CHAPTER 4

ANALYSES AND RESULTS

4.1 Introduction

This chapter presents the findings of the study. The results of the statistical tests are reported in this chapter. This chapter consists of two main sections. The first section encompasses the intra-sector comparison. Meanwhile, the second section encompasses the inter-sector comparison.

The following abbreviations are used throughout this chapter.

M1	Model 1 that represents the Augmented Dickey-Fuller (ADF) regression without lagged difference, i.e. equation (3.7) where $\gamma_i = 0$
M2	Model 2 that represents the Augmented Dickey-Fuller regression with lagged difference, i.e. equation (3.7)
M3	Model 3 that represents either Model 1 or Model 2, whichever that has a lower Schwarz Criterion.

Abbreviations for Sectors

Construct	Construction
Consumer	Consumer Products
Finance	Finance
Hotel	Hotels
Industrial	Industrial Products
Mining	Mining
Plant	Plantation
Property	Properties
Trading	Trading/Services

Firm names are also abbreviated. For the full name of the firms, please refer to Appendix I.

In this chapter, we would refer to $\lambda_i = \beta_i + 1$ in equation (3.7) as the lambda value. The lambda values can be divided into four categories.

a) $\lambda \leq -1$ where negative explosive process exist.

b) $-1 < \lambda \leq 0$ where stationary process (invalid).

c) $0 < \lambda < 1$ where stationary process (valid).

d) $\lambda \geq 1$ where positive explosive process exist.

4.2 Intra-Sectoral Comparison

4.2.1 Construction sector

Table 4.2.1.1 shows that there were 6 firms with positive average rate of return in the construction sector. In the meantime, there were 2 firms with negative average rate of return. *Ytl* had the highest average rate of return of 6.7%. Whereas, *Abrar* had the lowest average rate of return of –5.5%. The lagged difference term in Model 2 was insignificant at 10 % for all the firms in construction sector. Model 3 is similar to Model 1 in all cases as the Schwarz criterion did not favour any lagged terms. There was 1 firm with a positive ADF statistic in Model 2, but the ADF statistics are negative for all other companies and models. There were 7 firms with $\overline{R}^2$ that exceeds 0.1 for Model 1 and Model 3. There were 5 firms with $\overline{R}^2$ that exceeds 0.1 for Model 2. There were 2 firms (*Ijm* and *Pjdev*) with negative $\overline{R}^2$ for Model 2, but positive $\overline{R}^2$ for other models. None of the firms in Model 1 and Model 3 were dynamically unstable. Only in the case of *Abrar* using Model 2, a dynamically unstable process was found.

Table 4.2.1.1 Rates of return (R.O.R) and estimation results for companies in the construction sector

No.	Company	R.O.R	α_i			λ_i			YLR (Table 4.2.1.2)			ADF t-statistics			$\overline{R}^2$		
			M1	M2	M3	M1	M2	M3	M1	M2	M3	M1	M2	M3	M1	M2	M3
1	abrar	-0.055	-0.068	-0.093	-0.068	0.496	1.332	0.496	-0.135	0.280	-0.135	-1.576	0.234	-1.576	0.103	0.058	0.103
2	ijm	0.044	0.016	0.030	0.016	0.689	-0.687	0.689	0.052	0.018	0.052	-0.999	-1.212	-0.999	0.000	-0.004	0.000
3	namfatt	0.038	0.017	0.023	0.017	0.350	-0.057	0.350	0.026	0.022*	0.026	-2.039	-2.313	-2.039	0.195	0.232	0.195
4	pilecon	0.021	0.005	0.000	0.005	0.274	-0.623	0.274	0.007	0.000	0.007	-2.491	-1.521	-2.491	0.286	0.265	0.286
5	pjdev	0.003	0.006	0.008	0.006	0.620	0.740	0.620	0.015	0.029	0.015	-1.643	-0.522	-1.643	0.116	-0.057	0.116
6	renong	-0.013	-0.019	-0.008	-0.019	0.405	0.558	0.405	-0.032	-0.018	-0.032	-2.271	-1.329	-2.271	0.242	0.192	0.242
7	suninc	0.024	0.011	0.011	0.011	0.164	-0.198	0.164	0.013	0.009	0.013	-2.510	-2.440	-2.510	0.290	0.294	0.290
8	ytl	0.067	0.036	0.031	0.036	0.355	0.550	0.355	0.056	0.068	0.056	-2.090	-0.703	-2.090	0.206	0.135	0.206
	mean	0.016	0.001	0.000	0.001	0.419	0.202	0.419	0.000	0.051	0.000	-1.952	-1.226	-1.952	0.180	0.140	0.180

Inclusion of lagged difference shifted the lambda range from the state of stationary (and valid, i.e. λ_i is positive) to state of stationary (but invalid, λ_i is negative) (*ijm, namfatt, pilecon,* and *suninc*) and state of explosive (*abrar*). For a detailed distribution of the lambda range, please refer to Table 4.3.3.3. Only the significance status of 1 firm in the long-run equilibrium profitability (YLR) has changed, namely *namfatt*. This firm has changed from insignificant abnormal profits to significant abnormal profits. It has the coincidental effect of having changes in both lambda range and significance of YLR due to the inclusion of a lagged term in the regression. For more details on the significance of YLR, please refer to Table 4.2.1.2 and Table 4.3.2.1.

Table 4.2.1.2: Number of firms with significant long-run equilibrium profitability (YLR) for construction sector

	Model 1	Model 2	Model 3
*** Significant at 1 %	-	-	-
** Significant at 5 %	-	-	-
* Significant at 10 %	-	1 firm (Namfatt)	-
Not significant	All firms	7 firms	All firms

Generally, none of the firms in the construction sector exhibit persistent long-run profit.

4.2.2 Consumer products sector

Table 4.2.2.1 shows that there were 22 firms with positive average rate of return in the consumer products sector, while 4 firms had negative average rate of return. *Bat* had the highest average rate of return of 24.4%. Whereas, Setron had the lowest average rate of return of –4.6%. The lagged difference term in Model 2 was significant at 10 % for 3 firms in the consumer products sector, namely *Bat, Ffm* and *Ibhd.* As for Model 3, the model with lagged difference was selected for 9 firms with lagged difference in respective regression model, namely *Bat, Ccb, Dnp, Ffm, Gcoin, Ibhd, Ppb, Shchan and Umw.* There was 1 firm (*Carlsbrg*) with positive ADF statistic for all the models. There were 16 firms with $\overline{R}^2$ that exceeds 0.1 for Model 1. There were 18 firms with $\overline{R}^2$ that exceeds 0.1 for Model 2 and Model 3, while a negative $\overline{R}^2$ was obtained for 3 firms for all the models. Meanwhile, there was another firm with negative $\overline{R}^2$ for Model 2, but positive $\overline{R}^2$ for the other models. In contrast, there was 1 firm with positive $\overline{R}^2$ for Model 2, but negative $\overline{R}^2$ for the other models. It was for *Carlsbrg* that all the models indicate a dynamically unstable process. Inclusion of a lagged difference shifted the lambda range for 2 firms from the state of stationary (and valid) to the state of stationary (but invalid) (*Aji* and *Choc*). For more details on the lambda range, please refer to Table 4.3.3.3.

Table 4.2.2.1 Rates of return (R.O.R) and estimation results for companies in the consumer products sector

