

มหาวิทยาลัยเชียงใหม่  
Chiang Mai University

ภาคผนวก

## ภาคผนวก ก

## ข้อมูลราคาปิดของดัชนีตลาดหลักทรัพย์ และหลักทรัพย์กลุ่มธนาคารพาณิชย์ขนาดใหญ่

DATE	MARKET	BBL	TFB	KTB	SCB
4/1/98	372.69	86	39.7	9.8	48
11/1/98	349.67001	62	29.45	9.9	44.5
18/1/98	383.01001	68.5	34.4	11.5	51
25/1/98	422.87	67	39	10.75	58.5
1/2/98	495.23001	87.5	56.85	14.25	69
8/2/98	535.97998	96	57.2	17	75
15/2/98	499.97	91.5	53.25	15.5	72.5
22/2/98	521.83002	93	53.55	14.75	71
1/3/98	528.41998	100	57.55	15.25	70
8/3/98	508.07001	97	58.85	15.25	64.5
15/3/98	514.23999	97.5	57.85	15.25	66.5
22/3/98	499.75	87.5	53.55	15	63
29/3/98	469.85001	85	51.6	13.5	55.5
5/4/98	442.95999	77	47.3	12	51
12/4/98	446.13	79	48.6	11.75	48.5
19/4/98	438.98999	78	47.3	11	47.75
26/4/98	424.79001	78	47.3	10	48
3/5/98	412.13	77.5	45.65	10	45.75
10/5/98	386.42001	76	42.3	9.6	39.75
17/5/98	369.42999	71.5	43	8.7	32.25
24/5/98	355.82001	70	41	7.8	29
31/5/98	325.59	62	30.9	6.4	20.75
7/6/98	318.16	61	33.75	5.5	17.75
14/6/98	279.37	51	28.6	4.9	15.75
21/6/98	284.32001	53.5	26.45	5.6	15
28/6/98	264.98001	43.5	20.5	5.3	13.25
5/7/98	273.73999	44.25	20	5.5	11.75
12/7/98	274.26001	47.5	21.5	5.3	10
19/7/98	295.28	52.5	24.45	5.7	12
26/7/98	275.44	42	20	5.4	11.75
2/8/98	266.72	35	16.7	5.4	11.25
9/8/98	247.53999	32.5	13.25	4.8	9.8
16/8/98	243.62	29.5	15.35	5.5	10.75
23/8/98	238.92	28	14.05	6.6	10.25
30/8/98	218.85001	24.5	11.75	5.9	9.2
6/9/98	207.31	20.5	10.75	5.6	9
13/9/98	212.7	20.5	11.55	6	9

DATE	SET INDEX	BBL	TFB	KTB	SCB
20/9/98	221.85001	21.25	12.4	6.2	9
27/9/98	248.92999	24	14.55	6.9	10.25
4/10/98	251.56	22	14.05	6.3	9.8
11/10/98	292.5	27.75	17.2	7.5	11.25
18/10/98	319.22	30.25	19.65	11.75	15.75
25/10/98	321.57001	32.75	21.8	13	17.25
1/11/98	331.29001	35.75	25.3	13.5	21
8/11/98	376.60001	52	34.05	21.5	28.5
15/11/98	333.59	42.75	26.95	16.25	18.25
22/11/98	371.92999	52	34.4	20.75	23.75
29/11/98	373.09	53.5	35.7	21.75	21.25
6/12/98	337.63	46	29.6	17.5	15.75
13/12/98	360.29999	52	35.7	22	18.5
20/12/98	341.92001	50	35.05	18.75	15.75
27/12/98	356.16	54	36.35	20.75	17.75
3/1/99	355.81	52	35.4	19.75	17.5
10/1/99	399.42999	56	39.35	22	18.5
17/1/99	381.82001	53.5	37.7	20	19
24/1/99	376.48001	52	37.35	17.75	18.25
31/1/99	363	50.5	38.35	17	18
7/2/99	337.95999	43.5	35.4	14.5	15.5
14/2/99	347.42999	46	34.7	15.75	15
21/2/99	336.57001	45	34.4	14.75	15.5
28/2/99	340.94	46.75	33.75	15.75	15.75
7/3/99	336.20999	44.5	32.9	15	15.25
14/3/99	345.79001	49	35.4	16	16
21/3/99	367.69	55	38.35	19	19
28/3/99	366.91	55	40.65	18.5	19.25
4/4/99	357.10001	54	38.7	17.75	18.25
11/4/99	371.95001	57.5	41.35	18.25	20.5
18/4/99	402.54001	63.5	44.65	20	23.5
25/4/99	401.07001	61.5	43.65	19	24.25
2/5/99	459.35001	71.5	48.95	25.75	38.25
9/5/99	488.35001	81	55.9	25.25	38.25
16/5/99	474.89999	80	53.25	24.25	37.75
23/5/99	479.32999	78.5	51.6	26	36.75
30/5/99	453.60001	76	49.6	23.75	34
6/6/99	476.47	78	51.6	24.25	40.5
13/6/99	507.06	81.5	53.9	26.75	46.25
20/6/99	518.81	81.5	52.9	28.25	46
27/6/99	543.84998	81.5	52.55	28	45.75
4/7/99	533.33002	81.5	50.9	25.5	43.25
11/7/99	509.57999	70.5	44.95	21.75	44.25
18/7/99	488.51001	67	43.65	20.75	40.25
25/7/99	475.73001	66	43.3	18.5	40
1/8/99	456.81	67	43.65	15.75	41.5

DATE	SET INDEX	BBL	TFB	KTB	SCB
8/8/99	437.04001	61.5	42	15	39
15/8/99	423.78	56.5	41.35	14	37
22/8/99	440.51001	61.5	46.25	14.75	39.25
29/8/99	457.54001	64	45	15.25	41.25
5/9/99	431.12	54.5	41.5	14.5	38.75
12/9/99	430.91	52.5	41.75	14.25	39.25
19/9/99	438.16	51.5	41.5	16.25	38.5
26/9/99	382.01001	41.5	36.75	13.5	30.75
3/10/99	407.23001	51.5	39.75	14.25	35
10/10/99	393.01999	47.75	35.25	13.5	33.5
17/10/99	385.39999	47.75	35.25	13	34.25
24/10/99	377.16	47.75	34.25	12.75	34.5
31/10/99	395.54999	52.5	36.5	13.25	35.5
7/11/99	418.47	57	38.75	15.75	40
14/11/99	432.01999	58.5	38.25	15.75	40.25
21/11/99	411.54999	53.5	37.5	14.75	39.25
28/11/99	412.31	53	37.75	15	39.5
5/12/99	414.42001	52.5	37.25	14.5	38.5
12/12/99	419.76999	52	37.5	14.5	38
19/12/99	439.32001	55.5	39.25	15.75	39.25
26/12/99	461.29001	58.5	41.5	17.75	42
2/1/00	481.92001	61	43	19.75	44.5
9/1/00	453.31	59	42.75	18.75	43.75
16/1/00	474.37	60.5	43.25	20	44.5
23/1/00	478.92001	64	43.5	19.5	45.25
30/1/00	477.45001	61.5	43.5	19.5	44.5
6/2/00	470.34	61.5	41.5	18.75	43
13/2/00	456.12	51	38.75	16.75	39
20/2/00	408.35001	46.75	37	15.5	35
27/2/00	406.66	45.75	35.25	15.25	33.25
5/3/00	383.13	39.75	33	13.75	29.5
12/3/00	402.39999	38.5	35	14.25	31.25
19/3/00	399.73999	38.5	34.5	15.5	32
26/3/00	404.16	38.75	34.25	16.25	32.75
2/4/00	400.32001	39	34.25	15.5	32.25
9/4/00	403.45001	40.25	35	17	33
16/4/00	414.45001	40.25	35.5	16.5	34.25
23/4/00	395.06	39.25	34	15.75	33.5
30/4/00	390.39999	40	33.5	15	31.75
7/5/00	379.97	39	32.75	14.25	29.5
14/5/00	345.67001	34	29.25	13	26
21/5/00	343.39999	32.25	28.5	13	25.75
28/5/00	313.07999	30	25.5	11.75	23
4/6/00	339.28	34	29.25	13.5	26
11/6/00	341.35001	32.5	29.25	13.25	25.5
18/6/00	344.48999	31.75	29.25	13.5	24.25

