CHAPTER-8

SUMMARY, CONCLUSIONS AND IMPLICATIONS

This chapter summarises the findings of the present study. It also discusses the conclusions drawn on the basis of these findings. The chapter further provides some suggestions for future research.

8.1 INTRODUCTION

Economic theory suggests that, ceteris paribus, increasing the quality of financial information reduces information asymmetry and hence lowers the cost of capital (e.g., Amihud and Mendelson, 1986; Diamond and Verrecchia, 1991; Easley and O’Hara; 2004 and Glosten and Milgrom; 1985). Economic theory also suggests that a commitment by a firm to increased level of disclosure should lower the information asymmetry and hence the cost of capital. Consistent with these theoretical models, empirical studies have used different indirect measures for firm’s disclosure level/ quality and provided evidence of a negative association between disclosure and cost of capital. Using more direct measures of accounting information quality, empirical studies have also focused on the association between earnings quality and cost of capital (e.g., Bhattacharya et al., 2003; Francis et al., 2004, 2005; Barua, 2006; and Francis et al., 2008).

Information asymmetry between managers and investors, ensuing from agency relationship or between informed and uninformed investors, creates demand for more transparency in financial reporting either statutory or voluntary. Transparency in corporate financial reporting creates an environment where information on existing conditions, decisions and actions are made accessible, visible and understandable to investors and other market participants. Financial reporting and disclosure are important means for the management to communicate the performance of the company and its governance to outside investors and hence reduce information asymmetry. A firm may decide to reduce information asymmetry, by providing earnings of better quality and/or by voluntary releasing information, if it is less costly than having investors and other market participants incur information cost themselves (Milgrom,1981). The difficulty, however, lies in demonstrating these relationships
empirically. This is because neither level of disclosure nor the cost of capital can be observed directly (Hail, 2002). Measurement of both the variables relies heavily on the individual perception, rather than their actual use. Earnings quality also has no formal definition. Different researchers have measured it differently. Operationalization of earnings quality depends on the decision context.

Quality of earnings has an important role in mitigating information asymmetry, as they have an important influence on the overall information regarding firms’ performance. Studies in accounting have used varied measures of earnings quality constructs that include predictive value of earnings, persistence of earnings, relationship of accruals with cash flows, abnormal accruals and total operating accruals. Empirical studies have confirmed that higher quality of reported accounting numbers is related with lower cost of capital. Empirical research, however, documents mixed results concerning the relation between voluntary disclosure and cost of capital.

Review of literature shows that a plethora of studies have been conducted in other countries, relating either voluntary disclosure or earnings quality with cost of capital. Most of the studies relating voluntary disclosure or earnings quality to the cost of capital have been conducted in the U.S. However, a few studies have been conducted in China, Brazil, Switzerland and Australia too. To the researcher’s best knowledge, no such study has been conducted in India, which finds association among the three key variables, voluntary disclosure, earnings quality and cost of capital. A number of studies on disclosure practices have, however, been conducted in India. Review of literature also shows that the study by Francis et al. (2008) is the only study that relates these three variables in a single analysis. To bridge the gap in the existing literature, the present study made an attempt to examine whether the two information attributes, voluntary disclosure and earnings quality, affect the cost of capital of the sample companies. The aim of the study was also to examine the impact of voluntary disclosure on cost of equity, conditional on earnings quality (as in Francis et al., 2008). This study builds on the theoretical research investigating whether the supply of information affects the cost of capital. However, the attempt to understand and empirically document the complex relation between measures of accounting quality, information asymmetry/information risk and the cost of capital is not an easy task (Beyer et al., 2010).
For the purpose of this study, of the 500 companies ranked on the basis of market capitalization from the ‘2008 Compendium of Top 500 Companies in India’, 151 were finally selected as the sample. The criterion for selection of the companies in the sample has been discussed in Table 5.1. Further, voluntary disclosure index was developed to measure the extent of voluntary disclosure by the sample companies. Since there is no agreed upon metric for earnings quality, Francis et al. (2008) study formed the basis for choosing earnings quality measures. Also, there is no best measure of cost of equity. Following Francis et al. (2005), earnings-price ratio was taken as a measure of cost of equity. The results were, however, also tested with future realized returns as a proxy for cost of equity. Further, the present study has been organised into eight chapters.

Chapter-1 of the present study provides the background of the study and the relevance of the topic of research in Indian context. The chapter also lists the objectives which were sought to be achieved in the study and also discusses the limitations of the study. Further, the motivation for this topic of research has also been discussed.

Chapter-2 provides the detailed discussion of the three key variables used in the study, namely voluntary disclosure, earnings quality and the cost of capital and also traces the topic of research to information economics. It also gives an overview of the different measures of earnings quality and cost of capital used in the extant literature. The chapter discusses as to how the information asymmetry caused by relatively lesser disclosures and poor earnings quality causes information risk, which is manifested in the form of increased cost of capital. The chapter also has made reference of cross-country studies to provide evidence of low informativeness of Indian financial statements and their low credibility and, thus, has established the need to explore whether the low informativeness of disclosure by Indian companies is penalised in the form of higher cost of capital.

