ภาคผนวก

ภาคผนวก ก

ข้อมูลดัชนีบอลติก ดรายและราคาหลักทรัพย์ที่นำมาศึกษา

Observation	DATE	BDI	ASIMAR	JUTHA	PSL	RCL	TTA
1	2/1/2006	2407	1.43	6.8	15.87	27.25	23.18
2	3/1/2006	2438	1.45	6.85	16	27	23.18
3	4/1/2006	2468	1.46	7	16.75	27.75	24.77
4	5/1/2006	2495	1.47	6.8	16.12	27.25	24.32
5	6/1/2006	2497	1.4	6.85	16.25	27.25	23.86
6	9/1/2006	2493	1.4	7.05	16.62	27.5	24.55
7	10/1/2006	2470	1.4	7	16.5	27.25	24.55
8	11/1/2006	2428	1.4	6.9	16.37	27	24.32
9	12/1/2006	2382	1.39	6.7	15.87	26.75	24.32
10	13/1/2006	2341	1.4	6.9	16	26.5	24.09
11	16/1/2006	2307	1.38	6.8	15.75	26.25	23.86
12	17/1/2006	2263	1.4	6.8	15.62	26.5	23.64
13	18/1/2006	2214	1.41	6.6	15.12	26	23.18
14	19/1/2006	2169	1.41	6.55	15.12	26	23.41
15	20/1/2006	2121	1.4	6.6	15.75	25.5	23.41
16	23/1/2006	2084	1.39	6.45	15.25	24.4	23.18
17	24/1/2006	2050	1.37	6.35	14	22.5	21.55
18	25/1/2006	2033	1.41	6.2	13.37	21.4	21
19	26/1/2006	2037	1.41	6.25	13.37	22	21.36
20	27/1/2006	2057	1.41	6.25	13.75	22.4	21.82
21	30/1/2006	2069	1.42	6.2	13.75	22	21.64
22	31/1/2006	2081	1.42	6.45	13.5	22	21.45
23	1/2/2006	2087	1.44	6.05	13.37	22.1	21.45
24	2/2/2006	2115	1.41	6	12.75	21.6	20.91
25	3/2/2006	2145	1.41	6.2	12.87	21.9	20.73
26	6/2/2006	2167	1.38	6.1	12.75	22.2	19
27	7/2/2006	2192	1.39	6.15	13.37	23.2	19.36
28	8/2/2006	2223	1.39	6.1	13.12	22.9	19.27
29	9/2/2006	2256	1.41	6.3	14	24.2	19.64
30	10/2/2006	2297	1.4	6.35	14.75	24.9	20.55
31	13/2/2006	2328	1.4	6.35	14.75	24.9	20.55
32	14/2/2006	2389	1.4	6.05	14.37	24.3	19.82
33	15/2/2006	2484	1.36	6.05	14.5	23.7	19.55
34	16/2/2006	2621	1.35	6.2	15.37	23.9	19.91
35	17/2/2006	2740	1.37	6.55	16.12	24.6	20.55
36	20/2/2006	2798	1.33	6.2	16.25	23.9	20
37	21/2/2006	2792	1.31	6.1	16	23.7	19.91
38	22/2/2006	2668	1.33	6.05	15.5	23.4	19.64
39	23/2/2006	2626	1.33	6.1	15.12	23.2	19.27
40	24/2/2006	2622	1.35	6.5	14.75	23.5	19.55
41	27/2/2006	2644	1.35	6.4	15.62	23.7	20.09
42	28/2/2006	2680	1.34	6.3	16	23.2	19.73

43	1/3/2006	2708	1.35	6.2	15.75	23.2	19.55
44	2/3/2006	2698	1.35	6.35	15.87	22.9	19.55
45	3/3/2006	2682	1.33	6.2	16.12	22.9	19.64
46	6/3/2006	2674	1.33	6.2	16.12	22	19.55
47	7/3/2006	2667	1.32	6.2	15.75	21.6	19.27
48	8/3/2006	2682	1.33	6.2	15.5	21	19
49	9/3/2006	2702	1.34	6.1	15.62	21.1	18.82
50	10/3/2006	2704	1.35	6.25	16	21.7	18.82
51	13/3/2006	2697	1.36	6.3	15.62	21.5	18.36
52	14/3/2006	2666	1.34	6.2	15.75	21.7	18.45
53	15/3/2006	2605	1.34	6.15	16	21.5	17.91
54	16/3/2006	2537	1.34	6.1	15.75	21.2	17
55	17/3/2006	2502	1.36	6.05	14.75	20.1	16.27
56	20/3/2006	2493	1.36	6.05	14.87	20	16.27
57	21/3/2006	2511	1.36	6.05	15.12	20.1	16.18
58	22/3/2006	2526	1.36	6	15.25	19.7	16.09
59	23/3/2006	2550	1.38	5.9	15	20	16.36
60	24/3/2006	2565	1.4	5.9	15	20.4	17.09
61	27/3/2006	2569	1.4	6	15	20.6	16.91
62	28/3/2006	2533	1.37	6	14.25	21.1	16.73
63	29/3/2006	2510	1.37	5.95	14.25	21	16.55
64	30/3/2006	2496	1.25	5.95	14	21.1	16.45
65	31/3/2006	2496	1.25	6.1	14.25	21.1	16.55
66	3/4/2006	2508	1.25	6	13.87	21.3	16.73
67	4/4/2006	2513	1.25	6.05	13.75	21.5	16.64
68	5/4/2006	2508	1.26	6	14.37	20.4	16.82
69	6/4/2006	2504	1.26	6	14.37	20.4	16.82
70	7/4/2006	2514	1.25	6.1	14.62	20.6	17.27
71	10/4/2006	2516	1.24	6.1	14.25	20.5	17.27
72	11/4/2006	2515	1.24	6.05	14.37	20.4	17.45
73	12/4/2006	2504	1.25	6.05	14.5	20.5	17.55
74	13/4/2006	2503	1.25	6.05	14.5	20.5	17.55
75	14/4/2006	2503	1.25	6.05	14.5	20.5	17.55
76	17/4/2006	2503	1.25	6.05	14.5	20.7	17.55
77	18/4/2006	2495	1.26	6.2	14.75	20.9	17.91
78	19/4/2006	2479	1.26	6.2	14.75	20.9	17.91
79	20/4/2006	2451	1.26	6.25	14.87	21.1	18.55
80	21/4/2006	2434	1.28	6.15	14.75	21	18.18
81	24/4/2006	2421	1.26	6.05	14.5	20.6	17.73
82	25/4/2006	2397	1.25	6	14.12	20.3	17.45
83	26/4/2006	2378	1.25	6.05	14.37	20.3	17.64
84	27/4/2006	2370	1.26	6	14.25	20.4	17.82
85	28/4/2006	2368	1.26	5.95	14.62	20.6	18.18
86	1/5/2006	2368	1.26	5.95	14.62	20.6	18.18
87	2/5/2006	2364	1.24	6	14.5	20.2	18.64
88	3/5/2006	2365	1.25	6.05	15.37	20.6	19.09
89	4/5/2006	2372	1.23	5.95	15.75	20.5	18.82
90	5/5/2006	2383	1.23	5.95	15.75	20.5	18.82
91	8/5/2006	2399	1.25	6.05	16.75	21.2	19.27
92	9/5/2006	2414	1.23	5.95	16.75	21	19.55
93	10/5/2006	2440	1.24	5.95	16.25	21.3	19.36
94	11/5/2006	2472	1.23	6.1	15.87	21.4	19.55
95	12/5/2006	2491	1.23	6.1	15.87	21.4	19.55
96	15/5/2006	2501	1.25	6.75	15.12	21.1	19.45

97	16/5/2006	2502	1.23	6.4	15.25	20.8	19.27
98	17/5/2006	2492	1.23	6.4	14.75	20.8	19.36
99	18/5/2006	2482	1.2	6.2	14.62	20.5	19
100	19/5/2006	2479	1.2	6.2	14.75	20.4	18.82
101	22/5/2006	2476	1.15	6.1	14.75	20	18.36
102	23/5/2006	2468	1.15	6.15	15	19.9	17.64
103	24/5/2006	2453	1.14	6	15	19.2	17
104	25/5/2006	2442	1.11	5.9	14.62	18.7	16.82
105	26/5/2006	2432	1.13	5.9	14.75	19.1	16.82
106	29/5/2006	2432	1.13	5.6	14.5	19.1	16.55
107	30/5/2006	2416	1.13	5.6	14.37	18.8	16.18
108	31/5/2006	2436	1.07	5.5	14.5	18.6	15.64
109	1/6/2006	2478	1.07	5.5	14.75	18.6	15.73
110	2/6/2006	2514	1.09	5.65	15	18.7	16.09
111	5/6/2006	2551	1.08	5.55	14.75	18.3	15.91
112	6/6/2006	2580	1.08	5.6	15.25	17.9	15.91
113	7/6/2006	2599	1.08	5.6	15	17.9	15.73
114	8/6/2006	2631	1.04	5.55	14.87	18.1	15.64
115	9/6/2006	2653	1.04	5.7	14.87	18.4	15.73
116	12/6/2006	2672	1.04	5.7	14.87	18.4	15.73
117	13/6/2006	2699	1.04	5.7	14.87	18.4	15.73
118	14/6/2006	2715	1	5.4	14.62	17.9	15
119	15/6/2006	2723	0.99	5.5	14.37	18.1	15.27
120	16/6/2006	2725	1.01	5.6	15	19.2	15.91
121	19/6/2006	2728	0.99	5.65	14.37	18.7	15.82
122	20/6/2006	2729	0.97	5.6	14.25	19	15.64
123	21/6/2006	2739	0.98	5.5	14.5	19.1	16.09
124	22/6/2006	2774	0.99	6	14.75	19	16.36
125	23/6/2006	2808	0.99	6.25	15	19.1	16.45
126	26/6/2006	2829	1.01	6.35	15.5	19.6	17.27
127	27/6/2006	2862	0.99	5.9	16.12	19.5	17
128	28/6/2006	2898	1	6.05	16.25	19.6	17.18
129	29/6/2006	2935	0.99	6	16.37	19.8	17.27
130	30/6/2006	2964	0.99	6	16.37	19.7	16.91
131	3/7/2006	2983	1	6	16.62	19.6	17.27
132	4/7/2006	2965	1	6.05	16.62	19.7	17.64
133	5/7/2006	2926	1	5.9	15.87	19.3	17.18
134	6/7/2006	2894	0.99	5.9	15.87	19	17.36
135	7/7/2006	2870	0.99	5.9	15.62	18.9	17.27
136	10/7/2006	2864	0.98	5.8	15.5	18.8	17
137	11/7/2006	2849	0.98	5.8	15.5	18.8	17
138	12/7/2006	2865	0.98	5.9	15.62	18.9	17.55
139	13/7/2006	2905	0.99	5.8	15.37	18.5	17.18
140	14/7/2006	2968	0.98	5.6	15.12	18.2	17
141	17/7/2006	3004	0.95	5.5	14.75	17.7	16.55
142	18/7/2006	3053	0.96	5.55	15	17.7	16.91
143	19/7/2006	3116	0.95	5.7	15	16.9	17.09
144	20/7/2006	3162	0.96	5.85	15.62	17.5	18.18
145	21/7/2006	3191	0.97	5.85	15.87	18	18.27
146	24/7/2006	3202	0.98	5.7	15.62	18.2	18.36
147	25/7/2006	3221	0.97	5.8	15.62	18.1	18.18
148	26/7/2006	3227	0.99	6	16	18.6	19
149	27/7/2006	3236	1.01	6.05	17.62	19.3	20.18
150	28/7/2006	3260	0.99	5.9	17.62	19.2	19.55

151	31/7/2006	3285	0.98	5.95	17.62	19.2	19.27
152	1/8/2006	3337	0.97	5.85	17	19.1	19.18
153	2/8/2006	3450	0.98	5.95	17.5	19.5	20.18
154	3/8/2006	3560	1	6	18.62	19.9	20.91
155	4/8/2006	3617	1.05	6.25	18.87	20.4	21.27
156	7/8/2006	3654	1.05	6.2	19.12	20.6	21.73
157	8/8/2006	3679	1.04	6.25	19.25	20.8	22.36
158	9/8/2006	3678	1.04	6.15	18.5	20.2	21.55
159	10/8/2006	3681	1.02	6.05	18.5	19.7	21.64
160	11/8/2006	3714	1.03	6.7	18.5	20.2	21.73
161	14/8/2006	3755	1.03	6.7	18.5	20.2	21.73
162	15/8/2006	3824	0.98	6.7	19.37	20.3	22.09
163	16/8/2006	3841	0.99	6.7	19.37	20.5	22.73
164	17/8/2006	3812	1	6.45	18.87	20.4	22
165	18/8/2006	3755	1.03	6.45	18.25	20.3	20.91
166	21/8/2006	3720	1.03	6.45	18.5	20	21.09
167	22/8/2006	3672	1.01	6.45	18.37	19.6	20.82
168	23/8/2006	3633	1	6.45	18.25	19.2	20.27
169	24/8/2006	3644	0.99	6.45	18	18.9	20
170	25/8/2006	3690	0.99	6.4	18.5	19.1	20.45
171	28/8/2006	3690	0.98	6.45	19	19	20.73
172	29/8/2006	3750	0.99	6.4	19.37	19.1	21.18
173	30/8/2006	3795	1.01	6.45	19.87	19.5	21.91
174	31/8/2006	3847	1	6.35	20.12	20.1	21.82
175	1/9/2006	3875	1	6.4	20.12	20.2	22.36
176	4/9/2006	3882	1.01	6.4	20.25	20	22.27
177	5/9/2006	3882	1.01	6.35	20	20.6	22.45
178	6/9/2006	3877	1	6.35	20.12	20.5	22.18
179	7/9/2006	3888	1	6.25	19.62	20.3	21.55
180	8/9/2006	3914	1.01	6.3	20.12	20.8	22.18
181	11/9/2006	3948	1.01	6.4	19.87	20.8	22.27
182	12/9/2006	4010	1.02	6.5	20	20.9	22
183	13/9/2006	4129	1.01	6.6	20.25	21.6	22.36
184	14/9/2006	4207	1.05	6.8	20.75	22.3	23.64
185	15/9/2006	4258	1.02	6.6	21.37	22.3	24.09
186	18/9/2006	4279	1.04	6.75	22.25	23.2	25.45
187	19/9/2006	4275	1.02	6.5	21.87	22.6	25
188	20/9/2006	4244	1.02	6.5	21.87	22.6	25
189	21/9/2006	4200	1	6.25	21.37	22.2	24.32
190	22/9/2006	4136	0.98	6.05	20.25	21.4	23.41
191	25/9/2006	4069	0.99	6.2	20.12	21.2	23.41
192	26/9/2006	3979	0.99	6.15	20	21.6	22.95
193	27/9/2006	3915	0.98	6.25	20.62	21.6	22.45
194	28/9/2006	3911	0.98	6.1	20.37	21.1	21.55
195	29/9/2006	3944	0.99	6.2	20.37	21.4	22.18
196	2/10/2006	3956	0.98	6.2	20.5	21.5	22.36
197	3/10/2006	3960	0.99	6.15	20.5	21.5	22
198	4/10/2006	3941	1	6.35	21	22.2	23.18
199	5/10/2006	3931	1	6.3	21	22.4	23.41
200	6/10/2006	3964	0.99	6.25	21.5	22.2	23.18
201	9/10/2006	4015	1	6.2	21.75	22.3	23.86
202	10/10/2006	4042	0.99	6.25	21.5	22.4	23.86
203	11/10/2006	4070	1	6.35	21.75	22.8	24.55
204	12/10/2006	4126	1	6.5	21.87	23.1	25.23

205	13/10/2006	4169	1	6.5	21.75	23.1	25
206	16/10/2006	4182	0.99	6.45	21.75	22.9	24.77
207	17/10/2006	4159	1	6.45	22.12	23	24.77
208	18/10/2006	4109	1.01	6.45	21.75	23	24.77
209	19/10/2006	4053	1	6.4	22	22.9	24.55
210	20/10/2006	4017	1	6.5	22	23.1	24.32
211	23/10/2006	3996	1	6.5	22	23.1	24.32
212	24/10/2006	3978	1.01	6.65	22.25	23.6	24.77
213	25/10/2006	3960	1.01	6.7	22.12	23.4	24.09
214	26/10/2006	3955	1.01	6.55	22	23	24.09
215	27/10/2006	3982	1.01	6.5	22	23	24.09
216	30/10/2006	4006	1	6.45	21.5	22.5	23.64
217	31/10/2006	4037	1.01	6.55	21.75	22.9	24.09
218	1/11/2006	4100	1.01	6.6	21.87	22.7	25
219	2/11/2006	4146	1	7	22.12	22.7	25.23
220	3/11/2006	4188	1.01	6.95	22.12	22.7	25.45
221	6/11/2006	4214	1.01	6.85	21.87	22.7	25
222	7/11/2006	4242	1	6.8	21.87	23	24.77
223	8/11/2006	4256	1.01	6.85	22.5	23	25.23
224	9/11/2006	4245	1.02	6.8	22.37	22.9	25
225	10/11/2006	4210	1.02	6.95	22.5	22.8	24.77
226	13/11/2006	4180	1	7.3	22.37	21.8	24.09
227	14/11/2006	4153	1.01	7.2	22.62	21.6	24.09
228	15/11/2006	4134	1	7.2	23.37	21.7	24.32
229	16/11/2006	4121	1	7.6	23.25	21.6	24.55
230	17/11/2006	4129	1	7.8	23.12	21.5	25
231	20/11/2006	4137	0.98	8.15	22.87	21.3	24.55
232	21/11/2006	4138	1	8.05	23.25	21.4	24.77
233	22/11/2006	4144	0.99	8.3	23.75	21.4	25
234	23/11/2006	4163	1	8.25	24.25	21.9	24.55
235	24/11/2006	4185	0.99	8.15	25.5	21.9	24.09
236	27/11/2006	4208	1	8.2	27	21.9	25.23
237	28/11/2006	4255	0.99	8.2	26	22.1	25.23
238	29/11/2006	4298	0.99	8.1	25.5	22.5	25.45
239	30/11/2006	4336	0.99	8.05	24.75	22.4	25.68
240	1/12/2006	4369	0.99	8.45	25.5	22.6	26.36
241	4/12/2006	4400	0.99	8.55	26.25	22.5	26.14
242	5/12/2006	4407	0.99	8.55	26.25	22.5	26.14
243	6/12/2006	4367	0.99	8.55	27	22.7	26.59
244	7/12/2006	4323	0.99	8.45	26	22.4	25.91
245	8/12/2006	4294	0.98	8.5	24.87	22.2	25.23
246	11/12/2006	4275	0.98	8.5	24.87	22.2	25.23
247	12/12/2006	4270	0.97	8.45	23.25	22.2	24.77
248	13/12/2006	4294	0.96	8.45	23.5	22	25
249	14/12/2006	4307	0.95	8.3	24.25	22	24.77
250	15/12/2006	4318	0.95	8.2	24.75	22	25
251	18/12/2006	4324	0.93	8.1	24.37	22	25
252	19/12/2006	4330	0.86	7.45	21	19.4	20.91
253	20/12/2006	4336	0.88	7.95	23.5	21	23.64
254	21/12/2006	4362	0.86	7.75	23	20.5	22.95
255	22/12/2006	4397	0.88	7.8	23.5	20.7	22.95
256	25/12/2006	4397	0.86	7.75	24.25	20.8	23.18
257	26/12/2006	4397	0.86	7.8	24.87	21	23.41
258	27/12/2006	4397	0.85	7.9	25.5	20.8	23.41

