

Chapter 4

Empirical Results and Discussion

4.1 Analysis of Data

This chapter will present the results of the analysis of data which were subjected to the various tests mentioned in Chapter 3 earlier. The analysis was carried out for the whole period of study that is from 2nd January 1992 to 15th September 1995 for both the sample stocks as well as the Second Board Index and the Main Board Composite Index with further analysis conducted on both the indices for two(2) sub-periods to find out any significant difference in the results for the two sub-periods. The findings from the sub-periods may yield interesting information on whether the results of the whole period is caused by any sub-period or sub-periods significance could have been *masked* by the whole period. The sub-periods are from 2nd January 1992 to 31 December 1993 and from 2 January 1994 to 15th September 1995. Discussion on the results will centre on the main objective of the study which is to test the existence of day-of-the-week seasonality and the weekend effect on the KLSE Second Board Index and selected sample stocks. Comparison of the findings of this study will be made with findings by others such as Gibbon and Hess (1981), Keim and Stambaugh (1984), Wong and Ho (1986), Jaffe and Westerfield (1985a, 1985b), Wong (1987) and Yit (1995).

4.2 Daily Mean Return Distribution

The daily mean returns are shown in Table 4.1. The returns are computed based on consecutive trading days' closing prices of the individual sample stocks and indices values. This will exclude returns over holidays or holiday-weekends from the study.

Table 4.1 : Summary Statistics of Mean Returns of 31 Second Board Stocks by Day-of-the-Week

Stock	Description	Monday	Tuesday	Wednesday	Thursday	Friday	F Statistic*
Autoways	Mean	0.0068	-0.0027	0.0054	0.0011	0.0084	1.1100
	Std. Dev.	0.0045	0.0048	0.0042	0.0383	0.0591	(4:607)
	t Statistic	0.7500	-1.6800	0.4000	-0.8500	1.3000	
Pantai	Mean	-0.0019	0.0016	0.0015	0.0017	0.0051	1.2810
	Std. Dev.	0.0254	0.0276	0.0259	0.0779	0.0272	(4:427)
	t Statistic	-1.8800	-0.6700	-0.7400	1.1700	0.4900	
CFM	Mean	0.0040	-0.0009	0.0016	0.0088	0.0061	0.5236
	Std. Dev.	0.0454	0.0329	0.0678	0.0657	0.0411	(4:492)
	t Statistic	0.0000	-1.4100	-0.4100	0.8800	0.5400	
CICB	Mean	0.0041	-0.0017	0.0096	-0.0024	0.0104	2.4521 ^a
	Std. Dev.	0.0362	0.0387	0.0469	0.0375	0.0371	(4:500)
	t Statistic	-0.0100	-1.6000	1.3700	-1.9100	1.8900	
Long Huat	Mean	-0.0018	0.0032	0.0057	-0.0024	0.0084	1.8977
	Std. Dev.	0.0405	0.0433	0.0403	0.0434	0.0435	(4:737)
	t Statistic	-1.4300	0.1700	0.9800	-1.6800	1.9100	
RCI	Mean	0.0040	0.0012	0.0052	-0.0004	0.0079	0.4320
	Std. Dev.	0.0471	0.0336	0.0441	0.0560	0.0380	(4:388)
	t Statistic	0.1000	-0.6400	0.3600	-0.7600	1.0800	
Maypak	Mean	-0.0020	-0.0004	0.0071	-0.0001	-0.0048	1.9735
	Std. Dev.	0.0286	0.0275	0.0343	0.0310	0.0321	(4:626)
	t Statistic	-1.5300	-0.9500	1.9200	-0.8400	1.2200	
UPHB	Mean	0.0023	-0.0032	0.0043	0.0048	0.0125	1.2738
	Std. Dev.	0.0788	0.0501	0.0621	0.0560	0.0628	(4:749)
	t Statistic	-0.3400	-1.9200	0.0000	0.1300	1.8800	
Poly	Mean	-0.0025	-0.0015	0.0081	-0.0019	0.0041	1.2864
	Std. Dev.	0.0339	0.0647	0.0746	0.0294	0.0296	(4:720)
	t Statistic	-1.3500	-0.6100	1.3500	-1.2500	1.0500	
Daibochoi	Mean	0.0029	0.0005	0.0017	-0.0012	0.0069	1.0792
	Std. Dev.	0.0441	0.0313	0.0303	0.0305	0.0311	(4:627)
	t Statistic	0.1900	-0.6300	-0.2100	-1.2900	1.8200	

