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Future research efforts are still needed for better understanding and improvement of the financial reporting environment. For example, further research could adopt an interview-based approach with corporate managers to document their views about the variation in financial disclosure among companies.

In order to fill the existing gap about the status of corporate financial reporting in Saudi Arabia, the present study adopts a more comprehensive approach. Further research may concentrate only on some aspects of the corporate financial reporting.

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ed by local firms, that affiliate with some international firms. This could be an indication of the high quality of audits performed by local Saudi firms. This is not, however, a proven point about the quality of the audit. More studies are needed about the auditors' effect on the accounting measurement and estimation methods used by companies and on their attestation of the company' s internal control.

The study revealed that the stock market listing has no significant association with the level of annual corporate disclosure. The absence of the effect of the stock market on the corporate disclosure practice is understandable in the Saudi environment. As stated in the body of this study, established companies rarely, if ever, use the stock market for additional capital. Saudi companies generally tend to retain most of their profits. They are required to build a reserve of not less than 50% of their capital. Also, they are allowed to set any other additional amount of reserve. It is not uncommon for Saudi companies to capitalise each year, a substantial part of their retained earnings. Another reason for the absence of a relationship between the level of annual corporate disclosure and the stock market listing is that Saudi companies are prohibited from trading in their own securities. In such an environment, managers may not see any benefit from enhancing their voluntary disclosure, which in turn may enhance the value of the company and reduce the cost of capital. In light of the above discussion, it is suggested that Saudi companies should be allowed to trade in their own securities, to make them aware of the value of such securities. Also, the profit retaining practice of Saudi companies should be reconsidered for its appropriateness. Also, companies should be required to fully disclose the reasons behind the retaining of the current year income.

As was explained in the methodology section, this study used two methods of measuring the level of annual corporate disclosure; unweighted and weighted disclosure indices, where the weighted indices incorporated the importance assigned to an information item by the external users. Similar to the findings of some previous studies, the two methods produced similar results, especially in the multivariate analysis. One of the reasons advanced for the similarity of the unweighted and weighted indices is that companies disclosed a mix of important and less important items of information. Another reason is that the users assigned a great amount of importance to most of the disclosure items, which in effect leads to similar weights to these items.

This study has its own limitation. Regarding the analysis of the current corporate disclosure practices, the reports were analysed for the disclosure of a subset of information items. The items included in this study were selected very carefully. Nonetheless, it may still only represent a part of the possible items of disclosure. A future study could extend the current study by examining a new set of information items. Another problem encountered by the studies of corporate disclosure, is the problem of distinguishing non-disclosure from non-applicability of disclosure, to a particular company. Examples of items of this type of problem are extraordinary gains and losses, foreign currency translation, and correction of prior years errors. Such a problem limits any conclusion of disclosure studies.

the industry (e.g., Owusu-Ansah (1998) in Zimbabwe, Inchausti (1997) in Spain, Patton and Zelenka (1997) in Czech Republic, Raffournier (1995) in Switzerland).

4.2.7 The type of the auditor

The hypothesis that there is no association between the type of the auditor (local or international affiliate) and the level of either the annual mandatory or voluntary disclosure, is rejected only for the mandatory disclosure. Companies audited by independent local companies significantly (although marginally) comply more than other companies with disclosure requirements. This result is an indication of the good quality of the work of the local auditing firm. There is a mix of results in prior studies, especially recent ones, about the effect of the type of the auditor on the disclosure level. While Owusu-Ansah (1998), Al-mulhem (1997), Almodahki (1996), and Raffournier (1995) found no association, Patton and Zelenka (1997) and Inchausti (1997) found a significant association where companies audited by one of the big international firms disclose more than those audited by local firms.

4.2.8 The stock market listing

The hypothesis that the listing status of the company has no association with the level of either the annual mandatory or voluntary disclosure could not be rejected. It seems that the stock market in Saudi Arabia has no effect on the corporate level of disclosure. This conclusion is understandable in the Saudi environment for many reasons. First, there is no extra disclosure requirements for companies listed in the stock market. Second, the listed companies rarely, if ever, use the stock market for additional capital. Third, the companies in Saudi Arabia are prohibited from trading in their own shares. These reasons suggest that the disclosure practice of listed companies will not differ from those of non-listed ones. Recently, Al-mulhem (1997), Patton and Zelenka (1997), and Raffournier (1995) found similar results. Inchausti (1997), however, found significant the result where listed companies provide more disclosure than non-listed ones.

5. SUMMARY AND CONCLUSIONS

This study was able to identify some systematic differences in the level of annual disclosure of a sample of Saudi companies. One of the main findings in this regard is that the degree of compliance with disclosure requirements, tends to be significantly lower as the percentage of government ownership of a company' s shares is increased. A similar result was found regarding voluntary disclosure. In the light of these findings, the government should reconsider the reporting practice of its companies, especially those where the government plans to reduce its ownership as part of the continuing process of privatisation that started during the eighties. Proper disclosure could attract the public to investment in these companies. Besides that, the government should set an example to the others in terms of abiding by the disclosure requirements.

It was also found that companies, which are audited by independent local firms, significantly comply better with disclosure requirements than companies that are audit-

tarily disclose more to praise themselves and justify the management compensations (Singhvi and Desai, 1971), losers may disclose more to explain the bad news and associate the bad results to external factors or to avoid costly litigation (Skinner, 1994). Recent studies found no relationship between performance and annual voluntary disclosure (e.g., Patton and Zelenka, 1997; Raffournier, 1995; Malone *et. al.*, 1993).

4.2.4 Leverage

The hypothesis that the leverage ratio of a company has no association with the level of either the annual mandatory or voluntary disclosure is rejected for the overall disclosure and the mandatory disclosure. Companies with a higher leverage ratio comply better than other companies with disclosure requirements. The result found here is inconsistent with the one reported by Ahmed and Nicholls (1994), who found no such relationship between corporate mandatory disclosure and amount of debt in Bangladesh. The significant positive association between mandatory disclosure and leverage ratio is understandable in Saudi Arabia. Companies in Saudi Arabia depend on banks as the source of borrowing. Banks usually demand " audited financial statements" . Therefore, companies that borrow more are expected to produce a " complete" audited statements which contains mandatory disclosures. The non-significant association between voluntary disclosure and leverage ratio is also understandable in the Saudi environment. Saudi companies have never issued bonds. Therefore, the voluntary disclosure will not be used as a mechanism to reduce information asymmetry which in turn reduces the cost of borrowing.

4.2.5 Percentage of government ownership

The hypothesis that the amount of government ownership of a company' s shares has no association with the level of either the mandatory or voluntary disclosure, is rejected for both mandatory and voluntary disclosure as well as the overall disclosure. Companies with a higher percentage of government ownership comply less than other companies with disclosure requirements and their voluntary disclosure is lower than other companies. This result in particular, should be taken very seriously. In the era of privatisation, full disclosure is one important tool to attract prospective investors. Also, the government should set examples for other companies to follow, especially for compliance with disclosure requirements.

4.2.6 Industry sector

The hypothesis that there is no association between the type of industry to which a company belongs and the level of either the annual mandatory or voluntary disclosure, is rejected for all types of disclosure except the voluntary one. Companies in the electricity sector significantly comply less than other companies with disclosure requirements, provide less voluntary-related to mandatory disclosure and consequently, their overall annual disclosure is significantly lower than other companies. Most of the recent studies found no such association between the level of disclosure and the type of

4.2 *Discussions of the results*

The preceding sections reported the results of the multiple regression analysis, concerning the association between the annual corporate disclosure and a group of a company's characteristics. This section will relate these results to the research hypotheses.

4.2.1 Company size

The hypothesis that there is no association between the size of the company and the level of either annual mandatory or voluntary disclosure is rejected for the voluntary disclosure and the overall disclosure. The larger companies (as they are represented by total owners' equity) disclose voluntarily more information in their annual report than smaller companies. This finding is consistent with the findings of some of the recent studies reported in the literature (e.g., Hossain *et. al.*, 1995; Raffournier, 1995; Inchausti, 1997; Al-mulhem, 1997) [3]. Smaller firms may disclose less voluntarily data than larger companies, perhaps because they have a weaker competitive position. The larger firms, on the other hand may disclose more voluntary information to enhance their public image.