Chapter-3 incorporates the review of the literature relevant to the topic of research. Review of literature has been carried out in four parts; studies relating to the association between voluntary disclosure and earnings quality, studies relating to association between voluntary disclosure and cost of capital, studies relating to association between earnings quality and cost of capital and the studies relating to
association among voluntary disclosure, earnings quality and cost of capital. Further, the chapter also puts forth the hypotheses formulated on the basis of the relevant literature. The chapter concludes with making some methodological observations from the literature discussed.

Chapter 4 incorporates the procedure for development of voluntary disclosure index and also for measurement of voluntary disclosure scores using the index. The chapter provides an overview of the disclosure proxies used by the extant research and also divides the extant studies into studies that have used self developed disclosure indices and the studies that have used readily available indices. Further, the chapter also lists the information items included in the index. The concluding section of the chapter discusses the validity and reliability of the voluntary disclosure index.

Chapter 5 details the research design of the present study. The research design as proposed by Francis et al. (2008) was modified in Indian context in the present research endeavour. Whereas, Francis et al. (2008) have taken only financial disclosure in their voluntary disclosure index, the present study has included non-financial disclosures as well in voluntary disclosure index that was developed to measure the extent of voluntary disclosure by the sample firms. A study by Dhaliwal et al. (2011) was the motivation behind taking non-financial disclosures in the development of voluntary disclosure index. Further, the present study differs from Francis et al. (2008) study in respect of one of the earnings quality metrics. The present study has taken absolute value of accruals instead of Francis et al. (2008) measure of abnormal value of accruals as one of the earnings quality metrics. The other two earnings quality metrics, accruals quality and earnings variability, are the same as in Francis et al. (2008). Another difference in respect of earnings quality is that the present study has taken average of the three earnings quality metrics (accruals quality, earnings variability, absolute value of accruals) to arrive at the composite metric of earnings quality, unlike Francis et al. (2008), who have used factor analysis to arrive at the final measure of earnings quality.

Absolute value of accruals instead of abnormal value of accruals measure of earnings quality was taken because the abnormal accruals measure required calculating normal accruals for industry groups and the industry groups in the present study consisted of such small number of firms to use abnormal accruals method. Further, the measures of earnings quality used in the present study do not differentiate between normal and abnormal accruals. did not allow the use taken by Francis et al. (2008)

Average of the three earnings quality metrics was taken as the ordering of the three metrics was same and also these were positively related.
The present study also differs from Francis et al. (2008) in respect of cost of equity measurement. The present study has considered earnings-price ratio as an ex-post measure of cost of equity instead of ex-ante cost of capital used in Francis et al. (2008). The study has examined the impact of voluntary disclosure and earnings quality on the future cost of equity, unlike Francis et al. (2008), who have taken the required rate of return of the shareholders to be the cost of capital. Also, the present study has taken both the cost of equity as well as cost of debt, whereas, Francis et al. (2008) have taken cost of equity to be the cost of capital. Further, the chapter details the description of the sample, source of data, study period, operationalization and measurement of independent, dependent and the control variables. Construct validity of the earnings quality measures has also been discussed. The chapter also presents the research methodology that has been used to examine the hypotheses dividing the tools used for analyses into univariate and multivariate.

Chapter-6 of the study provides an industry-wise analysis of voluntary disclosure and earnings quality. It also discusses the empirical analysis conducted to examine the association between voluntary disclosure and earnings quality. The purpose was to examine whether earnings quality influences the companies’ decisions to disclose more and also to examine whether there is complementary or a substitutive relationship between voluntary disclosure and earnings quality. For examining the association between the two variables, voluntary disclosure scores of the sample companies for the year 2007-08 have been related to earnings quality as measured for the period 2003-04 to the year 2007-08. Further, the chapter also examines the association between voluntary disclosure and other measures of earnings quality.

Chapter-7 presents the analyses that have been done to examine the impact of voluntary disclosure as well as earnings quality on cost of capital. The purpose was to examine the impact of voluntary disclosure on cost of capital conditional on earnings quality. As a step to achieve this objective, it required examining separately the impact of voluntary disclosure as well as earnings quality on cost of capital. Since cost of capital is divided into cost of equity and cost of debt, the chapter analysed the impact of voluntary disclosure as well as earnings quality on cost of equity and cost of debt. The impact of different types of disclosures, namely, strategic, non-financial and financial voluntary disclosures on the cost of equity as well as on cost of debt has also
been discussed. Further, the chapter also incorporates the analyses conducted to examine the impact of different measures of earnings quality on cost of equity as well as on cost of debt. Since there is no exact measure of cost of equity and it can only be measured precisely, the concluding part of the chapter, therefore, discussed the results taking realized returns as a proxy for cost of equity.

