CHAPTER 4

RESULTS

Table 5 to 8 present means, standard deviations and abnormal performance index for individual securities trading suspension of U_t for the entire sample and various subsamples. The tables also show the t statistics for significant level of 95% confidence. The t stat is calculated by

$$t = \frac{U_t}{\left(\frac{s_t}{\sqrt{n}}\right)}$$

where n is the sample or subsample size. The API's from Table 5(b) to 6(b) in respect of favourable and non-favourable trading suspension are shown graphically in Chart 1 to 4.

4.1. TOTAL ABNORMAL RETURN FOR THE ENTIRE SAMPLE AND ITS CLASSIFICATION BY FAVOURABLENESS

4.1.1 THE ENTIRE SAMPLE

Table 5(a) contains results for the entire sample of 471 suspensions. The number of plus, minus and zero tick suspensions in this sample are 213, 248 and 10 respectively.

Day 0 mean abnormal return is 1.70% and it's t value is 1.71. From the hypothesis Ho : $\mu = 0$, we will accept Ho at 95% confidence level. (Critical t value at 5% significant level is 1.96) However, pre-suspension abnormal return are significantly positive and for day -1 and day -2 the mean

Table 5(a) - Total abnormal returns for individual securities trading suspension of the entire sample

Day from suspension	Mean Abnormal Return (%)	Standard Deviation (%)	Cumulative API	t Stat
	All Suspension (n = 471)			
-6	* .69	4.73	1.0069	3.16
-5	* .56	5.09	1.0126	2.41
-4	* .82	5.71	1.0207	3.12
-3	* .90	6.13	1.0302	3.20
-2	* 2.01	7.17	1.0520	6.08
-1	* 3.60	9.29	1.0930	8.40
0	1.70	21.57	1.1204	1.71
1	* - .83	8.43	1.1160	-2.14
2	* - .85	6.73	1.1140	-2.74
3	* - .79	7.04	1.1112	-2.43
4	* -1.05	5.38	1.1021	-4.24
5	* - .76	6.52	1.0965	-2.53
6	* - .66	5.25	1.0927	-2.74
7	* - .86	4.76	1.0870	-3.93

* significant at the 0.05 level.

are high at 3.60% and 2.01% respectively. The post-suspension means are also significantly negative but it's value is not more than -1.05%.

Thus, we could conclude that suspended securities as a group show little tendency for positive price adjustments over their trading suspension but most of the price adjustments were felt one or two days prior to suspension. This anticipatory return behavior could arise from several reasons including efficient to prior news announcements, insider trading and inefficient lagged response to new information.

However, the dispersion of abnormal returns across securities is larger in day 0 than any pre or post suspension day. This suggests that individual securities experience price adjustments over their suspensions of relatively large absolute value, but the adjustments tend to be in offsetting directions. Thus, aggregation across securities produces near zero mean abnormal return.

4.1.2 THE ENTIRE SAMPLE BY FAVOURABLENESS SUSPENSION

Table 5(b) presents results for the entire sample securities experiencing favourable and non-favourable trading suspension. To recap, favouable means securities which experience an uptick price movement over their trading suspension and non-favourable means securities with a downtick price movement.

Day 0 mean abnormal returns for these two groups are of large absolute magnitude and statistically significant. (The 10 zero tick suspensions with day 0 mean abnormal return of 0.08% were omitted from the analysis). The means are 15.00% and -9.66% respectively.

If adjustment to a security is complete by the end of the suspension, reopening price will be an unbiased estimate of new equilibrium security price. Under the efficient market hypothesis, a complete and unbiased

Table 5(b) - Abnormal returns for favourable and non-favourable trading suspension of the entire sample

