CHAPTER FOUR

RESEARCH RESULTS

4.1 Performance of Non-Financial Companies

Table 1 presents the results on the performance of a sample of non-financial companies (both low sales growth and high sales growth companies) in Malaysia. Based on the 3-paired samples, during the pre-crisis period, the capital gains yield (cgy) was -27.21 per cent but it then increased to +1.63 per cent (during the crisis period). However, the non-financial companies in general registered a capital gains yield of -25.59 per cent over the period1996-1998. This signifies to us that the non-financial companies did not perform well even before the crisis period.

It has also been noted that the performance of non-financial companies between the pre-crisis and crisis periods is significantly different (0.001) at significance level 0.05.

However, when their performance in the pre-crisis period is compared against the period 1996-1998, it is not significantly different (0.813) at 0.05. In contrast, when their performance in the crisis period is compared against the period 1996-1998, it becomes very significant (0.000) at significance level 0.05.

Table1 : Mean of capital gains of the non-financial companies.

Pair	*Periods*	*Mean*	*N*	*Std Dev*	*df*	*Significance*
Pair 1	Pre-crisis	-0.2721	60	0.5539	59	0.001
	Crisis	+0.0163	60	0.5299		
Pair 2	Pre-crisis	-0.2721	60	0.5539	59	0.813
	1996-1998	-0.2559	60	0.8717		
Pair 3	Crisis	+0.0163	60	0.5299	59	0.000
	1996-1998	-0.2559	60	0.8717		

- 1996-1998 ~ pre-crisis and crisis
- Significance level at 0.05

In light with this, we shall now take a closer look at two different groups, comprising of low sales growth (**LSG**) companies and high sales growth (**HSG**) companies. Table 2 presents the results on the performance of LSG companies. LSG companies first registered a cgy of -20.19 per cent (pre-crisis), then showed a significant improvement during the crisis period as their cgy on average was +8.66 per cent. Nonetheless, over the period 1996-1998 their cgy was still unfavourable (-11.53 per cent).

Table 2: Mean of the capital gains of the low sales growth companies.

Pair	*Periods*	*Mean*	*N*	*Std Dev*	*df*	*Significance*
Pair 1	Pre-crisis	-0.2019	30	0.5490	29	0.044
	Crisis	+0.0866	30	0.4853		
Pair 2	Pre-crisis	-0.2019	30	0.5490	29	0.337
	1996-1998	-0.1153	30	0.7132		
Pair 3	Crisis	+0.0866	30	0.4853	29	0.053
	1996-1998	-0.1153	30	0.7132		

- 1996-1998~ pre-crisis and crisis
- Significance level at 0.05

Unlike the LSG companies, the HSG companies registered a negative cgy for all the periods; pre-crisis, crisis and 1996-1998. Based on the findings as presented in Table 3, a slight improvement could be seen in the crisis period. But then, their performance over the period 1996-1998 was far below (-39.64 per cent) than that of the LSG companies (-11.53 per cent). This however was mainly caused by their poor performance during the pre-crisis period.

Table 3: Mean of capital gains of the high sales growth companies.

Pair	*Periods*	*Mean*	*N*	*Std Dev*	*df*	*Significance*
Pair 1	Pre-crisis	-0.3424	30	0.5591	29	0.006
	Crisis	-0.0540	30	0.5705		
Pair 2	Pre-crisis	-0.3424	30	0.5591	29	0.608
	1996-1998	-0.3964	30	0.9982		
Pair 3	Crisis	-0.0540	30	0.5705	29	0.002
	1996-1998	-0.3964	30	0.9982		

- 1996-1998~ pre-crisis and crisis
- Significance level at 0.05

Based on the results, we have come to know that the poor performance (in terms of capital gains) of the non-financial companies over the period 1996-1998 was mainly caused by an adverse result during the pre-crisis period. Similarly, for the LSG companies, the adverse result in terms of cgy (1996-1998) was also due to its poor performance during the pre-crisis period. But as for the HSG companies, their poor performance over the period 1996-1998 was further exacerbated by the effect of the crisis.

Table 4 reveals the performance in comparison between low sales growth and high sales growth companies with respect to the specified periods; pre-crisis, crisis and 1996-1998. At a glance, the performance of both groups (on a simultaneous comparison) is not significantly different at significance level 0.05 level with respect to pre-crisis, crisis and 1996-1998 periods. These results can justify the Hypothesis I in this study. As there are no significant differences, the null hypothesis is therefore not rejected.

Table 4: Mean of capital gains of low sales growth and high sales growth companies.

Period	Groups	N	Mean	Std Dev	F	Significance
Pre-crisis	LSG	30	-0.2019	0.5490	.020	0.889
	HSG	30	-0.3424	0.5591		
Crisis	LSG	30	+0.0866	0.4853	.198	0.658
	HSG	30	-0.0540	0.5705		
1996-1998	LSG	30	-0.1153	0.7132	.027	0.871
	HSG	30	-0.3964	0.9982		

- 1996-1998~ pre-crisis and crisis
- LSG ~ low sales growth companies
- HSG ~ high sales growth companies
- Significance level at 0.05

4.2 Shareholder Value Appreciation

Table 5 presents results on profitability measures in relation to shareholder value appreciation of low sales growth (LSG) and high sales growth (HSG) companies. As clearly shown in Table 5, there are no significant differences between LSG companies and HSG companies with respect to all the variables where the shareholder value appreciation is concerned.