The present and the concluding chapter has been divided into three sections. Section 8.2 provides the summary of empirical findings and conclusions of the study. Section 8.3 provides the implications of the study. Further, Section 8.4 discusses the scope for future research.

**8.2 EMPIRICAL FINDINGS AND CONCLUSIONS**

Findings of the empirical analyses conducted in the present study have been summarised in seven sections. Section 8.2.1 and section 8.2.2 discuss the observations relating to voluntary disclosure and earnings quality of the sample companies respectively. Section 8.2.3 provides the findings relating to the relationship between voluntary disclosure and earnings quality. Further, section 8.2.4 and section 8.2.5 discuss the findings relating to the impact of voluntary disclosure on cost of equity and cost of debt respectively. Section 8.2.6 and section 8.2.7 detail the findings of analyses conducted to examine the impact of earnings quality on cost of equity and cost of debt respectively.

**8.2.1 Voluntary Disclosure**

The study developed the voluntary disclosure index and the extent of voluntary disclosure was measured under three categories, strategic, non-financial and financial disclosures. Reliability test conducted on voluntary disclosure index showed the Cronbach’s alpha to be 0.795. That provided evidence of the reliability of voluntary disclosure index. Results of the correlation analysis conducted on the four types of voluntary disclosure, namely, strategic, non-financial, financial and total voluntary disclosure scores provided evidence of a positive and significant (at 1% level) relationship among the three categories of voluntary disclosure. Results showed that correlation among the three categories ranged from 0.393 to 0.572. Further, all the categories of voluntary disclosure were found to have positive and statistically
significant correlation with overall voluntary disclosure (ranging from 0.764 to 0.850). The correlation coefficients among the three categories of voluntary disclosure were, thus, lower than their correlation with overall voluntary disclosure. This means that the three categories of voluntary disclosure captured different aspects of disclosure. However, these categories well represented the firms’ overall voluntary disclosure score. This provides evidence of validity of the voluntary disclosure index.

Further, an industry-wise analysis of voluntary disclosure on the basis of ranks of different industry groups, as derived on the basis of mean scores of different categories of voluntary disclosure revealed that computer programming industry group had the most expansive voluntary disclosure, followed by pharmaceuticals industry; whereas, wholesale trade industry had the least expansive voluntary disclosures. Further, it was observed that rubber and plastic industry had the most expansive strategic disclosures, followed by pharmaceuticals industry. Basic metals industry and wholesale trade were found to have the most and the least expansive non-financial disclosures respectively. Similarly, whereas, computer programming industry had the most expansive financial disclosures, food products industry was found to have least financial voluntary disclosure.

Though the industries ranked differently for different information items, results of Kruskal-Wallis test reported that there was no significant difference in the voluntary reporting practices among industry groups. Results, however reported a significant difference in the reporting of strategic information (significant at 5% level) and financial information (significant at 10% level) among industry groups. Chi-square statistic (significance level) for strategic and financial information categories being 20.493 (0.039) and 18.021 (0.081) respectively. Results of Kruskal-Wallis test for different sub-information items under the three broad categories of disclosure (strategic, non-financial and financial) also reported a significant difference (significant at 1% level) among industry groups in reporting of research related, productivity related and quality related information and also a significant difference (significant at 5% level) in the reporting of general, product related and other financial information. Another interesting observation was that industry groups did not differ
significantly in their voluntary reporting of corporate governance, social responsibility and environment related information.

8.2.2 Earnings Quality

The present study used three metrics of earnings quality, accruals quality, earnings variability and absolute value of accruals. Results of the correlation analysis showed positive and statistically significant correlations among the three earnings quality metrics (ranging from 0.386 to 0.727). Since there was positive correlation among the three metrics and the ordering of the three metrics was also same, they were averaged to find a composite measure of earnings quality\(^3\). Results of the correlation analysis also found a very high and statistically significant relationship of the three underlying earnings quality metrics with the composite measure of earnings quality (ranging from 0.774 to 0.850). This provided evidence of the composite measure being a meaningful representation of the three earnings quality metrics. Further, an examination of the earnings quality measures provided evidence of construct validity of all the measures of earnings quality. Results of regression of earnings quality on the factors known to be the determinants of earnings quality (innate factors) provided evidence that 72.9 percent of the variation was explained by the innate factors.

An analysis of the earnings quality of the sample companies revealed that for each of the earnings quality metric, there were different companies among the ten firms with the best and with the worst earnings quality. This shows that each earnings quality metric measures different aspect of earnings. The results also showed that about 70 percent of the sample companies had values of their earnings quality metrics below the mean values for all earnings quality metrics, indicating that about 30 percent of the companies had poorer earnings quality when compared to the mean values.

