The Information Content of Preferability Letters

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This study examines the relation between the readability of preferability letters and financial reporting attributes surrounding accounting changes. We find that: (1) The financial analysts' forecasts are less accurate when preferability letters are less readable, (2) preferability letters generated by large audit firms are the hardest to read, and those generated by medium-size audit firms are the easiest to read; and (3) the more firms manage discretionary accruals via accounting changes, then, the less readable are the preferability letters. Our major contribution to the literature is identifying a lexical feature in financial reporting relating to financial reporting attributes. Overall, our results are consistent with recent calls on public auditors that they should improve the transparency and effectiveness of their communications as information intermediates.

INTRODUCTION

The effect of voluntary accounting change(s) (VAC) on financial reporting has been controversial. On one hand, VAC provides an effective venue to better match accounting practices with changing economic circumstances. On the other hand, firms' managers might utilize VAC to opportunistically manipulate earnings. From the perspective of information usefulness, VAC diminishes comparability of financial information between firms and between periods. Specifically, the conceptual framework of the Financial Accounting Standards Board (FASB) provides that the comparability (including consistency) be one of the qualitative characteristics that contributes to the usefulness of accounting information.[1] Therefore, financial information users face the challenge to understand the motivations for and consequences of VAC.

Given the above concerns, Securities and Exchange Commission (SEC)'s regulation S-X requires that a registrant who makes a voluntary accounting change(s) with material effects should provide a letter by its independent accountants assessing whether the alternative accounting method(s) is preferable (thereafter, preferability letter).[2] Such a letter should be included as an exhibit in the first 10-Q report filed subsequent to the date of the accounting change. Since the fourth quarter and year end filings correspond, the SEC allows the 10-K filing as well (Wallace 2006). The preferability letter, which is a required document by the regulative authorities to ensure an independent check on the issue, likely plays

an important role in assisting financial information users to understand the motivations for and consequences of VAC [3] as well as facilitating them to evaluate a firm performance surrounding the accounting change.

However, neither the SEC nor Public Company Accounting Oversight Board (PCAOB) [4] or Financial Accounting Standards Board (FASB) provide objective criteria on the determination of preference among acceptable alternative accounting principles. Also, the SEC does not stipulate a demarcation line on what content the registrant's independent auditors should disclose in the letter; except that the auditors need to indicate that the VAC(s) is preferable in their opinion. Auditors are left with flexibility to draft the content of the letters. As a result, the readability of these letters differs greatly among auditors (see Appendix A for sample preferability letters).[5]

The readability of auditor reports is a central issue in audit quality for VAC firms. Naturally, it affects how users are able to comprehend the message, and how they use audited information to make decisions (SEC: *A Plain English Handbook* 1998, Cox 2007, Schroeder 2003). Increased attention is paid to auditor reports following the recent accounting scandals relating to audit failures (e.g., Enron, Global Crossing, Qwest, Adelphia Communications, Rite Aid, Tyco, Waste Management, and WorldCom, etc.). Therefore, documenting any economic consequences would be an important topic in the literature of audit report improvement. This paper focuses on the effect of the readability of preferability letters on financial analysts' forecast errors since prior research suggests that financial analysts are more sophisticated and better-educated information users than ordinary investors. One would expect there will be more adverse economic consequences for ordinary investors if financial analysts are confused by preferability letters.

The remainder of this paper is organized as follows. First, an insight into the background literature is provided. This is followed by an explanation of the research design and data collection methodology. The next section presents the analyses and results of the study. In the final section, we present our conclusions and provide suggestions for future research opportunities.

BACKGROUND

Readability constitutes a significant part of information cost, since it takes longer and more effort to comprehend a less readable message. Early works document auditor reports prepared by different audit firms vary greatly in readability (Smith and Smith 1971, Barnett and Leoffler 1979), but early studies do not evaluate the role of readability in information usefulness. Recently, Lehavy, Li, and Merkley (2009) investigate the effect of annual report readability on analyst followings and informativeness of their forecasts. They find there is an increasing demand for analyst services for firms with a less readable annual reports and a greater collective effort by analysts for firms with less readable disclosures. They also discover that less readable 10-K filings are associated with a less accurate analyst forecast and greater analyst forecast dispersion. Because the majority of the contents of 10-K filings are prepared by individual registrants, the readability of annual reports likely reflects the transparency and effectiveness of registrants' communication, not those of their auditors.