Table 4.1 : Summary Statistics of Mean Returns of 31 Second Board Stocks by Day-of-the-Week (Cont'd)

Stock	Description	Monday	Tuesday	Wednesday	Thursday	Friday	F Statistic*
PSCI/Sedap	Mean	0.0710	-0.0020	-0.0002	0.0001	0.0068	1.2292
	Std. Dev.	0.7570	0.0846	0.0330	0.0322	0.0342	(4:713)
	t Statistic	1.0700	-1.2100	-1.1700	-1.1400	-0.6100	
UCI	Mean	-0.0039	0.0022	0.0087	-0.0022	0.0061	2.6422 ^a
	Std. Dev.	0.0399	0.0418	0.0483	0.0376	0.0420	(4:805)
	t Statistic	-2.0200 ^c	-0.0100	1.9800 ^c	-1.7000	1.3300	
ACTA	Mean	-0.0042	-0.0028	0.0051	0.0031	0.0106	2.4660 ^a
	Std. Dev.	0.0395	0.0323	0.0454	0.0583	0.0469	(4:690)
	t Statistic	-2.1000 ^c	-1.9600	0.7500	0.1400	2.4000 ^c	
Denko	Mean	-0.0027	-0.0006	0.0073	-0.0035	0.0103	2.9763 ^a
	Std. Dev.	0.0477	0.0481	0.0450	0.0437	0.0426	(4:774)
	t Statistic	-1.4600	-0.8600	1.6000	-1.7900	2.4800 ^c	
Setegap	Mean	-0.0034	-0.0007	0.0034	-0.0027	0.0096	3.271 ^b
	Std. Dev.	0.0367	0.0329	0.0370	0.0314	0.0399	(:,764)
	t Statistic	-1.8200	-0.8000	0.7800	-1.7500	3.0700 ^d	
Mercury	Mean	0.0019	0.0009	0.0030	-0.0022	0.0074	1.0923
	Std. Dev.	0.0524	0.0408	0.0408	0.0430	0.0040	(4:813)
	t Statistic	-0.1000	-0.4500	0.2500	-1.4800	1.7500	
Sanda	Mean	-0.0026	-0.0034	0.0061	0.0019	0.0073	1.7983
	Std. Dev.	0.0569	0.0377	0.0475	0.0441	0.0465	(4:808)
	t Statistic	-1.1600	-1.9300	1.2600	-0.0200	1.6800	
CP Bhd	Mean	-0.0014	0.0012	0.0049	0.0045	0.0072	0.8883
	Std. Dev.	0.0412	0.0329	0.0409	0.0390	0.0493	(4:650)
	t Statistic	-1.4500	-0.8000	0.5000	0.3600	1.0600	
Repcor	Mean	-0.0001	0.0082	0.0060	-0.0042	0.0102	2.2402
	Std. Dev.	0.0546	0.0518	0.0556	0.0417	0.0418	(4:725)
	t Statistic	-1.0600	1.1000	0.5000	-2.6400 ^d	1.9700 ^c	
SCK	Mean	0.0042	-0.0009	0.0004	0.0021	0.0131	2.2221
	Std. Dev.	0.0440	0.0465	0.0341	0.0409	0.0414	(4:585)
	t Statistic	0.0900	-1.2900	-1.1800	-0.5500	2.8100 ^d	
KOI	Mean	-0.0020	0.0015	0.0007	0.0004	0.0072	1.0572
	Std. Dev.	0.0351	0.0452	0.0371	0.0334	0.0358	(4:616)
	t Statistic	-1.2100	-0.0300	-0.3000	-0.4000	1.9000	
CCP	Mean	0.0048	-0.0009	-0.0054	0.0008	-0.0043	0.6157
	Std. Dev.	0.0441	0.0349	0.0370	0.0401	0.0420	(4:624)
	t Statistic	0.6100	-1.3300	0.7900	-0.6400	0.4500	
PUBLIC	Mean	-0.0015	0.0024	0.0032	0.0018	0.0080	0.9200
	Std. Dev.	0.0434	0.0452	0.0427	0.0415	0.0412	(4:687)
	t Statistic	-1.3500	-0.1300	0.1300	-0.3200	1.6400	
GFB	Mean	-0.0064	-0.0009	0.0095	0.0015	0.0081	3.0328 ^a
	Std. Dev.	0.0407	0.0367	0.0636	0.0411	0.0477	(4:772)
	t Statistic	-2.8700 ^d	-1.2200	1.6300	-0.3200	1.7200	

