterion	23.34764
Sum squared resid	3.26E+10	Schwarz criterion	23.46690
Log likelihood	-533.9957	F-statistic	45.61191
Durbin-Watson stat	2.050633	Prob(F-statistic)	0.000000

GRAND I(0)

Null Hypothesis: LOGGRAND has a unit root
Exogenous: Constant, Linear Trend
Lag Length: 9 (Automatic based on SIC, MAXLAG=9)

		t-Statistic	Prob.*
Augmented Dickey-Fuller test statistic		3.543101	1.0000
Test critical values:	1% level	-4.219126	
	5% level	-3.533083	
	10% level	-3.198312	

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

Augmented Dickey-Fuller Test Equation
Dependent Variable: D(LOGGRAND)
Method: Least Squares
Date: 02/11/11 Time: 16:39
Sample (adjusted): 11 48
Included observations: 38 after adjustments

Variable	Coefficient	Std. Error	t-Statistic	Prob.
LOGGRAND(-1)	14.42177	4.070380	3.543101	0.0015
D(LOGGRAND(-1))	-15.43482	4.078049	-3.784854	0.0008
D(LOGGRAND(-2))	-15.54298	4.077153	-3.812214	0.0008
D(LOGGRAND(-3))	-15.62522	4.096571	-3.814221	0.0008
D(LOGGRAND(-4))	-15.99820	4.068833	-3.931889	0.0006
D(LOGGRAND(-5))	-14.14748	4.268133	-3.314677	0.0027
D(LOGGRAND(-6))	-15.65202	3.999860	-3.913141	0.0006
D(LOGGRAND(-7))	-16.20016	3.651655	-4.436388	0.0001
D(LOGGRAND(-8))	-17.64647	2.997324	-5.887410	0.0000
D(LOGGRAND(-9))	-14.41729	2.427149	-5.940008	0.0000
C	-7325.618	1846.110	-3.968138	0.0005
@TREND(1)	233.7640	58.73599	3.979912	0.0005

R-squared	0.920886	Mean dependent var	1189.487
Adjusted R-squared	0.887414	S.D. dependent var	8870.087
S.E. of regression	2976.251	Akaike info criterion	19.08681
Sum squared resid	2.30E+08	Schwarz criterion	19.60394
Log likelihood	-350.6493	F-statistic	27.51258
Durbin-Watson stat	1.728899	Prob(F-statistic)	0.000000

GRAND I(1)

Null Hypothesis: D(LOGGRAND) has a unit root
Exogenous: Constant, Linear Trend
Lag Length: 9 (Automatic based on SIC, MAXLAG=9)

		t-Statistic	Prob.*
Augmented Dickey-Fuller test statistic		-1.794498	0.6871
Test critical values:	1% level	-4.226815	
	5% level	-3.536601	
	10% level	-3.200320	

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

Augmented Dickey-Fuller Test Equation
Dependent Variable: D(LOGGRAND,2)
Method: Least Squares
Date: 02/11/11 Time: 16:40
Sample (adjusted): 12 48
Included observations: 37 after adjustments

Variable	Coefficient	Std. Error	t-Statistic	Prob.
D(LOGGRAND(-1))	-22.85441	12.73582	-1.794498	0.0848
D(LOGGRAND(-1),2)	21.08332	12.60668	1.672392	0.1069
D(LOGGRAND(-2),2)	20.22644	12.46924	1.622106	0.1173
D(LOGGRAND(-3),2)	19.28661	12.34263	1.562602	0.1307
D(LOGGRAND(-4),2)	18.00758	12.14606	1.482586	0.1507
D(LOGGRAND(-5),2)	18.90945	12.22259	1.547090	0.1344
D(LOGGRAND(-6),2)	16.37072	10.94088	1.496289	0.1471
D(LOGGRAND(-7),2)	11.65496	8.671283	1.344087	0.1910
D(LOGGRAND(-8),2)	0.273796	5.887423	0.046505	0.9633
D(LOGGRAND(-9),2)	-6.779718	2.923999	-2.318646	0.0289
C	-4522.689	1719.255	-2.630609	0.0144
@TREND(1)	187.3443	62.89305	2.978776	0.0064

R-squared	0.954215	Mean dependent var	1196.232
Adjusted R-squared	0.934070	S.D. dependent var	10993.30
S.E. of regression	2822.726	Akaike info criterion	18.98540
Sum squared resid	1.99E+08	Schwarz criterion	19.50786
Log likelihood	-339.2299	F-statistic	47.36688
Durbin-Watson stat	2.103375	Prob(F-statistic)	0.000000

GRAND I(2)

Null Hypothesis: D(LOGGRAND,2) has a unit root
Exogenous: Constant, Linear Trend
Lag Length: 8 (Automatic based on SIC, MAXLAG=9)

		t-Statistic	Prob.*
Augmented Dickey-Fuller test statistic		-5.891371	0.0001
Test critical values:	1% level	-4.226815	
	5% level	-3.536601	
	10% level	-3.200320	

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

Augmented Dickey-Fuller Test Equation
Dependent Variable: D(LOGGRAND,3)
Method: Least Squares
Date: 02/11/11 Time: 16:41
Sample (adjusted): 12 48
Included observations: 37 after adjustments

Variable	Coefficient	Std. Error	t-Statistic	Prob.
D(LOGGRAND(-1),2)	-41.10978	6.977964	-5.891371	0.0000
D(LOGGRAND(-1),3)	38.57139	6.957454	5.543894	0.0000
D(LOGGRAND(-2),3)	36.42580	6.921939	5.262369	0.0000
D(LOGGRAND(-3),3)	33.57506	6.874286	4.884152	0.0000
D(LOGGRAND(-4),3)	29.81064	6.775297	4.399902	0.0002
D(LOGGRAND(-5),3)	26.84899	6.933697	3.872247	0.0007
D(LOGGRAND(-6),3)	23.79628	5.959484	3.993011	0.0005
D(LOGGRAND(-7),3)	20.48104	3.973711	5.154135	0.0000
D(LOGGRAND(-8),3)	11.08397	1.742234	6.361932	0.0000
C	-3071.654	1580.689	-1.943238	0.0629
@TREND(1)	129.6682	56.32127	2.302295	0.0296

R-squared	0.976225	Mean dependent var	1161.511
Adjusted R-squared	0.967081	S.D. dependent var	16208.38
S.E. of regression	2940.778	Akaike info criterion	19.05251
Sum squared resid	2.25E+08	Schwarz criterion	19.53143
Log likelihood	-341.4714	F-statistic	106.7597
Durbin-Watson stat	2.191944	Prob(F-statistic)	0.000000

LRH I(0)

Null Hypothesis: LOGLRH has a unit root
Exogenous: Constant, Linear Trend
Lag Length: 0 (Automatic based on SIC, MAXLAG=9)

		t-Statistic	Prob.*
Augmented Dickey-Fuller test statistic		-5.606507	0.0002
Test critical values:	1% level	-4.165756	
	5% level	-3.508508	
	10% level	-3.184230	

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

Augmented Dickey-Fuller Test Equation
Dependent Variable: D(LOGLRH)
Method: Least Squares
Date: 02/12/11 Time: 02:09
Sample (adjusted): 2 48
Included observations: 47 after adjustments

Variable	Coefficient	Std. Error	t-Statistic	Prob.
LOGLRH(-1)	-0.826728	0.147459	-5.606507	0.0000
C	178.9713	67.15694	2.664971	0.0107
@TREND(1)	0.695931	2.198467	0.316553	0.7531

R-squared	0.416935	Mean dependent var	4.940426
Adjusted R-squared	0.390432	S.D. dependent var	260.8563
S.E. of regression	203.6632	Akaike info criterion	13.53251
Sum squared resid	1825063.	Schwarz criterion	13.65061
Log likelihood	-315.0141	F-statistic	15.73162
Durbin-Watson stat	2.073987	Prob(F-statistic)	0.000007

MANRIN I(0)

Null Hypothesis: LOGMANRIN has a unit root
Exogenous: Constant, Linear Trend
Lag Length: 0 (Automatic based on SIC, MAXLAG=9)

		t-Statistic	Prob.*
Augmented Dickey-Fuller test statistic		-3.873359	0.0211
Test critical values:	1% level	-4.165756	
	5% level	-3.508508	
	10% level	-3.184230	

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

Augmented Dickey-Fuller Test Equation
Dependent Variable: D(LOGMANRIN)
Method: Least Squares
Date: 02/12/11 Time: 02:11
Sample (adjusted): 2 48
Included observations: 47 after adjustments

Variable	Coefficient	Std. Error	t-Statistic	Prob.
LOGMANRIN(-1)	-0.524678	0.135458	-3.873359	0.0004
C	27.64709	26.25508	1.053018	0.2981
@TREND(1)	0.611945	0.904305	0.676702	0.5021