In addition, Peek (2005) examines the influence of accounting changes on financial analysts forecast accuracy based on data from Netherlands. He reports various types of discretionary accounting changes and the existence of pre-disclosure of these changes (i.e., managers voluntary disclosures) and their impact on forecast accuracy. Specifically, forecast accuracy worsens where pre-disclosures are not sufficient. In the same line of research, Dickins and Higgs (2005) argue that disclosures on audit fees will assist financial information users to evaluate a firm's audit quality; whereas non-informative disclosures will lead to biased forecasts. Our study compliments these studies by providing an additional device for investment professionals to evaluate the underlying performance of a firm. Currently, we are not aware of any study that has directly examined whether lexical features of auditor reports are associated with the financial analysts' performance.

Moreover, prior studies have documented that managers have incentives to increase the threshold of readability if stock markets respond less to an obfuscated message or firm performance is bad. Li (2008) examines the association between annual report readability and earnings performance. He provides

evidence that the annual reports of firms with lower earnings are harder to read; and firms with annual reports that are easier to read have more persistent positive earnings. Also, prior research finds that management is willing to be more forthcoming in the disclosure of information when their firms are performing well (Bloomfield 2002, Schrand and Walther 2000, Lang and Lundholm 1993). Managers strategically hide adverse information through less transparent disclosure, and this type of disclosure is argued as "incomplete revelation" in the literature (Grossman and Stiglitz 1980). Similarly, we conjecture that auditors could have incentives to make strategic disclosures in their auditor reports as well because they have to strike a balance among client retention, legal risk, and audit efforts. Ambiguity of certain information might be desirable under specific circumstances. Whether the readability of auditor reports serves this purpose is an empirical question, which has been left unanswered in the literature. We examine it by analyzing the relation between the readability of preferability letters and the underlying financial reporting attributes, including earnings persistence and predictability.

We hand collected preferability letters from 10-K filings for firms that made voluntary accounting change(s) during 1993-2008. The readability of preferability letters was measured using two proxies: the first proxy is the Fog Index from the computational linguistics literature, which statistically combines the number of words per sentence and the number of syllables per word to create a measure of readability. It proposes that, ceteris paribus, the more syllables per word or more words per sentence make a document harder to read. The Fog Index level "translates" the number of years of education a reader needs to understand the material. The relation between the Fog and the reading easiness is as follows: FOG>=18 means the text is unreadable; 14-18 (difficult); 12-14 (ideal); 10-12 (acceptable), and 8-10 (childish). The Fog Index is one of the best known formulas to measure the level of reading difficulty of a document. The second proxy of readability is the length of the preferability letter, counted as total words per letter, which is also widely adopted in lexical research (Li 2008, Lehavy, Li, and Merkley 2009, Smith and Smith 1971). The reasoning behind this choice is that the longer the document, then, the more difficult for readers to memorize and comprehend what they read.

We find that preferability letters are very difficult to read; it takes an average of 19 years of education for a person to be able to understand the message. Financial analysts' annual earnings forecasts for the subsequent years are less accurate when the preferability letters are less readable (i.e., have a higher Fog Gunning Index or more words). This effect is robust after controlling other factors affecting forecast accuracy documented by prior studies. A closer look reveals that the auditors differ greatly in the readability of preferability letters. Specifically, the preferability letters generated by large audit firms have the highest Fog Index but less words. Those generated by medium-size firms have the lowest Fog Gunning Index though they contain more words. More importantly, we document a v-shape pattern of discretionary accruals and change in earnings during the years surrounding VAC(s). Further, the more likely firms manage earnings during these years (i.e., discretionary accruals at extremely levels), the less readable their preferability letters are, and the greater likelihood that financial analysts' forecasts are less accurate.