Table 4.1 : Summary Statistics of Mean Returns of 31 Second Board Stocks by Day-of-the-Week (Cont'd)

Stock	Description	Monday	Tuesday	Wednesday	Thursday	Friday	F Statistic*
KFM	Mean	0.0112	0.0041	0.0048	-0.0014	0.0054	0.9810
	Std. Dev.	0.0716	0.0474	0.0431	0.0382	0.0528	(4:657)
	t Statistic	1.1900	-0.1700	0.0100	-1.9100	0.1800	
Tajo	Mean	-0.0045	-0.0016	0.0044	0.0049	0.0065	2.3877 ^a
	Std. Dev.	0.0408	0.0368	0.0406	0.0412	0.0350	(4:802)
	t Statistic	-2.3400 ^c	-1.3300	0.8700	1.0600	1.8000	
Data Prep	Mean	-0.0035	-0.0009	0.0068	-0.0016	0.0071	2.5764 ^a
	Std. Dev.	0.0437	0.0381	0.0460	0.0364	0.0372	(4:817)
	t Statistic	-1.8200	-0.9000	1.6700	-1.2800	1.9900 ^c	
Anak ku	Mean	0.0016	0.0095	0.0133	-0.0044	0.0110	0.9260
	Std. Dev.	0.0315	0.0584	0.0482	0.0394	0.0367	(4:373)
	t Statistic	-1.7700	0.0260	1.1700	-0.8100	0.7800	
Jaya	Mean	-0.0076	0.0022	0.0077	0.0036	0.0052	2.6242 ^a
	Std. Dev.	0.0450	0.0416	0.0435	0.0393	0.0450	(4:722)
	t Statistic	-3.0300 ^d	-0.0600	1.6900	0.3900	0.8800	
P.Pulp	Mean	-0.0001	-0.0034	0.0069	0.0036	0.0042	1.6794
	Std. Dev.	0.0318	0.0277	0.0369	0.0442	0.0386	(4:672)
	t Statistic	-0.9400	-2.4700 ^c	1.6600	0.4300	0.6800	
Metacorp	Mean	0.0006	-0.0003	0.0063	0.0044	0.0078	1.1470
	Std. Dev.	0.0387	0.0326	0.0605	0.0347	0.0348	(4:770)
	t Statistic	-1.0700	-1.6500	0.6300	0.2200	1.5600	

* The F Statistic tests the equality of mean returns across the day of the week. The degree of freedom are in parentheses.

The t statistic tests the mean return of the day of the week against the average mean returns of the other days.

^astatistically significant at 5 percent level for F test.

^bstatistically significant at 1 percent level for F test.

^cstatistically significant at 5 percent level for t test.

^dstatistically significant at 1 percent level for t test.

The results above show that of the 31 stocks analysed, 12 of them have the lowest (and negative) returns on Monday, 9 have lowest (and negative) returns on Thursday, 8 have lowest (and negative) Tuesday returns and 2 have lowest (and negative) Friday returns. Of these 12 lowest and negative Monday returns, 5 of them are significantly negative with 3 of them at 5% significance level and 2 of them at 1% significance. Only 1 stock each is significant for the Thursday and Tuesday returns for the findings above while the Friday

lowest negative returns are not at all significant.

On the other hand, 20 of the sample stocks were found to have highest (and positive) Friday returns, 7 have highest (and positive) Wednesday returns, 3 have highest (and positive) Monday returns and 1 has highest (and positive) Thursday return. The positive Friday returns are significant for 6 stocks, only 1 of the stock for Wednesday returns and none for the other days. Based on the criterion of significance level, it cannot be said that the Second Board stocks in general exhibit a pattern of low (and negative) average returns at the start of the week (either Monday or Tuesday) and a high (and positive) average returns at the end of the week (Thursday or Friday).

