



ภาคผนวก

ลิขสิทธิ์มหาวิทยาลัยเชียงใหม่

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ภาคผนวก ก

ราคาปีของหลักทรัพย์ในกลุ่มวัสดุก่อสร้างและตกแต่งและดัชนีตลาดหลักทรัพย์

Date	SCC	SSI	TPIPL	DCC	SET
27/12/1998	55.8	2.6	5.9	0.33	356.16
3/1/1999	56	2.6	6.1	0.31	355.81
10/1/1999	60	2.8	7.5	0.29	399.42999
17/1/1999	58	2.8	7.3	0.29	381.82001
24/1/1999	59.4	2.6	7.5	0.29	376.48001
31/1/1999	57.8	2.9	7.3	0.32	363
7/2/1999	54	2.6	6.3	0.31	337.95999
14/2/1999	58.2	2.5	5.5	0.27	347.42999
21/2/1999	54.4	2.5	5.6	0.31	336.57001
28/2/1999	54.6	2.4	5.7	0.3	340.94
7/3/1999	55	1.8	6	0.31	336.20999
14/3/1999	56	1.8	5.6	0.34	345.79001
21/3/1999	56	1.9	6.2	0.62	367.69
28/3/1999	56	1.6	6.1	0.5	366.91
4/4/1999	53.8	1.4	5.7	0.42	357.10001
11/4/1999	57.2	1.5	5.7	0.67	371.95001
18/4/1999	58	1.6	6.3	1.1	402.54001
25/4/1999	60.8	1.7	7.1	0.7	401.07001
2/5/1999	71.2	2.9	8.4	0.57	459.35001
9/5/1999	76	3	13	0.6	488.35001
16/5/1999	70.4	2.8	15	1	474.89999
23/5/1999	70.4	3.6	14.75	0.85	479.32999
30/5/1999	66	4.3	13.75	0.83	453.60001
6/6/1999	66	5.2	15.5	1.15	476.47
13/6/1999	71.6	8.5	17.5	1.5	507.06
20/6/1999	68.8	8	21	1.6	518.81
27/6/1999	71.2	9.5	28.25	1.925	543.84998
4/7/1999	69.6	8.3	26.75	1.45	533.33002
11/7/1999	68	8.7	24.25	1.4	509.57999
18/7/1999	66.8	7.4	23.5	1.3	488.51001
25/7/1999	64.8	7.7	23.75	1.375	475.73001
1/8/1999	59.2	7.8	24	1.325	456.81
8/8/1999	61.2	7.4	22	1.25	437.04001
15/8/1999	59.4	6	20.75	1.35	423.78
22/8/1999	59.6	5.8	22.25	1.525	440.51001
29/8/1999	60.4	5.9	22.5	1.35	457.54001
5/9/1999	57	5.2	21.25	1.35	431.12
12/9/1999	53.6	5.7	20.5	1.3	430.91
19/9/1999	53.6	6.1	20.5	1.35	438.16

Date	SCC	SSI	TPIPL	DCC	SET
26/9/1999	48.8	5.3	15	1.2	382.01001
3/10/1999	50.6	6.3	17.25	1.125	407.23001
10/10/1999	52.8	6.8	17.25	1.2	393.01999
17/10/1999	56	6.8	16.75	1.125	385.39999
24/10/1999	53.6	7	16.5	1.025	377.16
31/10/1999	57.2	8.1	18	1.1	395.54999
7/11/1999	62.8	8	17.5	1.2	418.47
14/11/1999	64	8.3	20	1.1	432.01999
21/11/1999	59	7.7	15.75	1.175	411.54999
28/11/1999	63.6	7.4	16.75	1.05	412.31
5/12/1999	66.4	7	17.75	1.175	414.42001
12/12/1999	65.2	6.8	16.5	-	419.76999
19/12/1999	74	6.9	17	1.05	439.32001
26/12/1999	70.8	7.2	16.75	1.05	461.29001
2/1/2000	74	7.2	17	-	481.92001
9/1/2000	66.8	6.8	17.25	-	453.31
16/1/2000	66.8	7.1	17.5	1.05	474.37
23/1/2000	64.8	7.6	18	1.15	478.92001
30/1/2000	64.4	7.5	17	1.125	477.45001
6/2/2000	63.6	7.4	18	1.125	470.34
13/2/2000	58.8	7	15.5	1.3	456.12
20/2/2000	48.2	6.5	12.25	1.025	408.35001
27/2/2000	48	6.7	12.25	1.125	406.66
5/3/2000	43.2	6.2	10.75	1.05	383.13
12/3/2000	49.8	6.3	11.25	-	402.39999
19/3/2000	52	6.5	11.5	1.1	399.73999
26/3/2000	49.2	6.3	11.25	-	404.16
2/4/2000	52.6	6.1	11.25	1.075	400.32001
9/4/2000	54	6	12.5	1.275	403.45001
16/4/2000	55	6.3	15.25	1.3	414.45001
23/4/2000	52.2	6.5	12.25	-	395.06
30/4/2000	52.6	6.3	12.25	1.075	390.39999
7/5/2000	52.6	6.2	12	-	379.97
14/5/2000	48	5.9	10.75	-	345.67001
21/5/2000	44.8	4.9	9.8	1.1	343.39999
28/5/2000	43.4	4.3	8.9	-	313.07999
4/6/2000	44.2	4.6	10.5	1.1	339.28
11/6/2000	45	4.5	10.75	1.175	341.35001
18/6/2000	45.2	4.5	12.25	1.1	344.48999
25/6/2000	45	4.3	13	1.175	333.31
2/7/2000	43.4	4.1	13	1.075	325.69
9/7/2000	43.2	4.1	13.5	1.025	322.87
16/7/2000	40.4	4	13	0.96	315.57999
23/7/2000	38	3.9	12.75	0.94	305.66
30/7/2000	33.6	3.6	10	1.125	291.60001
6/8/2000	36.4	4.1	11	1.325	311.42001