The evidence in this paper suggests an undocumented lexical feature existing in audit reports. That is, the readability of auditor reports is associated with the performance of financial analysts, and subsequently, this could influence reactions in the stock markets as suggested by the extant literature (Barth et al. 2004,Browen et al. 2008, Easton and Sommers 2007) . Our study has important implications for understanding the role of readability of audit reports in improvement of information usefulness (Beneish 1999, Brown, Gay, and Turac 2008, Sun 2009, Hovakimian and Saenyasiri 2010, Marciukaityte and Szewczyk 2009, Schutte and Unlu 2009). Furthermore, we find that the readability of auditor reports is associated with the firm's underlying performance surrounding VAC . Our paper extends understanding on auditor communications and audit quality. It reminds policy makers, financial analysts, investing communities, and researchers that there are significant economic consequences associated with lexical features of auditor reports. Our findings indicate the less readable an auditor report is, then, the more attention people should pay to the underlying earnings attributes.

DATA AND RESEARCH DESIGN

Sample

Our sample is collected as follows: (1) we search the keywords "preferability", "preferable", "accounting change", "change in accounting", "KXEX18", and "Exhibit18" from the directEdgar (http://www.directedgar.com) for 10-K filing.[6] We retrieve[7] 457 documents, with 421 documents remaining after manually reading and deleting identical filings, and non-preferability letters (e.g., early adoption of mandated accounting changes, which reflect an event differently from VACs). (2) We then collect the Central Index Key (CIK) used by the SEC online Edgar system. We also note the filing date, conformed date, registrant name, and auditor identity from each preferability letter (one letter did not contain auditor's identity), we end up with 420 preferability letters. All the heading items, and addressing lines are dropped from each preferability letter, since they represent templates rather than contents of the auditor reports. The calculation of readability in the preferability letter is based on the remaining text. (3) We use the readability software provided by www.online-utility.org to calculate the Fog Index and length of each letter. To check the validity of this program, we compare it with the results based on manual calculations, other computer programs using the same contents, and results in prior studies.[8] We randomly select 50 preferability letters (i.e., about 12% of our sample) and examine the difference between manual calculations, other computer programs that use the Fog Index, and the methodology used in this paper; we find a less than 1% difference. In addition, the mean and median of the Fog Index for annual reports in prior studies range from 17 to 19 (i.e., Li 2008 Table1, Lehavy, Li, and Merkley 2009 Table1), which are similar to what we have – 19.28 and 19.12 for the mean and median, respectively. (4) We intersect this sample with COMPUSTAT annual data to obtain CUSIP, GVKEY, and TICKER and other financial variables that we will use in our analysis; firms without matching CIKs are dropped. Next, we merge it with I/B/E/S annual data to obtain financial analysts earnings forecasts. We obtain 1735 firm-year observations during t=-3 to t=3 periods surrounding VACs.

Empirical Models

First, we are interested in whether the readability of auditor reports is associated with financial analysts' future performance after the reports are released to the public through the 10-K filing. A three-year window is selected [9], and the following regression model is used to analyze this relationship:

$$Adj\_FE_{i,t=1,2,3} = \alpha_1 + \beta_1 \,\mathrm{Re}\,ad_{i,t=0} + \sum \phi_j Ctrl\left(j_{i,t=1,2,3}\right) + \varepsilon_{i,t} \quad (1)$$

$\mathrm{Adj\_FE}_{i,t}$ [10] = The adjusted actual earnings per share (variable ACTUAL in the I/B/E/S) – mean of financial analysts' earnings forecasts (variable MEANEST in I/B/E/S)[11] for each of the next three years after a VAC.

$\mathrm{Read}_{i,t}$ = Either Fog Index, or words per letter scaled by a constant of 10.[12]

$\mathrm{Ctrl\ Variables}_{j,t}$ = EARN: earnings exclude extraordinary items (Compustat#18).
TA: total assets scaled by a constant of 100,000,000 (Compustat #6) for easy exposition.