Table 4.2 shows the daily return distribution for the Second Board Index and the Main Board Composite Index for the whole period of 2 January 1992 - 15 September 1995 and two sub-periods of 2 January 1992 - 31 December 1993 and 2 January 1994 - 15 September 1995. The findings for the whole period showed the Second Board Index and the Composite Index exhibited low (and negative) Tuesday and Monday returns, respectively, whilst Friday returns for both indices were found to be high (and positive). Only the Main Board Composite Index has significantly negative Monday return whilst the Second Board Index has significantly positive Friday returns. For the first sub-period, the findings are generally similar with that of the whole period except in terms of significance level which is higher than the whole period. For the second sub-period, both the indices exhibited very low (and negative) returns for Monday and high (and positive) returns for Friday. However, only the Friday returns for the Second Board is significantly different at 5 percent level.

The results in Table 4.2 clearly indicate low (and even negative) beginning of the week returns and consistently high (and positive) end of the week returns for both indices. This finding is

consistent with the findings of Wong (1987) of the KLSE Industrial Index for the period 1974 - 1984 and Yit (1995) of the KLSE Composite Index for the period 1984 - 1993.

Table 4.2: Summary Statistics of Mean Returns of Second Board Index and Composite Index by Day-of-the-Week

Stock	Description	Monday	Tuesday	Wednesday	Thursday	Friday	F Statistic*
Period: 2 Jan 1992 - 15 Sep 1995							
2nd Board Index	Mean	-0.0007	-0.0010	0.0013	0.0000	0.0044	3.7669 ^b
	Std. Dev.	0.0149	0.0156	0.0162	0.0155	0.0143	(4:871)
	t Statistic	-1.5000	-1.8000	0.5000	-0.8100	3.5300 ^d	
Composite Index	Mean	-0.0018	0.0000	0.0021	0.0005	0.0023	3.3412 ^b
	Std. Dev.	0.0119	0.0114	0.0116	0.0123	0.0137	(4:871)
	t Statistic	-2.9800 ^d	-0.7000	1.7300	-0.2000	1.8900	
Period: 2 Jan 1992 - 31 Dec 1993							
2nd Board Index	Mean	0.0020	-0.0002	0.0029	0.0011	0.0052	1.7423
	Std. Dev.	0.0146	0.0142	0.0171	0.0142	0.0146	(4:473)
	t Statistic	-0.1300	-1.7200	0.4300	-0.8600	2.2300 ^c	
Composite Index	Mean	-0.0002	0.0005	0.0030	0.0022	0.0032	2.7330 ^a
	Std. Dev.	0.0088	0.0080	0.0073	0.0096	0.0108	(4:473)
	t Statistic	-2.3600 ^c	-1.5400	1.8000	0.5100	1.4800	
Period: 2 Jan 1994 - 15 Sep 1995							
2nd Board Index	Mean	-0.0038	-0.0020	-0.0005	-0.0013	0.0035	2.5313 ^a
	Std. Dev.	0.0147	0.0170	0.0149	0.0171	0.0139	(4:393)
	t Statistic	-1.9500	-0.7700	0.1600	-0.3400	2.8700 ^d	
Composite Index	Mean	-0.0037	-0.0004	0.0008	-0.0017	0.0013	1.4265
	Std. Dev.	0.0145	0.0145	0.0155	0.0149	0.0165	(4:393)
	t Statistic	-1.9500	0.1900	1.0100	-0.6400	1.3700	

* The F Statistic tests the equality of mean returns across the day of the week. The degree of freedom are in parentheses.
The t statistic tests the mean return of the day of the week against the average mean returns of the other days.
^astatistically significant at 5 percent level for F test.
^bstatistically significant at 1 percent level for F test.
^cstatistically significant at 5 percent level for t test.
^dstatistically significant at 1 percent level for t test.

4.3 Cross Country Comparison

Table 4.3 shows the average mean returns by day of the week of this study with the findings

in other countries. It is evident that the daily average return distribution of the Second Board Index and that of the Composite Index for period 1992 - 1995 are consistent with the findings of studies by Gibbons and Hess (1981), Keim and Stambaugh (1984), Wong and Ho (1986) and others, i.e. generally low (and negative) Monday returns and high (and positive) Friday returns.