Date	SCC	SSI	TPIPL	DCC	SET
13/8/2000	35.8	4	11	1.35	316.60001
20/8/2000	33.2	4	11	1.25	319.22
27/8/2000	33.4	3.7	10.5	1.2	306.84
3/9/2000	33.2	3.8	10.5	1.1	310.73001
10/9/2000	31	3.5	10	1.025	297.07001
17/9/2000	28.8	3.6	9.9	1.15	293.29999
24/9/2000	26.2	3.2	10	1.025	274.14001
1/10/2000	26.4	3.3	10.25	1	277.29001
8/10/2000	26.2	3.2	9	1	267.67999
15/10/2000	24.4	2.9	8.3	0.95	254.25999
22/10/2000	30.6	3	9	0.9	276.60001
29/10/2000	28.8	3	9.8	0.98	274.34
5/11/2000	30.2	2.9	9.8	1	287.84
12/11/2000	30.4	3	11	1.15	293.23001
19/11/2000	30	3	10.25	1.025	294.70999
26/11/2000	29.2	3	10.25	1.025	285.42001
3/12/2000	28	2.7	9.6	1.125	273.85999
10/12/2000	28.6	2.7	9.9	1.025	273.69
17/12/2000	29.2	2.5	9.9	0.98	273.17001
24/12/2000	27.6	2.5	9.9	0.99	267.09
31/12/2000	27.8	2.4	9.6	0.95	269.19
7/1/2001	30	2.5	9.9	0.97	286.76001
14/1/2001	31.6	2.7	10.25	0.96	311.25
21/1/2001	31.2	2.9	10.25	0.99	316.85999
28/1/2001	32.2	3.5	11	0.91	332.13
4/2/2001	31.2	3.4	11.25	0.95	334.10001
11/2/2001	31	3	10.5	0.9	324.72
18/2/2001	30	2.9	10.25	0.9	316
25/2/2001	29.2	2.9	10.5	0.94	324.23999
4/3/2001	29	2.7	9.9	0.92	306.04999
11/3/2001	28.2	2.7	9.7	0.94	307
18/3/2001	27.4	2.5	8.4	0.94	293
25/3/2001	27.6	2.3	6.6	0.93	290.25
1/4/2001	26	2.3	7	0.9	291.94
8/4/2001	26.2	2.3	7	0.9	282.01999
15/4/2001	28.2	2.4	10	0.92	291.28
22/4/2001	28	2.3	10	0.95	292.57999
29/4/2001	29	2.4	9.1	0.97	297.20999
6/5/2001	31.2	2.2	8.5	0.97	306.48001
13/5/2001	33.4	2	9	0.95	310.92999
20/5/2001	33.6	2.1	10.5	0.93	300.64001
27/5/2001	39.2	2.1	11.5	0.96	311.10999
3/6/2001	39.8	2.2	12.75	1.05	312.06
10/6/2001	40	2.2	12	1.225	312.29001
17/6/2001	42.2	2.4	12.25	2	323.97
24/6/2001	42	2.2	10.5	1.9	318.67001

Date	SCC	SSI	TPIPL	DCC	SET
1/7/2001	42.6	2.6	10.75	2.1	322.54999
8/7/2001	45	2.8	11.5	2.025	324.88
15/7/2001	46.6	2.5	9.9	2.5	314.31
22/7/2001	44.4	2.5	9.8	2.525	312.26999
29/7/2001	39.2	2.5	10.25	2.35	301.09
5/8/2001	39.2	2.5	10.5	2.35	315.95001
12/8/2001	43.4	2.7	11.5	2.425	315.87
19/8/2001	44	2.7	11.5	2.4	323.25
26/8/2001	48.4	2.7	12	2.375	332.17001
2/9/2001	46.8	2.8	15.5	2.4	335.57001
9/9/2001	49.4	2.6	14.75	2.225	342.32001
16/9/2001	42.6	2	9.9	1.775	288.10001
23/9/2001	41	2	10.25	1.7	274.60001
30/9/2001	40.8	2	10.75	1.625	277.04001
7/10/2001	39.8	2.1	11.25	1.95	280.88
14/10/2001	41.4	2.3	11	1.7	284.97
21/10/2001	41.2	2.5	11.5	1.95	284.72
28/10/2001	40.6	2.5	11.75	1.85	280.60001
4/11/2001	40.2	2.3	11.75	1.825	274.22
11/11/2001	36.6	2.34	10.8	2	268.10999
18/11/2001	42.8	2.42	11	1.91	275.54001
25/11/2001	43.6	2.8	12.5	2.2	296.76999
2/12/2001	44.8	2.64	12.7	2.08	302.62
9/12/2001	48.8	3	12.7	2.06	304.04999
16/12/2001	46.8	2.88	12.1	2.2	294
23/12/2001	47.2	2.9	11.6	2.2	296.69
30/12/2001	46.4	2.76	11.7	2.1	303.85001
6/1/2002	49.2	2.88	12	2.24	315.73001
13/1/2002	54	3.02	13.6	2.45	322.54999
20/1/2002	58.4	2.74	12.2	2.41	317.51999
27/1/2002	62.8	2.82	12.9	2.45	338.98999
3/2/2002	62.4	3	12.9	2.44	336.64999
10/2/2002	64.8	3.12	13.7	3.5	353.59
17/2/2002	71.6	3.24	14.2	3.95	373.01999
24/2/2002	68.4	3.16	14.2	3.85	351.32001
3/3/2002	75.6	3.26	13.5	3.875	380.64999
10/3/2002	85.4	3.24	13.3	3.75	390.64999
17/3/2002	84.2	3.12	12.9	3.8	377.39001
24/3/2002	84.8	3.2	14.8	4.35	389.31
31/3/2002	83.6	3.04	13.2	4.5	373.95001
7/4/2002	84.2	3.1	13.8	5.2	369.98999
14/4/2002	84.2	3.84	14.1	4.975	379.63
21/4/2002	85.4	4.24	14.4	5.05	386.51001
28/4/2002	84.8	4.4	14.1	6.7	376.44
5/5/2002	86	4.26	14	6.9	374.04999
12/5/2002	85.4	4.32	15.9	6.85	382.09

