



ภาคผนวก

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ภาคผนวก ก

ข้อมูลราคาปิดของดัชนีตลาดหลักทรัพย์และหลักทรัพย์ในรูปดอกการิทึม

DATE	SET	LOG(SET)	BANPU	LOG(BANPU)	NPC	LOG(NPC)
13/1/2002	322.55	2.508597033	25.75	1.410777233	36	1.5563025
20/1/2002	317.52	2.501771072	25.25	1.402261382	35.5	1.55022835
27/1/2002	338.99	2.530186874	26.25	1.419129308	42.5	1.62838893
3/2/2002	336.65	2.527178606	28.75	1.458637849	44	1.64345268
10/2/2002	353.59	2.548499974	32	1.505149978	45	1.65321251
17/2/2002	373.02	2.571732106	36	1.556302501	44	1.64345268
24/2/2002	351.32	2.545702886	33.5	1.525044807	39.5	1.5965971
3/3/2002	380.65	2.580525823	38.5	1.58546073	42.75	1.63093612
10/3/2002	390.65	2.591787818	45.75	1.660391098	42	1.62324929
17/3/2002	377.39	2.5767904	44	1.643452676	43	1.63346846
24/3/2002	389.31	2.590295559	43	1.633468456	51	1.70757018
31/3/2002	373.95	2.572813549	41.25	1.615423953	51.5	1.71180723
7/4/2002	369.99	2.568189974	38.5	1.58546073	49	1.69019608
14/4/2002	379.63	2.579360525	42	1.62324929	48.5	1.68574174
21/4/2002	386.51	2.587160746	40	1.602059991	47	1.67209786
28/4/2002	376.44	2.575695765	39	1.591064607	46.75	1.66978162
5/5/2002	374.05	2.572929647	39.5	1.596597096	47.25	1.67440181
12/5/2002	382.09	2.582165672	38.5	1.58546073	48	1.68124124
19/5/2002	378.23	2.577755984	37.5	1.574031268	47	1.67209786
26/5/2002	392.09	2.593385766	38.75	1.588271707	49	1.69019608
2/6/2002	407.96	2.610617572	43	1.633468456	52.5	1.7201593
9/6/2002	417.33	2.620479595	44	1.643452676	57.5	1.75966784

DATE	SET	LOG(SET)	BANPU	LOG(BANPU)	NPC	LOG(NPC)
16/6/2002	422.44	2.625765034	44.75	1.65079304	52	1.71600334
23/6/2002	395.46	2.597102551	41.75	1.62065648	53	1.72427587
30/6/2002	389.1	2.590061242	40	1.602059991	52	1.71600334
7/7/2002	401.1	2.603252673	41.25	1.615423953	52.5	1.7201593
14/7/2002	400.66	2.602775987	41.5	1.618048097	51	1.70757018
21/7/2002	394.27	2.595793722	40.5	1.607455023	52	1.71600334
28/7/2002	366.47	2.564038428	35.25	1.547159121	47	1.67209786
4/8/2002	370.46	2.568741311	35	1.544068044	48	1.68124124
11/8/2002	367.07	2.564748904	35	1.544068044	49.75	1.69679309
18/8/2002	373.03	2.57174376	38	1.579783597	49.75	1.69679309
25/8/2002	367.01	2.56467791	37	1.568201724	49.75	1.69679309
1/9/2002	361.16	2.557699644	37	1.568201724	49.5	1.6946052
8/9/2002	353.55	2.548450829	36.75	1.565257343	49	1.69019608
15/9/2002	357.15	2.552850642	34.5	1.537819095	48	1.68124124
22/9/2002	351.52	2.545950027	32.5	1.511883361	47.75	1.67897338
29/9/2002	338.72	2.529840841	32.25	1.508529719	48	1.68124124
6/10/2002	340.92	2.532652493	32	1.505149978	46.5	1.66745295
13/10/2002	330.41	2.519053183	30.75	1.48784512	46.5	1.66745295
20/10/2002	342.46	2.53460984	31	1.491361694	45.5	1.6580114
27/10/2002	348.46	2.54215292	32.25	1.508529719	48	1.68124124
3/11/2002	357.68	2.553494645	32.5	1.511883361	48.75	1.68797462
10/11/2002	355	2.550228353	32	1.505149978	48	1.68124124
17/11/2002	356.24	2.55174267	32.5	1.511883361	46	1.66275783
24/11/2002	362.59	2.559415822	33	1.51851394	46	1.66275783
1/12/2002	364.9	2.562173851	32.75	1.515211304	46.5	1.66745295
8/12/2002	365.09	2.562399938	32.5	1.511883361	46.75	1.66978162

