

CHAPTER 8

RESULTS OF THE FIRST EMPIRICAL STUDY

8.1 Background to hypothesis formulation

The aim of the research is firstly, to test the hypothesis that the extent of voluntary information disclosure in annual and interim reports of listed industrial companies on the Johannesburg Stock Exchange is associated with structural and performance characteristics of companies. Secondly, by providing justification for the inclusion of voluntary information in corporate reports, the object is to extend the traditional mandatory financial reporting framework to the inclusion of all types of non-mandatory information, thereby satisfying the needs of the constituents of corporate reports.

In this chapter the procedure followed is as follows:

- the formulation of hypotheses of this study;
- statistical procedures and analysis of the data;
- presentation and interpretations of the correlation and regression results; and
- conclusions regarding the hypotheses.

8.2 Formulation of hypotheses

In proving that the extent of voluntary disclosure in annual reports is associated with company characteristics, the study addresses the following three testable hypotheses:

Hypothesis 1

A company's performance characteristics are related to the extent of its voluntary disclosure in annual and interim reports, where performance is measured by earnings

per share, dividend per share, return on total assets, return on equity, total asset turnover, inventory turnover and debtors' turnover.

Hypothesis 2

A company's structural characteristics are related to the extent of its voluntary disclosure in annual and interim reports where one structural variable, namely the size of the company, is measured by total assets, total interest-bearing debt, long-term debt to equity, market capitalisation, growth on total assets - year on year, current ratio and quick ratio.

Hypothesis 3

The level of a company's share price is positively associated with company characteristics and extent of disclosure.

8.3 Descriptive statistics

Two dependent variables used in the stepwise regression are share price and extent of voluntary disclosure. The share price is measured by dividing the total value of shares traded during a month by the total number of shares traded during the month, resulting in a weighted average price during the last month of a company's financial year. The disclosure index developed for each annual and interim report of the sample companies included in the survey consists of 34 items, with each item being scored on its respective weighted scale of importance. In total 188 annual and interim company reports were evaluated over the six year period yielding a total sample of 1 128 evaluations. Table 8.1 provides a summary of the extent of disclosure over the period 1993 to 1998. The mean score is calculated as the aggregate voluntary disclosure score of all the sample companies for that particular year, expressed as a percentage of the maximum number of points obtainable, namely 151.

The descriptive statistics suggest that from 1993 to 1997 there was a gradual improvement in the mean level of voluntary disclosure by the sample companies. This moderate increase may be attributed to the reluctance of corporations to change their disclosure policies radically for reasons such as corporate culture and the cost-benefit factor. However, this improvement was followed by a decline in voluntary disclosure in 1998, which may be attributed to the market crash in November 1997 and again in the second half of 1998. Companies were apparently hesitant to report bad news and therefore cut back on their disclosure in general.

Table 8.1 Descriptive statistics of extent of voluntary disclosure of sample companies for the period 1993 to 1998

Year	Level of disclosure				
	Mean %	Standard deviation	Coefficient of variation	Lowest score	Highest score
1993	52.2	31.1	38.5	9	141
1994	54.4	30.3	38.2	19	142
1995	57.3	29.0	34.7	21	146
1996	59.0	30.4	34.1	25	148
1997	61.3	28.2	30.4	28	150
1998	58.0	27.5	31.4	29	151

The coefficient of variation showed a declining dispersion from 1993 to 1998, which implies that most companies are conforming to higher levels of disclosure. This may be attributed to the fact that companies that obtained a low rating in 1993 made a concerted effort to improve their level of disclosure, as is evidenced by the fact that the lowest score of 9 in 1993 improved to 29 in 1998. During the same period, the highest score moved from 141 to 151, which is the maximum possible.

Table 8.2 provides a detailed analysis of the extent of voluntary disclosure per item over the six-year period. The percentage per item represents the extent of disclosure per item per year for the sample companies.