259	28/12/2006	4397	0.85	7.9	25	21.1	23.18
260	29/12/2006	4397	0.86	7.8	25.5	20.8	23.18
261	1/1/2007	4397	0.86	7.8	25.5	20.8	23.18
262	2/1/2007	4421	0.86	7.8	25.5	20.8	23.18
263	3/1/2007	4452	0.82	7.7	24.25	20.3	22.18
264	4/1/2007	4494	0.81	7.4	24.25	20.1	22.45
265	5/1/2007	4539	0.78	7.2	24.25	19.6	21.82
266	8/1/2007	4579	0.79	7.3	23.5	19.8	22.18
267	9/1/2007	4617	0.75	7	23.37	19.4	21.45
268	10/1/2007	4640	0.76	7.35	22.87	19.3	22
269	11/1/2007	4647	0.78	7.45	23.12	19.2	22.55
270	12/1/2007	4642	0.79	7.5	23.12	19	22.73
271	15/1/2007	4629	0.8	7.55	23	19.2	23.41
272	16/1/2007	4555	0.79	7.7	22.75	19.1	23.18
273	17/1/2007	4481	0.78	7.85	21.75	18.9	22.73
274	18/1/2007	4411	0.78	7.5	21.37	19.1	23.41
275	19/1/2007	4362	0.78	7.8	22	19.4	24.32
276	22/1/2007	4340	0.78	7.75	21.37	19.2	24.55
277	23/1/2007	4360	0.78	7.65	21.25	19.1	25.23
278	24/1/2007	4381	0.79	7.85	22.12	19.2	25.45
279	25/1/2007	4385	0.78	7.9	23	19.7	25.23
280	26/1/2007	4367	0.79	7.75	22.62	19.6	25.45
281	29/1/2007	4343	0.78	7.8	22.87	19.4	25
282	30/1/2007	4287	0.78	7.85	22.37	19.4	25
283	31/1/2007	4225	0.78	7.9	21.87	19.5	24.77
284	1/2/2007	4219	0.77	8	21.75	19.4	24.55
285	2/2/2007	4243	0.78	8.15	22.5	19.8	24.77
286	5/2/2007	4265	0.78	8.15	23.5	21.9	25
287	6/2/2007	4291	0.78	8.2	24	21.7	25.23
288	7/2/2007	4313	0.79	8.1	24.5	22.9	26.14
289	8/2/2007	4323	0.79	8.05	25	22.9	25.91
290	9/2/2007	4328	0.81	8.15	26	23.7	25.68
291	12/2/2007	4348	0.99	8.15	26	23.6	25.45
292	13/2/2007	4360	0.97	8.1	25.5	24.1	25.68
293	14/2/2007	4366	1.01	8.2	26	23.9	26.14
294	15/2/2007	4352	0.96	8.1	25.75	23.6	26.14
295	16/2/2007	4355	0.93	8.15	25.25	23.2	25.68
296	19/2/2007	4355	0.91	8.2	24	23.1	25.68
297	20/2/2007	4359	0.97	8.5	24.5	23.3	25.91
298	21/2/2007	4399	0.94	8.5	25.5	22.9	25.45
299	22/2/2007	4456	0.93	8.7	25.5	22.9	25.45
300	23/2/2007	4545	0.94	9.05	25	23	25.91
301	26/2/2007	4609	0.94	8.9	24.5	23	25.68
302	27/2/2007	4704	0.89	8.8	25.5	22.8	26.14
303	28/2/2007	4765	0.9	8.8	26	23.1	25.68
304	1/3/2007	4818	0.9	9.05	26.75	23.7	26.59
305	2/3/2007	4872	0.89	9.05	26	23.8	27.27
306	5/3/2007	4908	0.89	9.05	26	23.8	27.27
307	6/3/2007	4921	0.89	9.05	25.5	23.8	26.36
308	7/3/2007	4937	0.86	8.95	24.87	23.3	26.36
309	8/3/2007	4963	0.87	9	24.37	23.1	26.36
310	9/3/2007	5000	0.86	9	23.37	23.2	26.59
311	12/3/2007	5041	0.89	9	24.25	23.3	27.27
312	13/3/2007	5069	0.88	9.05	24.25	23.3	27.5

313	14/3/2007	5077	0.93	8.8	23.5	23	27.05
314	15/3/2007	5071	0.95	8.8	23.25	22.8	27.05
315	16/3/2007	5086	0.96	8.85	23	22.8	26.59
316	19/3/2007	5123	0.92	8.9	22.75	22.8	27.05
317	20/3/2007	5172	0.93	8.85	22.62	22.8	26.36
318	21/3/2007	5226	0.93	8.75	22.87	23	25.68
319	22/3/2007	5275	0.95	8.85	23	23.2	25.68
320	23/3/2007	5330	0.93	8.95	23.25	23.5	25.68
321	26/3/2007	5357	0.92	9	23.5	24	25.91
322	27/3/2007	5364	0.93	9.05	23.62	24.4	25.91
323	28/3/2007	5356	0.9	8.85	23	23.8	24.77
324	29/3/2007	5355	0.84	8.95	23	24	24.77
325	30/3/2007	5388	0.83	9	22.4	24.1	25
326	2/4/2007	5417	0.82	9	22.6	23.8	25
327	3/4/2007	5439	0.85	9.1	22.3	23.4	25.45
328	4/4/2007	5487	0.86	9.05	22.6	23.8	26.14
329	5/4/2007	5532	0.87	9.1	22.6	23.2	26.14
330	6/4/2007	5532	0.87	9.1	22.6	23.2	26.14
331	9/4/2007	5532	0.85	9.1	22.3	23.4	26.14
332	10/4/2007	5552	0.85	9.1	22.4	23.4	26.36
333	11/4/2007	5556	0.85	9.2	22.5	23.4	25.91
334	12/4/2007	5546	0.85	9.2	22.4	23.7	25.45
335	13/4/2007	5553	0.85	9.2	22.4	23.7	25.45
336	16/4/2007	5562	0.85	9.2	22.4	23.7	25.45
337	17/4/2007	5601	0.85	9.25	22.4	23.8	25.45
338	18/4/2007	5700	0.86	9.15	22.2	23.7	25.45
339	19/4/2007	5782	0.85	9.1	22.2	23.7	25.91
340	20/4/2007	5850	0.85	9.25	23.1	24	27.27
341	23/4/2007	5922	0.89	9.4	24.9	24.5	29.09
342	24/4/2007	6029	0.88	9.5	25.5	24.3	29.32
343	25/4/2007	6122	0.87	9.5	25.5	24.5	29.09
344	26/4/2007	6192	0.86	9.45	24.9	24.4	28.86
345	27/4/2007	6230	0.87	9.45	26	24.9	29.09
346	30/4/2007	6248	0.87	9.5	26	24.8	29.77
347	1/5/2007	6255	0.87	9.5	26	24.8	29.77
348	2/5/2007	6262	0.88	9.65	25.75	25.5	30.91
349	3/5/2007	6276	0.88	9.65	24.9	25	30.91
350	4/5/2007	6321	0.88	9.55	24.3	25.5	30.23
351	7/5/2007	6321	0.88	9.55	24.3	25.5	30.23
352	8/5/2007	6395	0.89	9.7	25.25	26.5	31.59
353	9/5/2007	6478	0.9	9.65	25	25.75	31.36
354	10/5/2007	6585	0.89	8.85	25	25.5	31.59
355	11/5/2007	6648	0.88	8.85	25.25	25.75	32.5
356	14/5/2007	6685	1.05	8.85	25	25.75	32.5
357	15/5/2007	6688	1.04	8.9	25.25	26.25	32.27
358	16/5/2007	6650	1.02	8.8	25.25	26	34.09
359	17/5/2007	6603	1.02	9.05	26.75	26.25	35.45
360	18/5/2007	6554	1.04	8.9	26.25	26	34.32
361	21/5/2007	6521	1.03	8.9	26	26	34.55
362	22/5/2007	6471	1.03	8.8	25.5	25.75	34.32
363	23/5/2007	6422	1.02	8.85	25.75	25.75	34.09
364	24/5/2007	6304	0.99	8.7	25.25	25.75	32.95
365	25/5/2007	6212	0.98	8.7	25.25	25.75	31.59
366	28/5/2007	6212	0.99	8.75	25.5	26	32.95

367	29/5/2007	6123	1	8.75	25.5	26.25	33.64
368	30/5/2007	6023	1	8.85	25.75	28.25	33.41
369	31/5/2007	5971	1	8.85	25.75	28.25	33.41
370	1/6/2007	5983	1.02	8.9	26.5	29	33.64
371	4/6/2007	6011	1.04	9	27.5	31.5	35.45
372	5/6/2007	6023	1.01	9.15	26.75	31.5	35.23
373	6/6/2007	5988	1.02	9.1	26.75	31.5	35.45
374	7/6/2007	5877	1.02	9.15	26.25	30.75	35
375	8/6/2007	5736	1.02	8.95	25.75	29.75	33.86
376	11/6/2007	5661	1.02	8.9	25.5	29.25	33.18
377	12/6/2007	5538	1.03	8.85	25.25	28.25	31.59
378	13/6/2007	5407	1.03	8.75	25	27.75	30.91
379	14/6/2007	5302	1.02	8.75	25.5	29	31.59
380	15/6/2007	5258	1.02	8.85	25.75	30	32.5
381	18/6/2007	5254	1.05	9.05	26.5	32	33.41
382	19/6/2007	5310	1.04	9.05	26	31	33.64
383	20/6/2007	5438	1.05	9.1	26.75	31.5	35.23
384	21/6/2007	5672	1.11	9.2	26.75	32	35.68
385	22/6/2007	5922	1.1	9.3	26.75	31.5	36.59
386	25/6/2007	6038	1.08	9.25	26.25	30.25	35.68
387	26/6/2007	6105	1.08	9.25	26.5	31.5	35.68
388	27/6/2007	6180	1.07	9.25	26.25	31.25	35.45
389	28/6/2007	6234	1.1	9.2	26.25	31	36.14
390	29/6/2007	6278	1.11	9.3	26.25	31.5	36.36
391	2/7/2007	6304	1.12	9.3	26.75	31.75	38.64
392	3/7/2007	6302	1.11	9.35	27.5	32.25	40.45
393	4/7/2007	6293	1.11	9.45	27.25	32.75	40.45
394	5/7/2007	6251	1.11	9.4	27.5	32.75	38.18
395	6/7/2007	6201	1.14	9.4	27.75	33	38.64
396	9/7/2007	6220	1.13	9.55	28.75	33	40
397	10/7/2007	6301	1.15	9.9	31.5	36.75	43.64
398	11/7/2007	6484	1.21	10.2	33.25	35.25	43.18
399	12/7/2007	6656	1.43	10.7	38.25	36.75	45.45
400	13/7/2007	6706	1.49	10.8	39.25	38.5	45.23
401	16/7/2007	6692	1.45	10.7	35.5	35.75	44.32
402	17/7/2007	6637	1.6	10.7	35.75	34.25	44.32
403	18/7/2007	6582	1.48	10.9	36.75	34	44.55
404	19/7/2007	6567	1.43	10.6	36	33.25	43.18
405	20/7/2007	6601	1.42	10.7	37.25	33.25	42.95
406	23/7/2007	6659	1.42	11.1	39	35	46.82
407	24/7/2007	6720	1.39	11.3	37.75	36.25	47.27
408	25/7/2007	6780	1.55	11.3	37.5	35.5	48.64
409	26/7/2007	6838	1.47	11	36.75	34.75	47.73
410	27/7/2007	6890	1.44	10.7	35.5	32.75	45.91
411	30/7/2007	6936	1.44	10.7	35.5	32.75	45.91
412	31/7/2007	6967	1.58	11	37.25	33.75	49.55
413	1/8/2007	6993	1.44	10.4	34.75	32.5	45.91
414	2/8/2007	7000	1.53	10.6	34.75	33.5	47.27
415	3/8/2007	7007	1.5	10.6	34.75	33.5	49.09
416	6/8/2007	6990	1.45	10.4	33.5	32.5	46.36
417	7/8/2007	6966	1.38	10.1	32.5	33.5	44.55
418	8/8/2007	6917	1.4	10.4	34	33	47.27
419	9/8/2007	6936	1.31	10.1	32.5	32.25	45.45
420	10/8/2007	7011	1.25	9.95	32	31.5	45.45

421	13/8/2007	7066	1.25	9.95	32	31.5	45.45
422	14/8/2007	7143	1.21	9.5	32	29.25	44.32
423	15/8/2007	7231	1.15	9.35	30	28.75	41.59
424	16/8/2007	7319	1.08	8.9	28	29	39.55
425	17/8/2007	7313	1.19	8.85	28	29	40
426	20/8/2007	7289	1.23	9.3	30.5	30	41.59
427	21/8/2007	7243	1.12	8.85	29.25	29	40
428	22/8/2007	7211	1.15	9.1	30	29.25	41.82
429	23/8/2007	7237	1.25	9.15	32	29	43.41
430	24/8/2007	7277	1.22	9.2	32	29.25	42.5
431	27/8/2007	7277	1.2	9.25	32.5	28.5	43.18
432	28/8/2007	7381	1.21	9.2	32.25	26.75	43.18
433	29/8/2007	7474	1.22	9.15	31.75	26.5	43.18
434	30/8/2007	7586	1.23	9.15	32	26.5	44.09
435	31/8/2007	7702	1.32	9.45	33.75	28.75	47.73
436	3/9/2007	7783	1.34	9.5	34.75	29.5	48.64
437	4/9/2007	7907	1.3	9.45	34.5	29.25	47.27
438	5/9/2007	8090	1.36	9.65	36	30.75	50.45
439	6/9/2007	8270	1.36	10.4	34.5	30.25	48.64
440	7/9/2007	8410	1.33	10.2	34	29.75	46.82
441	10/9/2007	8477	1.34	10.4	34	31	47.73
442	11/9/2007	8468	1.35	10.2	34	30.75	47.73
443	12/9/2007	8421	1.31	10	34	30.25	46.36
444	13/9/2007	8340	1.31	9.95	33.5	30	45.45
445	14/9/2007	8302	1.31	10.1	34.25	30.75	47.73
446	17/9/2007	8296	1.28	9.95	34.25	30.75	46.36
447	18/9/2007	8313	1.3	10	34.75	30.25	46.36
448	19/9/2007	8429	1.32	9.95	35.25	30.5	47.73
449	20/9/2007	8619	1.29	9.95	35	30.5	47.27
450	21/9/2007	8956	1.33	10	35.25	30.75	50
451	24/9/2007	9082	1.36	10.2	36.5	32.25	53.18
452	25/9/2007	9215	1.33	10.2	36.25	32.25	53.18
453	26/9/2007	9259	1.35	10.3	37	32.25	52.73
454	27/9/2007	9370	1.33	10.2	37	31.75	52.73
455	28/9/2007	9474	1.3	10.2	37.5	32.25	52.73
456	1/10/2007	9537	1.32	10.2	37.75	32	53.18
457	2/10/2007	9566	1.32	10.2	38.75	31.75	53.18
458	3/10/2007	9561	1.3	10.1	37.5	31	51.82
459	4/10/2007	9513	1.3	10	37.25	30.25	50.91
460	5/10/2007	9535	1.29	10	37	29.75	50
461	8/10/2007	9665	1.29	10	37	30	50.91
462	9/10/2007	9860	1.32	10.1	37.25	30.5	53.64
463	10/10/2007	10218	1.33	10.6	37.75	31.25	58.18
464	11/10/2007	10513	1.33	10.3	39.5	32	61.82
465	12/10/2007	10695	1.43	10.4	38.5	31.5	61.36
466	15/10/2007	10756	1.38	10.3	38.5	31	62.27
467	16/10/2007	10748	1.33	10.2	37	30	60
468	17/10/2007	10724	1.33	10	35	30	58.18
469	18/10/2007	10732	1.32	9.9	34	29.75	58.64
470	19/10/2007	10798	1.32	9.95	34.5	29.75	60.45
471	22/10/2007	10853	1.31	9.7	32.5	28.75	58.18
472	23/10/2007	10944	1.31	9.7	32.5	28.75	58.18
473	24/10/2007	10984	1.3	9.85	33.75	29.25	60.45
474	25/10/2007	10994	1.31	9.85	34	30.5	61.36