Further, an industry-wise analysis of the earnings quality provided evidence of computer programming industry group having the worst earnings quality among the industry groups. The results also reported rubber and plastic products industry group

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\(^3\) Earnings quality was taken to be an inverse measure of earnings quality metrics, so that, the higher values of all earnings quality metrics meant poorer earnings quality.
to have best earnings quality followed by pharmaceuticals, medicinal, chemical and botanical industry group. It was also observed that for all the industry groups, there was not much difference in the earnings quality ranks computed for all the earnings quality metrics. However, results of the Kruskal-Wallis test reported a significant difference among industry groups with regard to all the measures of earnings quality. Significance levels being 0.023, 0.036, 0.012, and 0.041 for accruals quality, earnings variability, absolute value of accruals and composite measure of earnings quality respectively.

8.2.3 Relationship between Voluntary Disclosure and Earnings Quality

Pair-wise correlation among voluntary disclosure, earnings quality and the firm characteristics influencing voluntary disclosure showed that all the metrics of earnings quality were negatively related to voluntary disclosure. The negative correlation between voluntary disclosure and earnings quality metrics implied a complementary relationship between voluntary disclosure and earnings quality. This suggested that poor (good) earnings quality companies issued less (more) expansive voluntary disclosures. Whereas, the negative correlation between voluntary disclosure and the composite measure of earnings quality (EARNQUAL) was significant at 5 percent level, the correlation of accruals quality and absolute value of accruals with voluntary disclosure was significant at 1 percent level. Earnings variability, however, was found to be insignificantly negatively related to voluntary disclosure. Results are inconsistent with Francis et al. (2008), who observed a significant complementary relationship between their measure of voluntary disclosure and all measures of earnings quality (including earnings variability). Further, firm size, performance, book-market ratio and complexity of business were found to be significantly related to voluntary disclosure. The results provided evidence that firms with larger size, better performance and more number of business segments provided more expansive voluntary disclosure. Also the firms with more growth opportunities, as determined by their book-to-market ratios were found to be issuing expansive voluntary disclosures. Further leverage of the company as well as the financing motive of the companies were found to have no correlation with voluntary disclosure.
The results of regressing voluntary disclosure on earnings quality and other firm controls provided further evidence on the importance of earnings quality in influencing companies’ voluntary disclosure decisions. Negative coefficients on all the earnings quality measures (significant at 5% level), except earnings variability provided evidence of a complementary relationship between voluntary disclosure and earnings quality even after inclusion of firm specific controls. This confirmed that good (poor) earnings quality firms have more (less) expansive disclosure. Regression results also reported weak and no influence of external financing motive and book-to-market ratio respectively on voluntary disclosure. The results are consistent with Nagar et al. (2003), who found weak or no associations between AIMR scores (their measure of disclosure) and market-to-book ratio and equity issue motive.

Further, examination of whether earnings quality influenced the companies’ decisions to have expansive strategic, non-financial and financial voluntary disclosure reported that earnings quality was important in influencing financial (significant at 5% level) and non-financial disclosure (significant at 10% level) but not the strategic disclosures. Significant negative coefficients on financial and non-financial disclosures suggest that good earnings quality companies issue expansive financial and non-financial disclosures. Results are consistent with Francis et al. (2008), who reported that earnings quality of the firms is significant in influencing voluntary financial disclosure by the firms. Also, results of the regression models estimated to examine the importance of earnings quality in influencing voluntary disclosure of environment, corporate social responsibility (CSR) and corporate governance related information, reported that firms with good earnings quality selected higher levels of voluntary environmental, social and governance (ESG) disclosures. The results were significant at 5 percent level. Regression models estimated to examine the impact of environmental, social and governance disclosures taken separately, however, reported insignificant effect of earnings quality in influencing social disclosures and voluntary corporate governance disclosures. These results are inconsistent with Kim, Park, and Wier (2012), who found a negative relation between CSR scores of the firms and accruals quality (their measure of earnings quality). Table 8.1 provides a snapshot view of the above findings.
Table 8.1: Results at a Glance

<table>
<thead>
<tr>
<th>Hyp. No.</th>
<th>Hypotheses</th>
<th>Statistical Technique Used</th>
<th>Results</th>
</tr>
</thead>
<tbody>
<tr>
<td>H1a</td>
<td>Companies with good earnings quality select higher level of disclosure - a</td>
<td>Multiple regression analysis</td>
<td>Accepted at 5% level of</td>
</tr>
<tr>
<td></td>
<td>complementary relationship.</td>
<td></td>
<td>significance.</td>
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<tr>
<td>H1b</td>
<td>Companies with poor earnings quality select higher level of disclosure - a</td>
<td>Multiple regression analysis</td>
<td>Rejected</td>
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<tr>
<td></td>
<td>substitutive relationship.</td>
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</tbody>
</table>

8.2.4 Impact of Voluntary Disclosure on Cost of Equity

The review of literature highlighted that most of the studies that have examined the impact of voluntary disclosure on cost of equity have taken voluntary disclosure for one year and have ascertained its impact on the implied cost of equity or the rate of return required by the equity shareholders. The present study, however, examined the impact of voluntary disclosure on the future cost of equity. Taking voluntary disclosure scores as measured by number of information items provided voluntarily by the sample companies in their annual reports of the year 2007-08 and taking earnings-price ratio for the year 2008-09, as a measure of cost of equity, the study examined the impact of voluntary disclosure on the future cost of equity.