4.2.2 Shareholders pressure

The hypothesis that the number of shareholders has no association with the level of either the annual mandatory or voluntary disclosure is rejected for the overall disclosure as well as the voluntary-related to mandatory disclosure. The significance of the result was marginal, however. Companies with a larger number of shareholders offer more disclosure in their annual reports, especially those disclosures that enhance the minimum requirements. The result found here is consistent with the one proposed in the literature by Schipper (1981) and tested empirically by Malone *et. al.,* (1993). Management of a company with a large number of shareholders may increase the level of disclosure to solve the monitoring problem that usually increases, as the dispersion of the ownership of the company's shares widens.

4.2.3 Company performance

The hypothesis that there is no association between the company performance (as it is represented by the R.O.E.) and the level of either annual mandatory or voluntary disclosure could not be rejected for either mandatory or voluntary disclosure. The result is inconsistent with the one reported by Owusu-Ansah (1998) about Zimbabwean companies and the one reported by Al-mulhem (1997) about Saudi companies. The relationship between the level of disclosure and company performance is not a unidirectional one as noted by Lang and Lundholm (1993). While profitable companies may volun-

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3 - The reader is cautioned that the comparison with other studies is not a direct one as different studies have different definitions and compositions for the dependent and independent variables.

Table 13: The results of the final run of the multiple regression model where the unweighted overall disclosure index is the dependent variable

A: Model Summary

R	R Square	Adjusted R Square	Std. Error of the Estimate
.801	.642	.584	.1690

B: ANOVA

	Sum of Squares	df	Mean Square	F	Sig.
Regression	2.865	9	.318	11.143	.000
Residual	1.599	56	.029		
Total	4.464	65			

C: Coefficients

	B	Std. Error	Beta	t	Sig.	Tole-rance	VIF
(Constant)	-.901	.440		-2.045	.046		
Listing	.006	.074	.010	.085	.933	.495	2.019
Auditing firm	-.079	.048	-.143	-1.639	.107	.836	1.197
Ln of total owners' equity	.053	.026	.316	2.070	.043	.274	3.647
Ln of No. of shareholders	.020	.012	.208	1.685	.098	.420	2.382
R.O.E.	-.141	.302	-.075	-.467	.642	.245	4.075
Leverage	.160	.061	.367	2.645	.011	.333	3.004
Percentage of government ownership in 96	-.004	.001	-.444	-3.482	.001	.393	2.543
Cement	.066	.077	.087	.865	.391	.628	1.594
Electricity	-.730	.172	-.743	-4.233	.000	.208	4.814

Table 12: The results of the final run of the multiple regression model where the unweighted voluntary disclosure index is the dependent variable

A: Model Summary

R	R Square	Adjusted R Square	Std. Error of the Estimate
.766	.587	.520	.4621

B: ANOVA

	Sum of Squares	df	Mean Square	F	Sig.
Regression	16.963	9	1.885	8.828	.000
Residual	11.957	56	.214		
Total	28.919	65			

C: Coefficients

	B	Std. Error	Beta	t	Sig.	Tole-rance	VIF
(Constant)	-7.302	1.204		-6.064	.000		
Listing	-.033	.203	-.020	-.162	.872	.495	2.019
Auditing firm	-.082	.132	-.059	-.624	.535	.836	1.197
Ln of total owners' equity	.334	.070	.782	4.766	.000	.274	3.647
Ln of No. of shareholders	.004	.033	.018	.132	.895	.420	2.382
R.O.E.	-.182	.825	-.038	-.220	.827	.245	4.075
Leverage	-.104	.166	-.094	-.629	.532	.333	3.004
Percentage of government ownership in 96	-.009	.004	-.367	-2.676	.010	.393	2.543
Cement	.291	.209	.151	1.392	.169	.628	1.594
Electricity	-.234	.472	-.093	-.496	.622	.208	4.814

Table 11: The results of the final run of the multiple regression model where the unweighted voluntary-related to mandatory disclosure index is the dependent variable

A: Model Summary

R	R Square	Adjusted R Square	Std. Error of the Estimate
.655	.429	.337	.3457

B: ANOVA

	Sum of Squares	df	Mean Square	F	Sig.
Regression	5.025	9	.558	4.672	.000
Residual	6.693	56	.120		
Total	11.718	65			

C: Coefficients

	B	Std. Error	Beta	t	Sig.	Tolerance	VIF
(Constant)	.049	.901		.055	.957		
Listing	-.011	.152	-.011	-.073	.942	.495	2.019
Auditing firm	.071	.099	.080	.722	.473	.836	1.197
Ln of total owners' equity	-.056	.052	-.207	-1.074	.288	.274	3.647
Ln of No. of shareholders	.044	.025	.276	1.771	.082	.420	2.382
R.O.E.	.061	.617	.020	.099	.921	.245	4.075
Leverage	.155	.124	.219	1.249	.217	.333	3.004
Percentage of government ownership in 96	-.001	.003	-.053	-.328	.744	.393	2.543
Cement	-.031	.157	-.026	-.201	.841	.628	1.594
Electricity	-1.019	.353	-.640	-2.888	.006	.208	4.814

in the electricity sector than it is in the other sectors. The model was rerun using the weighted index of voluntary-related to mandatory disclosure as the dependent variable. The result is very similar to the preceding model with slightly less power (adjusted R^2 = .32).

The third regression model, which tests the association between the voluntary annual corporate disclosure and the company' s characteristics, appears in Table 12. It is highly significant and explains 52% of the variation in the level of voluntary annual disclosure of Saudi companies. The model shows that owners' equity variable, signifi cantly and positively associates with the level of voluntary disclosure. Conversely, companies with a higher percentage of government ownership offer significantly less voluntary disclosure. The model was rerun using the weighted index of voluntary disclosure as the dependent variable. The result is almost identical to the results of the preceding model.

The final regression model, which tests the association between the overall annual corporate disclosure and the company' s characteristics, appears in Table 13. The model is highly significant and explains more than 58% of the variation in the overall annual corporate disclosure. The model shows that the companies with a higher government percentage of ownership and the companies in the electricity sector, provide significantly less overall disclosure than the other companies. However, larger companies in terms of the amount of the owners' equity and companies with high debt to equi ty ratio, tend to offer more disclosure in their annual reports. Also, with marginal significance, companies with larger number of shareholders offer more disclosure. The model was rerun with the weighted overall disclosure index as the dependent variable. The result is similar to the one obtained in the previous model with slightly higher power (adjusted R^2 = .595).

The following section will discuss the results as they relate to the research hypotheses.

Table 10: The results of the multiple regression model where the unweighted mandatory disclosure index is the dependent variable

A: Model summary

R	R Square	Adjusted R Square	Std. Error of the Estimat
.645	.416	.322	.8323

B: ANOVA

	Sum of Squar	df	Mean Squar	F	Sig.
Regression	27.658	9	3.073	4.436	.000
Residual	38.792	56	.693		
Total	66.450	65			

C: Coefficients

	B	Std. Err	Beta	t	Sig.	Tole-ran	VIF
(Constant)	3.219	2.169		1.484	.143		
Listing	.158	.366	.062	.430	.668	.495	2.019
Auditing firm	-.433	.238	-.203	-1.820	.074	.836	1.197
Ln of total owners' equit	-.039	.126	-.061	-.311	.757	.274	3.647
Ln of No. of shareholder	.019	.060	.051	.322	.749	.420	2.382
R.O.E	.494	1.486	.068	.332	.741	.245	4.075
Leverage	.702	.298	.416	2.353	.022	.333	3.004
Percentage of governmen ownership	-.013	.006	-.335	-2.057	.044	.393	2.543
Cement*	-.277	.377	-.095	-.736	.465	.628	1.594
Electricity*	-2.146	.849	-.566	-2.527	.014	.208	4.814

* Refer to the preceding discussion about the construction of dummy variables representing the industry sectors

The second regression model, which tests the association between the level of voluntary-related to mandatory disclosure and the company' s characteristics, appears in Table 11. The model is highly significant and explains almost 34% of the variation in the level of the voluntary-related to mandatory annual disclosure of Saudi companies. The models infers that the level of voluntary-related to mandatory disclosure is associated significantly (although marginally) and positively with the number of shareholders. Conversely, the level of voluntary-related to mandatory disclosure is significantly less

The logarithmic transformations of the owners' equity and the number of share holders variables were the best type of transformation that both enhanced the power of the models, the normality of the residuals and the linearity of the models. Also, the error term seems more homoskedastic. The logarithmic transformation is recognised as it has the property of bringing the relationship between the dependent and independent variables to a linear one (Jaccard *et. al.*, 1990).