475	26/10/2007	11025	1.28	9.75	33.75	29.5	59.55
476	29/10/2007	11033	1.26	9.75	33.25	29.25	60.45
477	30/10/2007	10886	1.23	9.75	31.75	29	58.18
478	31/10/2007	10656	1.22	9.7	30.25	29.75	55
479	1/11/2007	10581	1.21	9.7	30.75	29.75	53.64
480	2/11/2007	10548	1.22	9.65	31.75	30	56.82
481	5/11/2007	10539	1.19	9.6	30	29.25	54.09
482	6/11/2007	10605	1.19	9.7	29	29	55.91
483	7/11/2007	10674	1.22	9.6	29	28.25	55.45
484	8/11/2007	10674	1.2	9.45	28	28.75	55
485	9/11/2007	10867	1.2	9.4	28.25	28.5	54.09
486	12/11/2007	10995	1.2	9	27.5	28	54.09
487	13/11/2007	11039	1.18	9.1	27.75	28.5	53.18
488	14/11/2007	10995	1.2	9.1	28.25	28.5	54.09
489	15/11/2007	10938	1.19	9.05	27.75	27.75	52.73
490	16/11/2007	10870	1.18	9	27.5	26.75	51.82
491	19/11/2007	10780	1.14	8.95	26.5	26.25	49.09
492	20/11/2007	10647	1.12	9	25.75	26.75	49.55
493	21/11/2007	10517	1.09	8.8	24.8	25.75	45.45
494	22/11/2007	10328	1.08	8.7	24.8	25.5	43.18
495	23/11/2007	10148	1.08	8.7	25.75	25.75	44.55
496	26/11/2007	10003	1.09	8.8	26	26	43.64
497	27/11/2007	9897	1.07	8.7	25.5	26	42.05
498	28/11/2007	9922	1.08	8.7	26.5	26	41.82
499	29/11/2007	10092	1.13	8.9	28	27.75	46.36
500	30/11/2007	10210	1.12	8.85	27.5	29	46.82
501	3/12/2007	10270	1.09	8.85	27	28.75	46.82
502	4/12/2007	10285	1.08	8.85	26.25	28.75	46.36
503	5/12/2007	10216	1.08	8.85	26.25	28.75	46.36
504	6/12/2007	10142	1.09	8.8	26.25	29.25	47.27
505	7/12/2007	10068	1.09	8.85	26.5	29	45.91
506	10/12/2007	9992	1.09	8.85	26.5	29	45.91
507	11/12/2007	9929	1.08	8.8	26.75	29.5	45.91
508	12/12/2007	9936	1.07	8.7	26.25	29.5	44.77
509	13/12/2007	9949	1.08	8.7	27.25	29.5	45.23
510	14/12/2007	9918	1.08	8.7	27.25	29.25	44.55
511	17/12/2007	9848	1.09	8.7	26.5	28.5	41.14
512	18/12/2007	9751	1.09	8.7	27.5	29	40.91
513	19/12/2007	9591	1.08	8.7	28	28.75	40.45
514	20/12/2007	9392	1.07	8.7	27.5	28.25	39.09
515	21/12/2007	9236	1.12	8.7	27.75	28.5	41.59
516	24/12/2007	9143	1.12	8.7	27.75	28.5	41.59
517	25/12/2007	9143	1.11	8.8	28.5	29	42.73
518	26/12/2007	9143	1.12	8.7	27.75	28.75	42.5
519	27/12/2007	9143	1.13	8.7	28.5	29	43.18
520	28/12/2007	9143	1.12	8.7	29	29.75	42.95
521	31/12/2007	9143	1.12	8.7	29	29.75	42.95
522	1/1/2008	9143	1.12	8.7	29	29.75	42.95
523	2/1/2008	8891	1.12	8.65	27.75	28.5	40.91
524	3/1/2008	8756	1.1	8.75	26.5	28	37.5
525	4/1/2008	8702	1.09	8.6	25	28.25	37.5
526	7/1/2008	8732	1.09	8.6	25.5	28	38.86
527	8/1/2008	8730	1.09	8.55	25.5	28.25	40.23
528	9/1/2008	8621	1.09	8.55	25	28.25	39.09

529	10/1/2008	8333	1.07	8.5	24.5	28	37.5
530	11/1/2008	7949	1.05	8.5	23.5	27.5	37.05
531	14/1/2008	7654	1.06	8.4	22.8	27.25	35.68
532	15/1/2008	7336	1.04	8.4	22.7	27	32.73
533	16/1/2008	6915	1	8.3	22.8	27	31.82
534	17/1/2008	6472	1	8.5	23.6	27	32.73
535	18/1/2008	6462	1	8.4	23.6	26.75	32.95
536	21/1/2008	6513	1	8.35	23.8	24.7	32.27
537	22/1/2008	6437	0.97	7.8	22.4	23	31.82
538	23/1/2008	6246	0.97	8.1	22.7	23.3	32.27
539	24/1/2008	5948	0.92	7.9	22.2	23.1	30.91
540	25/1/2008	5780	0.95	8	22.8	23.5	31.82
541	28/1/2008	5692	0.93	7.7	21.7	23.1	29.55
542	29/1/2008	5615	0.94	7.85	21.9	23	29.55
543	30/1/2008	5900	0.95	7.8	23.6	23.8	31.14
544	31/1/2008	6052	0.98	7.95	26.75	25	35.45
545	1/2/2008	6134	1	8.05	27.5	26.25	37.73
546	4/2/2008	6121	1	8.15	27.5	25.75	36.36
547	5/2/2008	6032	1.01	8.15	27	25.75	35.23
548	6/2/2008	6002	1	7.95	26.5	25.25	34.55
549	7/2/2008	6135	1.14	7.95	27.5	25.75	37.27
550	8/2/2008	6353	1.08	8	27	26	37.5
551	11/2/2008	6520	1.11	8	27.5	25.5	36.82
552	12/2/2008	6712	1.11	7.95	28	25.25	37.95
553	13/2/2008	6965	1.13	8.3	30	25.75	40.45
554	14/2/2008	7212	1.13	8.3	31.5	25.5	42.95
555	15/2/2008	7355	1.28	8.55	31.25	25.5	45.45
556	18/2/2008	7381	1.25	8.7	29.5	25.5	44.32
557	19/2/2008	7319	1.21	8.65	29.75	26	43.86
558	20/2/2008	7081	1.2	8.65	27.5	24.9	42.05
559	21/2/2008	6998	1.2	8.65	27.5	24.9	42.05
560	22/2/2008	7187	1.21	8.7	27.75	24.7	43.18
561	25/2/2008	7296	1.19	8.95	28	24.8	44.32
562	26/2/2008	7312	1.12	8.7	27.5	24.9	43.41
563	27/2/2008	7299	1.11	8.65	27.5	24.9	42.05
564	28/2/2008	7332	1.17	8.5	27.75	25	42.5
565	29/2/2008	7613	1.19	8.45	28	25.5	43.64
566	3/3/2008	7878	1.17	8.35	28.5	25.25	44.55
567	4/3/2008	7993	1.14	8.3	27.5	25.25	43.86
568	5/3/2008	8162	1.15	8.1	27.25	25	42.95
569	6/3/2008	8403	1.19	8.2	26.75	24.7	44.09
570	7/3/2008	8536	1.2	8.2	26.75	24.6	43.64
571	10/3/2008	8624	1.18	8.05	25.25	24.3	41.82
572	11/3/2008	8560	1.09	8.15	24.8	23.8	42.5
573	12/3/2008	8346	1.1	8.1	25.25	23.8	42.05
574	13/3/2008	8092	1.07	8.05	24.7	23.7	39.77
575	14/3/2008	7972	1.05	8	24.2	24	38.41
576	17/3/2008	7913	1.03	7.85	23	23.5	35.45
577	18/3/2008	7893	1.06	7.85	23.7	23.9	38.18
578	19/3/2008	7801	1.04	7.85	23.4	23.9	36.59
579	20/3/2008	7684	1.06	7.8	23.1	23.8	35.91
580	21/3/2008	7684	1.05	7.85	23.4	24.1	35.68
581	24/3/2008	7684	1.05	7.85	23.6	24.2	37.05
582	25/3/2008	7619	1.07	8	23.8	24.3	37.73

583	26/3/2008	7679	1.05	7.85	23.3	24.1	37.5
584	27/3/2008	7884	1.07	7.95	23.9	24.2	38.86
585	28/3/2008	8069	1.09	8	24.2	24.3	39.32
586	31/3/2008	8081	1.08	8	24.3	24.4	38.64
587	1/4/2008	7890	1.09	8	24.1	24.6	38.18
588	2/4/2008	7655	1.12	7.95	24	23.7	37.5
589	3/4/2008	7690	1.11	7.95	23.9	24.2	37.05
590	4/4/2008	7737	1.13	8	24	24	37.27
591	7/4/2008	7741	1.13	8	24	24	37.27
592	8/4/2008	7754	1.13	8	24	24	37.73
593	9/4/2008	7760	1.11	8.15	23.4	23.6	37.5
594	10/4/2008	7823	1.1	8.2	23.4	24	37.73
595	11/4/2008	7889	1.08	8.1	23.3	23.9	37.95
596	14/4/2008	7961	1.08	8.1	23.3	23.9	37.95
597	15/4/2008	7957	1.08	8.1	23.3	23.9	37.95
598	16/4/2008	7967	1.13	8.15	23.5	23.8	40.45
599	17/4/2008	8038	1.12	8.25	24.2	24	40.45
600	18/4/2008	8203	1.12	8.15	24.3	24	40.91
601	21/4/2008	8350	1.13	8.15	24.3	24	41.59
602	22/4/2008	8550	1.18	8.2	24.4	24	42.5
603	23/4/2008	8862	1.18	8.1	24.4	23.8	41.82
604	24/4/2008	9182	1.19	8.15	26	24.3	42.5
605	25/4/2008	9329	1.23	8.2	25.75	24	43.18
606	28/4/2008	9344	1.2	8.2	25.5	23.8	42.5
607	29/4/2008	9273	1.14	8.2	24.8	23.7	40.45
608	30/4/2008	9356	1.14	8.15	24.4	23.6	40.45
609	1/5/2008	9439	1.14	8.15	24.4	23.6	40.45
610	2/5/2008	9581	1.15	8.15	24.9	24	42.5
611	5/5/2008	9581	1.15	8.15	24.9	24	42.5
612	6/5/2008	9855	1.14	8.15	25	24.3	42.73
613	7/5/2008	10104	1.15	7.75	25.25	24	44.09
614	8/5/2008	10221	1.16	7.8	25.25	24	44.09
615	9/5/2008	10237	1.19	7.85	26.25	24	45.23
616	12/5/2008	10220	1.19	7.75	25.5	23.9	44.32
617	13/5/2008	10354	1.15	7.7	25	23.6	43.64
618	14/5/2008	10649	1.15	7.85	25.5	23.7	45.45
619	15/5/2008	11067	1.16	7.9	25.5	23.8	47.73
620	16/5/2008	11459	1.15	8	27	24	49.55
621	19/5/2008	11709	1.15	8	27	24	49.55
622	20/5/2008	11793	1.14	7.95	27.75	24.4	50
623	21/5/2008	11771	1.14	7.9	28	24.4	48.18
624	22/5/2008	11648	1.08	7.85	26.5	24.4	45.45
625	23/5/2008	11465	1.07	7.8	26.75	25	45.45
626	26/5/2008	11465	1.04	7.7	25	25	43.86
627	27/5/2008	11269	1.04	7.7	24.8	24.8	43.18
628	28/5/2008	11245	1.04	7.65	24.6	24.3	42.27
629	29/5/2008	11347	1.03	7.6	25	24.7	44.77
630	30/5/2008	11440	1.04	7.65	24.3	24.3	46.36
631	2/6/2008	11458	1.02	7.65	23.4	24.4	43.18
632	3/6/2008	11503	1	7.65	23.7	24.3	43.64
633	4/6/2008	11623	1.01	7.65	24	24.7	44.55
634	5/6/2008	11623	1.01	7.6	23.8	24.5	44.32
635	6/6/2008	11612	1.02	7.6	24.1	24.9	44.32
636	9/6/2008	11534	1.02	7.6	23.6	24.4	41.82

637	10/6/2008	11409	1	7.55	23.2	23.9	40.23
638	11/6/2008	11105	1	7.55	23.1	23.8	41.36
639	12/6/2008	10142	0.99	7.4	22.6	23.6	39.77
640	13/6/2008	9646	0.96	7.4	22.3	23.3	35.68
641	16/6/2008	9419	0.97	7.3	22.4	23.4	36.82
642	17/6/2008	9413	0.98	7.25	22.8	23	37.73
643	18/6/2008	9437	0.98	7.2	22.7	22.6	38.41
644	19/6/2008	9474	0.94	7.15	22.3	21.5	35.68
645	20/6/2008	9428	0.96	7.3	22.9	23	38.18
646	23/6/2008	9211	0.96	7.25	22.7	21.4	37.27
647	24/6/2008	9139	0.95	7.1	22.7	20.7	36.36
648	25/6/2008	9244	0.97	7.15	22.8	20.1	39.09
649	26/6/2008	9473	0.94	7.25	22.5	19.6	37.73
650	27/6/2008	9599	0.94	7.25	22.5	18.9	38.41
651	30/6/2008	9589	0.93	7.15	22.1	17.8	37.27
652	1/7/2008	9379	0.93	7.15	22.1	17.8	37.27
653	2/7/2008	9139	0.94	7.05	21.5	17.3	36.14
654	3/7/2008	8925	0.9	6.85	20.8	16.5	34.32
655	4/7/2008	8854	0.91	6.85	21.3	16.8	34.32
656	7/7/2008	8964	0.93	6.7	21.2	16.9	34.55
657	8/7/2008	9147	0.93	6.6	21	16.7	33.18
658	9/7/2008	9272	0.93	6.55	21	16	34.32
659	10/7/2008	9313	0.96	6.65	21.4	15.8	35.45
660	11/7/2008	9230	0.97	6.7	21.2	15.9	36.14
661	14/7/2008	9181	0.96	6.8	21.3	15.6	35.91
662	15/7/2008	9150	0.94	6.65	20.9	15.3	34.09
663	16/7/2008	9092	0.94	6.5	20.4	15.3	33.18
664	17/7/2008	9059	0.94	6.5	20.4	15.3	33.18
665	18/7/2008	9012	0.92	6.8	19.5	15.6	33.64
666	21/7/2008	8961	0.93	6.85	19.6	15.7	34.77
667	22/7/2008	8904	0.94	6.75	19.2	15.4	33.64
668	23/7/2008	8856	0.95	6.8	19.2	15.6	35.45
669	24/7/2008	8771	0.94	6.75	18.8	15.6	35
670	25/7/2008	8637	0.92	6.75	18.8	15.5	34.55
671	28/7/2008	8513	0.93	6.7	18.4	15.5	35.45
672	29/7/2008	8434	0.94	6.6	17.8	15.5	34.55
673	30/7/2008	8388	0.95	6.55	17.8	15.5	33.41
674	31/7/2008	8341	0.95	6.6	18.8	14.5	33.86
675	1/8/2008	8280	0.95	6.55	19.1	14.4	33.86
676	4/8/2008	8209	0.95	6.55	19.6	14.7	34.32
677	5/8/2008	8100	0.96	6.6	19.5	14.8	33.86
678	6/8/2008	7869	0.97	6.6	20	15.7	34.32
679	7/8/2008	7521	0.98	6.85	20.8	16.4	35.45
680	8/8/2008	7201	0.97	6.7	20.1	15.8	34.32
681	11/8/2008	7055	0.97	6.8	20.2	16.1	34.32
682	12/8/2008	6992	0.97	6.8	20.2	16.1	34.32
683	13/8/2008	7097	0.98	6.9	20	16	36.59
684	14/8/2008	7420	1.1	6.8	19.9	16.1	37.27
685	15/8/2008	7557	1.09	6.85	20.5	16.2	37.73
686	18/8/2008	7622	1.07	6.7	21.2	16.1	36.59
687	19/8/2008	7543	1.07	6.8	21.2	15.5	35.91
688	20/8/2008	7344	1.08	6.75	21	15.3	35.91
689	21/8/2008	7190	1.07	6.7	20.8	15.2	34.32
690	22/8/2008	7147	1.08	6.75	20.7	15.1	34.32

691	25/8/2008	7147	1.06	6.75	20.9	15.3	34.77
692	26/8/2008	7115	1.03	6.65	19.8	15.4	33.64
693	27/8/2008	7050	1.07	6.8	20.3	15.8	33.86
694	28/8/2008	6929	1.06	6.8	20.4	15.6	34.09
695	29/8/2008	6809	1.06	6.7	19.7	16.3	34.32
696	1/9/2008	6691	1.06	6.55	19.4	15.8	34.09
697	2/9/2008	6466	1.06	6.55	18.5	15.8	31.14
698	3/9/2008	6146	1.06	6.55	18.1	15.8	30.45
699	4/9/2008	5874	1.15	6.5	18	15.1	29.09
700	5/9/2008	5663	1.06	6.5	17.8	13.7	27.5
701	8/9/2008	5492	1.08	6.5	18.6	14.1	30
702	9/9/2008	5255	1.08	6.5	18.3	14.1	29.09
703	10/9/2008	5026	1.06	6.45	17.9	14.1	27.27
704	11/9/2008	4893	1.06	6.25	17.9	14.2	26.82
705	12/9/2008	4800	1.11	6.3	17.9	14.5	26.59
706	15/9/2008	4747	1.06	6.15	17.5	14.1	25.45
707	16/9/2008	4760	1.05	6	16.6	13.9	25.23
708	17/9/2008	4856	1.03	5.8	16	13.9	25
709	18/9/2008	4958	1.03	5.75	15.6	13.9	25.68
710	19/9/2008	4975	1.03	5.9	16.5	13.9	27.27
711	22/9/2008	4949	1.02	5.8	16.2	13.7	26.14
712	23/9/2008	4782	1.02	5.8	15.8	13.6	25.23
713	24/9/2008	4489	1.04	5.8	15.8	13.6	25.91
714	25/9/2008	4163	1.04	5.8	15.9	13.7	25.45
715	26/9/2008	3746	1.05	5.65	15.6	13.7	24.55
716	29/9/2008	3504	1.03	5.75	15.2	13.5	23.18
717	30/9/2008	3217	1.03	5.65	15.1	13.2	23.41
718	1/10/2008	3025	1.03	5.55	14.8	13.1	22.55
719	2/10/2008	2990	1.01	5.5	14.8	12.8	22.73
720	3/10/2008	3002	1.02	5.6	14.7	12.7	23.18
721	6/10/2008	2992	0.99	5.45	13.2	11.8	20.18
722	7/10/2008	2922	0.9	5.4	12.8	10.8	17
723	8/10/2008	2764	0.86	5.2	12.7	9.8	15.36
724	9/10/2008	2503	0.87	5.05	13.3	10	16.91
725	10/10/2008	2221	0.82	3.9	12.2	9.1	14.18
726	13/10/2008	1976	0.85	3.76	12.3	9.2	15.09
727	14/10/2008	1809	0.83	3.8	12.8	9.4	15.36
728	15/10/2008	1615	0.83	3.56	12.1	9.25	14.45
729	16/10/2008	1506	0.81	3.6	11.5	9	14.09
730	17/10/2008	1438	0.8	3.54	11.5	9	13.82
731	20/10/2008	1355	0.8	3.44	11.5	9.15	14
732	21/10/2008	1292	0.79	3.44	11.7	9.05	13.91
733	22/10/2008	1221	0.8	3.42	11	8.2	13.55
734	23/10/2008	1149	0.8	3.42	11	8.2	13.55
735	24/10/2008	1102	0.75	3.38	9.6	7.3	11.64
736	27/10/2008	1048	0.66	3.36	8.15	6.2	8.91
737	28/10/2008	982	0.64	3.4	8	5.6	9.45
738	29/10/2008	925	0.63	3.2	6.8	5.6	8.95
739	30/10/2008	885	0.67	3.1	7.1	5.6	9.73
740	31/10/2008	851	0.69	3.1	7.7	5.15	10.91
741	3/11/2008	827	0.74	3.12	9.25	5.65	12.36
742	4/11/2008	815	0.83	3.24	10.1	6.3	12.45
743	5/11/2008	826	0.84	3.22	9.95	6.25	12.18
744	6/11/2008	839	0.91	3.54	11.3	7.25	14.27