Results of the regression model estimated to examine the impact of voluntary disclosure on cost of equity reported that the coefficients on the three control variables, book-to-market ratio, size and beta were in expected direction. This provides evidence of a valid measure of cost of equity. However, coefficient on BETA, though, positive was not statistically significant. It was reported that LnBM and LnMVE were significant (significant at 5% and 1% level respectively) in influencing cost of equity. This suggest that riskier firms attract high cost of equity, whereas, larger firms attract lower cost of equity. Inconsistent with the results of most of the studies, (for e.g., Hail, 2002; Botosan and Plumlee, 2002; Francis et al., 2008; Alencar and Lopes, 2008), the coefficient on voluntary disclosure was reported to be
positive, but statistically insignificant. Findings, thus, do not support the theory that greater disclosure reduces the cost of capital. Results are consistent with Botosan (1997), who did not document a negative relationship between disclosure and cost of equity for firms that attracted a high analyst following. It was argued that Botosan’s measure of disclosure which was limited to disclosure provided in the annual reports might not have provided a powerful proxy for overall disclosure level, when firms were followed by a large number of analysts and the firms probably used these analysts to communicate with market.

Results of regressions of cost of equity on strategic, non-financial and financial voluntary disclosure also reported book-to-market ratio and firms’ size to be significant in influencing cost of equity. The results, however, provided no evidence of impact of any type of voluntary disclosure on cost of equity.

8.2.5 Impact of Voluntary Disclosure on Cost of Debt

Using ex-post measure of cost of debt, the present study examined the impact of voluntary disclosure on realized cost of debt, where realized cost of debt meant the interest expenditure of \( t+1 \) divided by average borrowings of \( t \) and \( t+1 \). Results of regression of realized cost of debt on voluntary disclosure and other firm controls affecting cost of debt reported that size of the company, as determined by total assets \( \text{LnTA} \) and voluntary disclosure \( \text{VOLDISC} \), were insignificant in affecting cost of debt. It was also observed that firms with higher interest coverage had lower cost of debt. An interesting observation was that the firms with better performance and lower leverage were found to have higher cost of debt. The results were, however, consistent with Francis et al. (2005), who also observed a negative association between leverage and cost of debt. Thus, on the basis of results, it can be concluded that greater voluntary disclosure by the companies does not affect their cost of debt. Further, It was also observed that explanatory power of the regression model as determined by adjusted R-square was only 9.7 percent. This means much of the variation in cost of debt was not explained by either voluntary disclosure or other firm controls.

Further, an examination of role of voluntary strategic, non-financial and financial disclosure in affecting cost of debt provided no evidence of the effect of any type of voluntary disclosure on cost of debt. The results reported a positive, but statistically insignificant association of strategic and non-financial disclosure with
cost of debt. The negative coefficient on financial disclosure was negative, but statistically insignificant. Thus, results did not provide any support for the assertion that companies can reduce their cost of debt by expanded disclosures.

8.2.6 Impact of Earnings Quality on Cost of Equity

To examine whether earnings quality of the companies affected their cost of equity, companies were sorted into quintiles on the basis of their earnings quality, so that the top quintile represented companies with worst earnings quality (highest values of earnings quality metrics) and the bottom quintile represented the firms with best earnings quality. Mean cost of equity was, then, calculated for each quintile. It was observed that decrease in mean cost of equity as determined by earnings-price ratio was monotonic across the earnings quality quintiles for the absolute value of accruals measure of earnings quality. For accruals quality, opposite results were observed (best earnings quality companies having higher cost of equity as compared to the worst earnings quality companies). For the composite measure of earnings quality \( (EARNQUAL) \) and for earnings variability \( (EARNVAR) \), the decline in mean cost of equity was near monotonic. It was reported that difference in cost of equity of the top and bottom quintile was 5.26 percent, 3.53 percent, and 3.98 percent for absolute value of accruals, composite measure of earnings quality and earnings variability respectively. It is worth noting that the maximum difference in cost of equity between the worst and the best earnings quality companies was observed for absolute value of accruals measure of earnings quality. Though, the results showed a decline (monotonic or non-monotonic) across the quintiles, but the results of t-test showed that the difference was not statistically significant for any of the measures of earnings quality. Thus, it can be concluded that difference in cost of equity observed across earnings quality quintiles is not economically meaningful.

In a similar way, mean values of beta \( (BETA) \) was also calculated across the earnings quality quintiles. The results reported the decline in mean values of beta across the earnings quality quintiles to be non-monotonic. It was observed that worst earnings quality firms in the top quintile had higher systematic risk as compared to the best earnings quality firms in the bottom quintile. Results of the t-test, however, reported that the difference was not significant. These results were, however, without including other variables affecting cost of equity.