Nonetheless, the level of mean scores when compared between the two groups is inconsistent with respect to a few variables. For instance, in terms of ROE, LSG companies offered 17 per cent but HSG companies offered only 12 per cent. On the other hand, HSG companies registered higher EPS of RM0.46 as compared to RM0.43 registered by LSG companies. Where the gearing ratio is concerned, the difference between the two groups is quite exposed (64 per cent and 21 per cent) but statistically, it is not significant at 0.05. As such, in relation to the hypothesis II, the null hypothesis is therefore not rejected.

Table 5: Mean of profitability measures of low sales growth and high sales growth companies.

Profitability measures	Groups	N	Mean	Std Dev	F	Significance
EPS	LSG	30	0.4297	0.4203	.892	0.349
	HSG	30	0.4577	0.6339		
Dividends	LSG	30	7.2563	6.7440	.447	0.507
	HSG	30	8.5977	10.2546		
Gearing Ratio	LSG	30	0.6370	2.2625	3.162	0.081
	HSG	30	0.2127	0.1483		
PE ratio	LSG	30	42.1437	43.9131	.193	0.662
	HSG	30	41.2583	54.6534		
ROE	LSG	30	0.1747	0.2354	2.040	0.159
	HSG	30	0.1223	0.0922		
Total Asset	LSG	30	3192	11548.56	2.263	0.138
	HSG	30	1193	1877.76		

Table 5:

- Significant level at 0.05
- LSG ~ low sales growth companies
- HSG ~ high sales growth companies

4.3 Relationship between ROE and other Profitability Measures.

For the regression analysis, two methods were adopted;

1. Enter Method
2. Stepwise Method

4.3.1 Enter Method

The regression is computed across the full set of predictors rather than on a 'one at a time basis', where;

ROE= Return on Equity
DPO= Dividends Payout (per cent)
GR= Gearing Ratio
TA= Total Asset
PER= Price/Earnings Ratio
EPS= Earnings Per Share

Table 6 shows the linear model obtained for the whole non-financial companies comprising of both low sales growth and high sales growth companies. Therefore the model could be derived as follows;

$$ROE = 0.0892 + 0.0030_{DPO} - 0.0035_{GR} - 3.08E\text{-}07_{TA} - 0.0005_{PER} + 0.134_{EPS}$$

Table 6: The linear model for the non-financial companies.

Model	Coefficients Beta (β)	Standardised Beta (β)	t	Significance
Constant	0.0892		2.441	0.018
Dividends	0.0030	.144	.834	0.408
Gearing ratio	-0.0035	-.031	-.246	0.807
Total asset	-3.08E-07	-.014	-.126	0.900
PE ratio	-0.0005	-.143	-1.105	0.274
EPS	0.134	.399	2.307	0.025

Dependent variable = ROE
Adjusted R square = 0.269
F-value = 5.349 (significant at 0.000)
Significance level at 0.05

The model as shown in Table 6 indicates that, ROE is significantly positively correlated to EPS, but not significantly correlated to dividends payout. Whereas, gearing ratio, asset and PE ratio are negatively correlated (but not significantly correlated) with ROE. The F-test is very significant at 0.05. However, the adjusted R square is 0.269, meaning only 26.9 per cent of the variation in ROE is explained by the model. The remaining 73.1 per cent of the variation in ROE is unexplained. This reveals that there must be other independent variables that have not been included in the study.

Meanwhile, Table 7 presents the findings of the regression analysis for the low sales growth companies. The table reveals that DPO and EPS are significantly positively correlated to ROE. The others are negatively correlated (not significantly) to ROE. The F-test is significant at 0.05. The linear model obtained is shown below.

$$ROE = -0.0165 + 0.0126_{DPO} + 0.0091_{GR} - 7.26E\text{-}07_{TA} + 0.0001_{PER} + 0.262_{EPS}.$$

Since the adjusted R square is 0.441, 44.1 per cent of the variation in ROE is explained by the model.

Table 7: The linear model for the low sales growth companies.

Model	Coefficients Beta (β)	Standardised Beta (β)	t	Significance
Constant	-0.0165		-.208	0.837
Dividends	0.0126	.362	2.185	0.039
Gearing ratio	0.0091	-.087	-.415	0.682
Total asset	-7.26E-07	-.036	-.254	0.802
PE ratio	0.0001	-.023	-.107	0.916
EPS	0.262	.468	2.737	0.011

Dependent variable = ROE
Adjusted R square = 0.441
F-value = 5.578 (significant at 0.002)
Significance level at 0.05

On the other hand, as indicated in Table 8, the linear model for the high sales growth companies could be written as follows;

$$Y = 0.0746 + 0.0001_{DPO} + 0.0826_{GR} - 7.82E\text{-}06_{TA} - 0.0003_{PER} + 0.1200_{EPS}.$$

Table 8 reveals, about 53.9 per cent of the variation in ROE is explained by the model. In addition, the F-test shows the model is significant at 0.05. It should be clearly noted that for the low sales growth companies, ROE is positively correlated (but not significantly correlated) with gearing ratio, PE ratio but significantly correlated to EPS and DPO. ROE is negatively correlated to asset but not significantly correlated. As for the high sales growth companies, ROE is positively correlated to DPO, gearing ratio (but not significant) and significantly correlated to EPS. In contrast, asset and PE ratio are negatively correlated (but not significant) with ROE.