745	7/11/2008	829	0.88	3.44	11.3	7.15	14.55
746	10/11/2008	820	0.88	3.44	10.6	6.75	13.91
747	11/11/2008	818	0.86	3.26	10.2	6.25	12.64
748	12/11/2008	824	0.86	3.22	10.1	6.15	12.27
749	13/11/2008	838	0.89	3.18	10.1	6.05	12.18
750	14/11/2008	841	0.87	3.98	10.8	6.3	12.27
751	17/11/2008	856	0.85	3.42	10.5	6.2	12
752	18/11/2008	865	0.88	3.4	10.7	6	12
753	19/11/2008	859	0.81	3.26	10.4	5.9	11.18
754	20/11/2008	847	0.75	3.2	10	5.65	10.45
755	21/11/2008	836	0.77	3.16	10.2	5.65	11
756	24/11/2008	824	0.75	3.14	9.9	5.35	10.73
757	25/11/2008	804	0.76	3.2	9.15	5.35	10.64
758	26/11/2008	763	0.77	3.18	8.8	5.35	11
759	27/11/2008	733	0.76	3.16	8.55	5.35	10.64
760	28/11/2008	715	0.78	3.18	9.25	5.55	11.73
761	1/12/2008	700	0.78	3.18	9.3	5.5	11.45
762	2/12/2008	684	0.79	3.14	9.65	5.75	11.91
763	3/12/2008	672	0.76	3.08	9.85	5.6	12.09
764	4/12/2008	666	0.77	3.1	9.8	5.65	12.45
765	5/12/2008	663	0.77	3.1	9.8	5.65	12.45
766	8/12/2008	671	0.84	3.16	10.2	5.9	13.55
767	9/12/2008	679	0.82	3.2	10.9	5.9	13.55
768	10/12/2008	691	0.82	3.2	10.9	5.9	13.55
769	11/12/2008	711	0.82	3.22	10.7	5.85	13.09
770	12/12/2008	764	0.84	3.16	10.4	5.85	13.27
771	15/12/2008	803	0.84	3.2	11.1	6	14.36
772	16/12/2008	828	0.85	3.18	12.1	6.35	16.18
773	17/12/2008	836	0.81	3.2	11.5	6.2	15.55
774	18/12/2008	829	0.85	3.2	11.4	7.05	16
775	19/12/2008	818	0.85	3.2	10.9	6.9	15.36
776	22/12/2008	801	0.83	3.2	10.8	6.65	14.64
777	23/12/2008	784	0.86	3.2	11.1	6.85	15.09
778	24/12/2008	774	0.86	3.22	11.1	6.65	14.64
779	25/12/2008	774	0.89	3.2	11.1	6.6	14.73
780	26/12/2008	774	0.88	3.22	11.3	6.55	15.27
781	29/12/2008	774	0.9	3.24	11.1	6.35	15.18
782	30/12/2008	774	0.92	3.26	10.9	6.15	15.27
783	31/12/2008	774	0.92	3.26	10.9	6.15	15.27
784	1/1/2009	774	0.92	3.26	10.9	6.15	15.27
785	2/1/2009	773	0.92	3.26	10.9	6.15	15.27
786	5/1/2009	772	0.99	3.36	11.7	6.5	16.18
787	6/1/2009	775	0.98	3.34	11.4	6.45	15.64
788	7/1/2009	789	1	3.38	11.3	6.85	15.73
789	8/1/2009	821	1	3.42	11.3	6.75	15.91
790	9/1/2009	872	1.06	3.5	11.5	6.9	16.09
791	12/1/2009	889	1.07	3.56	11.4	7.1	16.36
792	13/1/2009	911	1.04	3.5	10.9	6.85	15.64
793	14/1/2009	920	1.08	3.5	10.9	7	15.91
794	15/1/2009	908	1.04	3.46	10.7	6.8	15.18
795	16/1/2009	881	1.04	3.46	11	6.8	15.55
796	19/1/2009	868	1.04	3.58	11	6.7	15.18
797	20/1/2009	872	1.05	3.78	10.9	6.6	14.73
798	21/1/2009	900	1.05	3.76	11.1	6.5	14.91

799	22/1/2009	945	1.07	3.66	11.3	6.5	14.91
800	23/1/2009	980	1.07	3.8	11	6.55	14.73
801	26/1/2009	995	1.06	3.8	10.9	6.75	15
802	27/1/2009	1004	1.08	3.7	10.9	6.75	15.64
803	28/1/2009	1014	1.09	3.74	11	6.65	16.18
804	29/1/2009	1036	1.06	3.78	10.6	6.4	15.45
805	30/1/2009	1070	1.06	3.8	10.6	6.5	15.91
806	2/2/2009	1099	1.05	3.78	10.6	6.3	15.64
807	3/2/2009	1148	1.06	3.96	10.8	6.35	15.64
808	4/2/2009	1316	1.07	3.96	11	6.45	15.6
809	5/2/2009	1498	1.1	4.2	12.3	6.85	16.7
810	6/2/2009	1642	1.08	4.14	13.1	6.65	17.4
811	9/2/2009	1815	1.08	4.14	13.1	6.65	17.4
812	10/2/2009	1974	1.07	4.3	13.8	7.05	17.3
813	11/2/2009	2055	1.05	4.2	13.7	7.05	16.9
814	12/2/2009	1989	1.06	4.2	13.7	7.3	16.3
815	13/2/2009	1908	1.05	4.2	13.5	7.1	15.9
816	16/2/2009	1846	1.07	4.14	13.6	6.8	16.3
817	17/2/2009	1895	1.07	4.14	12	6.45	15.8
818	18/2/2009	1986	1.07	4.14	12.6	6.6	16.2
819	19/2/2009	2057	1.05	4.14	12.5	6.5	16
820	20/2/2009	2099	1.05	4.14	12	6.35	15
821	23/2/2009	2084	1.07	4.14	12.1	6.3	15.1
822	24/2/2009	2010	1.07	4.14	11.6	6.05	14.3
823	25/2/2009	1960	1.06	4.14	11.2	6.05	14.4
824	26/2/2009	1950	1.05	4.14	11	6	13.8
825	27/2/2009	1986	0.93	4.14	10.6	6	13.7
826	2/3/2009	2014	0.9	3.94	9.8	5.5	11.4
827	3/3/2009	2034	0.92	3.8	10.1	5.2	12.1
828	4/3/2009	2084	0.95	3.84	10.7	5.35	12.5
829	5/3/2009	2167	0.95	3.72	10.2	5.5	12
830	6/3/2009	2225	0.96	3.72	10.5	5.4	12.6
831	9/3/2009	2262	0.95	3.38	9.9	5.2	12
832	10/3/2009	2298	0.96	3.5	10.1	5.15	12.5
833	11/3/2009	2271	0.96	3.4	10.1	5.35	12.3
834	12/3/2009	2201	0.96	3.5	10.3	5.3	12.5
835	13/3/2009	2122	0.82	3.5	10.2	5.45	12.5
836	16/3/2009	2058	0.81	3.5	10.1	5.55	12.6
837	17/3/2009	1974	0.82	3.5	10.2	5.75	12.6
838	18/3/2009	1861	0.81	3.46	10.2	5.7	12.6
839	19/3/2009	1795	0.82	3.42	10.1	5.5	12.7
840	20/3/2009	1782	0.83	3.42	10.1	5.4	12.7
841	23/3/2009	1773	0.88	3.58	10.5	5.6	13.8
842	24/3/2009	1757	0.84	3.56	10.3	5.6	13.5
843	25/3/2009	1740	0.83	3.48	10.2	5.6	13.2
844	26/3/2009	1714	0.83	3.48	10.1	5.65	13.3
845	27/3/2009	1678	0.84	3.46	10.3	5.6	13.1
846	30/3/2009	1646	0.8	3.34	10.1	5.5	12.4
847	31/3/2009	1615	0.81	3.36	10.3	5.45	12.6
848	1/4/2009	1574	0.8	3.36	10.2	5.4	12.5
849	2/4/2009	1538	0.82	3.38	10.6	5.6	13.2
850	3/4/2009	1506	0.83	3.52	11.7	6.3	13.8
851	6/4/2009	1486	0.83	3.52	11.7	6.3	13.8
852	7/4/2009	1466	0.81	3.4	11.1	6.15	13.7

853	8/4/2009	1463	0.8	3.4	11.3	6.2	14.1
854	9/4/2009	1478	0.8	3.34	11.2	6.15	14.1
855	10/4/2009	1478	0.82	3.54	11.9	6.4	15.4
856	13/4/2009	1478	0.82	3.54	11.9	6.4	15.4
857	14/4/2009	1492	0.82	3.54	11.9	6.4	15.4
858	15/4/2009	1534	0.82	3.54	11.9	6.4	15.4
859	16/4/2009	1604	0.82	3.38	12.4	6.5	15.8
860	17/4/2009	1682	0.82	3.42	12.4	6.55	16
861	20/4/2009	1737	0.85	3.42	12.7	6.65	16.6
862	21/4/2009	1797	0.85	3.4	12.7	6.6	16.5
863	22/4/2009	1869	0.85	3.34	12.5	6.5	16
864	23/4/2009	1897	0.86	3.42	12.8	6.7	16.5
865	24/4/2009	1873	0.85	3.46	12.8	6.95	16.6
866	27/4/2009	1839	0.85	3.36	12.3	6.8	16.1
867	28/4/2009	1790	0.85	3.4	12.4	6.8	15.8
868	29/4/2009	1772	0.86	3.46	12.7	6.85	16.3
869	30/4/2009	1786	0.87	3.54	12.7	6.9	16.4
870	1/5/2009	1806	0.87	3.54	12.7	6.9	16.4
871	4/5/2009	1806	0.91	3.58	13.7	7.1	18.1
872	5/5/2009	1897	0.91	3.58	13.7	7.1	18.1
873	6/5/2009	2065	0.92	3.7	14.4	7.4	19
874	7/5/2009	2194	0.91	3.74	14.6	7.45	19.1
875	8/5/2009	2214	0.91	3.74	14.6	7.45	19.1
876	11/5/2009	2215	0.9	3.98	15.1	9.1	19.5
877	12/5/2009	2253	0.91	3.9	15.4	9.8	19.6
878	13/5/2009	2332	0.92	4	17.1	9.85	20.1
879	14/5/2009	2432	0.9	3.72	16.9	8.9	19
880	15/5/2009	2544	0.85	3.76	17.1	9.1	20.3
881	18/5/2009	2605	0.84	4.48	17.2	8.6	20
882	19/5/2009	2644	0.84	4.06	17.6	8.85	20.4
883	20/5/2009	2665	0.85	3.94	17.7	8.5	21.2
884	21/5/2009	2707	0.82	3.88	17.3	8	20.1
885	22/5/2009	2786	0.85	3.9	16.8	7.8	20.5
886	25/5/2009	2786	0.84	3.62	16.7	7.6	20
887	26/5/2009	2942	0.82	3.62	16.3	7.55	19.4
888	27/5/2009	3164	0.83	3.78	16.6	7.55	20.2
889	28/5/2009	3298	0.84	3.82	16.8	8	20.8
890	29/5/2009	3494	0.85	4	17.1	8.1	22
891	1/6/2009	3681	0.87	4.3	17.9	8.85	24.3
892	2/6/2009	4106	0.86	4.06	17.5	8.45	23.5
893	3/6/2009	4291	0.87	4.24	17.9	8.45	24.5
894	4/6/2009	4093	0.88	4.18	17.8	8.65	24.4
895	5/6/2009	3809	0.86	4.18	17.2	8.5	23.4
896	8/6/2009	3646	0.85	4.2	16.8	8.35	22.1
897	9/6/2009	3518	0.86	4.18	17.1	8.75	22.9
898	10/6/2009	3452	0.87	4.12	17.4	8.9	23.3
899	11/6/2009	3483	0.86	4.12	17.3	8.85	23.1
900	12/6/2009	3583	0.89	4.08	17.3	9.4	23.6
901	15/6/2009	3763	0.85	3.64	16.8	9.55	22.8
902	16/6/2009	3951	0.86	3.72	16.7	9.95	22.9
903	17/6/2009	4026	0.85	3.72	16.5	9.15	22.4
904	18/6/2009	4073	0.84	3.66	15.7	8.35	21
905	19/6/2009	4070	0.85	3.8	16.2	9.15	22
906	22/6/2009	4029	0.84	3.8	15.5	8.95	21.2

907	23/6/2009	3874	0.83	3.66	14.8	8.75	20.2
908	24/6/2009	3751	0.84	3.76	15.4	9.05	20.6
909	25/6/2009	3703	0.83	3.72	15.7	9.4	20.9
910	26/6/2009	3703	0.83	3.8	15.8	9.7	21.6
911	29/6/2009	3734	0.84	3.72	16.1	10.1	22.4
912	30/6/2009	3757	0.83	3.8	16.6	10	22
913	1/7/2009	3742	0.83	3.8	16.6	10	22
914	2/7/2009	3672	0.81	3.76	15.6	9.8	20.6
915	3/7/2009	3520	0.82	3.84	15.8	9.8	20.8
916	6/7/2009	3375	0.82	3.84	15.8	9.8	20.8
917	7/7/2009	3216	0.82	3.84	15.8	9.8	20.8
918	8/7/2009	3107	0.8	3.74	15.1	9.6	20.2
919	9/7/2009	3018	0.81	3.74	15.2	9.55	20.5
920	10/7/2009	2985	0.79	3.72	15	9.35	19.9
921	13/7/2009	2975	0.79	3.74	14.7	9.3	20.3
922	14/7/2009	3097	0.8	3.72	15.1	9.5	21
923	15/7/2009	3324	0.81	3.72	15.5	9.6	22.1
924	16/7/2009	3501	0.81	3.72	15.3	9.55	21.7
925	17/7/2009	3542	0.82	3.76	15.7	9.7	22.5
926	20/7/2009	3511	0.83	3.72	16.1	9.95	23
927	21/7/2009	3455	0.82	3.72	15.8	9.7	22.6
928	22/7/2009	3407	0.82	3.7	15.6	9.65	21.7
929	23/7/2009	3355	0.82	3.76	15.7	9.75	22.5
930	24/7/2009	3345	0.84	3.72	16.1	9.9	22.7
931	27/7/2009	3407	0.81	3.72	16.3	9.85	22.8
932	28/7/2009	3475	0.81	3.78	16.4	9.85	22.9
933	29/7/2009	3499	0.81	3.72	16.3	9.75	22.5
934	30/7/2009	3445	0.81	3.74	16.3	9.75	23
935	31/7/2009	3350	0.81	3.74	16.2	9.7	22.6
936	3/8/2009	3251	0.82	3.76	16.4	9.85	23.1
937	4/8/2009	3159	0.82	3.76	16.4	9.75	22.7
938	5/8/2009	3051	0.82	3.7	16.5	9.35	22.6
939	6/8/2009	2907	0.81	3.72	17.1	9.35	23.1
940	7/8/2009	2772	0.83	3.7	16.9	9.25	22.6
941	10/8/2009	2689	0.82	3.68	16.8	9.25	22.5
942	11/8/2009	2623	0.81	3.7	16.9	9.25	23.1
943	12/8/2009	2612	0.81	3.7	16.9	9.25	23.1
944	13/8/2009	2685	0.82	3.7	17.1	9.25	23.9
945	14/8/2009	2752	0.82	3.92	17.1	9.3	23.9
946	17/8/2009	2774	0.81	3.8	16.2	9.1	22.7
947	18/8/2009	2704	0.82	3.7	16.1	9.1	22.8
948	19/8/2009	2614	0.82	3.74	16	9	22.4
949	20/8/2009	2534	0.83	3.84	16	9.4	22.8
950	21/8/2009	2468	0.83	3.88	16.1	9.8	22.7
951	24/8/2009	2437	0.83	3.92	16.4	10.4	23
952	25/8/2009	2388	0.84	4	17	10.8	23.3
953	26/8/2009	2427	0.84	4.04	16.8	11.6	23
954	27/8/2009	2425	0.84	4.06	16.7	11.2	23.1
955	28/8/2009	2421	0.84	4.1	16.6	11.2	23.1
956	31/8/2009	2421	0.84	4.1	16.6	11	23.1
957	1/9/2009	2423	0.87	4.18	16.6	11.5	22.9
958	2/9/2009	2413	0.87	4.18	16.7	12	23
959	3/9/2009	2414	0.86	4.26	16.9	12	23.5
960	4/9/2009	2415	0.86	4.2	17.1	11.8	23.3