DATE	SET	LOG(SET)	BANPU	LOG(BANPU)	NPC	LOG(NPC)
15/12/2002	356.2	2.551693927	32.75	1.515211304	46	1.66275783
22/12/2002	350.01	2.544080465	32.5	1.511883361	46.5	1.66745295
29/12/2002	356.48	2.552035181	33	1.51851394	47	1.67209786
5/1/2003	357.23	2.552947936	32.5	1.511883361	46.75	1.66978162
12/1/2003	360.37	2.55674863	34.75	1.540954809	51	1.70757018
19/1/2003	367.16	2.564855361	34.25	1.534660576	52	1.71600334
26/1/2003	376.3	2.575534207	34.25	1.534660576	50.5	1.70329138
2/2/2003	370.01	2.568213473	34.5	1.537819095	51	1.70757018
9/2/2003	378.95	2.578581923	37.25	1.571126277	51	1.70757018
16/2/2003	368.71	2.566684905	37.5	1.574031268	51	1.70757018
23/2/2003	359.53	2.555735135	37.25	1.571126277	50.5	1.70329138
2/3/2003	361.32	2.557892014	38	1.579783597	50.5	1.70329138
9/3/2003	358.48	2.554464943	37.5	1.574031268	50.5	1.70329138
16/3/2003	358.24	2.554174064	37.25	1.571126277	52	1.71600334
23/3/2003	363.62	2.560647762	36.75	1.565257343	49.75	1.69679309
30/3/2003	369.53	2.567649702	37.5	1.574031268	51	1.70757018
6/4/2003	371.93	2.570461198	36.75	1.565257343	51	1.70757018
13/4/2003	383.36	2.583606785	37.5	1.574031268	54	1.73239376
20/4/2003	384.5	2.584896344	39.75	1.599337133	54	1.73239376
27/4/2003	368.53	2.566472847	37.25	1.571126277	51	1.70757018
4/5/2003	375.24	2.574309116	39.5	1.596597096	52.5	1.7201593
11/5/2003	384.32	2.584692997	39.25	1.593839661	54	1.73239376
18/5/2003	383	2.583198774	39.25	1.593839661	53.5	1.72835378
25/5/2003	395.52	2.597168438	39	1.591064607	54	1.73239376
1/6/2003	403.82	2.606187835	41.75	1.62065648	53.5	1.72835378
8/6/2003	418.21	2.621394403	42	1.62324929	56.5	1.75204845

DATE	SET	LOG(SET)	BANPU	LOG(BANPU)	NPC	LOG(NPC)
15/6/2003	427.97	2.631413327	42.5	1.62838893	57.5	1.75966784
22/6/2003	452.66	2.655772119	43.5	1.638489257	64	1.80617997
29/6/2003	457.51	2.660400601	45	1.653212514	61	1.78532984
6/7/2003	495.72	2.695236441	47.75	1.678973376	65	1.81291336
13/7/2003	484.39	2.685195178	46	1.662757832	63	1.79934055
20/7/2003	493.04	2.692882164	49.5	1.694605199	65	1.81291336
27/7/2003	484.86	2.685616348	46.75	1.669781615	65	1.81291336
3/8/2003	491.54	2.691558874	48.75	1.68797462	71	1.85125835
10/8/2003	503.2	2.701740641	53.5	1.728353782	67	1.8260748
17/8/2003	519.04	2.715200811	57	1.755874856	72	1.8573325
24/8/2003	534.81	2.728199519	54	1.73239376	71.5	1.85430604
31/8/2003	537.71	2.730548129	55.5	1.744292983	72	1.8573325
7/9/2003	557.81	2.746486296	55.5	1.744292983	71.5	1.85430604
14/9/2003	568.37	2.754631147	60	1.77815125	73	1.86332286
21/9/2003	567.21	2.753743894	62	1.792391689	74	1.86923172
28/9/2003	580.87	2.764078947	62	1.792391689	76.5	1.88366144
5/10/2003	558.34	2.746898766	61	1.785329835	72	1.8573325
12/10/2003	582.15	2.765034917	70.5	1.848189117	74	1.86923172
19/10/2003	588.6	2.769820243	80	1.903089987	81	1.90848502
26/10/2003	609.25	2.784795538	87.5	1.942008053	86	1.93449845
2/11/2003	639.45	2.805806598	86.5	1.937016107	86.5	1.93701611
9/11/2003	671	2.82672252	97	1.986771734	87.5	1.94200805
16/11/2003	657.38	2.817816487	89.5	1.951823035	90	1.95424251
23/11/2003	613.43	2.787765004	84	1.924279286	86	1.93449845
30/11/2003	646.03	2.810252706	92	1.963787827	86.5	1.93701611
7/12/2003	659.29	2.819076475	101	2.004321374	90	1.95424251

DATE	SET	LOG(SET)	BANPU	LOG(BANPU)	NPC	LOG(NPC)
14/12/2003	674.45	2.828949765	110	2.041392685	100	2
21/12/2003	709.15	2.850738119	114	2.056904851	101	2.00432137
28/12/2003	734.89	2.866222344	116	2.064457989	125	2.09691001
4/1/2004	772.15	2.887701687	128	2.10720997	142	2.15228834
11/1/2004	783.44	2.894005741	148	2.170261715	132	2.12057393
18/1/2004	778.44	2.891225144	131	2.117271296	125	2.09691001
25/1/2004	754.44	2.877624706	136	2.133538908	126	2.10037055
1/2/2004	698.9	2.844415053	129	2.11058971	126	2.10037055
8/2/2004	711.15	2.851961227	133	2.123851641	119	2.07554696
15/2/2004	755.18	2.878050474	152	2.181843588	125	2.09691001
22/2/2004	728.64	2.862513015	147	2.167317335	119	2.07554696
29/2/2004	716.3	2.855094945	143	2.155336037	123	2.08990511
7/3/2004	700.59	2.845463953	130	2.113943352	119	2.07554696
14/3/2004	695.08	2.842034805	132	2.120573931	119	2.07554696
21/3/2004	681.27	2.833319278	131	2.117271296	103	2.01283722
28/3/2004	665.25	2.822984883	128	2.10720997	102	2.00860017
4/4/2004	693.12	2.840808431	136	2.133538908	101	2.00432137
11/4/2004	691.39	2.8397231	132	2.120573931	98	1.99122608
18/4/2004	712.2	2.852601975	131	2.117271296	102	2.00860017
25/4/2004	681.88	2.833707952	131	2.117271296	97	1.98677173
2/5/2004	648.15	2.811675539	124	2.093421685	86.5	1.93701611
9/5/2004	636.8	2.804003048	120	2.079181246	84.5	1.92685671
16/5/2004	609.72	2.78513042	111	2.045322979	80.5	1.90579588
23/5/2004	615.41	2.789164528	103	2.012837225	88.5	1.94694327
30/5/2004	638.59	2.805222134	123	2.089905111	90	1.95424251
6/6/2004	626.47	2.796900258	116	2.064457989	89.5	1.95182304