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Results of the regression model estimated to examine the impact of earnings quality on cost of equity including the control variables affecting cost of equity (book-to-market ratio, size and beta), reported all the coefficients to have desired signs. Results reported a negative coefficient on size ($\text{LnMVE}$) and positive coefficients on book-to-market ratio ($\text{LnBM}$) and beta ($\text{BETA}$). A positive coefficient on book-to-market ratio can be interpreted as companies with lower growth opportunities or risky companies having higher cost of equity. Results also report larger firms having lower cost of equity and also companies with higher systematic risk, as measure by beta, having higher cost of equity. But as in cost of equity regression on voluntary disclosure, the coefficient on beta was not statistically significant. The positive coefficient on earnings quality is an evidence of a negative relationship between earnings quality and cost of equity. The relationship, however, was not found to be statistically significant. Overall, the results do not provide evidence of the impact of earnings quality on cost of equity. Association of earnings quality and future realized returns as a proxy for cost of equity also provided no evidence of reduced cost of equity for better earnings quality firms.

Further, the regression models estimated to examine the impact of accruals quality and earnings variability on cost of equity also provided no evidence of an association of these two earnings quality variables with cost of equity. Results, however, provided strong evidence that the companies with higher value of absolute accruals had higher cost of equity. A significant (significant at 5% level) positive coefficient on $\text{ABACC}$ implied that firms with good earnings quality, as measured by low absolute value of accruals had lower cost of equity.

### 8.2.7 Impact of Earnings Quality on Cost of Debt

To examine the impact of earnings quality on realized cost of debt, mean cost of debt was observed across earnings quality quintiles. Results reported that mean cost of debt of companies with worst earnings quality was higher by 4.51 percent as compared to the companies with best earnings quality. Also the decline in mean cost of debt across quintiles was observed to be monotonic. But the results of t-test reported that the difference in mean cost of debt of the top quintile (firms with worst earnings quality) and the bottom quintile (firms with best earnings quality) was statistically not significant. Similarly the results of the Anova-test also reported that
difference in mean cost of debt across earnings quality quintiles was not significant. This implies that difference in cost of debt of good and poor earnings quality companies is not economically significant.

Further, it was also observed that the decline in mean cost of debt was non-monotonic across earnings quality quintiles formed on the basis of accruals quality and absolute value of accruals. Results of the t-test suggested that the difference in mean cost of debt of top and bottom quintile was not statistically significant (significance levels being 0.314 and 0.560 for accruals quality and absolute value of accruals respectively). Results of the Anova-test also suggested that the difference in mean cost of debt across earnings quality quintiles was not significant. Significance levels being 0.933, 0.778, 0.679 and 0.827 for accruals quality, earnings variability, absolute value of accruals and for the composite measure of earnings quality respectively. Contrary to the expectations, it was also found that worst earnings quality companies on the basis of earnings variability had lower mean cost of debt (7.17%) as compared to the mean cost of debt of companies with best earnings quality (9.14%). The results, thus, provided no statistically significant association between earnings quality and cost of debt. These results were, however, derived without taking into consideration other factors affecting cost of debt.

Results of the regression model estimated to examine the impact of earnings quality on cost of debt including control variables, leverage (LEV), size as measured by total assets (\(\text{LnTA}\)), company’s performance (\(\text{ROA}\)) and interest coverage (\(\text{INTCOV}\)), reported that leverage and interest coverage were significantly negatively related to realized cost of debt. Results provided no evidence of an association of earnings quality with cost of debt, as the coefficient on \(\text{EARNQUAL}\) was negative (contrary to the expected positive coefficient). The results are inconsistent with the only study conducted by Francis et al. (2005) examining the impact of earnings quality on the realized cost of debt. Results also provided no evidence of an association between underlying earnings quality measures (as measured by accruals quality, earnings variability and absolute value of accruals) and cost of debt, though, the control variables retained their signs and magnitudes. The only determinant, which was found to be significantly affecting cost of debt, was observed to be interest coverage ratio (5% level of significance). This implies that lenders do not differentiate between firms with best and worst earnings quality. On the basis of results, it can be concluded that earnings quality of the companies does not affect the realized cost of debt. Results of the above findings have been presented in Table 8.2.
Table 8.2: Summary of the Findings

