CHAPTER 4: RESEARCH RESULTS

4.1 Summary Statistics of Sample Companies

The companies that were analysed in this study made up about 14% out of the total companies that are listed in KLSE, either on the Main Board or Second Board. The following table shows the mean and median values of the various variables that were used for the five-year period of study.

Table 1: Sample Summary Statistics

	1995		1996		1997		1998		1999	
	Mean	Median	Mean	Median	Mean	Median	Mean	Median	Mean	Median
ROE (%)	13.15	12.02	8.59	9.74	10.48	10.64	23.00	2.45	-168.28	0.71
TSR (%)	-	-	43.65	19.00	30.74	13.02	-65.61	-71.17	16.49	-10.04
Turnover Growth (%)	53.64	20.18	30.42	15.32	25.95	15.08	46.35	6.97	-17.20	-19.46
Book Debt / Equity Ratio	1.69	0.92	2.08	0.94	2.10	1.11	1.40	1.17	6.91	1.05
Market Debt/Equity Ratio	0.80	0.36	0.89	0.40	0.78	0.37	3.31	1.60	3.34	1.64
Dividend Payout (%)	24.17	21.88	24.25	20.63	23.86	19.27	28.31	0.00	10.98	0.00
Dividend Yield (%)	2.13	1.71	1.69	1.35	1.57	1.20	2.33	1.52	1.57	0.40
EP Ratio	6.05	5.19	4.07	3.96	5.04	4.52	-13.35	2.81	-35.85	-0.54
MKTBKEQ Ratio	2.83	2.32	3.44	2.34	4.05	2.58	1.34	0.69	3.09	0.84

Note: For TSR, the period 1995 – 1996 corresponds to year 1996 and so on.

4.2 Analysis of Relationships between Dependent and Independent Variables using Paired-Samples t-Test

A simple analysis was first conducted to gauge any significant relationships between the shareholder value proxies and the variables on corporate performance, capital structure or financing policy, dividend policy, and growth opportunities. The results of the *paired-sample t-test* analysis are shown in Table 2 and Table 3 for the shareholder proxies ROE and TSR respectively. A significance level of 0.05 is maintained.

Table 2: Testing for Relationship Significance between ROE and the Independent Variables (using paired-samples *t*-test)

PAIRING OF SAMPLES	SIGNIFICANCE VALUE (2 tailed)				
	1995	1996	1997	1998	1999
ROE – Corporate Performance	0.036*	0.004*	0.001*	0.559	0.136
ROE – Book Debt / Equity	0.000*	0.000*	0.000*	0.246	0.027*
ROE – Market Debt / Equity	0.000*	0.000*	0.000*	0.000*	0.000*
ROE – Dividend Payout	0.000*	0.000*	0.056	0.836	0.077
ROE – Dividend Yield	0.000*	0.037*	0.001*	0.372	0.094
ROE – EP Ratio	0.000*	0.000*	0.000*	0.017*	0.005*
ROE – MKTBKEQ	0.000*	0.000*	0.000*	0.204	0.026*

* Mean differences of paired samples significant at the 0.05 level (95% confidence interval).

Note: ROE was converted from percentages to ratios when tested with Financing Policy and Growth Opportunity Variables to ensure comparisons between like with like.

As can be seen from Table 2, the *t*-test analysis shows that ROE has significant relationships with corporate performance, and all or some of the financing policy, dividend policy and growth opportunity proxies in the first three periods, from 1995 to 1997. From 1998 onwards, there was no significant relationships between ROE, and the corporate performance and dividend policy variables. This could be due to the after effects of the mid-1997 economic crisis. However, significant relationships still existed for the financing policy and growth opportunity variables, specifically for *the market debt/ equity* and *earnings price (EP)* ratios for all five years.