The final models appear in Table 10 through Table 13. Each model reports, besides the regression coefficients (B), the standardized regression coefficients (Beta). Beta allows for a direct comparison between coefficients as to their relative explanatory power of the dependent variable (Hair *et. al.*, 1998). Also, each model reports the multicollinearity statistics; *Tolerance and Variance Inflation Factors* (VIF). According to statisticians (see, for example, Hair *et. al.*, 1998), a tolerance value of less than .10, which corresponds to VIF of more than 10 indicates the presence of multicollinearity among the independent variables. Not one of the final models shows a high collinearity between the independent variables.

The first model, which contains the unweighted index of mandatory disclosure (Table 10) is highly significant and capable of explaining more than 32% of the variation in the level of annual mandatory disclosure of the sample of Saudi companies. The model infers that the companies with a high leverage ratio and those companies that are audited by local independent firms, significantly comply better than other companies, with disclosure requirements. However, companies with a higher percentage of government ownership and companies in the electricity sector, significantly offer less disclosure of the mandatory information items, in their annual reports, than companies in other sectors [2]. The model was rerun using the weighted index of mandatory disclosure as the dependent variable. The model was very similar in all of its properties to the previous model (i.e., with the unweighted index of mandatory disclosure) with slightly lower power (adjusted $R^2 = .31$).

4.1 *The multivariate models*

A problem in applying the Ordinary Least Square method here is that the dependent variables are ratios and, therefore, their values range from zero to one. The prediction of the model, however, could be out of this range. In order to guarantee that the predicted value of the disclosure index will fall within the range of zero to one, a form of transformation of the dependent variable is needed. One of the methods suggested in the literature (e.g., Ahmed and Nicholls, 1994; Inchausti, 1997) is to take the logarithm of the odds ratio, which produces a new variable that can take any value between -∙ to +∙. The new variable is

$$\textbf{lnODDS}_j = \ln \hat{E}\underline{\ index_j}\char94$$
$$\ddot{E}1\text{-index}_j\char22$$

for each of the four indices of disclosure.

The four regression models (each with one of the disclosure indices and the same independent variables) were run and inspected to determine whether the regression assumptions are met. The inspection of the different graphical plots of the residuals of the first runs of the four regression models, revealed that each model suffers from the non-normality of the distribution of the residuals and the presence of the influential observations.

It is suggested in the statistic literature that the transformation of some or all of the continuous variables, could solve the problem of non-normality of the residuals. As it is suggested in the this literature, the best transformation to fulfil the regression assumptions and to attain the maximum power from the regression, is arrived to by trial and error (see, for example, Hair *et. al.*, 1998; Tabachnick and Fidell, 1996; Fox, 1991).

The Cook' s distance was calculated for each case in each model to detect the influential observations. According to Hair *et. al.* (1998) and Tabachnick and Fidell (1996), those observations with a Cook' s distance of one or greater are in general influential observations. Two cases were found to be problematic. They have extreme outliers in more than one variable. These two cases are small companies from the electricity industry. Deletion of these two cases enhanced all of the models in terms of the distribution of the residuals, absence of the influential observations and the absence of collinearity between the ROE and the leverage variables. The deletion of these two cases changed the results of the initial runs of the models substantially. Therefore, the deletion of them enhanced the generalisability of the results. Finally, the impact of one outlying value in the index of voluntary disclosure (which made the case an influential observation according to Cook' s distance) was reduced according to the suggestion of Tabachnick and Fidell (1996). They suggest the change of the score of the outlier to be one unit of the measurement scale of the variable larger (or smaller) than the next non outlying value. That ensures that the value keeps its relative position to the other values and its influence is reduced.

Table 9: The bivariate correlation between the continuous independent variables and between them and the dependent variables

	Unweighted mandatory disclosure scores	Unweighted voluntary related to mandatory disclosure	Unweighted voluntary disclosure	The overall index of unweighted disclosure	Weighted mandatory disclosure	Weighted voluntary related to mandatory disclosure	Weighted voluntary disclosure	The overall index of weighted disclosure	total owners' equity	no. of shareholders	return on equity	Leverage ratio
total owners' equity	-.222[a]	-.130	.334	-.022	-.223	-.116	.323	-.038				
	.069[b]	.290	.005**	.856	.068	.347	.007**	.756				
no. of shareholders	.132	.227	.133	.236	.135	.241	.146	.244	.134			
	.282	.062	.280	.052	.273	.048*	.233	.045*	.275			
Return on equity	.268	.312	-.041	.261	.257	.312	-.030	.251	.069	.089		
	.027*	.010**	.737	.031*	.035*	.010**	.809	.039*	.576	.473		
Leverage ratio	-.254	-.347	.112	-.230	-.243	-.345	.101	-.221	-.047	-.077	-.978	
	.037*	.004**	.362	.059	.046*	.004**	.412	.070	.704	.535	.000**	
percentage of government ownership	-.679	-.421	-.043	-.619	-.679	-.401	-.070	-.625	.479	-.090	-.181	.149
	.000**	.000*	.727	.000**	.000**	.001**	.573	.000**	.000**	.464	.139	.227

a: The *Pearson's* correlation coefficient.

b: the level of significance. (*): α ≤.05; (**): α ≤.01 (two-tailed).

Table 8: A comparison between the disclosure levels of listed and unlisted Saudi companies and the level of significance for the difference between the two groups of companies regarding their annual disclosure practices[a]

		Unweighted mandatory disclosure	Unweighted voluntary related to mandatory disclosure	Unweighted voluntary disclosure	The overall index of unweighted disclosure	Weighted mandatory disclosure	Weighted voluntary related to mandatory disclosure	Weighted voluntary disclosure	The overall index of weighted disclosure
NOT LISTED N = 13	Mean	.893	.326	.234	.534	.892	.343	.248	.551
	Std. D.	.120	.073	.085	.062	.122	.067	.090	.063
	Minimum	.514	.227	.067	.343	.509	.247	.075	.353
	Maximum	1.000	.479	.357	.592	1.000	.468	.378	.598
LISTED N = 55	Mean	.878	.323	.328	.553	.877	.339	.341	.571
	Std. D.	.106	.084	.121	.066	.106	.089	.119	.069
	Minimum	.420	.050	.000	.346	.425	.055	.000	.337
	Maximum	1.000	.533	.533	.663	1.000	.567	.549	.686
The significance of difference[b]		.20	.43	.005**	.082	.21	.48	.006*	.077

[a]: Although the disclosure indices were weighted by mean and median of the users' rating, only the mean weighting is reported here because it is found that there is an almost perfect association between the two methods of weighting.

[b]: The Asymp. significance level of the *Mann-Whitney U* test. (*): $\alpha \leq .025$; (**): $\alpha \leq .005$ (one-tailed test).

Table 7: The descriptive statistics of the continuous independent variables for the two sample groups of companies; listed and not listed, and the level of significance of the differences between them.

		Total owners' equity[a]	no. of shareholders	return on equity	Leverage ratio	percentage of government ownership
NOT LISTED	Mean	153,371,754	126	.03	.22	6.27
	Std. D.	163,214,725	116	.09	.54	20.73
N = 13	Minimum	24,425,249	2	-.12	.00	.00
	Maximum	575,094,093	339	.23	1.99	75.00
LISTED	Mean	1,474,199,314	22,176	-.28	2.98	17.25
	Std. D.	3,615,223,352	37,881	1.70	16.41	26.94
N = 55	Minimum	4,063,579	42	-11.36	.00	.00
	Maximum	25,107,862,000	197,000	.31	118.64	98.72
The significance of difference[b]		.001**	.000**	.32	.15	.023*

a: Saudi Ryals
b: The Asymp. significance level of the *Mann-Whitney U* test. (*): $\alpha \leq .025$; (**): $\alpha \leq .005$ (one-tailed test)

3.3 *Method of data analysis*

Since the corporate disclosure practice is linked to more than one company's characteristic, the effects of such characteristics (the independent variables) on the disclosure level (the dependent variable) should be considered simultaneously. This is called multivariate analysis. The most suitable multivariate technique is multiple regression analysis. This is because the association between the level of disclosure and company's characteristics is a dependence relationship and the dependent variable (the disclosure level) is measured on a metric scale (Hair *et. al.*, 1998; Tabachnick and Fidell, 1996).