DATE	SET	LOG(SET)	BANPU	LOG(BANPU)	NPC	LOG(NPC)
13/6/2004	613.13	2.787552566	112	2.049218023	87.5	1.94200805
20/6/2004	622.71	2.794285854	119	2.075546961	89	1.94939001
27/6/2004	644	2.808885867	124	2.093421685	93	1.96848295
4/7/2004	647.57	2.811286728	131	2.117271296	104	2.01703334
11/7/2004	666.59	2.823858814	139	2.1430148	114	2.05690485
18/7/2004	646.11	2.810306456	143	2.155336037	108	2.03342376
25/7/2004	648.47	2.811889869	143	2.155336037	114	2.05690485
1/8/2004	636.7	2.803934857	140	2.146128036	110	2.04139269
8/8/2004	610.94	2.785998561	134	2.127104798	98.5	1.99343623
15/8/2004	588.87	2.77001943	136	2.133538908	89.5	1.95182304
22/8/2004	598.55	2.777100428	138	2.139879086	94	1.97312785
29/8/2004	620.12	2.792475738	142	2.152288344	100	2
5/9/2004	629.08	2.798705892	145	2.161368002	103	2.01283722
12/9/2004	640.6	2.806586921	143	2.155336037	107	2.02938378
19/9/2004	668.73	2.825250794	153	2.184691431	110	2.04139269
26/9/2004	654.6	2.815975988	164	2.214843848	104	2.01703334
3/10/2004	661.23	2.820352536	163	2.212187604	106	2.02530587
10/10/2004	676.15	2.830043065	171	2.23299611	116	2.06445799
17/10/2004	648.48	2.811896573	158	2.198657087	109	2.0374265
24/10/2004	659.05	2.818918358	163	2.212187604	104	2.01703334
31/10/2004	628.16	2.798070257	146	2.164352856	102	2.00860017
7/11/2004	635.09	2.802835295	150	2.176091259	103	2.01283722
14/11/2004	639.74	2.806003499	151	2.178976947	104	2.01703334
21/11/2004	651.42	2.813861075	154	2.187520721	106	2.02530587
28/11/2004	648.75	2.812077371	149	2.173186268	102	2.00860017
5/12/2004	663.84	2.822063437	154	2.187520721	104	2.01703334

DATE	SET	LOG(SET)	BANPU	LOG(BANPU)	NPC	LOG(NPC)
12/12/2004	648.78	2.812097473	147	2.167317335	102	2.00860017
19/12/2004	669.46	2.825724646	153	2.184691431	105	2.0211893
26/12/2004	670.35	2.826301601	154	2.187520721	103	2.01283722



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ภาคผนวก ข

อัตราผลตอบแทนของตลาดหลักทรัพย์และหลักทรัพย์

(หน่วย : ร้อยละต่อสัปดาห์)

DATE	R_m	R_f	$R_{i_{banpu}}$	$R_{i_{npc}}$
13/1/2002	-1.59448	0.043269	-1.94174757	-1.3888889
20/1/2002	6.761778999	0.043269	3.96039604	19.71831
27/1/2002	-0.69028587	0.038462	9.523809524	3.5294118
3/2/2002	5.0319354	0.038462	11.30434783	2.2727273
10/2/2002	5.4950621	0.038462	12.5	-2.2222222
17/2/2002	-5.817377	0.038462	-6.944444444	-10.227273
24/2/2002	8.3485082	0.038462	14.92537313	8.2278481
3/3/2002	2.627085318	0.038462	18.83116883	-1.754386
10/3/2002	-3.394337729	0.038462	-3.82513661	2.3809524
17/3/2002	3.158533529	0.038462	-2.27272727	18.604651
24/3/2002	-3.945439367	0.038462	-4.06976744	0.9803922
31/3/2002	-1.058970422	0.038462	-6.66666667	-4.8543689
7/4/2002	2.605478597	0.038462	9.090909091	-1.0204082
14/4/2002	1.812293549	0.038462	-4.76190476	-3.0927835
21/4/2002	-2.605368487	0.038462	-2.5	-0.5319149
28/4/2002	-0.634897992	0.038462	1.282051282	1.0695187
5/5/2002	2.149447992	0.038462	-2.53164557	1.5873016
12/5/2002	-1.010230574	0.038462	-2.5974026	-2.0833333
19/5/2002	3.664434242	0.038462	3.333333333	4.2553191
26/5/2002	4.047537555	0.038462	10.96774194	7.1428571