R-squared	0.256018	Mean dependent var	2.893617
Adjusted R-squared	0.222200	S.D. dependent var	95.05600
S.E. of regression	83.83269	Akaike info criterion	11.75722
Sum squared resid	309228.5	Schwarz criterion	11.87532
Log likelihood	-273.2948	F-statistic	7.570598
Durbin-Watson stat	2.017108	Prob(F-statistic)	0.001494

MME I(0)

Null Hypothesis: LOGMME has a unit root
Exogenous: Constant, Linear Trend
Lag Length: 0 (Automatic based on SIC, MAXLAG=9)

		t-Statistic	Prob.*
Augmented Dickey-Fuller test statistic		-5.689663	0.0001
Test critical values:	1% level	-4.165756	
	5% level	-3.508508	
	10% level	-3.184230	

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

Augmented Dickey-Fuller Test Equation
Dependent Variable: D(LOGMME)
Method: Least Squares
Date: 02/12/11 Time: 02:13
Sample (adjusted): 2 48
Included observations: 47 after adjustments

Variable	Coefficient	Std. Error	t-Statistic	Prob.
LOGMME(-1)	-0.847179	0.148898	-5.689663	0.0000
C	131869.3	37020.99	3.562015	0.0009
@TREND(1)	-2708.452	1140.378	-2.375048	0.0220

R-squared	0.423884	Mean dependent var	-2423.470
Adjusted R-squared	0.397697	S.D. dependent var	124527.8
S.E. of regression	96643.73	Akaike info criterion	25.85715
Sum squared resid	4.11E+11	Schwarz criterion	25.97525
Log likelihood	-604.6431	F-statistic	16.18677
Durbin-Watson stat	1.717810	Prob(F-statistic)	0.000005

OHTL I(0)

Null Hypothesis: LOGOHTL has a unit root
Exogenous: Constant, Linear Trend
Lag Length: 0 (Automatic based on SIC, MAXLAG=9)

		t-Statistic	Prob.*
Augmented Dickey-Fuller test statistic		-7.187205	0.0000
Test critical values:	1% level	-4.165756	
	5% level	-3.508508	
	10% level	-3.184230	

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

Augmented Dickey-Fuller Test Equation
Dependent Variable: D(LOGOHTL)
Method: Least Squares
Date: 02/12/11 Time: 02:14
Sample (adjusted): 2 48
Included observations: 47 after adjustments

Variable	Coefficient	Std. Error	t-Statistic	Prob.
LOGOHTL(-1)	-1.057566	0.147146	-7.187205	0.0000
C	6.469878	1.305427	4.956140	0.0000
@TREND(1)	-0.086447	0.034785	-2.485148	0.0168

R-squared	0.540370	Mean dependent var	-0.206383
Adjusted R-squared	0.519478	S.D. dependent var	4.315362
S.E. of regression	2.991396	Akaike info criterion	5.091059
Sum squared resid	393.7319	Schwarz criterion	5.209154
Log likelihood	-116.6399	F-statistic	25.86459
Durbin-Watson stat	1.963614	Prob(F-statistic)	0.000000

ROH I(0)

Null Hypothesis: LOGROH has a unit root
Exogenous: Constant, Linear Trend
Lag Length: 0 (Automatic based on SIC, MAXLAG=9)

		t-Statistic	Prob.*
Augmented Dickey-Fuller test statistic		-5.003311	0.0010
Test critical values:	1% level	-4.165756	
	5% level	-3.508508	
	10% level	-3.184230	

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

Augmented Dickey-Fuller Test Equation
Dependent Variable: D(LOGROH)
Method: Least Squares
Date: 02/12/11 Time: 02:17
Sample (adjusted): 2 48
Included observations: 47 after adjustments

Variable	Coefficient	Std. Error	t-Statistic	Prob.
LOGROH(-1)	-0.715266	0.142959	-5.003311	0.0000
C	7.094651	2.538967	2.794307	0.0077
@TREND(1)	-0.110307	0.080867	-1.364048	0.1795

R-squared	0.363460	Mean dependent var	-0.006383
Adjusted R-squared	0.334526	S.D. dependent var	9.005268
S.E. of regression	7.346191	Akaike info criterion	6.887943
Sum squared resid	2374.527	Schwarz criterion	7.006037
Log likelihood	-158.8667	F-statistic	12.56182
Durbin-Watson stat	2.064123	Prob(F-statistic)	0.000048

SHANG I(0)

Null Hypothesis: LOGSHANG has a unit root
Exogenous: Constant, Linear Trend
Lag Length: 1 (Automatic based on SIC, MAXLAG=9)

		t-Statistic	Prob.*
Augmented Dickey-Fuller test statistic		-3.968420	0.0168
Test critical values:	1% level	-4.170583	
	5% level	-3.510740	
	10% level	-3.185512	

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

Augmented Dickey-Fuller Test Equation
Dependent Variable: D(LOGSHANG)
Method: Least Squares
Date: 02/12/11 Time: 02:19
Sample (adjusted): 3 48
Included observations: 46 after adjustments

Variable	Coefficient	Std. Error	t-Statistic	Prob.
LOGSHANG(-1)	-0.750449	0.189105	-3.968420	0.0003
D(LOGSHANG(-1))	0.010006	0.152391	0.065657	0.9480
C	17.89805	8.058106	2.221124	0.0318
@TREND(1)	-0.275819	0.239546	-1.151424	0.2561

R-squared	0.373821	Mean dependent var	-0.467391
Adjusted R-squared	0.329094	S.D. dependent var	24.27294
S.E. of regression	19.88168	Akaike info criterion	8.900416
Sum squared resid	16601.81	Schwarz criterion	9.059428
Log likelihood	-200.7096	F-statistic	8.357836
Durbin-Watson stat	1.954865	Prob(F-statistic)	0.000179

ราคาน้ำมัน

เนื่องจากการหาค่า Unit root ของทุกหลักทรัพย์ในส่วนของราคาน้ำมันนั้น ค่าที่นำมาวิเคราะห์มีค่าเท่ากันทุกค่า ทำให้เมื่อคำนวณ Unit root ออกมา ทุกหลักทรัพย์ได้ค่าเหมือนกันทั้งหมด ดังนั้นจึงให้หลักทรัพย์ ASIA เป็นตัวแทนของทุกหลักทรัพย์

DIEDEL I(0)

Null Hypothesis: LOGASIA has a unit root
Exogenous: Constant
Lag Length: 1 (Automatic based on SIC, MAXLAG=9)

		t-Statistic	Prob.*
Augmented Dickey-Fuller test statistic		-2.912632	0.0516
Test critical values:	1% level	-3.581152	
	5% level	-2.926622	
	10% level	-2.601424	

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

Augmented Dickey-Fuller Test Equation
Dependent Variable: D(LOGASIA)
Method: Least Squares
Date: 02/12/11 Time: 03:07
Sample (adjusted): 3 48
Included observations: 46 after adjustments

Variable	Coefficient	Std. Error	t-Statistic	Prob.
LOGASIA(-1)	-0.175501	0.060255	-2.912632	0.0057
D(LOGASIA(-1))	0.532389	0.127199	4.185492	0.0001
C	4.927912	1.686139	2.922602	0.0055

R-squared	0.336141	Mean dependent var	0.153261
Adjusted R-squared	0.305263	S.D. dependent var	2.222042
S.E. of regression	1.852091	Akaike info criterion	4.133501
Sum squared resid	147.5004	Schwarz criterion	4.252761
Log likelihood	-92.07053	F-statistic	10.88638
Durbin-Watson stat	2.196465	Prob(F-statistic)	0.000149

DIEDEL I(1)

Null Hypothesis: D(LOGASIA) has a unit root
Exogenous: Constant
Lag Length: 0 (Automatic based on SIC, MAXLAG=9)

		t-Statistic	Prob.*
Augmented Dickey-Fuller test statistic		-4.071114	0.0026
Test critical values:	1% level	-3.581152	
	5% level	-2.926622	
	10% level	-2.601424	

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

Augmented Dickey-Fuller Test Equation
Dependent Variable: D(LOGASIA,2)
Method: Least Squares
Date: 02/12/11 Time: 03:09
Sample (adjusted): 3 48
Included observations: 46 after adjustments

Variable	Coefficient	Std. Error	t-Statistic	Prob.
D(LOGASIA(-1))	-0.547103	0.134386	-4.071114	0.0002
C	0.081979	0.296143	0.276822	0.7832

R-squared	0.273615	Mean dependent var	-0.004130
Adjusted R-squared	0.257107	S.D. dependent var	2.324377
S.E. of regression	2.003410	Akaike info criterion	4.270083
Sum squared resid	176.6006	Schwarz criterion	4.349589
Log likelihood	-96.21191	F-statistic	16.57397
Durbin-Watson stat	1.998765	Prob(F-statistic)	0.000192

อัตราแลกเปลี่ยนเงินตราระหว่างประเทศ (บาท/ดอลลาร์)