Table 8.2 Extent of full disclosure per item for the total sample companies for the period 1993 to 1998

Voluntary disclosed item	1993 %	1994 %	1995 %	1996 %	1997 %	1998 %	% Change from 1993 to 1998
Profile of board of directors	38.3	42.6	46.3	53.2	58.0	58.0	> 51.4
Profile of top management	31.9	38.3	34.6	34.6	31.9	32.5	> 1.9
Individual shareholdings of directors and top management	16.5	19.2	19.2	12.8	10.1	9.0	< 45.5
Distribution of shareholdings	58.5	60.6	72.3	82.4	87.2	88.3	> 50.9
Contents of director's and chairman's report							
- Detailed description of activities	70.1	79.8	85.6	91.0	94.2	94.2	>34.4
- Reasons for changes in results	68.9	73.9	83.0	92.6	93.6	94.7	>37.4
- Statement of corporate objectives, goals or mission statement	62.8	64.4	67.0	66.5	62.2	67.6	>7.8
Long-term corporate planning	16.5	14.4	11.7	11.2	14.4	11.7	<29.1
Statement of long-term dividend policy	19.2	20.7	20.7	25.5	25.5	25.0	>30.2
Publication within two months after year end	53.2	55.9	59.6	53.2	53.2	52.7	<0.9
Table of statistics for six years or more	51.1	54.3	55.9	55.3	61.2	63.8	>24.9
Contents of table of statistics							
- Turnover	85.1	85.6	88.3	88.8	91.0	90.4	>6.2
- Number of shares issued	68.6	68.1	73.4	73.4	76.6	78.2	>14.0
- Profitability, solvability, liquidity and productivity ratios	32.5	29.8	33.5	41.0	43.1	47.9	>50.5
- Definitions of terms and ratios	38.3	43.1	50.0	54.3	54.8	59.0	>54.0
- Number of employees	47.3	48.9	51.1	55.9	56.9	56.4	>19.2
Analysis of JSE performance	14.4	15.4	20.2	21.8	23.4	25.5	>7.7
Full disclosure of activities of subsidiaries	87.2	85.6	88.3	90.4	93.6	93.1	>6.7
Promotion of products or services	70.2	73.4	75.0	76.1	72.9	75.5	>7.5
Valuation of land within last five years	77.7	74.5	76.1	74.5	71.8	71.3	<8.2
List of fixed properties available	78.2	81.4	82.5	79.3	80.9	76.6	<2.0

Distribution of shareholdings (>50.9%)

Profitability, solvability, liquidity and productivity ratios (>50.5%)

Table 8.2 (continued)

Voluntary disclosed item	1993 %	1994 %	1995 %	1996 %	1997 %	1998 %	% Change from 1993 to 1998
Segmental reporting	82.5	80.3	79.8	73.9	73.9	75.5	< 8.5
Illustrations and colour	69.2	72.9	75.5	75.5	79.8	78.7	>13.7
Four or more graphical presentations	52.1	58.5	61.2	58.0	59.0	58.5	>12.3
Disclosure of highlights	74.5	78.2	80.9	80.9	84.6	79.3	> 6.4
Shareholders' diary	77.7	79.3	78.2	81.4	80.9	81.9	> 5.4
Detailed group structure	45.7	52.1	55.9	52.7	59.0	59.0	>29.1
Value added statement	54.3	60.6	60.6	63.8	63.6	68.1	>25.4
Inflation adjusted statements	13.3	12.2	14.9	16.0	13.8	13.3	-
Detailed employment report	18.6	22.9	23.4	26.6	26.6	24.5	>31.7
Environmental report	7.4	8.0	6.9	8.5	12.8	11.7	>58.1
Details of research and development projects	9.6	20.7	10.6	15.4	20.2	10.1	> 5.2
Detailed taxation reconciliation statement	81.4	81.4	79.8	86.7	89.4	92.6	>13.8
Money exchanges with government	27.1	27.1	30.9	39.9	37.2	41.5	>53.1

There was a noteworthy improvement from 1993 to 1998 in the level of disclosure for the following voluntary disclosed items:

- Analysis of JSE performance (>77.1%)
- Environmental report (>58.1%)
- Definitions of terms and ratios (>54.0%)
- Money exchanges with government (>53.1%)
- Profile of board of directors (>51.4%)
- Distribution of shareholdings (>50.9%)
- Profitability, solvability, liquidity and productivity ratios (>50.5%)

It is interesting to note that disclosure on analysis of Stock Exchange performance figures showed the greatest improvement, from 14.4% in 1993 to 25.5% in 1998. While this is an increase of 77.1%, disclosure is still very low. Taking into consideration that users and compilers consider information on the volume and value of shares traded disclosing the lowest, highest and year-end price and a comparison of a company's share price with the industry index as fairly important (see table 9.40) disclosure in this area could be improved.