In this research, four regression models are developed; one for each disclosure index (i.e., the mandatory disclosure, voluntary-related to mandatory disclosure, voluntary disclosure, and the overall disclosure). These models will be run using the unweighted and weighted versions of each index of disclosure.

4. DATA ANALYSIS AND RESULTS

Descriptive statistics about the independent and dependent variables are given in Table 7 and Table 8 respectively, classified by the listing status of the companies. Table 9 reports the correlation coefficients between the independent variables as well as between them and the dependent variables. The table shows that the company' s characteristics associate significantly with some types of disclosure in a bivariate sense. The table also shows a highly significant correlation between two independent variables; return on equity and leverage ratio. This high correlation could affect negatively the multivariate analysis. This will be dealt with in the design of the multivariate models.

(late 1997 and early 1998), the most available corporate reports are those for 1996. Also, other data needed for the research, such as the percentage of governmental ownership and number of shareholders, are available only for the year 1996.

There were ninety one registered public limited companies in Saudi Arabia in 1996. They are also called corporations or joint stock companies. Sixty nine of them were listed in 1996. Ten of the companies were banks, one was an insurance company, and one was a traveller's cheque company owned by a few banks. All of the companies were contacted personally or by the phone and fax, requesting them to forward copies of their annual reports. The researcher supplied the companies with a letter bearing his name and signature. For companies that did not respond, the researcher contacted the department of corporate affairs within the Ministry of Commerce. With the limitation of his staff and time, the assistant director of that department offered considerable help that was much appreciated. Table 5 describes the selection of the study population and Table 6 describes the sample of the study.

Table 5: The targeted Saudi corporate population

Total corporate population in Saudi Arabia	91
of which: banks	(10)
Financial institutions*	(2)
Population targeted by the present study	79

* One insurance company and one traveller's cheques company owned by few banks. Both of them are non listed.

Table 6: The sample of annual corporate reports

Targeted population	79
Listed	59
Non listed	20
Reports received from companies	50
of which is non usable	(2)
Reports copied from the Ministry of Commerce	21
of which is non usable	(1)
Total sample of the study	68
Percentage of total targeted population	86%
Listed companies	55
Percentage of total listed companies	93%
Non listed companies	13
Percentage of total non listed companies	65%

Whether there is a difference between the disclosure of companies audited by accounting firms with international affiliations and the disclosure of companies audited by local firms in Saudi Arabia, is tested in this research. Conclusions of this test will give some evidence about the quality of service provided by local auditing firms in Saudi Arabia. To operationalise the test of the association between the corporate level of disclosure and the type of the auditing firm, the following hypothesis, stated in its null form, will be tested.

H_7 : There is no association between the type of auditor (local or international affiliate) and the level of either the mandatory or voluntary disclosure a company makes in its annual report.

To be included in the multivariate analysis, the type of auditor' s variable is represented by a dummy variable whose values are

Audit = **1** if the auditing firm has an affiliation with an international company
Audit = **0** if it is an independent local firm.

3.1.2.8 Stock market listing

A public limited company can have its stock listed in the electronic share trading system, run by commercial banks in Saudi Arabia after a grace period (ranging from two to five years) from its establishment. There are no extra disclosure requirements for listed companies. Examining the level of external disclosure of companies listed in the electronic share trading system and companies not listed in the system, will give evidence as to whether disclosure practice of Saudi Arabian companies is influenced by the stock market. To operationalise the test of the association between the corporate level of disclosure and the listing status of a company, the following hypothesis, stated in its null form, will be tested.

H_8 : The public trading of a company's shares in the Saudi stock market has no association with the level of either the mandatory or voluntary disclosure that company makes in its annual report.

In order to include the listing status as a variable in the subsequent multivariate analysis, a dummy variable should be created. This dummy variable will take the following values

Listing = **1** if the company is listed in the stock market.
Listing = **0** if the company is not listed in the stock market.

3.2 The Annual corporate reports

The objectives of a research study are the determinants of the data needed to accomplish such objectives. The purpose of this research is to find explanations of the variation in the current annual disclosure practices of Saudi Arabian companies. Therefore, the most recent corporate reports are targeted. At the time of data collection

Studies about corporate external disclosure, generally, excluded banks and other financial institutions from the analysis. This is because such institutions' activities are relatively unique to them and not comparable to other business activities of other sectors (Hossain *et. al.*, 1995). Also, financial institutions are heavily regulated (Botosan, 1997; Chow and Wong-Boren, 1987) and monitored by a specialised agency. In Saudi Arabia, banks are regulated and monitored independently from other types of companies by *Saudi Arabian Monetary Agency* and are not bound by the accounting standards applicable to other companies (SAMA, 1990). Therefore, financial companies will be excluded from the analysis.

To operationalise the test of the association between the corporate level of disclosure and the industry to which a company belongs, the following hypothesis, stated in its null form, will be tested.

H_6: There is no association between the type of industry to which a company belongs and the level of either the mandatory or voluntary disclosure that a company makes in its annual report.

In order to minimise the number of categories of industry for better analysis, a bivariate analysis was conducted between every pair of industry sectors, regarding their disclosure level. Such analysis revealed that some of industry sectors exhibit no significant differences between their level of annual disclosure and they have about the same pattern of difference from other sectors. These are agriculture, petroleum, manufacturing, real estate, and services sectors. Therefore, they are combined into one group. The exceptions were the cement and electricity sectors. Therefore, for statistical analysis there will be three industry groups: cement, electricity, and others.

To examine the effect of the industry type on the level of annual corporate disclosure in the subsequent multivariate analysis, dummy variables should be created. These dummy variables along with their values are
Cement = 1 if a company belongs to the cement industry
Cement = 0 for other companies in other industry sectors
Electric = 1 if a company belongs to the electricity sector
Electric = 0 for other companies in other sectors

3.1.2.7 Auditor

Some of the past studies, reviewed earlier, have suggested that companies that are audited by auditors who have an affiliation with one of the large international firms, tend to have better annual disclosure than those companies audited by local accounting firms. This could be due to the expertise of the large international accounting firms , their perceived independence, their concern about their reputation and the economies of scale they enjoy (Lennox, 1999; Hossain *et. al.*, 1995; Davidson and Neu, 1993; Chow and Wong-Boren, 1986; DeAngelo, 1981).

sure. The financial risk of a company increases as its debts increase (Patton and Zelenka, 1997). Therefore, the management is expected to reduce such risk by offering greater disclosure about its performance. Jensen and Meckling (1976) argued that agency costs increase as leverage increases, hence the management offers more voluntary information to reduce such cost of monitoring its performance. While this argument can apply to companies that issue bonds, it might not apply so easily to bank borrowing. This is because banks are usually in a superior position to other stakeholders, in obtaining information directly from the company. In fact, it is legitimate to argue that with an increase leverage through bank borrowing, the company may lessen the amount of voluntary disclosure since it can communicate directly with its substantial capital supplier, i.e. the banks. This argument can be supported by the practice of corporations in a country such as Germany, where companies depend heavily on creditors, to supply their capital requirements. These companies disclose substantially less amount of information compared to companies in other countries, such as the UK and the US, where equity capital is a major source of funding (Mueller *et. al.*, 1994; Nobes and Parker, 1995).

The effect of leverage on the level of corporate disclosure in Saudi Arabia is tested in this research. The leverage is measured as the long term debt divided by the total of owners' equity. To operationalise the test of the association between the corporate level of disclosure and the leverage ratio, the following hypothesis, stated in its null form, will be tested:

H_5: The leverage ratio of a company has no association with the level of either the mandatory or voluntary disclosure that company makes in its annual report.