เนื่องจากการหาค่า Unit root ของทุกหลักทรัพย์ในส่วนของอัตราแลกเปลี่ยนเงินตราระหว่างประเทศ (บาท/ดอลลาร์) นั้น ค่าที่นำมาวิเคราะห์มีค่าเท่ากันทุกค่า ทำให้เมื่อคำนวณ Unit root ออกมา ทุกหลักทรัพย์ได้ค่าเหมือนกันทั้งหมด ดังนั้นจึงให้หลักทรัพย์ ASIA เป็นตัวแทนของทุกหลักทรัพย์

Exchange I(0)

Null Hypothesis: LOGASIA has a unit root
Exogenous: Constant
Lag Length: 1 (Automatic based on SIC, MAXLAG=9)

		t-Statistic	Prob.*
Augmented Dickey-Fuller test statistic		-0.792182	0.8119
Test critical values:	1% level	-3.581152	
	5% level	-2.926622	
	10% level	-2.601424	

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

Augmented Dickey-Fuller Test Equation
Dependent Variable: D(LOGASIA)
Method: Least Squares
Date: 02/12/11 Time: 03:12
Sample (adjusted): 3 48
Included observations: 46 after adjustments

Variable	Coefficient	Std. Error	t-Statistic	Prob.
LOGASIA(-1)	-0.049048	0.061915	-0.792182	0.4326
D(LOGASIA(-1))	0.077362	0.157295	0.491831	0.6253
C	1.537388	2.081301	0.738667	0.4641

R-squared	0.016160	Mean dependent var	-0.115000
Adjusted R-squared	-0.029600	S.D. dependent var	0.586435
S.E. of regression	0.595050	Akaike info criterion	1.862652
Sum squared resid	15.22566	Schwarz criterion	1.981912
Log likelihood	-39.84100	F-statistic	0.353157
Durbin-Watson stat	1.880436	Prob(F-statistic)	0.704486

Exchange I(1)

Null Hypothesis: D(LOGASIA) has a unit root
Exogenous: Constant
Lag Length: 0 (Automatic based on SIC, MAXLAG=9)

		t-Statistic	Prob.*
Augmented Dickey-Fuller test statistic		-6.370476	0.0000
Test critical values:	1% level	-3.581152	
	5% level	-2.926622	
	10% level	-2.601424	

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

Augmented Dickey-Fuller Test Equation
Dependent Variable: D(LOGASIA,2)
Method: Least Squares
Date: 02/12/11 Time: 03:13
Sample (adjusted): 3 48
Included observations: 46 after adjustments

Variable	Coefficient	Std. Error	t-Statistic	Prob.
D(LOGASIA(-1))	-0.957633	0.150324	-6.370476	0.0000
C	-0.109851	0.089253	-1.230791	0.2249

R-squared	0.479801	Mean dependent var	0.006522
Adjusted R-squared	0.467978	S.D. dependent var	0.812350
S.E. of regression	0.592527	Akaike info criterion	1.833663
Sum squared resid	15.44786	Schwarz criterion	1.913169
Log likelihood	-40.17424	F-statistic	40.58296
Durbin-Watson stat	1.872831	Prob(F-statistic)	0.000000

ราคาทองคำแท่ง

เนื่องจากการหาค่า Unit root ของทุกหลักทรัพย์ในส่วนของราคาทองคำแท่งนั้น ค่าที่นำมาวิเคราะห์มีค่าเท่ากันทุกค่า ทำให้เมื่อคำนวณ Unit root ออกมา ทุกหลักทรัพย์ได้ค่าเหมือนกันทั้งหมด ดังนั้นจึงให้หลักทรัพย์ ASIA เป็นตัวแทนของทุกหลักทรัพย์

Gold96.5 I(0)

Null Hypothesis: LOGASIA has a unit root
Exogenous: Constant, Linear Trend
Lag Length: 0 (Automatic based on SIC, MAXLAG=9)

		t-Statistic	Prob.*
Augmented Dickey-Fuller test statistic		-4.016510	0.0147
Test critical values:	1% level	-4.165756	
	5% level	-3.508508	
	10% level	-3.184230	

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

Augmented Dickey-Fuller Test Equation
Dependent Variable: D(LOGASIA)
Method: Least Squares
Date: 02/12/11 Time: 03:15
Sample (adjusted): 2 48
Included observations: 47 after adjustments

Variable	Coefficient	Std. Error	t-Statistic	Prob.
LOGASIA(-1)	-0.526376	0.131053	-4.016510	0.0002
C	5149.526	1274.431	4.040648	0.0002
@TREND(1)	113.3236	28.26840	4.008844	0.0002

R-squared	0.271697	Mean dependent var	201.0915
Adjusted R-squared	0.238593	S.D. dependent var	822.8998
S.E. of regression	718.0514	Akaike info criterion	16.05266
Sum squared resid	22686302	Schwarz criterion	16.17076
Log likelihood	-374.2375	F-statistic	8.207218
Durbin-Watson stat	1.845366	Prob(F-statistic)	0.000935

Gold96.5 I(1)

Null Hypothesis: D(LOGASIA) has a unit root
Exogenous: Constant, Linear Trend
Lag Length: 0 (Automatic based on SIC, MAXLAG=9)

		t-Statistic	Prob.*
Augmented Dickey-Fuller test statistic		-7.489503	0.0000
Test critical values:	1% level	-4.170583	
	5% level	-3.510740	
	10% level	-3.185512	

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

Augmented Dickey-Fuller Test Equation
Dependent Variable: D(LOGASIA,2)
Method: Least Squares
Date: 02/12/11 Time: 03:16
Sample (adjusted): 3 48
Included observations: 46 after adjustments

Variable	Coefficient	Std. Error	t-Statistic	Prob.
D(LOGASIA(-1))	-1.132213	0.151173	-7.489503	0.0000
C	124.1252	260.9216	0.475718	0.6367
@TREND(1)	4.360297	9.364029	0.465643	0.6438

R-squared	0.566063	Mean dependent var	8.278696
Adjusted R-squared	0.545880	S.D. dependent var	1248.845
S.E. of regression	841.5771	Akaike info criterion	16.37143
Sum squared resid	30454838	Schwarz criterion	16.49069
Log likelihood	-373.5428	F-statistic	28.04636
Durbin-Watson stat	2.026352	Prob(F-statistic)	0.000000

อัตราดอกเบี้ย

เนื่องจากการหาค่า Unit root ของทุกหลักทรัพย์ในส่วนของอัตราดอกเบี้ยนั้น ค่าที่นำมาวิเคราะห์มีค่าเท่ากันทุกค่า ทำให้เมื่อคำนวณ Unit root ออกมา ทุกหลักทรัพย์ได้ค่าเหมือนกันทั้งหมด ดังนั้นจึงให้หลักทรัพย์ ASIA เป็นตัวแทนของทุกหลักทรัพย์

Interest I(0)

Null Hypothesis: LOGASIA has a unit root
Exogenous: Constant, Linear Trend
Lag Length: 1 (Automatic based on SIC, MAXLAG=9)

		t-Statistic	Prob.*
Augmented Dickey-Fuller test statistic		-2.302720	0.4241
Test critical values:	1% level	-4.170583	
	5% level	-3.510740	
	10% level	-3.185512	

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

Augmented Dickey-Fuller Test Equation
Dependent Variable: D(LOGASIA)
Method: Least Squares
Date: 02/12/11 Time: 03:18
Sample (adjusted): 3 48
Included observations: 46 after adjustments

Variable	Coefficient	Std. Error	t-Statistic	Prob.
LOGASIA(-1)	-0.138174	0.060005	-2.302720	0.0263
D(LOGASIA(-1))	0.402285	0.138876	2.896713	0.0060
C	0.300834	0.191498	1.570955	0.1237
@TREND(1)	-0.004580	0.004034	-1.135379	0.2627

R-squared	0.302358	Mean dependent var	-0.056957
Adjusted R-squared	0.252526	S.D. dependent var	0.204851
S.E. of regression	0.177107	Akaike info criterion	-0.541184
Sum squared resid	1.317410	Schwarz criterion	-0.382172
Log likelihood	16.44723	F-statistic	6.067590
Durbin-Watson stat	2.098446	Prob(F-statistic)	0.001581

Interest I(1)

Null Hypothesis: D(LOGASIA) has a unit root
Exogenous: Constant, Linear Trend
Lag Length: 0 (Automatic based on SIC, MAXLAG=9)

		t-Statistic	Prob.*
Augmented Dickey-Fuller test statistic		-4.529025	0.0038
Test critical values:	1% level	-4.170583	
	5% level	-3.510740	
	10% level	-3.185512	

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

Augmented Dickey-Fuller Test Equation
Dependent Variable: D(LOGASIA,2)
Method: Least Squares
Date: 02/12/11 Time: 03:19
Sample (adjusted): 3 48
Included observations: 46 after adjustments

Variable	Coefficient	Std. Error	t-Statistic	Prob.
D(LOGASIA(-1))	-0.650606	0.143653	-4.529025	0.0000
C	-0.118117	0.062668	-1.884822	0.0662
@TREND(1)	0.003405	0.002161	1.575209	0.1225