Day from suspension	Mean Abnormal Return (%)	Standard Deviation (%)	Cumulative API	t stat	Mean Abnormal Return (%)	Standard Deviation (%)	Cumulative API	t stat
	All Plus Tick Suspension (n = 213)				All Minus Tick Suspension (n = 248)			
-6	* .75	4.54	1.0075	2.40	* .73	4.91	1.0073	2.34
-5	* .78	4.77	1.0153	2.40	.40	5.43	1.0113	1.15
-4	.59	5.62	1.0219	1.53	* 1.03	5.86	1.0210	2.76
-3	* 1.51	5.17	1.0376	4.27	.35	6.89	1.0248	0.79
-2	* 1.87	5.99	1.0580	4.56	* 2.25	8.04	1.0489	4.41
-1	* 3.76	8.32	1.1013	6.60	* 3.13	9.48	1.0846	5.20
0	* 15.00	21.25	1.2806	10.30	* -9.66	14.68	0.9824	-10.37
1	.36	7.13	1.2891	0.73	* -1.84	9.43	0.9673	-3.08
2	.30	6.00	1.2991	0.72	* -1.91	7.25	0.9545	-4.15
3	.45	4.52	1.3072	1.45	* -1.93	8.59	0.9419	-3.54
4	- .43	4.16	1.3015	-1.50	* -1.68	6.23	0.9289	-4.25
5	- .31	4.26	1.2984	-1.05	* -1.16	8.05	0.9213	-2.27
6	.07	3.67	1.2986	0.27	* -1.33	6.30	0.9136	-3.33
7	- .12	3.95	1.2959	-0.44	* -1.59	5.32	0.9046	-4.72

* significant at the 0.05 level.

adjustment implies no economically exploitable "patterns" in post suspension abnormal returns.

We first focus on the mean abnormal returns for pre-suspension days. All favourable suspensions except day -4 means are significantly positive but only day -1 mean stood above 2.0%. Meanwhile, for non-favourable suspensions, day -6, -4, -2 and -1 were significantly positive with day -2 and day -1 means above 2.0%. We could observe that there were anticipatory adjustments upward for both favourable and non-favourable suspensions especially one or two days prior to suspension.

As for post-suspensions' returns, all favourable suspensions means are not significant and very close to zero but all non-favourable suspensions means are significantly negative and close to 2.0%.

As such, post-suspension abnormal return behavior suggests complete and unbiased adjustment for favourable trading suspension. Taken in combination with the pre-suspension and day 0 abnormal returns, these results suggest rapid adjustment to favourable material new information disseminated during or possibly prior to trading suspension.

On the other hand, the post-suspension returns for non-favourable suspension is considerably high and may exceed transaction costs for some investors. Investors, on average, could earn abnormal profits by trading on suspended stocks with non-favourable news announcement and the trading strategy is to short the securities immediately after requotation to buy back during the contra period. Nevertheless, the abnormal profits earned from this strategy may be insignificant for the time and effort put in.

4.2 ABNORMAL RETURN FOR SUBSAMPLES AND THEIR FURTHER CLASSIFICATION BY FAVOURABLENESS

4.2.1 VOLUNTARY VERSUS NON-VOLUNTARY SUSPENSION

Table 6(a) is the results of the entire sample splits by voluntary and non-voluntary trading suspension. Since non-voluntary suspension consists of only 2.5% of the entire sample, the result obtained from this subgroup may be inconclusive.

Day 0 mean abnormal return for all voluntary suspensions is 1.04%. The abnormal return for day -1 and day -2 are significantly negative at 3.57% and 2.04% respectively. This result resembles the result obtained in 1.1 above because 97.5% of the entire sample belongs to this subgroup. Thus, the findings in 1.1 above could also be applied here.

4.2.1.1 VOLUNTARY AND NON-VOLUNTARY SUSPENSION IN RESPECT OF FAVOURABLENESS ANNOUNCEMENT

Table 6(b) presents results for voluntary and non-voluntary trading suspension in respect of favourable and non-favourable news announcement.

For all voluntary suspension, day 0 means are 13.86% for favourable and -9.59% for non-favourable announcement. These results were also close to the results obtained in 1.1 above. The same pattern can be observed from Chart 1 and Chart 2(a). As such, there may be lack of guidelines in KLSE or SC which compels companies to disclose the true state of the companies requiring trading suspension. Too much freedom was also given to companies to suspend their shares - sometimes without any proper reason at all.