3.1.2.6 Industry classification

There is no clear general link between the level of disclosure a company offers in its annual report and the industry to which that company belongs. It might be the fact that some industries are dominated by large companies, and it is the size effect which derives the variation in disclosure levels (e.g. McNally *et. al.*, 1982). The effect of some industries on the environment, which puts them in the public eye, could be a source of variation in the level of annual disclosure (Patten, 1991). However, this should apply only to disclosures related to the company's interactions with the environment. One of the points that should be considered regarding the industry effect on the level of disclosure, is that countries have different industry classifications and some industries are more important or dominant in some countries than in others. Therefore, the comparability of different studies in different countries should be treated with caution.

The association between the level of annual corporate disclosure and the industry is examined in this study. There are eight industry sectors in Saudi Arabia. They are

- banking sector,
- cement producing sector,
- electricity sector,
- petroleum sector, and
- manufacturing sector,
- services sector,
- agricultural sector,
- real-estate sector.

3.1.2.3 Government ownership

The Saudi government owns substantial amounts of shares of many companies in Saudi Arabia. The effect of such ownership on the companies' extent of disclosure has not been documented in the literature. The expectation is that the percentage of government ownership of a company' s share will associate negatively with the extent of external disclosure, since the government has the power to demand information directly from companies and it, generally, participates in the governance of such companies. On the other hand, the trend of privatisation of the economy in Saudi Arabia, may enhance the external disclosure to attract private capital. This research will provide empirical evidence about the effect of government ownership on the extent of corporate disclosure. The annual *Saudi Corporations* Guide, issued by the *Council of Saudi Chambers of Commerce and Industry* (1997), is the only available source that gives information about the size of government interest in Saudi corporations. To operationalise the test of the association between the corporate level of disclosure and the amount of government ownership, the following hypothesis, stated in its null form, will be tested:

H_3: The amount of government ownership of a company's share has no association with the level of either the mandatory or voluntary disclosure that company makes in its annual report.

3.1.2.4 Shareholders pressure

In some past studies (e.g., Singhvi and Desai, 1971; Cook, 1991), the number of shareholders is used to represent the size of the companies in their studies. Although this could be true in some countries, it seems inappropriate in Saudi Arabia due to the effect of large government ownership and the observed concentration of share ownership of some companies. The number of shareholders could be, however, used as a proxy of something other than size. Under the agency theory, it is expected that the monitoring cost would increase as the number of external owners increases (Schipper, 1981). This type of cost could be reduced by increasing external disclosure (Leftwich, Watts, and Zimmerman, 1981). Raffournier (1995) asserted that companies with larger ownership diffusion are expected to disclose more than companies whose shares are held, substantially, by its managers or a few shareholders. Therefore, the number of shareholders represents the public pressure on companies to disclose more about their performance. To operationalise the test of the association between the corporate level of disclosure and the number of shareholders, the following hypothesis, stated in its null form, will be tested:

H_4: The number of shareholders has no association with the level of either the mandatory or voluntary disclosure that a company makes in its annual report.

3.1.2.5 Debt to equity ratio (leverage)

Only one (Malone *et. al.*, 1993) of the studies that have been reviewed in this study, found a significant relationship between leverage and level of corporate disclo-

ditions. While total shareholders' fund is a suitable measure of company size, the number of shareholders is not a suitable measure of size especially in Saudi Arabia. This is because of governmental and large institutional investors ownership of some companies' shares. Also, the concentration of ownership of some companies' shares observed in Saudi Arabia (Riyadh Chamber of Commerce and Industry, 1998) weakens the use of the number of shareholders as a representative of company size. In this research, the total owners' equity will represent the size variable.

To operationalise the test of the association between the corporate level of disclosure and the size of company, the following hypothesis, stated in its null form, will be tested:

H_1 : There is no association between the size of the company and the level of either mandatory or voluntary disclosure it makes in is annual report.

3.1.2.2 *Performance of the company*

The literature offers no theoretical base for assuming a relationship between company performance and level of financial disclosure (Lang and Lundholm, 1993). A company's management, during a time of good results, may disclose detailed information to praise itself and to justify its compensation (Singhvi and Desai, 1971). During bad times, a company' s management may also disclose detailed information to keep its reputation and to avoid costly litigation (Skinner, 1994). Owusu-Ansah (1997) argued that companies with relatively large profit have the incentives not to disclose full information about their performance in order to avoid some governmental action. He cited some examples about governmental attacks on highly profitable companies.

In Saudi Arabia, a company' s management has the opportunity to praise itself during times of good performance. It, however, has nothing to fear during times of bad performance since there is no legal channel to sue companies when they misstate or omit material facts affecting any individual or group of stakeholders. Therefore, it seems appropriate to examine whether the level of corporate disclosure in Saudi Arabia can be linked to the performance of such companies.

Since the size the companies has been proxied in this study by the total of owners' equity for its perceived stability, the performance of companies is going to be proxied by return on equity, which is the result of net income divided by the total of owners' equity. This proxy was used in some previous studies (e.g., Patton and Zelenka, 1997; Raffournier, 1995). To operationalise the test of the association between the corporate level of disclosure and company performance, the following hypothesis, stated in its null form, will be tested:

H_2: There is no association between the performance of a company and the level of either mandatory or voluntary disclosure it makes in its annual report.

Table 4: The operationalisation of company's size in a sample of previous studies of extent of disclosure.

Studies	Size measurement	Statistical method used	Significance level
Singhvi and Desai (1971)	Total assets	Chi-square OLS regression	p<0.01 (+)* Non significant
	No. of stockholders	Chi-square OLS regression	p<0.01 (+) Non significant
Buzby (1975)	Total assets	Kendall rank correlation	p<0.001 (+)
Firth (1979)	Sales turnover Capital employed	Kendall's rank correlation (tau)	p<.001 (+) p<.001 (+)
McNally *et. al.* (1982)	Total assets Net income Shareholders' funds	Spearman's rho	p<.01 (+) p<.01 (+) p<.01 (+)
Chow and Wong-Boren (1987)	Market value of equity plus book value of debt	OLS regression	p<.01 (+)
Cooke (1991)	No. of shareholders Total assets Turnover	Step-wise regression	P<.01 (+) p<.01 (+) p<.001 (+)
Lang and Lundholm (1993)	Market value of equity at the beginning of the year	Rank regression	p<.001 (+)
Malone *et. al.* (1993)	Total assets	Stepwise regression	Non significant
Hossain *et. al.* (1995)	Log of total assets	OLS regression	p<.001 (+)
Wallace and Naser (1995)	Total assets	Ranked OLS regression	p<.001 (+)
Raffournier (1995)	Log of sales	Stepwise regression	p<.001 (+)
Inchausti (1997)	Total assets	OLS regression	p<.05 (+)
Patton and Zelenka (1997	Total assets	OLS regression	non significant

* (+) means positive association; (-) means negative association

It seems that the total of the owners' equity is the most stable measure of size. Other measures are not stable. Total assets, for example, are affected by the borrowing policy of a company. Total sales may not reflect the size of the company as it is subject to fluctuation from time to time depending on factors such as general economic con-

In the present study, both weighted and unweighted disclosure indices will be employed to seek additional evidence about the effect of weighting the importance of disclosure items in the annual reports, on the statistical analysis. While previous studies (e.g. Singhvi and Desai, 1971; Robbins and Austin, 1986; Chow and Wong-Boren, 1987) employed the importance weight assigned by just one user group (i.e., financial analysts or loan officers), this study employed the weight reported by Alrazeen (1999) study, where five user groups rated the importance of the disclosure items. This is expected to produce a well-balanced weighted index, of disclosure in the annual reports.

3.1.2 The independent variables

3.1.2.1 Size of the company

Many of the past studies (reviewed in this study) have, empirically, suggested size of the company as the main explanatory variable of the variation in the level of corporate external disclosure, where larger companies release more information than smaller companies in their annual reports.

The first reason forwarded to explain the positive relationship between company size and level of external disclosure, is the financial ability of large firms to collect, process, and disseminate more information than smaller companies (Singhvi and Desai, 1971; Lang and Lundholm, 1993). However, most of information items used in past studies, to examine the extent of corporate disclosure, are of the types that are expected to be in the internal records of almost every company, for internal use.