Table 3: Testing for Relationship Significance between TSR and the Independent Variables (using paired-samples *t*-test)

PAIRING OF SAMPLES	SIGNIFICANCE VALUE (2 tailed)			
	1995 -1996	1996 - 1997	1997 - 1998	1998 -1999
TSR – Corporate Performance	0.277	0.531	0.001*	0.000*
TSR – Book Debt / Equity	0.000*	0.000*	0.011*	0.028*
TSR – Market Debt / Equity	0.032*	0.001*	0.000*	0.000*
TSR – Dividend Payout	0.044	0.452	0.000*	0.475
TSR – Dividend Yield	0.000*	0.000*	0.000*	0.037*
TSR – EP Ratio	0.000*	0.000*	0.024*	0.003*
TSR – MKTBKEQ	0.000*	0.000*	0.009*	0.019*

** Mean differences of paired samples significant at the 0.05 level (95% confidence interval).*

Note: TSR was converted from percentages to ratios when tested with Financing Policy and Growth Opportunity Variables to ensure comparisons between like with like.

For TSR (refer Table 3), significant relationships were found for this shareholder proxy with all the financing policy and growth opportunity proxies throughout the entire range of study. This was also true for one of the two dividend policy proxies, specifically the *dividend yield* variable. However significant mean differences were found in only one period (1997-1998) for *dividend payout*, the other dividend policy proxy used. With regard to corporate performance, any significance found was only from the 1997-1998 period onwards for the *turnover growth* variable. For the first two periods, the *t*-test showed no significant results for either *turnover growth* or *dividend payout.*

The significant relationships for both ROE and TSR with most of the independent variables throughout the period of study will enable a study of the shareholder value situation in relation to financing policy, dividend policy and growth opportunities in the pre- and post-crisis periods.

4.3 Analysis of Differences between the Level of the Independent Variables with respect to Shareholder Value using the One-Way Analysis of Variance (ANOVA)

The Independent variables were first arbitrarily divided into two levels of high and low (see Table 4 and 5), to enable comparison between the levels of financing policy, dividend policy and growth opportunities with the corresponding shareholder value level. Subsequently, ANOVA was used to determine if the mean level of shareholder value that resulted from the different levels of the independent variables were significant.

As reported in Table 6, no conclusive trend can be observed in the ROE of firms with either high or low turnover growth. Moreover, the ANOVA test showed no significance between the ROE mean values for firms with either levels of turnover growth. With regard to the *book debt/equity ratio*, from 1996 to 1999, the firms with a lower level of *book debt/ equity ratio* were found to have a higher ROE, and vice versa in 1995. However, the ROE was significantly ($p<0.05$) higher for firms with a low *book debt/equity ratio* only in the year 1998, while marginally significant ($p<0.10$) in 1999. The ANOVA test did not reveal any significant differences in ROE means for the other financing policy proxy, *market debt / equity* for all five years. This result was similarly seen for the *dividend payout* variable for all the five years studied. As for *dividend yield*, firms with a higher level of dividend yield had significantly ($p<0.05$) higher levels of ROE before the crisis (1995 and 1996), during the crisis (1997) and marginally significant ($p<0.10$) after the crisis in 1999. For

Table 4: Characteristics of the Independent Variables' Levels for the years 1995 to 1999.

Independent Variables	1995		1996		1997		1998		1999	
	Value Range		Value Range		Value Range		Value Range		Value Range	
	High	Low	High	Low	High	Low	High	Low	High	Low
Turnover Growth (%)	> 20.17	≤ 20.17	> 15.19	≤ 15.19	> 14.96	≤ 14.96	> 6.74	≤ 6.74	> -19.74	≤ -19.74
Book Debt Equity Ratio	> 0.91	≤ 0.91	> 0.93	≤ 0.93	> 1.10	≤ 1.10	> 1.16	≤ 1.16	> 1.04	≤ 1.04
Market Debt Equity Ratio	> 0.35	≤ 0.35	> 0.39	≤ 0.39	> 0.36	≤ 0.36	> 1.60	≤ 1.60	> 1.62	≤ 1.62
Dividend Payout (%)	> 21.41	≤ 21.41	> 20.31	≤ 20.31	> 19.15	≤ 19.15	> 0.00	≤ 0.00	> 0.00	≤ 0.00
Dividend Yield (%)	> 1.68	≤ 1.68	> 1.33	≤ 1.33	> 1.15	≤ 1.15	> 1.44	≤ 1.44	> 0.32	≤ 0.32
Earnings Price Ratio	> 5.18	≤ 5.18	> 3.963	≤ 3.963	> 4.45	≤ 4.45	> 2.71	≤ 2.71	> -0.61	≤ -0.61
Market to Book Value of Equity	> 2.31	≤ 2.31	> 2.31	≤ 2.31	> 2.56	≤ 2.56	> 0.692	≤ 0.692	> 0.84	≤ 0.84