R-squared	0.323550	Mean dependent var	0.006739
Adjusted R-squared	0.292087	S.D. dependent var	0.220777
S.E. of regression	0.185756	Akaike info criterion	-0.465768
Sum squared resid	1.483733	Schwarz criterion	-0.346509
Log likelihood	13.71267	F-statistic	10.28357
Durbin-Watson stat	2.008928	Prob(F-statistic)	0.000224

ภาคผนวก ค

ผลการทดสอบ ARDL Approach to Cointegration

ASIA

Autoregressive Distributed Lag Estimates

ARDL(3,0,0,1,0,3) selected based on Akaike Information Criterion

Dependent variable is P

45 observations used for estimation from 2007M4 to 2010M12

Regressor	Coefficient	Standard Error	T-Ratio[Prob]
P(-1)	.066322	.16728	.39646[.694]
P(-2)	-.19988	.13636	-1.4658[.153]
P(-3)	-.12982	.072601	-1.7881[.084]
VO	.0064417	.0063630	1.0124[.319]
DIE	.42355	.10008	4.2320[.000]
EX	-.84812	.51435	-1.6489[.109]
EX(-1)	.74663	.62873	1.1875[.244]
GOL	-.17459	.13175	-1.3252[.195]
INT	-.17178	.088877	-1.9328[.062]
INT(-1)	.0038491	.12548	.030676[.976]
INT(-2)	.013716	.12471	.10999[.913]
INT(-3)	.22288	.080378	2.7729[.009]

Regressor	Coefficient	Standard Error	T-Ratio[Prob]
C	2.3203	.80662	2.8765[.007]
T	-.0026178	.0011798	-2.2189[.034]

R-Squared .93891 R-Bar-Squared .91329

S.E. of Regression .018280 F-stat. F(13, 31) 36.6476[.000]

Residual Sum of Squares .010359 Equation Log-likelihood 124.6200

Akaike Info. Criterion 110.6200 Schwarz Bayesian Criterion 97.9733

CAWOW

Autoregressive Distributed Lag Estimates

ARDL(1,3,0,2,0,3) selected based on Akaike Information Criterion

Dependent variable is P

45 observations used for estimation from 2007M4 to 2010M12

Regressor	Coefficient	Standard Error	T-Ratio[Prob]
P(-1)	.41492	.12942	3.2060[.003]
VO	-.034243	.011543	-2.9665[.006]
VO(-1)	-.014457	.013793	-1.0481[.303]
VO(-2)	-.031289	.013169	-2.3760[.024]
VO(-3)	-.033210	.012949	-2.5647[.016]
DIE	.069256	.24613	.28138[.780]
EX	-1.3958	1.2805	-1.0900[.285]
EX(-1)	-2.1602	1.7629	-1.2254[.230]
EX(-2)	3.4859	1.4917	2.3369[.027]
GOL	-.078188	.33751	-.23166[.818]
INT	.48278	.24455	1.9741[.058]
INT(-1)	.19374	.35891	.53978[.593]
Regressor	Coefficient	Standard Error	T-Ratio[Prob]
INT(-2)	-.42955	.37159	-1.1560[.257]
INT(-3)	-.48332	.24971	-1.9355[.063]
C	1.3154	2.0696	.63556[.530]
T	-.017941	.0053539	-3.3509[.002]

R-Squared .99309 R-Bar-Squared .98951

S.E. of Regression .043512 F-stat. F(15, 29) 277.7237[.000]

Residual Sum of Squares .054904 Equation Log-likelihood 87.0963

Akaike Info. Criterion 71.0963 Schwarz Bayesian Criterion 56.6430

CENTEL

Autoregressive Distributed Lag Estimates

ARDL(3,3,2,1,0,1) selected based on Akaike Information Criterion

Dependent variable is P

45 observations used for estimation from 2007M4 to 2010M12

Regressor	Coefficient	Standard Error	T-Ratio[Prob]
P(-1)	.92198	.17463	5.2797[.000]
P(-2)	-.63908	.21041	-3.0373[.005]
P(-3)	.20164	.16182	1.2460[.223]
VO	.018595	.013266	1.4016[.172]
VO(-1)	-.021188	.012568	-1.6859[.103]
VO(-2)	.035852	.013639	2.6286[.014]
VO(-3)	.032839	.012504	2.6264[.014]
DIE	.33813	.21875	1.5457[.133]
DIE(-1)	.095817	.28464	.33663[.739]
DIE(-2)	-.35133	.19832	-1.7715[.087]
EX	-1.9737	.85847	-2.2991[.029]
EX(-1)	1.1719	.89645	1.3072[.202]
Regressor	Coefficient	Standard Error	T-Ratio[Prob]
GOL	.14485	.20223	.71625[.480]
INT	.41453	.15701	2.6402[.013]
INT(-1)	-.30553	.13892	-2.1994[.036]
C	.63612	1.4070	.45211[.655]
T	-.0034367	.0018951	-1.8134[.080]

R-Squared .95209 R-Bar-Squared .92471

S.E. of Regression .028519 F-stat. F(16, 28) 34.7755[.000]

Residual Sum of Squares .022774 Equation Log-likelihood 106.8958

Akaike Info. Criterion 89.8958 Schwarz Bayesian Criterion 74.5392

CSR

Autoregressive Distributed Lag Estimates

ARDL(1,1,3,1,3,3) selected based on Akaike Information Criterion

Dependent variable is P

45 observations used for estimation from 2007M4 to 2010M12

Regressor	Coefficient	Standard Error	T-Ratio[Prob]
P(-1)	.57387	.091376	6.2803[.000]
VO	-.023459	.0066315	-3.5376[.002]
VO(-1)	-.013586	.0073921	-1.8380[.078]
DIE	.58969	.17293	3.4100[.002]
DIE(-1)	-.36131	.21433	-1.6857[.104]
DIE(-2)	-.062049	.21515	-.28840[.775]
DIE(-3)	.39225	.15069	2.6031[.015]
EX	-.53555	.53378	-1.0033[.325]
EX(-1)	.73312	.66289	1.1059[.279]
GOL	-.26264	.16684	-1.5743[.128]
GOL(-1)	-.39150	.18583	-2.1068[.045]
GOL(-2)	-.096952	.18114	-.53523[.597]
Regressor	Coefficient	Standard Error	T-Ratio[Prob]
GOL(-3)	-.27781	.16615	-1.6721[.107]
INT	-.055666	.11523	-.48311[.633]
INT(-1)	-.28651	.13063	-2.1934[.037]
INT(-2)	.19805	.12258	1.6157[.118]
INT(-3)	.18337	.10389	1.7649[.089]
C	3.6851	1.0366	3.5548[.001]
T	.0078358	.0024515	3.1963[.004]

R-Squared .89450 R-Bar-Squared .82146

S.E. of Regression .020463 F-stat. F(18, 26) 12.2466[.000]

Residual Sum of Squares .010887 Equation Log-likelihood 123.5026

Akaike Info. Criterion 104.5026 Schwarz Bayesian Criterion 87.3393

DTC

Autoregressive Distributed Lag Estimates

ARDL(1,1,3,1,1,0) selected based on Akaike Information Criterion

Dependent variable is P

45 observations used for estimation from 2007M4 to 2010M12

Regressor	Coefficient	Standard Error	T-Ratio[Prob]
P(-1)	.76496	.11478	6.6647[.000]
VO	-.0069583	.014446	-.48167[.633]
VO(-1)	.030146	.014602	2.0645[.047]
DIE	.52383	.24109	2.1727[.038]
DIE(-1)	-.67166	.33198	-2.0232[.052]
DIE(-2)	.80047	.30664	2.6105[.014]
DIE(-3)	-.60501	.21275	-2.8438[.008]
EX	-1.9230	.83274	-2.3092[.028]
EX(-1)	1.6213	.90075	1.8000[.082]
GOL	.53074	.27062	1.9612[.059]
GOL(-1)	-.55319	.24443	-2.2631[.031]
INT	-.0095927	.077913	-.12312[.903]
Regressor	Coefficient	Standard Error	T-Ratio[Prob]
C	.81358	1.8229	.44632[.658]
T	-.9964E-3	.0026196	-.38036[.706]

R-Squared .94133 R-Bar-Squared .91673

S.E. of Regression .033002 F-stat. F(13, 31) 38.2611[.000]

Residual Sum of Squares .033764 Equation Log-likelihood 98.0359

Akaike Info. Criterion 84.0359 Schwarz Bayesian Criterion 71.3893

GRAND

Autoregressive Distributed Lag Estimates

ARDL(0,2,3,0,2) selected based on Akaike Information Criterion

Dependent variable is P

45 observations used for estimation from 2007M4 to 2010M12

Regressor	Coefficient	Standard Error	T-Ratio[Prob]
DIE	-.37234	.50274	-.74061[.464]
DIE(-1)	.76642	.60805	1.2605[.217]
DIE(-2)	-.96933	.39684	-2.4426[.020]
EX	-5.8756	1.5368	-3.8232[.001]
EX(-1)	4.9025	2.2123	2.2160[.034]
EX(-2)	-2.0666	2.1872	-.94484[.352]
EX(-3)	-3.3094	1.8993	-1.7425[.091]
GOL	-.16989	.38463	-.44169[.662]
INT	1.0093	.30657	3.2922[.002]
INT(-1)	-1.1803	.39278	-3.0049[.005]
INT(-2)	.55150	.30874	1.7863[.084]
C	11.8626	3.4109	3.4779[.001]