DATE	R_m	R_f	Ri_{banpu}	Ri_{npc}
2/6/2002	2.29679386	0.038462	2.325581395	9.5238095
9/6/2002	1.2244531	0.038462	1.704545455	-9.5652174
16/6/2002	-6.386708172	0.038462	-6.70391061	1.9230769
23/6/2002	-1.608248663	0.038462	-4.19161677	-1.8867925
30/6/2002	3.084040013	0.038462	3.125	0.9615385
7/7/2002	-0.10970082	0.038462	0.606060606	-2.8571429
14/7/2002	-1.594870963	0.038462	-2.40963855	1.9607843
21/7/2002	-7.051003299	0.038462	-12.962963	-9.6153846
28/7/2002	1.088763064	0.038462	-0.70921986	2.1276596
4/8/2002	-0.915073177	0.038462	0	3.6458333
11/8/2002	1.623665742	0.038462	8.571428571	0
18/8/2002	-1.613808541	0.038462	-2.63157895	0
25/8/2002	-1.593964699	0.038462	0	-0.5025126
1/9/2002	-2.107102115	0.038462	-0.67567568	-1.010101
8/9/2002	1.018243559	0.038462	-6.12244898	-2.0408163
15/9/2002	-1.576368517	0.038462	-5.79710145	-0.5208333
22/9/2002	-3.641326344	0.038462	-0.76923077	0.5235602
29/9/2002	0.649506967	0.033654	-0.7751938	-3.125
6/10/2002	-3.082837525	0.033654	-3.90625	0
13/10/2002	3.646981024	0.033654	0.81300813	-2.1505376
20/10/2002	1.752029485	0.033654	4.032258065	5.4945055
27/10/2002	2.645927873	0.033654	0.775193798	1.5625
3/11/2002	-0.749270318	0.033654	-1.53846154	-1.5384615
10/11/2002	0.349292958	0.033654	1.5625	-4.1666667
17/11/2002	1.782509033	0.033654	1.538461538	0
24/11/2002	0.637080449	0.033654	-0.75757576	1.0869565

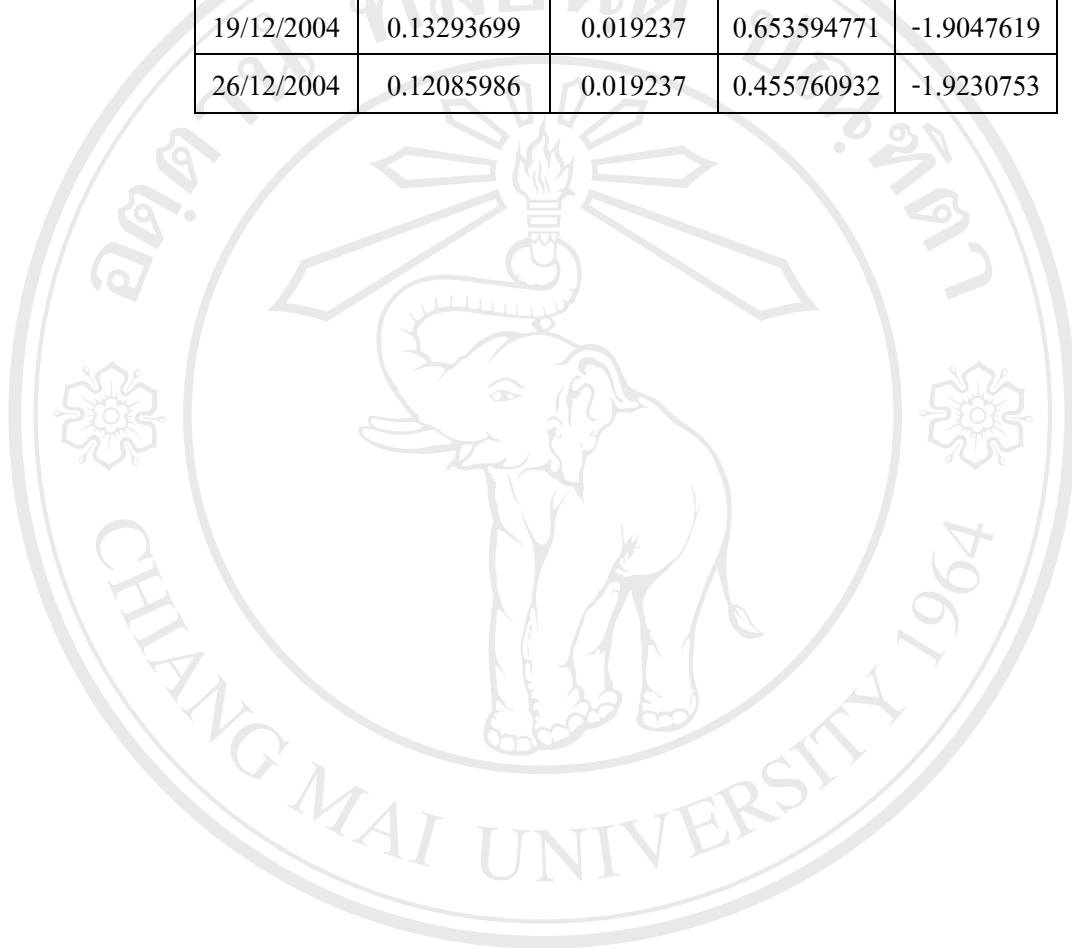
DATE	R_m	R_f	Ri_{banpu}	Ri_{npc}
1/12/2002	0.052071802	0.033654	-0.76335878	0.5376344
8/12/2002	-2.435013284	0.033654	0.769230769	-1.6042781
15/12/2002	-1.737787711	0.033654	-0.76335878	1.0869565
22/12/2002	1.848518561	0.033654	1.538461538	1.0752688
29/12/2002	0.210390479	0.033654	-1.51515152	-0.5319149
5/1/2003	0.878982704	0.028846	6.923076923	9.0909091
12/1/2003	1.884174598	0.028846	-1.43884892	1.9607843
19/1/2003	2.489375204	0.028846	0	-2.8846154
26/1/2003	-1.671533395	0.028846	0.729927007	0.990099
2/2/2003	2.41615085	0.028846	7.971014493	0
9/2/2003	-2.702208663	0.028846	0.67114094	0
16/2/2003	-2.489758957	0.028846	-0.66666667	-0.9803922
23/2/2003	0.497875003	0.028846	2.013422819	0
2/3/2003	-0.786006842	0.028846	-1.31578947	0
9/3/2003	-0.066954919	0.028846	-0.66666667	2.970297
16/3/2003	1.501789345	0.028846	-1.34228188	-4.3269231
23/3/2003	1.62532314	0.028846	2.040816327	2.5125628
30/3/2003	0.64947095	0.028846	-2	0
6/4/2003	3.07315901	0.028846	2.040816327	5.8823529
13/4/2003	0.297373234	0.028846	6	0
20/4/2003	-4.153446034	0.028846	-6.28930818	-5.5555556
27/4/2003	1.82074458	0.028846	6.040268456	2.9411765
4/5/2003	2.419790066	0.028846	-0.63291139	2.8571429
11/5/2003	-0.343466373	0.028846	0	-0.9259259
18/5/2003	3.268926893	0.028846	-0.63694268	0.9345794
25/5/2003	2.098508346	0.028846	7.051282051	-0.9259259