Table 5: **Characteristics of the Independent Variables' Levels for Periods 1995 – 1996, 1996 – 1997, 1997 – 1998, and 1998 – 1999.**

Independent Variables	1995 - 1996		1996 - 1997		1997 - 1998		1998 - 1999	
	Value Range		Value Range		Value Range		Value Range	
	High	Low	High	Low	High	Low	High	Low
Turnover Growth (%)	> 15.19	≤ 15.19	> 14.96	≤ 14.96	> 6.74	≤ 6.74	> -19.74	≤ -19.74
Book Debt Equity Ratio	> 0.93	≤ 0.93	> 1.10	≤ 1.10	> 1.16	≤ 1.16	> 1.04	≤ 1.04
Market Debt Equity Ratio	> 0.39	≤ 0.39	> 0.36	≤ 0.36	> 1.60	≤ 1.60	> 1.62	≤ 1.62
Dividend Payout (%)	> 20.31	≤ 20.31	> 19.15	≤ 19.15	> 0.00	≤ 0.00	> 0.00	≤ 0.00
Dividend Yield (%)	> 1.33	≤ 1.33	> 1.15	≤ 1.15	> 1.44	≤ 1.44	> 0.32	≤ 0.32
Earnings Price Ratio	> 3.963	≤ 3.963	> 4.45	≤ 4.45	> 2.71	≤ 2.71	> -0.61	≤ -0.61
Market to Book Value of Equity (MKTBKEQ) Ratio	> 2.31	≤ 2.31	> 2.56	≤ 2.56	> 0.692	≤ 0.692	> 0.84	≤ 0.84

Table 6: **Differences between High and Low Levels of Independent Variables with respect to ROE (ANOVA analysis)**

Independent Variables	ROE Mean Values (%) for the Corresponding Levels of Independent Variables									
	1995		1996		1997		1998		1999	
	Low	High	Low	High	Low	High	Low	High	Low	High
Turnover Growth	14.41	11.89	10.42	6.76	7.92	13.03	39.85	6.15	-187.36	-149.20
Book Debt / Equity	10.76	15.54	9.60	7.58	12.25	8.71	78.75*	-32.75*	11.82	-348.38
Market Debt / Equity	14.04	12.27	12.44	4.74	9.92	11.03	18.31	27.69	-167.51	-169.06
Dividend Payout	12.14	14.17	3.18	14.00	8.57	12.38	30.58	14.83	-291.95	12.91
Dividend Yield	8.28*	18.03*	1.39*	15.79*	5.03*	15.93*	35.38	10.62	-342.72	6.16
EP Ratio	6.71*	19.60*	-1.39*	18.57*	2.01*	18.95*	31.25	14.75	-347.42	10.86
MKTBKEQ Ratio	11.22	15.08	9.22	7.96	11.97	8.99	66.79	-20.80	-0.16	-336.40

* ROE Mean Values that are significant at the 0.05 level (95% confidence interval).