Table 4.3: Average Mean Returns on Some Countries' Common Stock Indices by Day of the Week

Country	Period	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday	F Stats
Malaysia								
Composite Index	1985-1993	-0.0973	0.0129	0.1443	0.1563	0.1622	-	4.7400*
	1992-1995	-0.0018	0.0001	0.0021	0.0005	0.0023	-	3.3412 ^b
2nd Board	1992-1995	-0.0007	-0.0010	0.0013	0.0000	0.0044	-	3.7669 ^b
Singapore	1985-1993	-0.0600	0.0600	0.0400	0.0700	0.1100	-	1.2000
Japan	1985-1993	-0.1800	-0.0100	0.0800	0.1500	0.0300	0.2500	3.9400*
Australia	1985-1993	0.0300	0.0500	0.0800	0.0800	0.0800	-	0.2280
U.S.	1985-1993	-0.0500	0.0200	0.0500	0.0700	0.0900	-	1.041
U.K.	1985-1993	-0.1100	0.0900	0.1200	0.2100	0.1200	-	2.587 ^a
Hong Kong	1985-1993	0.0600	0.1500	0.2700	0.1800	0.1000	-	1.578

*Statistically significant at 0.5 percent level for F test.
^astatistically significant at 5 percent level for F test.
^bstatistically significant at 1 percent level for F test.
 Note: i) The daily mean returns for the countries except for KLSE Composite Index and Second Board Index for the period 1992-1995 are obtained from results presented in Yit (1995).
 ii) For 1995, the period is up to 15 September 1995.

4.4 Result of Oneway Analysis of Variance (ANOVA)

Table 4.1 also contains results of the Oneway Anova test conducted to determine the existence

of day-of-the-week seasonality pattern. The F Statistic associated with the test revealed that of the 31 sample stocks tested, only 9 stocks rejected the null hypothesis of equal means across the trading days of the week. A rejection of the null hypothesis indicates that at least one of the means is not equal to the means of the other days. Of the 9 stocks which rejected the null hypothesis, 8 of them rejected at significance level of 5 percent while the remaining one(1) at significance level of 1 percent.

The 9 sample stocks were then subjected to the Tukey test to determine the pairs of days which are significantly different in the daily mean. The results of the Tukey's test is in Table 4.4. Only 3 stocks have pair(s) of days which are significantly different while the remaining 6 stocks do not contain any significantly different pair(s) of days.

The Second Board Index and the Composite Index were also similarly tested for day-of-the-week seasonality and the F Statistic showed rejection of the null hypothesis of both indices at significance level of 1 percent for the whole period of the study. However, when the indices were tested for the two sub-periods, rejection of the null hypothesis is evident for the Second Board Index in the first sub-period whereas the rejection of the null hypothesis for the Composite Index is evident only in the second sub-period. An inference can be drawn from the results that the rejection of the null hypothesis for the whole period for the Second Board Index is contributed from the second sub-period whilst that for the Composite Index is from the first sub-period. Results for the Tukey HSD test carried out on both indices have pairs of days which are significantly different in their daily mean returns.

In general the results indicate the existence of day-of-the-week effect in approximately 30% of the sample stocks studied and also in both the Second Board Index and the Main Board Composite Index.

4.5 Results of t-Test

The difference in mean of each day to the mean return for the rest of the days of the week was tested using t Statistic and the results are also tabulated in Table 4.1. Based on the results it can be seen that where day-of-the-week effect exists in the stocks or the indices (based on the F Statistic), the contributing factor seems to be the significant difference in mean returns between Monday or Friday and the other days of the week. The returns on Monday is generally low (and negative) whilst the Friday returns are generally high (and positive).

4.6 Results of Kruskal-Wallis Test

Table 4.5 shows the results of the Bartlett's test for homogeneity of variance. The results clearly indicate that of the 31 Second Board Stocks and 2 indices tested, 24 of the stocks were found to be significantly not homogeneous in variance. Also, of the 9 stocks found to exhibit the day-of-the-week effect (Table 4.1) using the F statistic test, only 4 are homogenous in variance. This implies that the validity of the results of the F statistic for the remaining 5 stocks should be viewed with caution since the assumption of homogeneity of variance in the F statistic test is deemed invalid.

In view of the fact that the daily returns are generally not homogeneous in their variances, which is a pre-requisite for the F Statistic, the data was also subjected to the Kruskal-Wallis test, a non-parametric equivalence of the Oneway ANOVA, to test the equality of the daily mean returns. Table 4.5 also contains the results of the Kruskal-Wallis test which shows that 12 out of the 31 stocks rejected the null hypothesis with 7 of them at significance level of 5 percent and the remaining 5 at significance level of 1 percent. A comparison of the results of Table 4.4 and Table 4.5 reveals 7 stocks share common rejection of the null hypothesis

(equality of means). They are ACTA, Denko, Setegap, GFB, Tajo, Dataprep and Jaya.