Following prior studies, we include two most representative control variables in our empirical model. That is, earnings and total assets, which allow us to be able to assess whether readability has an incremental effect to other factors that have been documented in the literature affecting financial analysts' forecast errors (i.e., Botosan 1997, Frankel and Lee 1999, Barth and Hutton 2004, Zhang 2006, Easton and Sommers 2007). The level of earnings is controlled for individual firm performance, and total assets are controlled for individual firm size. Also, prior studies suggest that these variables effectively correct bias of financial analyst forecast and the firm's information environment.

Next, we explore the determinants of readability in auditor reports. Prior studies suggest that the readability varies among different auditors (Smith and Smith 1971, Barnett and Leoffler 1979). As a

result, we begin by examining the relation between readability and auditor's identity; followed by the relation between readability and the underlying earnings attributes after controlling for auditor's identity.

The following regression models are formulated to examine the variation of auditor identify in readability:[13]

$$\mathrm{Re}ad_{i,t=0} = \alpha_0 + \beta_2 AudGroup_{i,t=0} + \varepsilon_{i,t} \quad (2a)$$

$$\mathrm{Re}ad_{i,t=0} = \alpha_0 + \beta_3 L\arg eDummy_{i,t=0} + \beta_4 MedDummy_{i,t=0} + \varepsilon_{i,t} \quad (2b)$$

$Read_{t=0}$ = Either Fog Index, or words per letter scaled by a constant of 10[14]
$AudGroup_{t=0}$ = Auditor group, has a value from 1 to 3
$LargeDummy_{t=0}$ = 1 for large audit firms, otherwise 0
$MedDummy_{t=0}$ = 1 for medium-size audit firms, otherwise 0

Prior literature suggests that accounting firm size is a proxy for quality or auditor independence. No single client is of such paramount importance to a large audit firm that the firm is willing to take risk of its reputation on the client's misreporting. By contrast, it might be a survival or doom scenario for a small audit firm with a tiny client portfolio. Naturally, a small firm has more to gain by choosing to comprise with their clients than insisting on its opinions and getting fired by their clients (DeAngelo 1981, DeFond, Francis, and Wong 2000, Ferguson, Francis, and Stokes 2003). Following this argument, we divide audit firms into three groups – small, medium and large.[15] The small group includes 21 audit firms and has an AudGroup value of 1; the medium group includes 2 audit firms (BDO Seidman and Grant Thornton) and has a value of 2; the large group includes "big four" plus Arthur Anderson, which has a value of 3. To contrast whether the variation in readability is significant among audit firms, we create dummy variables for large and medium size audit firms in equation (2b). The regression coefficients in (2b) β_3 and β_4, reflect the difference in readability between large and small audit firms, and between medium and small audit firms, respectively.

Following Bartov and Mohanram (2004), and Gong, Li and Xie (2009), we select discretionary accruals and change in earnings as proxies for earnings attributes. Researchers point out that earnings attributes are most likely to reverse over time when they are the result of earnings management. Therefore, previous studies on earnings management typically examine time-series of earnings attributes prior and post a specific event. Li (2008) adopts a two-year window to address the association between annual report readability and the earnings performance. We conjecture that the auditors would incorporate both their knowledge on earnings attributes prior to VAC and their expectations on earnings attributes post VAC to reach the decision as to what extent the readability of their audit reports should be. The following models are used to address the relation between the readability of auditor reports and underlying earnings attributes: [16]

$$\mathrm{Re}ad_{i,t=0} = \alpha_0 + \beta_5 EARNQ_{i,t=-3to3} + \beta_6 CHEARN_{i,t=-3to3} + \beta_7 AudGroup_{i,t=-3to3} + \sum \lambda_\varphi Ctrl\left(\varphi_{i,t=-3to3}\right) + \varepsilon_{i,t} \quad (3)$$

$EARNQ_{i,t=-3\ to3}$ = Performance-matched discretionary accruals (Kothari, Leone and Wasley 2005) [17]
$CHEARN_{i,t=-3to3}$ = change in earnings scaled by lagged total asset (Compustat#18/lagged #6)
All the other variables are defined as in equation (1) and (2).