Another, more basic reason for the superiority of large companies' disclosure, is that larger companies are under great pressure from news media, for information. Lang and Lundholm (1993) and Frankel *et. al.,* (1995), among others, mentioned the fact that the press, such as *The Wall Street Journal*, extensively covers the news from large companies.

Finally, the political visibility and public pressure on large companies, may lead them to disclose more information about their performance and their contribution to society (Cowen *et. al.*, 1987). Contrary to this argument, Owusu-Ansah (1997) argued that publicly feasible companies may disclose less to avoid government and public scrutiny.

Most of the studies (mainly in developed countries) found a significant positive association between the size of the company and the level of annual disclosure (e.g., Cerf, 1969; Buzby, 1975; Firth, 1979; Cooke, 1992; Lang and Lundholm, 1993). However, some studies (mainly conducted in less developed countries) found no significant association between the size of the companies and the level of the annual disclosure (e.g., Ahmed and Nicholls, 1994; Solas, 1994; Almodahki, 1996; Patton and Zelenka, 1997; Owusu-Ansah, 1998).

Operationalisation of the size variable is not consistent among past studies. Table 4 summarises the different measurements of size, in a sample of past studies.

awarded .50 of a point and so on. This procedure, which was suggested first by Buzby (1974) and applied recently by Inchausti (1997) is expected to reduce the subjectivity of the scoring process and produce a more reliable measure of the level of the annual corporate disclosure.

After assigning scores to the information items, the disclosure index is to be computed, which is the result of the total score earned by a company divided by the total possible scores. The total possible score is not the same for every company because not all of the information items are applicable to all companies. For example, a local electricity company has nothing to disclose about revenue from foreign sources. Similarly, a company that did not show a " long term liability" in the balance sheet could not be assumed to have a long term debt and consequently penalised for the non-disclosure of the source of the debt, its maturity date, and the interest rate on such a debt.

3.1.1.5 *Weighted vs. unweighted disclosure scores*

Previous studies in annual corporate disclosure have suggested two methods of assigning scores to items of disclosure in order to compute an overall index of disclosure of a company. The first method, called unweighted scores, uses dichotomous scores. If an item is disclosed in the annual report, one point is awarded to that company. Otherwise, a zero is given to that company. The second method, called weighted score, differentiates between the disclosure items according to their importance to a specific type or groups of annual reports' users. The weighted score is obtained by asking groups of annual report users to rate the relative importance of an item to their decision making needs. They are asked to scale their perceived importance of an item between one, if it is not important to them, and five if it is very important to them. Then, the average of the scores given by all raters to that particular item is used as the weighted score given to the item, if the company discloses it. Otherwise, a zero is given to that company.

The argument for weighted score is that not all information items disclosed in the annual reports have the same importance to, or impact on, the decisions of those who utilise the annual reports. Called nicely by Robbins and Austin (1986) a compound measure, the weighted score reflects both the extent of disclosure and the importance of the information communicated through the annual reports.

The argument against a weighted score is that respondents rate the importance of disclosure items with no "real economic consequences" (Chow and Wong-Boren, 1987, p. 536) to them. Consequently, the importance assigned by such raters may not reflect their actual utilisation of such information in their real decisions (Chow and Wong-Boren, 1987). Another argument against using a weighted disclosure score is that the annual report is for a large number of user groups, and the rating process may reflect only a subset of those users (Chow and Wong-Boren, 1987). Empirically, Chow and Wong-Boren (1987) and Robbins and Austin (1986) found similar results using both weighted and unweighted disclosure indices in their analysis.

Table 3 shows the items used to calculate the index of voluntary disclosure that have no close relationship to the mandatory one. The method of assigning scores to the information items is discussed in the next paragraphs.

Table 3: Items included in the index of voluntary disclosure that not closely related to mandatory disclosure.

Donation to, and support given to charities.
University graduate recruitment policy and achievement.
Plan and expenditure on human resources development.
Statement of cash flow.
Discussion of major factors affecting current year operations.
Discussion of major factors expected to affect future operations.
Percentage of Saudi employees in different levels of the organisation.
Description of future capital expenditure.
List of names of directors.
List of names of top management.
Company policy regarding dividends.
Significant shareholders.
Description of major types of products.
Information about the management of excess cash.
Financial accounting information for more than two years.

3.1.1.4 *Scoring the information items and the calculation of the index*

Usually, the information items in an annual report are of two types. The first one is the single element information items, such as earnings per share. In the scoring sheet, such an information item is awarded a full point if it is disclosed and zero otherwise. The second type of information items in the annual reports is those items that contain multiple information elements. An example is the amount of long term debt. A company may disclose only the amount of debt. It may also disclose its sources, the maturity dates, and the interest rates. Therefore, a company is awarded 25% of a point for each element. For example, if a company disclosed only the amount of the debt, it is awarded .25 of a point. If it disclosed both the amount and source of the debt, it is

Table 2: Items included in the index of voluntary disclosure closely related to mandatory disclosure.

Description of property, plant, and equipment.
Description of pension and post retirement plans.
Advertising expenses for the current year.
Description of the calculation of the Zakat due.
Amount of annual directors' remuneration.
Amount of annual top management's remuneration.
Percentage of total wages paid to Saudi employees.
Amount of revenue generated from foreign markets.
Details of revenue sources.
Details of equity investment (name of the company, number of shares held, and their cost and market value).
Market value of the inventory.
Description of the components of the inventory.
Market value and breakdown of non equity investment (e.g., bonds, land, buildings).
Monetary amount of locally produced raw materials and other products used by the company in its operation,
Details of long term debt (source, amount, interest rate, and maturity).
Audit fees.
Summary of the ageing of the accounts receivables.
Earnings per share.

Table 1: Items included in the mandatory disclosure index.

Providing current year and previous year figures.
Classification of assets and liabilities as current and non current.
Arranging assets in the following order: current assets, investments, fixed assets, and intangible assets.
Current assets classified in the statement by major components (e.g., cash, marketable securities, inventory).
Showing the total current assets in the balance sheet statement.
Fixed assets classified by major components (e.g., land, buildings, equipment).
Depreciable assets shown net of depreciation.
Arranging liabilities in the following order: current liabilities, non current liabilities.
Current liabilities classified in statement by major components (e.g., short term loan, suppliers, dividends payable).
Showing the total of the current liabilities in the balance sheet statement.
Non current liabilities classified by major components (e.g., long term debt, post retirement benefits).
Arranging owners' equity in the following order: paid-up capital, donated capital (if any), reserve, appropriated retained earnings, non appropriated retained earnings.
Amount of sales or net sales.
Cost of sales.
Gross margin.
Administrative and general expenses.
Selling expenses.
Other revenues (losses).
Net income (loss).
The presence of the statement of retained earnings or
The presence of the statement of changes in the owners' equity.
Brief description of the nature of the entity's activities.
Brief description of the significant accounting policies.

ity "cannot be completely removed, nor is it reasonable to expect that it can be." (Marston and Shrives, 1991, p. 208). The researcher, however, should strive to minimise the subjectivity effect by reviewing existing practices, consulting with previous works, and considering the socio-economic environment of the country subject to the study (Owusu-Ansah, 1997).

3.1.1.1 Index of mandatory disclosure

The first index is for the measurement of a company's compliance with existing disclosure requirements in Saudi Arabia. The items of disclosure included in this index were taken from the *Saudi General Presentation and Disclosure Standard* (Ministry of Commerce, 1992). The items included in this index are expected to be applicable to almost all of the companies at almost all of the time. In other words, items such as extraordinary income and discontinued operations are not included. For such items, it is impossible, without consulting the internal records of a company, to determine that the absence of disclosure means nondisclosure. Such absence may be due to the inapplicability of the item to the company (no extraordinary income, for example). It may also be due to the company not reporting such an item deliberately. Table 1 shows the items used to calculate the index of mandatory disclosure.