DATE	SET INDEX	BBL	TFB	KTB	SCB
25/6/00	333.31	30.25	28	13.5	23.25
2/7/00	325.69	30.5	27.5	13.25	22
9/7/00	322.87	30	26.25	12.25	20.5
16/7/00	315.57999	30.25	25.75	12.25	19.75
23/7/00	305.66	28.75	24.25	12	17.5
30/7/00	291.60001	25	22.25	11.5	15.5
6/8/00	311.42001	26.5	23.5	12.75	18
13/8/00	316.60001	28	23.5	13.5	18.75
20/8/00	319.22	27.75	23.5	13.75	19.75
27/8/00	306.84	26	21.75	12.5	18.5
3/9/00	310.73001	27	22.25	13	18.5
10/9/00	297.07001	24	21	12	16.25
17/9/00	293.29999	24	20.75	12	16.25
24/9/00	274.14001	22.25	19.5	11.5	15.75
1/10/00	277.29001	22	20	11.25	16
8/10/00	267.67999	22.25	19.75	11	16.75
15/10/00	254.25999	22.75	19.75	10.5	16.5
22/10/00	276.60001	27	20.5	11.25	18.75
29/10/00	274.34	26.25	20.5	11	18
5/11/00	287.84	26.5	20.75	11.75	19.5
12/11/00	293.23001	28	21.25	11.5	20.75
19/11/00	294.70999	27.75	21	11.75	21.5
26/11/00	285.42001	27.25	20.25	11.5	20.25
3/12/00	273.85999	26	19.75	11	19
10/12/00	273.69	26.5	19.75	11	18.75
17/12/00	273.17001	26	19.75	11	19
24/12/00	267.09	24.75	19.5	11	19
31/12/00	269.19	25.5	19.5	10.75	19.75
7/1/01	286.76001	29.25	21.5	12.25	22
14/1/01	311.25	40	25.5	12.75	27.25
21/1/01	316.85999	38.25	24.75	13.25	26.25
28/1/01	332.13	40.25	26.25	14.75	28.5
4/2/01	334.10001	41.25	26.75	14.5	29
11/2/01	324.72	40.5	25.75	14	28.25
18/2/01	316	38.5	24.25	13.25	27.75
25/2/01	324.23999	40.75	24.75	14	28.75
4/3/01	306.04999	38.25	23.25	12.75	26.5
11/3/01	307	39	24	12.75	26
18/3/01	293	37.5	22.25	12.25	24.5
25/3/01	290.25	34.5	21.5	12	24
1/4/01	291.94	35	21.25	11.25	23.5
8/4/01	282.01999	35.25	20.5	10.75	22.25
15/4/01	291.28	37	21.25	10.75	23.5
22/4/01	292.57999	37.5	20.75	11.5	23.25
29/4/01	297.20999	36.25	20.75	11.25	22.75
6/5/01	306.48001	37.75	21.25	12.25	23

DATE	SET INDEX	BBL	TFB	KTB	SCB
13/5/01	310.92999	38	21	13	23
20/5/01	300.64001	38.25	20.5	12.25	23
27/5/01	311.10999	38.5	22	12.5	23.75
3/6/01	312.06	37.25	20.75	12	22
10/6/01	312.29001	37	20	12	20.5
17/6/01	323.97	38.25	20.5	12.25	21.5
24/6/01	318.67001	37.25	20	11.75	20.5
1/7/01	322.54999	38	20	12	20.25
8/7/01	324.88	37.5	19.5	11.75	20.25
15/7/01	314.31	34.25	17.25	11	17.5
22/7/01	312.26999	34.25	16.75	10.75	17.5
29/7/01	301.09	33.75	16	10.75	16.75
5/8/01	315.95001	37	17.75	11.75	18.5
12/8/01	315.87	34.25	16	11.5	16.75
19/8/01	323.25	35.25	16.5	11.5	17.5
26/8/01	332.17001	36.5	17.75	11.75	18.5
2/9/01	335.57001	38.25	19.75	11.5	20.25
9/9/01	342.32001	39	20.25	11.5	20.75
16/9/01	288.10001	32.5	15.5	9.3	15.75
23/9/01	274.60001	31	14.5	8.7	14.75
30/9/01	277.04001	31.25	14.5	8.7	15
7/10/01	280.88	33.5	15.25	8.6	15.25
14/10/01	284.97	35.25	15.25	9	15.5
21/10/01	284.72	34.75	15.25	9.3	15.25
28/10/01	280.60001	33.5	15	9	15
4/11/01	274.22	32.75	14.75	8.8	14.5
11/11/01	268.10999	32.25	14.3	8.5	13.7
18/11/01	275.54001	33.25	14.9	9.6	14.3
25/11/01	296.76999	36	18	10.8	16.7
2/12/01	302.62	36.5	18.4	10.7	17.3
9/12/01	304.04999	37.25	18.4	10.4	17.2
16/12/01	294	36.25	17.1	10	16.2
23/12/01	296.69	36	17.9	10.4	16.2
30/12/01	303.85001	36.5	18.6	10.6	16.8
6/1/02	315.73001	39.75	20.7	10.8	19.1
13/1/02	322.54999	42	20.5	10.6	19
20/1/02	317.51999	40.25	20.5	10.1	19
27/1/02	338.98999	50.5	24	10.6	20.6
3/2/02	336.64999	49	23.6	9.95	22.5
10/2/02	353.59	56	25	11.7	25.5
17/2/02	373.01999	61	26.5	13.1	27.25
24/2/02	351.32001	49.5	22.9	12.2	24
3/3/02	380.64999	55	26	13.2	27.75
10/3/02	390.64999	54.5	24.7	13.1	26.75
17/3/02	377.39001	53.5	23.9	12.3	24
24/3/02	389.31	53.5	24.7	12.4	25

DATE	SET INDEX	BBL	TFB	KTB	SCB
31/3/02	373.95001	49.5	22.4	11.2	23
7/4/02	369.98999	53	23.3	11.6	23.7
14/4/02	379.63	54	25	12.2	25.75
21/4/02	386.51001	57	26.75	12.3	27.25
28/4/02	376.44	53	25	11.7	24.7
5/5/02	374.04999	52.5	26	11.8	25.75
12/5/02	382.09	54.5	26	11.9	25.25
19/5/02	378.23001	52	25.5	11.9	25.5
26/5/02	392.09	54.5	26.75	12.4	26.5
2/6/02	407.95999	58.5	30	12.4	30.25
9/6/02	417.32999	60	30.75	12.1	30.25
16/6/02	422.44	64.5	31.75	12.9	32.5
23/6/02	395.45999	57	28.75	12.2	27.75
30/6/02	389.10001	56	28.25	11.2	29
7/7/02	401.10001	59.5	29.25	11.6	30.25
14/7/02	400.66	59	28.75	11.6	28.75
21/7/02	394.26999	56.5	27.5	11.3	27.25
28/7/02	366.47	52	24.3	10.6	24.7
4/8/02	370.45999	53	25	10.5	25.25
11/8/02	367.07001	52	25.25	10.5	24.9
18/8/02	373.03	53	27.25	10.5	27
25/8/02	367.01001	53	27	10.5	27.25
1/9/02	361.16	51	25.5	10.7	26
8/9/02	353.54999	47.5	24.7	10.7	25.5
15/9/02	357.14999	49.75	25.75	10.5	25.5
22/9/02	351.51999	48	25.25	10.2	25.5
29/9/02	338.72	45.5	23.5	9.55	24.1
6/10/02	340.92001	44.5	24	9.35	24
13/10/02	330.41	41.5	22	8.5	22
20/10/02	342.45999	46.75	26.25	9	25.5
27/10/02	348.45999	49.75	26	9	25.75
3/11/02	357.67999	50.5	26.25	9.1	26.75
10/11/02	355	50	26.25	8.9	26
17/11/02	356.23999	48.75	26.25	8.1	26.25
24/11/02	362.59	51.5	27.25	7.8	27.5
1/12/02	364.89999	53	27.75	7.7	28.75
8/12/02	365.09	51.5	27.25	7.65	29.75
15/12/02	356.20001	51	26	7.15	28
22/12/02	350.01001	48.5	25.5	6.75	27.75
29/12/02	356.48001	49.5	26	6.7	28.25