Regressor	Coefficient	Standard Error	T-Ratio[Prob]
T	-.012927	.0045825	-2.8208[.008]

R-Squared .94804 R-Bar-Squared .92856

S.E. of Regression .061945 F-stat. F(12, 32) 48.6589[.000]

Residual Sum of Squares .12279 Equation Log-likelihood 68.9863

Akaike Info. Criterion 55.9863 Schwarz Bayesian Criterion 44.2430

LRH

Autoregressive Distributed Lag Estimates

ARDL(2,1,0,2,0,0) selected based on Akaike Information Criterion

Dependent variable is P

45 observations used for estimation from 2007M4 to 2010M12

Regressor	Coefficient	Standard Error	T-Ratio[Prob]
P(-1)	.99023	.18103	5.4698[.000]
P(-2)	-.31196	.18678	-1.6703[.104]
VO	.016065	.018290	.87836[.386]
VO(-1)	-.022561	.018074	-1.2482[.221]
DIE	-.019498	.15292	-.12751[.899]
EX	-2.2280	.97097	-2.2947[.028]
EX(-1)	1.5248	1.2086	1.2616[.216]
EX(-2)	-2.3145	1.1007	-2.1027[.043]
GOL	-.20830	.23884	-.87214[.389]
INT	-.14132	.076723	-1.8419[.074]
C	6.1080	2.1565	2.8323[.008]
T	-.0027464	.0021943	-1.2516[.220]

R-Squared .92438 R-Bar-Squared .89917

S.E. of Regression .038584 F-stat. F(11, 33) 36.6727[.000]

Residual Sum of Squares .049127 Equation Log-likelihood 89.5981

Akaike Info. Criterion 77.5981 Schwarz Bayesian Criterion 66.7581

MANRIN

Autoregressive Distributed Lag Estimates

ARDL(3,0,0,1,3,3) selected based on Akaike Information Criterion

Dependent variable is P

45 observations used for estimation from 2007M4 to 2010M12

Regressor	Coefficient	Standard Error	T-Ratio[Prob]
P(-1)	.69948	.17539	3.9880[.000]
P(-2)	.42269	.16668	2.5359[.017]
P(-3)	-.26754	.17212	-1.5544[.131]
VO	-.017452	.013411	-1.3013[.204]
DIE	.61299	.25891	2.3676[.025]
EX	-2.8325	1.3264	-2.1355[.042]
EX(-1)	2.9340	1.5642	1.8756[.071]
GOL	-.37875	.37773	-1.0027[.325]
GOL(-1)	-.48356	.41363	-1.1690[.252]
GOL(-2)	.044302	.43034	.10295[.919]
GOL(-3)	-.71643	.38567	-1.8576[.074]
INT	.17350	.23664	.73318[.470]
INT(-1)	-.67204	.30502	-2.2033[.036]
INT(-2)	.23299	.31716	.73460[.469]
INT(-3)	.28921	.23374	1.2374[.226]
C	5.2304	2.9209	1.7907[.084]
T	.010256	.0047158	2.1747[.038]

R-Squared .96009 R-Bar-Squared .93728

S.E. of Regression .049527 F-stat. F(16, 28) 42.0960[.000]

Residual Sum of Squares .068683 Equation Log-likelihood 82.0584

Akaike Info. Criterion 65.0584 Schwarz Bayesian Criterion 49.7017

MME

Autoregressive Distributed Lag Estimates

ARDL(3,2,0,3,0,0) selected based on Akaike Information Criterion

Dependent variable is P

45 observations used for estimation from 2007M4 to 2010M12

Regressor	Coefficient	Standard Error	T-Ratio[Prob]
P(-1)	.73528	.14414	5.1011[.000]
P(-2)	-.51445	.16612	-3.0969[.004]
P(-3)	.38272	.13842	2.7650[.010]
VO	.051772	.014190	3.6484[.001]
VO(-1)	-.028077	.015564	-1.8040[.081]
VO(-2)	.028150	.015227	1.8487[.074]
DIE	.015030	.20138	.074637[.941]
EX	-2.2859	1.0784	-2.1198[.042]
EX(-1)	-.48028	1.4772	-.32512[.747]
EX(-2)	-.63021	1.4383	-.43817[.664]
EX(-3)	-2.3140	1.3034	-1.7753[.086]
GOL	-.44671	.29867	-1.4957[.145]
INT	-.38484	.10934	-3.5195[.001]
C	10.6976	2.7524	3.8866[.001]
T	-.011697	.0029553	-3.9579[.000]

R-Squared .97485 R-Bar-Squared .96311

S.E. of Regression .045028 F-stat. F(14, 30) 83.0617[.000]

Residual Sum of Squares .060825 Equation Log-likelihood 84.7920

Akaike Info. Criterion 69.7920 Schwarz Bayesian Criterion 56.2420

OHTL

Autoregressive Distributed Lag Estimates

ARDL(1,0,0,0,0,0) selected based on Akaike Information Criterion

Dependent variable is P

45 observations used for estimation from 2007M4 to 2010M12

Regressor	Coefficient	Standard Error	T-Ratio[Prob]
P(-1)	.25999	.10114	2.5706[.014]
VO	-.0082326	.0041274	-1.9946[.053]
DIE	.033762	.025634	1.3171[.196]
EX	-.11231	.10950	-1.0257[.312]
GOL	.055300	.049561	1.1158[.272]
INT	-.0046477	.011027	-.42148[.676]
C	1.9281	.35080	5.4963[.000]
T	-.0012460	.4003E-3	-3.1128[.004]

R-Squared .71302 R-Bar-Squared .65872

S.E. of Regression .0087141 F-stat. F(7, 37) 13.1325[.000]

Mean of Dependent Variable 2.7013 S.D. of Dependent Variable .014917

Akaike Info. Criterion 145.9784 Schwarz Bayesian Criterion 138.7517

DW-statistic 2.0860 Durbin's h-statistic -.39262[.695]

ROH

Autoregressive Distributed Lag Estimates

ARDL(1,3,1,3,3,0) selected based on Akaike Information Criterion

Dependent variable is P

45 observations used for estimation from 2007M4 to 2010M12

Regressor	Coefficient	Standard Error	T-Ratio[Prob]
P(-1)	.67402	.11530	5.8459[.000]
VO	.014441	.0095823	1.5071[.143]
VO(-1)	.024457	.0080589	3.0348[.005]
VO(-2)	.0043457	.0075405	.57632[.569]
VO(-3)	.017501	.0077169	2.2679[.032]
DIE	-.69215	.23080	-2.9990[.006]
DIE(-1)	.33288	.18036	1.8456[.076]
EX	.75100	.53899	1.3933[.175]
EX(-1)	-.90786	.74336	-1.2213[.233]
EX(-2)	.049697	.90654	.054820[.957]
EX(-3)	-2.2510	.63730	-3.5321[.002]
GOL	.23119	.18485	1.2507[.222]
GOL(-1)	.38984	.18482	2.1093[.044]
GOL(-2)	.32625	.19473	1.6754[.105]
GOL(-3)	.21875	.17019	1.2853[.210]
INT	-.27615	.068610	-4.0250[.000]
C	.12668	1.5486	.081802[.935]
T	-.013951	.0028720	-4.8577[.000]

R-Squared .94545 R-Bar-Squared .91110

S.E. of Regression .021095 F-stat. F(17, 27) 27.5255[.000]

Residual Sum of Squares .012015 Equation Log-likelihood 121.2828

Akaike Info. Criterion 103.2828 Schwarz Bayesian Criterion 87.0229

SHANG

Autoregressive Distributed Lag Estimates

ARDL(1,2,3,0,0,3) selected based on Akaike Information Criterion

Dependent variable is P

45 observations used for estimation from 2007M4 to 2010M12

Regressor	Coefficient	Standard Error	T-Ratio[Prob]
P(-1)	.26229	.12708	2.0641[.048]
VO	.0024866	.0075853	.32781[.745]
VO(-1)	.030031	.0071364	4.2081[.000]
VO(-2)	.010772	.0056996	1.8899[.069]
DIE	.40890	.13269	3.0817[.004]
DIE(-1)	-.35310	.18042	-1.9571[.060]
DIE(-2)	.094868	.17468	.54310[.591]
DIE(-3)	.32037	.12662	2.5301[.017]
EX	-.26109	.32919	-.79314[.434]
GOL	.33717	.13624	2.4748[.019]
INT	-.026025	.094704	-.27480[.785]
INT(-1)	-.22538	.10579	-2.1305[.042]
INT(-2)	-.13825	.11959	-1.1560[.257]
INT(-3)	.47791	.10112	4.7261[.000]
C	-.43322	.87177	-.49694[.623]
T	-.0047567	.0012466	-3.8158[.001]