For non-voluntary trading suspension, day 0 mean abnormal return is enormously high at 40.91% for favourable and -15.64% for non-favourable announcement. All the mean abnormal returns were not significantly different

Table 6(a) - Abnormal returns for voluntary and non-voluntary trading suspension.

Day from suspension	Mean Abnormal Return (%)	Standard Deviation (%)	Cumulative API	t stat	Mean Abnormal Return (%)	Standard Deviation (%)	Cumulative API	t stat
	All Voluntary Suspension (n = 459)				All Non-Voluntary Suspension (n = 12)			
-6	* .70	4.76	1.0070	3.13	.40	3.58	1.0040	0.38
-5	* .58	5.14	1.0128	2.40	.16	2.41	1.0053	0.23
-4	* .83	5.74	1.0210	3.08	.66	4.25	1.0110	0.53
-3	* .81	5.97	1.0295	2.89	4.64	10.18	1.0581	1.58
-2	* 2.04	7.18	1.0516	6.09	.80	6.72	1.0662	0.41
-1	* 3.57	9.20	1.0922	8.32	4.50	12.70	1.1252	1.23
0	1.04	19.70	1.1098	1.13	26.77	54.90	1.5256	1.69
1	* - .90	8.49	1.1041	-2.26	1.62	5.08	1.5705	1.41
2	* - .90	6.66	1.1001	-2.91	1.16	9.22	1.6427	0.44
3	* - .85	7.07	1.0965	-2.58	1.59	5.31	1.6756	1.04
4	* -1.08	5.36	1.0879	-4.32	.08	6.24	1.6433	0.04
5	* - .73	6.57	1.0828	-2.39	- 1.73	3.95	1.6212	-1.52
6	* - .67	5.29	1.0787	-2.70	- .50	3.41	1.6260	-0.51
7	* - .86	4.80	1.0733	-3.85	- .89	2.90	1.6141	-1.06

* significant at the 0.05 level.

Table 6(b-ii) - Abnormal returns for non-voluntary trading suspension in respect of favourable and non-favourable announcement

Day from suspension	Mean Abnormal Return (%)	Standard Deviation (%)	Cumulative API	t stat	Mean Abnormal Return (%)	Standard Deviation (%)	Cumulative API	t stat
	All Non-Voluntary Plus-Tick Suspension (n = 9)				All Non-Voluntary Minus-Tick Suspension (n = 3)			
-6	.27	4.12	1.0027	0.19	.78	1.43	1.0078	0.95
-5	.33	1.78	1.0056	0.56	- .37	4.32	1.0041	-0.15
-4	.73	4.98	1.0119	0.44	.44	0.51	1.0084	1.48
-3	4.96	11.72	1.0621	1.27	3.66	4.22	1.0462	1.50
-2	-1.72	3.34	1.0451	-1.54	8.36	9.48	1.1297	1.53
-1	4.75	14.34	1.1102	0.99	3.75	8.00	1.1699	0.81
0	40.91	56.24	1.7025	2.18	-15.64	18.08	0.9947	-1.50
1	2.48	5.41	1.7675	1.38	- .94	3.39	0.9796	-0.48
2	2.35	10.23	1.8741	0.69	- 2.43	4.81	0.9485	-0.87
3	3.26	4.89	1.9288	2.00	- 3.44	2.91	0.9159	-2.05
4	-1.78	2.90	1.8655	-1.84	5.66	10.86	0.9770	0.90
5	-1.17	4.13	1.8454	-0.85	- 3.43	3.42	0.9485	-1.73
6	-1.54	3.08	1.8444	-1.50	2.61	2.57	0.9711	1.76
7	.07	2.41	1.8390	0.08	- 3.74	2.63	0.9393	-2.47

* significant at the 0.05 level.

Table 7(a) - Abnormal returns for standard and non-standard suspension.