Date	SCC	SSI	TPIPL	DCC	SET
19/5/2002	81.8	4.7	15.1	6.65	378.23001
26/5/2002	88.4	5.6	15.8	7.3	392.09
2/6/2002	95	6.2	19	8.65	407.95999
9/6/2002	105.2	6.25	19.7	9.3	417.32999
16/6/2002	100.4	6.25	24.5	9.95	422.44
23/6/2002	93.2	6.3	22.2	9.7	395.45999
30/6/2002	95	6.05	20.9	9.5	389.10001
7/7/2002	97.4	7.35	22.8	9.75	401.10001
14/7/2002	99.2	7.5	22.7	9.65	400.66
21/7/2002	96.8	7.6	20.5	9.7	394.26999
28/7/2002	89.6	7.25	19.3	8.5	366.47
4/8/2002	96.2	7.05	18.6	8.8	370.45999
11/8/2002	87.2	6.85	18.5	8.7	367.07001
18/8/2002	94.4	7.15	17.3	8.85	373.03
25/8/2002	92.6	6.75	16.7	8.7	367.01001
1/9/2002	90.8	6.7	15.1	8.35	361.16
8/9/2002	90.8	6.45	15.7	7.7	353.54999
15/9/2002	92.6	6.4	16.4	7.95	357.14999
22/9/2002	92	6.65	15.3	8.25	351.51999
29/9/2002	81.2	6.35	14.1	7.9	338.72
6/10/2002	81.8	6.45	15	8.15	340.92001
13/10/2002	79.2	6.6	12.6	7.95	330.41
20/10/2002	86.6	7.3	13.1	8.75	342.45999
27/10/2002	90.2	7.4	12.8	9.05	348.45999
3/11/2002	100.4	7.7	14.1	9.05	357.67999
10/11/2002	100.4	7.85	13.2	9.05	355
17/11/2002	102.2	7.7	13.4	8.95	356.23999
24/11/2002	108.2	7.8	13.7	8.8	362.59
1/12/2002	112.4	8.1	13.4	8.6	364.89999
8/12/2002	113.6	9	13.4	9.1	365.09
15/12/2002	108.8	8.4	13.1	9	356.20001
22/12/2002	113	7.9	12.5	8.9	350.01001
29/12/2002	117.2	7.85	12.7	9.1	356.48001
5/1/2003	120.2	8.05	13.5	9.15	357.23001
12/1/2003	127.4	9.15	15.3	10.5	360.37
19/1/2003	125.6	8.8	15.1	11	367.16
26/1/2003	135.8	9	14.7	10.3	376.29999
2/2/2003	130.39999	8.9	15.1	10.4	370.01001
9/2/2003	131.60001	9.25	17.3	10.9	378.95001
16/2/2003	123.8	8.55	16.2	10.4	368.70999
23/2/2003	119	8.45	16.1	10.2	359.53
2/3/2003	123.2	8.8	17	10.4	361.32001
9/3/2003	122	8.05	17	10.3	358.48001
16/3/2003	125	8	17	10.6	358.23999
23/3/2003	128	8.2	17	10.8	363.62
30/3/2003	128.60001	8	16.7	11	369.53

Date	SCC	SSI	TPIPL	DCC	SET
6/4/2003	130.39999	8.1	15.2	10.9	371.92999
13/4/2003	128.60001	8.95	15	11.7	383.35999
20/4/2003	129.2	9.2	15.6	12.2	384.5
27/4/2003	120	8.55	15.8	11.5	368.53
4/5/2003	120	8.7	15.7	11.9	375.23999
11/5/2003	117	8.85	16.5	11.7	384.32001
18/5/2003	112	8.5	15.9	11.1	383
25/5/2003	119	8.75	16.1	11.3	395.51999
1/6/2003	122	8.7	16.2	11.2	403.82001
8/6/2003	125	8.6	16.2	11.5	418.20999
15/6/2003	136	8.75	16.1	11.3	427.97
22/6/2003	138	8.9	16.7	12.2	452.66
29/6/2003	143	9.75	18.7	13.1	457.51001
6/7/2003	154	9.65	21.7	14.4	495.72
13/7/2003	149	9.5	20	13.7	484.39001
20/7/2003	154	9.7	20.2	13.9	493.04001
27/7/2003	147	9.6	27.5	14.3	484.85999
3/8/2003	155	9.6	32.75	14.4	491.54001
10/8/2003	156	9.6	32.75	15.1	503.20001
17/8/2003	163	9.9	28	14.8	519.03998
24/8/2003	164	13.5	30.75	15.4	534.81
31/8/2003	170	18.3	27.5	16.2	537.71002
7/9/2003	174	19.5	25.75	15.9	557.81
14/9/2003	177	19.1	26.5	16.1	568.37
21/9/2003	174	26.25	28.25	16.9	567.21002
28/9/2003	178	28.5	29	17.9	580.87
5/10/2003	181	24.9	26.75	17.8	558.34003
12/10/2003	183	27.75	31.25	17.7	582.15002
19/10/2003	179	30	32	21	588.59998
26/10/2003	183	35.5	34.75	23.6	609.25
2/11/2003	202	38.75	38.5	23.1	639.45001
9/11/2003	208	40.25	50.5	22.5	671
16/11/2003	200	38.75	49	23.3	657.38
23/11/2003	193	35	42.75	23	613.42999
30/11/2003	208	39	42.25	23.4	646.03003
7/12/2003	208	38.5	41	22.7	659.28998
14/12/2003	228	37.75	46	20.6	674.45001
21/12/2003	230	38.75	51.5	22.5	709.15002
28/12/2003	238	33.5	45	21.5	734.89001

ภาคผนวก ข

การทดสอบ Unit Root ของตัวแปรต่าง ๆ ในแบบจำลอง

SET – None

ADF Test Statistic	-15.45844	1% Critical Value*	-2.5735
		5% Critical Value	-1.9408
		10% Critical Value	-1.6163

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

Augmented Dickey-Fuller Test Equation

Dependent Variable: D(RM)

Method: Least Squares

Date: 05/12/04 Time: 11:11

Sample(adjusted): 2 261

Included observations: 260 after adjusting endpoints

Variable	Coefficient	Std. Error	t-Statistic	Prob.
RM(-1)	-0.961433	0.062195	-15.45844	0.0000
R-squared	0.479878	Mean dependent var		0.000143
Adjusted R-squared	0.479878	S.D. dependent var		0.054090
S.E. of regression	0.039009	Akaike info criterion		-3.646202
Sum squared resid	0.394124	Schwarz criterion		-3.632507
Log likelihood	475.0062	Durbin-Watson stat		1.967874

SET – Intercept

ADF Test Statistic	-15.55381	1% Critical Value*	-3.4571
		5% Critical Value	-2.8728
		10% Critical Value	-2.5727

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

Augmented Dickey-Fuller Test Equation

Dependent Variable: D(RM)

Method: Least Squares

Date: 05/12/04 Time: 11:12

Sample(adjusted): 2 261

Included observations: 260 after adjusting endpoints

Variable	Coefficient	Std. Error	t-Statistic	Prob.
RM(-1)	-0.969189	0.062312	-15.55381	0.0000
C	0.003445	0.002424	1.421258	0.1564
R-squared	0.483918	Mean dependent var		0.000143
Adjusted R-squared	0.481918	S.D. dependent var		0.054090
S.E. of regression	0.038933	Akaike info criterion		-3.646308
Sum squared resid	0.391062	Schwarz criterion		-3.618919
Log likelihood	476.0201	F-statistic		241.9209
Durbin-Watson stat	1.965798	Prob(F-statistic)		0.000000