<table>
<thead>
<tr>
<th>Hyp. No.</th>
<th>Hypotheses</th>
<th>Statistical Technique Used</th>
<th>Results</th>
</tr>
</thead>
<tbody>
<tr>
<td>H2</td>
<td>Variation in the voluntary disclosure levels of the companies is associated with variation in the cost of equity.</td>
<td>Multiple regression analysis</td>
<td>Rejected</td>
</tr>
<tr>
<td>H3</td>
<td>Variation in voluntary disclosure levels of the companies is associated with variation in cost of debt.</td>
<td>Multiple regression analysis</td>
<td>Rejected</td>
</tr>
<tr>
<td>H4</td>
<td>There is no difference in the cost of equity of companies with poor vis-à-vis good earning quality.</td>
<td>Univariate Analysis and Multiple regression analysis</td>
<td>Accepted</td>
</tr>
<tr>
<td>H5</td>
<td>There is no difference in the cost of debt of companies with poor vis-à-vis good earnings quality.</td>
<td>Univariate Analysis and Multiple regression analysis</td>
<td>Accepted</td>
</tr>
<tr>
<td>H6</td>
<td>The variation in level of corporate voluntary disclosure is related to the variation in cost of equity, after controlling for earnings quality.</td>
<td>Multiple regression analysis</td>
<td>Rejected, because the results did not provide any evidence of an association of either voluntary disclosure or earnings quality with cost of equity.</td>
</tr>
</tbody>
</table>

Placing these findings and results in the context of the research questions, the following inferences can be drawn:

1. Consistent with Francis et al. (2008), it can be concluded that earnings quality of the sample companies is important in influencing their voluntary disclosure decisions. This means that good (poor) earnings quality companies have more (less) expansive voluntary disclosure. Further, companies with good earnings quality select higher levels of financial and non-financial disclosure than firms with poor earnings quality.

2. The results are also suggestive of the fact that voluntary disclosure is not associated with the cost of equity. Thus, it can be concluded that greater voluntary disclosure does not result in reduced future cost of equity. The conclusion arrived
at in the present study is inconsistent with most of the western studies conducted to examine the impact of voluntary disclosure on cost of equity. No Indian study relating voluntary disclosure with cost of equity, however, could be traced.

One of the reasons for such results may be the difference in proxy for cost of equity. Most of the studies relating voluntary disclosure with cost of equity have taken implied cost of equity. The present study, however, has examined the impact of voluntary disclosure on future cost of equity. Still another reason can be the difference in the measurement of voluntary disclosure score. Judgement of the researcher plays an important role in the development of voluntary disclosure index.

Moreover, the studies conducted on the association between voluntary disclosure and cost of equity have taken either voluntary financial or voluntary non-financial disclosure in the development of voluntary disclosure index. The present study, however, has included all information items provided voluntarily by the sample companies in their annual reports, as the purpose was to find the extent of voluntary disclosure. The voluntary disclosure index in the present study comprised of a comprehensive list of 336 information items provided voluntarily in annual reports. Thus, voluntary disclosure and cost of equity may not be related for the sample of companies in the present study because of the difference in proxies for voluntary disclosure as well as the proxy for cost of equity. Another possible reason could be that the annual reports may not be the main source of information about the companies.

3. No association between voluntary disclosure and cost of debt was observed for the sample of companies and for the study period. It can be established that lenders did not differentiate between companies with high and low disclosure. This suggests that variation in the level of voluntary disclosure does not result in variation in the cost of debt.

4. Though, all the studies conducted to examine the impact of earnings quality on cost of equity provide an evidence of a negative relationship between the two, the present study could find no such evidence for the sample of companies taken in the study. Since the study differs considerably in terms of sample period, data,
variable selection and measurement and research design, results are not comparable. Moreover, because of smaller economy and equity markets of India as compared to the U.S, the available sample size for the present study is more limited than for U.S data. The results are, therefore, not comparable with the results of the most of the studies conducted on the related research problem in the U.S. On the basis of results, it can be concluded that investors do not price earnings quality. This means that investors do not consider earnings quality while deciding to subscribe the shares of a particular company or do not use information in earnings quality in valuing the firms. These results are further supported by an evidence provided by the higher realized returns for better earnings quality companies.

The study, however, provided evidence of the impact of earnings quality as measured by absolute value of accruals on the cost of equity. Thus, it can be concluded that investors price the information in absolute value of accruals.

5. Inconsistent with the results of the only empirical study found in literature (i.e., Francis et al., 2005), examining the impact of earnings quality on cost of debt, the present study provided no evidence of association of earnings quality with the realized cost of debt. It can be concluded from the findings of the study that lenders did not view firms with low quality earnings as riskier than firms with high quality earnings for the sample and the period considered in the study.

6. Since the study could provide no evidence of the impact of either voluntary disclosure or earnings quality on cost of equity, the impact of voluntary disclosure on cost of equity conditional on earnings quality also could not be established, unlike the study by Francis et al. (2008), who documented that impact of voluntary disclosure on the cost of capital disappears, when conditioned on earnings quality.

Some other inferences drawn from the findings of the study are:

(a) While the earnings quality proxies represent properties of the same reported earnings number, they measure different attributes of earnings.
The positive correlation among different information categories, strategic, non-financial and financial disclosure shows that the firms select similar level of disclosure for different information items.

8.3 Implications

On the basis of the findings of the study, certain implications have been drawn. It is hoped that the findings of the study will help the researchers, standard setting authorities, companies, and investors to have an insight into the relationship between voluntary disclosure and earnings quality as well as the impact of voluntary disclosure and earnings quality on the cost of capital. The implications of the study have been discussed in two parts. Section 8.3.1 discusses the implications for theory, while Section 8.3.2 discusses the implications for practice.