No.	Company	R.O.R	α_i			λ_i			YLR (Table 4.2.2.2)			ADF t-statistics			$\bar{R}^2$		
			M1	M2	M3	M1	M2	M3	M1	M2	M3	M1	M2	M3	M1	M2	M3
1	aji	0.0536	-0.003	-0.006	-0.003	0.241	-0.153	0.241	-0.003	-0.005	-0.003	-2.740	-2.796	-2.740	0.334	0.389	0.334
2	bat	0.2440	0.118	0.053	0.053	0.383	0.997	0.997	0.192*	15.946	15.946	-2.252	-0.009	-0.009	0.238	0.458	0.458
3	carlsbrg	0.1568	0.004	0.005	0.004	1.041	1.028	1.041	-0.097	-0.179	-0.097	0.324	0.164	0.324	-0.074	-0.193	-0.074
4	ccb	0.0675	0.011	0.022	0.022	0.019	0.037	0.037	0.011	0.023	0.023	-3.358	-2.852	-2.852	0.441	0.544	0.544
5	choc	-0.0292	-0.085	-0.092	-0.085	0.018	-0.050	0.018	-0.087*	-0.087	-0.087*	-3.404	-2.361	-3.404	0.449	0.392	0.449
6	csm	0.0215	-0.015	-0.020	-0.015	0.609	0.484	0.609	-0.038	-0.040	-0.038	-1.845	-1.898	-1.845	0.156	0.120	0.156
7	dlady	0.0709	0.005	0.009	0.005	0.524	0.365	0.524	0.011	0.014	0.011	-2.061	-2.281	-2.061	0.200	0.213	0.200
8	dnp	0.0521	-0.004	-0.009	-0.009	0.757	0.631	0.631	-0.018	-0.025	-0.025	-1.319	-2.164	-2.164	0.054	0.200	0.200
9	ffm	0.0812	0.008	0.014	0.014	0.595	0.401	0.401	0.021	0.023*	0.023*	-1.864	-2.668	-2.668	0.160	0.386	0.386
10	fn	0.0584	-0.007	-0.010	-0.007	0.902	0.869	0.902	-0.068	-0.076	-0.068	-0.404	-0.515	-0.404	-0.069	-0.121	-0.069
11	gcoin	0.0407	-0.009	-0.014	-0.014	0.660	0.492	0.492	-0.027**	-0.027***	-0.027***	-2.353	-2.994	-2.994	0.259	0.389	0.389
12	hlind	0.0493	-0.009	-0.011	-0.009	-0.119	-0.389	-0.119	-0.008	-0.008	-0.008	-2.307	-2.142	-2.307	0.250	0.230	0.250
13	ibhd	0.0025	-0.026	-0.030	-0.030	0.624	0.410	0.410	-0.069	-0.051	-0.051	-1.555	-2.308	-2.308	0.098	0.252	0.252
14	jtinter	0.0822	0.024	0.028	0.024	0.801	0.805	0.801	0.123	0.146	0.123	-1.137	-0.941	-1.137	0.022	-0.057	0.022
15	kguan	-0.0128	-0.019	-0.028	-0.019	0.807	0.716	0.807	-0.100*	-0.100**	-0.100*	-1.487	-2.056	-1.487	0.085	0.160	0.085
16	mflour	0.0215	-0.003	-0.009	-0.003	0.849	0.719	0.849	-0.022	-0.034	-0.022	-0.710	-1.236	-0.710	-0.040	0.073	-0.040
17	mwe	0.0325	-0.009	-0.012	-0.009	0.695	0.688	0.695	-0.028	-0.037	-0.028	-1.503	-1.349	-1.503	0.088	0.091	0.088
18	nestle	0.1565	0.047	0.058	0.047	0.572	0.471	0.572	0.110*	0.109*	0.110*	-1.898	-1.922	-1.898	0.167	0.124	0.167
19	ppb	0.0765	0.003	0.003	0.003	0.672	0.496	0.496	0.010	0.007	0.007	-1.817	-2.992	-2.992	0.150	0.395	0.395
20	putera	0.0886	0.010	0.009	0.010	0.686	0.610	0.686	0.032	0.023	0.032	-1.430	-1.594	-1.430	0.074	0.069	0.074
21	setron	-0.0461	-0.043	-0.062	-0.043	0.627	0.441	0.627	-0.116	-0.110*	-0.116	-1.759	-2.436	-1.759	0.139	0.267	0.139
22	shchan	-0.0384	-0.062	-0.039	-0.039	0.411	0.844	0.844	-0.106**	-0.248	-0.248	-2.281	-0.382	-0.382	0.244	0.405	0.405
23	tchong	0.0734	0.020	0.024	0.020	-0.035	-0.128	-0.035	0.019	0.021	0.019	-1.580	-1.365	-1.580	0.103	0.034	0.103
24	tws	0.0778	0.015	0.019	0.015	0.378	0.295	0.378	0.024	0.026	0.024	-2.340	-1.999	-2.340	0.256	0.205	0.256
25	umw	0.0390	0.001	0.004	0.004	0.652	0.421	0.421	0.004	0.007	0.007	-1.800	-3.326	-3.326	0.147	0.434	0.434
26	yhs	0.0454	-0.006	-0.008	-0.006	0.673	0.758	0.673	-0.020	-0.031	-0.020	-0.548	-0.295	-0.548	-0.057	-0.190	-0.057
	mean	0.0564	-0.001	-0.004	-0.003	0.540	0.471	0.538	-0.010	0.588	0.592	-1.747	-1.797	-1.789	0.149	0.203	0.213

The significance status of the long-run equilibrium profitability (YLR) have changed for 5 firms with the inclusion of the lagged difference term in the regression. Three of them have changed from significant abnormal profits to insignificant abnormal profits, namely *Bat, Choc* and *Shchan*. The reverse happened to the 2 remaining firms, namely *Ffm* and *Setron*. Only 1 firm showed the coincidental effect of having changes in both lambda range and significance of YLR, namely *Choc*. For more details on the significance of YLR, please refer to Table 4.2.2.2 and Table 4.3.2.1

Table 4.2.2.2: Number of firms with significant long-run equilibrium profitability (YLR) for consumer products sector

	Model 1	**Model 2**	**Model 3**
*** Significant at 1 %	-	1 firm (Gcoin)	1 firm (Gcoin)
** Significant at 5 %	2 firms (Gcoin, Shchan)	1 firm (Kguan)	-
* Significant at 10 %	4 firms (Bat, Choc, Kguan, Nestle)	3 firms Ffm, Nestle, Setron	4 firms (Choc, Ffm, Kguan, Nestle)
Not significant	20 firms	21 firms	21 firms

Depending on the model used, at least 5 of the 26 firms exhibited significant long-term profitability. The firms that have significant YLR include *Bat, Choc, Ffm, Gcoin, Kguan, Nestle, Setron* and *Shchan*. However, majority of the firms in this sector did not enjoy abnormal profits.

4.2.3 Finance sector

Table 4.2.3.1 shows that there were 6 firms with positive average rate of return in the finance sector. While, 6 firms had negative average rate of return. *Cmsb* had the highest average rate of return of 8.57%. Whereas, *Mbfcap* had the lowest average rate of return of –13.78%. The lagged difference term in Model 2 was significant at 10 % for 2 firms in the finance sector, namely *Amancap* and *Mbsb*. For 3 firms, Model 3 included a lagged difference term in the regression model, namely *Amancap, Cmsb* and *Mbsb*. There was 1 firm with positive ADF statistic in Model 2, but negative ADF statistic was found for the other models. There were 7 firms with $\overline{R}^2$ that exceeds 0.1 for Model 1, 9 firms for Model 2 and 8 firms for Model 3. There was 1 firm (*Asiapac*) with positive $\overline{R}^2$ for Model 2, but negative $\overline{R}^2$ for the other models. None of the firms had a dynamically unstable process based on Model 1 and Model 3. Model 2 was dynamically unstable for *Maa*. Inclusion of lagged difference shifted the lambda range of 5 firms from the state of stationary (and valid) to the state of stationary (but invalid) (*Amancap, Cmsb, Hancock* and *Mbsb*) and the state of explosive (*Maa*). For more details on the lambda range, please refer to Table 4.3.3.3.

Table 4.2.3.1 Rates of return (R.O.R) and estimation results for companies in the finance sector

No.	Company	R.O.R	α_i			λ_i			YLR (Table 4.2.3.2)			ADF t-statistics			$\overline{R}^2$		
			M1	M2	M3	M1	M2	M3	M1	M2	M3	M1	M2	M3	M1	M2	M3
1	amancap	0.0055	0.013	-0.010	-0.010	0.756	-0.586	-0.586	0.053	-0.006	-0.006	-1.052	-3.061	-3.061	0.008	0.382	0.382
2	asiapac	-0.0115	0.008	-0.001	0.008	0.868	0.543	0.868	0.057	-0.002	0.057	-0.648	-1.669	-0.648	-0.047	0.098	-0.047
3	cmsb	0.0857	0.080	0.106	0.106	0.101	-0.150	-0.150	0.089**	0.092***	0.092***	-3.608	-3.239	-3.239	0.480	0.424	0.424
4	hancock	0.0295	0.020	0.026	0.020	0.684	-0.248	0.684	0.063	0.021	0.063	-1.251	-1.579	-1.251	0.042	0.081	0.042
5	idris	-0.0260	-0.005	0.004	-0.005	0.473	0.737	0.473	-0.009	0.013	-0.009	-2.014	-0.538	-2.014	0.190	0.140	0.190
6	maa	0.0158	0.017	0.022	0.017	0.654	1.695	0.654	0.051	-0.032	0.051	-1.298	0.671	-1.298	0.050	0.051	0.050
7	mbfcap	-0.1378	-0.133	-0.139	-0.133	0.012	0.324	0.012	-0.135	-0.206	-0.135	-3.426	-0.065	-3.426	0.452	0.397	0.452
8	mbfhldg	-0.0653	-0.024	-0.035	-0.024	0.709	0.071	0.709	-0.083	-0.038	-0.083	-1.156	-1.798	-1.156	0.025	0.100	0.025
9	mbsb	0.0067	0.014	0.003	0.003	0.404	-0.944	-0.944	0.023	0.001	0.001	-2.278	-3.271	-3.271	0.244	0.476	0.476
10	mgic	-0.0481	-0.051	-0.040	-0.051	-0.491	-0.002	-0.491	-0.034	-0.040	-0.034	-5.292	-1.906	-5.292	0.675	0.687	0.675
11	pglobal	-0.0357	-0.027	-0.032	-0.027	-0.148	-0.178	-0.148	-0.024	-0.027	-0.024	-3.823	-2.401	-3.823	0.512	0.460	0.512
12	rhb	0.0571	0.058	0.069	0.058	0.216	0.054	0.216	0.074**	0.073*	0.074**	-2.930	-1.884	-2.930	0.368	0.316	0.368
	mean	-0.0103	-0.003	-0.002	-0.003	0.353	0.110	0.108	0.010	-0.013	0.004	-2.398	-1.728	-2.617	0.250	0.301	0.296

Table 4.2.3.2 shows that 10 of the 12 firms in the finance sector did not experience any persistent abnormal profits. Only in the case of *Cmsb* and *Rhb*, the long-term profitability is significant. Table 4.3.2.1 shows further details which wll be discussed at a later part of this chapter.

Table 4.2.3.2: Number of firms with significant long-run equilibrium profitability (YLR) for finance sector

	Model 1	**Model 2**	**Model 3**
*** Significant at 1 %	-	1 firm (Cmsb)	1 firm (Cmsb)
** Significant at 5 %	2 firms (Cmsb, Rhb)	-	1 firm (Rhb)
* Significant at 10 %	-	1 firm (Rhb)	-
Not significant	10 firms	10 firms	10 firms

4.2.4 Hotels sector

Table 4.2.4.1 shows that there was 1 firm (*Landmrk*) with positive average rate of return in the hotels sector. There were 2 firms (*Faber* and *Gperak*) with negative average rate of return. *Landmrk* had the highest average rate of return of 0.1%. *Gperak* had the lowest average rate of return of −13.8%. The lagged difference term in Model 2 was insignificant at 10 % for the all firms in hotels sector. This leads to the results that none of the firms have lagged difference term in the regression model for Model 3. None of the firms have positive ADF statistic. All the firms in the hotels sector have $\overline{R}^2$ that exceeds 0.1for every model, and none have negative $\overline{R}^2$. None of the firms exhibited a dynamically unstable process in all the models. The lambda range and significance of the long-run equilibrium profitability (YLR) remain the same for all the models. For more details on the lambda range, please refer to Table 4.3.3.3. Table 4.2.4.2 shows that none of the firms in the hotels sector have a significant YLR. This finding is consistent for all the 3 models.