## ภาคผนวก ข

## อัตราผลตอบแทนของตลาดหลักทรัพย์ และหลักทรัพย์กลุ่มธนาคารพาณิชย์ขนาดใหญ่

(หน่วย : ร้อยละต่อสัปดาห์)

DATE	$R_m$	$R_f$	$Ri_{bbl}$	$Ri_{ttb}$	$Ri_{ktb}$	$Ri_{scb}$
11/1/98	-6.176713	0.245192	-27.907	-25.8186	1.020408	-7.29167
18/1/98	9.534704	0.245192	10.48387	16.80815	16.16162	14.60674
25/1/98	10.40704	0.25	-2.18978	13.37209	-6.52174	14.70588
1/2/98	17.11164	0.245192	30.59701	45.76923	32.55814	17.94872
8/2/98	8.228494	0.25	9.714286	0.615655	19.29825	8.695652
15/2/98	-6.718531	0.25	-4.6875	-6.90559	-8.82353	-3.33333
22/2/98	4.372266	0.25	1.639344	0.56338	-4.83871	-2.06897
1/3/98	1.262856	0.25	7.526882	7.469655	3.389831	-1.40845
8/3/98	-3.851098	0.254808	-3	2.258905	0	-7.85714
15/3/98	1.214396	0.254808	0.515464	-1.69924	0	3.100775
22/3/98	-2.817749	0.254808	-10.2564	-7.43302	-1.63934	-5.26316
29/3/98	-5.982989	0.259615	-2.85714	-3.64146	-10	-11.9048
5/4/98	-5.723107	0.259615	-9.41176	-8.33333	-11.1111	-8.10811
12/4/98	0.715643	0.259615	2.597403	2.748414	-2.08333	-4.90196
19/4/98	-1.600433	0.259615	-1.26582	-2.6749	-6.38298	-1.54639
26/4/98	-3.234693	0.259615	0	0	-9.09091	0.52356
3/5/98	-2.980298	0.259615	-0.64103	-3.48837	0	-4.6875
10/5/98	-6.23832	0.259615	-1.93548	-7.33844	-4	-13.1148
17/5/98	-4.396775	0.259615	-5.92105	1.654846	-9.375	-18.8679
24/5/98	-3.684048	0.259615	-2.0979	-4.65116	-10.3448	-10.0775
31/5/98	-8.495871	0.259615	-11.4286	-24.6341	-17.9487	-28.4483
7/6/98	-2.282011	0.259615	-1.6129	9.223301	-14.0625	-14.4578
14/6/98	-12.19198	0.259615	-16.3934	-15.2593	-10.9091	-11.2676
21/6/98	1.771847	0.259615	4.901961	-7.51748	14.28571	-4.7619
28/6/98	-6.802194	0.259615	-18.6916	-22.4953	-5.35714	-11.6667
5/7/98	3.305902	0.259615	1.724138	-2.43902	3.773585	-11.3208
12/7/98	0.189969	0.259615	7.344633	7.5	-3.63636	-14.8936
19/7/98	7.664256	0.259615	10.52632	13.72093	7.54717	20
26/7/98	-6.719046	0.259615	-20	-18.2004	-5.26316	-2.08333
2/8/98	-3.165844	0.245192	-16.6667	-16.5	0	-4.25532
9/8/98	-7.191066	0.235577	-7.14286	-20.6587	-11.1111	-12.8889
16/8/98	-1.583578	0.235577	-9.23077	15.84906	14.58333	9.693878
23/8/98	-1.929234	0.225962	-5.08475	-8.46906	20	-4.65116
30/8/98	-8.400297	0.221154	-12.5	-16.3701	-10.6061	-10.2439
6/9/98	-5.273022	0.216346	-16.3265	-8.51064	-5.08475	-2.17391



DATE	R <sub>m</sub>	R <sub>r</sub>	Ri <sub>bbi</sub>	Ri <sub>ttb</sub>	Ri <sub>ktb</sub>	Ri <sub>scb</sub>
13/9/98	2.599971	0.206731	0	7.44186	7.142857	0
20/9/98	4.301838	0.1875	3.658537	7.359307	3.333333	0
27/9/98	12.20644	0.182692	12.94118	17.33871	11.29032	13.88889
4/10/98	1.056526	0.168269	-8.33333	-3.43643	-8.69565	-4.39024
11/10/98	16.27445	0.153846	26.13636	22.41993	19.04762	14.79592
18/10/98	9.135043	0.149038	9.009009	14.24419	56.66667	40
25/10/98	0.736173	0.149038	8.264463	10.94148	10.6383	9.52381
1/11/98	3.02267	0.144231	9.160305	16.05505	3.846154	21.73913
8/11/98	13.67684	0.134615	45.45455	34.58498	59.25926	35.71429
15/11/98	-11.42061	0.129808	-17.7885	-20.8517	-24.4186	-35.9649
22/11/98	11.49315	0.129808	21.63743	27.64378	27.69231	30.13699
29/11/98	0.311889	0.125	2.884615	3.77907	4.819277	-10.5263
6/12/98	-9.504409	0.125	-14.0187	-17.0868	-19.5402	-25.8824
13/12/98	6.714448	0.120192	13.04348	20.60811	25.71429	17.46032
20/12/98	-5.101299	0.115385	-3.84615	-1.82073	-14.7727	-14.8649
27/12/98	4.164714	0.115385	8	3.708987	10.66667	12.69841
3/1/99	-0.09827	0.115385	-3.7037	-2.61348	-4.81928	-1.40845
10/1/99	12.25935	0.115385	7.692308	11.15819	11.39241	5.714286
17/1/99	-4.408778	0.115385	-4.46429	-4.19314	-9.09091	2.702703
24/1/99	-1.398565	0.115385	-2.80374	-0.92838	-11.25	-3.94737
31/1/99	-3.580538	0.115385	-2.88462	2.677376	-4.22535	-1.36986
7/2/99	-6.898074	0.110577	-13.8614	-7.69231	-14.7059	-13.8889
14/2/99	2.802107	0.105769	5.747126	-1.9774	8.62069	-3.22581
21/2/99	-3.125804	0.105769	-2.17391	-0.86455	-6.34921	3.333333
28/2/99	1.29839	0.100962	3.888889	-1.88953	6.779661	1.612903
7/3/99	-1.387344	0.096154	-4.81283	-2.51852	-4.7619	-3.1746
14/3/99	2.849416	0.096154	10.11236	7.598784	6.666667	4.918033
21/3/99	6.333321	0.096154	12.2449	8.333333	18.75	18.75
28/3/99	-0.212135	0.096154	0	5.997392	-2.63158	1.315789
4/4/99	-2.673677	0.096154	-1.81818	-4.79705	-4.05405	-5.19481
11/4/99	4.158499	0.096154	6.481481	6.847545	2.816901	12.32877
18/4/99	8.224223	0.096154	10.43478	7.980653	9.589041	14.63415
25/4/99	-0.365181	0.096154	-3.14961	-2.23964	-5	3.191489
2/5/99	14.53113	0.096154	16.26016	12.14204	35.52632	57.73196
9/5/99	6.313269	0.096154	13.28671	14.19816	-1.94175	0
16/5/99	-2.754176	0.096154	-1.23457	-4.74061	-3.9604	-1.30719
23/5/99	0.932828	0.096154	-1.875	-3.09859	7.216495	-2.64901
30/5/99	-5.367905	0.096154	-3.18471	-3.87597	-8.65385	-7.48299
6/6/99	5.041885	0.096154	2.631579	4.032258	2.105263	19.11765
13/6/99	6.420131	0.096154	4.487179	4.457364	10.30928	14.19753
20/6/99	2.31728	0.096154	0	-1.85529	5.607477	-0.54054
27/6/99	4.826426	0.091346	0	-0.66163	-0.88496	-0.54348
4/7/99	-1.93435	0.091346	0	-3.13987	-8.92857	-5.46448
11/7/99	-4.453158	0.091346	-13.4969	-11.6896	-14.7059	2.312139
18/7/99	-4.134774	0.091346	-4.96454	-2.8921	-4.5977	-9.03955