R-Squared .97468 R-Bar-Squared .96159

S.E. of Regression .017970 F-stat. F(15, 29) 74.4266[.000]

Residual Sum of Squares .0093642 Equation Log-likelihood 126.8920

Akaike Info. Criterion 110.8920 Schwarz Bayesian Criterion 96.4387

ภาคผนวก ง

ผลการทดสอบ Estimated Long Run Coefficients using the ARDL Approach

ASIA

Estimated Long Run Coefficients using the ARDL Approach

ARDL(3,0,0,1,0,3) selected based on Akaike Information Criterion

Dependent variable is P

45 observations used for estimation from 2007M4 to 2010M12

Regressor	Coefficient	Standard Error	T-Ratio[Prob]
VO	.0050988	.0051221	.99544[.327]
DIE	.33525	.069280	4.8391[.000]
EX	-.080330	.23273	-.34517[.732]
GOL	-.13819	.099545	-1.3882[.175]
INT	.054350	.024696	2.2008[.035]
C	1.8366	.55606	3.3028[.002]
T	-.0020721	.8955E-3	-2.3138[.027]

CAWOW

Estimated Long Run Coefficients using the ARDL Approach

ARDL(1,3,0,2,0,3) selected based on Akaike Information Criterion

Dependent variable is P

45 observations used for estimation from 2007M4 to 2010M12

Regressor	Coefficient	Standard Error	T-Ratio[Prob]
VO	-.19348	.035156	-5.5035[.000]
DIE	.11837	.41923	.28235[.780]
EX	-.11968	1.5921	-.075171[.941]
GOL	-.13364	.58692	-.22769[.821]
INT	-.40398	.22607	-1.7869[.084]
C	2.2482	3.6018	.62418[.537]
T	-.030664	.0049279	-6.2224[.000]

CENTEL

Estimated Long Run Coefficients using the ARDL Approach

ARDL(3,3,2,1,0,1) selected based on Akaike Information Criterion

Dependent variable is P

45 observations used for estimation from 2007M4 to 2010M12

Regressor	Coefficient	Standard Error	T-Ratio[Prob]
VO	.12823	.043660	2.9371[.007]
DIE	.16028	.23589	.67947[.502]
EX	-1.5556	1.0658	-1.4595[.156]
GOL	.28101	.41623	.67513[.505]
INT	.21146	.12324	1.7159[.097]
C	1.2341	2.5450	.48491[.632]
T	-.0066673	.0039558	-1.6854[.103]

CSR

Estimated Long Run Coefficients using the ARDL Approach

ARDL(1,1,3,1,3,3) selected based on Akaike Information Criterion

Dependent variable is P

45 observations used for estimation from 2007M4 to 2010M12

Regressor	Coefficient	Standard Error	T-Ratio[Prob]
VO	-.086935	.024809	-3.5042[.002]
DIE	1.3108	.37926	3.4563[.002]
EX	.46364	1.0005	.46341[.647]
GOL	-2.4145	.55402	-4.3582[.000]
INT	.092080	.13094	.70324[.488]
C	8.6478	2.1367	4.0472[.000]
T	.018388	.0049976	3.6794[.001]

DTC

Estimated Long Run Coefficients using the ARDL Approach

ARDL(1,1,3,1,1,0) selected based on Akaike Information Criterion

Dependent variable is P

45 observations used for estimation from 2007M4 to 2010M12

Regressor	Coefficient	Standard Error	T-Ratio[Prob]
VO	.098658	.099016	.99639[.327]
DIE	.20263	.65156	.31100[.758]
EX	-1.2835	2.7103	-.47356[.639]
GOL	-.095499	1.1550	-.082685[.935]
INT	-.040814	.32618	-.12513[.901]
C	3.4615	6.9490	.49813[.622]
T	-.0042393	.010783	-.39316[.697]

GRAND

Estimated Long Run Coefficients using the ARDL Approach

ARDL(0,2,3,0,2) selected based on Akaike Information Criterion

Dependent variable is P

45 observations used for estimation from 2007M4 to 2010M12

Regressor	Coefficient	Standard Error	T-Ratio[Prob]
DIE	-.57525	.34269	-1.6786[.103]
EX	-6.3492	1.7668	-3.5937[.001]
GOL	-.16989	.38463	-.44169[.662]
INT	.38049	.16331	2.3298[.026]
C	11.8626	3.4109	3.4779[.001]
T	-.012927	.0045825	-2.8208[.008]

LRH

Estimated Long Run Coefficients using the ARDL Approach

ARDL(2,1,0,2,0,0) selected based on Akaike Information Criterion

Dependent variable is P

45 observations used for estimation from 2007M4 to 2010M12

Regressor	Coefficient	Standard Error	T-Ratio[Prob]
VO	-.020189	.071146	-.28377[.778]
DIE	-.060603	.48763	-.12428[.902]
EX	-9.3794	3.4652	-2.7068[.011]
GOL	-.64743	.68488	-.94531[.351]
INT	-.43923	.34457	-1.2747[.211]
C	18.9845	6.5434	2.9013[.007]
T	-.0085361	.0084097	-1.0150[.317]

MANRIN

Estimated Long Run Coefficients using the ARDL Approach

ARDL(3,0,0,1,3,3) selected based on Akaike Information Criterion

Dependent variable is P

45 observations used for estimation from 2007M4 to 2010M12

Regressor	Coefficient	Standard Error	T-Ratio[Prob]
VO	-.12006	.13348	-.89944[.376]
DIE	4.2169	3.3450	1.2607[.218]
EX	.69813	8.0994	.086196[.932]
GOL	-10.5558	6.6392	-1.5899[.123]
INT	.16280	.68011	.23937[.813]
C	35.9814	18.6055	1.9339[.063]
T	.070551	.058122	1.2138[.235]

MME

Estimated Long Run Coefficients using the ARDL Approach

ARDL(3,2,0,3,0,0) selected based on Akaike Information Criterion

Dependent variable is P

45 observations used for estimation from 2007M4 to 2010M12

Regressor	Coefficient	Standard Error	T-Ratio[Prob]
VO	.13078	.074342	1.7591[.089]
DIE	.037913	.50056	.075741[.940]
EX	-14.4041	5.4068	-2.6641[.012]
GOL	-1.1268	.67529	-1.6686[.106]
INT	-.97072	.57660	-1.6835[.103]
C	26.9839	9.7843	2.7579[.010]
T	-.029504	.011190	-2.6367[.013]

OHTL

Estimated Long Run Coefficients using the ARDL Approach

ARDL(1,0,0,0,0,0) selected based on Akaike Information Criterion

Dependent variable is P

45 observations used for estimation from 2007M4 to 2010M12

Regressor	Coefficient	Standard Error	T-Ratio[Prob]
VO	-.011125	.0058264	-1.9094[.064]
DIE	.045623	.033114	1.3778[.177]
EX	-.15177	.15083	-1.0062[.321]
GOL	.074729	.066855	1.1178[.271]
INT	-.0062806	.014980	-.41926[.677]
C	2.6055	.35683	7.3017[.000]
T	-.0016837	.5500E-3	-3.0614[.004]

ROH

Estimated Long Run Coefficients using the ARDL Approach

ARDL(1,3,1,3,3,0) selected based on Akaike Information Criterion

Dependent variable is P

45 observations used for estimation from 2007M4 to 2010M12

Regressor	Coefficient	Standard Error	T-Ratio[Prob]
VO	.18635	.084793	2.1977[.037]
DIE	-1.1021	.53776	-2.0495[.050]
EX	-7.2343	3.5953	-2.0122[.054]
GOL	3.5771	1.5165	2.3587[.026]
INT	-.84715	.41470	-2.0428[.051]
C	.38862	4.7693	.081484[.936]
T	-.042798	.016471	-2.5983[.015]

SHANG

Estimated Long Run Coefficients using the ARDL Approach

ARDL(1,2,3,0,0,3) selected based on Akaike Information Criterion

Dependent variable is P

45 observations used for estimation from 2007M4 to 2010M12

Regressor	Coefficient	Standard Error	T-Ratio[Prob]
VO	.058681	.017314	3.3892[.002]
DIE	.63851	.17026	3.7503[.001]
EX	-.35392	.44175	-.80118[.430]
GOL	.45705	.19165	2.3848[.024]
INT	.11963	.048964	2.4432[.021]
C	-.58725	1.2042	-.48765[.629]
T	-.0064479	.0015654	-4.1191[.000]