Table 7: Differences between High and Low Levels of Independent Variables with respect to TSR (ANOVA analysis)

Independent Variables	TSR Mean Values (%) for the Corresponding Levels of Independent Variables							
	1995 - 1996		1996 - 1997		1997 - 1998		1998 - 1999	
	Low	High	Low	High	Low	High	Low	High
Turnover Growth	60.88	26.41	27.73	33.76	-68.72	-62.51	5.72	27.26
Book Debt / Equity	50.99	36.30	15.96*	45.54*	-61.96	-69.26	22.34	10.64
Market Debt / Equity	57.29	30.00	47.64*	13.85*	-57.49*	-73.73*	32.95*	0.03*
Dividend Payout	46.09	41.20	32.54	28.95	-74.12*	-56.44*	0.35*	40.13*
Dividend Yield	71.57*	15.72*	45.88*	15.62*	-73.09*	-58.13*	3.16	29.82
EP Ratio	67.75*	19.54*	46.54*	14.96*	-72.83*	-58.40*	3.93	29.05
MKTBKEQ Ratio	12.66*	74.63*	12.89*	46.60*	-73.37*	-57.86*	-3.45*	36.43*

* TSR Mean Values that are significant at the 0.05 level (95% confidence interval).

the *earnings price (EP) ratio*, firms with higher EP ratios were significantly ($p<0.05$) found to have higher ROE values for the pre crisis years of 1995 and 1996, up to the economic crash of 1997, and similarly marginally significant ($p<0.10$) higher values for 1999. This was contrary to what was expected because with regard to ROE as a shareholder proxy, it seemed that firms with low growth opportunities had created higher levels of shareholder value. No significant differences are found with respect to the *MKTBKEQ ratio.*

Table 7 provides the ANOVA results with TSR as the shareholder proxy. Similarly with ROE, no statistical significance was found in the different TSR mean values for the different levels of firm *turnover growth*. Negative results for both proxies could be an indication that producing good corporate performance, at least in terms of turnover growth need not necessarily correspond with what is good for shareholders. Evidence of firms with higher *book debt/equity ratio* having higher TSR levels was significant only in one period i.e. 1996 – 1997 thus not enabling any meaningful comparisons of pre- and post-crisis situations. The analysis of variance revealed significant ($p<0.05$) TSR mean differences for the different levels of *market debt/equity ratio* for three out of the four periods under study ranging from 1996 to 1999. However, as opposed to the *book debt/equity ratio*, the results indicate that firms with lower *market debt/equity ratios* had a higher TSR mean value, for all the three periods. With regard to dividend policy, the TSR mean value is significantly ($p<0.05$) lower for firms with higher *dividend yields* in the first two periods. In the crisis and post-crisis period of 1997 – 1998 and 1998 -1999, the trend was reversed when firms with higher dividend yields had a higher

TSR mean value. The reversal was significant ($p<0.05$) in the third period and marginally significant ($p<0.10$) in the fourth period. In the case of the other dividend policy proxy, it was found that firms' with higher *dividend payouts* had significantly ($p<0.05$) higher TSR mean values in the same two periods of 1997 – 1998 and 1998 – 1999. It seems that the firms with higher *dividend yields* and *dividend payouts* have higher levels of TSR in these last two periods of study. In the case of the firms' growth opportunities, the results for periods prior to the economic crisis, that is the 1995 – 1996 and 1996 – 1997 periods showed that firms with lower *EP ratios* thus higher growth opportunities had significantly ($p<0.05$) higher TSR mean values. This situation seem to have reversed after the first two periods when firms with higher *EP ratios* now had the higher TSR mean values in 1997 – 1998 ($p<0.05$) and 1998 – 1999 ($p<0.10$). However, when using *MKTBKEQ ratio* as the proxy for growth opportunities, the results were the same in all periods under study whether pre- or post-crisis situations. It was found that firms with better growth opportunities or higher *MKTBKEQ ratios* showed significantly ($p<0.05$) higher TSR mean values.