DATE	$R_m$	$R_f$	$Ri_{bbl}$	$Ri_{tfb}$	$Ri_{ktb}$	$Ri_{scb}$
25/7/99	-2.616118	0.091346	-1.49254	-0.80183	-10.8434	-0.62112
1/8/99	-3.977048	0.091346	1.515152	0.808314	-14.8649	3.75
8/8/99	-4.327837	0.091346	-8.20896	-3.78007	-4.7619	-6.0241
15/8/99	-3.034049	0.091346	-8.13008	-1.54762	-6.66667	-5.12821
22/8/99	3.947805	0.086538	8.849558	11.85006	5.357143	6.081081
29/8/99	3.865973	0.086538	4.065041	-2.7027	3.389831	5.095541
5/9/99	-5.774361	0.086538	-14.8438	-7.77778	-4.91803	-6.06061
12/9/99	-0.04871	0.086538	-3.66972	0.60241	-1.72414	1.290323
19/9/99	1.682486	0.086538	-1.90476	-0.5988	14.03509	-1.91083
26/9/99	-12.81495	0.086538	-19.4175	-11.4458	-16.9231	-20.1299
3/10/99	6.601921	0.086538	24.09639	8.163265	5.555556	13.82114
10/10/99	-3.489433	0.081731	-7.28155	-11.3208	-5.26316	-4.28571
17/10/99	-1.938833	0.081731	0	0	-3.7037	2.238806
24/10/99	-2.138036	0.081731	0	-2.83688	-1.92308	0.729927
31/10/99	4.875912	0.081731	9.947644	6.569343	3.921569	2.898551
7/11/99	5.794466	0.081731	8.571429	6.164384	18.86792	12.67606
14/11/99	3.237984	0.076923	2.631579	-1.29032	0	0.625
21/11/99	-4.738207	0.076923	-8.54701	-1.96078	-6.34921	-2.48447
28/11/99	0.18467	0.076923	-0.93458	0.666667	1.694915	0.636943
5/12/99	0.511753	0.076923	-0.9434	-1.3245	-3.33333	-2.53165
12/12/99	1.290956	0.072115	-0.95238	0.671141	0	-1.2987
19/12/99	4.657317	0.072115	6.730769	4.666667	8.62069	3.289474
26/12/99	5.00091	0.072115	5.405405	5.732484	12.69841	7.006369
2/1/00	4.472241	0.072115	4.273504	3.614458	11.26761	5.952381
9/1/00	-5.936672	0.072115	-3.27869	-0.5814	-5.06329	-1.68539
16/1/00	4.645827	0.072115	2.542373	1.169591	6.666667	1.714286
23/1/00	0.959169	0.072115	5.785124	0.578035	-2.5	1.685393
30/1/00	-0.306941	0.067308	-3.90625	0	0	-1.65746
6/2/00	-1.489163	0.067308	0	-4.5977	-3.84615	-3.37079
13/2/00	-3.023345	0.067308	-17.0732	-6.62651	-10.6667	-9.30233
20/2/00	-10.47312	0.067308	-8.33333	-4.51613	-7.46269	-10.2564
27/2/00	-0.413863	0.067308	-2.13904	-4.72973	-1.6129	-5
5/3/00	-5.78616	0.067308	-13.1148	-6.38298	-9.83607	-11.2782
12/3/00	5.029622	0.067308	-3.14465	6.060606	3.636364	5.932203
19/3/00	-0.661034	0.067308	0	-1.42857	8.77193	2.4
26/3/00	1.105721	0.067308	0.649351	-0.72464	4.83871	2.34375
2/4/00	-0.950116	0.067308	0.645161	0	-4.61538	-1.52672
9/4/00	0.781874	0.067308	3.205128	2.189781	9.677419	2.325581
16/4/00	2.726484	0.067308	0	1.428571	-2.94118	3.787879
23/4/00	-4.678492	0.067308	-2.48447	-4.22535	-4.54545	-2.18978
30/4/00	-1.17957	0.067308	1.910828	-1.47059	-4.7619	-5.22388
7/5/00	-2.671616	0.067308	-2.5	-2.23881	-5	-7.08661
14/5/00	-9.027026	0.067308	-12.8205	-10.687	-8.77193	-11.8644
21/5/00	-0.656701	0.067308	-5.14706	-2.5641	0	-0.96154
28/5/00	-8.829354	0.067308	-6.97674	-10.5263	-9.61538	-10.6796

DATE	$R_m$	$R_f$	$Ri_{bb1}$	$Ri_{tfb}$	$Ri_{ktb}$	$Ri_{scb}$
4/6/00	8.368472	0.067308	13.33333	14.70588	14.89362	13.04348
11/6/00	0.610118	0.067308	-4.41176	0	-1.85185	-1.92308
18/6/00	0.919871	0.067308	-2.30769	0	1.886792	-4.90196
25/6/00	-3.245374	0.067308	-4.72441	-4.2735	0	-4.12371
2/7/00	-2.28616	0.067308	0.826446	-1.78571	-1.85185	-5.37634
9/7/00	-0.865854	0.067308	-1.63934	-4.54545	-7.54717	-6.81818
16/7/00	-2.257878	0.067308	0.833333	-1.90476	0	-3.65854
23/7/00	-3.143415	0.0625	-4.95868	-5.82524	-2.04082	-11.3924
30/7/00	-4.599879	0.0625	-13.0435	-8.24742	-4.16667	-11.4286
6/8/00	6.796982	0.0625	6	5.617978	10.86957	16.12903
13/8/00	1.663348	0.0625	5.660377	0	5.882353	4.16667
20/8/00	0.827539	0.0625	-0.89286	0	1.851852	5.333333
27/8/00	-3.878203	0.0625	-6.30631	-7.44681	-9.09091	-6.32911
3/9/00	1.267765	0.0625	3.846154	2.298851	4	0
10/9/00	-4.396099	0.0625	-11.1111	-5.61798	-7.69231	-12.1622
17/9/00	-1.269068	0.0625	0	-1.19048	0	0
24/9/00	-6.532554	0.0625	-7.29167	-6.0241	-4.16667	-3.07692
1/10/00	1.149048	0.057692	-1.1236	2.564103	-2.17391	1.587302
8/10/00	-3.465693	0.057692	1.136364	-1.25	-2.22222	4.6875
15/10/00	-5.013449	0.057692	2.247191	0	-4.54545	-1.49254
22/10/00	8.78629	0.057692	18.68132	3.797468	7.142857	13.63636
29/10/00	-0.817068	0.057692	-2.77778	0	-2.22222	-4
5/11/00	4.920901	0.057692	0.952381	1.219512	6.818182	8.333333
12/11/00	1.872572	0.057692	5.660377	2.409639	-2.12766	6.410256
19/11/00	0.504716	0.057692	-0.89286	-1.17647	2.173913	3.614458
26/11/00	-3.152245	0.057692	-1.8018	-3.57143	-2.12766	-5.81395
3/12/00	-4.050179	0.057692	-4.58716	-2.46914	-4.34783	-6.17284
10/12/00	-0.062072	0.057692	1.923077	0	0	-1.31579
17/12/00	-0.189992	0.057692	-1.88679	0	0	1.333333
24/12/00	-2.225724	0.057692	-4.80769	-1.26582	0	0
31/12/00	0.786252	0.057692	3.030303	0	-2.27273	3.947368
7/1/01	6.526992	0.057692	14.70588	10.25641	13.95349	11.39241
14/1/01	8.540239	0.057692	36.75214	18.60465	4.081633	23.86364
21/1/01	1.802406	0.057692	-4.375	-2.94118	3.921569	-3.66972
28/1/01	4.819166	0.057692	5.228758	6.060606	11.32075	8.571429
4/2/01	0.593144	0.057692	2.484472	1.904762	-1.69492	1.754386
11/2/01	-2.807546	0.057692	-1.81818	-3.73832	-3.44828	-2.58621
18/2/01	-2.68539	0.057692	-4.93827	-5.82524	-5.35714	-1.76991
25/2/01	2.607592	0.048077	5.844156	2.061856	5.660377	3.603604
4/3/01	-5.610042	0.048077	-6.13497	-6.06061	-8.92857	-7.82609
11/3/01	0.31041	0.048077	1.960784	3.225806	0	-1.88679
18/3/01	-4.560261	0.048077	-3.84615	-7.29167	-3.92157	-5.76923
25/3/01	-0.938567	0.048077	-8	-3.37079	-2.04082	-2.04082
1/4/01	0.582257	0.048077	1.449275	-1.16279	-6.25	-2.08333
8/4/01	-3.397962	0.048077	0.714286	-3.52941	-4.44444	-5.31915