EMPIRICAL RESULTS

Summary Statistics

Panel A of Table 1 presents the distribution of preferability letters by year. The year 2001 experienced the highest volume of 46 preferability letters and this was followed by 2005 with 40. On the

other hand, year 2000 had the lowest volume with 10. Figure 1 confirms 2001 as a spike year during which several accounting scandals had been revealed. Overall, preferability letters proliferated since the recent accounting scandals and passage of Sarbanes-Oxley Act. Prior studies on the trend of accounting changes also report a similar pattern, that is, more accounting changes in recent years (e.g., Soroosh, Hong, and Wen 2008, Kieso, Weygandt, and Warfield 2009).

Panel B of Table 1 reveals the distribution of preferability letters by auditor group. Small, medium and large audit firms make up 5%, 6.43% and 88.57% of the weight of our sample, respectively. The large audit firms dominate the small and medium audit firms in this sample. One possible explanation is that the VAC firms are generally large firms, which tend to hire the large audit firms (Table 2 Panel A provides that the mean (median) firm size is $0.6 billion ($ 0.1 billion)). Due to the unbalanced distribution of the preferability letters among the auditor groups, we also adopt the General Linear Model in our robustness check, but report the results from Ordinary Linear Model, since there is no qualitative difference between the two methods.

More summary statistics for our main and control variables are reported in Table 2. Panel A of Table 2 is calculated based on 1735 firm-year observations after intersecting Compustat and I/B/E/S, and constraining our analysis window from fiscal year t=-3 to t=3 surrounding VAC. The exception is for the Fog Index and Words, since they only exist at t=0 when VAC occurs. The mean (median) Fog Index is 19.06 (18.97). The standard deviation, the 1st percentile, and the 99th percentile, are 2.56, 13.89 and 25.05, respectively. To provide a benchmark, Li (2008) checks the readability index for the editorials from the Wall Street Journal from June 2005 issues. He reports an average Fog Index of 15.2, suggesting auditors reports are much more difficult to read than the Wall Street Journal. The mean (median) of words per letter is 23.13 (23.50), with a standard deviation of 7.15, the 1st percentile value of 12, and the 99th percentile value of 39.50. The variation of words seems substantial. This translates to a mean (median) of 231 (235) words per letter, which is significantly more than reported by Barnett and Leoffer (1979). By contrasting our findings with those in the earlier studies of Smith and Smith (1971) and Barnett and Leoffler (1979), we discover that the readability of auditor reports is at an extreme level of difficulty and has not been eased during the last few decades.

The mean (median) of financial analyst forecast error is -0.09 (0.01) respectively, with a standard deviation of 0.98. During a similar period (1995-2006), Lehavy, Li, and Merkley (2009) report absolute forecast error for all public firms has a mean (median) of 0.04 (0.01) with the mean (median) forecast dispersion is 0.00 (0.00). The large standard deviation of the forecast error in our sample (i.e., $0.98 per share) might reflect the challenge for financial analysts to predict future performances brought by VAC(s) because VAC diminishes comparability of financial information among firms and over periods. The mean (median) of firm size is $0.6 billion ($0.1 billion), indicating big firms are more likely making change in accounting principles. This is consistent with findings in prior studies (Pincus and Wasley 1994, Soroosh, Hong, and Wen 2008, Kieso, Weygandt, and Warfield 2009). Earnings have a mean (median) of 0.01 (0.00) with standard deviation of 0.18, the 1st percentile value of -0.44, and the 99th percentile value of 0.48. In a study of earnings properties over the last 40 years, Dichev and Tang (2008) report earnings having a mean (median) of 0.046 (0.044). One explanation for the lower earnings in our sample is that firms with poor performance are more likely to adopt VAC(s). Keating and Zimmerman (1999) also propose a similar point of view. Change in earnings has a mean (median) of 0.01 (0.03), suggesting an overall increase in earnings surrounding VAC(s). Discretionary accruals seem to have the same direction and magnitude as a change in earnings with a mean (median) of 0.00 (0.01), respectively, suggesting that the change in earnings is most likely driven by discretionary accruals.