Table 4.2.4.1 Rates of return (R.O.R) and estimation results for companies in the hotels sector

No.	Company	R.O.R	α_i			λ_i			YLR (Table 4.2.4.2)			ADF t-statistics			$\overline{R}^2$		
			M1	M2	M3	M1	M2	M3	M1	M2	M3	M1	M2	M3	M1	M2	M3
1	faber	-0.022	0.007	0.004	0.007	0.446	0.248	0.446	0.012	0.006	0.012	-2.261	-2.527	-2.261	0.240	0.304	0.240
2	gperak	-0.138	-0.019	-0.013	-0.019	0.505	0.361	0.505	-0.039	-0.020	-0.039	-2.101	-2.287	-2.101	0.208	0.254	0.208
3	landmrk	0.001	0.013	0.008	0.013	0.529	0.445	0.529	0.029	0.014	0.029	-2.022	-2.023	-2.022	0.192	0.219	0.192
	mean	-0.053	0.000	0.000	0.000	0.494	0.351	0.494	0.000	0.000	0.000	-2.128	-2.279	-2.128	0.213	0.259	0.213

Table 4.2.4.2: Number of firms with significant long-run equilibrium profitability (YLR) for hotels sector

	Model 1	Model 2	Model 3
*** Significant at 1 %	-	-	-
** Significant at 5 %	-	-	-
* Significant at 10 %	-	-	-
Not significant	All firms	All firms	All firms

4.2.5 Industrial products sector

Table 4.2.5.1 reports that 3 firms had positive average rate of return in the industrial products sector. There were 8 firms with negative average rate of return. *Mox* had the highest average rate of return of 12%. Whereas, *Aokam* had the lowest average rate of return of –24.6%. The lagged difference term in Model 2 was significant at 10 % for 3 firms, namely *Leader, Seal* and *Tasek*. The model with lagged difference term was selected as Model 3 for 7 firms with lagged difference in respective regression model, namely *Alcom, Asb, Leader, Pmcorp, Seal, Tasek* and *Wingtek*. None of the firms have positive ADF statistic. There were 38 firms with $\overline{R}^2$ that exceeds 0.1 in every model, except for 1 case. None of the firms have negative $\overline{R}^2$. None of the firms have process that is dynamically unstable using Model 1 and Model 3. Only for *Aokam* based on Model 2, the process was dynamically unstable. Inclusion of a lagged difference term in the regression shifted the lambda range for 8 firms from the state of stationary (and valid) to the state of stationary (but invalid) (*Amsteel, Cash, Humeind, Kseng, Mcement, Palmco* and *Tasek*) and the state of explosive (*Aokam*). For more details on the lambda range, please refer to Table 4.3.3.3.

Table 4.2.5.1 Rates of return (R.O.R) and estimation results for companies in the industrial products sector

No.	Company	R.O.R	α_i			λ_i			YLR (Table 4.2.5.2)			ADF t-statistics			$\overline{R}^2$		
			M1	M2	M3	M1	M2	M3	M1	M2	M3	M1	M2	M3	M1	M2	M3
1	aisb	0.030	0.004	0.004	0.004	-0.178	-0.225	-0.178	0.003	0.003	0.003	-3.719	-2.211	-3.719	0.497	0.442	0.497
2	alcom	0.024	0.012	0.030	0.030	0.760	0.709	0.709	0.049	0.103*	0.103*	-1.634	-1.947	-1.947	0.114	0.320	0.320
3	amsteel	0.030	-0.003	-0.006	-0.003	0.209	-0.067	0.209	-0.003	-0.005	-0.003	-2.530	-2.749	-2.530	0.294	0.352	0.294
4	aokam	-0.246	-0.204	-0.169	-0.204	0.327	-2.704	0.327	-0.303	-0.046	-0.303	-2.485	-1.611	-2.485	0.285	0.334	0.285
5	asb	-0.014	-0.046	-0.010	-0.010	0.155	0.600	0.600	-0.055*	-0.025	-0.025	-3.470	-1.395	-1.395	0.459	0.196	0.196
6	camerln	0.049	0.017	0.012	0.017	0.092	0.513	0.092	0.019	0.024	0.019	-3.155	-0.793	-3.155	0.408	0.402	0.408
7	cash	-0.376	-0.427	-0.540	-0.427	0.013	-0.480	0.013	-0.432	-0.365	-0.432	-3.445	-0.897	-3.445	0.455	0.409	0.455
8	ccm	0.074	0.034	0.031	0.034	0.306	0.348	0.306	0.049*	0.048	0.049*	-2.543	-0.833	-2.543	0.296	0.209	0.296
9	cihldg	0.086	0.021	0.021	0.021	0.720	0.739	0.720	0.076	0.082	0.076	-1.352	-0.818	-1.352	0.060	-0.040	0.060
10	cima	0.067	0.018	0.019	0.018	0.459	0.503	0.459	0.034	0.038	0.034	-2.030	-1.396	-2.030	0.194	0.106	0.194
11	facbind	0.052	0.016	0.013	0.016	0.466	0.175	0.466	0.029	0.015	0.029	-2.051	-1.330	-2.051	0.198	0.134	0.198
12	fcw	0.075	0.035	0.033	0.035	0.488	0.546	0.488	0.067*	0.073	0.067*	-2.479	-1.458	-2.479	0.284	0.117	0.284
13	gbh	0.042	0.009	0.012	0.009	0.610	0.857	0.610	0.022	0.087	0.022	-1.712	-0.405	-1.712	0.129	0.113	0.129
14	gopeng	0.043	0.018	0.023	0.018	0.342	0.405	0.342	0.028	0.038	0.028	-2.620	-1.395	-2.620	0.311	0.277	0.311
15	guh	-0.040	-0.029	-0.047	-0.029	0.622	0.441	0.622	-0.078	-0.085	-0.078	-1.713	-2.082	-1.713	0.130	0.166	0.130
16	humeind	0.036	0.010	-0.001	0.010	0.310	-0.967	0.310	0.014	-0.001	0.014	-2.572	-2.046	-2.572	0.302	0.358	0.302
17	itiasa	0.087	0.039	0.034	0.039	0.454	0.411	0.454	0.072	0.058	0.072	-2.276	-1.952	-2.276	0.243	0.132	0.243
18	kianjoo	0.082	0.059	0.061	0.059	-0.088	-0.178	-0.088	0.054**	0.052*	0.054**	-3.516	-2.151	-3.516	0.466	0.421	0.466
19	kseng	0.065	0.024	0.033	0.024	0.282	-0.051	0.282	0.033	0.031	0.033	-2.664	-1.901	-2.664	0.319	0.255	0.319
20	leader	0.011	0.008	-0.001	-0.001	0.639	0.827	0.827	0.021	-0.007	-0.007	-3.082	-1.229	-1.229	0.395	0.316	0.316

No.	Company	R.O.R	α_i			λ_i			YLR (Table 4.2.5.2)			ADF t-statistics			$\overline{R}^2$		
			M1	M2	M3	M1	M2	M3	M1	M2	M3	M1	M2	M3	M1	M2	M3
21	lionInd	-0.011	-0.029	-0.033	-0.029	0.266	0.226	0.266	-0.039	-0.043	-0.039	-2.623	-1.727	-2.623	0.311	0.245	0.311
22	maica	0.035	0.001	0.001	0.001	0.288	0.002	0.288	0.002	0.001	0.002	-2.751	-2.001	-2.751	0.336	0.241	0.336
23	maruich	0.066	0.029	0.019	0.029	0.306	0.465	0.306	0.041	0.036	0.041	-2.559	-1.234	-2.559	0.299	0.210	0.299
24	mcement	0.108	0.074	0.109	0.074	0.161	-0.263	0.161	0.088**	0.086***	0.088**	-3.263	-3.677	-3.263	0.426	0.506	0.426
25	mox	0.120	0.093	0.111	0.093	-0.019	-0.221	-0.019	0.092***	0.091*	0.092***	-3.524	-2.034	-3.524	0.468	0.415	0.468
26	muda	0.039	0.006	0.009	0.006	0.420	0.630	0.420	0.010	0.024	0.010	-2.213	-0.791	-2.213	0.231	0.172	0.231
27	mwata	0.031	0.008	0.003	0.008	0.110	0.420	0.110	0.009	0.004	0.009	-2.997	-1.417	-2.997	0.380	0.291	0.380
28	palmco	0.014	-0.014	-0.035	-0.014	0.200	-0.414	0.200	-0.018	-0.024	-0.018	-2.907	-2.871	-2.907	0.364	0.437	0.364
29	pmcorp	0.059	0.030	0.016	0.016	0.057	0.081	0.081	0.032	0.017	0.017	-3.272	-2.757	-2.757	0.427	0.571	0.571
30	scientx	0.052	0.015	0.015	0.015	0.281	0.434	0.281	0.021	0.027	0.021	-2.643	-0.949	-2.643	0.315	0.225	0.315
31	seal	-0.047	-0.051	0.000	0.000	0.326	0.594	0.594	-0.076	0.001	0.001	-2.470	-1.938	-1.938	0.282	0.606	0.606
32	shell	0.086	0.043	0.045	0.043	0.326	0.336	0.326	0.063*	0.067	0.063*	-2.536	-1.451	-2.536	0.295	0.232	0.295
33	tasek	0.087	0.053	0.097	0.097	0.173	-0.836	-0.836	0.065**	0.053***	0.053***	-3.044	-3.429	-3.429	0.389	0.515	0.515
34	tongkah	-0.014	-0.017	-0.028	-0.017	0.454	0.375	0.454	-0.032	-0.045	-0.032	-2.161	-1.645	-2.161	0.220	0.116	0.220
35	tractor	0.069	0.057	0.069	0.057	-0.250	-0.493	-0.250	0.046**	0.046*	0.046**	-3.363	-2.570	-3.363	0.442	0.395	0.442
36	uac	0.083	0.032	0.043	0.032	0.327	0.037	0.327	0.048	0.045*	0.048	-2.726	-2.459	-2.726	0.331	0.318	0.331
37	wijaya	0.071	0.028	0.032	0.028	0.468	0.292	0.468	0.052	0.045	0.052	-2.195	-2.280	-2.195	0.227	0.213	0.227
38	wingtek	-0.002	0.000	0.014	0.014	0.632	0.536	0.536	0.000	0.030	0.030	-1.929	-2.321	-2.321	0.173	0.419	0.419
39	wtk	0.050	0.005	0.004	0.005	0.407	0.410	0.407	0.009	0.007	0.009	-2.576	-1.778	-2.576	0.302	0.199	0.302
	mean	0.027	-0.001	0.001	0.003	0.306	0.129	0.300	0.003	0.015	0.006	-2.636	-1.793	-2.536	0.309	0.291	0.327