DATE	R <sub>m</sub>	R <sub>f</sub>	Ri <sub>bbl</sub>	Ri <sub>tfb</sub>	Ri <sub>ktb</sub>	Ri <sub>scb</sub>
15/4/01	3.283459	0.048077	4.964539	3.658537	0	5.617978
22/4/01	0.446303	0.048077	1.351351	-2.35294	6.976744	-1.06383
29/4/01	1.582473	0.048077	-3.33333	0	-2.17391	-2.15054
6/5/01	3.119014	0.048077	4.137931	2.409639	8.888889	1.098901
13/5/01	1.451964	0.048077	0.662252	-1.17647	6.122449	0
20/5/01	-3.30942	0.048077	0.657895	-2.38095	-5.76923	0
27/5/01	3.482564	0.048077	0.653595	7.317073	2.040816	3.26087
3/6/01	0.305361	0.048077	-3.24675	-5.68182	-4	-7.36842
10/6/01	0.073707	0.048077	-0.67114	-3.61446	0	-6.81818
17/6/01	3.74011	0.048077	3.378378	2.5	2.083333	4.878049
24/6/01	-1.635951	0.048077	-2.61438	-2.43902	-4.08163	-4.65116
1/7/01	1.217554	0.048077	2.013423	0	2.12766	-1.21951
8/7/01	0.722372	0.048077	-1.31579	-2.5	-2.08333	0
15/7/01	-3.253509	0.048077	-8.66667	-11.5385	-6.38298	-13.5802
22/7/01	-0.649044	0.048077	0	-2.89855	-2.27273	0
29/7/01	-3.580232	0.048077	-1.45985	-4.47761	0	-4.28571
5/8/01	4.935405	0.048077	9.62963	10.9375	9.302326	10.44776
12/8/01	-0.025324	0.048077	-7.43243	-9.85915	-2.12766	-9.45946
19/8/01	2.336404	0.048077	2.919708	3.125	0	4.477612
26/8/01	2.759477	0.048077	3.546099	7.575758	2.173913	5.714286
2/9/01	1.023572	0.048077	4.794521	11.26761	-2.12766	9.459459
9/9/01	2.011503	0.048077	1.960784	2.531646	0	2.469136
16/9/01	-15.83898	0.048077	-16.6667	-23.4568	-19.1304	-24.0964
23/9/01	-4.685873	0.048077	-4.61538	-6.45161	-6.45161	-6.34921
30/9/01	0.888565	0.048077	0.806452	0	0	1.694915
7/10/01	1.386078	0.048077	7.2	5.172414	-1.14943	1.666667
14/10/01	1.456138	0.048077	5.223881	0	4.651163	1.639344
21/10/01	-0.087729	0.048077	-1.41844	0	3.333333	-1.6129
28/10/01	-1.447032	0.048077	-3.59712	-1.63934	-3.22581	-1.63934
4/11/01	-2.273703	0.048077	-2.23881	-1.66667	-2.22222	-3.33333
11/11/01	-2.228142	0.048077	-1.52672	-3.05085	-3.40909	-5.51724
18/11/01	2.771258	0.048077	3.100775	4.195804	12.94118	4.379562
25/11/01	7.704863	0.048077	8.270677	20.80537	12.5	16.78322
2/12/01	1.971227	0.048077	1.388889	2.222222	-0.92593	3.592814
9/12/01	0.472537	0.048077	2.054795	0	-2.80374	-0.57803
16/12/01	-3.305374	0.043269	-2.68456	-7.06522	-3.84615	-5.81395
23/12/01	0.914966	0.043269	-0.68966	4.678363	4	0
30/12/01	2.413297	0.043269	1.388889	3.910615	1.923077	3.703704
6/1/02	3.909824	0.043269	8.90411	11.29032	1.886792	13.69048
13/1/02	2.160067	0.043269	5.660377	-0.96618	-1.85185	-0.52356
20/1/02	-1.559448	0.043269	-4.16667	0	-4.71698	0
27/1/02	6.761779	0.043269	25.46584	17.07317	4.950495	8.421053
3/2/02	-0.690286	0.043269	-2.9703	-1.66667	-6.13208	9.223301
10/2/02	5.031935	0.043269	14.28571	5.932203	17.58794	13.33333
17/2/02	5.495062	0.043269	8.928571	6	11.96581	6.862745

DATE	$R_m$	$R_f$	$Ri_{bbi}$	$Ri_{tfb}$	$Ri_{xtb}$	$Ri_{scb}$
24/2/02	-5.817377	0.043269	-18.8525	-13.5849	-6.87023	-11.9266
3/3/02	8.348508	0.038462	11.11111	13.53712	8.196721	15.625
10/3/02	2.627085	0.038462	-0.90909	-5	-0.75758	-3.6036
17/3/02	-3.394338	0.038462	-1.83486	-3.23887	-6.10687	-10.2804
24/3/02	3.158534	0.038462	0	3.34728	0.813008	4.166667
31/3/02	-3.945439	0.038462	-7.47664	-9.31174	-9.67742	-8
7/4/02	-1.05897	0.038462	7.070707	4.017857	3.571429	3.043478
14/4/02	2.605479	0.038462	1.886792	7.296137	5.172414	8.649789
21/4/02	1.812294	0.038462	5.555556	7	0.819672	5.825243
28/4/02	-2.605368	0.038462	-7.01754	-6.54206	-4.87805	-9.3578
5/5/02	-0.634898	0.038462	-0.9434	4	0.854701	4.251012
12/5/02	2.149448	0.038462	3.809524	0	0.847458	-1.94175
19/5/02	-1.010231	0.038462	-4.58716	-1.92308	0	0.990099
26/5/02	3.664434	0.038462	4.807692	4.901961	4.201681	3.921569
2/6/02	4.047538	0.038462	7.33945	12.14953	0	14.15094
9/6/02	2.296794	0.038462	2.564103	2.5	-2.41935	0
16/6/02	1.224453	0.038462	7.5	3.252033	6.61157	7.438017
23/6/02	-6.386708	0.038462	-11.6279	-9.44882	-5.42636	-14.6154
30/6/02	-1.608249	0.038462	-1.75439	-1.73913	-8.19672	4.504505
7/7/02	3.08404	0.038462	6.25	3.539823	3.571429	4.310345
14/7/02	-0.109701	0.038462	-0.84034	-1.7094	0	-4.95868
21/7/02	-1.594871	0.038462	-4.23729	-4.34783	-2.58621	-5.21739
28/7/02	-7.051003	0.038462	-7.9646	-11.6364	-6.19469	-9.3578
4/8/02	1.088763	0.038462	1.923077	2.880658	-0.9434	2.226721
11/8/02	-0.915073	0.038462	-1.88679	-1	0	-1.38614
18/8/02	1.623666	0.038462	1.923077	7.920792	0	8.433735
25/8/02	-1.613809	0.038462	0	-0.91743	0	0.925926
1/9/02	-1.593965	0.038462	-3.77358	-5.55556	1.904762	-4.58716
8/9/02	-2.107102	0.038462	-6.86275	-3.13725	0	-1.92308
15/9/02	1.018244	0.038462	4.736842	4.251012	-1.86916	0
22/9/02	-1.576369	0.038462	-3.51759	-1.94175	-2.85714	0
29/9/02	-3.641326	0.038462	-5.20833	-6.93069	-6.37255	-5.4902
6/10/02	0.649507	0.038462	-2.1978	2.12766	-2.09424	-0.41494
13/10/02	-3.082838	0.038462	-6.74157	-8.33333	-9.09091	-8.33333
20/10/02	3.646981	0.038462	12.6506	19.31818	5.882353	15.90909
27/10/02	1.752029	0.038462	6.417112	-0.95238	0	0.980392
3/11/02	2.645928	0.033654	1.507538	0.961538	1.111111	3.883495
10/11/02	-0.74927	0.033654	-0.9901	0	-2.1978	-2.80374
17/11/02	0.349293	0.033654	-2.5	0	-8.98876	0.961538
24/11/02	1.782509	0.033654	5.641026	3.809524	-3.7037	4.761905
1/12/02	0.63708	0.033654	2.912621	1.834862	-1.28205	4.545455
8/12/02	0.052072	0.033654	-2.83019	-1.8018	-0.64935	3.478261
15/12/02	-2.435013	0.033654	-0.97087	-4.58716	-6.53595	-5.88235
22/12/02	-1.737788	0.033654	-4.90196	-1.92308	-5.59441	-0.89286
29/12/02	1.848519	0.033654	2.061856	1.960784	-0.74074	1.801802