Overall comparison of the dependent variables of ROE and TSR shows that much more significant results were obtained when using TSR as the shareholder proxy. In using ROE, no significant results falling within the 95% confidence interval were found for all the different levels of *turnover growth*, *market debt/equity ratio*, *dividend payout* and the *MKTBKEQ ratio*. For TSR, this was the case only for *turnover growth*. This perhaps suggests that TSR would be the better proxy to use when measuring shareholder value creation.

4.4 Correlation Analysis of Independent Variables

Table 8(a –d) presents the correlations among the measures of financing policy, dividend policy and growth opportunities during the periods of 1995 – 1996, 1996 – 1997, 1997 –1998 and 1998 - 1999. It also shows the correlation between firm size and corporate performance.

Among the financing policy or capital structure measures, the *market debt/equity ratio* was positively related to the *book debt/equity ratio*. This positive correlation was significant ($p<0.01$) for the first three periods. This is as expected as both are more or less similar measures financing policy differing only in that one uses book value of equity while the other utilizes the market value of equity.

With regard to dividend policy, significant positive correlations (at least $p < 0.05$) were found for all periods with the exception of the 1996 – 1997 period. This is also expected, as both should measure dividend policy in a similar fashion.

For the growth opportunity measures, since the *EP ratio* is inversely related to growth opportunities (Chung and Charoenwong, 1991), it was expected to be negatively correlated to the *MKTBKEQ ratio*. Although the results did show a significant ($p<0.01$) negative correlation, it was only for the first period of study.

Table 8a: Correlation Matrix of Independent Variables in the Multiple Regression Model for the period 1995 - 1996

	Turnover Growth	Log (Total Assets)	Book Debt / Equity	Market Debt / Equity	Dividend Payout	Dividend Yield	EP Ratio	MKTBKEQ
Turnover Growth	-	0.055	0.057	0.101	-0.089	-0.128	0.190	-0.008
Log (Total Assets)	0.055	-	0.408**	0.536**	0.024	0.252**	0.287**	-0.311**
Book Debt / Equity	0.057	0.408**	-	0.737**	-0.153	-0.057	-0.076	0.324**
Market Debt / Equity	0.101	0.536**	0.737**	-	-0.093	0.072	0.089	-0.147
Dividend Payout	-0.089	0.024	-0.153	-0.093	-	0.573**	0.135	-0.016
Dividend Yield	-0.128	0.252**	-0.057	0.072	0.573**	-	0.458**	-0.182
EP Ratio	0.190	0.287**	-0.076	0.089	0.135	0.458**	-	-0.337**
MKTBKEQ	-0.008	-0.311**	0.324**	-0.147	-0.016	-0.182	-0.337**	-

** Correlation is significant at the 0.01 level (2-tailed)

* Correlation is significant at the 0.05 level (2-tailed)

Table 8b: Correlation Matrix of Independent Variables in the Multiple Regression Model for the period 1996 - 1997

	Turnover Growth	Log (Total Assets)	Book Debt / Equity	Market Debt / Equity	Dividend Payout	Dividend Yield	EP Ratio	MKTBKEQ
Turnover Growth	-	0.258**	0.257**	0.201*	0.231*	-0.114	0.065	0.045
Log (Total Assets)	0.258**	-	0.517**	0.674**	-0.043	0.262**	0.132	-0.304**
Book Debt / Equity	0.257**	0.517**	-	0.855**	-0.032	-0.089	0.007	0.222*
Market Debt / Equity	0.201*	0.674**	0.855**	-	-0.049	0.028	0.070	-0.135
Dividend Payout	0.231*	-0.043	-0.032	-0.049	-	0.115	-0.013	0.010
Dividend Yield	-0.114	0.262**	-0.089	0.028	0.115	-	0.252**	-0.190
EP Ratio	0.065	0.132	0.007	0.070	-0.013	0.252**	-	-0.170
MKTBKEQ	0.045	-0.304**	0.222*	-0.135	0.010	-0.190	-0.170	-