The significance status of the long-run equilibrium profitability (YLR) for 6 firms have changed when a lagged difference term is included in the model. Two of them have changed from insignificant abnormal profits to significant abnormal profits, namely *Alcom* and *Uac*. The reverse happened to 4 firms, namely *Asb, Ccm, Fcw* and *Shell*. For more details on the significance of YLR, please refer to Table 4.3.2.1.

Table 4.2.5.2: Number of firms with significant long-run equilibrium profitability (YLR) for industrial products sector

	Model 1	**Model 2**	**Model 3**
*** Significant at 1 %	1 firm (Mox)	2 firms (Mcement, Tasek)	2 firms (Mox, Tasek)
** Significant at 5 %	4 firms (Kianjoo, Mcement, Tasek, Tractor)	-	3 firms (Kianjoo, Mcement, Tractor)
* Significant at 10 %	4 firms (Asb, Ccm, Fcw, Shell)	5 firms (Alcom, Kianjoo, Mox, Tractor, Uac)	4 firms (Alcom, Ccm, Fcw, Shell)
Not significant	30 firms	32 firms	30 firms

Table 4.2.5.2 shows that 30 to 32 of the 39 firms included in the analysis do not have a significant abnormal profit in the long run. In the case of Model 1, the long-run profitability is significant for 9 firms, 7 firms in the case of Model 2 and 9 firms in the case of Model 3.

4.2.6 Mining sector

From Table 4.2.6.1, it can be observed that there were 2 firms with positive average rate of return in the mining sector, while 2 firms had negative average rate of return. *Kuchai* had the highest average rate of return of 5.3%. Whereas, *Ptgtin* had the lowest average rate of return of –5%. The lagged difference term in Model 2 was insignificant at 10 % for all the firms in the mining sector. For Model 3, the model with a lagged difference term is not chosen for all the firms have lagged difference in respective regression model. There was only 1 firm with positive ADF statistic in Model 2, but the ADF statistic is negative for all the other models.

There were 3 firms with $\overline{R}^2$ that exceeds 0.1 in every model. None of the firms have negative $\overline{R}^2$. None of the firms in Model 1 and Model 3 have a dynamically unstable process. Only in the case of *Kuchai* with Model 2 that the process was dynamically unstable. Inclusion of a lagged difference term shifted the lambda range for 1 firm from the state of stationary (and valid) to the state of explosive (*Kuchai*). For more details on the lambda range, please refer to Table 4.3.3.3. Results remain the same for the significance of long-run equilibrium profitability (YLR), regardless of whether the lagged difference term is included. For more details on the significance of YLR, please refer to Table 4.2.6.2 and Table 4.3.2.1. None of the firms experience significant abnormal profit and this remains true for all the models considered.

Table 4.2.6.1 Rates of return (R.O.R) and estimation results for companies in the mining sector

No.	Company	R.O.R	α_i			λ_i			YLR (Table 4.2.6.2)			ADF t-statistics			$\bar{R}^2$		
			M1	M2	M3	M1	M2	M3	M1	M2	M3	M1	M2	M3	M1	M2	M3
1	gplus	-0.020	-0.012	-0.014	-0.012	0.584	0.548	0.584	-0.029	-0.031	-0.029	-1.525	-1.368	-1.525	0.093	0.000	0.093
2	kuchai	0.053	0.045	0.010	0.045	0.167	2.129	0.167	0.054	-0.009	0.054	-2.920	0.752	-2.920	0.367	0.405	0.367
3	mmc	0.025	0.014	0.015	0.014	0.403	0.259	0.403	0.024	0.021	0.024	-2.279	-2.055	-2.279	0.244	0.189	0.244
4	ptgtin	-0.050	-0.045	-0.039	-0.045	0.164	0.774	0.164	-0.054	-0.172	-0.054	-2.931	-0.340	-2.931	0.369	0.365	0.369
	mean	0.002	0.000	-0.007	0.000	0.330	0.928	0.330	-0.001	-0.048	-0.001	-2.414	-0.753	-2.414	0.268	0.240	0.268

Table 4.2.6.2: Number of firms with significant long-run equilibrium profitability (YLR) for mining sector

	Model 1	Model 2	Model 3
*** Significant at 1 %	-	-	-
** Significant at 5 %	-	-	-
* Significant at 10 %	-	-	-
Not significant	All firms	All firms	All firms

4.2.7 Plantation sector

From Table 4.2.7.1, there were 22 firms with positive average rate of return in the plantation sector, while 5 firms with negative average rate of return. *Chinteck* had the highest average rate of return of 8.4%. Whereas, *Mvest* had the lowest average rate of return of –10.4%. The lagged difference term in Model 2 was significant at 10 % for 2 firms in the plantation sector, namely *Bkatil* and *Incken*. There were 4 cases with lagged difference term selected in the regression model of Model 3, namely *Bkatil, Gnealy, Incken* and *Tdm*. There were 3 firms with positive ADF in Model 2, but negative ADF for the other models. There were 19 firms with $\overline{R}^2$ that exceeds 0.1 for Model 1 and Model 3. There were 18 firms with $\overline{R}^2$ that exceeds 0.1 for Model 2. There were 2 firms with negative $\overline{R}^2$ for all the models. Meanwhile, there were 2 firms with negative $\overline{R}^2$ for Model 2, but positive $\overline{R}^2$ for the other two models. In contrast, there was 1 firm with positive $\overline{R}^2$ for Model 1, but negative $\overline{R}^2$ for the other models. None of the firms in Model 1 have a dynamically unstable process. For *Chinteck, Incken, Ksidim and Mvest*, Model 2 is dynamically unstable. For *Incken*, Model 3 was dynamically unstable. Inclusion of the lagged difference term shifted the lambda range of 9 firms from the state of stationary (and valid) to the state of stationary (but invalid) (*Bkawan, Ghope, Klk, Rview* and *Umre*) and the state of explosive (*Chinteck, Incken, Ksidim* and *Mvest*). The reverse is true for 1 firm (*Bkatil*). For more details on the lambda range, please refer to Table 4.3.3.3.

Table 4.2.7.1 Rates of return (R.O.R) and estimation results for companies in the plantation sector