## ภาคผนวก ก

## ผลการทดสอบยูนิตรูท (Unit Root Test)

## MARKET

## 1. WITH INTERCEPT &amp; TREND

ADF Test Statistic	-10.16584	1% Critical Value*	-3.9969
		5% Critical Value	-3.4285
		10% Critical Value	-3.1374

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

Augmented Dickey-Fuller Test Equation

Dependent Variable: D(MARKET)

Method: Least Squares

Date: 04/26/03 Time: 15:16

Sample(adjusted): 3 260

Included observations: 258 after adjusting endpoints

Variable	Coefficient	Std. Error	t-Statistic	Prob.
MARKET(-1)	-0.878460	0.086413	-10.16584	0.0000
D(MARKET(-1))	-0.087906	0.060912	-1.443171	0.1502
C	0.362647	1.066517	0.340030	0.7341
@TREND(1)	-0.001167	0.007094	-0.164526	0.8694
R-squared	0.490396	Mean dependent var	-0.057548	
Adjusted R-squared	0.484377	S.D. dependent var	11.81462	
S.E. of regression	8.483711	Akaike info criterion	7.129555	
Sum squared resid	18281.23	Schwarz criterion	7.184640	
Log likelihood	-915.7126	F-statistic	81.47534	
Durbin-Watson stat	2.014716	Prob(F-statistic)	0.000000	

## 2. WITH INTERCEPT & WITHOUT TREND

ADF Test Statistic	-10.18405	1% Critical Value*	-3.4573
		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(MARKET)

Method: Least Squares

Date: 04/26/03 Time: 15:17

Sample(adjusted): 3 260

Included observations: 258 after adjusting endpoints

Variable	Coefficient	Std. Error	t-Statistic	Prob.
MARKET(-1)	-0.878166	0.086230	-10.18405	0.0000
D(MARKET(-1))	-0.087937	0.060795	-1.446454	0.1493
C	0.210249	0.527621	0.398485	0.6906
R-squared	0.490341	Mean dependent var		-0.057548
Adjusted R-squared	0.486344	S.D. dependent var		11.81462
S.E. of regression	8.467511	Akaike info criterion		7.121910
Sum squared resid	18283.18	Schwarz criterion		7.163224
Log likelihood	-915.7264	F-statistic		122.6675
Durbin-Watson stat	2.015044	Prob(F-statistic)		0.000000

## 3. WITHOUT INTERCEPT & TREND

ADF Test Statistic	-10.19303	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(MARKET)

Method: Least Squares

Date: 04/26/03 Time: 15:17

Sample(adjusted): 3 260

Included observations: 258 after adjusting endpoints

Variable	Coefficient	Std. Error	t-Statistic	Prob.
MARKET(-1)	-0.876761	0.086016	-10.19303	0.0000
D(MARKET(-1))	-0.088494	0.060679	-1.458396	0.1460
R-squared	0.490024	Mean dependent var		-0.057548
Adjusted R-squared	0.488032	S.D. dependent var		11.81462
S.E. of regression	8.453588	Akaike info criterion		7.114781
Sum squared resid	18294.57	Schwarz criterion		7.142323
Log likelihood	-915.8067	F-statistic		245.9845
Durbin-Watson stat	2.015514	Prob(F-statistic)		0.000000

**หลักทฤษฎี BBL****1. WITH INTERCEPT & TREND**

ADF Test Statistic	-8.835036	1% Critical Value*	-3.9969
		5% Critical Value	-3.4285
		10% Critical Value	-3.1374

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

Augmented Dickey-Fuller Test Equation

Dependent Variable: D(BBL)

Method: Least Squares

Date: 04/26/03 Time: 15:24

Sample(adjusted): 3 260

Included observations: 258 after adjusting endpoints

Variable	Coefficient	Std. Error	t-Statistic	Prob.
BBL(-1)	-0.733388	0.083009	-8.835036	0.0000
D(BBL(-1))	-0.201409	0.060758	-3.314961	0.0011
C	0.034565	0.590464	0.058539	0.9534
@TREND(1)	0.000181	0.003929	0.046188	0.9632
R-squared	0.486239	Mean dependent var	-0.029791	
Adjusted R-squared	0.480171	S.D. dependent var	6.517927	
S.E. of regression	4.699373	Akaike info criterion	5.948117	
Sum squared resid	5609.362	Schwarz criterion	6.003202	
Log likelihood	-763.3072	F-statistic	80.13101	
Durbin-Watson stat	2.038373	Prob(F-statistic)	0.000000	



## 2. WITH INTERCEPT & WITHOUT TREND

ADF Test Statistic	-8.853543	1% Critical Value*	-3.4573
		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(BBL)

Method: Least Squares

Date: 04/26/03 Time: 15:25

Sample(adjusted): 3 260

Included observations: 258 after adjusting endpoints

Variable	Coefficient	Std. Error	t-Statistic	Prob.
BBL(-1)	-0.733433	0.082841	-8.853543	0.0000
D(BBL(-1))	-0.201404	0.060638	-3.321381	0.0010
C	0.058251	0.292132	0.199399	0.8421
R-squared	0.486234	Mean dependent var	-0.029791	
Adjusted R-squared	0.482205	S.D. dependent var	6.517927	
S.E. of regression	4.690169	Akaike info criterion	5.940374	
Sum squared resid	5609.409	Schwarz criterion	5.981687	
Log likelihood	-763.3082	F-statistic	120.6676	
Durbin-Watson stat	2.038273	Prob(F-statistic)	0.000000	

## 3. WITHOUT INTERCEPT & TREND

ADF Test Statistic	-8.868211	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(BBL)

Method: Least Squares

Date: 04/26/03 Time: 15:26

Sample(adjusted): 3 260

Included observations: 258 after adjusting endpoints

Variable	Coefficient	Std. Error	t-Statistic	Prob.
BBL(-1)	-0.732933	0.082647	-8.868211	0.0000
D(BBL(-1))	-0.201630	0.060514	-3.331944	0.0010
R-squared	0.486154	Mean dependent var	-0.029791	
Adjusted R-squared	0.484147	S.D. dependent var	6.517927	
S.E. of regression	4.681364	Akaike info criterion	5.932778	
Sum squared resid	5610.284	Schwarz criterion	5.960320	
Log likelihood	-763.3284	F-statistic	242.2040	
Durbin-Watson stat	2.038538	Prob(F-statistic)	0.000000	

## หลักทรัพย์ SCB

### 1. WITH INTERCEPT & TREND

ADF Test Statistic	-9.245423	1% Critical Value*	-3.9969
		5% Critical Value	-3.4285
		10% Critical Value	-3.1374

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

Augmented Dickey-Fuller Test Equation

Dependent Variable: D(SCB)

Method: Least Squares

Date: 04/26/03 Time: 21:52

Sample(adjusted): 3 260

Included observations: 258 after adjusting endpoints

Variable	Coefficient	Std. Error	t-Statistic	Prob.
SCB(-1)	-0.783724	0.084769	-9.245423	0.0000
D(SCB(-1))	-0.170308	0.061484	-2.769972	0.0060
C	-0.274077	1.236887	-0.221586	0.8248
@TREND(1)	0.003534	0.008236	0.429055	0.6682
R-squared	0.490275	Mean dependent var	-0.049632	
Adjusted R-squared	0.484254	S.D. dependent var	13.71162	
S.E. of regression	9.847058	Akaike info criterion	7.427605	
Sum squared resid	24629.00	Schwarz criterion	7.482690	
Log likelihood	-954.1610	F-statistic	81.43584	
Durbin-Watson stat	2.067447	Prob(F-statistic)	0.000000	

## 2. WITH INTERCEPT & WITHPUT TREND

ADF Test Statistic	-9.251052	1% Critical Value*	-3.4573
		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(SCB)

Method: Least Squares

Date: 04/26/03 Time: 21:53

Sample(adjusted): 3 260

Included observations: 258 after adjusting endpoints

Variable	Coefficient	Std. Error	t-Statistic	Prob.
SCB(-1)	-0.782507	0.084586	-9.251052	0.0000
D(SCB(-1))	-0.170997	0.061364	-2.786595	0.0057
C	0.186728	0.612543	0.304842	0.7607
R-squared	0.489905	Mean dependent var		-0.049632
Adjusted R-squared	0.485904	S.D. dependent var		13.71162
S.E. of regression	9.831292	Akaike info criterion		7.420578
Sum squared resid	24646.85	Schwarz criterion		7.461891
Log likelihood	-954.2545	F-statistic		122.4535
Durbin-Watson stat	2.067243	Prob(F-statistic)		0.000000