** Correlation is significant at the 0.01 level (2-tailed)
* Correlation is significant at the 0.05 level (2-tailed)

Table 8c: Correlation Matrix of Independent Variables in the Multiple Regression Model for the period 1997 - 1998

	Turnover Growth	Log (Total Assets)	Book Debt / Equity	Market Debt / Equity	Dividend Payout	Dividend Yield	EP Ratio	MKTBKEQ
Turnover Growth	-	-0.025	0.006	-0.028	-0.042	-0.024	-0.060	-0.006
Log (Total Assets)	-0.025	-	0.329**	0.580**	0.054	0.133	0.014	-0.033
Book Debt / Equity	0.006	0.329**	-	0.368**	0.011	0.021	0.179	0.463**
Market Debt / Equity	-0.028	0.580**	0.368**	-	-0.005	-0.098	-0.252**	-0.082
Dividend Payout	-0.042	0.054	0.011	-0.005	-	0.198*	0.086	0.041
Dividend Yield	-0.024	0.133	0.021	-0.098	0.198*	-	0.374**	0.053
EP Ratio	-0.060	0.014	0.179	-0.252**	0.086	0.374**	-	0.093
MKTBKEQ	-0.006	-0.033	0.463**	-0.082	0.041	0.053	0.093	-

** Correlation is significant at the 0.01 level (2-tailed)

* Correlation is significant at the 0.05 level (2-tailed)

Table 8d: Correlation Matrix of Independent Variables in the Multiple Regression Model for the period 1998 - 1999

	Turnover Growth	Log (Total Assets)	Book Debt / Equity	Market Debt / Equity	Dividend Payout	Dividend Yield	EP Ratio	MKTBKEQ
Turnover Growth	-	-0.021	0.061	-0.028	-0.086	0.122	0.242*	0.070
Log (Total Assets)	-0.021	-	-0.087	0.432**	0.153	0.104	0.077	-0.213*
Book Debt / Equity	0.061	-0.087	-	0.116	-0.062	-0.137	-0.054	0.922**
Market Debt / Equity	-0.028	0.432**	0.116	-	-0.165	-0.276**	-0.495**	-0.054
Dividend Payout	-0.086	0.153	-0.062	-0.165	-	0.354**	0.127	-0.031
Dividend Yield	0.122	0.104	-0.137	-0.276**	0.354**	-	0.254**	-0.093
EP Ratio	0.242*	0.077	-0.054	-0.495**	0.127	0.254**	-	-0.038
MKTBKEQ	0.070	-0.213*	0.922**	-0.054	-0.031	-0.093	-0.038	-

** Correlation is significant at the 0.01 level (2-tailed)

* Correlation is significant at the 0.05 level (2-tailed)

Any significant correlations between firm size, as measured using Log(Total Assets) and turnover growth the proxy for corporate performance was only determined for the period of 1996 - 1997. The value of correlation for this particular period was +0.258 ($p<0.01$). The other three periods showed no significant correlations. When firm size was compared to the financing policy variables, significant ($p<0.01$) positive correlations was found for all periods, with the exception of the *market debt/equity ratio* for the last period of study. Interestingly, firm size also had significant positive correlations with the *MKTBKEQ ratio* for all the periods under study.

4.5 Multiple Regression Analysis

A scatterplot matrix was initially created on the SPSS program to visually check if indeed any linear relationship existed between both the shareholder value proxies and the respective independent variables. Using this technique, regression analysis was ruled out for ROE, but not for TSR. The following linear model was analysed using multiple regression: -

$$Y = \alpha + \beta_1 X_1 + \beta_2 X_2 + \beta_3 X_3 + \beta_4 X_4 + \beta_5 X_5 + \beta_6 X_6 + \beta_7 X_7 + \beta_8 X_8 + \varepsilon$$

where,

Y	=	Shareholder Value (Total Shareholder Return)
X_1	=	Corporate Performance (Turnover Growth)
X_2	=	Firm Size (Log {Total Assets})
X_3	=	Book debt / equity ratio
X_4	=	Market debt / equity ratio
X_5	=	Dividend Payout
X_6	=	Dividend Yield
X_7	=	EP ratio
X_8	=	MKTBKEQ ratio
β_i	=	Regression Coefficient of X_i, i = 1, 2, 3……8.
α	=	Intercept
ε	=	Error term

The results of the multiple regression analysis are shown in Table 9.