3.1.1.2 Index of voluntary disclosure closely related to mandatory disclosure

The second disclosure index includes the disclosure items that usually relate to mandatory items (i.e., items in the area of legal requirements but above the minimum requirements). For example, companies in Saudi Arabia are required to disclose the amount of the fixed assets. However, at the time of data collection there are no requirements about the level of details to be given of these assets. This index is an indication of the degree of quality of disclosing mandatory items. Table 2 shows the items used to calculate the index of voluntary disclosure related to mandatory one.

3.1.1.3 Index of voluntary disclosure not closely related to   mandatory disclosure

The third index includes the disclosure items that companies are expected to disclose voluntarily and has no close relationship to mandatory disclosure (i.e., outside the area of legal requirements such as the names of directors). Although there is an element of subjectivity in the assignment of items to this category of disclosure, the following criteria were used to minimise such subjectivity and to make this category somehow distinguishable from the former one:

1. The item is not a direct part of the revenues or the expenses of the business, such as donation to, and support given, to the charity,
2. The item is qualitative in nature, such as description of major types of products, and
3. The item is about policy matter, such as dividends policy.

RESEARCH METHODOLOGY

This research is an attempt to answer the following question: what are the factors that may explain variations in the disclosure practices of Saudi companies? As suggested by the literature reviewed in the previous section, variation in the corporate disclosure quality, as proxied by the extent of information offered in the annual financial report, can be explained by a set of variables. These variables are company specific characteristics. The existing literature offers no agreed upon theory about the nature or number of variables that can be utilised to assess the corporate annual financial disclosures. Moreover, there is no established pattern of the association (i.e., positive or negative) between the level of disclosure and the possible explanatory variables. The following paragraphs are drawing on both the literature and the Saudi environment, to explain the study variables and set the hypotheses that relate to the annual corporate reports in Saudi Arabia.

3.1 Definitions of the variables

Two sets of variables are needed to analyse the extent of the annual corporate reports in Saudi Arabia. The first set consists of those variables (dependent variables) that facilitate the description of the level of corporate disclosure. Creation of these variables is attained by the development of the disclosure indices for each company in the sample. The second set of variables (independent variables) consists of those variables identified in the literature as possible explanatory variables of the variation in the level of annual corporate disclosure.

3.1.1 Construction of the disclosure indices: the dependent variables

The quality of annual corporate disclosure can be judged under three criteria: compliance with mandatory disclosures, depth of disclosing mandatory disclosures and the extent of other voluntary disclosures. Therefore, three variables are needed to measure the extent of corporate annual external disclosures and to find explanations of the variation, if any, among companies. Most of the previous studies (reviewed earlier) make an all-inclusive measure that contains both mandatory and voluntary disclosure or study one dimension of corporate disclosure. Such practice may produce a doubtful measure of the company' s extent of disclosure, i.e., it is hard to tell whether a company complies with the minimum disclosure requirements, exceed the requirements, or disclose some information that has no close relationships to the requirements. Distinguishing between the different sorts of disclosures will reduce, it is hoped, such doubt by allowing the measurement of the corporate compliance with the minimum requirements as well as the extent of disclosure other than the minimum requirements.

To standardise the measurement of the extent of disclosure among the companies, researchers in this field developed a scoring sheet to produce an index of disclosure, which allows comparison between companies. This practice is considered in the literature as a practical research tool, although it involves some degree of subjectivity in selecting the items to be included in the scoring sheet (Botosan, 1997). Such subjectiv-

sure of 48 financial and non financial information items in 28 Saudi corporations. Abdulsalam, however, did not perform any bivariate or multivariate statistical tests. In descriptive terms, Abdulsalam concluded that there is no association between the level of disclosure and some company' s characteristics, namely capital, profitability, assets size, government aid, foreign investment, government ownership, and CPA firm.

Another study was conducted by Bahjatt (1986). He examined the annual corporate disclosure of a sample of 28 financial and non financial companies. As part of his study, Bahjatt related the extent of corporate disclosure to some companies' character istics, namely size, industry, and CPA firm. Using parametric and non parametric testing on a bi-variate basis, Bahjatt (1986) concluded that the industry has an effect on the level of annual disclosure. Also, he found that size is positively related to the level of disclosure.

Almodahki (1996) examined the annual corporate disclosure of a sample of Saudi companies. Using 121 information items, she examined the annual reports of a sample of 33 financial and non financial companies for the period 1986-1990. Using the *Wilcoxon Signed Ranks* test, Almodahki (1996) concluded that there was a significant increase in the level of both mandatory and voluntary annual disclosures of the sampled companies from the year 1986 to 1990. Using the *Mann-Whitney U* test, she concluded that the level of disclosure was not associated with any of the selected company' s characteristics, i.e., size, industry type, auditor type, foreign investment, and company age.

Another study that examined the extent of Saudi annual corporate disclosure was conducted by Al-mulhem (1997). He examined the association between the level of the annual disclosure of 40 companies and a group of company' s characteristics, namely size, profitability, industry type, listing status, and auditing firm. Al-mulhem (1997) constructed an index of disclosure of 163 information items. Using regression analysis, Al-mulhem (1997) found a significant and positive association between the level of annual disclosure and company size (p<.009) as measured by total sales. He also found a significant and negative association between the level of disclosure and rate of return (p<. 046). He also found that the listed companies significantly disclosed more than the non-listed companies (p<. 006). Using reduced indices of disclosure which contained only the mandatory disclosure items in one instance and the important disclosure items (as rated by the users) in another instance, Al-mulhem (1997) only found a significant and positive association between the level of disclosure and the total sales.

Although these studies have greatly contributed to our knowledge of Saudi corporate disclosure behaviour, more refinement is needed, especially on the methodology of research. The present study attempts that on many grounds, namely the size and composite of the sample, the composite and definitions of the variables both dependent and independent ones, and the statistical analysis of the data. Detailed explanation is given in the following section.

The Cerf' s approach has interested researchers around the world. The studies that relate corporate disclosure to some company' s specific characteristics, can be classified into three categories: the first category includes those studies that examine the corporate disclosure as a whole, i., e., did not distinguish between mandatory and voluntary disclosures. Examples of these studies are done by Singhvi and Desai (1971), Buzby (1975), Cooke (1992 and 1993), Malone *et. al.*, (1993), Inchausti (1997), and Patton and Zelenka (1997). The second category includes those studies that concentrate on the mandatory disclosures. Examples of these studies are those done by Ahmed and Nicholls (1994), Wallace *et. al.*, (1994), Wallace and Naser (1995), and Owusu-Ansah (1998).

The third category includes those studies that consider voluntary disclosures only. Examples of these studies are done by Firth (1979), McNally *et. al.*, (1982), Chow and Wong-Boren (1987), Cooke (1991), Lang and Lundholm (1993), Solas (1994), Gray *et. al.*, (1995), Hossain *et. al.*, (1995), and Raffournier (1995).

The above mentioned studies employed less or more than the variables included in the original study in the field, i., e., the Cerf one (1969). There is, however, no agreed upon theoretical basis for including or excluding the different possible company' s characteristics. Also, there are differences in the composite and quantity of disclosure items included in the above mentioned studies. And finally, the methods of data analysis vary among the studies. These differences created many opportunities for further studies about corporate disclosure behaviour.

In an attempt to draw an aggregate picture from a number of studies, Ahmed and Courtis (1999) conducted a meta-analysis where they analysed the results of 29 studies of the relationship between the corporate level of annual disclosure and a group of company' s characteristics. They noted that the past studies used different statistical techniques, employed different information items and different explanatory variables. With these limitations in mind, Ahmed and Courtis (1999) concluded that the level of corporate disclosure associate significantly and positively with the size of the company for both mandatory and voluntary disclosure studies. The listed companies also significantly disclose more voluntary information than the non-listed companies (p value is not reported). Ahmed and Courtis (1999) also concluded that the studies which employed voluntary or aggregated measure of disclosure showed significant association between the level of disclosure and the leverage ratio of the company. They also found significant positive association between the level of voluntary disclosure and the profitability of the company. Finally, they found that mandatory disclosure is significantly higher for companies audited by one of the large international companies.

2.1 Disclosure Studies About Saudi Arabia

Saudi corporate disclosure practice has been the subject of a number of previous studies. One of them was conducted by Abdulsalam in 1985. He examined the disclo-

is because of the considerable impact, documented in the literature that detailed disclosures have on the market. Imhoff and Thomas (1989), an Imhoff, (1992) suggest that analysts associate high accounting quality with, among other things, the full financial disclosures. Consequently, examining what factors could affect the extent of disclosure will lead to the enhancement of the quality of financial reporting.