While environmental reporting improved by 58.1%, it also dropped to a low level of 11.7% in 1998. However, compilers and users view this item as moderately important (see table 9.40) and until government and users put pressure on companies to improve their reporting in this area, the level of disclosure will remain low. A noteworthy improvement was made concerning information disclosed on the biographical profile of the board of directors, with an increase of 51.4%. However, companies were reluctant to improve their disclosure on the profile of top management, increasing by only 1.9% over the six-year period despite the fact that compilers and users considered this information to be fairly important.

The following voluntary disclosed items showed a decrease in the level of disclosure from 1993 to 1998:

- Individual shareholdings of directors and top management (<45.5%)
- Long-term corporate planning (<29.1%)
- Segmental reporting (<8.5%)
- Valuation of land within last five years (<8.2%)
- List of fixed properties made available to the public (<2.0)

Individual shareholdings of directors and top management showed a very low disclosure level of 16.5% in 1993 and deteriorated to 9.0% in 1998, a decrease of 45.5%. As users ranked this information as very important (see table 9.40) companies should be responding to the needs of users by increasing reporting on this item. While corporate objectives, goals and mission statements show a disclosure level of 67.6% in 1998, the

disclosure of long-term corporate planning and budgets deteriorated from 16.5% in 1993 to 11.7% in 1998, a decrease of 29.1%. This may be attributed to the fact that companies are afraid to commit themselves to future-oriented information. This may also account for the low disclosure of long-term dividend policies, namely only 25% in 1998.

Disclosure on detailed descriptions of the activities of the company together with a detailed discussion of the changes in the performance of the company are received priority during this period, with on average 94% of the companies complying fully with this requirement in 1998. However, in view of user needs (see chapter 9) and based on 1998 levels of disclosure an area of disclosure that should have received greater priority is the operating and financial review by management which was ranked as the second most important item by users and the most important by compilers.

8.4 Statistical procedure

In line with empirical studies such as those of Singhvi and Desai (1971), Lang and Lundholm (1993), Malone, Fries and Jones (1993), Negash (1995) and Adam and Hossain (1998), various company characteristics are identified and introduced as independent variables. These studies all focused on the association between the extent of voluntary disclosure and company characteristics.

The company characteristics considered in this research are grouped into seven explanatory performance variables and seven structural variables. The association between extent of disclosure and company characteristics is tested by conducting a correlation and stepwise regression analysis. Definitions of the variables and their respective symbols used throughout the following tables are shown in table 8.3.

Table 8.3 Symbols and description of variables used in the survey

SYMBOL	DESCRIPTION
DISCL	Disclosure level
PRICE	Market price of a share is the weighted average price
Performance variables	
EPS	Earnings per share as published
DPS	Dividend per share
RTA	Return on total assets
RE	Return on equity
TAT	Total asset turnover
IT	Inventory turnover
DT	Debtors turnover
Structural variables	
TA	Total assets
TID	Total interest-bearing debt
LTD/E	Long-term debt to equity
MCAP	Market capitalisation
GTA	Growth in total assets - year on year
CR	Current ratio
QR	Quick ratio

8.4.1 Results of correlation with performance variables

A Pearson correlation coefficient analysis is performed to measure the strength of the linear relationship between extent of disclosure, using firstly performance variables and secondly structural variables. The correlation with performance variables is based on the data for the total six-year period and is summarised in table 8.4. The matrix provides preliminary observations for identifying variables of significance for the stepwise multiple regression. The correlation analysis is carried out at a 5% level of statistical significance.

When observing the correlation coefficients, the data shows that price (0.354), earnings per share (0.305) and dividends per share (0.160) are significantly correlated with extent of disclosure. Companies that perform well where performance is measured in terms of earnings per share and dividends per share tended to have higher voluntary disclosure scores. Therefore, hypothesis 1 is accepted given the above relationship between price, earnings per share and dividends per share. These results are consistent with those of Lang and Lundholm (1993), Raffournier (1995) and Patton and Zelenka (1997) who hypothesised a positive association between performance and extent of disclosure. Return on total assets showed a positive association (0.040) with extent of disclosure while return on equity showed a negative correlation (-0.018). Both were significant, however.