SET - Trend and Intercept

ADF Test Statistic	-15.67662	1% Critical Value*	-3.9966
		5% Critical Value	-3.4284
		10% Critical Value	-3.1373

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

Augmented Dickey-Fuller Test Equation

Dependent Variable: D(RM)

Method: Least Squares

Date: 05/12/04 Time: 11:13

Sample(adjusted): 2 261

Included observations: 260 after adjusting endpoints

Variable	Coefficient	Std. Error	t-Statistic	Prob.
RM(-1)	-0.978521	0.062419	-15.67662	0.0000
C	-0.003128	0.004833	-0.647210	0.5181
@TREND(1)	5.06E-05	3.22E-05	1.570505	0.1175
R-squared	0.488824	Mean dependent var		0.000143
Adjusted R-squared	0.484846	S.D. dependent var		0.054090
S.E. of regression	0.038822	Akaike info criterion		-3.648168
Sum squared resid	0.387345	Schwarz criterion		-3.607083
Log likelihood	477.2618	F-statistic		122.8812
Durbin-Watson stat	1.963760	Prob(F-statistic)		0.000000

SCC – None

ADF Test Statistic	-13.05137	1% Critical Value*	-2.5735
		5% Critical Value	-1.9408
		10% Critical Value	-1.6163

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

Augmented Dickey-Fuller Test Equation

Dependent Variable: D(RI)

Method: Least Squares

Date: 04/28/04 Time: 17:53

Sample(adjusted): 2 261

Included observations: 260 after adjusting endpoints

Variable	Coefficient	Std. Error	t-Statistic	Prob.
RI(-1)	-0.794399	0.060867	-13.05137	0.0000
R-squared	0.396745	Mean dependent var		0.000110
Adjusted R-squared	0.396745	S.D. dependent var		0.083027
S.E. of regression	0.064486	Akaike info criterion		-2.640883
Sum squared resid	1.077054	Schwarz criterion		-2.627188
Log likelihood	344.3148	Durbin-Watson stat		2.112318

SCC – Intercept

ADF Test Statistic	-16.26985	1% Critical Value*	-3.4571
		5% Critical Value	-2.8728
		10% Critical Value	-2.5727

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

Augmented Dickey-Fuller Test Equation

Dependent Variable: D(RI)

Method: Least Squares

Date: 05/12/04 Time: 10:59

Sample(adjusted): 2 261

Included observations: 260 after adjusting endpoints

Variable	Coefficient	Std. Error	t-Statistic	Prob.
RI(-1)	-1.013002	0.062263	-16.26985	0.0000
C	0.030974	0.004091	7.571416	0.0000
R-squared	0.506417	Mean dependent var		0.000110
Adjusted R-squared	0.504504	S.D. dependent var		0.083027
S.E. of regression	0.058444	Akaike info criterion		-2.833839
Sum squared resid	0.881245	Schwarz criterion		-2.806450
Log likelihood	370.3991	F-statistic		264.7081
Durbin-Watson stat	1.991077	Prob(F-statistic)		0.000000

SCC - Trend and Intercept

ADF Test Statistic	-16.61810	1% Critical Value*	-3.9966
		5% Critical Value	-3.4284
		10% Critical Value	-3.1373

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

Augmented Dickey-Fuller Test Equation

Dependent Variable: D(RI)

Method: Least Squares

Date: 05/12/04 Time: 11:00

Sample(adjusted): 2 261

Included observations: 260 after adjusting endpoints

Variable	Coefficient	Std. Error	t-Statistic	Prob.
RI(-1)	-1.035930	0.062337	-16.61810	0.0000
C	0.016013	0.007263	2.204862	0.0283
@TREND(1)	0.000120	4.83E-05	2.481878	0.0137
R-squared	0.517970	Mean dependent var		0.000110
Adjusted R-squared	0.514219	S.D. dependent var		0.083027
S.E. of regression	0.057868	Akaike info criterion		-2.849832
Sum squared resid	0.860618	Schwarz criterion		-2.808747
Log likelihood	373.4782	F-statistic		138.0809
Durbin-Watson stat	1.986872	Prob(F-statistic)		0.000000

SSI – None

ADF Test Statistic	-13.68223	1% Critical Value*	-2.5735
		5% Critical Value	-1.9408
		10% Critical Value	-1.6163

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

Augmented Dickey-Fuller Test Equation

Dependent Variable: D(RI)

Method: Least Squares

Date: 04/28/04 Time: 17:43

Sample(adjusted): 2 261

Included observations: 260 after adjusting endpoints

Variable	Coefficient	Std. Error	t-Statistic	Prob.
RI(-1)	-0.842348	0.061565	-13.68223	0.0000
R-squared	0.419539	Mean dependent var		-0.000521
Adjusted R-squared	0.419539	S.D. dependent var		0.135464
S.E. of regression	0.103208	Akaike info criterion		-1.700308
Sum squared resid	2.758823	Schwarz criterion		-1.686613
Log likelihood	222.0401	Durbin-Watson stat		2.019841

SSI – Intercept

ADF Test Statistic	-13.88945	1% Critical Value*	-3.4571
		5% Critical Value	-2.8728
		10% Critical Value	-2.5727

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

Augmented Dickey-Fuller Test Equation

Dependent Variable: D(RI)

Method: Least Squares

Date: 05/12/04 Time: 11:04

Sample(adjusted): 2 261

Included observations: 260 after adjusting endpoints

Variable	Coefficient	Std. Error	t-Statistic	Prob.
RI(-1)	-0.859711	0.061897	-13.88945	0.0000
C	0.012444	0.006435	1.933822	0.0542
R-squared	0.427832	Mean dependent var		-0.000521
Adjusted R-squared	0.425615	S.D. dependent var		0.135464
S.E. of regression	0.102666	Akaike info criterion		-1.707007
Sum squared resid	2.719406	Schwarz criterion		-1.679617
Log likelihood	223.9109	F-statistic		192.9167
Durbin-Watson stat	2.011455	Prob(F-statistic)		0.000000

SSI - Trend and Intercept

ADF Test Statistic	-13.90324	1% Critical Value*	-3.9966
		5% Critical Value	-3.4284
		10% Critical Value	-3.1373