No.	Company	R.O.R	α_i			λ_i			YLR (Table 4.2.7.2)			ADF t-statistics			$\bar{R}^2$		
			M1	M2	M3	M1	M2	M3	M1	M2	M3	M1	M2	M3	M1	M2	M3
1	amolek	-0.049	-0.031	-0.039	-0.031	0.724	0.711	0.724	-0.113	-0.135	-0.113	-1.403	-1.057	-1.403	0.069	-0.012	0.069
2	asiatic	0.066	0.015	0.015	0.015	0.894	0.530	0.894	0.143	0.031	0.143	-0.481	-0.567	-0.481	-0.063	-0.156	-0.063
3	ausent	0.066	0.010	0.012	0.010	0.630	0.731	0.630	0.028	0.044	0.028	-1.517	-0.647	-1.517	0.091	-0.110	0.091
4	bkatil	0.038	0.002	-0.002	-0.002	-0.567	0.064	0.064	0.001	-0.002	-0.002	-4.826	-2.266	-2.266	0.632	0.815	0.815
5	bkawan	0.077	0.034	0.053	0.034	0.167	-0.384	0.167	0.041**	0.038*	0.041**	-2.953	-1.916	-2.953	0.373	0.388	0.373
6	chinteck	0.084	0.019	0.012	0.019	0.708	1.062	0.708	0.065	-0.198	0.065	-1.277	0.132	-1.277	0.046	0.039	0.046
7	ghope	0.057	0.012	0.013	0.012	0.482	-0.568	0.482	0.024	0.008	0.024	-1.978	-1.639	-1.978	0.183	0.199	0.183
8	gnealy	0.057	0.005	-0.003	-0.003	0.618	0.807	0.807	0.014	-0.015	-0.015	-1.014	-0.387	-0.387	0.002	-0.171	-0.171
9	gropel	0.046	0.008	0.008	0.008	0.324	0.016	0.324	0.012	0.008	0.012	-2.538	-1.643	-2.538	0.295	0.265	0.295
10	guthrie	0.049	0.007	0.005	0.007	0.535	0.119	0.535	0.016	0.005	0.016	-1.983	-2.023	-1.983	0.184	0.203	0.184
11	hilo	0.063	0.012	0.012	0.012	0.607	0.817	0.607	0.031	0.066	0.031	-1.681	-0.312	-1.681	0.123	0.052	0.123
12	incken	-0.037	-0.067	-0.030	-0.030	0.147	-2.062	-2.062	-0.078	-0.010	-0.010	-2.869	-4.321	-4.321	0.357	0.660	0.660
13	ioicorp	0.046	0.009	0.013	0.009	0.490	0.774	0.490	0.018	0.059	0.018	-2.170	-0.432	-2.170	0.222	0.169	0.222
14	klk	0.063	0.025	0.037	0.025	0.149	-0.368	0.149	0.029*	0.027**	0.029*	-3.147	-2.520	-3.147	0.407	0.458	0.407
15	kluang	0.046	0.009	0.013	0.009	-0.664	-0.948	-0.664	0.006	0.007	0.006	-5.546	-2.833	-5.546	0.696	0.663	0.696
16	ksidim	0.061	0.014	0.013	0.014	0.606	1.461	0.606	0.034	-0.029	0.034	-1.544	0.692	-1.544	0.096	0.174	0.096
17	kulim	0.048	0.014	0.020	0.014	-0.293	-0.737	-0.293	0.011	0.012*	0.011	-4.595	-3.326	-4.595	0.607	0.638	0.607
18	lingui	0.020	-0.002	-0.007	-0.002	0.626	0.512	0.626	-0.006	-0.015	-0.006	-1.631	-1.764	-1.631	0.113	0.085	0.113
19	mvest	-0.104	-0.089	0.096	-0.089	0.577	5.018	0.577	-0.212	-0.024	-0.212	-1.499	1.467	-1.499	0.088	0.209	0.088
20	nsop	0.080	0.035	0.042	0.035	0.153	0.003	0.153	0.041*	0.042	0.041*	-2.979	-1.096	-2.979	0.377	0.309	0.377
21	rview	0.083	0.043	0.055	0.043	0.082	-0.258	0.082	0.047*	0.044**	0.047*	-3.149	-3.146	-3.149	0.407	0.426	0.407
22	sbagan	0.023	-0.017	-0.021	-0.017	-0.217	-0.784	-0.217	-0.014	-0.012	-0.014	-4.270	-3.191	-4.270	0.570	0.579	0.570
23	scbdev	0.040	0.002	-0.001	0.002	0.353	0.069	0.353	0.003	-0.001	0.003	-2.348	-1.219	-2.348	0.258	0.191	0.258
24	tdm	-0.001	-0.036	-0.005	-0.005	0.021	0.577	0.577	-0.036*	-0.011	-0.011	-3.100	-0.922	-0.922	0.398	0.501	0.501
25	tecasia	-0.041	-0.015	-0.022	-0.015	0.993	0.824	0.993	-2.209	-0.124	-2.209	-0.017	-0.368	-0.017	-0.083	-0.129	-0.083
26	umre	0.058	0.018	0.021	0.018	0.068	-0.235	0.068	0.019	0.017	0.019	-3.009	-2.625	-3.009	0.383	0.372	0.383
27	utdplt	0.077	0.018	0.018	0.018	0.612	0.788	0.612	0.045	0.083	0.045	-1.599	-0.347	-1.599	0.107	0.023	0.107
	mean	0.038	0.002	0.012	0.004	0.327	0.316	0.296	-0.076	-0.003	-0.073	-2.412	-1.418	-2.267	0.257	0.253	0.272

The significance status of the long-run equilibrium profitability (YLR) for 3 firms have changed with the inclusion of a lagged difference term. One of them has changed from insignificant abnormal profits to significant abnormal profits, namely *Kulim*. The reverse happened to the 2 firms, namely *Nsop* and *Tdm*. For more details on the significance of YLR, please refer to Table 4.2.7.2 and Table 4.3.2.1.

Table 4.2.7.2: Number of firms with significant long-run equilibrium profitability (YLR) for plantation sector

	Model 1	**Model 2**	**Model 3**
*** Significant at 1 %	-	-	-
** Significant at 5 %	1 firm (Bkawan)	2 firms (Klk, Rview)	1 firm (Bkawan)
* Significant at 10 %	4 firms (Klk, Nsop, Rview, Tdm)	2 firms (Bkawan, Kulim)	3 firms (Klk, Nsop, Rview)
Not significant	22 firms	23 firms	23 firms

In general, 22 to 23 firms do not exhibit significant long-term profitability. Firms with significant long-term profitability are *Bkawan, Klk, Kulim Nsop, Rview* and *Tdm*.

4.2.8 Properties sector

Table 4.2.8.1 shows that 22 firms had positive average rate of return in the properties sector. While, 15 firms had negative average rate of return. *Simepty* had the highest average rate of return of 7%. Whereas, *Wldwide* had the lowest average rate of return of –78.8%. The lagged difference term in Model 2 was insignificant at 10 % for all the firms in properties sector. For only 1 firm (*Eurplus)*, the model with lagged difference term in the regression model was selected as Model 3. There were 2 firms with negative ADF in Model 2, but positive ADF for the other models. There were 32 firms with $\overline{R}^2$ that exceeds 0.1 in every model. There were 3 firms with negative $\overline{R}^2$ for all the models. There was only 1 firm with negative $\overline{R}^2$ for Model 2, but positive $\overline{R}^2$ for the other models. For *Inovest* and *Kemayan*, Model 1 and Model 3 are dynamically unstable. None of the firms using Model 2 show a dynamically unstable process. The inclusion of a lagged difference term shifted the lambda range of 13 firms from the state of stationary (and valid) to the state of stationary (but invalid) (*Bolton, Crimson, Fimacor, Inp, Igb, Ioiprop, Pelangi, Sateras, Sdred, Smi, Spb, Tanco* and *Umland*). In contrast, there were 2 firms that were shifted from the state of explosive to the state of stationary (and valid) (*Inovest* and *Kemayan*). For more details on the lambda range, please refer to Table 4.3.3.3.

Table 4.2.8.1 Rates of return (R.O.R) and estimation results for companies in the properties sector

No.	Company	R.O.R	α_i			λ_i			YLR (Table 4.2.8.2)			ADF t-statistics			$\overline{R}^2$		
			M1	M2	M3	M1	M2	M3	M1	M2	M3	M1	M2	M3	M1	M2	M3
1	ahplant	0.040	0.053	0.059	0.053	0.333	0.259	0.333	0.080	0.080	0.080	-2.206	-1.706	-2.206	0.229	0.158	0.229
2	ahtin	-0.036	-0.022	-0.039	-0.022	0.154	0.138	0.154	-0.026	-0.045	-0.026	-3.134	-2.332	-3.134	0.404	0.433	0.404
3	amdev	0.010	0.029	0.028	0.029	0.183	0.219	0.183	0.036	0.036	0.036	-2.844	-1.913	-2.844	0.353	0.285	0.353
4	anson	-0.011	0.014	0.022	0.014	-0.027	-0.280	-0.027	0.014	0.017	0.014	-3.545	-2.908	-3.545	0.471	0.454	0.471
5	avenue	0.028	0.028	0.030	0.028	0.507	0.329	0.507	0.056	0.044	0.056	-1.985	-2.337	-1.985	0.184	0.225	0.184
6	bolton	0.025	0.051	0.057	0.051	0.071	-0.018	0.071	0.055*	0.056	0.055*	-3.162	-2.337	-3.162	0.409	0.351	0.409
7	braya	0.032	0.063	0.082	0.063	-0.048	-0.364	-0.048	0.060*	0.060*	0.060*	-3.352	-2.991	-3.352	0.441	0.437	0.441
8	crimson	0.029	0.032	0.033	0.032	0.022	-0.041	0.022	0.033	0.032	0.033	-4.794	-2.736	-4.794	0.628	0.418	0.628
9	eo	0.028	0.042	0.045	0.042	0.306	0.284	0.306	0.061	0.063	0.061	-2.495	-1.886	-2.495	0.287	0.211	0.287
10	eurplus	-0.090	-0.016	0.010	0.010	0.588	0.678	0.678	-0.038	0.030	0.030	-1.594	-1.156	-1.156	0.106	0.188	0.188
11	facbres	-0.103	-0.025	-0.036	-0.025	0.678	0.559	0.678	-0.077	-0.082	-0.077	-1.452	-1.697	-1.452	0.079	0.080	0.079
12	fimacor	0.044	0.064	0.077	0.064	0.098	-0.033	0.098	0.071*	0.074*	0.071*	-3.141	-2.478	-3.141	0.405	0.364	0.405
13	inp	0.059	0.079	0.091	0.079	0.120	-0.015	0.120	0.089**	0.089*	0.089**	-2.858	-2.140	-2.858	0.355	0.301	0.355
14	igb	0.033	0.059	0.069	0.059	0.073	-0.046	0.073	0.064*	0.066*	0.064*	-3.276	-2.468	-3.276	0.428	0.379	0.428
15	inovest	-0.100	-0.052	-0.053	-0.052	1.095	0.569	1.095	0.552	-0.123	0.552	0.267	-0.799	0.267	-0.077	-0.020	-0.077
16	ioiprop	0.057	0.075	0.093	0.075	0.162	-0.019	0.162	0.089**	0.091*	0.089**	-2.706	-2.269	-2.706	0.327	0.302	0.327
17	kemayan	-0.089	-0.066	-0.070	-0.066	1.090	0.911	1.090	0.731	-0.781	0.731	0.189	-0.129	0.189	-0.080	-0.180	-0.080
18	lg	0.018	0.041	0.057	0.041	0.319	0.155	0.319	0.060	0.068	0.060	-2.577	-2.458	-2.577	0.303	0.300	0.303
19	lienhoe	-0.044	-0.006	-0.002	-0.006	0.245	0.060	0.245	-0.007	-0.002	-0.007	-2.702	-2.550	-2.702	0.327	0.327	0.327
20	menang	-0.078	-0.038	-0.040	-0.038	0.308	0.137	0.308	-0.055	-0.047	-0.055	-2.514	-1.717	-2.514	0.290	0.232	0.290
21	muiprop	0.016	0.035	0.039	0.035	0.292	0.214	0.292	0.050	0.049	0.050	-2.547	-2.052	-2.547	0.297	0.226	0.297
22	paramon	0.012	0.036	0.040	0.036	0.141	0.018	0.141	0.042	0.041	0.042	-2.799	-2.170	-2.799	0.345	0.286	0.345
23	pelangi	0.051	0.078	0.091	0.078	0.009	-0.118	0.009	0.079**	0.081*	0.079**	-3.428	-2.540	-3.428	0.453	0.410	0.453
24	pgarden	0.055	0.069	0.069	0.069	0.243	0.321	0.243	0.092*	0.102	0.092*	-2.336	-1.452	-2.336	0.255	0.198	0.255
25	pperak	-0.002	-0.004	-0.023	-0.004	0.593	0.751	0.593	-0.010	-0.091	-0.010	-1.436	-0.494	-1.436	0.076	-0.009	0.076
26	sateras	-0.035	-0.009	-0.006	-0.009	0.112	-0.107	0.112	-0.010	-0.006	-0.010	-3.094	-2.787	-3.094	0.397	0.390	0.397
27	sdred	0.010	0.038	0.041	0.038	0.013	-0.073	0.013	0.038	0.038	0.038	-3.429	-2.398	-3.429	0.453	0.393	0.453
28	simepty	0.070	0.089	0.105	0.089	0.151	0.022	0.151	0.105**	0.108*	0.105**	-2.784	-2.115	-2.784	0.342	0.301	0.342