However, regression model for high sales growth companies seems to be more representative in explaining the variation in ROE as compared to that of low sales growth companies.

Table 8: The linear model for high sales growth companies.

Model	Coefficients Beta (β)	Standardised Beta (β)	t	Significance
Constant	0.0746		2.357	0.027
Dividends	0.0001	-.014	-.052	0.959
Gearing ratio	0.0826	.133	.904	0.375
Total asset	-7.82E-06	-.159	-1.061	0.299
PE ratio	-0.0003	-.205	-1.516	0.143
EPS	0.1200	.824	2.895	0.008

Dependent variable = ROE
Adjusted R square = 0.539
F-value = 7.777 (significant at 0.000)
Significance level at 0.05

4.3.2 Stepwise Method

This method helps us to determine and select only the significantly correlated independent variables. Table 9 shows, the independent variables that are significantly correlated to ROE for each category of companies seems to be different (appendices). More clearly, as for the low sales growth companies, ROE is significantly correlated to EPS and DPO (refer to Appendix 2) but where the high sales growth companies are concerned, ROE is significantly correlated only to EPS (refer to Appendix 3).

However, where the whole non-financial companies are concerned, only EPS is significantly correlated to ROE (refer to Appendix 4). Thus in relation to the Hypothesis III, the null hypothesis is therefore rejected as the pattern of relationship involving ROE and other profitability measures is different between the two groups.

Based on the findings on the Table 9, it could be interpreted that for low sales growth companies, a RM1 increase in EPS would result in a RM0.25 increase in ROE. For the high sales growth companies, a RM1 increase in EPS would result in only RM0.11 increase in ROE. However, it should be noted that the use of EPS alone is more useful for high sales growth companies as it explains 52.1 per cent of the variation in ROE. The significance level remains at 0.05.

Table 9: Significantly correlated independent variables under Stepwise Method

Bases	LSG and HSG	LSG	HSG
Significant Variable (s)	EPS	EPS DPO	EPS
F-value significance	24.051 0.000	15.013 0.000	32.527 0.000
Adjusted R square	0.281	0.491	0.521
Model	Y= 0.0678 + 0.182	Y=-0.0333+ 0.253 + 0.0137	Y= 0.073 + 0.107

LSG ~ Low Sales Growth Companies
HSG ~ High Sales Growth Companies
Significance level at 0.05

Table 10 shows regression results based on the Stepwise method by excluding the PE ratio (appendices). For this purpose, the dependent variable is still the ROE but the independent variables are DPO, gearing ratio, asset and EPS. The findings in the Table 10 are the same as shown in the Table 9.

Thus, it can be concluded that even in the absence of PE ratio, the regression models for both low sales growth and high sales growth companies remain *'uninterrupted'*. As such, the null hypothesis of the Hypothesis IV is therefore rejected.

Table 10: Significantly correlated independent variables Under Stepwise Method without the PE ratio.

Bases	LSG and HSG	LSG	HSG
Significant Variable (s)	**EPS**	**EPS** **DPO**	**EPS**
F-value Significance	**24.051** **0.000**	**15.013** **0.000**	**32.527** **0.000**
Adjusted R square	**0.281**	**0.491**	**0.521**
Model	**Y= 0.0678 + 0.182**	**Y=-0.0333+0.253 + 0.0137**	**Y= 0.073 + 0.107**

LSG ~ Low Sales Growth Companies
HSG ~ High Sales Growth Companies
Significance level 0.05

In contrast, as presented in Table 11, if we exclude EPS but include PE ratio, the significantly correlated independent variables chosen as compared to those in Table 10 are different. However, the same variable that is DPO becomes the only variable significantly correlated to ROE for both groups in the absence of the EPS (refer to Appendix 5 and 6). Thus, the null hypothesis of the hypothesis V is therefore not rejected.

In addition to the above, it should be understood that in the absence of EPS, the regression models for both low sales growth and high sales growth companies tend to become weak (34.6 per cent and 38.9 per cent respectively as compared to 49.1 per cent and 52.1 per cent in the Table 10).

Table 11: Significantly correlated independent variables under the Stepwise Method - Without EPS

Bases	LSG and HSG	LSG	HSG
Significant Variable (s)	DPO	DPO	DPO
F-value Significance	18.036 0.000	16.326 0.000	19.481 0.000
Adjusted R square	0.224	0.346	0.389
Model	Y= 0.0684 + 0.0101	Y= 0.0209 + 0.0212	Y= 0.0728 + 0.0058

LSG ~ Low Sales Growth Companies
HSG ~ High Sales Growth Companies
Significance level 0.05