Panel B of Table 2 provides the pearson correlations for the main variables used in our analyses. Significance level is presented in the brackets. The Fog Index is significantly correlated with words, forecast error, size, discretionary accruals, and audit group. Words is also correlated with many variables like the Fog Index, however, the correlation is weaker compared to the Fog Index. Moreover, our intuition is confirmed that earnings, change in earnings, and discretionary accruals all have significant, positive correlations, indicating that discretionary accruals have played an important role in change in earnings and earnings levels for VAC firms.

Panel C of Table 2 and Figure 2 (a) present the trend of readability of preferability letters by year. The Fog Index is relatively low until the year 2000, then it surges up between 2001 and 2005, and roughly reverts to the prior 2000 level between 2006 and 2007, and rises again in 2008. Our conjecture is the readability of auditor reports is affected by a strategic disclosure decision, which could be a result of macro economic factors and legislative environment (e.g., the prior and post Sarbanes-Oxley legislation environment, and the recent recession of the national economy might force the auditors to rebalance among audit fee, legislation risk, and audit effort). Another readability variable, words, almost echoes the same pattern as the Fog Index, except less words are contained on a per letter basis in 2008.

Panel D of Table 2 and Figure 2 (b) report the readability of preferability letter by audit group. The large audit firms seem to have a higher Fog Index than the medium and small firms; while the medium audit firms seem to have more words per letter than the large and small firms. These findings suggest that the large audit firms tend to write short but difficult to understand preferability letters, and the opposite is true for the medium audit firms.

The Relation Between Forecast Errors & Readability

We first investigate whether the readability of auditor reports affects financial analysts' forecast accuracy. The univariate correlation found in Table 2 panel B suggests a positive and significant relation between the Fog Index and financial analysts forecast errors. The estimation is performed based on equation (1) using ordinary least squares. Significance level (two-tailed test), presented in brackets, is based on standards errors, and is also robust to heteroskesticity.

Column 1 of Table 3 reports the results from univariate regression. The coefficient of the Fog Index is positive and significant (0.06 with a p-value of 0.04), indicating forecast errors are greater for VAC firms with less readable auditor reports. Columns 2 and 3 show the results after adding earnings and size to control the performance and information environment of the individual VAC firm. The coefficient of the Fog Index remains positive and significant; the coefficient of EARN is also positive and significant; and the coefficient of Size has a negative sign but is not significant. This negative sign suggests that earnings forecasts are relatively more accurate for the larger firms than the small firms, which is consistent with findings in Gebhardt, Lee, and Swaminathan 2001, Gode and Mohanram 2003, and Hail and Leuz 2006. Overall, these results confirm financial analysts forecast are less accurate when the preferability letter is harder to read and earnings magnitudes are greater. Next, the Fog Index is replaced with Words, and the same procedure is repeated. The results are similar. The coefficient of Words remains positive and significant in both univariate and multi-variate regression models, however, the significance of the coefficient of Words is less than that of the Fog Index. Based on the results of Table 3, we argue that both the Fog Index and Words are incrementally associated with financial analysts' performance in addition to other variables (i.e., performance & size), which have been identified in prior literature.

The Relation Between the Readability and Auditor Groups

To explore the determinants of the readability of auditor reports, we regress audit group on the readability variables (equation 2 (a)) and use dummy variables to contrast the difference in the readability among different audit groups (equation 2 (b)). Because the distribution of preferability letters is unbalanced among auditors (Table 1 Panel B), we report Table 4 Panel A using ordinary least squares that are robust to the General Linear Model. In Table 4, p-level, presented in brackets, is based on standards error, which is also robust to heteroskesticity. The coefficient of AudGroup in column 1 Table 4 is positive and significant, therefore, suggesting that the Fog Index varies significantly among audit groups. This confirms the evidence in Smith and Smith (1971), that is, "*It is interesting to note that the mean scores of Arthur Andersen, Ernst and Ernst, and Hurdman and Cranston are more restrictive than the overall mean score whereas the mean score of Haskins & Sells, Lybrand, Ross Bros. & Montgomery, and Price Waterhouse are less restrictive than the overall mean score regardless of which readability formula is applied." (p.560).* Positive coefficient of LargeDummy in column 2 of Table 4 suggests that Fog Index will be higher by 0.83 unit if the preferability letters are generated by bigger audit firms than by small firms; however, the negative coefficient of MedDummy in column 3 Table 4 (-0.70 with a significance