961	7/9/2009	2429	0.87	4.2	18.1	11.9	24.6
962	8/9/2009	2462	0.87	4.22	17.9	11.2	25
963	9/9/2009	2491	0.86	4.2	18.2	11.3	25
964	10/9/2009	2492	0.86	4.2	18	11.3	25.25
965	11/9/2009	2468	0.88	4.2	18.2	11.5	26.75
966	14/9/2009	2450	0.85	4.2	17.8	11.2	25.25
967	15/9/2009	2431	0.86	4.18	18.1	11.3	26
968	16/9/2009	2415	0.86	4.2	18.2	11.4	25.75
969	17/9/2009	2390	0.85	4.2	18.2	11.3	25.25
970	18/9/2009	2356	0.85	4.2	18.2	11.4	26
971	21/9/2009	2318	0.86	4.22	18.1	11.4	26.25
972	22/9/2009	2246	0.88	4.22	18.3	12.2	27.5
973	23/9/2009	2175	0.89	4.3	18.2	12.1	27.75
974	24/9/2009	2163	0.87	4.3	18.1	12	26.75
975	25/9/2009	2183	0.87	4.28	17.9	11.7	26.25
976	28/9/2009	2192	0.85	4.24	17.8	11.4	26
977	29/9/2009	2185	0.87	4.2	17.9	11.4	26
978	30/9/2009	2220	0.86	4.18	17.9	11.4	26
979	1/10/2009	2284	0.87	4.2	18.1	11.6	27.25
980	2/10/2009	2357	0.9	4.24	18.2	11.7	27.75
981	5/10/2009	2362	0.88	4.22	18.3	11.8	28
982	6/10/2009	2441	0.88	4.3	18.3	11.8	28.25
983	7/10/2009	2546	0.89	4.44	18.7	11.9	29.75
984	8/10/2009	2647	0.95	4.6	20	12.7	31.25
985	9/10/2009	2695	0.92	4.78	20	12.4	30.5
986	12/10/2009	2696	0.92	4.84	20.5	12.5	31.25
987	13/10/2009	2646	0.91	4.92	20.8	12.3	30.5
988	14/10/2009	2597	0.87	4.9	20.1	11.8	29.75
989	15/10/2009	2688	0.81	5	18.6	10.9	27.25
990	16/10/2009	2728	0.84	5.05	19.8	11.5	29.25
991	19/10/2009	2766	0.85	5	20.1	11.6	29.5
992	20/10/2009	2832	0.83	4.96	19.8	11.4	29
993	21/10/2009	2917	0.85	4.96	19.5	11.2	28
994	22/10/2009	3001	0.83	4.96	19.1	11.1	28.5
995	23/10/2009	3043	0.83	4.96	19.1	11.1	28.5
996	26/10/2009	3044	0.83	5	19	11.4	29
997	27/10/2009	3013	0.84	4.98	19	11.3	29
998	28/10/2009	2986	0.85	4.98	18.7	11.2	27.75
999	29/10/2009	3013	0.85	4.98	18.4	11.2	27
1000	30/10/2009	3103	0.84	4.92	18.5	10.9	26.75
1001	2/11/2009	3185	0.82	4.94	18.2	10.7	27.25
1002	3/11/2009	3247	0.83	4.94	18	10.6	26.75
1003	4/11/2009	3295	0.84	5	18.4	11	28
1004	5/11/2009	3335	0.83	4.94	18.4	10.8	27
1005	6/11/2009	3393	0.84	5	18.7	11	27.75
1006	9/11/2009	3480	0.85	5.05	19.2	11.4	29
1007	10/11/2009	3615	0.85	4.92	19.1	11.3	28.5
1008	11/11/2009	3748	0.86	4.96	19.3	11.4	29.5
1009	12/11/2009	3954	0.84	5.1	18.9	11.1	28.25
1010	13/11/2009	4111	0.85	5.15	19	11.2	28.5
1011	16/11/2009	4220	0.84	5.05	19.3	10.9	29.5
1012	17/11/2009	4381	0.83	5.05	19.4	11	29.25
1013	18/11/2009	4643	0.84	5.35	19.2	10.9	29
1014	19/11/2009	4661	0.84	5.25	19	10.9	29

1015	20/11/2009	4507	0.84	5.3	18.9	10.8	28.25
1016	23/11/2009	4423	0.84	5.2	18.7	10.6	27
1017	24/11/2009	4340	0.84	5.2	17.9	10.3	26
1018	25/11/2009	4234	0.84	5.15	18.2	10.6	27.75
1019	26/11/2009	4119	0.85	5.1	17.9	10.5	26.75
1020	27/11/2009	3974	0.84	5.15	17.6	10.1	26.25
1021	30/11/2009	3887	0.88	5.2	17.4	10	25.75
1022	1/12/2009	3836	0.87	5.1	18	10.3	26.75
1023	2/12/2009	3918	0.86	5.2	17.8	9.95	26.5
1024	3/12/2009	4062	0.87	5.2	18.2	9.95	27
1025	4/12/2009	4107	0.9	5.2	18	9.95	27.25
1026	7/12/2009	4036	0.9	5.2	18	9.95	27.25
1027	8/12/2009	3902	0.91	5.15	17.9	9.8	26.5
1028	9/12/2009	3791	0.91	5.3	17.9	9.5	26.25
1029	10/12/2009	3671	0.91	5.3	17.9	9.5	26.25
1030	11/12/2009	3579	0.92	5.3	17.9	9.6	26.25
1031	14/12/2009	3530	0.91	5.25	17.9	9.7	26
1032	15/12/2009	3518	0.91	5.2	17.8	9.9	26.25
1033	16/12/2009	3474	0.92	5.2	18.1	10.1	27
1034	17/12/2009	3376	0.92	5.2	18.3	10.3	26.5
1035	18/12/2009	3258	0.91	5.15	18.3	10.1	26.75
1036	21/12/2009	3154	0.9	5.2	18.1	10	26.5
1037	22/12/2009	3063	0.92	5.25	18.3	9.95	26.75
1038	23/12/2009	3023	0.92	5.15	18.3	10.1	27.25
1039	24/12/2009	3005	0.91	5.15	18.2	10	27
1040	25/12/2009	3005	0.91	5.2	18.3	10	27.25
1041	28/12/2009	3005	0.93	5.2	18.4	10.1	27.25
1042	29/12/2009	3005	0.91	5.05	18.7	10.2	27.75
1043	30/12/2009	3005	0.91	5.05	18.8	10	27.25
1044	31/12/2009	3005	0.91	5.05	18.8	10	27.25

ภาคผนวก ข

ตารางผลการคำนวณจากโปรแกรม Eviews 5.0

ผลการทดสอบความนิ่งของข้อมูลหรือยูนิทรูท (Unit Root Test)

ดัชนีบอลติกดราย : BDI

Level

Null Hypothesis: BDI has a unit root
Exogenous: Constant, Linear Trend
Lag Length: 2 (Automatic based on SIC, MAXLAG=21)

		t-Statistic	Prob.*
Augmented Dickey-Fuller test statistic		-1.317219	0.8830
Test critical values:	1% level	-3.966888	
	5% level	-3.414136	
	10% level	-3.129172	

*MacKinnon (1996) one-sided p-values.
Augmented Dickey-Fuller Test Equation
Dependent Variable: D(BDI)
Method: Least Squares
Date: 03/07/11   Time: 20:44
Sample (adjusted): 1/05/2006 12/31/2009
Included observations: 1041 after adjustments

Variable	Coefficient	Std. Error	t-Statistic	Prob.
BDI(-1)	-0.000882	0.000670	-1.317219	0.1881
D(BDI(-1))	1.030081	0.029360	35.08399	0.0000
D(BDI(-2))	-0.324213	0.029379	-11.03539	0.0000
C	8.228473	5.181755	1.587970	0.1126
@TREND(1/02/2006)	-0.007345	0.006399	-1.147929	0.2513

R-squared	0.649003	Mean dependent var	0.515850
Adjusted R-squared	0.647648	S.D. dependent var	103.9678
S.E. of regression	61.71451	Akaike info criterion	11.08771
Sum squared resid	3945793.	Schwarz criterion	11.11147
Log likelihood	-5766.151	F-statistic	478.8989
Durbin-Watson stat	1.991328	Prob(F-statistic)	0.000000

Null Hypothesis: BDI has a unit root
Exogenous: Constant
Lag Length: 2 (Automatic based on SIC, MAXLAG=21)

		t-Statistic	Prob.*
Augmented Dickey-Fuller test statistic		-1.235329	0.6609
Test critical values:	1% level	-3.436413	
	5% level	-2.864106	
	10% level	-2.568188	

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

Augmented Dickey-Fuller Test Equation
Dependent Variable: D(BDI)
Method: Least Squares
Date: 03/07/11   Time: 20:45
Sample (adjusted): 1/05/2006 12/31/2009
Included observations: 1041 after adjustments

Variable	Coefficient	Std. Error	t-Statistic	Prob.
BDI(-1)	-0.000825	0.000668	-1.235329	0.2170
D(BDI(-1))	1.030935	0.029355	35.11899	0.0000
D(BDI(-2))	-0.323512	0.029378	-11.01222	0.0000
C	4.111621	3.740737	1.099147	0.2720

R-squared	0.648557	Mean dependent var	0.515850
Adjusted R-squared	0.647540	S.D. dependent var	103.9678
S.E. of regression	61.72396	Akaike info criterion	11.08706
Sum squared resid	3950812.	Schwarz criterion	11.10607
Log likelihood	-5766.813	F-statistic	637.8971
Durbin-Watson stat	1.990639	Prob(F-statistic)	0.000000

Null Hypothesis: BDI has a unit root
Exogenous: None
Lag Length: 2 (Automatic based on SIC, MAXLAG=21)

		t-Statistic	Prob.*
Augmented Dickey-Fuller test statistic		-0.568551	0.4710
Test critical values:	1% level	-2.567185	
	5% level	-1.941128	
	10% level	-1.616495	

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

Augmented Dickey-Fuller Test Equation
Dependent Variable: D(BDI)
Method: Least Squares
Date: 03/07/11   Time: 20:46
Sample (adjusted): 1/05/2006 12/31/2009
Included observations: 1041 after adjustments

Variable	Coefficient	Std. Error	t-Statistic	Prob.
BDI(-1)	-0.000194	0.000342	-0.568551	0.5698
D(BDI(-1))	1.031784	0.029348	35.15653	0.0000
D(BDI(-2))	-0.324852	0.029355	-11.06624	0.0000

R-squared	0.648147	Mean dependent var	0.515850
Adjusted R-squared	0.647470	S.D. dependent var	103.9678
S.E. of regression	61.73015	Akaike info criterion	11.08630
Sum squared resid	3955415.	Schwarz criterion	11.10056
Log likelihood	-5767.419	Durbin-Watson stat	1.991242

First Difference

Null Hypothesis: D(BDI) has a unit root
Exogenous: Constant, Linear Trend
Lag Length: 1 (Automatic based on SIC, MAXLAG=21)

		t-Statistic	Prob.*
Augmented Dickey-Fuller test statistic		-15.05969	0.0000
Test critical values:	1% level	-3.966888	
	5% level	-3.414136	
	10% level	-3.129172	

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

Augmented Dickey-Fuller Test Equation
Dependent Variable: D(BDI,2)
Method: Least Squares
Date: 03/07/11   Time: 20:55
Sample (adjusted): 1/05/2006 12/31/2009
Included observations: 1041 after adjustments

Variable	Coefficient	Std. Error	t-Statistic	Prob.
D(BDI(-1))	-0.294769	0.019573	-15.05969	0.0000
D(BDI(-1),2)	0.326069	0.029356	11.10741	0.0000
C	3.656325	3.848741	0.950006	0.3423
@TREND(1/02/2006)	-0.006721	0.006384	-1.052803	0.2927

R-squared	0.205656	Mean dependent var	-0.028818
Adjusted R-squared	0.203358	S.D. dependent var	69.16867
S.E. of regression	61.73638	Akaike info criterion	11.08746
Sum squared resid	3952401.	Schwarz criterion	11.10647
Log likelihood	-5767.022	F-statistic	89.49302
Durbin-Watson stat	1.992148	Prob(F-statistic)	0.000000

Null Hypothesis: D(BDI) has a unit root
Exogenous: Constant
Lag Length: 1 (Automatic based on SIC, MAXLAG=21)

	t-Statistic	Prob.*
Augmented Dickey-Fuller test statistic	-15.02207	0.0000
Test critical values: 1% level	-3.436413	
5% level	-2.864106	
10% level	-2.568188	

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

Augmented Dickey-Fuller Test Equation
Dependent Variable: D(BDI,2)
Method: Least Squares
Date: 03/07/11   Time: 20:56
Sample (adjusted): 1/05/2006 12/31/2009
Included observations: 1041 after adjustments

Variable	Coefficient	Std. Error	t-Statistic	Prob.
D(BDI(-1))	-0.293301	0.019525	-15.02207	0.0000
D(BDI(-1),2)	0.325314	0.029349	11.08441	0.0000
C	0.140621	1.913575	0.073486	0.9414

R-squared	0.204807	Mean dependent var		-0.028818
Adjusted R-squared	0.203274	S.D. dependent var		69.16867
S.E. of regression	61.73960	Akaike info criterion		11.08661
Sum squared resid	3956626.	Schwarz criterion		11.10087
Log likelihood	-5767.578	F-statistic		133.6714
Durbin-Watson stat	1.991466	Prob(F-statistic)		0.000000

Null Hypothesis: D(BDI) has a unit root
Exogenous: None
Lag Length: 1 (Automatic based on SIC, MAXLAG=21)

		t-Statistic	Prob.*
Augmented Dickey-Fuller test statistic		-15.02909	0.0000
Test critical values:	1% level	-2.567185	
	5% level	-1.941128	
	10% level	-1.616495	

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

Augmented Dickey-Fuller Test Equation
Dependent Variable: D(BDI,2)
Method: Least Squares
Date: 03/07/11   Time: 20:56
Sample (adjusted): 1/05/2006 12/31/2009
Included observations: 1041 after adjustments

Variable	Coefficient	Std. Error	t-Statistic	Prob.
D(BDI(-1))	-0.293293	0.019515	-15.02909	0.0000
D(BDI(-1),2)	0.325309	0.029335	11.08958	0.0000
R-squared	0.204802	Mean dependent var		-0.028818
Adjusted R-squared	0.204037	S.D. dependent var		69.16867
S.E. of regression	61.71004	Akaike info criterion		11.08469
Sum squared resid	3956646.	Schwarz criterion		11.09420
Log likelihood	-5767.581	Durbin-Watson stat		1.991463

ASIMAR

Level

Null Hypothesis: ASIMAR has a unit root
Exogenous: Constant, Linear Trend
Lag Length: 6 (Automatic based on SIC, MAXLAG=21)

		t-Statistic	Prob.*
Augmented Dickey-Fuller test statistic		-3.116914	0.1028
Test critical values:	1% level	-3.966922	
	5% level	-3.414152	
	10% level	-3.129182	

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

Augmented Dickey-Fuller Test Equation
Dependent Variable: D(ASIMAR)
Method: Least Squares
Date: 03/07/11   Time: 21:04
Sample (adjusted): 1/11/2006 12/31/2009
Included observations: 1037 after adjustments

Variable	Coefficient	Std. Error	t-Statistic	Prob.
ASIMAR(-1)	-0.018033	0.005786	-3.116914	0.0019
D(ASIMAR(-1))	-0.070844	0.031040	-2.282322	0.0227
D(ASIMAR(-2))	-0.005815	0.030767	-0.189015	0.8501
D(ASIMAR(-3))	0.058211	0.030621	1.900999	0.0576
D(ASIMAR(-4))	0.075167	0.030654	2.452141	0.0144
D(ASIMAR(-5))	-0.133206	0.030734	-4.334205	0.0000
D(ASIMAR(-6))	0.106021	0.030889	3.432332	0.0006
C	0.020126	0.007080	2.842727	0.0046
@TREND(1/02/2006)	-4.16E-06	3.39E-06	-1.228771	0.2194

R-squared	0.061379	Mean dependent var	-0.000473
Adjusted R-squared	0.054075	S.D. dependent var	0.028299
S.E. of regression	0.027523	Akaike info criterion	-4.338925
Sum squared resid	0.778744	Schwarz criterion	-4.296016

Log likelihood	2258.733	F-statistic		8.403007
Durbin-Watson stat	1.993065	Prob(F-statistic)		0.000000

Null Hypothesis: ASIMAR has a unit root
Exogenous: Constant
Lag Length: 6 (Automatic based on SIC, MAXLAG=21)

		t-Statistic	Prob.*
Augmented Dickey-Fuller test statistic		-2.912008	0.0443
Test critical values:	1% level	-3.436438	
	5% level	-2.864116	
	10% level	-2.568193	

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

Augmented Dickey-Fuller Test Equation
Dependent Variable: D(ASIMAR)
Method: Least Squares
Date: 03/07/11   Time: 21:17
Sample (adjusted): 1/11/2006 12/31/2009
Included observations: 1037 after adjustments

Variable	Coefficient	Std. Error	t-Statistic	Prob.
ASIMAR(-1)	-0.014215	0.004881	-2.912008	0.0037
D(ASIMAR(-1))	-0.073444	0.030976	-2.371004	0.0179
D(ASIMAR(-2))	-0.007974	0.030724	-0.259548	0.7953
D(ASIMAR(-3))	0.055823	0.030567	1.826245	0.0681
D(ASIMAR(-4))	0.072634	0.030592	2.374308	0.0178
D(ASIMAR(-5))	-0.135791	0.030669	-4.427595	0.0000
D(ASIMAR(-6))	0.103831	0.030845	3.366213	0.0008
C	0.014037	0.005058	2.775202	0.0056

R-squared	0.060001	Mean dependent var	-0.000473
Adjusted R-squared	0.053606	S.D. dependent var	0.028299
S.E. of regression	0.027530	Akaike info criterion	-4.339386
Sum squared resid	0.779888	Schwarz criterion	-4.301245
Log likelihood	2257.972	F-statistic	9.383090
Durbin-Watson stat	1.992727	Prob(F-statistic)	0.000000

Null Hypothesis: ASIMAR has a unit root
Exogenous: None
Lag Length: 6 (Automatic based on SIC, MAXLAG=21)

		t-Statistic	Prob.*
Augmented Dickey-Fuller test statistic		-1.041645	0.2686
Test critical values:	1% level	-2.567194	
	5% level	-1.941129	
	10% level	-1.616494	

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

Augmented Dickey-Fuller Test Equation
Dependent Variable: D(ASIMAR)
Method: Least Squares
Date: 03/07/11   Time: 21:18
Sample (adjusted): 1/11/2006 12/31/2009
Included observations: 1037 after adjustments

Variable	Coefficient	Std. Error	t-Statistic	Prob.
ASIMAR(-1)	-0.000863	0.000829	-1.041645	0.2978
D(ASIMAR(-1))	-0.079923	0.030988	-2.579160	0.0100
D(ASIMAR(-2))	-0.013024	0.030770	-0.423281	0.6722
D(ASIMAR(-3))	0.050952	0.030616	1.664263	0.0964
D(ASIMAR(-4))	0.067050	0.030625	2.189406	0.0288
D(ASIMAR(-5))	-0.141879	0.030690	-4.622946	0.0000
D(ASIMAR(-6))	0.099098	0.030898	3.207276	0.0014

R-squared	0.052965	Mean dependent var	-0.000473
Adjusted R-squared	0.047448	S.D. dependent var	0.028299
S.E. of regression	0.027620	Akaike info criterion	-4.333858
Sum squared resid	0.785725	Schwarz criterion	-4.300484
Log likelihood	2254.105	Durbin-Watson stat	1.991973

First Difference

Null Hypothesis: D(ASIMAR) has a unit root
Exogenous: Constant, Linear Trend
Lag Length: 5 (Automatic based on SIC, MAXLAG=21)

		t-Statistic	Prob.*
Augmented Dickey-Fuller test statistic		-12.71678	0.0000
Test critical values:	1% level	-3.966922	
	5% level	-3.414152	
	10% level	-3.129182	