No.	Company	R.O.R	α_i			λ_i			YLR (Table 4.2.8.2)			ADF t-statistics			$\overline{R}^2$		
			M1	M2	M3	M1	M2	M3	M1	M2	M3	M1	M2	M3	M1	M2	M3
29	smi	-0.021	0.006	0.007	0.006	0.072	-0.145	0.072	0.006	0.006	0.006	-3.119	-2.673	-3.119	0.402	0.374	0.402
30	spb	0.030	0.054	0.063	0.054	0.102	-0.038	0.102	0.060*	0.060	0.060*	-2.925	-2.205	-2.925	0.368	0.317	0.368
31	spk	-0.007	0.022	0.023	0.022	0.238	0.167	0.238	0.029	0.027	0.029	-2.547	-1.879	-2.547	0.297	0.216	0.297
32	taiping	-0.111	-0.111	-0.141	-0.111	0.556	0.976	0.556	-0.251	-5.859	-0.251	-0.339	-0.013	-0.339	-0.073	-0.181	-0.073
33	talam	-0.137	-0.086	-0.064	-0.086	0.253	0.461	0.253	-0.115	-0.118	-0.115	-2.619	-1.385	-2.619	0.311	0.299	0.311
34	tanco	0.020	0.042	0.060	0.042	0.114	-0.216	0.114	0.048	0.050	0.048	-3.064	-3.114	-3.064	0.392	0.429	0.392
35	umland	0.062	0.090	0.100	0.090	0.015	-0.063	0.015	0.092**	0.094*	0.092**	-3.466	-2.437	-3.466	0.459	0.411	0.459
36	uniphon	0.010	0.068	0.074	0.068	-0.471	-0.515	-0.471	0.046	0.049	0.046	-4.239	-2.521	-4.239	0.566	0.511	0.566
37	widwide	-0.788	-0.843	-0.936	-0.843	-0.038	-0.100	-0.038	-0.812	-0.851	-0.812	-3.586	-2.390	-3.586	0.477	0.424	0.477
	mean	-0.025	0.000	0.001	0.000	0.234	0.136	0.237	0.036	-0.176	0.038	-2.639	-2.044	-2.627	0.316	0.277	0.318

The significance status in long-run equilibrium profitability (YLR) in 3 firms have changed due to the inclusion of a lagged difference term. All of them have changed from significant abnormal profits to insignificant abnormal profits, namely *Bolton, Pgarden* and *Spb*. Two of them have the coincidental effect of having changes in both the lambda range and significance of YLR, namely *Bolton* and *Spb*. For more details on the significance of YLR, please refer to Table 4.2.8.2 and Table 4.3.2.1.

Table 4.2.8.2: Number of firms with significant long-run equilibrium profitability (YLR) for properties sector

	Model 1	**Model 2**	**Model 3**
*** Significant at 1 %	-	-	-
** Significant at 5 %	5 firms (Inp, Ioiprop, Pelangi, Simepty, Umland)	-	5 firms (Inp, Ioiprop, Pelangi, Simepty, Umland)
* Significant at 10 %	6 firms (Bolton, Braya, Fimacor, Igb, Pgarden, Spb)	8 firms (Braya, Fimacor, Inp, Igb, Ioiprop, Pelangi, Simepty, Umland)	6 firms (Bolton, Braya, Fimacor, Igb, Pgarden, Spb)
Not significant	26 firms	29 firms	26 firms

About 26 to 29 of the 37 firms in the plantation sector included in this analysis do not have a significant long-term profitability at 5% level, 5 firms were found to have experienced significant abnormal profits based on Model 1 and Model 3, and more firms are in this category at the 10% level.

4.2.9 Trading/Services sector

Table 4.2.9.1 shows that there were 25 firms with positive average rate of return in the trading/services sector, and 8 firms with negative average rate of return. *Resorts* had the highest average rate of return of 15.53%. Whereas, *Mfcb* had the lowest average rate of return of –87.9%. The lagged difference term in Model 2 was significant at 10 % for 12 firms in trading/services sector, namely *Antah, Genting, Gkent, Johan, Magnum, Mechmar, Mphb, Muiind, Naluri, Nstp, Sarawak* and *Sime*. For 14 firms, the model with lagged difference term is selected as Model 3. The firms are *Antah, Genting, Gkent, Johan, Magnum, Mechmar, Mphb, Muiind, Mulpha, Naluri, Nstp, Sarawak, Sime* and *Tv3*. There were 2 firms with positive ADF for all the models. There were 26 firms with $\overline{R}^2$ that exceeds 0.1 in Model 1 and Model 3. There were 28 firms with $\overline{R}^2$ that exceeds 0.1 in Model 2. There was 1 firm with negative $\overline{R}^2$ for all the models. In contrast, another firm has negative $\overline{R}^2$ for Model 1, but positive $\overline{R}^2$ for the other two models. For *Kamuntg* and *TV3*, all the models are dynamically unstable. Inclusion of the lagged difference term shifted the lambda range of 2 firms from the state of stationary (and valid) to the state of stationary (but invalid) (*Gkent* and *Sarawak*). For more details on the lambda range, please refer to Table 4.3.3.3.

Table 4.2.9.1 Rates of return (R.O.R) and estimation results for companies in the trading/services sector