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

Augmented Dickey-Fuller Test Equation

Dependent Variable: D(RI)

Method: Least Squares

Date: 05/12/04 Time: 11:04

Sample(adjusted): 2 261

Included observations: 260 after adjusting endpoints

Variable	Coefficient	Std. Error	t-Statistic	Prob.
RI(-1)	-0.863305	0.062094	-13.90324	0.0000
C	0.003447	0.012780	0.269716	0.7876
@TREND(1)	6.94E-05	8.51E-05	0.815031	0.4158
R-squared	0.429307	Mean dependent var	-0.000521	
Adjusted R-squared	0.424866	S.D. dependent var	0.135464	
S.E. of regression	0.102733	Akaike info criterion	-1.701896	
Sum squared resid	2.712395	Schwarz criterion	-1.660811	
Log likelihood	224.2464	F-statistic	96.66498	
Durbin-Watson stat	2.008981	Prob(F-statistic)	0.000000	

TPIPL – None

ADF Test Statistic	-14.39120	1% Critical Value*	-2.5735
		5% Critical Value	-1.9408
		10% Critical Value	-1.6163

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

Augmented Dickey-Fuller Test Equation

Dependent Variable: D(RI)

Method: Least Squares

Date: 04/28/04 Time: 18:04

Sample(adjusted): 2 261

Included observations: 260 after adjusting endpoints

Variable	Coefficient	Std. Error	t-Statistic	Prob.
RI(-1)	-0.891308	0.061934	-14.39120	0.0000
R-squared	0.444322	Mean dependent var	-0.000616	
Adjusted R-squared	0.444322	S.D. dependent var	0.138757	
S.E. of regression	0.103435	Akaike info criterion	-1.695912	
Sum squared resid	2.770978	Schwarz criterion	-1.682217	
Log likelihood	221.4686	Durbin-Watson stat	1.973437	

TPIPL – Intercept

ADF Test Statistic	-14.56157	1% Critical Value*	-3.4571
		5% Critical Value	-2.8728
		10% Critical Value	-2.5727

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

Augmented Dickey-Fuller Test Equation

Dependent Variable: D(RI)

Method: Least Squares

Date: 05/12/04 Time: 11:07

Sample(adjusted): 2 261

Included observations: 260 after adjusting endpoints

Variable	Coefficient	Std. Error	t-Statistic	Prob.
RI(-1)	-0.905664	0.062196	-14.56157	0.0000
C	0.011506	0.006442	1.786194	0.0752
R-squared	0.451110	Mean dependent var		-0.000616
Adjusted R-squared	0.448982	S.D. dependent var		0.138757
S.E. of regression	0.103000	Akaike info criterion		-1.700510
Sum squared resid	2.737130	Schwarz criterion		-1.673120
Log likelihood	223.0663	F-statistic		212.0393
Durbin-Watson stat	1.970317	Prob(F-statistic)		0.000000

TPIPL - Trend and Intercept

ADF Test Statistic	-14.53424	1% Critical Value*	-3.9966
		5% Critical Value	-3.4284
		10% Critical Value	-3.1373

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

Augmented Dickey-Fuller Test Equation

Dependent Variable: D(RI)

Method: Least Squares

Date: 05/12/04 Time: 11:08

Sample(adjusted): 2 261

Included observations: 260 after adjusting endpoints

Variable	Coefficient	Std. Error	t-Statistic	Prob.
RI(-1)	-0.905843	0.062325	-14.53424	0.0000
C	0.009820	0.012852	0.764062	0.4455
@TREND(1)	1.29E-05	8.53E-05	0.151756	0.8795
R-squared	0.451159	Mean dependent var		-0.000616
Adjusted R-squared	0.446888	S.D. dependent var		0.138757
S.E. of regression	0.103196	Akaike info criterion		-1.692907
Sum squared resid	2.736885	Schwarz criterion		-1.651823
Log likelihood	223.0780	F-statistic		105.6297
Durbin-Watson stat	1.970158	Prob(F-statistic)		0.000000

DCC – None

ADF Test Statistic	-11.31538	1% Critical Value*	-2.5738
		5% Critical Value	-1.9409
		10% Critical Value	-1.6163

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

Augmented Dickey-Fuller Test Equation

Dependent Variable: D(RI)

Method: Least Squares

Date: 04/28/04 Time: 18:13

Sample(adjusted): 2 252

Included observations: 251 after adjusting endpoints

Variable	Coefficient	Std. Error	t-Statistic	Prob.
RI(-1)	-0.675471	0.059695	-11.31538	0.0000
R-squared	0.338679	Mean dependent var	-0.000807	
Adjusted R-squared	0.338679	S.D. dependent var	0.193535	
S.E. of regression	0.157386	Akaike info criterion	-0.856255	
Sum squared resid	6.192586	Schwarz criterion	-0.842209	
Log likelihood	108.4600	Durbin-Watson stat	2.072755	

DCC – Intercept

ADF Test Statistic	-13.66618	1% Critical Value*	-3.4580
		5% Critical Value	-2.8731
		10% Critical Value	-2.5729

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

Augmented Dickey-Fuller Test Equation

Dependent Variable: D(RI)

Method: Least Squares

Date: 05/12/04 Time: 10:50

Sample(adjusted): 2 252

Included observations: 251 after adjusting endpoints

Variable	Coefficient	Std. Error	t-Statistic	Prob.
RI(-1)	-0.857605	0.062754	-13.66618	0.0000
C	0.065368	0.010443	6.259411	0.0000
R-squared	0.428590	Mean dependent var	-0.000807	
Adjusted R-squared	0.426296	S.D. dependent var	0.193535	
S.E. of regression	0.146590	Akaike info criterion	-0.994420	
Sum squared resid	5.350658	Schwarz criterion	-0.966329	
Log likelihood	126.7997	F-statistic	186.7645	
Durbin-Watson stat	1.989463	Prob(F-statistic)	0.000000	

DCC - Trend and Intercept

ADF Test Statistic	-14.95559	1% Critical Value*	-3.9978
		5% Critical Value	-3.4290
		10% Critical Value	-3.1377

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

Augmented Dickey-Fuller Test Equation

Dependent Variable: D(RI)