## 3. WITHOUT INTERCEPT & TREND

ADF Test Statistic	-9.262637	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(SCB)

Method: Least Squares

Date: 04/26/03 Time: 21:53

Sample(adjusted): 3 260

Included observations: 258 after adjusting endpoints

Variable	Coefficient	Std. Error	t-Statistic	Prob.
SCB(-1)	-0.781495	0.084371	-9.262637	0.0000
D(SCB(-1))	-0.171478	0.061235	-2.800324	0.0055
R-squared	0.489719	Mean dependent var		-0.049632
Adjusted R-squared	0.487726	S.D. dependent var		13.71162
S.E. of regression	9.813859	Akaike info criterion		7.413190
Sum squared resid	24655.83	Schwarz criterion		7.440732
Log likelihood	-954.3015	F-statistic		245.6847
Durbin-Watson stat	2.067726	Prob(F-statistic)		0.000000

## หลักทรัพย์ TFB

### 1. WITH INTERCEPT & TREND

ADF Test Statistic	-10.16584	1% Critical Value*	-3.9969
		5% Critical Value	-3.4285
		10% Critical Value	-3.1374

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

Augmented Dickey-Fuller Test Equation

Dependent Variable: D(TFB)

Method: Least Squares

Date: 04/26/03 Time: 15:54

Sample(adjusted): 3 260

Included observations: 258 after adjusting endpoints

Variable	Coefficient	Std. Error	t-Statistic	Prob.
TFB(-1)	-0.878460	0.086413	-10.16584	0.0000
D(TFB(-1))	-0.087906	0.060912	-1.443171	0.1502
C	0.362647	1.066517	0.340030	0.7341
@TREND(1)	-0.001167	0.007094	-0.164526	0.8694
R-squared	0.490396	Mean dependent var	-0.057548	
Adjusted R-squared	0.484377	S.D. dependent var	11.81462	
S.E. of regression	8.483711	Akaike info criterion	7.129555	
Sum squared resid	18281.23	Schwarz criterion	7.184640	
Log likelihood	-915.7126	F-statistic	81.47534	
Durbin-Watson stat	2.014716	Prob(F-statistic)	0.000000	

## 2. WITH INTERCEPT & TREND

ADF Test Statistic	-10.18405	1% Critical Value*	-3.4573
		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(TFB)

Method: Least Squares

Date: 04/26/03 Time: 15:54

Sample(adjusted): 3 260

Included observations: 258 after adjusting endpoints

Variable	Coefficient	Std. Error	t-Statistic	Prob.
TFB(-1)	-0.878166	0.086230	-10.18405	0.0000
D(TFB(-1))	-0.087937	0.060795	-1.446454	0.1493
C	0.210249	0.527621	0.398485	0.6906
R-squared	0.490341	Mean dependent var	-0.057548	
Adjusted R-squared	0.486344	S.D. dependent var	11.81462	
S.E. of regression	8.467511	Akaike info criterion	7.121910	
Sum squared resid	18283.18	Schwarz criterion	7.163224	
Log likelihood	-915.7264	F-statistic	122.6675	
Durbin-Watson stat	2.015044	Prob(F-statistic)	0.000000	

## 3. WITHOUT INTERCEPT & TREND

ADF Test Statistic	-10.19303	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(TFB)

Method: Least Squares

Date: 04/26/03 Time: 15:54

Sample(adjusted): 3 260

Included observations: 258 after adjusting endpoints

Variable	Coefficient	Std. Error	t-Statistic	Prob.
TFB(-1)	-0.876761	0.086016	-10.19303	0.0000
D(TFB(-1))	-0.088494	0.060679	-1.458396	0.1460
R-squared	0.490024	Mean dependent var	-0.057548	
Adjusted R-squared	0.488032	S.D. dependent var	11.81462	
S.E. of regression	8.453588	Akaike info criterion	7.114781	
Sum squared resid	18294.57	Schwarz criterion	7.142323	
Log likelihood	-915.8067	F-statistic	245.9845	
Durbin-Watson stat	2.015514	Prob(F-statistic)	0.000000	

**หัตถ์แพทย์ KTB****1. WITH INTERCEPT & TREND**

ADF Test Statistic	-9.958821	1% Critical Value*	-3.9969
		5% Critical Value	-3.4285
		10% Critical Value	-3.1374

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

Augmented Dickey-Fuller Test Equation

Dependent Variable: D(KTB)

Method: Least Squares

Date: 04/26/03 Time: 21:40

Sample(adjusted): 3 260

Included observations: 258 after adjusting endpoints

Variable	Coefficient	Std. Error	t-Statistic	Prob.
KTB(-1)	-0.886260	0.088992	-9.958821	0.0000
D(KTB(-1))	-0.144041	0.061841	-2.329219	0.0206
C	1.360294	1.217816	1.116994	0.2651
@TREND(1)	-0.009055	0.008100	-1.117862	0.2647
R-squared	0.529973	Mean dependent var	-0.065513	
Adjusted R-squared	0.524421	S.D. dependent var	13.93960	
S.E. of regression	9.613057	Akaike info criterion	7.379504	
Sum squared resid	23472.36	Schwarz criterion	7.434589	
Log likelihood	-947.9560	F-statistic	95.46465	
Durbin-Watson stat	2.059520	Prob(F-statistic)	0.000000	

## 2. WITH INTERCEPT & WITHOUT TREND

ADF Test Statistic	-9.891943	1% Critical Value*	-3.4573
		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(KTB)

Method: Least Squares

Date: 04/26/03 Time: 21:41

Sample(adjusted): 3 260

Included observations: 258 after adjusting endpoints

Variable	Coefficient	Std. Error	t-Statistic	Prob.
KTB(-1)	-0.873771	0.088332	-9.891943	0.0000
D(KTB(-1))	-0.150170	0.061628	-2.436730	0.0155
C	0.175030	0.599334	0.292041	0.7705
R-squared	0.527660	Mean dependent var	-0.065513	
Adjusted R-squared	0.523955	S.D. dependent var	13.93960	
S.E. of regression	9.617761	Akaike info criterion	7.376660	
Sum squared resid	23587.84	Schwarz criterion	7.417973	
Log likelihood	-948.5891	F-statistic	142.4327	
Durbin-Watson stat	2.065117	Prob(F-statistic)	0.000000	

## 3. WITHOUT INTERCEPT & TREND

ADF Test Statistic	-9.906260	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(KTB)

Method: Least Squares

Date: 04/26/03 Time: 21:41

Sample(adjusted): 3 260

Included observations: 258 after adjusting endpoints

Variable	Coefficient	Std. Error	t-Statistic	Prob.
KTB(-1)	-0.872659	0.088092	-9.906260	0.0000
D(KTB(-1))	-0.150749	0.061485	-2.451787	0.0149
R-squared	0.527502	Mean dependent var	-0.065513	
Adjusted R-squared	0.525656	S.D. dependent var	13.93960	
S.E. of regression	9.600563	Akaike info criterion	7.369242	
Sum squared resid	23595.73	Schwarz criterion	7.396784	
Log likelihood	-948.6322	F-statistic	285.8014	
Durbin-Watson stat	2.065779	Prob(F-statistic)	0.000000	

## ภาคผนวก ง

## ผลการทดสอบความสัมพันธ์ระยะยาว (Cointegration)

## หลักทฤษฎี BBL

ADF Test Statistic	-10.42812	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(B2)

Method: Least Squares

Date: 04/26/03 Time: 15:48

Sample(adjusted): 3 260

Included observations: 258 after adjusting endpoints

Variable	Coefficient	Std. Error	t-Statistic	Prob.
B2(-1)	-0.923098	0.088520	-10.42812	0.0000
D(B2(-1))	-0.105079	0.061576	-1.706507	0.0891
R-squared	0.521158	Mean dependent var	-0.003334	
Adjusted R-squared	0.519287	S.D. dependent var	3.867733	
S.E. of regression	2.681632	Akaike info criterion	4.818450	
Sum squared resid	1840.935	Schwarz criterion	4.845992	
Log likelihood	-619.5801	F-statistic	278.6230	
Durbin-Watson stat	2.001225	Prob(F-statistic)	0.000000	