Day from suspension	Mean Abnormal Return (%)	Standard Deviation (%)	Cumulative API	t stat	Mean Abnormal Return (%)	Standard Deviation (%)	Cumulative API	t stat
	All ≤ 10 market days Suspension (n = 329)				**All > 10 market days Suspension (n = 142)**			
-6	* .52	4.64	1.0052	2.05	* 1.07	4.92	1.0107	2.59
-5	.14	5.06	1.0094	0.50	* .92	5.18	1.0199	2.12
-4	.15	5.73	1.0160	0.46	* 1.09	5.73	1.0317	2.27
-3	.45	6.14	1.0268	1.34	.64	6.17	1.0382	1.24
-2	.52	7.50	1.0521	1.25	* 1.24	6.88	1.0518	2.15
-1	.84	8.70	1.0911	1.75	* 3.90	11.28	1.0973	4.12
0	* 2.34	17.76	1.0933	2.39	* 6.28	28.33	1.1832	2.64
1	- .07	8.24	1.0853	-0.15	- .48	8.99	1.1872	-0.64
2	- .07	6.95	1.0808	-0.19	- .59	6.35	1.1909	-1.10
3	.13	7.01	1.0805	0.33	* -1.57	7.13	1.1826	-2.63
4	.12	5.35	1.0748	0.40	* -1.60	5.61	1.1652	-3.40
5	- .16	6.35	1.0707	-0.45	* -1.20	6.93	1.1564	-2.07
6	.04	5.18	1.0654	0.13	- .66	5.53	1.1557	-1.43
7	.00	5.03	1.0620	0.01	* -1.23	4.18	1.1451	-3.50

* significant at the 0.05 level.

Table 7(b-i) - Abnormal returns for standard suspension in respect of favourable and non-favourable announcement

Day from suspension	Mean Abnormal Return (%)	Standard Deviation (%)	Cumulative API	t stat	Mean Abnormal Return (%)	Standard Deviation (%)	Cumulative API	t stat
	All ≤ 10 days Plus-Tick Suspension (n = 136)				All ≤ 10 days Minus-Tick Suspension (n = 184)			
-6	.50	4.60	1.0050	1.26	.66	4.70	1.0066	1.90
-5	.08	4.48	1.0093	0.20	.20	5.55	1.0109	0.50
-4	- .08	5.83	1.0151	-0.16	.31	5.76	1.0183	0.73
-3	.40	5.00	1.0318	0.93	.49	7.00	1.0249	0.96
-2	.09	6.37	1.0566	0.17	.64	8.31	1.0524	1.04
-1	.66	8.49	1.0934	0.91	.96	8.38	1.0910	1.55
0	2.64	19.11	1.2269	1.61	- 2.05	16.88	0.9965	1.64
1	- .13	5.93	1.2331	-0.26	- .03	9.77	0.9783	-0.05
2	.09	5.67	1.2394	0.18	- .10	7.89	0.9650	-0.17
3	.19	4.74	1.2533	0.46	.10	8.43	0.9536	0.16
4	.20	4.57	1.2534	0.50	.04	5.92	0.9427	0.10
5	- .26	4.06	1.2495	-0.76	- .12	7.73	0.9387	-0.21
6	.21	3.49	1.2452	0.69	- .09	6.21	0.9322	-0.19
7	- .03	4.08	1.2431	-0.08	- .02	5.71	0.9266	-0.05

* significant at the 0.05 level.

Table 7(b-ii) - Abnormal returns for non-standard suspension in respect of favourable and non-favourable announcement

Day from suspension	Mean Abnormal Return (%)	Standard Deviation (%)	Cumulative API	t stat	Mean Abnormal Return (%)	Standard Deviation (%)	Cumulative API	t stat
	All > 10 days Plus-Tick Suspension (n = 77)				**All > 10 days Minus-Tick Suspension (n = 64)**			
-6	* 1.19	4.43	1.0119	2.36	.94	5.51	1.0094	1.36
-5	* 1.38	5.25	1.0260	2.31	.34	5.11	1.0125	0.54
-4	.68	5.32	1.0337	1.12	1.53	6.22	1.0285	1.96
-3	* 1.38	5.70	1.0478	2.12	- .38	6.56	1.0245	-0.46
-2	1.04	5.98	1.0606	1.53	1.48	7.91	1.0389	1.49
-1	* 4.63	8.71	1.1151	4.67	2.38	12.83	1.0661	1.48
0	* 21.38	26.13	1.3756	7.18	* -11.88	18.96	0.9418	-5.01
1	.28	8.94	1.3880	0.27	- 1.40	9.09	0.9358	-1.23
2	.33	6.60	1.4045	0.44	* - 1.70	5.96	0.9242	-2.28
3	- .34	4.13	1.4024	-0.72	* - 3.08	9.43	0.9082	-2.61
4	* - .82	3.36	1.3863	-2.15	* - 2.56	7.42	0.8890	-2.76
5	- .12	4.61	1.3847	-0.23	* - 2.52	8.87	0.8714	-2.27
6	.32	4.00	1.3929	0.69	* - 1.85	6.82	0.8601	-2.17
7	- .22	3.72	1.3890	-0.51	* - 2.47	4.44	0.8412	-4.46