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

Augmented Dickey-Fuller Test Equation
Dependent Variable: D(ASIMAR,2)
Method: Least Squares
Date: 03/07/11   Time: 21:18
Sample (adjusted): 1/11/2006 12/31/2009
Included observations: 1037 after adjustments

Variable	Coefficient	Std. Error	t-Statistic	Prob.
D(ASIMAR(-1))	-1.020000	0.080209	-12.71678	0.0000
D(ASIMAR(-1),2)	-0.060345	0.072226	-0.835498	0.4036
D(ASIMAR(-2),2)	-0.073701	0.065527	-1.124740	0.2610
D(ASIMAR(-3),2)	-0.023125	0.056923	-0.406254	0.6846
D(ASIMAR(-4),2)	0.043530	0.045635	0.953865	0.3404
D(ASIMAR(-5),2)	-0.098768	0.030931	-3.193136	0.0015
C	-0.001273	0.001736	-0.733045	0.4637
@TREND(1/02/2006)	1.51E-06	2.87E-06	0.525717	0.5992

R-squared	0.570247	Mean dependent var	-2.14E-19
Adjusted R-squared	0.567324	S.D. dependent var	0.042019
S.E. of regression	0.027640	Akaike info criterion	-4.331448
Sum squared resid	0.786104	Schwarz criterion	-4.293306
Log likelihood	2253.856	F-statistic	195.0572

Durbin-Watson stat	1.991922	Prob(F-statistic)	0.000000

Null Hypothesis: D(ASIMAR) has a unit root
Exogenous: Constant
Lag Length: 5 (Automatic based on SIC, MAXLAG=21)

		t-Statistic	Prob.*
Augmented Dickey-Fuller test statistic		-12.71065	0.0000
Test critical values:	1% level	-3.436438	
	5% level	-2.864116	
	10% level	-2.568193	

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

Augmented Dickey-Fuller Test Equation
Dependent Variable: D(ASIMAR,2)
Method: Least Squares
Date: 03/07/11   Time: 21:22
Sample (adjusted): 1/11/2006 12/31/2009
Included observations: 1037 after adjustments

Variable	Coefficient	Std. Error	t-Statistic	Prob.
D(ASIMAR(-1))	-1.017980	0.080089	-12.71065	0.0000
D(ASIMAR(-1),2)	-0.062066	0.072127	-0.860505	0.3897
D(ASIMAR(-2),2)	-0.075135	0.065447	-1.148023	0.2512
D(ASIMAR(-3),2)	-0.024166	0.056869	-0.424951	0.6710
D(ASIMAR(-4),2)	0.042861	0.045601	0.939897	0.3475
D(ASIMAR(-5),2)	-0.099101	0.030914	-3.205705	0.0014
C	-0.000480	0.000859	-0.558370	0.5767

R-squared	0.570132	Mean dependent var	-2.14E-19
Adjusted R-squared	0.567628	S.D. dependent var	0.042019
S.E. of regression	0.027630	Akaike info criterion	-4.333108
Sum squared resid	0.786315	Schwarz criterion	-4.299734
Log likelihood	2253.716	F-statistic	227.6806
Durbin-Watson stat	1.991959	Prob(F-statistic)	0.000000

Null Hypothesis: D(ASIMAR) has a unit root
Exogenous: None
Lag Length: 5 (Automatic based on SIC, MAXLAG=21)

		t-Statistic	Prob.*
Augmented Dickey-Fuller test statistic		-12.70267	0.0000
Test critical values:	1% level	-2.567194	
	5% level	-1.941129	
	10% level	-1.616494	

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

Augmented Dickey-Fuller Test Equation
Dependent Variable: D(ASIMAR,2)
Method: Least Squares
Date: 03/07/11   Time: 21:23
Sample (adjusted): 1/11/2006 12/31/2009
Included observations: 1037 after adjustments

Variable	Coefficient	Std. Error	t-Statistic	Prob.
D(ASIMAR(-1))	-1.015888	0.079974	-12.70267	0.0000
D(ASIMAR(-1),2)	-0.063825	0.072034	-0.886046	0.3758
D(ASIMAR(-2),2)	-0.076579	0.065374	-1.171397	0.2417
D(ASIMAR(-3),2)	-0.025240	0.056817	-0.444226	0.6570
D(ASIMAR(-4),2)	0.042167	0.045569	0.925329	0.3550
D(ASIMAR(-5),2)	-0.099447	0.030897	-3.218620	0.0013

R-squared	0.570002	Mean dependent var	-2.14E-19
Adjusted R-squared	0.567916	S.D. dependent var	0.042019
S.E. of regression	0.027621	Akaike info criterion	-4.334734
Sum squared resid	0.786553	Schwarz criterion	-4.306128
Log likelihood	2253.559	Durbin-Watson stat	1.991992

JUTHA

Level

Null Hypothesis: JUTHA has a unit root
Exogenous: Constant, Linear Trend
Lag Length: 1 (Automatic based on SIC, MAXLAG=21)

		t-Statistic	Prob.*
Augmented Dickey-Fuller test statistic		-1.282646	0.8913
Test critical values:	1% level	-3.966879	
	5% level	-3.414131	
	10% level	-3.129170	

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

Augmented Dickey-Fuller Test Equation
Dependent Variable: D(JUTHA)
Method: Least Squares
Date: 03/07/11   Time: 21:30
Sample (adjusted): 1/04/2006 12/31/2009
Included observations: 1042 after adjustments

Variable	Coefficient	Std. Error	t-Statistic	Prob.
JUTHA(-1)	-0.003079	0.002401	-1.282646	0.1999
D(JUTHA(-1))	-0.111178	0.030833	-3.605765	0.0003
C	0.028049	0.022105	1.268899	0.2048
@TREND(1/02/2006)	-1.87E-05	1.70E-05	-1.100039	0.2716
R-squared	0.014429	Mean dependent var		-0.001727
Adjusted R-squared	0.011580	S.D. dependent var		0.142524
S.E. of regression	0.141696	Akaike info criterion		-1.066431
Sum squared resid	20.84078	Schwarz criterion		-1.047433
Log likelihood	559.6105	F-statistic		5.065414
Durbin-Watson stat	1.992235	Prob(F-statistic)		0.001739

Null Hypothesis: JUTHA has a unit root
Exogenous: Constant
Lag Length: 1 (Automatic based on SIC, MAXLAG=21)

		t-Statistic	Prob.*
Augmented Dickey-Fuller test statistic		-0.839028	0.8071
Test critical values:	1% level	-3.436407	
	5% level	-2.864103	
	10% level	-2.568186	

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

Augmented Dickey-Fuller Test Equation
Dependent Variable: D(JUTHA)
Method: Least Squares
Date: 03/07/11   Time: 21:31
Sample (adjusted): 1/04/2006 12/31/2009
Included observations: 1042 after adjustments

Variable	Coefficient	Std. Error	t-Statistic	Prob.
JUTHA(-1)	-0.001733	0.002066	-0.839028	0.4016
D(JUTHA(-1))	-0.111334	0.030836	-3.610507	0.0003
C	0.009462	0.014254	0.663815	0.5070

R-squared	0.013280	Mean dependent var	-0.001727
Adjusted R-squared	0.011380	S.D. dependent var	0.142524
S.E. of regression	0.141711	Akaike info criterion	-1.067185
Sum squared resid	20.86508	Schwarz criterion	-1.052937
Log likelihood	559.0034	F-statistic	6.991664
Durbin-Watson stat	1.992284	Prob(F-statistic)	0.000963

Null Hypothesis: JUTHA has a unit root
Exogenous: None
Lag Length: 1 (Automatic based on SIC, MAXLAG=21)

		t-Statistic	Prob.*
Augmented Dickey-Fuller test statistic		-0.673813	0.4252
Test critical values:	1% level	-2.567183	
	5% level	-1.941127	
	10% level	-1.616495	

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

Augmented Dickey-Fuller Test Equation
Dependent Variable: D(JUTHA)
Method: Least Squares
Date: 03/07/11   Time: 21:31
Sample (adjusted): 1/04/2006 12/31/2009
Included observations: 1042 after adjustments

Variable	Coefficient	Std. Error	t-Statistic	Prob.
JUTHA(-1)	-0.000429	0.000636	-0.673813	0.5006
D(JUTHA(-1))	-0.112130	0.030805	-3.640037	0.0003
R-squared	0.012861	Mean dependent var		-0.001727
Adjusted R-squared	0.011912	S.D. dependent var		0.142524
S.E. of regression	0.141672	Akaike info criterion		-1.068680
Sum squared resid	20.87393	Schwarz criterion		-1.059182
Log likelihood	558.7825	Durbin-Watson stat		1.992406

First difference

Null Hypothesis: D(JUTHA) has a unit root
Exogenous: Constant, Linear Trend
Lag Length: 0 (Automatic based on SIC, MAXLAG=21)

		t-Statistic	Prob.*
Augmented Dickey-Fuller test statistic		-36.09200	0.0000
Test critical values:	1% level	-3.966879	
	5% level	-3.414131	
	10% level	-3.129170	

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

Augmented Dickey-Fuller Test Equation
Dependent Variable: D(JUTHA,2)
Method: Least Squares
Date: 03/07/11   Time: 21:33
Sample (adjusted): 1/04/2006 12/31/2009
Included observations: 1042 after adjustments

Variable	Coefficient	Std. Error	t-Statistic	Prob.
D(JUTHA(-1))	-1.112531	0.030825	-36.09200	0.0000
C	0.002039	0.008801	0.231650	0.8169
@TREND(1/02/2006)	-7.57E-06	1.46E-05	-0.518505	0.6042

R-squared	0.556293	Mean dependent var	-4.80E-05
Adjusted R-squared	0.555438	S.D. dependent var	0.212582
S.E. of regression	0.141740	Akaike info criterion	-1.066767
Sum squared resid	20.87381	Schwarz criterion	-1.052518
Log likelihood	558.7854	F-statistic	651.3166
Durbin-Watson stat	1.992446	Prob(F-statistic)	0.000000

Null Hypothesis: D(JUTHA) has a unit root
Exogenous: Constant
Lag Length: 0 (Automatic based on SIC, MAXLAG=21)

		t-Statistic	Prob.*
Augmented Dickey-Fuller test statistic		-36.10098	0.0000
Test critical values:	1% level	-3.436407	
	5% level	-2.864103	
	10% level	-2.568186	

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

Augmented Dickey-Fuller Test Equation
Dependent Variable: D(JUTHA,2)
Method: Least Squares
Date: 03/07/11   Time: 21:33
Sample (adjusted): 1/04/2006 12/31/2009
Included observations: 1042 after adjustments

Variable	Coefficient	Std. Error	t-Statistic	Prob.
D(JUTHA(-1))	-1.112292	0.030811	-36.10098	0.0000
C	-0.001916	0.004390	-0.436483	0.6626

R-squared	0.556178	Mean dependent var	-4.80E-05
Adjusted R-squared	0.555751	S.D. dependent var	0.212582
S.E. of regression	0.141690	Akaike info criterion	-1.068427
Sum squared resid	20.87922	Schwarz criterion	-1.058928
Log likelihood	558.6506	F-statistic	1303.281
Durbin-Watson stat	1.992423	Prob(F-statistic)	0.000000

Null Hypothesis: D(JUTHA) has a unit root
Exogenous: None
Lag Length: 0 (Automatic based on SIC, MAXLAG=21)

		t-Statistic	Prob.*
Augmented Dickey-Fuller test statistic		-36.11238	0.0000
Test critical values:	1% level	-2.567183	
	5% level	-1.941127	
	10% level	-1.616495	

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

Augmented Dickey-Fuller Test Equation
Dependent Variable: D(JUTHA,2)
Method: Least Squares
Date: 03/07/11   Time: 21:34
Sample (adjusted): 1/04/2006 12/31/2009
Included observations: 1042 after adjustments

Variable	Coefficient	Std. Error	t-Statistic	Prob.
D(JUTHA(-1))	-1.112134	0.030796	-36.11238	0.0000

R-squared	0.556096	Mean dependent var	-4.80E-05
Adjusted R-squared	0.556096	S.D. dependent var	0.212582
S.E. of regression	0.141635	Akaike info criterion	-1.070163
Sum squared resid	20.88304	Schwarz criterion	-1.065414
Log likelihood	558.5551	Durbin-Watson stat	1.992386

PSL

Level

Null Hypothesis: PSL has a unit root
Exogenous: Constant, Linear Trend
Lag Length: 1 (Automatic based on SIC, MAXLAG=21)

		t-Statistic	Prob.*
Augmented Dickey-Fuller test statistic		-1.888282	0.6599
Test critical values:	1% level	-3.966879	
	5% level	-3.414131	
	10% level	-3.129170	

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

Augmented Dickey-Fuller Test Equation
Dependent Variable: D(PSL)
Method: Least Squares
Date: 03/07/11   Time: 21:40
Sample (adjusted): 1/04/2006 12/31/2009
Included observations: 1042 after adjustments

Variable	Coefficient	Std. Error	t-Statistic	Prob.
PSL(-1)	-0.005661	0.002998	-1.888282	0.0593
D(PSL(-1))	0.096331	0.030876	3.119891	0.0019
C	0.148077	0.079193	1.869812	0.0618
@TREND(1/02/2006)	-5.83E-05	6.63E-05	-0.878179	0.3800

R-squared	0.012440	Mean dependent var	0.002687
Adjusted R-squared	0.009586	S.D. dependent var	0.629902
S.E. of regression	0.626876	Akaike info criterion	1.907694
Sum squared resid	407.9061	Schwarz criterion	1.926692
Log likelihood	-989.9087	F-statistic	4.358417
Durbin-Watson stat	1.995661	Prob(F-statistic)	0.004637

Null Hypothesis: PSL has a unit root
Exogenous: Constant
Lag Length: 1 (Automatic based on SIC, MAXLAG=21)

		t-Statistic	Prob.*
Augmented Dickey-Fuller test statistic		-1.733264	0.4141
Test critical values:	1% level	-3.436407	
	5% level	-2.864103	
	10% level	-2.568186	

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

Augmented Dickey-Fuller Test Equation
Dependent Variable: D(PSL)
Method: Least Squares
Date: 03/07/11   Time: 21:40
Sample (adjusted): 1/04/2006 12/31/2009
Included observations: 1042 after adjustments

Variable	Coefficient	Std. Error	t-Statistic	Prob.
PSL(-1)	-0.005057	0.002918	-1.733264	0.0833
D(PSL(-1))	0.096485	0.030872	3.125287	0.0018
C	0.105348	0.062477	1.686199	0.0921

R-squared	0.011706	Mean dependent var	0.002687
Adjusted R-squared	0.009804	S.D. dependent var	0.629902
S.E. of regression	0.626807	Akaike info criterion	1.906518
Sum squared resid	408.2091	Schwarz criterion	1.920766
Log likelihood	-990.2957	F-statistic	6.153382
Durbin-Watson stat	1.995691	Prob(F-statistic)	0.002205

Null Hypothesis: PSL has a unit root
Exogenous: None
Lag Length: 1 (Automatic based on SIC, MAXLAG=21)

		t-Statistic	Prob.*
Augmented Dickey-Fuller test statistic		-0.419750	0.5320
Test critical values:	1% level	-2.567183	
	5% level	-1.941127	
	10% level	-1.616495	

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

Augmented Dickey-Fuller Test Equation
Dependent Variable: D(PSL)
Method: Least Squares
Date: 03/07/11   Time: 21:41
Sample (adjusted): 1/04/2006 12/31/2009
Included observations: 1042 after adjustments

Variable	Coefficient	Std. Error	t-Statistic	Prob.
PSL(-1)	-0.000381	0.000908	-0.419750	0.6748
D(PSL(-1))	0.094320	0.030873	3.055074	0.0023
R-squared	0.009002	Mean dependent var		0.002687
Adjusted R-squared	0.008049	S.D. dependent var		0.629902
S.E. of regression	0.627362	Akaike info criterion		1.907331
Sum squared resid	409.3262	Schwarz criterion		1.916830
Log likelihood	-991.7194	Durbin-Watson stat		1.995341

First difference

Null Hypothesis: D(PSL) has a unit root
Exogenous: Constant, Linear Trend
Lag Length: 0 (Automatic based on SIC, MAXLAG=21)

		t-Statistic	Prob.*
Augmented Dickey-Fuller test statistic		-29.33861	0.0000
Test critical values:	1% level	-3.966879	
	5% level	-3.414131	
	10% level	-3.129170	

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

Augmented Dickey-Fuller Test Equation
Dependent Variable: D(PSL,2)
Method: Least Squares
Date: 03/07/11   Time: 21:42
Sample (adjusted): 1/04/2006 12/31/2009
Included observations: 1042 after adjustments

Variable	Coefficient	Std. Error	t-Statistic	Prob.
D(PSL(-1))	-0.906160	0.030886	-29.33861	0.0000
C	0.017852	0.038977	0.458010	0.6470
@TREND(1/02/2006)	-2.95E-05	6.46E-05	-0.456747	0.6479

R-squared	0.453087	Mean dependent var	-0.000125
Adjusted R-squared	0.452034	S.D. dependent var	0.847891
S.E. of regression	0.627649	Akaike info criterion	1.909204
Sum squared resid	409.3072	Schwarz criterion	1.923452
Log likelihood	-991.6953	F-statistic	430.3771
Durbin-Watson stat	1.995257	Prob(F-statistic)	0.000000

Null Hypothesis: D(PSL) has a unit root
Exogenous: Constant
Lag Length: 0 (Automatic based on SIC, MAXLAG=21)

		t-Statistic	Prob.*
Augmented Dickey-Fuller test statistic		-29.34622	0.0000
Test critical values:	1% level	-3.436407	
	5% level	-2.864103	
	10% level	-2.568186	

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

Augmented Dickey-Fuller Test Equation
Dependent Variable: D(PSL,2)
Method: Least Squares
Date: 03/07/11   Time: 21:42
Sample (adjusted): 1/04/2006 12/31/2009
Included observations: 1042 after adjustments

Variable	Coefficient	Std. Error	t-Statistic	Prob.
D(PSL(-1))	-0.905935	0.030871	-29.34622	0.0000
C	0.002423	0.019437	0.124643	0.9008

R-squared	0.452977	Mean dependent var	-0.000125
Adjusted R-squared	0.452451	S.D. dependent var	0.847891
S.E. of regression	0.627410	Akaike info criterion	1.907485
Sum squared resid	409.3894	Schwarz criterion	1.916984
Log likelihood	-991.7999	F-statistic	861.2008
Durbin-Watson stat	1.995296	Prob(F-statistic)	0.000000