**หลักทรัพย์ SCB**

ADF Test Statistic	-11.00202	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(S2)

Method: Least Squares

Date: 04/26/03 Time: 22:00

Sample(adjusted): 3 260

Included observations: 258 after adjusting endpoints

Variable	Coefficient	Std. Error	t-Statistic	Prob.
S2(-1)	-0.993028	0.090259	-11.00202	0.0000
D(S2(-1))	-0.050207	0.062404	-0.804550	0.4218
R-squared	0.523972	Mean dependent var		0.000139
Adjusted R-squared	0.522112	S.D. dependent var		8.500425
S.E. of regression	5.876296	Akaike info criterion		6.387452
Sum squared resid	8839.899	Schwarz criterion		6.414994
Log likelihood	-821.9813	F-statistic		281.7830
Durbin-Watson stat	2.001757	Prob(F-statistic)		0.000000

**หลักทรัพย์ TFB**

ADF Test Statistic	-12.09094	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(T2)

Method: Least Squares

Date: 04/26/03 Time: 17:24

Sample(adjusted): 3 260

Included observations: 258 after adjusting endpoints

Variable	Coefficient	Std. Error	t-Statistic	Prob.
T2(-1)	-1.099855	0.090965	-12.09094	0.0000
D(T2(-1))	0.019082	0.061045	0.312583	0.7549
R-squared	0.539990	Mean dependent var		-0.013286
Adjusted R-squared	0.538193	S.D. dependent var		7.005029
S.E. of regression	4.760365	Akaike info criterion		5.966247
Sum squared resid	5801.235	Schwarz criterion		5.993790
Log likelihood	-767.6459	F-statistic		300.5094
Durbin-Watson stat	2.001371	Prob(F-statistic)		0.000000

### หลักทรัพย์ KTB

ADF Test Statistic	-11.40743	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(K2)

Method: Least Squares

Date: 04/26/03 Time: 22:06

Sample(adjusted): 3 260

Included observations: 258 after adjusting endpoints

Variable	Coefficient	Std. Error	t-Statistic	Prob.
K2(-1)	-1.006223	0.088208	-11.40743	0.0000
D(K2(-1))	0.006367	0.062223	0.102331	0.9186
R-squared	0.499628	Mean dependent var	-0.019294	
Adjusted R-squared	0.497674	S.D. dependent var	8.764608	
S.E. of regression	6.211914	Akaike info criterion	6.498537	
Sum squared resid	9878.495	Schwarz criterion	6.526079	
Log likelihood	-836.3112	F-statistic	255.6198	
Durbin-Watson stat	1.938494	Prob(F-statistic)	0.000000	

## ภาคผนวก จ

## ผลการวิเคราะห์ถดถอยอย่างง่ายโดยวิธีกำลังสองน้อยสุด

## หลักทรัพย์ BBL

Dependent Variable: BBL  
 Method: Least Squares  
 Date: 05/13/03 Time: 22:56  
 Sample: 1 260  
 Included observations: 260  
 Weighting series: 1/SQR(R^2)

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	0.001580	0.003812	0.414484	0.6789
MARKET	1.488030	0.003449	431.4810	0.0000

Weighted Statistics			
R-squared	0.999156	Mean dependent var	-1.250254
Adjusted R-squared	0.999153	S.D. dependent var	15.41506
S.E. of regression	0.448620	Akaike info criterion	1.242383
Sum squared resid	51.92514	Schwarz criterion	1.269773
Log likelihood	-159.5098	F-statistic	305538.5
Durbin-Watson stat	2.082495	Prob(F-statistic)	0.000000

Estimation Equation:

$$BBL = C(1) + C(2)*MARKET$$

Substituted Coefficients:

$$BBL = 0.001580 + 1.488030*MARKET$$

## หลักทรัพย์ SCB

Dependent Variable: SCB  
 Method: Least Squares  
 Date: 04/26/03 Time: 21:56  
 Sample: 1 260  
 Included observations: 260  
 Weighting series: 1/SQR(S^2)

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	0.117515	0.006140	19.13887	0.0000
MARKET	1.670648	0.001766	945.8563	0.0000

Weighted Statistics			
R-squared	0.999758	Mean dependent var	1.256465
Adjusted R-squared	0.999757	S.D. dependent var	27.30113
S.E. of regression	0.425365	Akaike info criterion	1.135922
Sum squared resid	46.68122	Schwarz criterion	1.163312
Log likelihood	-145.6698	F-statistic	1066678.
Durbin-Watson stat	2.002043	Prob(F-statistic)	0.000000

Unweighted Statistics			
R-squared	0.654557	Mean dependent var	0.273238
Adjusted R-squared	0.653218	S.D. dependent var	9.968785
S.E. of regression	5.870436	Sum squared resid	8891.202
Durbin-Watson stat	2.090722		

Estimation Equation:

$$\text{SCB} = \text{C}(1) + \text{C}(2) * \text{MARKET}$$

Substituted Coefficients:

$$\text{SCB} = 0.1175150959 + 1.670647562 * \text{MARKET}$$

### หลักทรัพย์ TFB

Dependent Variable: TFB  
 Method: Least Squares  
 Date: 04/26/03 Time: 17:11  
 Sample: 1 260  
 Included observations: 260  
 Weighting series: 1/SQR(T^2)

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	0.063859	0.013316	4.795769	0.0000
MARKET	1.485728	0.001436	1034.568	0.0000

#### Weighted Statistics

R-squared	0.999867	Mean dependent var	-4.339768
Adjusted R-squared	0.999866	S.D. dependent var	53.94431
S.E. of regression	0.624205	Akaike info criterion	1.902987
Sum squared resid	100.5251	Schwarz criterion	1.930377
Log likelihood	-245.3883	F-statistic	1934098.
Durbin-Watson stat	1.953301	Prob(F-statistic)	0.000000

#### Unweighted Statistics

R-squared	0.684389	Mean dependent var	0.201640
Adjusted R-squared	0.683166	S.D. dependent var	8.656744
S.E. of regression	4.872711	Sum squared resid	6125.774
Durbin-Watson stat	2.119408		

Estimation Equation:

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$$TFB = C(1) + C(2)*MARKET$$

Substituted Coefficients:

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$$TFB = 0.06385918985 + 1.485728024*MARKET$$

**หลักทรัพย์ KTB**

Dependent Variable: KTB  
 Method: Least Squares  
 Date: 04/26/03 Time: 21:44  
 Sample: 1 260  
 Included observations: 260  
 Weighting series: 1/SQR(K^2)

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	0.142185	0.019406	7.326829	0.0000
MARKET	1.551435	0.006032	257.1965	0.0000

**Weighted Statistics**

R-squared	0.998983	Mean dependent var	-1.934022
Adjusted R-squared	0.998980	S.D. dependent var	23.29666
S.E. of regression	0.744203	Akaike info criterion	2.254658
Sum squared resid	142.8903	Schwarz criterion	2.282047
Log likelihood	-291.1055	F-statistic	253549.3
Durbin-Watson stat	2.033733	Prob(F-statistic)	0.000000

**Unweighted Statistics**

R-squared	0.590753	Mean dependent var	0.278624
Adjusted R-squared	0.589167	S.D. dependent var	9.708151
S.E. of regression	6.222564	Sum squared resid	9989.837
Durbin-Watson stat	1.984785		

Estimation Equation:

$$KTB = C(1) + C(2)*MARKET$$

Substituted Coefficients:

$$KTB = 0.1421848369 + 1.551434582*MARKET$$

## ประวัติผู้เขียน

ชื่อ นางสาวทมาภรณ์ กองแก้ว

วัน เดือน ปี เกิด 25 พฤษภาคม 2522

ประวัติการศึกษา สำเร็จการศึกษามัธยมศึกษาตอนต้น โรงเรียนสิงห์บุรี ปีการศึกษา 2536  
สำเร็จการศึกษามัธยมศึกษาตอนปลาย โรงเรียนนาริรัตน์จังหวัดแพร่  
ปีการศึกษา 2539  
สำเร็จการศึกษาปริญญาวิทยาศาสตรบัณฑิต สาขาคณิตศาสตร์  
มหาวิทยาลัยเชียงใหม่ ปีการศึกษา 2544