Although not specifically stated as part of hypothesis 1 and therefore purely from a point of interest, the following pairwise correlations were noted. The highest simple pairwise correlation between independent variables was 0.769 between price (PRICE) and earnings per share (EPS) implying that higher earnings per share result in higher prices.

There was a significant positive correlation between return on equity (RE) and return on total assets (RTA) at 0.463 and between total asset turnover (TAT) and debtors turnover (DT) at 0.418. Return on total assets is a function of asset management, because the larger the total assets the smaller the return on total assets. On the other hand, the return on equity is influenced by the gearing ratio of the company or the size of the financial leverage factor. The performance variables are time related and a study of Lang and Lundholm (1993) proved that companies are more likely to disclose future oriented information when the company is performing well.

Variable	DfSCL	PRICE	EPS	DPS	RTA	RE	TAT	DT
DfSCL	1.000							
PRICE	0.354	1.000						
EPS	0.305	0.769	1.000					
DPS	0.160	0.097	0.097	1.000				
RTA	0.040	0.040	0.040	0.040	1.000			
RE	-0.018	-0.018	-0.018	-0.018	-0.463	1.000		
TAT	0.167	0.167	0.167	0.167	0.167	0.418	1.000	
DT	0.167	0.167	0.167	0.167	0.167	0.418	0.418	1.000

Table 8.4 Pearson's correlation analysis between extent of disclosure and the performance variables from 1993 to 1998

Variable	DISCL	PRICE	EPS	DPS	RTA	RE	TAT	IT	DT
DISCL	1.000 0.000								
PRICE	0.354 0.0001*	1.000 0.000							
EPS	0.305 0.0001*	0.769 0.0001*	1.000 0.000						
DPS	0.160 0.0001*	0.356 0.0001*	0.355 0.0001*	1.000 0.000					
RTA	0.040 0.1827	0.046 0.1202	0.119 0.0001*	0.097 0.0011*	1.000 0.000				
RE	-0.018 0.5598	-0.011 0.7157	0.011 0.7029	0.025 0.4106	0.463 0.0001*	1.000 0.000			
TAT	-0.044 0.1472	-0.107 0.0004*	-0.078 0.0098*	-0.059 0.0520	0.055 0.0713	0.031 0.3160	1.000 0.000		
IT	-0.047 0.1186	-0.074 0.0149*	-0.069 0.0235*	-0.032 0.2894	0.023 0.4516	0.036 0.2442	0.181 0.0001*	1.000 0.000	
DT	-0.004 0.9044	-0.050 0.0972	-0.015 0.6256	-0.001 0.9796	-0.001 0.9657	0.003 0.9278	0.418 0.0001*	0.044 0.1477	1.000 0.000

Significance levels are indicated below the correlation coefficients

* Significantly correlated when $p < 0.05$

Number of observations: 1 127.

8.5.2 Results of correlation with structural variables

The structural variables measure company characteristics that remain relatively stable over time. The correlation coefficients in table 8.5 show that price (0.354), total assets (0.314), total interest-bearing debt (0.275), long-term debt to equity (-0.120) and market capital (0.317) are significantly correlated with extent of disclosure. These correlations mean that hypothesis 2 can be accepted, namely that company size, measured in terms of total assets and market capitalisation, is positively associated with extent of voluntary disclosure. This is in line with empirical findings of Singhvi and Desai (1971), Buzby (1975), Firth (1979), Firer and Meth (1985), Chow and Wong-Boren (1987) and Lang and Lundholm (1993) and proves that company size is the best predictor of the extent of voluntary disclosure. Three reasons for this phenomenon are that large companies have access to more and better resources than smaller companies; the marginal cost of collecting the information decreases with company size; and higher levels of disclosure may attract foreign investment and improve investor confidence.

Although not part of the hypothesis 2 and only from a point of interest, it can be noted that the highest simple pairwise correlation between the independent variables was 0.966 between the quick ratio and the current ratio with significant correlations between total assets and total interest-bearing debt (0.821), market capitalisation and total assets (0.771) and total interest-bearing debt and market capitalisation (0.547).