Table 4.4: Results of Oneway ANOVA and Tukey Test for Day-of-the-Week Effect of 31 Second Board Stocks and 2 Indices

Stock/Index	F Statistic	P_Value	Pairs of Groups*
Autoways	1.1100	0.3508	-
Pantai	1.2810	0.2767	-
CFM	0.5236	0.7184	-
CICB	2.4521	0.0452	-
Long Huat	1.8977	0.1090	-
RCI	0.4320	0.7855	-
Maypak	1.9735	0.0970	-
UPHB	1.2738	0.2787	-
Poly	1.2864	0.2738	-
Daibochi	1.0792	0.3658	-
PSCI/Sedap	1.2292	0.2970	-
UCI	2.6422	0.0326	-
ACTA	2.4660	0.0438	-
Denko	2.9763	0.0187	-
Setegap	3.6271	0.0061	5-1 & 5-4
Mercury	1.0923	0.3591	-
Sanda	1.7983	0.1272	-
CP Bhd	0.8883	0.4704	-
Repcor	2.2402	0.0632	-
SCK	2.2221	0.0653	-
KOI	1.0572	0.3769	-
CCP	0.6157	0.6514	-
PUBLIC	0.9200	0.4517	-
GFB	3.0328	0.0170	1-3 & 1-5
KFM	0.9810	0.4172	-
Tajo	2.3877	0.0496	-
Data Prep	2.5764	0.0364	-
Anak ku	0.9260	0.4519	-
Jaya	2.6242	0.0337	1-3
P.Pulp	1.6794	0.1530	-
Metacorp	1.1470	0.3331	-
2nd Board Index	3.7669	0.0048	5-1 & 5-2
Composite Index	3.3412	0.0100	1-3 & 1-5

*Pairs of Groups which are significantly different at 5 percent level using Tukey HSD procedure.

1= Monday, 2=Tuesday, 3=Wednesday, 4=Thursday, 5=Friday.

Table 4.5: Result of Kruskal-Wallis and Bartlett's Tests for Day-of-the-Week Effect of 31 Second Board Stocks and 2 Indices

Stock	Kruskal-Wallis		Bartlett χ^2
	χ^2 test statistic	P-value	test statistic
Autoway	3.8340	0.4289	6.958 ^b
Pantai	5.9589	0.2022	52.333 ^b
CFM	1.7091	0.7891	18.089 ^b
CICB	9.1250	0.0581	2.325
Long Huat	7.9958	0.0917	0.433
RCI	1.8677	0.7601	5.930 ^b
Maypak	9.4156	0.0515	1.894
UPHB	8.7526	0.0676	8.314 ^b
Poly	10.4949	0.0329	58.925 ^b
Daibochi	7.1707	0.1272	7.208 ^b
PSCI	4.4119	0.3531	56.399 ^b
UCI	7.7290	0.1020	2.905 ^a
ACTA	11.9205	0.0180	12.776 ^b
Denko	15.1929	0.0043	0.859
Setegap	16.5272	0.0024	2.846 ^a
Mercury	5.3702	0.2514	4.219 ^b
Sanda	13.8299	0.0079	6.841 ^b
CP Bhd	2.8557	0.5822	5.435 ^b
Repcor	13.1479	0.0106	5.838 ^b
SCK	13.6812	0.0084	2.951 ^a
KOI	6.0416	0.1961	3.577 ^b
CCP	2.4195	0.6591	48.879 ^b
Public	5.4014	0.2480	0.374
GFB	11.5491	0.0210	15.232 ^b
KFM	2.4984	0.6449	15.645 ^b
Tajo	14.8345	0.0051	1.704
Dataprep	13.1819	0.0104	3.682 ^b
Anak Ku	3.1358	0.5354	8.630 ^b
Jaya	10.3146	0.0354	0.944
P.Pulp	4.4963	0.3430	8.388 ^b
Metacorp	12.4968	0.0140	22.856 ^b
2nd Board Index	18.7390	0.0009	0.830
Composite Index	20.7932	0.0003	1.885

^astatistically significant at 5 percent.
^bstatistically significant at 1 percent.