DATE	R_m	R_f	Ri_{banpu}	Ri_{npc}
1/6/2003	3.563463831	0.024038	0.598802395	5.6074766
8/6/2003	2.333758216	0.024038	1.19047619	1.7699115
15/6/2003	5.769095965	0.024038	2.352941176	11.304348
22/6/2003	1.07144656	0.024038	3.448275862	-4.6875
29/6/2003	8.351727649	0.024038	6.111111111	6.557377
6/7/2003	-2.285562414	0.024038	-3.66492147	-3.0769231
13/7/2003	1.785751114	0.024038	7.608695652	3.1746032
20/7/2003	-1.65909862	0.024038	-5.55555556	0
27/7/2003	1.377721433	0.024038	4.278074866	9.2307692
3/8/2003	2.372136502	0.024038	9.743589744	-5.6338028
10/8/2003	3.147847712	0.024038	6.542056075	7.4626866
17/8/2003	3.03830545	0.024038	-5.26315789	-0.6944444
24/8/2003	0.542252389	0.024038	2.777777778	0.6993007
31/8/2003	3.738070568	0.024038	0	-0.6944444
7/9/2003	1.893117728	0.024038	8.108108108	2.0979021
14/9/2003	-0.204088886	0.024038	3.333333333	1.369863
21/9/2003	2.40827551	0.024038	0	3.3783784
28/9/2003	-3.878659597	0.024038	-1.61290323	-5.8823529
5/10/2003	4.264424673	0.024038	15.57377049	2.7777778
12/10/2003	1.107954956	0.024038	13.4751773	9.4594595
19/10/2003	3.508328356	0.024038	9.375	6.1728395
26/10/2003	4.95691588	0.024038	-1.14285714	0.5813953
2/11/2003	4.933925953	0.024038	12.13872832	1.1560694
9/11/2003	-2.029806259	0.024038	-7.73195876	2.8571429
16/11/2003	-6.685632359	0.024038	-6.1452514	-4.4444444
23/11/2003	5.314386406	0.024038	9.523809524	0.5813953

DATE	R_m	R_f	Ri_{banpu}	Ri_{npc}
30/11/2003	2.052528425	0.024038	9.782608696	4.0462428
7/12/2003	2.299447961	0.024038	8.910891089	11.111111
14/12/2003	5.144934315	0.024038	3.636363636	1
21/12/2003	3.629696013	0.024038	1.754385965	23.762376
28/12/2003	5.070147844	0.024038	10.34482759	13.6
4/1/2004	1.462148508	0.024038	15.625	-7.0422535
11/1/2004	-0.638210967	0.024038	-11.4864865	-5.3030303
18/1/2004	-3.083089255	0.024038	3.816793893	0.8
25/1/2004	-7.361749112	0.024038	-5.14705882	0
1/2/2004	1.752754278	0.024038	3.100775194	-5.5555556
8/2/2004	6.191375766	0.024038	14.28571429	5.0420168
15/2/2004	-3.514391317	0.024038	-3.28947368	-4.8
22/2/2004	-1.693568817	0.024038	-2.72108844	3.3613445
29/2/2004	-2.19320958	0.024038	-9.09090909	-3.2520325
7/3/2004	-0.786481361	0.024038	1.538461538	0
14/3/2004	-1.986821604	0.024038	-0.75757576	-13.445378
21/3/2004	-2.351493465	0.024038	-2.29007634	-0.9708738
28/3/2004	4.18940248	0.024038	6.25	-0.9803922
4/4/2004	-0.249594587	0.024038	-2.94117647	-2.970297
11/4/2004	3.009878607	0.024038	-0.75757576	4.0816327
18/4/2004	-4.257232459	0.024038	0	-4.9019608
25/4/2004	-4.94661524	0.024038	-5.34351145	-10.824742
2/5/2004	-1.751142428	0.019237	-3.22580645	-2.3121387
9/5/2004	-4.25251577	0.019237	-7.5	-4.7337278
16/5/2004	0.933215292	0.019237	-7.20720721	9.9378882
23/5/2004	3.766604561	0.019237	19.41747573	1.6949153