Table 8.5 Pearson's correlation analysis between

Variable	DISCL	PRICE	TA
DISCL	1.000 0.0000		
PRICE	0.354 0.0001*	1.000 0.0000	
TA	0.314 0.0001*	0.430 0.0000*	1.000 0.0000
TIB	0.275 0.0001*	0.392 0.0001*	0.821 0.0001*
LTD/E	-0.120 0.0001*	-0.182 0.0001*	-0.120 0.1161
MCAP	0.317 0.0001*	0.553 0.0001*	0.771 0.0001*
GTA	-0.059 0.7517	0.016 0.5662	0.030 0.2148
CR	-0.035 0.2376	-0.134 0.2055	-0.004 0.7411
QR	-0.024 0.4235	0.030 0.3961	0.002 0.7470

Significant levels are indicated below: (p < 0.05) *
* Significantly correlated when p < 0.05
Number of observations = 129

Table 8.5 Pearson's correlation analysis between extent of disclosure and structural variables from 1993 to 1998

Variable	DISCL	PRICE	TA	TID	LTD/E	MCAP	GTA	CR	QR
DISCL	1.000 0.0000								
PRICE	0.354 0.0001*	1.000 0.0000							
TA	0.314 0.0001*	0.430 0.0001*	1.000 0.0000						
TID	0.275 0.0001*	0.332 0.0001*	0.821 0.0001*	1.000 0.0000					
LTD/E	-0.120 0.0001*	-0.053 0.0777	-0.030 0.3161	0.001 0.9838	1.000 0.0000				
MCAP	0.317 0.0001*	0.553 0.0001*	0.771 0.0001*	0.547 0.0001*	-0.036 0.2268	1.000 0.0000			
GTA	-0.009 0.7517	-0.018 0.5442	-0.030 0.3148	-0.014 0.6414	-0.014 0.6485	-0.019 0.5226	1.000 0.0000		
CR	-0.035 0.2376	-0.034 0.2563	-0.034 0.2513	-0.052 0.0796	-0.043 0.1547	-0.038 0.2059	0.114 0.0001*	1.000 0.0000	
QR	-0.029 0.3256	-0.020 0.4946	-0.025 0.4103	-0.038 0.2070	-0.032 0.2891	-0.022 0.4633	0.137 0.0001*	0.966 0.0001*	1.000 0.0000

Significant levels are indicated below the correlation coefficients

* Significantly correlated when $p < 0.05$

Number of observations: 1 127.

8.5 Stepwise regression results

Two main forward stepwise regression models were run using SAS software to test the association between price and extent of disclosure and controlling the effects of variables. For the first regression, price was used as the dependent variable and tested against all the independent variables including extent of disclosure. The second regression used extent of disclosure as the dependent variable which was then tested against all the other variables, including market price.

8.6.1 Company share price as dependent variable

A stepwise regression was carried out using market price as the dependent variable and the 15 independent variables as defined in table 8.3. This was performed for the total period from 1993 to 1998 for the sample companies and the results are tabulated in table 8.6.

Table 8.6 Forward stepwise multiple regression outputs with price as the dependent variable for the total period 1993 to 1998

Step	Variable entered	Variables in	Change in R ²	Model R ²	Probability > F
1	EPS	1	0.6216	0.6216	0.0001
2	MCAP	2	0.0789	0.7006	0.0001
3	TA	3	0.0108	0.7114	0.0001
4	DPS	4	0.0056	0.7170	0.0001
5	RTA	5	0.0050	0.7220	0.0001
6	TID	6	0.0050	0.7270	0.0001
7	DISCL	7	0.0039	0.7309	0.0001
8	CR	8	0.0016	0.7325	0.0132
9	QR	9	0.0046	0.7371	0.0001
10	IT	10	0.0014	0.7385	0.0177
11	DT	11	0.0006	0.7391	0.1278

All variables retained in the model are significant at the 0.15 level
No other variables met the 0.15 significance level for entry into the model.

In the case of the data stated in table 8.6, 15 independent variables were entered and 11 were retained at 15% (0.15) level of significance in the final model. These showed a high R^2 level of 74%. Four variables, namely return on equity (RE), long-term debt to equity (LTD/E), growth on total assets - year on year (GTA) and total asset turnover (TAT) did not meet the 0.15 significance level required for entry into the model. Company size measured by market capitalisation, total assets, total interest-bearing debt, and quick ratio is strongly associated with market prices. Performance measures such as earnings per share, dividends per share and return on total assets were also significantly associated. Extent of voluntary disclosure also proved to be a dominant characteristic of a company when examining the effect on share prices.