* significant at the 0.05 level.

material or not (rumours) flowing into the security during its trading suspension.

4.2.3 MAIN VERSUS SECOND BOARD SUSPENSION

Studies have shown that main and second board in the KLSE are not co-integrated (Habibullah and Baharumshah, 1995). In this instance, the growth of one market cannot be used to predict another market. Since the second board (launched in November 1988) consists of mainly small and medium sized companies with good growth prospects, it is accepted as the more volatile market than the main board. Due to the high volatility of the second board, we will hypothesise that second board suspensions will have greater magnitude in price adjustment than the main board.

From Table 8(a), main board day 0 mean abnormal return was significantly positive at 2.89% while second board day 0 mean at -0.76 was not significantly different from zero. The higher day 0 mean abnormal return in main board than second board suggest that greater price movement or volatility was associated to main board. Will this result nullify our hypothesis ?

4.2.3.1 MAIN AND SECOND BOARD SUSPENSION IN RESPECT OF FAVOURABLENESS ANNOUNCEMENTS

Let us proceed to test this price adjustment by segregating its favourable and non-favourable suspensions in Table 8(b). For favourable suspension, day 0 mean abnormal return on main board was significantly positive at 13.02% while day 0 mean on second board was significantly positive at 20.06%. Second board price adjustment has exceeded main board by 54%.

In the same light, day 0 mean abnormal return for non-favourable suspension on main board and second board were significantly negative at -6.98% and -14.05% respectively. Again, second board adjustment has exceeded main board by 101%.

Table 8(a) - Abnormal returns for main board and second board suspension.

Day from suspension	Mean Abnormal Return (%)	Standard Deviation (%)	Cumulative API	t stat	Mean Abnormal Return (%)	Standard Deviation (%)	Cumulative API	t stat
	All Main Board Suspension (n = 317)				All Second Board Suspension (n = 154)			
-6	* .62	4.50	1.0062	2.45	.83	5.19	1.0083	1.99
-5	.43	5.06	1.0106	1.51	* .84	5.15	1.0166	2.02
-4	* .68	4.93	1.0169	2.46	1.11	7.05	1.0287	1.95
-3	* .88	5.68	1.0261	2.75	.96	6.99	1.0389	1.70
-2	* 1.52	5.68	1.0415	4.75	* 3.03	9.47	1.0736	3.97
-1	* 3.20	7.94	1.0767	7.17	* 4.42	11.57	1.1265	4.74
0	* 2.89	18.53	1.1130	2.78	- .76	26.66	1.1357	-0.36
1	- .55	6.34	1.1096	-1.54	-1.41	11.61	1.1291	-1.51
2	- .26	4.70	1.1097	-1.00	* -2.06	9.55	1.1227	-2.68
3	- .42	5.89	1.1079	-1.27	* -1.54	8.93	1.1181	-2.15
4	* - .71	4.53	1.1000	-2.78	* -1.76	6.76	1.1063	-3.23
5	* - .85	5.38	1.0929	-2.82	- .57	8.40	1.1040	-0.84
6	- .16	4.14	1.0915	-0.69	* -1.69	6.90	1.0950	-3.05
7	- .33	4.01	1.0896	-1.46	* -1.96	5.87	1.0817	-4.14

* significant at the 0.05 level.