No.	Company	R.O.R	α_i			λ_i			YLR (Table 4.2.9.2)			ADF t-statistics			$\bar{R}^2$		
			M1	M2	M3	M1	M2	M3	M1	M2	M3	M1	M2	M3	M1	M2	M3
1	antah	0.0161	0.014	0.013	0.013	0.614	0.402	0.402	0.036	0.022	0.022	-1.687	-2.536	-2.536	0.124	0.322	0.322
2	bjgroup	0.0178	0.011	0.013	0.011	0.549	0.317	0.549	0.025	0.019	0.025	-1.799	-2.319	-1.799	0.147	0.223	0.147
3	bstead	0.0435	0.028	0.038	0.028	0.532	0.226	0.532	0.060	0.050	0.060	-1.752	-2.527	-1.752	0.137	0.276	0.137
4	eon	0.0856	0.028	0.027	0.028	0.723	0.668	0.723	0.101	0.080	0.101	-1.426	-1.644	-1.426	0.074	0.094	0.074
5	genting	0.1255	0.076	0.118	0.118	0.461	0.114	0.114	0.142**	0.133***	0.133***	-2.054	-3.175	-3.175	0.199	0.425	0.425
6	gkent	0.0414	0.031	0.051	0.051	0.272	-0.116	-0.116	0.043	0.045**	0.045**	-2.500	-3.331	-3.331	0.288	0.431	0.431
7	granite	-0.0486	-0.032	-0.033	-0.032	0.342	0.384	0.342	-0.049	-0.054	-0.049	-2.399	-1.645	-2.399	0.268	0.195	0.268
8	johan	0.0107	0.008	0.011	0.011	0.540	0.210	0.210	0.018	0.014	0.014	-1.874	-3.306	-3.306	0.162	0.454	0.454
9	kamuntg	-0.0512	-0.104	-0.088	-0.104	1.732	1.193	1.732	0.141	0.458	0.141	0.764	0.165	0.764	-0.033	-0.069	-0.033
10	kemas	0.0234	0.012	0.015	0.012	0.618	0.427	0.618	0.033	0.026	0.033	-1.631	-2.172	-1.631	0.113	0.200	0.113
11	kfc	0.0436	0.024	0.031	0.024	0.540	0.327	0.540	0.052	0.046	0.052	-1.798	-2.288	-1.798	0.147	0.219	0.147
12	kkellas	0.0784	0.046	0.058	0.046	0.490	0.390	0.490	0.090*	0.096*	0.090*	-2.078	-1.981	-2.078	0.203	0.175	0.203
13	magnum	0.0699	0.078	0.129	0.129	-0.045	-0.669	-0.669	0.075**	0.078***	0.078***	-2.948	-4.123	-4.123	0.372	0.560	0.560
14	malakof	0.0427	0.023	0.031	0.023	0.592	0.339	0.592	0.056	0.046	0.056	-1.646	-2.387	-1.646	0.116	0.253	0.116
15	mas	0.0272	0.007	0.011	0.007	0.686	0.558	0.686	0.023	0.024	0.023	-1.496	-1.938	-1.496	0.087	0.159	0.087
16	mechmar	-0.0033	0.000	0.001	0.001	0.423	0.118	0.118	-0.001	0.001	0.001	-2.158	-3.019	-3.019	0.220	0.375	0.375
17	mfcb	-0.8790	-0.421	-0.671	-0.421	0.551	0.319	0.551	-0.938	-0.986	-0.938	-1.864	-2.595	-1.864	0.160	0.301	0.160
18	mmceng	0.0316	0.023	0.039	0.023	0.320	0.018	0.320	0.034	0.040	0.034	-2.478	-2.926	-2.478	0.283	0.357	0.283
19	mphb	0.0089	0.012	0.014	0.014	0.472	0.131	0.131	0.023	0.017	0.017	-2.078	-3.335	-3.335	0.203	0.451	0.451
20	mrcb	-0.0391	-0.039	-0.044	-0.039	-0.082	-0.725	-0.082	-0.036	-0.026	-0.036	-1.950	-2.494	-1.950	0.177	0.262	0.177
21	muiind	0.0066	0.008	0.009	0.009	0.558	0.319	0.319	0.018	0.013	0.013	-1.805	-2.635	-2.635	0.148	0.321	0.321
22	mulpha	-0.0574	-0.042	-0.016	-0.016	0.039	0.243	0.243	-0.043	-0.021	-0.021	-3.561	-2.150	-2.150	0.473	0.630	0.630
23	mycom	0.0115	0.001	0.003	0.001	0.485	0.481	0.485	0.003	0.006	0.003	-1.435	-0.933	-1.435	0.075	-0.023	0.075
24	naluri	0.0225	0.011	0.016	0.016	0.661	0.481	0.481	0.031	0.031	0.031	-1.575	-2.355	-2.355	0.102	0.285	0.285
25	nstp	0.0579	0.023	0.040	0.040	0.613	0.396	0.396	0.060	0.066*	0.066*	-1.691	-2.723	-2.723	0.125	0.364	0.364
26	pmind	0.0034	-0.001	-0.001	-0.001	0.713	0.660	0.713	-0.005	-0.003	-0.005	-1.296	-1.203	-1.296	0.050	-0.042	0.050
27	resorts	0.1553	0.122	0.152	0.122	0.252	0.081	0.252	0.163**	0.165**	0.163**	-2.971	-2.607	-2.971	0.376	0.349	0.376
28	sarawak	0.0431	0.035	0.051	0.051	0.342	-0.085	-0.085	0.053	0.047**	0.047**	-2.432	-3.524	-3.524	0.274	0.465	0.465

No.	Company	R.O.R	α_i			λ_i			YLR (Table 4.2.9.2)			ADF t-statistics			$\overline{R}^2$		
			M1	M2	M3	M1	M2	M3	M1	M2	M3	M1	M2	M3	M1	M2	M3
29	sime	0.0546	0.033	0.048	0.048	0.529	0.262	0.262	0.070	0.065*	0.065*	-1.854	-2.760	-2.760	0.158	0.344	0.344
30	sja	0.0171	0.005	0.007	0.005	0.697	0.568	0.697	0.016	0.017	0.016	-1.455	-1.921	-1.455	0.079	0.159	0.079
31	time	-0.0229	-0.014	-0.015	-0.014	0.198	0.218	0.198	-0.018	-0.019	-0.018	-2.816	-1.505	-2.816	0.348	0.276	0.348
32	tri	-0.0148	-0.013	-0.019	-0.013	-0.064	-0.471	-0.064	-0.012	-0.013	-0.012	-3.697	-3.347	-3.697	0.494	0.518	0.494
33	tv3	0.0310	-0.041	-0.034	-0.034	1.184	1.020	1.020	0.221	1.691	1.691	0.667	0.065	0.065	-0.045	0.046	0.046
	mean	-0.0014	-0.001	0.000	0.005	0.501	0.267	0.385	0.015	0.066	0.059	-1.902	-2.339	-2.246	0.185	0.283	0.266

The significance status of the long-run equilibrium profitability (YLR) for 4 firms have changed due to inclusion of a lagged difference term, namely *Gkent, Nstp, Sarawak* and *Sime*. All of them have changed from insignificant abnormal profits to significant abnormal profits. Two of them have coincidental effect of having changes in both the lambda range and significance of YLR, namely *Gkent and Sarawak*. For more details on the significance of YLR, please refer to Table 4.2.9.2 and Table 4.3.2.1.

Table 4.2.9.2: Number of firms with significant long-run equilibrium profitability (YLR) for trading/services sector

	Model 1	**Model 2**	**Model 3**
*** Significant at 1 %	-	2 firms (Genting, Magnum)	2 firms (Genting, Magnum)
** Significant at 5 %	3 firms (Genting, Magnum, Resorts)	3 firms (Gkent, Resorts, Sarawak)	3 firms (Gkent, Resorts, Sarawak)
* Significant at 10 %	1 firm (Kkellas)	3 firms (Kkellas, Nstp, Sime)	3 firms (Kkellas, Nstp, Sime)
Not significant	29 firms	25 firms	25 firms

Of the 33 firms included in the analysis, the long-term profitability of 25 to 29 firms is not significant. Two firms, *Genting* and *Magnum*, indicate strong evidence of abnormal profits at 1% level. Other firms that also experience abnormal profits are *Resorts, Kkellas, Gkent, Sarawak, Nstp* and *Sime*.

4.3 Inter-Sectoral Comparison

4.3.1 Average sectoral regression results

The regression estimations for every firms in a sector are averaged to obtain the results in Table 4.3.1.1 for 9 sectors. The consumer products sector had the highest average rate of return of 5.64%. On the other hand, the hotels sector had the lowest average rate of return of –5.3%.

As for the degree of persistence, the ranking of the highest and lowest value was not consistent among different models. For Model 1, the consumer products sector emerged as the sector with highest persistence in profitability. This suggests that the consumer products sector was the least competitive sector in Malaysia. On the contrary, the properties sector turns out to have the lowest persistence in profitability. This suggests that the properties sector was the most competitive sector in Malaysia. For Model 2, the mining sector surprisingly emerged as the sector with the highest persistence. Analysing further, the firm *Kuchai* has an extremely high value of lambda, which attributed to this situation. Furthermore, the sample size of the mining sector is relatively small. The finance sector turn out to have the lowest persistence in profitability. For Model 3, the consumer products sector emerged to have the highest profitability persistence, and the degree of persistence is slightly lower than that for Model 1. In contrast, the finance sector turn out to have the lowest persistence, which is the same as Model 2.

For Model 1, the average degree of persistence ranges from 0.2344 to 0.5401 for the 9 sectors. This implies that these sectors will need about 2 to 4 years

Table 4.3.1.1 Average regression results for the 9 sectors

Sector	No.of firms	Mean R.O.R.	Alpha (α)			Lambda (λ)			YLR		
			M1	M2	M3	M1	M2	M3	M1	M2	M3
Construct	8	0.0159	0.0005	0.0002	0.0005	0.4190	0.2020	0.4190	0.0003	0.0510	0.0003
Consumer	26	0.0564	-0.0013	-0.0039	-0.0027	0.5401	0.4714	0.5383	-0.0097	0.5879	0.5918
Finance	12	-0.0103	-0.0026	-0.0023	-0.0032	0.3532	0.1098	0.1082	0.0104	-0.0126	0.0040
Hotel	3	-0.0530	0.0002	-0.0003	0.0002	0.4937	0.3515	0.4937	0.0004	-0.0002	0.0004
Industrial	39	0.0275	-0.0006	0.0011	0.0030	0.3057	0.1285	0.2998	0.0029	0.0150	0.0063
Mining	4	0.0020	0.0003	-0.0069	0.0003	0.3296	0.9277	0.3296	-0.0014	-0.0477	-0.0014
Plant	27	0.0376	0.0020	0.0121	0.0041	0.3269	0.3162	0.2960	-0.0756	-0.0031	-0.0733
Property	37	-0.0247	-0.0005	0.0014	0.0002	0.2344	0.1362	0.2368	0.0361	-0.1755	0.0380
Trading	33	-0.0014	-0.0014	0.0001	0.0048	0.5011	0.2668	0.3849	0.0147	0.0659	0.0588

for a sector with 10% excess profits to deplete until 1%.[5] For Model 2, the average value ranges from 0.1098 to 0.9277. This implies that these sectors will need about 1 to 31 years. If mining sector is omitted, these sectors will need about 1 to 3 years. For Model 3, the average value ranges from 0.1082 to 0.5383, and about 1 to 4 years are needed.