Method: Least Squares

Date: 05/12/04 Time: 10:56

Sample(adjusted): 2 252

Included observations: 251 after adjusting endpoints

Variable	Coefficient	Std. Error	t-Statistic	Prob.
RI(-1)	-0.948519	0.063422	-14.95559	0.0000
C	0.147814	0.020412	7.241367	0.0000
@TREND(1)	-0.000599	0.000129	-4.638606	0.0000
R-squared	0.474209	Mean dependent var	-0.000807	
Adjusted R-squared	0.469968	S.D. dependent var	0.193535	
S.E. of regression	0.140900	Akaike info criterion	-1.069653	
Sum squared resid	4.923492	Schwarz criterion	-1.027517	
Log likelihood	137.2415	F-statistic	111.8349	
Durbin-Watson stat	1.987047	Prob(F-statistic)	0.000000	

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SET - Trend and Intercept

ADF Test Statistic	-15.67662	1% Critical Value*	-3.9966
		5% Critical Value	-3.4284
		10% Critical Value	-3.1373

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

Augmented Dickey-Fuller Test Equation

Dependent Variable: D(RM)

Method: Least Squares

Date: 05/12/04 Time: 11:13

Sample(adjusted): 2 261

Included observations: 260 after adjusting endpoints

Variable	Coefficient	Std. Error	t-Statistic	Prob.
RM(-1)	-0.978521	0.062419	-15.67662	0.0000
C	-0.003128	0.004833	-0.647210	0.5181
@TREND(1)	5.06E-05	3.22E-05	1.570505	0.1175
R-squared	0.488824	Mean dependent var	0.000143	
Adjusted R-squared	0.484846	S.D. dependent var	0.054090	
S.E. of regression	0.038822	Akaike info criterion	-3.648168	
Sum squared resid	0.387345	Schwarz criterion	-3.607083	
Log likelihood	477.2618	F-statistic	122.8812	
Durbin-Watson stat	1.963760	Prob(F-statistic)	0.000000	

SCC – None

ADF Test Statistic	-13.05137	1% Critical Value*	-2.5735
		5% Critical Value	-1.9408
		10% Critical Value	-1.6163

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

Augmented Dickey-Fuller Test Equation

Dependent Variable: D(RI)

Method: Least Squares

Date: 04/28/04 Time: 17:53

Sample(adjusted): 2 261

Included observations: 260 after adjusting endpoints

Variable	Coefficient	Std. Error	t-Statistic	Prob.
RI(-1)	-0.794399	0.060867	-13.05137	0.0000
R-squared	0.396745	Mean dependent var	0.000110	
Adjusted R-squared	0.396745	S.D. dependent var	0.083027	
S.E. of regression	0.064486	Akaike info criterion	-2.640883	
Sum squared resid	1.077054	Schwarz criterion	-2.627188	
Log likelihood	344.3148	Durbin-Watson stat	2.112318	

SCC – Intercept

ADF Test Statistic	-16.26985	1% Critical Value*	-3.4571
		5% Critical Value	-2.8728
		10% Critical Value	-2.5727

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

Augmented Dickey-Fuller Test Equation

Dependent Variable: D(RI)

Method: Least Squares

Date: 05/12/04 Time: 10:59

Sample(adjusted): 2 261

Included observations: 260 after adjusting endpoints

Variable	Coefficient	Std. Error	t-Statistic	Prob.
RI(-1)	-1.013002	0.062263	-16.26985	0.0000
C	0.030974	0.004091	7.571416	0.0000
R-squared	0.506417	Mean dependent var		0.000110
Adjusted R-squared	0.504504	S.D. dependent var		0.083027
S.E. of regression	0.058444	Akaike info criterion		-2.833839
Sum squared resid	0.881245	Schwarz criterion		-2.806450
Log likelihood	370.3991	F-statistic		264.7081
Durbin-Watson stat	1.991077	Prob(F-statistic)		0.000000

SCC - Trend and Intercept

ADF Test Statistic	-16.61810	1% Critical Value*	-3.9966
		5% Critical Value	-3.4284
		10% Critical Value	-3.1373

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

Augmented Dickey-Fuller Test Equation

Dependent Variable: D(RI)

Method: Least Squares

Date: 05/12/04 Time: 11:00

Sample(adjusted): 2 261

Included observations: 260 after adjusting endpoints

Variable	Coefficient	Std. Error	t-Statistic	Prob.
RI(-1)	-1.035930	0.062337	-16.61810	0.0000
C	0.016013	0.007263	2.204862	0.0283
@TREND(1)	0.000120	4.83E-05	2.481878	0.0137
R-squared	0.517970	Mean dependent var		0.000110
Adjusted R-squared	0.514219	S.D. dependent var		0.083027
S.E. of regression	0.057868	Akaike info criterion		-2.849832
Sum squared resid	0.860618	Schwarz criterion		-2.808747
Log likelihood	373.4782	F-statistic		138.0809
Durbin-Watson stat	1.986872	Prob(F-statistic)		0.000000

SSI – None

ADF Test Statistic	-13.68223	1% Critical Value*	-2.5735
		5% Critical Value	-1.9408
		10% Critical Value	-1.6163

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

Augmented Dickey-Fuller Test Equation

Dependent Variable: D(RI)

Method: Least Squares

Date: 04/28/04 Time: 17:43

Sample(adjusted): 2 261

Included observations: 260 after adjusting endpoints

Variable	Coefficient	Std. Error	t-Statistic	Prob.
RI(-1)	-0.842348	0.061565	-13.68223	0.0000
R-squared	0.419539	Mean dependent var		-0.000521
Adjusted R-squared	0.419539	S.D. dependent var		0.135464
S.E. of regression	0.103208	Akaike info criterion		-1.700308
Sum squared resid	2.758823	Schwarz criterion		-1.686613
Log likelihood	222.0401	Durbin-Watson stat		2.019841

SSI – Intercept

ADF Test Statistic	-13.88945	1% Critical Value*	-3.4571
		5% Critical Value	-2.8728
		10% Critical Value	-2.5727

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

Augmented Dickey-Fuller Test Equation

Dependent Variable: D(RI)

Method: Least Squares

Date: 05/12/04 Time: 11:04

Sample(adjusted): 2 261

Included observations: 260 after adjusting endpoints

Variable	Coefficient	Std. Error	t-Statistic	Prob.
RI(-1)	-0.859711	0.061897	-13.88945	0.0000
C	0.012444	0.006435	1.933822	0.0542
R-squared	0.427832	Mean dependent var		-0.000521
Adjusted R-squared	0.425615	S.D. dependent var		0.135464
S.E. of regression	0.102666	Akaike info criterion		-1.707007
Sum squared resid	2.719406	Schwarz criterion		-1.679617
Log likelihood	223.9109	F-statistic		192.9167
Durbin-Watson stat	2.011455	Prob(F-statistic)		0.000000