A forward stepwise regression was then run for each individual year from 1993 to 1998 in order to ascertain which variables were significantly associated with price for the respective years. The results are shown in tables 8.7 to 8.12.

Table 8.7 Forward stepwise multiple regression outputs with price as the dependent variable for the year 1993

Step	Variable entered	Variables in	Change in R^2	Model R^2	Probability > F
1	EPS	1	0.8175	0.8175	0.0001
2	MCAP	2	0.0090	0.8265	0.0031
3	TA	3	0.0086	0.8351	0.0031
4	DPS	4	0.0047	0.8399	0.0261

All variables retained in the model are significant at the 0.15 level
No other variables met the 0.15 significance level for entry into the model.

Of the 15 variables entered, including extent of disclosure, only four were significantly associated with price. Two were performance variables, namely earnings per share and dividends per share and two were structural variables, namely market capitalisation and total assets. This means that there were at least four other variables that were more significantly related to share price of the company than disclosure in 1993.

Table 8.8 Forward stepwise multiple regression outputs with price as the dependent variable for the year 1994

Step	Variable entered	Variables in	Change in R ²	Model R ²	Probability> F
1	EPS	1	0.6906	0.6906	0.0001
2	MCAP	2	0.0556	0.7462	0.0001
3	DPS	3	0.0131	0.7593	0.0026
4	DISCL	4	0.0098	0.7691	0.0077
5	TA	5	0.0070	0.7761	0.0225
6	RTA	6	0.0032	0.7793	0.1186

All variables retained in the model are significant at the 0.15 level
No other variables met the 0.15 significance level for entry into the model.

In table 8.8, six variables consisting of two performance variables, namely earnings per share and dividends per share, three structural variables, namely market capitalisation, total assets and return on total assets, and extent of disclosure were significantly associated with market prices in 1994.

Table 8.9 Forward stepwise multiple regression outputs with price as the dependent variable for the year 1995

Step	Variable entered	Variables in	Change in R ²	Model R ²	Probability> F
1	EPS	1	0.699	0.699	0.0001
2	MCAP	2	0.068	0.767	0.0001
3	DPS	3	0.029	0.796	0.0001
4	TA	4	0.008	0.804	0.0074
5	GTA	5	0.003	0.808	0.0804

All variables retained in the model are significant at the 0.15 level
No other variables met the 0.15 significance level for entry into the model.

In 1995, two performance variables, namely earnings per share and dividends per share and three structural variables, namely market capitalisation, total assets and growth in total assets - year on year were more significantly associated with market price than disclosure at less than 15%.

Table 8.10 Forward stepwise multiple regression outputs with price as the dependent variable for the year 1996

Step	Variable entered	Variables in	Change in R ²	Model R ²	Probability> F
1	DPS	1	0.647	0.647	0.0001
2	EPS	2	0.071	0.717	0.0001
3	MCAP	3	0.048	0.765	0.0001
4	TA	4	0.007	0.772	0.0191
5	LTD/E	5	0.005	0.777	0.0620

All variables retained in the model are significant at the 0.15 level
No other variables met the 0.15 significance level for entry into the model

In 1996 and 1997, dividends per share, earning per share, market capitalisation and long-term debt to equity were significantly associated with price while total assets was also found to be significant at 0.019 in 1996.

Table 8.11 Forward stepwise multiple regression outputs with price as the dependent variable for the year 1997

Step	Variable entered	Variables in	Change in R ²	Model R ²	Probability> F
1	EPS	1	0.638	0.638	0.0001
2	MCAP	2	0.103	0.742	0.0001
3	DPS	3	0.036	0.778	0.0001
4	LTD/E	4	0.006	0.784	0.0357

All variables retained in the model are significant at the 0.15 level
No other variables met the 0.15 significance level for entry into the model.

In 1998, five structural variables, namely market capitalisation, total assets, total interest-bearing debt, current ratio and quick ratio and three performance variables, namely earnings per share, return on total assets and debtors' turnover were found to be significantly associated with market price. However, extent of disclosure did not meet the 0.15 significance level, and therefore did not remain in the model.