DATE	R_m	R_f	Ri_{banpu}	Ri_{npc}
30/5/2004	-1.897940687	0.019237	-5.69105691	-0.5555556
6/6/2004	-2.129386984	0.019237	-3.44827586	-2.2346369
13/6/2004	1.562477778	0.019237	6.25	1.7142857
20/6/2004	3.418923627	0.019237	4.201680672	4.494382
27/6/2004	0.554349379	0.019237	5.64516129	11.827957
4/7/2004	2.937137253	0.019237	6.106870229	9.6153846
11/7/2004	-3.072359183	0.019237	2.877697842	-5.2631579
18/7/2004	0.365259791	0.019237	0	5.5555556
25/7/2004	-1.815035475	0.019237	-2.0979021	-3.5087719
1/8/2004	-4.04586298	0.019237	-4.28571429	-10.454545
8/8/2004	-3.612466036	0.019237	1.492537313	-9.1370558
15/8/2004	1.643824613	0.019237	1.470588235	5.027933
22/8/2004	3.603710694	0.019237	2.898550725	6.3829787
29/8/2004	1.444884861	0.019237	2.112676056	3
5/9/2004	1.831239212	0.019237	-1.37931034	3.8834951
12/9/2004	4.391195891	0.019237	6.993006993	2.8037383
19/9/2004	-2.112960451	0.019237	7.189542484	-5.4545455
26/9/2004	1.012832295	0.019237	-0.6097561	1.9230769
3/10/2004	2.256407067	0.019237	4.90797546	9.4339623
10/10/2004	-4.092293009	0.019237	-7.60233918	-6.0344828
17/10/2004	1.62996705	0.019237	3.164556962	-4.587156
24/10/2004	-4.687052647	0.019237	-10.4294479	-1.9230769
31/10/2004	1.103231713	0.019237	2.739726027	0.9803922
7/11/2004	0.732173358	0.019237	0.666666667	0.9708738
14/11/2004	1.825740173	0.019237	1.986754967	1.9230769
21/11/2004	-0.409870756	0.019237	-3.24675325	-3.7735849

DATE	R_m	R_f	Ri_{banpu}	Ri_{npc}
28/11/2004	2.326016185	0.019237	3.355704698	1.9607843
5/12/2004	-2.268618842	-0.019237	-4.54545455	-1.9230769
12/12/2004	3.187519505	0.019237	4.081632653	2.9411765
19/12/2004	0.13293699	0.019237	0.653594771	-1.9047619
26/12/2004	0.12085986	0.019237	0.455760932	-1.9230753



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ภาคผนวก ก

การทดสอบ Unit Root ของตัวแปรต่างๆในแบบจำลอง

MARKET

1. WITH INTERCEPT AND TREND

ADF Test Statistic	-5.399743	1% Critical Value*	-4.0220
		5% Critical Value	-3.4405
		10% Critical Value	-3.1445

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

Augmented Dickey-Fuller Test Equation

Dependent Variable: D(SET,2)

Method: Least Squares

Date: 05/13/05 Time: 10:32

Sample(adjusted): 7 155

Included observations: 149 after adjusting endpoints

Variable	Coefficient	Std. Error	t-Statistic	Prob.
D(SET(-1))	-0.940851	0.174240	-5.399743	0.0000
D(SET(-1),2)	-0.026464	0.153518	-0.172383	0.8634
D(SET(-2),2)	0.014948	0.136337	0.109639	0.9129
D(SET(-3),2)	0.050813	0.113751	0.446704	0.6558
D(SET(-4),2)	-0.070728	0.081864	-0.863969	0.3891
C	0.001361	0.002315	0.588166	0.5574
@TREND(1)	3.06E-06	2.50E-05	0.122518	0.9027
R-squared	0.506660	Mean dependent var	-0.000152	
Adjusted R-squared	0.485814	S.D. dependent var	0.018262	
S.E. of regression	0.013095	Akaike info criterion	-5.787298	
Sum squared resid	0.024351	Schwarz criterion	-5.646173	
Log likelihood	438.1537	F-statistic	24.30563	
Durbin-Watson stat	1.939263	Prob(F-statistic)	0.000000	

2. WITH INTERCEPT AND WITHOUT TREND

ADF Test Statistic	-5.436582	1% Critical Value*	-3.4752
		5% Critical Value	-2.8809
		10% Critical Value	-2.5770

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

Augmented Dickey-Fuller Test Equation

Dependent Variable: D(SET,2)

Method: Least Squares

Date: 05/13/05 Time: 10:34

Sample(adjusted): 7 155

Included observations: 149 after adjusting endpoints

Variable	Coefficient	Std. Error	t-Statistic	Prob.
D(SET(-1))	-0.942177	0.173303	-5.436582	0.0000
D(SET(-1),2)	-0.025208	0.152647	-0.165139	0.8691
D(SET(-2),2)	0.015909	0.135642	0.117283	0.9068
D(SET(-3),2)	0.051625	0.113166	0.456187	0.6489
D(SET(-4),2)	-0.070375	0.081531	-0.863166	0.3895
C	0.001609	0.001122	1.433665	0.1539
R-squared	0.506608	Mean dependent var	-0.000152	
Adjusted R-squared	0.489356	S.D. dependent var	0.018262	
S.E. of regression	0.013050	Akaike info criterion	-5.800615	
Sum squared resid	0.024353	Schwarz criterion	-5.679651	
Log likelihood	438.1458	F-statistic	29.36603	
Durbin-Watson stat	1.938930	Prob(F-statistic)	0.000000	

3. WITHOUT INTERCEPT AND TREND

ADF Test Statistic	-5.230101	1% Critical Value*	-2.5794
		5% Critical Value	-1.9420
		10% Critical Value	-1.6168

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

Augmented Dickey-Fuller Test Equation

Dependent Variable: D(SET,2)