Null Hypothesis: D(PSL) has a unit root
Exogenous: None
Lag Length: 0 (Automatic based on SIC, MAXLAG=21)

		t-Statistic	Prob.*
Augmented Dickey-Fuller test statistic		-29.35985	0.0000
Test critical values:	1% level	-2.567183	
	5% level	-1.941127	
	10% level	-1.616495	

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

Augmented Dickey-Fuller Test Equation
Dependent Variable: D(PSL,2)
Method: Least Squares
Date: 03/07/11   Time: 21:42
Sample (adjusted): 1/04/2006 12/31/2009
Included observations: 1042 after adjustments

Variable	Coefficient	Std. Error	t-Statistic	Prob.
D(PSL(-1))	-0.905918	0.030856	-29.35985	0.0000
R-squared	0.452969	Mean dependent var	-0.000125
Adjusted R-squared	0.452969	S.D. dependent var	0.847891
S.E. of regression	0.627114	Akaike info criterion	1.905581
Sum squared resid	409.3955	Schwarz criterion	1.910330
Log likelihood	-991.8077	Durbin-Watson stat	1.995300

RCL

Level

Null Hypothesis: RCL has a unit root
Exogenous: Constant, Linear Trend
Lag Length: 0 (Automatic based on SIC, MAXLAG=21)

		t-Statistic	Prob.*
Augmented Dickey-Fuller test statistic		-1.313231	0.8840
Test critical values:	1% level	-3.966871	
	5% level	-3.414127	
	10% level	-3.129167	

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

Augmented Dickey-Fuller Test Equation
Dependent Variable: D(RCL)
Method: Least Squares
Date: 03/07/11   Time: 21:43
Sample (adjusted): 1/03/2006 12/31/2009
Included observations: 1043 after adjustments

Variable	Coefficient	Std. Error	t-Statistic	Prob.
RCL(-1)	-0.003306	0.002518	-1.313231	0.1894
C	0.076948	0.076883	1.000845	0.3171
@TREND(1/02/2006)	-5.99E-05	6.77E-05	-0.885570	0.3761

R-squared	0.001657	Mean dependent var	-0.016539
Adjusted R-squared	-0.000263	S.D. dependent var	0.498950
S.E. of regression	0.499016	Akaike info criterion	1.450514
Sum squared resid	258.9774	Schwarz criterion	1.464751
Log likelihood	-753.4430	F-statistic	0.863056
Durbin-Watson stat	1.913454	Prob(F-statistic)	0.422173

Null Hypothesis: RCL has a unit root
Exogenous: Constant
Lag Length: 0 (Automatic based on SIC, MAXLAG=21)

		t-Statistic	Prob.*
Augmented Dickey-Fuller test statistic		-0.970604	0.7653
Test critical values:	1% level	-3.436401	
	5% level	-2.864100	
	10% level	-2.568185	

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

Augmented Dickey-Fuller Test Equation
Dependent Variable: D(RCL)
Method: Least Squares
Date: 03/07/11   Time: 21:44
Sample (adjusted): 1/03/2006 12/31/2009
Included observations: 1043 after adjustments

Variable	Coefficient	Std. Error	t-Statistic	Prob.
RCL(-1)	-0.001853	0.001909	-0.970604	0.3320
C	0.018331	0.039107	0.468731	0.6394
R-squared	0.000904	Mean dependent var		-0.016539
Adjusted R-squared	-0.000056	S.D. dependent var		0.498950
S.E. of regression	0.498964	Akaike info criterion		1.449350
Sum squared resid	259.1727	Schwarz criterion		1.458842
Log likelihood	-753.8361	F-statistic		0.942072
Durbin-Watson stat	1.914793	Prob(F-statistic)		0.331971

Null Hypothesis: RCL has a unit root
Exogenous: None
Lag Length: 0 (Automatic based on SIC, MAXLAG=21)

		t-Statistic	Prob.*
Augmented Dickey-Fuller test statistic		-1.367365	0.1594
Test critical values:	1% level	-2.567181	
	5% level	-1.941127	
	10% level	-1.616495	

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

Augmented Dickey-Fuller Test Equation
Dependent Variable: D(RCL)
Method: Least Squares
Date: 03/07/11   Time: 21:44
Sample (adjusted): 1/03/2006 12/31/2009
Included observations: 1043 after adjustments

Variable	Coefficient	Std. Error	t-Statistic	Prob.
RCL(-1)	-0.001031	0.000754	-1.367365	0.1718

R-squared	0.000693	Mean dependent var	-0.016539
Adjusted R-squared	0.000693	S.D. dependent var	0.498950
S.E. of regression	0.498777	Akaike info criterion	1.447644
Sum squared resid	259.2274	Schwarz criterion	1.452389
Log likelihood	-753.9462	Durbin-Watson stat	1.915963

First Differnce

Null Hypothesis: RCL has a unit root
Exogenous: None
Lag Length: 0 (Automatic based on SIC, MAXLAG=21)

		t-Statistic	Prob.*
Augmented Dickey-Fuller test statistic		-1.367365	0.1594
Test critical values:	1% level	-2.567181	
	5% level	-1.941127	
	10% level	-1.616495	

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

Augmented Dickey-Fuller Test Equation
Dependent Variable: D(RCL)
Method: Least Squares
Date: 03/07/11   Time: 21:44
Sample (adjusted): 1/03/2006 12/31/2009
Included observations: 1043 after adjustments

Variable	Coefficient	Std. Error	t-Statistic	Prob.
RCL(-1)	-0.001031	0.000754	-1.367365	0.1718
R-squared	0.000693	Mean dependent var		-0.016539
Adjusted R-squared	0.000693	S.D. dependent var		0.498950
S.E. of regression	0.498777	Akaike info criterion		1.447644
Sum squared resid	259.2274	Schwarz criterion		1.452389
Log likelihood	-753.9462	Durbin-Watson stat		1.915963

Null Hypothesis: D(RCL) has a unit root
Exogenous: Constant
Lag Length: 0 (Automatic based on SIC, MAXLAG=21)

		t-Statistic	Prob.*
Augmented Dickey-Fuller test statistic		-30.93782	0.0000
Test critical values:	1% level	-3.436407	
	5% level	-2.864103	
	10% level	-2.568186	

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

Augmented Dickey-Fuller Test Equation
Dependent Variable: D(RCL,2)
Method: Least Squares
Date: 03/07/11   Time: 21:45
Sample (adjusted): 1/04/2006 12/31/2009
Included observations: 1042 after adjustments

Variable	Coefficient	Std. Error	t-Statistic	Prob.
D(RCL(-1))	-0.958411	0.030979	-30.93782	0.0000
C	-0.015626	0.015465	-1.010411	0.3125

R-squared	0.479258	Mean dependent var	0.000240
Adjusted R-squared	0.478757	S.D. dependent var	0.691087
S.E. of regression	0.498945	Akaike info criterion	1.449276
Sum squared resid	258.9040	Schwarz criterion	1.458775
Log likelihood	-753.0727	F-statistic	957.1488
Durbin-Watson stat	1.999608	Prob(F-statistic)	0.000000

Null Hypothesis: D(RCL) has a unit root
Exogenous: None
Lag Length: 0 (Automatic based on SIC, MAXLAG=21)

		t-Statistic	Prob.*
Augmented Dickey-Fuller test statistic		-30.92101	0.0000
Test critical values:	1% level	-2.567183	
	5% level	-1.941127	
	10% level	-1.616495	

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

Augmented Dickey-Fuller Test Equation
Dependent Variable: D(RCL,2)
Method: Least Squares
Date: 03/07/11   Time: 21:45
Sample (adjusted): 1/04/2006 12/31/2009
Included observations: 1042 after adjustments

Variable	Coefficient	Std. Error	t-Statistic	Prob.
D(RCL(-1))	-0.957373	0.030962	-30.92101	0.0000

R-squared	0.478746	Mean dependent var	0.000240
Adjusted R-squared	0.478746	S.D. dependent var	0.691087
S.E. of regression	0.498950	Akaike info criterion	1.448338
Sum squared resid	259.1581	Schwarz criterion	1.453087
Log likelihood	-753.5839	Durbin-Watson stat	1.999805

TTA

Level

Null Hypothesis: TTA has a unit root
Exogenous: Constant, Linear Trend
Lag Length: 0 (Automatic based on SIC, MAXLAG=21)

		t-Statistic	Prob.*
Augmented Dickey-Fuller test statistic		-1.488384	0.8333
Test critical values:	1% level	-3.966871	
	5% level	-3.414127	
	10% level	-3.129167	

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

Augmented Dickey-Fuller Test Equation
Dependent Variable: D(TTA)
Method: Least Squares
Date: 03/07/11   Time: 21:46
Sample (adjusted): 1/03/2006 12/31/2009
Included observations: 1043 after adjustments

Variable	Coefficient	Std. Error	t-Statistic	Prob.
TTA(-1)	-0.004159	0.002794	-1.488384	0.1370
C	0.136022	0.100591	1.352224	0.1766
@TREND(1/02/2006)	-3.09E-05	0.000105	-0.296051	0.7673

R-squared	0.002202	Mean dependent var	0.003902
Adjusted R-squared	0.000283	S.D. dependent var	1.016347
S.E. of regression	1.016203	Akaike info criterion	2.872896
Sum squared resid	1073.976	Schwarz criterion	2.887133
Log likelihood	-1495.215	F-statistic	1.147355
Durbin-Watson stat	1.917330	Prob(F-statistic)	0.317877

Null Hypothesis: TTA has a unit root
Exogenous: Constant
Lag Length: 0 (Automatic based on SIC, MAXLAG=21)

		t-Statistic	Prob.*
Augmented Dickey-Fuller test statistic		-1.486270	0.5404
Test critical values:	1% level	-3.436401	
	5% level	-2.864100	
	10% level	-2.568185	

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

Augmented Dickey-Fuller Test Equation
Dependent Variable: D(TTA)
Method: Least Squares
Date: 03/07/11   Time: 21:47
Sample (adjusted): 1/03/2006 12/31/2009
Included observations: 1043 after adjustments

Variable	Coefficient	Std. Error	t-Statistic	Prob.
TTA(-1)	-0.004151	0.002793	-1.486270	0.1375
C	0.119650	0.083989	1.424585	0.1546

R-squared	0.002118	Mean dependent var	0.003902
Adjusted R-squared	0.001159	S.D. dependent var	1.016347
S.E. of regression	1.015758	Akaike info criterion	2.871063
Sum squared resid	1074.066	Schwarz criterion	2.880554
Log likelihood	-1495.259	F-statistic	2.208999
Durbin-Watson stat	1.917184	Prob(F-statistic)	0.137510

Null Hypothesis: TTA has a unit root
Exogenous: None
Lag Length: 0 (Automatic based on SIC, MAXLAG=21)

		t-Statistic	Prob.*
Augmented Dickey-Fuller test statistic		-0.441314	0.5235
Test critical values:	1% level	-2.567181	
	5% level	-1.941127	
	10% level	-1.616495	

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

Augmented Dickey-Fuller Test Equation
Dependent Variable: D(TTA)
Method: Least Squares
Date: 03/07/11   Time: 21:47
Sample (adjusted): 1/03/2006 12/31/2009
Included observations: 1043 after adjustments

Variable	Coefficient	Std. Error	t-Statistic	Prob.
TTA(-1)	-0.000462	0.001046	-0.441314	0.6591

R-squared	0.000172	Mean dependent var	0.003902
Adjusted R-squared	0.000172	S.D. dependent var	1.016347
S.E. of regression	1.016259	Akaike info criterion	2.871093
Sum squared resid	1076.160	Schwarz criterion	2.875839
Log likelihood	-1496.275	Durbin-Watson stat	1.920525

First Difference

Null Hypothesis: D(TTA) has a unit root
Exogenous: Constant, Linear Trend
Lag Length: 0 (Automatic based on SIC, MAXLAG=21)

		t-Statistic	Prob.*
Augmented Dickey-Fuller test statistic		-30.98803	0.0000
Test critical values:	1% level	-3.966879	
	5% level	-3.414131	
	10% level	-3.129170	

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

Augmented Dickey-Fuller Test Equation
Dependent Variable: D(TTA,2)
Method: Least Squares
Date: 03/07/11   Time: 21:48
Sample (adjusted): 1/04/2006 12/31/2009
Included observations: 1042 after adjustments

Variable	Coefficient	Std. Error	t-Statistic	Prob.
D(TTA(-1))	-0.960614	0.031000	-30.98803	0.0000
C	0.018589	0.063149	0.294367	0.7685
@TREND(1/02/2006)	-2.84E-05	0.000105	-0.271105	0.7864

R-squared	0.480307	Mean dependent var	3.41E-18
Adjusted R-squared	0.479307	S.D. dependent var	1.409365
S.E. of regression	1.016984	Akaike info criterion	2.874436
Sum squared resid	1074.593	Schwarz criterion	2.888684
Log likelihood	-1494.581	F-statistic	480.1290
Durbin-Watson stat	1.993843	Prob(F-statistic)	0.000000

Null Hypothesis: D(TTA) has a unit root
Exogenous: Constant
Lag Length: 0 (Automatic based on SIC, MAXLAG=21)

		t-Statistic	Prob.*
Augmented Dickey-Fuller test statistic		-31.00065	0.0000
Test critical values:	1% level	-3.436407	
	5% level	-2.864103	
	10% level	-2.568186	

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

Augmented Dickey-Fuller Test Equation
Dependent Variable: D(TTA,2)
Method: Least Squares
Date: 03/07/11   Time: 21:49
Sample (adjusted): 1/04/2006 12/31/2009
Included observations: 1042 after adjustments

Variable	Coefficient	Std. Error	t-Statistic	Prob.
D(TTA(-1))	-0.960541	0.030985	-31.00065	0.0000
C	0.003752	0.031491	0.119139	0.9052

R-squared	0.480270	Mean dependent var	3.41E-18
Adjusted R-squared	0.479771	S.D. dependent var	1.409365
S.E. of regression	1.016531	Akaike info criterion	2.872587
Sum squared resid	1074.670	Schwarz criterion	2.882086
Log likelihood	-1494.618	F-statistic	961.0406
Durbin-Watson stat	1.993842	Prob(F-statistic)	0.000000

Null Hypothesis: D(TTA) has a unit root
Exogenous: None
Lag Length: 0 (Automatic based on SIC, MAXLAG=21)

		t-Statistic	Prob.*
Augmented Dickey-Fuller test statistic		-31.01511	0.0000
Test critical values:	1% level	-2.567183	
	5% level	-1.941127	
	10% level	-1.616495	

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

Augmented Dickey-Fuller Test Equation
Dependent Variable: D(TTA,2)
Method: Least Squares
Date: 03/07/11   Time: 21:50
Sample (adjusted): 1/04/2006 12/31/2009
Included observations: 1042 after adjustments

Variable	Coefficient	Std. Error	t-Statistic	Prob.
D(TTA(-1))	-0.960527	0.030970	-31.01511	0.0000

R-squared	0.480263	Mean dependent var	3.41E-18
Adjusted R-squared	0.480263	S.D. dependent var	1.409365
S.E. of regression	1.016050	Akaike info criterion	2.870681
Sum squared resid	1074.684	Schwarz criterion	2.875431
Log likelihood	-1494.625	Durbin-Watson stat	1.993842

ผลการวิเคราะห์ความสัมพันธ์เชิงดุลยภาพในระยะยาว (Cointegration)

ASIMAR

Dependent Variable: BDI
Method: Least Squares
Date: 04/05/10   Time: 16:13
Sample: 1/02/2006 12/31/2009
Included observations: 1044

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	-585.2708	485.6790	-1.205057	0.2285
ASIMAR	5274.182	467.9148	11.27167	0.0000

R-squared	0.108678	Mean dependent var	4806.974
Adjusted R-squared	0.107823	S.D. dependent var	2867.732
S.E. of regression	2708.720	Akaike info criterion	18.64825
Sum squared resid	7.65E+09	Schwarz criterion	18.65774
Log likelihood	-9732.389	F-statistic	127.0506
Durbin-Watson stat	0.004000	Prob(F-statistic)	0.000000

JUTHA

Dependent Variable: JUTHA
Method: Least Squares
Date: 03/06/11   Time: 18:41
Sample: 1/02/2006 12/31/2009
Included observations: 1044

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	3.838380	0.082880	46.31266	0.0000
BDI	0.000567	1.48E-05	38.26926	0.0000

R-squared	0.584287	Mean dependent var	6.562577
Adjusted R-squared	0.583888	S.D. dependent var	2.126141
S.E. of regression	1.371505	Akaike info criterion	3.471608
Sum squared resid	1960.028	Schwarz criterion	3.481092
Log likelihood	-1810.179	F-statistic	1464.536
Durbin-Watson stat	0.011471	Prob(F-statistic)	0.000000

PSL

Dependent Variable: PSL
Method: Least Squares
Date: 03/06/11   Time: 18:42
Sample: 1/02/2006 12/31/2009
Included observations: 1044

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	11.40732	0.241170	47.29998	0.0000
BDI	0.001860	4.31E-05	43.16124	0.0000

R-squared	0.641295	Mean dependent var	20.34772
Adjusted R-squared	0.640951	S.D. dependent var	6.660314
S.E. of regression	3.990909	Akaike info criterion	5.607829
Sum squared resid	16596.30	Schwarz criterion	5.617313
Log likelihood	-2925.287	F-statistic	1862.893
Durbin-Watson stat	0.024030	Prob(F-statistic)	0.000000

RCL

Dependent Variable: RCL
Method: Least Squares
Date: 03/06/11   Time: 18:43
Sample: 1/02/2006 12/31/2009
Included observations: 1044

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	9.563620	0.358401	26.68412	0.0000
BDI	0.001923	6.40E-05	30.02793	0.0000

R-squared	0.463903	Mean dependent var	18.80709
Adjusted R-squared	0.463388	S.D. dependent var	8.096333
S.E. of regression	5.930871	Akaike info criterion	6.400133
Sum squared resid	36652.59	Schwarz criterion	6.409617
Log likelihood	-3338.869	F-statistic	901.6767
Durbin-Watson stat	0.007506	Prob(F-statistic)	0.000000

TTA

Dependent Variable: TTA
Method: Least Squares
Date: 03/06/11   Time: 18:44
Sample: 1/02/2006 12/31/2009
Included observations: 1044

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	10.48240	0.263914	39.71898	0.0000
BDI	0.003620	4.72E-05	76.76202	0.0000