Table 8.12 Forward stepwise multiple regression outputs with price as the dependent variable for the year 1998

Step	Variable entered	Re-moved	Variables in	Change in R ²	Model R ²	Probability> F
1	EPS		1	0.497	0.497	0.0001
2	MCAP		2	0.150	0.647	0.0001
3	TA		3	0.019	0.666	0.0024
4	RTA		4	0.018	0.684	0.0021
5	TID		5	0.009	0.693	0.0301
6	DT		6	0.005	0.698	0.0896
7	CR		7	0.004	0.702	0.1339
8	QR		8	0.008	0.710	0.0369
9		DT	7	0.003	0.707	0.2150
10	IT		8	0.005	0.712	0.1124

All variables remaining in the model are significant at the 0.15 level
No other variables met the 0.15 significance level for entry into the model.

On examining the results on a year by year basis and using the same independent variables, only in 1994 did extent of disclosure enter the stepwise regression as independently contributing significantly towards the explanation of price.

In conclusion, with price as a dependent variable, hypothesis 3 can be accepted for the total period 1993 to 1998 but not on a year by year basis.

8.5.2 Extent of disclosure as dependent variable

For the second main regression, extent of disclosure was used as a dependent variable and tested against 15 independent variables which included company share price. The independent variables retained are summarised in tables 8.13 for the total period 1993 to 1998 and tables 8.14 to 8.19 on a year by year basis.

All variables remaining in the model are significant at the 0.15 level
No other variables met the 0.15 significance level for entry into the model.

Table 8.13 Forward stepwise multiple regression outputs with voluntary disclosure as the dependent variable for the sample companies for the total period 1993 to 1998

Step	Variable entered	Variables in	Change in R ²	Model R ²	Probability> F
1	PRICE	1	0.1252	0.1252	0.0001
2	TA	2	0.0311	0.1563	0.0001
3	LTD/E	3	0.0100	0.1663	0.0004
4	QR	4	0.0028	0.1691	0.0602
5	RTA	5	0.0021	0.1712	0.1041
6	TID	6	0.0021	0.1733	0.1031

All variables retained in the model are significant at the 0.15 level
No other variables met the 0.15 significance level for entry into the model.

For table 8.13, 15 independent variables (PRICE included) were entered and six were retained at 15% (0.15) level of significance in the final model. Price, total assets and long-term debt to equity are the three most important variables that explain the voluntary disclosure levels of the sample companies. The market price of a company's share proved to be the most important independent variable and therefore hypothesis 3 can be accepted.

The stepwise regression using disclosure as the dependent variable was then run for each year of the survey and the results are shown in tables 8.14 to 8.19.

Table 8.14 Forward stepwise multiple regression outputs with voluntary disclosure as the dependent variable for the sample companies for the year 1993

Step	Variable entered	Variables in	Change in R ²	Model R ²	Probability> F
1	DPS	1	0.219	5.75	0.0001
2	TID	2	0.040	-1.36	0.0026
3	LTD/E	3	0.009	-1.51	0.1383

All variables remaining in the model are significant at the 0.15 level
No other variables met the 0.15 significance level for entry into the model.

Of the 15 independent variables entered into the model, only three variables, namely dividends per share, total interest-bearing debt and long-term debt to equity were retained and found to be significantly associated with extent of disclosure in 1993.

Table 8.15 Forward stepwise multiple regression outputs with voluntary disclosure as the dependent variable for the sample companies for the year 1994

Step	Variable entered	Variables in	Change in R ²	Model R ²	Probability> F
1	PRICE	1	0.185	0.185	0.0001
2	TID	2	0.040	0.225	0.0031
3	LTD/E	3	0.020	0.245	0.0357

All variables remaining in the model are significant at the 0.15 level
No other variables met the 0.15 significance level for entry into the model.

In 1994, price was significantly associated with extent of disclosure as well as total interest-bearing debt and long-term debt to equity. The results of table 8.16 show that four variables were retained in the regression in 1995 after market price had been removed.

Table 8.16 Forward stepwise multiple regression outputs with voluntary disclosure as the dependent variable for the sample companies for the year 1995

Step	Variable entered	Re-moved	Variables in	Change in R ²	Model R ²	Probability> F
1	PRICE		1	0.163	0.163	0.0001
2	MCAP		2	0.028	0.191	0.0139
3	DPS		3	0.032	0.223	0.0080
4		PRICE	2	0.003	0.221	0.4503
5	LTD/E		3	0.009	0.230	0.1456
6	CR		4	0.015	0.245	0.0622

All variables remaining in the model are significant at the 0.15 level
No other variables met the 0.15 significance level for entry into the model.