Method: Least Squares

Date: 05/13/05 Time: 10:35

Sample(adjusted): 7 155

Included observations: 149 after adjusting endpoints

Variable	Coefficient	Std. Error	t-Statistic	Prob.
D(SET(-1))	-0.866596	0.165694	-5.230101	0.0000
D(SET(-1),2)	-0.084593	0.147457	-0.573677	0.5671
D(SET(-2),2)	-0.030079	0.132277	-0.227391	0.8204
D(SET(-3),2)	0.019801	0.111374	0.177792	0.8591
D(SET(-4),2)	-0.087495	0.080947	-1.080885	0.2816
R-squared	0.499516	Mean dependent var	-0.000152	
Adjusted R-squared	0.485613	S.D. dependent var	0.018262	
S.E. of regression	0.013098	Akaike info criterion	-5.799767	
Sum squared resid	0.024703	Schwarz criterion	-5.698963	
Log likelihood	437.0826	F-statistic	35.93034	
Durbin-Watson stat	1.944446	Prob(F-statistic)	0.000000	

หลักทรัพย์ BANPU

1. WITH INTERCEPT AND TREND

ADF Test Statistic	-12.05573	1% Critical Value*	-4.0204
		5% Critical Value	-3.4398
		10% Critical Value	-3.1440

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

Augmented Dickey-Fuller Test Equation

Dependent Variable: D(BANPU,2)

Method: Least Squares

Date: 05/13/05 Time: 10:39

Sample(adjusted): 3 155

Included observations: 153 after adjusting endpoints

Variable	Coefficient	Std. Error	t-Statistic	Prob.
D(BANPU(-1))	-0.983235	0.081557	-12.05573	0.0000
C	0.005476	0.004155	1.317810	0.1896
@TREND(1)	-5.49E-06	4.61E-05	-0.119046	0.9054
R-squared	0.492125	Mean dependent var	7.42E-05	
Adjusted R-squared	0.485354	S.D. dependent var	0.035120	
S.E. of regression	0.025194	Akaike info criterion	-4.504982	
Sum squared resid	0.095213	Schwarz criterion	-4.445562	
Log likelihood	347.6311	F-statistic	72.67426	
Durbin-Watson stat	1.995300	Prob(F-statistic)	0.000000	

2. WITH INTERCEPT AND WITHOUT TREND

ADF Test Statistic	-12.09502	1% Critical Value*	-3.4741
		5% Critical Value	-2.8804
		10% Critical Value	-2.5767

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

Augmented Dickey-Fuller Test Equation

Dependent Variable: D(BANPU,2)

Method: Least Squares

Date: 05/13/05 Time: 10:40

Sample(adjusted): 3 155

Included observations: 153 after adjusting endpoints

Variable	Coefficient	Std. Error	t-Statistic	Prob.
D(BANPU(-1))	-0.983210	0.081291	-12.09502	0.0000
C	0.005047	0.002071	2.436747	0.0160
R-squared	0.492077	Mean dependent var	7.42E-05	
Adjusted R-squared	0.488714	S.D. dependent var	0.035120	
S.E. of regression	0.025112	Akaike info criterion	-4.517959	
Sum squared resid	0.095222	Schwarz criterion	-4.478346	
Log likelihood	347.6239	F-statistic	146.2894	
Durbin-Watson stat	1.995163	Prob(F-statistic)	0.000000	

3. WITHOUT INTERCEPT AND TREND

ADF Test Statistic	-8.072628	1% Critical Value*	-2.5791
		5% Critical Value	-1.9419
		10% Critical Value	-1.6168

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

Augmented Dickey-Fuller Test Equation

Dependent Variable: D(BANPU,2)

Method: Least Squares

Date: 05/13/05 Time: 10:42

Sample(adjusted): 4 155

Included observations: 152 after adjusting endpoints

Variable	Coefficient	Std. Error	t-Statistic	Prob.
D(BANPU(-1))	-0.904224	0.112011	-8.072628	0.0000
D(BANPU(-1),2)	-0.040427	0.081554	-0.495703	0.6208
R-squared	0.472758	Mean dependent var	-9.24E-05	
Adjusted R-squared	0.469243	S.D. dependent var	0.035175	
S.E. of regression	0.025626	Akaike info criterion	-4.477345	
Sum squared resid	0.098504	Schwarz criterion	-4.437557	
Log likelihood	342.2782	F-statistic	134.4993	
Durbin-Watson stat	2.001838	Prob(F-statistic)	0.000000	

หลักทรัพย์ NPC

1. WITH INTERCEPT AND TREND

ADF Test Statistic	-11.93349	1% Critical Value*	-4.0204
		5% Critical Value	-3.4398
		10% Critical Value	-3.1440

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

Augmented Dickey-Fuller Test Equation

Dependent Variable: D(NPC,2)

Method: Least Squares

Date: 05/13/05 Time: 10:44

Sample(adjusted): 3 155

Included observations: 153 after adjusting endpoints

Variable	Coefficient	Std. Error	t-Statistic	Prob.
D(NPC(-1))	-0.973822	0.081604	-11.93349	0.0000
C	0.005137	0.003854	1.332853	0.1846
@TREND(1)	-2.81E-05	4.28E-05	-0.656736	0.5124
R-squared	0.487045	Mean dependent var	-1.49E-05	
Adjusted R-squared	0.480205	S.D. dependent var	0.032408	
S.E. of regression	0.023365	Akaike info criterion	-4.655722	
Sum squared resid	0.081890	Schwarz criterion	-4.596302	
Log likelihood	359.1628	F-statistic	71.21162	
Durbin-Watson stat	1.913324	Prob(F-statistic)	0.000000	

2. WITH INTERCEPT AND WITHOUT TREND

ADF Test Statistic	-11.93854	1% Critical Value*	-3.4741
		5% Critical Value	-2.8804
		10% Critical Value	-2.5767

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

Augmented Dickey-Fuller Test Equation

Dependent Variable: D(NPC,2)