8.3.1 Implications for Theory

For over a decade, there has been much concern among the researchers, especially in the U.S, to explore the relationship between disclosure and market based data, such as cost of equity or share prices. Also, the impact of earnings quality on cost of capital has been much explored in the western countries. However, to date, there has been lack of evidence of research on the relationship of disclosures or earnings quality with the market based measures in India. The present study is an endeavour to address this gap in literature and unravel the complex relationship among voluntary disclosure, earnings quality and cost of capital. The current study has the following implications for finance theory:

- The study has established a significant positive association between voluntary disclosure and earnings quality. Also, there has been evidence of expansive financial, non-financial and ESG disclosures by the good earnings quality companies. The results will enable the researchers, especially in Indian context, to understand the role of earnings quality in influencing companies’ decisions to disclose.

- Higher absolute accruals are commonly interpreted as lower earnings quality because the firms‘ accrual process is less predictable and absolute accruals are less likely to be discretionary. There is evidence to this fact as companies with lower absolute accruals were found to have lower cost of equity. This finding will hopefully add to the vast knowledge in the subject of finance.
• Expansive disclosures and good earnings quality were found to have no bearing on the cost of debt. This suggests that there are some other factors, as, credit rating or reputation of companies, which might reduce the cost of raising debt for the Indian companies.

8.3.2 Implications for Practice

The results of the study are particularly pertinent to the standard setting authorities, companies, preparers of annual reports and investors. Following are some implications for practice:

• Since expansive disclosures in annual reports were found to have no impact on cost of equity as well as cost of debt, it implies that the burgeoning annual reports or the richness and depth of disclosure by the companies is not valued by investing community. This puts forth the fact that the analysts and professional/institutional investors use other than publicly available corporate information to recommend and make investments. Companies should, thus, aim to develop a multi-channel communication strategy to target analysts and investors.

• Whereas, there has been much emphasis on triple bottom line reporting, the results provide no evidence of an impact of non-financial disclosures, including environmental and social disclosures on cost of equity. Standard setters and companies should, thus, be wary of the fact that majority of investors find additional disclosures (especially non-financial) difficult to analyse and use. The focus should, therefore, be on quality disclosures and not quantity, particularly with regard to non-financial disclosures. A concerted effort should be made to improve comparability of non-financial information. Co-operation across multiple disciplines, sectors and standard setting organisations will be required to achieve this end.

• As evident from review of extant literature, most western studies perused implied cost of capital (based on analysts’ forecasts of dividends and earnings) to establish the relationship of voluntary disclosure and earnings quality with cost of equity. Services like I/B/E/S are widely accessible in these countries. There is evidence of the fact that analysts’ forecasts have distinct information advantage, as analysis
are better informed than the rest of the market (e.g., Crichfield et al., 1978 and O’ Brien, 1988). However, constraint in availability of such database in India impedes establishing values for cost of capital. Steps should be taken by the authorities to make such database available.

8.4 SCOPE FOR FUTURE RESEARCH

The present study aimed to examine the relationship between voluntary disclosure and earnings quality. It also attempted to examine the impact of voluntary disclosure and earnings quality on the cost of capital. Unavailability of data on analysts’ forecasts required to use implied cost of capital made the researcher to use the realized cost of equity and debt. Further, selection of earnings quality proxies and development of index required researcher’s judgement. Hand collection of voluntary disclosure scores was a hindrance in adding more number of companies and longer time period to the sample. Moreover, establishing the relationship among three variables, all of which can be alternatively operationalized is a complex task. However, future researchers can explore the different alternatives as following:

1. By increasing the time horizon, future researchers can investigate the change of disclosure level over time and its influence on cost of capital. Also the research problem can be explored using disclosure quality instead of disclosure quantity taken in the present study. This would enable the researcher to capture better the effect of disclosure on the cost of capital.

2. The relationship between earnings quality and corporate governance, using different measures of earnings quality, as used in the present study can also be explored. Further, the role of corporate governance and auditors in improving earnings quality can also be explored.

3. Since the reliability of the voluntary disclosure index developed in the present study has been tested, researchers can use the voluntary disclosure index to study the voluntary reporting practices of Indian companies.

4. Future research can be undertaken for a larger sample of firms and for a longer period of time than taken in the present study.
5. A similar study can be conducted for those Indian firms for which data is available from Institutional Brokers’ Estimate System (I/B/E/S). Since the data of earnings and dividend forecasts is available with I/B/E/S, this would help the prospective researchers in calculating implied cost of equity.

6. The impact of voluntary disclosure on cost of equity can be examined around some corporate event, e.g., seasoned equity offerings or shifting to international accounting standards etc.

7. Finally, it seems promising for researchers to investigate the impact of earnings quality on cost of equity, using other qualitative characteristics of earnings, viz., earnings persistence, predictability and conservatism etc.
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