SSI - Trend and Intercept

ADF Test Statistic	-13.90324	1% Critical Value*	-3.9966
		5% Critical Value	-3.4284
		10% Critical Value	-3.1373

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

Augmented Dickey-Fuller Test Equation

Dependent Variable: D(RI)

Method: Least Squares

Date: 05/12/04 Time: 11:04

Sample(adjusted): 2 261

Included observations: 260 after adjusting endpoints

Variable	Coefficient	Std. Error	t-Statistic	Prob.
RI(-1)	-0.863305	0.062094	-13.90324	0.0000
C	0.003447	0.012780	0.269716	0.7876
@TREND(1)	6.94E-05	8.51E-05	0.815031	0.4158
R-squared	0.429307	Mean dependent var	-0.000521	
Adjusted R-squared	0.424866	S.D. dependent var	0.135464	
S.E. of regression	0.102733	Akaike info criterion	-1.701896	
Sum squared resid	2.712395	Schwarz criterion	-1.660811	
Log likelihood	224.2464	F-statistic	96.66498	
Durbin-Watson stat	2.008981	Prob(F-statistic)	0.000000	

TPIPL – None

ADF Test Statistic	-14.39120	1% Critical Value*	-2.5735
		5% Critical Value	-1.9408
		10% Critical Value	-1.6163

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

Augmented Dickey-Fuller Test Equation

Dependent Variable: D(RI)

Method: Least Squares

Date: 04/28/04 Time: 18:04

Sample(adjusted): 2 261

Included observations: 260 after adjusting endpoints

Variable	Coefficient	Std. Error	t-Statistic	Prob.
RI(-1)	-0.891308	0.061934	-14.39120	0.0000
R-squared	0.444322	Mean dependent var	-0.000616	
Adjusted R-squared	0.444322	S.D. dependent var	0.138757	
S.E. of regression	0.103435	Akaike info criterion	-1.695912	
Sum squared resid	2.770978	Schwarz criterion	-1.682217	
Log likelihood	221.4686	Durbin-Watson stat	1.973437	

TPIPL – Intercept

ADF Test Statistic	-14.56157	1% Critical Value*	-3.4571
		5% Critical Value	-2.8728
		10% Critical Value	-2.5727

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

Augmented Dickey-Fuller Test Equation

Dependent Variable: D(RI)

Method: Least Squares

Date: 05/12/04 Time: 11:07

Sample(adjusted): 2 261

Included observations: 260 after adjusting endpoints

Variable	Coefficient	Std. Error	t-Statistic	Prob.
RI(-1)	-0.905664	0.062196	-14.56157	0.0000
C	0.011506	0.006442	1.786194	0.0752
R-squared	0.451110	Mean dependent var	-0.000616	
Adjusted R-squared	0.448982	S.D. dependent var	0.138757	
S.E. of regression	0.103000	Akaike info criterion	-1.700510	
Sum squared resid	2.737130	Schwarz criterion	-1.673120	
Log likelihood	223.0663	F-statistic	212.0393	
Durbin-Watson stat	1.970317	Prob(F-statistic)	0.000000	

TPIPL - Trend and Intercept

ADF Test Statistic	-14.53424	1% Critical Value*	-3.9966
		5% Critical Value	-3.4284
		10% Critical Value	-3.1373

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

Augmented Dickey-Fuller Test Equation

Dependent Variable: D(RI)

Method: Least Squares

Date: 05/12/04 Time: 11:08

Sample(adjusted): 2 261

Included observations: 260 after adjusting endpoints

Variable	Coefficient	Std. Error	t-Statistic	Prob.
RI(-1)	-0.905843	0.062325	-14.53424	0.0000
C	0.009820	0.012852	0.764062	0.4455
@TREND(1)	1.29E-05	8.53E-05	0.151756	0.8795
R-squared	0.451159	Mean dependent var	-0.000616	
Adjusted R-squared	0.446888	S.D. dependent var	0.138757	
S.E. of regression	0.103196	Akaike info criterion	-1.692907	
Sum squared resid	2.736885	Schwarz criterion	-1.651823	
Log likelihood	223.0780	F-statistic	105.6297	
Durbin-Watson stat	1.970158	Prob(F-statistic)	0.000000	

DCC – None

ADF Test Statistic	-11.31538	1% Critical Value*	-2.5738
		5% Critical Value	-1.9409
		10% Critical Value	-1.6163

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

Augmented Dickey-Fuller Test Equation

Dependent Variable: D(RI)

Method: Least Squares

Date: 04/28/04 Time: 18:13

Sample(adjusted): 2 252

Included observations: 251 after adjusting endpoints

Variable	Coefficient	Std. Error	t-Statistic	Prob.
RI(-1)	-0.675471	0.059695	-11.31538	0.0000
R-squared	0.338679	Mean dependent var	-0.000807	
Adjusted R-squared	0.338679	S.D. dependent var	0.193535	
S.E. of regression	0.157386	Akaike info criterion	-0.856255	
Sum squared resid	6.192586	Schwarz criterion	-0.842209	
Log likelihood	108.4600	Durbin-Watson stat	2.072755	

DCC – Intercept

ADF Test Statistic	-13.66618	1% Critical Value*	-3.4580
		5% Critical Value	-2.8731
		10% Critical Value	-2.5729

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

Augmented Dickey-Fuller Test Equation

Dependent Variable: D(RI)

Method: Least Squares

Date: 05/12/04 Time: 10:50

Sample(adjusted): 2 252

Included observations: 251 after adjusting endpoints

Variable	Coefficient	Std. Error	t-Statistic	Prob.
RI(-1)	-0.857605	0.062754	-13.66618	0.0000
C	0.065368	0.010443	6.259411	0.0000
R-squared	0.428590	Mean dependent var	-0.000807	
Adjusted R-squared	0.426296	S.D. dependent var	0.193535	
S.E. of regression	0.146590	Akaike info criterion	-0.994420	
Sum squared resid	5.350658	Schwarz criterion	-0.966329	
Log likelihood	126.7997	F-statistic	186.7645	
Durbin-Watson stat	1.989463	Prob(F-statistic)	0.000000	

DCC - Trend and Intercept

ADF Test Statistic	-14.95559	1% Critical Value*	-3.9978
		5% Critical Value	-3.4290
		10% Critical Value	-3.1377

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

Augmented Dickey-Fuller Test Equation

Dependent Variable: D(RI)