Table 8.17 Forward stepwise multiple regression outputs with voluntary disclosure as the dependent variable for the sample companies for the year 1996

Step	Variable entered	Variables in	Change in R ²	Model R ²	Probability> F
1	DPS	1	0.130	0.130	0.0001
2	LTD/E	2	0.055	0.185	0.0007
3	MCAP	3	0.037	0.221	0.0044
4	CR	4	0.014	0.235	0.0765
5	TID	5	0.011	0.247	0.1049

All variables remaining in the model are significant at the 0.15 level
No other variables met the 0.15 significance level for entry into the model.

Table 8.18 Forward stepwise multiple regression outputs with voluntary disclosure as the dependent variable for the sample companies for the year 1997

Step	Variable entered	Variables in	Change in R ²	Model R ²	Probability> F
1	DPS	1	0.128	0.128	0.0001
2	TID	2	0.055	0.183	0.0007
3	LTD/E	3	0.036	0.219	0.0053
4	EPS	4	0.010	0.229	0.1350

All variables remaining in the model are significant at the 0.15 level
No other variables met the 0.15 significance level for entry into the model.

Long-term debt to equity and dividends per share were common significant variables in 1996, 1997 and 1998 (tables 8.17, 8.18 and 8.19) that were entered into the model and showed a significant association with extent of voluntary disclosure.

Table 8.19 Forward stepwise multiple regression outputs with voluntary disclosure as the dependent variable for the sample companies for the year 1998

Step	Variable entered	Variables in	Change in R ²	Model R ²	Coefficient	Probability > F
1	TA	1	0.080	0.080	0.00	0.0002
2	LTD/E	2	0.029	1.119	-1.69	0.0192
3	DPS	3	0.023	0.132	0.04	0.0335

All variables remaining in the model are significant at the 0.15 level
No other variables met the 0.15 significance level for entry into the model.

8.6 Conclusion

The purpose of this chapter was to examine various company characteristics and their association with extent of voluntary disclosure to determine whether there are systematic differences between companies with varying disclosure levels. The results of the regressions testify to the importance of company characteristics and market price in determining management's decision to improve voluntary disclosure strategies.

Hypothesis 1, namely that the extent of a company's voluntary disclosure policy in annual and interim reports is dependent on performance characteristics of a company, was proved to be positively associated for the period 1993 to 1998 taken as a whole. Secondly it was also proved that the extent of voluntary disclosure was positively associated with structural characteristics of a company, which mean that hypothesis 2 could be accepted. Finally, hypothesis 3 was accepted, as a positive association was found to exist between the market price of a company's share and extent of voluntary disclosure.

In the next chapter, the perceptions of users and compilers regarding the price informativeness of various voluntary disclosure items will be examined and tested against the actual level of voluntary disclosure practices of quoted industrial companies in South Africa. This procedure is serves to enhance the objectivity of the first study by proving the validity of the increasing demand for disclosure of voluntary information for

decision-making purposes. Similarities and differences between the perceptions of the two target groups, namely compilers and users, are identified and used as a basis for justifying for conclusions and recommendations on voluntary disclosure issues in the future.

RESULTS OF THE SECOND EMPIRICAL STUDY

3.1 Introduction

In chapter 4 the research methodology used to obtain the data for the second research study will be explained. In this chapter the research findings are analysed with the focus on the number of companies that voluntarily disclosed items, the voluntary disclosure practices of the companies and the quality of disclosure in terms of period of disclosure between users and compilers. The implications for the recommendations for the redesign of the reporting guidelines and the current disclosure practices and processes of the current accounting process can be highlighted.

The two questionnaires (annexes 7 and 8) used to obtain the data for the second study for the second research study were each divided into three sections as follows:

- Section 1: The demographic profile of the respondent groups. The necessary descriptive statistics were discussed in chapter 7.
- Section 2: Various aspects of voluntary disclosed items in general. It was discussed and referred to in the relevant paragraphs of the foregoing chapters, except for items 2.7 and 2.8, which will be discussed in this chapter.
- Section 3: Specific voluntary disclosed items. The results will be analysed and discussed in this chapter.