ภาคผนวก จ

ผลการทดสอบ Error Correction Representation for the selected ARDL Model

ASIA

Error Correction Representation for the Selected ARDL Model

ARDL(3,0,0,1,0,3) selected based on Akaike Information Criterion

Dependent variable is dP

45 observations used for estimation from 2007M4 to 2010M12

Regressor	Coefficient	Standard Error	T-Ratio[Prob]
dP1	.32970	.16268	2.0266[.051]
dP2	.12982	.072601	1.7881[.083]
dVO	.0064417	.0063630	1.0124[.319]
dDIE	.42355	.10008	4.2320[.000]
dEX	-.84812	.51435	-1.6489[.109]
dGOL	-.17459	.13175	-1.3252[.194]
dINT	-.17178	.088877	-1.9328[.062]
dINT1	-.23660	.10319	-2.2928[.028]
dINT2	-.22288	.080378	-2.7729[.009]
dC	2.3203	.80662	2.8765[.007]
dT	-.0026178	.0011798	-2.2189[.033]
ecm(-1)	-1.2634	.19079	-6.6218[.000]

ecm = P -.0050988*VO -.33525*DIE + .080330*EX + .13819*GOL -.054350*INT -1.8366*C + .0020721*T

R-Squared .66296 R-Bar-Squared .52162

S.E. of Regression .018280 F-stat. F(11, 33) 5.5433[.000]

Mean of Dependent Variable -.0036963 S.D. of Dependent Variable .026430

Residual Sum of Squares .010359 Equation Log-likelihood 124.6200

Akaike Info. Criterion 110.6200 Schwarz Bayesian Criterion 97.9733

CAWOW

Error Correction Representation for the Selected ARDL Model

ARDL(1,3,0,2,0,3) selected based on Akaike Information Criterion

Dependent variable is dP

45 observations used for estimation from 2007M4 to 2010M12

Regressor	Coefficient	Standard Error	T-Ratio[Prob]
dVO	-.034243	.011543	-2.9665[.006]
dVO1	.064499	.017399	3.7070[.001]
dVO2	.033210	.012949	2.5647[.015]
dDIE	.069256	.24613	.28138[.780]
dEX	-1.3958	1.2805	-1.0900[.284]
dEX1	-3.4859	1.4917	-2.3369[.026]
dGOL	-.078188	.33751	-.23166[.818]
dINT	.48278	.24455	1.9741[.057]
dINT1	.91287	.30971	2.9475[.006]
dINT2	.48332	.24971	1.9355[.062]
dC	1.3154	2.0696	.63556[.530]
dT	-.017941	.0053539	-3.3509[.002]
ecm(-1)	-.58508	.12942	-4.5207[.000]

ecm = P + .19348*VO -.11837*DIE + .11968*EX + .13364*GOL + .40398*INT -2.2482*C + .030664*T

R-Squared .58232 R-Bar-Squared .36628

S.E. of Regression .043512 F-stat. F(12, 32) 3.3693[.003]

Mean of Dependent Variable -.025553 S.D. of Dependent Variable .054658

Residual Sum of Squares .054904 Equation Log-likelihood 87.0963

Akaike Info. Criterion 71.0963 Schwarz Bayesian Criterion 56.6430

CENTEL

Error Correction Representation for the Selected ARDL Model

ARDL(3,3,2,1,0,1) selected based on Akaike Information Criterion

Dependent variable is dP

45 observations used for estimation from 2007M4 to 2010M12

Regressor	Coefficient	Standard Error	T-Ratio[Prob]
dP1	.43744	.14636	2.9888[.005]
dP2	-.20164	.16182	-1.2460[.222]
dVO	.018595	.013266	1.4016[.171]
dVO1	-.068691	.015122	-4.5426[.000]
dVO2	-.032839	.012504	-2.6264[.013]
dDIE	.33813	.21875	1.5457[.132]
dDIE1	.35133	.19832	1.7715[.086]
dEX	-1.9737	.85847	-2.2991[.028]
dGOL	.14485	.20223	.71625[.479]
dINT	.41453	.15701	2.6402[.013]
dC	.63612	1.4070	.45211[.654]
dT	-.0034367	.0018951	-1.8134[.079]
ecm(-1)	-.51545	.15623	-3.2993[.002]

ecm = P -.12823*VO -.16028*DIE + 1.5556*EX -.28101*GOL -.21146*INT -1.2341*C + .0066673*T

R-Squared .67489 R-Bar-Squared .48912

S.E. of Regression .028519 F-stat. F(12, 32) 4.8438[.000]

Mean of Dependent Variable -.9974E-3 S.D. of Dependent Variable .039901

Residual Sum of Squares .022774 Equation Log-likelihood 106.8958

Akaike Info. Criterion 89.8958 Schwarz Bayesian Criterion 74.5392

CRS

Error Correction Representation for the Selected ARDL Model

ARDL(1,1,3,1,3,3) selected based on Akaike Information Criterion

Dependent variable is dP

45 observations used for estimation from 2007M4 to 2010M12

Regressor	Coefficient	Standard Error	T-Ratio[Prob]
dVO	-.023459	.0066315	-3.5376[.001]
dDIE	.58969	.17293	3.4100[.002]
dDIE1	-.33020	.14612	-2.2599[.031]
dDIE2	-.39225	.15069	-2.6031[.014]
dEX	-.53555	.53378	-1.0033[.323]
dGOL	-.26264	.16684	-1.5743[.126]
dGOL1	.37476	.19044	1.9679[.058]
dGOL2	.27781	.16615	1.6721[.105]
dINT	-.055666	.11523	-.48311[.632]
dINT1	-.38142	.11017	-3.4621[.002]
dINT2	-.18337	.10389	-1.7649[.087]
dC	3.6851	1.0366	3.5548[.001]
dT	.0078358	.0024515	3.1963[.003]
ecm(-1)	-.42613	.091376	-4.6635[.000]

ecm = P + .086935*VO -1.3108*DIE -.46364*EX + 2.4145*GOL -.092080*INT -8.6478*C -.018388*T

R-Squared .74080 R-Bar-Squared .56136

S.E. of Regression .020463 F-stat. F(13, 31) 5.7162[.000]

Mean of Dependent Variable -.2940E-3 S.D. of Dependent Variable .030896

Residual Sum of Squares .010887 Equation Log-likelihood 123.5026

Akaike Info. Criterion 104.5026 Schwarz Bayesian Criterion 87.3393

DTC

Error Correction Representation for the Selected ARDL Model

ARDL(1,1,3,1,1,0) selected based on Akaike Information Criterion

Dependent variable is dP

45 observations used for estimation from 2007M4 to 2010M12

Regressor	Coefficient	Standard Error	T-Ratio[Prob]
dVO	-.0069583	.014446	-.48167[.633]
dDIE	.52383	.24109	2.1727[.037]
dDIE1	-.19546	.21432	-.91199[.368]
dDIE2	.60501	.21275	2.8438[.007]
dEX	-1.9230	.83274	-2.3092[.027]
dGOL	.53074	.27062	1.9612[.058]
dINT	-.0095927	.077913	-.12312[.903]
dC	.81358	1.8229	.44632[.658]
dT	-.9964E-3	.0026196	-.38036[.706]
ecm(-1)	-.23504	.11478	-2.0477[.048]

ecm = P -.098658*VO -.20263*DIE + 1.2835*EX + .095499*GOL + .040814*IN

T -3.4615*C + .0042393*T

R-Squared .67788 R-Bar-Squared .54279

S.E. of Regression .033002 F-stat. F(9, 35) 7.2485[.000]

Mean of Dependent Variable -.0020559 S.D. of Dependent Variable .048808

Residual Sum of Squares .033764 Equation Log-likelihood 98.0359

Akaike Info. Criterion 84.0359 Schwarz Bayesian Criterion 71.3893

GRAND

Error Correction Representation for the Selected ARDL Model

ARDL(0,2,3,0,2) selected based on Akaike Information Criterion

Dependent variable is dP

45 observations used for estimation from 2007M4 to 2010M12

Regressor	Coefficient	Standard Error	T-Ratio[Prob]
dDIE	-.37234	.50274	-.74061[.464]
dDIE1	.96933	.39684	2.4426[.020]
dEX	-5.8756	1.5368	-3.8232[.001]
dEX1	5.3760	2.1462	2.5049[.017]
dEX2	3.3094	1.8993	1.7425[.090]
dGOL	-.16989	.38463	-.44169[.662]
dINT	1.0093	.30657	3.2922[.002]
dINT1	-.55150	.30874	-1.7863[.083]
dC	11.8626	3.4109	3.4779[.001]
dT	-.012927	.0045825	-2.8208[.008]
ecm(-1)	-1.0000	0.00	*NONE*

ecm = P + .57525*DIE + 6.3492*EX + .16989*GOL -.38049*INT -11.8626*C + .012927*T

R-Squared	.61628	R-Bar-Squared	.47239
S.E. of Regression	.061945	F-stat. F(10, 34)	5.1395[.000]
Mean of Dependent Variable	-.0028172	S.D. of Dependent Variable	.085281
Residual Sum of Squares	.12279	Equation Log-likelihood	68.9863
Akaike Info. Criterion	55.9863	Schwarz Bayesian Criterion	44.2430