Method: Least Squares

Date: 05/12/04 Time: 10:56

Sample(adjusted): 2 252

Included observations: 251 after adjusting endpoints

Variable	Coefficient	Std. Error	t-Statistic	Prob.
RI(-1)	-0.948519	0.063422	-14.95559	0.0000
C	0.147814	0.020412	7.241367	0.0000
@TREND(1)	-0.000599	0.000129	-4.638606	0.0000
R-squared	0.474209	Mean dependent var	-0.000807	
Adjusted R-squared	0.469968	S.D. dependent var	0.193535	
S.E. of regression	0.140900	Akaike info criterion	-1.069653	
Sum squared resid	4.923492	Schwarz criterion	-1.027517	
Log likelihood	137.2415	F-statistic	111.8349	
Durbin-Watson stat	1.987047	Prob(F-statistic)	0.000000	

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ภาคผนวก ค

ผลการประมาณค่าด้วยวิธีการเส้นพรมแดนเชิงเส้น

SCC

the final mle estimates are :

	coefficient	standard-error	t-ratio
beta 0	-0.27184105E-01	0.30000817E-01	0.90611215E+00
beta 1	0.10034844E+01	0.69322828E-01	0.14475526E+02
sigma-squared	0.18670470E-02	0.16982330E-03	0.10994057E+02
gamma	0.28472649E-04	0.10008450E-01	0.28448609E-02

SSI

the final mle estimates are :

	coefficient	standard-error	t-ratio
beta 0	0.98982230E-02	0.46218987E-01	0.21415923E+00
beta 1	0.13633534E+01	0.13930280E+00	0.97869774E+01
sigma-squared	0.78395983E-02	0.67045496E-03	0.11692953E+02
gamma	0.85873885E-05	0.41729354E-02	0.20578772E-02

TPIPL

the final mle estimates are :

	coefficient	standard-error	t-ratio
beta 0	-0.84591904E-18	0.10000000E+01	-0.84591904E-18
beta 1	0.10000000E+01	0.10000000E+01	0.10000000E+01
sigma-squared	0.35963404E-36	0.10000000E+01	0.35963404E-36
gamma	0.50000000E-01	0.10000000E+01	0.50000000E-01

DCC

the final mle estimates are :

	coefficient	standard-error	t-ratio
beta 0	0.73264817E-01	0.60195772E-01	0.12171090E+01
beta 1	0.84664484E+00	0.22979456E+00	0.36843555E+01
sigma-squared	0.20672444E-01	0.17825498E-02	0.11597120E+02
gamma	0.65371315E-05	0.29223634E-02	0.22369331E-02

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ภาคผนวก ง

ผลการวิเคราะห์ถดถอยอย่างง่าย โดยวิธีกำลังสองน้อยที่สุด (OLS)

SCC

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Limited Dependent Variable Model - FRONTIER Regression
Ordinary least squares regression Weighting variable = none
Dep. var. = RI Mean= .3054352361E-01, S.D.= .5822622072E-01
Model size: Observations = 261, Parameters = 2, Deg.Fr.= 259
Residuals: Sum of squares= .4872853571, Std.Dev.= .04338
Fit: R-squared= .447194, Adjusted R-squared = .44506
Model test: F[ 1, 259] = 209.52, Prob value = .00000
Diagnostic: Log-L = 449.6441, Restricted(b=0) Log-L = 372.2905
LogAmemiyaPrCrt.= -6.268, Akaike Info. Crt.= -3.430
-----

```

Variable	Coefficient	Standard Error	b/St.Er.	P[Z >z]	Mean of X
Constant	.2699874669E-01	.26960050E-02	10.014	.0000	
RM	1.003490402	.69326903E-01	14.475	.0000	.35324473E-02

SSI

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Limited Dependent Variable Model - FRONTIER Regression
Ordinary least squares regression Weighting variable = none
Dep. var. = RI Mean= .1450437393E-01, S.D.= .1032875502
Model size: Observations = 261, Parameters = 2, Deg.Fr.= 259
Residuals: Sum of squares= 2.046140580, Std.Dev.= .08888
Fit: R-squared= .262323, Adjusted R-squared = .25947
Model test: F[ 1, 259] = 92.10, Prob value = .00000
Diagnostic: Log-L = 262.3948, Restricted(b=0) Log-L = 222.6902
LogAmemiyaPrCrt.= -4.833, Akaike Info. Crt.= -1.995
-----

```

Variable	Coefficient	Standard Error	b/St.Er.	P[Z >z]	Mean of X
Constant	.9688350068E-02	.55245479E-02	1.754	.0795	
RM	1.363367520	.14206198	9.597	.0000	.35324473E-02

TPIPL

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Limited Dependent Variable Model - FRONTIER Regression
Ordinary least squares regression Weighting variable = none
Dep. var. = RI Mean= .1284995173E-01, S.D.= .1030679641
Model size: Observations = 261, Parameters = 2, Deg.Fr.= 259
Residuals: Sum of squares= 1.895389258 , Std.Dev.= .08555
Fit: R-squared= .313757, Adjusted R-squared = .31111
Model test: F[ 1, 259] = 118.42, Prob value = .00000
Diagnostic: Log-L = 272.3821, Restricted(b=0) Log-L = 223.2457
LogAmemiyaPrCrt.= -4.910, Akaike Info. Crt.= -2.072
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```

Variable	Coefficient	Standard Error	b/St.Er.	P[Z >z]	Mean of X
Constant	.17594100665E-01	.53171415E-02	1.428	.1532	
RM	1.487878140	.13672859	10.882	.0000	.35324473E-02

DCC

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Limited Dependent Variable Model - FRONTIER Regression
Ordinary least squares regression Weighting variable = none
Dep. var. = RI Mean= .7671403297E-01, S.D.= .1476161587
Model size: Observations = 252, Parameters = 2, Deg.Fr.= 250
Residuals: Sum of squares= 5.209496839 , Std.Dev.= .14435
Fit: R-squared= .047524, Adjusted R-squared = .04371
Model test: F[ 1, 250] = 12.47, Prob value = .00049
Diagnostic: Log-L = 131.1747, Restricted(b=0) Log-L = 125.0397
LogAmemiyaPrCrt.= -3.863, Akaike Info. Crt.= -1.025
-----+-----

```

Variable	Coefficient	Standard Error	b/St.Er.	P[Z >z]	Mean of X
Constant	.7296980281E-01	.91550169E-02	7.970	.0000	
RM	.8466738669	.23972810	3.532	.0004	.44222815E-02

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