As for the long run equilibrium profitability (YLR), the ranking of the biggest and smallest deviation of the YLR value from zero is not consistent among different models. The sign of YLR indicates profits or losses for the respective sector. For Model 1, the YLR for the construction sector has the smallest deviation from zero. This suggests that an average firm in the construction sector barely earns no excess profits in the long run. On the other hand, the plantation sector's YLR had the biggest negative deviation from zero. This suggests that an average firm in the plantation sector may suffer substantial losses in the long run. For Model 2, the YLR for the hotels sector has the smallest deviation from zero. On the contrary, the YLR for the consumer products sector has the biggest positive deviation from zero, which is considered extremely huge. The firm named *Bat* has a lambda value of very close to one (that is 0.9967) and thus gives rise to this situation. Given $YLR = \frac{\alpha}{1-\lambda}$, as the lambda value becomes closer to one, the YLR increases dramatically. In this case, the YLR for *Bat* stood at 15.9457 in Model 2 and Model 3. The YLR for the other firms is in the range of ± 0.25. This explaination applies to Model 3 as well. For Model 3, the YLR for construction sector has the smallest deviation from zero. In contrast, the

[5] The number of years is approximately $N \approx -1 / (\log_{10} \text{ of } \lambda)$

consumer products sector has the biggest deviation from zero for YLR, like the case of Model 2.

4.3.2 The long-run equilibrium profitability

The theoretical argument in Chapter 3 suggests that the competition process will force the level of abnormal profits for each firm towards the long-run equilibrium profit (which is zero).

Table 4.3.2.1 shows that the variation in the number of significant YLR among the 3 different models is relatively small. It is observed that Model 2 gives the highest hit for findings of insignificant YLR. Conversely, Model 3 gave the lowest hit for findings of insignificant YLR.

The percentage of firms that show significant positive long-run profitability is 16.4%, 16.9% and 19% for Model 1, Model 2 and Model 3 respectively. The percentage of firms that show significant negative long-run profitability is 3.2%, 1.6% and 1.6% for the 3 models respectively. On average, about 80% of the firms included in the analysis do not experience long-term abnormal profits.

The properties sector has the highest percentage of firms with significant long-term abnormal profits for Model 1 and Model 3. The industrial products sector ranks second in terms of percentage of firms in this category for Model 1 and ranks third for Model 3. The trading/services sector is first for Model 2 and second for Model 3. On the other hand, the consumer products sector has the highest percentage of firms with significant long-term abnormal loss.

Table 4.3.2.1 Distribution for the significance of YLR

Model	Sector	Significance of YLR			Total
		Negative	Insignificant	Positive	
M1	Construct	0 (0%)	8 (100%)	0 (0%)	8
	Consumer	4 (15.38%)	20 (76.93%)	2 (7.69%)	26
	Finance	0 (0%)	10 (83.33%)	2 (16.67%)	12
	Hotel	0 (0%)	3 (100%)	0 (0%)	3
	Industrial	1 (2.56%)	30 (76.92%)	8 (20.52%)	39
	Mining	0 (0%)	4 100%)	0 (0%)	4
	Plant	1 (3.7%)	22 (81.48%)	4 (14.82%)	27
	Property	0 (0%)	26 (70.27%)	11 (29.73%)	37
	Trading	0 (0%)	29 (87.88%)	4 (12.12%)	33
	Total	**6 (3.17%)**	**152 (80.93%)**	**31 (16.4%)**	**189**
M2	Construct	0 (0%)	7 (87.5%)	1 (12.5%)	8
	Consumer	3 (11.54%)	21 (80.77%)	2 (7.69%)	26
	Finance	0 (0%)	10 (83.33%)	2 (16.67%)	12
	Hotel	0 (0%)	3 (100%)	0 (0%)	3
	Industrial	0 (0%)	32 (82.05%)	7 (17.95%)	39
	Mining	0 (0%)	4 (100%)	0 (0%)	4
	Plant	0 (0%)	23 (85.19%)	4 (14.81%)	27
	Property	0 (0%)	29 (78.38%)	8 (21.62%)	37
	Trading	0 (0%)	25 (75.76%)	8 (24.24%)	33
	Total	**3 (1.59%)**	**154 (81.48%)**	**32 (16.93%)**	**189**
M3	Construct	0 (0%)	8 (100%)	0 (0%)	8
	Consumer	3 (11.54%)	21 (80.77%)	2 (7.69%)	26
	Finance	0 (0%)	10 (83.33%)	2 (16.67%)	12
	Hotel	0 (0%)	3 (100%)	0 (0%)	3
	Industrial	0 (0%)	30 (76.92%)	9 (23.08%)	39
	Mining	0 (0%)	4 (100%)	0 (0%)	4
	Plant	0 (0%)	23 (85.19%)	4 (14.81%)	27
	Property	0 (0%)	26 (70.27%)	11 (29.73%)	37
	Trading	0 (0%)	25 (75.76%)	8 (24.24%)	33
	Total	**3 (1.59%)**	**150 (79.37%)**	**36 (19.04%)**	**189**

4.3.3 Test of unit root in panel data

Table 4.3.3.1 reports the results on the 'standardised t-bar test' proposed by Im et al. (1997). The column on computed average ADF statistic indicates the standardised t-bar statistic for all the 3 models. The column on critical value indicates the interpolated simulated critical values extracted from Table 4: Im et al. (1997), for the sample size of this study.

Table 4.3.3.1 Test of unit root in panel data

Sector	Average ADF Statistic			Critical value	
	Model 1	Model 2	Model 3	5%	10%
Construct	-1.9524	-1.2258	-1.9524	-2.0800	-1.9533
Consumer	-1.7471	-1.7968*	-1.7894*	-1.8264	-1.7572
Finance	-2.3980**	-1.7285	-2.6174**	-1.9800	-1.8720
Hotel	-2.1279*	-2.2788**	-2.1279*	-2.2100	-2.0600
Industrial	-2.6359**	-1.7930**	-2.5362**	-1.7796	-1.7208
Mining	-2.4136**	-0.7528	-2.4136**	-2.2100	-2.0600
Plant	-2.4120**	-1.4177	-2.2671**	1.8228	-1.7544
Property	-2.6389**	-2.0440**	-2.6270**	-1.7868	-1.7264
Trading	-1.9023**	-2.3386**	-2.2464**	-1.8012	-1.7376

* indicates significant at level of 10%
** indicates significant at level of 5%

These findings shall be summarised and tabulated as follows:

The row *REJECT H_0 AT 5 %* indicates that we reject the null hypothesis of unit root at 5%. The row *REJECT AT H_0 10 %* indicates that we reject the null hypothesis of unit root at 10%. The row named as *DON'T REJECT H_0* indicates that we cannot reject the null hypothesis of unit root at 10%.

Based on Table 4.3.3.2, we can strongly reject the null hypothesis for the industrial products sector, properties sector and trading/services sector as a result from the cross-matching among the 3 models. This implies that it can be assured that these 3 sectors do not have persistent abnormal profits. In contrast, the null

hypothesis cannot be rejected for the construction sector based on all the 3 models. This implies that it can be assured that the abnormal profits are persistent for the construction sector. It must be emphasized, however, that the test statistics for Model 1 and Model 3 in the case of the construction sector are very close to the 10% critical value. As for the remaining 5 sectors, there are evidence to show that abnormal profits are not persistent although this evidence depends on the model used.

Table 4.3.3.2 Summary of results for unit root testing

STATUS	MODEL 1	MODEL 2	MODEL 3
REJECT H_0 AT 5 %	1) Finance 2) Industial 3) Mining 4) Plant 5) Property 6) Trading	1) Hotel 2) Industrial 3) Property 4) Trading	1) Finance 2) Industrial 3) Mining 4) Plant 5) Property 6) Trading
REJECT H_0 AT 10 %	1) Hotel	1) Consumer	1) Consumer 2) Hotel
DON'T REJECT H_0	1) Construct 2) Consumer	1) Construct 2) Finance 3) Mining 4) Plant	1) Construct

As discussed in Chapter 3, the regression results are dynamically stable for the range of lambda values $0 < \lambda_i < 1$. Table 4.3.3.3 shows that Model 1 produced the most satisfactory results with the highest number of firms that complies with a stable process. In contrast, Model 2 produced the most unsatisfactory results with the lowest number of firms that complies with this stable process.

These findings imply that Augmented Dickey-Fuller regression model without the lagged difference term is generally the best model to describe the dynamics of competition within each sector using time series analysis. Conversely, the Augmented Dickey-Fuller regression model with the lagged difference term is the worst model. In terms of process stability, the rank of performance for each model is consistent. Model 1 always outperforms Model 3 that in turn outperforms Model 2. Thus, inferences in this study would be best if made based on Model 1 or Model 3.

Table 4.3.3.3 Distribution for the range of lambda values

Model	Sector	Range of lambda values				Total
		$\lambda \leq -1$	$-1 < \lambda \leq 0$	$0 < \lambda < 1$	$\lambda \geq 1$	
M1	Construct	0	0	8	0	8
	Consumer	0	2	23	1	26
	Finance	0	2	10	0	12
	Hotel	0	0	3	0	3
	Industrial	0	4	35	0	39
	Mining	0	0	4	0	4
	Plant	0	4	23	0	27
	Property	0	4	31	2	37
	Trading	0	3	28	2	33
	Total	**0**	**19**	**165**	**5**	**189**
M2	Construct	0	4	3	1	8
	Consumer	0	4	21	1	26
	Finance	0	6	5	1	12
	Hotel	0	0	3	0	3
	Industrial	1	11	27	0	39
	Mining	0	0	3	1	4
	Plant	1	8	15	3	27
	Property	0	17	20	0	37
	Trading	0	5	26	2	33
	Total	**2**	**55**	**123**	**9**	**189**
M3	Construct	0	0	8	0	8
	Consumer	0	2	23	1	26
	Finance	0	5	7	0	12
	Hotel	0	0	3	0	3
	Industrial	0	5	34	0	39
	Mining	0	0	4	0	4
	Plant	1	3	23	0	27
	Property	0	4	31	2	37
	Trading	0	5	26	2	33
	Total	**1**	**24**	**159**	**5**	**189**