level of 0.06) indicates that the Fox Index will be lower by 0.70 unit if the letters are generated by medium audit firms than small firms. In contrast, replacing the Fog Index with Words shows that the preferability letters generated by bigger audit firms on average contain less words (with a coefficient of -0.68 and significance level of 0.06). However, the adjusted R^2 is low. The adjusted R^2 improves after decomposing audit group by adding dummy variables into the model. We find that the preferability letters generated by the large audit firms on average have 28 more words than small firms, and those letters generated by medium audit firms on average have 87 more words than small firms. It is interesting to note that the Fog Index is actually lower for medium audit firms though they write longer auditor reports. This finding suggests the standard wording varies a lot among different audit firms.

The Relation Between Readability and Earnings Attributes

Our next research question concerns whether the nature of the underlying earnings' attributes determines the readability of the auditor reports. On one hand, the literature has established that the underlying earnings attributes (e.g., discretionary accruals, change in earnings) are innate factors affecting audit fees, litigation risk, and audit efforts (Lee and Mande 2003, Francis and Krishnan 2002). On the other hand, there is no shortage of evidence in both the financial press and "strategic disclosure" literature that these innate factors influence a firm's disclosure decision (Li 2008, Bloomfield 2002, Schrand and Walther 2000, Lang and Lundholm 1993). Applying these insights in our setting, we propose that auditors will strategically utilize the level of readability in their reports. Specifically, they tend to increase the difficulty of the readability in their reports when their insights suggest the earnings quality is inferior contrast to superior.[18] Our empirical tests center on the window that is prior and post the event of VAC, because it should capture any pattern if those attributes reverse over time, as the earnings management literature suggests (Bartov MOhanram 2004, Gong, Li and Xie 2009, and Li 2008).

Table 5 and Figure 3 (a) report mean (median) of the change in earnings from t=-3 to t=3 surrounding VAC. Prior to VAC, firms' earnings grow during t=-3 and t=-2; however, this growth trend declines sharply starting at t=-1 and further dips down at t=0. A pattern of improved earnings is observed over t=1 and t=2, then earnings deteriorate at t=3.

Overall, both the mean and median statistics indicate there is a roughly "v" pattern of earnings growth for firms which were engaged in VAC. To further assess the nature of this pattern, we contrast it with the discretionary accruals in Figure 3 (b) during the same period. We discover that the discretionary accruals (a proxy for earnings manipulation) exhibit a similar pattern as change in earnings. Large positive discretionary accruals are observed at t=-3, t=-2 and t=-1. This result suggests that the growth in earnings at t=-3 and t=-2 is likely powered by discretionary accruals. However, the manipulation of discretionary accruals will reverse over time, and therefore is not a panacea (e.g., earnings are also affected by operating cash flows and normal accruals). At t=-1, even though discretionary accruals are high, earnings stop growing. It might indicate an economic down-turn generally prevails prior to a firm adopting VAC(s). This interpretation is also consistent with our prior argument that firms could adopt VAC (s) in order to "take a big bath." Moreover, the VAC firms are more likely under spot light, scrutinized by the investors and regulators; therefore, managing earnings downward during the event year and waiting for it to reverse (naturally) during the next period might be safer for the VAC firms than increasing earnings directly at the change year. When approaching the event year, discretionary accruals dip. The discretionary accruals at t=0 is significantly lower compared to t=-3 to t=-1, and they later reverse to high levels at t=2 and t=3. These findings also echo prior studies, which report that VAC is a method for firms to manipulate earnings (Soroosh, Hong, and Wren 2008, Linck, Lopez, and Rees 2007, Bellovary, Giacomino, and Akers 2005, May and Schneider 1988). The finding that discretionary accurals dip at t=0 is also consistent with VAC firms adopting an extremely conservative financial reporting approach during the change period in an effort to preempt the potential litigation risk (Givoly and Hayn 2002).