Table 8(b-i) - Abnormal returns for main board suspension in respect of favourable and non-favourable announcement

Day from suspension	Mean Abnormal Return (%)	Standard Deviation (%)	Cumulative API	t stat	Mean Abnormal Return (%)	Standard Deviation (%)	Cumulative API	t stat
	All Main Board Plus-Tick Suspension (n = 153)				All Main Board Minus-Tick Suspension (n = 154)			
-6	* .81	4.62	1.0081	2.16	.58	4.41	1.0058	1.62
-5	.34	4.23	1.0114	0.99	.54	5.89	1.0116	1.15
-4	.50	4.30	1.0166	1.43	.87	5.57	1.0189	1.93
-3	* 1.21	4.86	1.0294	3.09	.48	6.49	1.0239	0.93
-2	* 1.20	5.83	1.0424	2.55	* 2.00	5.39	1.0433	4.59
-1	* 2.94	7.57	1.0747	4.80	* 2.90	6.99	1.0755	5.15
0	* 13.02	20.17	1.2268	7.98	* -6.98	10.19	0.9988	-8.51
1	.07	5.65	1.2340	0.15	-1.13	7.08	0.9857	-1.98
2	.06	4.53	1.2393	0.15	- .66	4.95	0.9800	-1.66
3	.31	3.42	1.2438	1.12	* -1.25	7.64	0.9710	-2.03
4	- .54	3.57	1.2353	-1.86	* -1.01	5.35	0.9623	-2.35
5	- .39	4.21	1.2303	-1.16	* -1.33	6.44	0.9532	-2.57
6	.11	3.23	1.2319	0.42	- .46	4.97	0.9485	-1.16
7	.27	3.92	1.2338	0.85	* -1.04	4.08	0.9415	-3.16

* significant at the 0.05 level.

Table 8(b-ii) - Abnormal returns for second board suspension in respect of favourable and non-favourable announcement

Day from suspension -	Mean Abnormal Return (%)	Standard Deviation (%)	Cumulative API	t stat	Mean Abnormal Return (%)	Standard Deviation (%)	Cumulative API	t stat
	All Second Board Plus-Tick Suspension (n = 60)				All Second Board Minus-Tick Suspension (n = 94)			
-6	.60	4.39	1.0060	1.05	.98	5.65	1.0098	1.69
-5	* 1.92	5.82	1.0254	2.55	.15	4.57	1.0109	0.32
-4	.82	8.10	1.0354	0.79	1.29	6.33	1.0244	1.98
-3	* 2.27	5.86	1.0586	3.00	.12	7.53	1.0263	0.16
-2	* 3.58	6.08	1.0978	4.55	* 2.67	11.12	1.0581	2.33
-1	* 5.86	9.73	1.1689	4.66	* 3.50	12.56	1.0994	2.70
0	* 20.06	23.20	1.4180	6.70	* -14.05	19.23	0.9555	-7.08
1	1.08	10.00	1.4296	0.84	* - 3.01	12.31	0.9373	-2.37
2	.91	8.72	1.4517	0.81	* - 3.96	9.62	0.9128	-3.99
3	.81	6.57	1.4687	0.95	* - 3.04	9.89	0.8924	-2.98
4	- .16	5.41	1.4701	-0.23	* - 2.78	7.34	0.8741	-3.67
5	- .09	4.42	1.4720	-0.15	- .87	10.17	0.8691	-0.83
6	- .03	4.65	1.4686	-0.06	* - 2.75	7.86	0.8565	-3.40
7	* -1.11	3.87	1.4540	-2.22	* - 2.50	6.81	0.8441	-3.56

* significant at the 0.05 level.

The results obtained above fully support accepting our hypothesis that second board suspensions will have greater magnitude in price adjustment as compared to the main board. It also support the fact that second board index are generally more volatile than main board which will result in greater price movement.

In order to reap abnormal profits from these suspensions, investors are advised to spot second board suspensions which experienced a down-tick price movement over their suspension period. This subgroup of post suspension behavior has significantly negative abnormal return of not less than -2.5% except day 5. And this abnormal return can easily cover transaction cost for trading in these securities.