Quality of disclosure, as proxied by the extent of disclosure, can be judged under three criteria: compliance with mandatory disclosure, depth of disclosing mandatory disclosures, and the extent of other voluntary disclosures. The construction of the variables (the dependent variables) that will represent the disclosure quality will be discussed later in this study.

The subject of this study is not a new one. The compositions of the data and variables, the larger sample, and the method and thoroughness of statistical tests in the present study, however, are expected to enhance our understanding of some aspects of the financial reporting process. In particular, this study handles the dependent variables, the level of disclosures, with a new approach. While most of the previous studies separately investigated the level of disclosure as a whole, or mandatory disclosure, or voluntary disclosure, this study will address both types of disclosure separately and collectively. In addition, voluntary disclosure is divided into those types of disclosures that relate to, and hence expand the mandatory disclosure requirements and those disclosures that are beyond the area of mandatory disclosure. This type of division is made because the annual report is supposedly written by different parties within the company. Also, some parts of the report are attested by the external auditors (the mandatory disclosure), some other parts are not but are within the area of the auditor' s work (the voluntary-related to mandatory disclosure), and some other parts are neither attested by the auditor nor are within the area of the auditor' s work (the other voluntary disclosure).

REVIEW OF LITERATURE

The corporate disclosure practices, especially the extent of disclosures other than the required ones, have interested researchers in the recent years.   The   pioneer empirical investigation of the corporate extent of annual disclosure, was done by Alan Cerf in 1961. He examined the association between the level of corporate annual disclosure and selected company' s characteristics, for a sample of 258 New York Stock Exchange companies, 113 other stock exchange companies, and 156 non-listed companies. He used 31 items that could be disclosed in an annual report. The characteristics chosen by Cerf, for statistical analysis, were assets size, number of stockholders, profitability, and stock market listing. Using regression analysis, Cerf (1961) found a significant positive association between the level of disclosure and assets size for companies not listed in New York Stock Exchange. He also found a significant positive association between the level of disclosure and profitability for companies listed in New York Stock Exchange and companies traded over-the-counter. Cerf (1961) also found that companies listed in New York Stock Exchange disclose more and in a better way than other companies.

The preceding discussion suggests the existence of some variation in the level of corporate disclosure. The objective of this study, therefore, is to examine the factors that might cause the variation in the level of such disclosure. This will enhance our understanding of the relationship of accounting practices to its socio-economic environment (i.e., whether the relationship between the level of corporate disclosure and a group of factors is the same in the Saudi environment as it is in other environments examined in previous studies). Also, the users and regulators alike will benefit from the identification of any systematic difference between companies, in their level of disclosure. Besides, such an examination would provide a rich description of financial accounting and its environment in Saudi Arabia.

1.1 The importance of the subject

Our concern should be aimed at the quality of corporate disclosure. The problem, however, is that accounting quality is not a directly observable variable. It is "neither a readily measurable nor a generally agreed upon characteristic of a firm" (Bernstein and Siegel, 1982). Moreover, past research has documented the "little consensus as to the set of accounting attributes used by individuals in assessing accounting quality." (Imhoff, 1992). " Good-quality accounting information is necessary to ensure that capital markets remain efficient" (Samuels*et. al*., 1999, p. 193). Disclosure quality of such information, however, is recognised to be "very difficult to assess" (Botosan, 1997; p. 324). Consequently, to be assessed, the quality of annual corporate reports must be proxied by something measurable.

It is believed that the increased amount of information a firm discloses reduces information asymmetry (Bartov and Bodnar, 1996). According to Bartov and Bodnar (1996), reduction of information asymmetry among market participants enhances the share price of the company in the sense that investors will require lower rate of return. That is because investors' risk premium is lower with more information (Belkaoui, 1994). Botosan (1997) found significant negative association ($p<.01$) between cost of equity capital and level of voluntary disclosure, for firms with low analysts following. Also, with lower information asymmetry, resulted from increased disclosure, the liquidity of a company's share will be enhanced, due to the smaller bid-ask spread of company's shares (Bartov and Bodnar, 1996; AICPA, 1994). Empirically, Wild (1992) found that dis-aggregated (increase in quantity) accounting data are more informative to users than the summary or condensed disclosure. Lev (1988) and Merton (1987) argued that the presence of information asymmetry (low quantity of information) among the market participants will lead to defensive measures, such as not dealing in securities of a specific company or staying out of the market altogether. Berry and Waring (1995) and Lev (1992) reported that extra disclosures voluntarily offered by the management, do have a considerable impact on the decision making process of external users.

Therefore, *ceteris paribus*, it can be suggested that the quantity of disclosure could be considered as a major ingredient of the quality of the report, as it is assumed that the quantity and quality of disclosure are positively related (Botosan, 1997). This

ter with disclosure requirements than companies that were audited by local firms that affiliate with some international firms. Leverage ratio positively associated with the level of mandatory disclosure while the total of the owners' equity associated positively with voluntary disclosure. On the other hand, the stock market listing and return on equity had no significant association with either the level of mandatory or voluntary disclosure.

INTRODUCTION

A substantial amount of capital is usually invested in corporations by different classes of people. Decisions such as sell, buy, or hold, of corporate equity depend mainly on the information available about these corporations.

External financial disclosure is defined as any financial information, quantitative or qualitative, that is deliberately released by the firm through formal or informal channels (Gibbins, Richardson, and Waterhouse 1990; Lev, 1992). Annual financial reporting is a term used to define the set of information released by the company annually which includes financial statements, notes to the statements, management discussion and analysis, forecasting, and other kinds of supplementary information (Wolk *et. al.*, 1992).

It is reasonable to expect some conflict in the interest between the managers and the outside parties as everyone maximises his own interest (Healy and Palepu, 1993). Therefore, the managers may not fully report all of the information they possess about their companies (Lev and Penman, 1990; Samuels, 1990). Even in the presence of regulation, full disclosure is not guaranteed. That is because regulations of corporate reporting are intended to provide the outside investors with the minimum quantity of information they need to decide on their investment in public limited companies (Wolk *et. al.*, 1992).

Disclosure is not done, it is assumed, without specific objectives (expected benefits) in managers' minds (Lev, 1992; Elliott and Jacobson, 1994). In the meantime, it cannot be made without incurring costs (Lev, 1992; Elliott and Jacobson, 1994). However, such disclosure is not a simple decision. Management faces difficult decisions on what and when to disclose. That is because public disclosure exerts notable effects, sometimes contradictory, on various stakeholder groups (Bartov and Bodnar, 1996; Frankel *et. al.*, 1995; Gigler, 1994; Healy and Palepu, 1993; Newman and Sansing, 1993; Lev, 1992). For example, such disclosures will be seen by both the capital market (investors and creditors) and competitors (Gigler, 1994; Newman and Sansing, 1993; Seligman, 1983). Therefore, the firm faces trade-offs between information that attracts capital market (and hence causes more competition) and information that deters competitors (but upsets the capital market).

AN EMPIRICAL INVESTIGATION OF THE QUALITY OF THE ANNUAL CORPORATE DISCLOSURE OF SAUDI ARABIAN CORPORATIONS [1]

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ABSTRACT

This study used the quantity of disclosure as a proxy of quality of disclosure, made in Saudi corporate annual reports. It examined both of the annual mandatory and voluntary disclosures. The voluntary disclosures are further subdivided into those that extend the mandatory disclosure and those that have no relation to the required disclosures. Possible explanatory variables employed in this study, are size of the company, its performance, debt status, government ownership, type of auditing firm, listing status, and the industry type.

Employing the regression analysis, the study was able to identify some systematic differences in the level of annual disclosure of a sample of Saudi companies. The results of the regression analysis were not affected by whether the disclosure scores were weighted (by the level of importance of the disclosure items to the users) or unweighted. One of the main findings is that the degree of compliance with disclosure requirements tends to be significantly lower as the percentage of government ownership is increased. A similar result was found regarding voluntary disclosures. Companies that were audited by independent local firms significantly complied bet-