Method: Least Squares

Date: 05/13/05 Time: 10:45

Sample(adjusted): 3 155

Included observations: 153 after adjusting endpoints

Variable	Coefficient	Std. Error	t-Statistic	Prob.
D(NPC(-1))	-0.971424	0.081369	-11.93854	0.0000
C	0.002937	0.001902	1.544405	0.1246
R-squared	0.485570	Mean dependent var	-1.49E-05	
Adjusted R-squared	0.482163	S.D. dependent var	0.032408	
S.E. of regression	0.023321	Akaike info criterion	-4.665923	
Sum squared resid	0.082126	Schwarz criterion	-4.626310	
Log likelihood	358.9431	F-statistic	142.5287	
Durbin-Watson stat	1.912647	Prob(F-statistic)	0.000000	

3. WITHOUT INTERCEPT AND TREND

ADF Test Statistic	-8.600434	1% Critical Value*	-2.5791
		5% Critical Value	-1.9419
		10% Critical Value	-1.6168

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

Augmented Dickey-Fuller Test Equation

Dependent Variable: D(NPC,2)

Method: Least Squares

Date: 05/13/05 Time: 10:48

Sample(adjusted): 4 155

Included observations: 152 after adjusting endpoints

Variable	Coefficient	Std. Error	t-Statistic	Prob.
D(NPC(-1))	-0.934062	0.108606	-8.600434	0.0000
D(NPC(-1),2)	-0.016061	0.078664	-0.204166	0.8385
R-squared	0.493460	Mean dependent var	-0.000569	
Adjusted R-squared	0.490083	S.D. dependent var	0.031779	
S.E. of regression	0.022693	Akaike info criterion	-4.720437	
Sum squared resid	0.077247	Schwarz criterion	-4.680649	
Log likelihood	360.7532	F-statistic	146.1269	
Durbin-Watson stat	2.017728	Prob(F-statistic)	0.000000	

ภาคผนวก ง

การวิเคราะห์ความถดถอยอย่างง่ายโดยวิธีกำลังสองน้อยที่สุด(OLS)

หลักทรัพย์ BANPU

Dependent Variable: BANPU

Method: Least Squares

Date: 05/03/05 Time: 18:13

Sample(adjusted): 1 153

Included observations: 153 after adjusting endpoints

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	0.005686	0.003563	1.595901	0.1126
SET	1.249113	0.115979	10.77018	0.0000
R-squared	0.434450	Mean dependent var		0.011647
Adjusted R-squared	0.430705	S.D. dependent var		0.057695
S.E. of regression	0.043531	Akaike info criterion		-3.417679
Sum squared resid	0.286143	Schwarz criterion		-3.378066
Log likelihood	263.4525	F-statistic		115.9967
Durbin-Watson stat	2.258752	Prob(F-statistic)		0.000000

หลักทรัพย์ NPC

Dependent Variable: NPC

Method: Least Squares

Date: 05/03/05 Time: 18:10

Sample(adjusted): 1 153

Included observations: 153 after adjusting endpoints

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	0.002415	0.003682	0.655831	0.5129
SET	0.959910	0.119880	8.007233	0.0000
R-squared	0.298052	Mean dependent var		0.006996
Adjusted R-squared	0.293404	S.D. dependent var		0.053529
S.E. of regression	0.044996	Akaike info criterion		-3.351506
Sum squared resid	0.305719	Schwarz criterion		-3.311893
Log likelihood	258.3902	F-statistic		64.11577
Durbin-Watson stat	2.111460	Prob(F-statistic)		0.000000

ภาคผนวก จ

ผลตอบแทนจากการลงทุนฝากออมทรัพย์

เงินต้น	t	(1+i/m)	mt	(1+i/m) ^{mt}	FV	PV
50000	1	1.00375	2	1.007514	50376	49627
	2	1.00375	4	1.015085	50754	49257
	3	1.00375	6	1.022712	51136	48890
100000	1	1.00375	2	1.007514	100751	99254
	2	1.00375	4	1.015085	101508	98514
	3	1.00375	6	1.022712	102271	97779
500000	1	1.00375	2	1.007514	503757	496271
	2	1.00375	4	1.015085	507542	492570
	3	1.00375	6	1.022712	511356	488896
1000000	1	1.00375	2	1.007514	1007514	992542
	2	1.00375	4	1.015085	1015085	985140
	3	1.00375	6	1.022712	1022712	977792

ภาคผนวก จ

ผลตอบแทนจากการลงทุนซื้อสลากออมทรัพย์ทวีสิน

เงินต้น	t	(1+i/m)	(1+i/m) ^{mt}	FV	PV
50000	1	1.0033	1.0033	50165	49836
	2	1.0033	1.006611	50331	49672
	3	1.0033	1.009933	50497	49508
100000	1	1.0033	1.0033	100330	99671
	2	1.0033	1.006611	100661	99343
	3	1.0033	1.009933	100993	99016
500000	1	1.0033	1.0033	501650	498355
	2	1.0033	1.006611	503305	496716
	3	1.0033	1.009933	504966	495082
1000000	1	1.0033	1.0033	1003300	996711
	2	1.0033	1.006611	1006611	993433
	3	1.0033	1.009933	1009933	990165

ประวัติผู้เขียน

ชื่อ

นางสาวนาฏธิดา เหล่าพงศ์หาญ

วัน เดือน ปี เกิด

26 กรกฎาคม 2524

ประวัติการศึกษา

สำเร็จการศึกษามัธยมศึกษาตอนปลาย โรงเรียนเตรียมอุดมศึกษา

ปีการศึกษา 2542

สำเร็จการศึกษาระดับปริญญาตรีบัณฑิต

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ลิขสิทธิ์มหาวิทยาลัยเชียงใหม่

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