R-squared	0.849735	Mean dependent var	27.88239
Adjusted R-squared	0.849591	S.D. dependent var	11.26092
S.E. of regression	4.367285	Akaike info criterion	5.788074
Sum squared resid	19874.25	Schwarz criterion	5.797558
Log likelihood	-3019.375	F-statistic	5892.408
Durbin-Watson stat	0.047681	Prob(F-statistic)	0.000000

ผลการทดสอบความนิ่งของส่วนที่เหลือ (Residual) จากสมการถดถอยในการทดสอบ

Cointegration โดยการทดสอบ Unit Root ด้วยวิธีการ ADF

ASIMAR

Null Hypothesis: ASIMAR_E has a unit root
Exogenous: None
Lag Length: 0 (Fixed)

		t-Statistic	Prob.*
Augmented Dickey-Fuller test statistic		-3.361514	0.0008
Test critical values:	1% level	-2.567181	
	5% level	-1.941127	
	10% level	-1.616495	

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

Augmented Dickey-Fuller Test Equation
Dependent Variable: D(ASIMAR_E)
Method: Least Squares
Date: 03/06/11   Time: 18:51
Sample (adjusted): 1/03/2006 12/31/2009
Included observations: 1043 after adjustments

Variable	Coefficient	Std. Error	t-Statistic	Prob.
ASIMAR_E(-1)	-0.017215	0.005121	-3.361514	0.0008
R-squared	0.010402	Mean dependent var		-0.000510
Adjusted R-squared	0.010402	S.D. dependent var		0.028132
S.E. of regression	0.027986	Akaike info criterion		-4.313286
Sum squared resid	0.816095	Schwarz criterion		-4.308540
Log likelihood	2250.379	Durbin-Watson stat		2.215053

JUTHA

Null Hypothesis: D(JUTHA_E) has a unit root
Exogenous: None
Lag Length: 0 (Automatic based on SIC, MAXLAG=21)

		t-Statistic	Prob.*
Augmented Dickey-Fuller test statistic		-34.55809	0.0000
Test critical values:	1% level	-2.567183	
	5% level	-1.941127	
	10% level	-1.616495	

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

Augmented Dickey-Fuller Test Equation
Dependent Variable: D(JUTHA_E,2)
Method: Least Squares
Date: 03/06/11   Time: 18:58
Sample (adjusted): 1/04/2006 12/31/2009
Included observations: 1042 after adjustments

Variable	Coefficient	Std. Error	t-Statistic	Prob.
D(JUTHA_E(-1))	-1.068542	0.030920	-34.55809	0.0000
R-squared	0.534283	Mean dependent var	-3.11E-05	
Adjusted R-squared	0.534283	S.D. dependent var	0.214836	
S.E. of regression	0.146612	Akaike info criterion	-1.001097	
Sum squared resid	22.37633	Schwarz criterion	-0.996348	
Log likelihood	522.5715	Durbin-Watson stat	1.992048	

PSL

Null Hypothesis: D(PSL_E) has a unit root
Exogenous: None
Lag Length: 0 (Automatic based on SIC, MAXLAG=21)

		t-Statistic	Prob.*
Augmented Dickey-Fuller test statistic		-30.25399	0.0000
Test critical values:	1% level	-2.567183	
	5% level	-1.941127	
	10% level	-1.616495	

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

Augmented Dickey-Fuller Test Equation
Dependent Variable: D(PSL_E,2)
Method: Least Squares
Date: 03/06/11   Time: 19:43
Sample (adjusted): 1/04/2006 12/31/2009
Included observations: 1042 after adjustments

Variable	Coefficient	Std. Error	t-Statistic	Prob.
D(PSL_E(-1))	-0.935742	0.030930	-30.25399	0.0000

R-squared	0.467874	Mean dependent var	-6.94E-05
Adjusted R-squared	0.467874	S.D. dependent var	0.846729
S.E. of regression	0.617663	Akaike info criterion	1.875211
Sum squared resid	397.1492	Schwarz criterion	1.879961
Log likelihood	-975.9851	Durbin-Watson stat	1.996141

RCL

Null Hypothesis: D(RCL_E) has a unit root
Exogenous: None
Lag Length: 0 (Automatic based on SIC, MAXLAG=21)

		t-Statistic	Prob.*
Augmented Dickey-Fuller test statistic		-29.87274	0.0000
Test critical values:	1% level	-2.567183	
	5% level	-1.941127	
	10% level	-1.616495	

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

Augmented Dickey-Fuller Test Equation
Dependent Variable: D(RCL_E,2)
Method: Least Squares
Date: 03/06/11   Time: 19:44
Sample (adjusted): 1/04/2006 12/31/2009
Included observations: 1042 after adjustments

Variable	Coefficient	Std. Error	t-Statistic	Prob.
D(RCL_E(-1))	-0.922956	0.030896	-29.87274	0.0000
R-squared	0.461565	Mean dependent var		0.000297
Adjusted R-squared	0.461565	S.D. dependent var		0.698368
S.E. of regression	0.512450	Akaike info criterion		1.501730
Sum squared resid	273.3713	Schwarz criterion		1.506480
Log likelihood	-781.4014	Durbin-Watson stat		2.003982

TTA

Null Hypothesis: TTA_E has a unit root
Exogenous: None
Lag Length: 0 (Automatic based on SIC, MAXLAG=21)

		t-Statistic	Prob.*
Augmented Dickey-Fuller test statistic		-3.477389	0.0005
Test critical values:	1% level	-2.567181	
	5% level	-1.941127	
	10% level	-1.616495	

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

Augmented Dickey-Fuller Test Equation
Dependent Variable: D(TTA_E)
Method: Least Squares
Date: 03/06/11   Time: 22:25
Sample (adjusted): 1/03/2006 12/31/2009
Included observations: 1043 after adjustments

Variable	Coefficient	Std. Error	t-Statistic	Prob.
TTA_E(-1)	-0.023408	0.006732	-3.477389	0.0005

R-squared	0.011468	Mean dependent var	0.001827
Adjusted R-squared	0.011468	S.D. dependent var	0.953642
S.E. of regression	0.948158	Akaike info criterion	2.732367
Sum squared resid	936.7615	Schwarz criterion	2.737113
Log likelihood	-1423.929	Durbin-Watson stat	2.127443

ผลการประมาณค่าสัมประสิทธิ์ โดยใช้ Error Correction Model (ECM)

Dependent Variable: D(ASIMAR)
Method: Least Squares
Date: 03/08/11   Time: 01:07
Sample (adjusted): 1/03/2006 12/31/2009
Included observations: 1043 after adjustments

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	-0.000518	0.000866	-0.598395	0.5497
D(BDI)	3.64E-05	8.40E-06	4.330612	0.0000
ASIMAR_E(-1)	-0.018334	0.005151	-3.559100	0.0004

R-squared	0.026424	Mean dependent var		-0.000499
Adjusted R-squared	0.024552	S.D. dependent var		0.028310
S.E. of regression	0.027961	Akaike info criterion		-4.313161
Sum squared resid	0.813073	Schwarz criterion		-4.298924
Log likelihood	2252.314	F-statistic		14.11348
Durbin-Watson stat	2.222891	Prob(F-statistic)		0.000001

Dependent Variable: D(JUTHA)
Method: Least Squares
Date: 03/08/11   Time: 01:11
Sample (adjusted): 1/03/2006 12/31/2009
Included observations: 1043 after adjustments

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	-0.001782	0.004377	-0.407081	0.6840
D(BDI)	0.000183	4.26E-05	4.292791	0.0000
JUTHA_E(-1)	-0.002051	0.003228	-0.635442	0.5253

R-squared	0.017411	Mean dependent var		-0.001678
Adjusted R-squared	0.015521	S.D. dependent var		0.142464
S.E. of regression	0.141355	Akaike info criterion		-1.072219
Sum squared resid	20.78035	Schwarz criterion		-1.057982
Log likelihood	562.1622	F-statistic		9.214035
Durbin-Watson stat	2.257986	Prob(F-statistic)		0.000108

Dependent Variable: D(PSL)
Method: Least Squares
Date: 03/08/11   Time: 01:13
Sample (adjusted): 1/03/2006 12/31/2009
Included observations: 1043 after adjustments

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	0.002018	0.019053	0.105894	0.9157
D(BDI)	0.001355	0.000190	7.139436	0.0000
PSL_E(-1)	-0.008569	0.004940	-1.734781	0.0831

R-squared	0.046728	Mean dependent var		0.002809
Adjusted R-squared	0.044895	S.D. dependent var		0.629612
S.E. of regression	0.615317	Akaike info criterion		1.869512
Sum squared resid	393.7590	Schwarz criterion		1.883750
Log likelihood	-971.9507	F-statistic		25.48956
Durbin-Watson stat	1.872094	Prob(F-statistic)		0.000000

Dependent Variable: D(RCL)
Method: Least Squares
Date: 03/08/11   Time: 01:14
Sample (adjusted): 1/03/2006 12/31/2009
Included observations: 1043 after adjustments

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	-0.016884	0.015333	-1.101146	0.2711
D(BDI)	0.000626	0.000149	4.202713	0.0000
RCL_E(-1)	-0.002650	0.002611	-1.014743	0.3105

R-squared	0.016893	Mean dependent var		-0.016539
Adjusted R-squared	0.015003	S.D. dependent var		0.498950
S.E. of regression	0.495193	Akaike info criterion		1.435135
Sum squared resid	255.0250	Schwarz criterion		1.449372
Log likelihood	-745.4228	F-statistic		8.935432
Durbin-Watson stat	1.941995	Prob(F-statistic)		0.000142

Dependent Variable: D(TTA)
Method: Least Squares
Date: 03/08/11   Time: 01:15
Sample (adjusted): 1/03/2006 12/31/2009
Included observations: 1043 after adjustments

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	0.001703	0.029387	0.057938	0.9538
D(BDI)	0.003606	0.000290	12.43101	0.0000
TTA_E(-1)	-0.023338	0.006907	-3.379163	0.0008

R-squared	0.129688	Mean dependent var	0.003902
Adjusted R-squared	0.128014	S.D. dependent var	1.016347
S.E. of regression	0.949067	Akaike info criterion	2.736197
Sum squared resid	936.7566	Schwarz criterion	2.750434
Log likelihood	-1423.927	F-statistic	77.48670
Durbin-Watson stat	2.127459	Prob(F-statistic)	0.000000

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ผลการทดสอบการหาช่วงเวลาที่เหมาะสม

ระหว่างดัชนีบอลติกดราย กับราคาหลักทรัพย์

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ASIMAR

VAR Lag Order Selection Criteria
Endogenous variables: ASIMAR BDI
Exogenous variables: C
Date: 03/08/11   Time: 08:19
Sample: 1/02/2006 12/31/2009
Included observations: 1039

Lag	LogL	LR	FPE	AIC	SC	HQ
0	-9357.228	NA	228681.1	18.01584	18.02536	18.01945
1	-4047.694	10588.41	8.392304	7.803069	7.831631	7.813905
2	-3561.378	967.9526	3.316436	6.874645	6.922248	6.892704
3	-3501.186	119.5730	2.976432*	6.766479*	6.833124*	6.791762*
4	-3499.491	3.360306	2.989670	6.770916	6.856603	6.803423
5	-3493.942	10.98006*	2.980772	6.767935	6.872663	6.807665

* indicates lag order selected by the criterion
LR: sequential modified LR test statistic (each test at 5% level)
FPE: Final prediction error
AIC: Akaike information criterion
SC: Schwarz information criterion
HQ: Hannan-Quinn information criterion

JUTHA

VAR Lag Order Selection Criteria
Endogenous variables: JUTHA BDI
Exogenous variables: C
Date: 03/08/11   Time: 08:22
Sample: 1/02/2006 12/31/2009
Included observations: 1039

Lag	LogL	LR	FPE	AIC	SC	HQ
0	-11546.81	NA	15477117	22.23063	22.24015	22.23424
1	-5728.035	11603.95	213.1187	11.03760	11.06617	11.04844
2	-5240.342	970.6930	83.99646	10.10653	10.15413	10.12459
3	-5181.901	116.0944*	75.63961*	10.00173*	10.06838*	10.02702*
4	-5181.385	1.022091	76.14869	10.00844	10.09413	10.04095
5	-5179.594	3.544845	76.47318	10.01269	10.11742	10.05242

* indicates lag order selected by the criterion
LR: sequential modified LR test statistic (each test at 5% level)
FPE: Final prediction error
AIC: Akaike information criterion
SC: Schwarz information criterion
HQ: Hannan-Quinn information criterion

PSL

VAR Lag Order Selection Criteria
Endogenous variables: PSL BDI
Exogenous variables: C
Date: 03/08/11   Time: 08:23
Sample: 1/02/2006 12/31/2009
Included observations: 1039

Lag	LogL	LR	FPE	AIC	SC	HQ
0	-12660.11	NA	1.32e+08	24.37365	24.38318	24.37727
1	-7231.914	10825.05	3853.385	13.93246	13.96102	13.94330
2	-6772.460	914.4863	1603.575	13.05575	13.10335	13.07380
3	-6706.306	131.4149*	1422.756*	12.93610*	13.00275*	12.96139*
4	-6705.835	0.934933	1432.453	12.94290	13.02858	12.97540
5	-6701.333	8.908577	1431.070	12.94193	13.04666	12.98166

* indicates lag order selected by the criterion
LR: sequential modified LR test statistic (each test at 5% level)
FPE: Final prediction error
AIC: Akaike information criterion
SC: Schwarz information criterion
HQ: Hannan-Quinn information criterion

RCL

VAR Lag Order Selection Criteria
Endogenous variables: RCL BDI
Exogenous variables: C
Date: 03/08/11   Time: 08:24
Sample: 1/02/2006 12/31/2009
Included observations: 1039

Lag	LogL	LR	FPE	AIC	SC	HQ
0	-13059.51	NA	2.85e+08	25.14246	25.15198	25.14607
1	-7032.770	12018.67	2626.402	13.54912	13.57769	13.55996
2	-6552.746	955.4274	1050.539	12.63281	12.68042	12.65087
3	-6492.900	118.8864*	943.4647*	12.52531*	12.59196*	12.55060*
4	-6491.431	2.913265	948.0723	12.53018	12.61587	12.56269
5	-6488.913	4.982150	950.7819	12.53304	12.63777	12.57277

* indicates lag order selected by the criterion
LR: sequential modified LR test statistic (each test at 5% level)
FPE: Final prediction error
AIC: Akaike information criterion
SC: Schwarz information criterion
HQ: Hannan-Quinn information criterion

TTA

VAR Lag Order Selection Criteria
Endogenous variables: TTA BDI
Exogenous variables: C
Date: 03/08/11   Time: 08:25
Sample: 1/02/2006 12/31/2009
Included observations: 1039

Lag	LogL	LR	FPE	AIC	SC	HQ
0	-12751.09	NA	1.57e+08	24.54878	24.55830	24.55239
1	-7692.347	10088.27	9348.840	14.81876	14.84732	14.82960
2	-7225.369	929.4601	3834.559	13.92756	13.97517	13.94562
3	-7140.648	168.3021	3282.716*	13.77218*	13.83883*	13.79746*
4	-7139.613	2.051204	3301.510	13.77789	13.86357	13.81039
5	-7134.752	9.618692*	3296.046	13.77623	13.88096	13.81596

* indicates lag order selected by the criterion
LR: sequential modified LR test statistic (each test at 5% level)
FPE: Final prediction error
AIC: Akaike information criterion
SC: Schwarz information criterion
HQ: Hannan-Quinn information criterion

ผลการทดสอบ Granger Causality

ASIMAR

Pairwise Granger Causality Tests
Date: 03/08/11   Time: 08:45
Sample: 1/02/2006 12/31/2009
Lags: 3

Null Hypothesis:	Obs	F-Statistic	Probability
BDI does not Granger Cause ASIMAR	1041	7.64454	4.7E-05
ASIMAR does not Granger Cause BDI		1.28810	0.27710

JUTHA

Pairwise Granger Causality Tests
Date: 03/08/11   Time: 08:45
Sample: 1/02/2006 12/31/2009
Lags: 3

Null Hypothesis:	Obs	F-Statistic	Probability
BDI does not Granger Cause JUTHA	1041	6.75901	0.00016
JUTHA does not Granger Cause BDI		3.30788	0.01960

PSL

Pairwise Granger Causality Tests
Date: 03/08/11   Time: 08:46
Sample: 1/02/2006 12/31/2009
Lags: 3

Null Hypothesis:	Obs	F-Statistic	Probability
BDI does not Granger Cause PSL	1041	14.8284	1.9E-09
PSL does not Granger Cause BDI		7.16423	9.2E-05

RCL

Pairwise Granger Causality Tests
Date: 03/08/11   Time: 08:47
Sample: 1/02/2006 12/31/2009
Lags: 3

Null Hypothesis:	Obs	F-Statistic	Probability
BDI does not Granger Cause RCL	1041	3.83038	0.00960
RCL does not Granger Cause BDI		3.29344	0.01999

TTA

Pairwise Granger Causality Tests
Date: 03/08/11   Time: 08:47
Sample: 1/02/2006 12/31/2009
Lags: 3

Null Hypothesis:	Obs	F-Statistic	Probability
BDI does not Granger Cause TTA	1041	58.8144	4.2E-35
TTA does not Granger Cause BDI		5.78235	0.00064

ประวัติผู้เขียน

ชื่อ-สกุล   นายอานนท์ กันทะเตียน

วัน เดือน ปีเกิด   12 กันยายน 2524

ประวัติการศึกษา   สำเร็จการศึกษามัธยมศึกษาตอนปลาย โรงเรียนสามัคคีวิทยาคม
                  ปีการศึกษา 2542
                  สำเร็จการศึกษาปริญญาตรี บริหารธุรกิจบัณฑิต สาขาวิชาบริหารธุรกิจ
                  มหาวิทยาลัยเชียงใหม่ ปีการศึกษา 2546

ประสบการณ์   พ.ศ. 2547 เจ้าหน้าที่การตลาด บริษัทหลักทรัพย์ธนชาต จำกัด (มหาชน)
                  สาขาเชียงใหม่
                  พ.ศ. 2548-2549 เจ้าหน้าที่บริการลูกค้า บริษัท ธนาคารกรุงไทย จำกัด
                  (มหาชน) สาขาแม่จัน
                  พ.ศ. 2550-ปัจจุบัน เจ้าหน้าที่อำนวยสินเชื่อและการตลาด บริษัท
                  ธนาคารกรุงไทย จำกัด (มหาชน) สำนักงานเขตเชียงราย