LRH

Error Correction Representation for the Selected ARDL Model

ARDL(2,1,0,2,0,0) selected based on Akaike Information Criterion

Dependent variable is dP

45 observations used for estimation from 2007M4 to 2010M12

Regressor	Coefficient	Standard Error	T-Ratio[Prob]
dP1	.31196	.18678	1.6703[.104]
dVO	.016065	.018290	.87836[.386]
dDIE	-.019498	.15292	-.12751[.899]
dEX	-2.2280	.97097	-2.2947[.028]
dEX1	2.3145	1.1007	2.1027[.043]
dGOL	-.20830	.23884	-.87214[.389]
dINT	-.14132	.076723	-1.8419[.074]
dC	6.1080	2.1565	2.8323[.008]
dT	-.0027464	.0021943	-1.2516[.219]
ecm(-1)	-.32174	.13639	-2.3589[.024]

ecm = P + .020189*VO + .060603*DIE + 9.3794*EX + .64743*GOL + .43923*INT -18.9845*C + .0085361*T

R-Squared	.44805	R-Bar-Squared	.26407
S.E. of Regression	.038584	F-stat. F(9, 35)	2.9765[.010]
Mean of Dependent Variable	.0041893	S.D. of Dependent Variable	.044976
Residual Sum of Squares	.049127	Equation Log-likelihood	89.5981
Akaike Info. Criterion	77.5981	Schwarz Bayesian Criterion	66.7581

MANRIN

Error Correction Representation for the Selected ARDL Model

ARDL(3,0,0,1,3,3) selected based on Akaike Information Criterion

Dependent variable is dP

45 observations used for estimation from 2007M4 to 2010M12

Regressor	Coefficient	Standard Error	T-Ratio[Prob]
dP1	-.15516	.18259	-.84974[.402]
dP2	.26754	.17212	1.5544[.130]
dVO	-.017452	.013411	-1.3013[.203]
dDIE	.61299	.25891	2.3676[.024]
dEX	-2.8325	1.3264	-2.1355[.041]
dGOL	-.37875	.37773	-1.0027[.324]
dGOL1	.67213	.42475	1.5824[.124]
dGOL2	.71643	.38567	1.8576[.073]
dINT	.17350	.23664	.73318[.469]
dINT1	-.52220	.24463	-2.1347[.041]
dINT2	-.28921	.23374	-1.2374[.225]
dC	5.2304	2.9209	1.7907[.083]
dT	.010256	.0047158	2.1747[.037]
ecm(-1)	-.14536	.10080	-1.4421[.159]

ecm = P + .12006*VO -4.2169*DIE -.69813*EX + 10.5558*GOL -.16280*INT -35.9814*C -.070551*T

R-Squared .61226 R-Bar-Squared .39069

S.E. of Regression .049527 F-stat. F(13, 31) 3.4010[.003]

Mean of Dependent Variable -.0072961 S.D. of Dependent Variable .063449

Residual Sum of Squares .068683 Equation Log-likelihood 82.0584

Akaike Info. Criterion 65.0584 Schwarz Bayesian Criterion 49.7017

MME

Error Correction Representation for the Selected ARDL Model

ARDL(3,2,0,3,0,0) selected based on Akaike Information Criterion

Dependent variable is dP

45 observations used for estimation from 2007M4 to 2010M12

Regressor	Coefficient	Standard Error	T-Ratio[Prob]
dP1	.13173	.15355	.85786[.397]
dP2	-.38272	.13842	-2.7650[.009]
dVO	.051772	.014190	3.6484[.001]
dVO1	-.028150	.015227	-1.8487[.074]
dDIE	.015030	.20138	.074637[.941]
dEX	-2.2859	1.0784	-2.1198[.042]
dEX1	2.9443	1.4790	1.9907[.055]
dEX2	2.3140	1.3034	1.7753[.085]
dGOL	-.44671	.29867	-1.4957[.145]
dINT	-.38484	.10934	-3.5195[.001]
dC	10.6976	2.7524	3.8866[.000]
dT	-.011697	.0029553	-3.9579[.000]
ecm(-1)	-.39644	.16285	-2.4344[.021]

ecm = P -.13078*VO -.037913*DIE + 14.4041*EX + 1.1268*GOL + .97072*IN

T -26.9839*C + .029504*T

R-Squared .72744 R-Bar-Squared .60024

S.E. of Regression .045028 F-stat. F(12, 32) 6.6722[.000]

Mean of Dependent Variable -.012107 S.D. of Dependent Variable .071217

Residual Sum of Squares .060825 Equation Log-likelihood 84.7920

Akaike Info. Criterion 69.7920 Schwarz Bayesian Criterion 56.2420

OHTL

Error Correction Representation for the Selected ARDL Model

ARDL(1,0,0,0,0,0) selected based on Schwarz Bayesian Criterion

Dependent variable is dP

45 observations used for estimation from 2007M4 to 2010M12

Regressor	Coefficient	Standard Error	T-Ratio[Prob]
dVO	-.0082326	.0041274	-1.9946[.053]
dDIE	.033762	.025634	1.3171[.196]
dEX	-.11231	.10950	-1.0257[.312]
dGOL	.055300	.049561	1.1158[.272]
dINT	-.0046477	.011027	-.42148[.676]
dC	1.9281	.35080	5.4963[.000]
dT	-.0012460	.4003E-3	-3.1128[.004]
ecm(-1)	-.74001	.10114	-7.3167[.000]

ecm = P + .011125*VO -.045623*DIE + .15177*EX -.074729*GOL + .0062806*IN T -2.6055*C + .0016837*T

R-Squared	.64299	R-Bar-Squared	.57545
S.E. of Regression	.0087141	F-stat. F(7, 37)	9.5197[.000]
Mean of Dependent Variable	.5445E-3	S.D. of Dependent Variable	.013374
Residual Sum of Squares	.0028096	Equation Log-likelihood	153.9784
Akaike Info. Criterion	145.9784	Schwarz Bayesian Criterion	138.7517

ROH

Error Correction Representation for the Selected ARDL Model

ARDL(1,3,1,3,3,0) selected based on Akaike Information Criterion

Dependent variable is dP

45 observations used for estimation from 2007M4 to 2010M12

Regressor	Coefficient	Standard Error	T-Ratio[Prob]
dVO	.014441	.0095823	1.5071[.142]
dVO1	-.021847	.010293	-2.1226[.042]
dVO2	-.017501	.0077169	-2.2679[.030]
dDIE	-.69215	.23080	-2.9990[.005]
dEX	.75100	.53899	1.3933[.173]
dEX1	2.2013	.81155	2.7125[.011]
dEX2	2.2510	.63730	3.5321[.001]
dGOL	.23119	.18485	1.2507[.220]
dGOL1	-.54500	.23116	-2.3577[.025]
dGOL2	-.21875	.17019	-1.2853[.208]
dINT	-.27615	.068610	-4.0250[.000]
dC	.12668	1.5486	.081802[.935]
dT	-.013951	.0028720	-4.8577[.000]
ecm(-1)	-.32598	.11530	-2.8272[.008]

ecm = P -.18635*VO + 1.1021*DIE + 7.2343*EX -3.5771*GOL + .84715*IN

T -.38862*C + .042798*T

R-Squared .69622 R-Bar-Squared .50495

S.E. of Regression .021095 F-stat. F(13, 31) 4.7600[.000]

Mean of Dependent Variable -.0042917 S.D. of Dependent Variable .029982

Residual Sum of Squares .012015 Equation Log-likelihood 121.2828

Akaike Info. Criterion 103.2828 Schwarz Bayesian Criterion 87.0229

SHANG

Error Correction Representation for the Selected ARDL Model

ARDL(1,2,3,0,0,3) selected based on Akaike Information Criterion

Dependent variable is dP

45 observations used for estimation from 2007M4 to 2010M12

Regressor	Coefficient	Standard Error	T-Ratio[Prob]
dVO	.0024866	.0075853	.32781[.745]
dVO1	-.010772	.0056996	-1.8899[.068]
dDIE	.40890	.13269	3.0817[.004]
dDIE1	-.41524	.13479	-3.0805[.004]
dDIE2	-.32037	.12662	-2.5301[.017]
dEX	-.26109	.32919	-.79314[.434]
dGOL	.33717	.13624	2.4748[.019]
dINT	-.026025	.094704	-.27480[.785]
dINT1	-.33965	.10708	-3.1719[.003]
dINT2	-.47791	.10112	-4.7261[.000]
dC	-.43322	.87177	-.49694[.623]
dT	-.0047567	.0012466	-3.8158[.001]
ecm(-1)	-.73771	.12708	-5.8053[.000]

ecm = P -.058681*VO -.63851*DIE + .35392*EX -.45705*GOL -.11963*INT + .58725*C + .0064479*T

R-Squared .77599 R-Bar-Squared .66012

S.E. of Regression .017970 F-stat. F(12, 32) 8.3714[.000]

Mean of Dependent Variable -.0050034 S.D. of Dependent Variable .030823

Residual Sum of Squares .0093642 Equation Log-likelihood 126.8920

Akaike Info. Criterion 110.8920 Schwarz Bayesian Criterion 96.4387

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โรงเรียนยุพราชวิทยาลัยเชียงใหม่ ปีการศึกษา 2543
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