Table 9: Multiple Regression Analysis where Coefficients for TSR are regressed on the Independent Variables

Dependent Variable	Intercept	TG	Lassets	BDE	MDE	DIVPO	DIVY	EP	MKTBKEQ	Adj. R^2	F-Value
TSR 1995 – 1996	307.615*	-0.218*	-33.826*	-14.029**	26.254**	-0.181	-11.051	2.956	15.735**	0.346	7.932**
TSR 1996 – 1997	-11.138	-0.027	2.408	-3.102	7.182	0.027	-5.387	0.084	7.303**	0.447	11.599**
TSR 1997 – 1998	-230.254**	0.0015	18.933**	-0.296	-2.136**	0.001	1.376*	0.028	0.836*	0.341	7.792**
TSR 1998 – 1999	-249.825*	0.188	33.670*	0.689	-6.306*	-0.116	-2.391	0.013	-1.968	0.101	2.470*

*$p < 0.05$

** $p < 0.01$

TG = Turnover Growth (%); Lassets = Log of Total Assets

BDE = Book Debt / Equity Ratio; MDE = Market Debt / Equity Ratio

DIVPO = Dividend Payout (%); DIVY = Dividend Yield (%)

EP = Earnings / Price Ratio; MKTBKEQ = Market Value / Book Value of Equity Ratio

The model proposed was developed with the main aim to determine any possible linear relationships that the shareholder proxy (TSR in this case) had to a firm's corporate performance, financing policy, dividend policy, and growth opportunities in the context of all the independent variables in the model. Its function towards this purpose has a more practical application rather than using the model for its ability to predict future shareholder value levels.

As can be seen from the second last column of Table 9, the adjusted R^2 values for the models in all four periods are 0.346 (1995 – 1996), 0.447 (1996 – 1997), 0.341 (1997 – 1998), and 0.101 (1998 – 1999). This meant that the model did not explain more than 50% of the variations in shareholder value in all of the periods examined. This would indicate a reasonable low explanatory power of the model. Other independent variables need to be determined and included in order to improve the coefficient of determination, hence the explanatory power of the model.

The strength of the linear relationships among the independent variables in the model or multicollinearity of the data was tested using procedures laid out by Norusis (1999). No multicollinearity problems among the independent variables of the model were found because based on the SPSS collinearity diagnostics, no independent variable had a tolerance level less than 0.10.

The results show that firm size is negatively related to TSR in the first period (1995 – 1996). From the economic crisis onwards in the periods of 1997 – 1998 and 1998 – 1999, this relationship had reversed with firms having a positive relationship between TSR and firm size, and increasingly so. Turnover growth was found to have to negative relationship with TSR but this was significant in only the first period.

When the regression results for the financing policy variables are observed, it is noticed that for the period leading up to the crisis in 1995 – 1996, market debt/equity was significantly positively related to TSR. In the last two periods of 1997 – 1998 and 1998 –1999 this relationship was reversed to a negative one. No significant relationships were found in the second period. For the book debt/equity ratio, the only significant relationship that was determined occurred in the first period and it was negatively related to TSR.

For dividend policy, the results for dividend payout were insignificant for all four periods analysed. The dividend yield variable showed a slightly better relationship with TSR but this was significant only in the third period (1997 – 1998). Here the relationship was of a positive nature.

The results also show that a significant positive relationship between the MKTBKEQ ratio and TSR for the first three periods, but the coefficient value of this association was steadily decreasing. The results for the EP ratio were insignificant for all periods concerned.