Pursuant to our finding that VAC firms exhibit certain patterns of earnings attributes, we next examine whether the readability of the auditor reports relates to the patterns we just identified. Table 6 provides the empirical results. In the univariate regression, (the dependent variable is the Fog Index) – column 1 of Table 6, coefficient of EARNQ is positive and marginally significant (1.29 with significance

level of 0.06); substituting Words for the Fog Index as the dependent variable, the coefficient of EARNQ is also positive and marginally significant (3.02 with significance level of 0.09), indicating that the higher the discretionary accruals, the less readable are the audit reports. After we add AudGroup into the model in column 2 of Table 6, the association between the readability and EARNQ is weaker, but still marginally significant, especially when Words is the dependent variable. In column 3 of Table 6, we further decompose AudGroup into large and medium dummies; the adjusted R^2 improves sharply, suggesting this is a more appropriate specification. Consistent with prior findings in Table 4, column 2, we find audit reports generated by the large (medium) audit firms have a higher Fog Index than small firms, although they are shorter (longer). In column 4 of Table 6, we add another earnings attribute CHEARN and control variables EARN and Size (the same as we use in Table 3 to control for a firm's performance and information environment). The coefficient of EARNQ is positive and significant when the Fog Index and Words serves as dependent variable, respectively. However, the coefficient of CHEARN is positive but not significant. Recall that Table 5 and Figure 3 (a) show that the change in earnings exhibits a roughly "v" pattern surrounding the VAC, however results in column 4 of Table 6 indicates discretionary accruals rather than change in earnings are associated with the readability level of the preferability letter. One possible explanation is that earnings lose their consistency and comparability due to the VAC, so auditors rely more on discretionary accruals to assess a VAC firm performance than they rely on the level of earnings. Overall, Tables 5 and 6 provide evidence that discretionary accruals are at extreme levels driving the change in earnings for VAC. The discretionary accruals are associated with the readability of audit reports in addition to other factors (i.e., audit identity, earnings level, etc.). Specifically, when the discretionary accruals are extreme, then, the auditors' reports become less readable.

CONCLUSIONS

This study examines the relation between the readability of preferability letters enclosed in 10-K filings and financial reporting attributes surrounding VACs. We find that: (1) annual earnings forecasts are less accurate when preferability letters are less readable; (2) preferability letters generated by the large audit firms are the hardest to read, and letters generated by medium-size audit firms are the easiest to read; and (3) the more extreme a firm's discretionary accruals, then, the less readable are the preferability letters. Our research makes several contributions to the literature. Initially, this inquiry provides the first large sample evidence on the determinants and implications of the lexical properties of preferability letters. Second, it adds to the research on the role of financial analysts and auditors by focusing on their strategic disclosure decisions. Last, our results are consistent with recent calls on public auditors to improve the transparency and effectiveness of their communication as information intermediates.

This inquiry provides several avenues for future research as shown in the following questions: How do credit rating agencies use the content of preferability letters? Does obfuscated writing in preferability letters affect stock returns on a long-term basis (i.e., greater than 12 months)? Do sophisticated investors view preferability letters different from naïve investors? Does the gender of financial analysts affect their earnings analysis from preferability letters?

ENDNOTES

1. Qualitative Characteristics of Accounting Information – Statement of Financial Accounting Concepts No. 2 – Stamford, Conn: FASB, May 1980.
2. SEC Accounting Series Release No. 177, Notice of Adoption of Amendments to For 10-Q and Regulation S-X Regarding Interim Financial Reporting (Sept. 10, 1975).
3. Our conversations with the related parties suggest that financial analysts pay more attention to audited information. Our paper, therefore, focuses on preferability letters enclosed in 10-K filing rather than 10-Q filing since the former is audited by auditors.
4. The Sarbanes-Oxley Act of 2002 created PCAOB to take the authority for standard-setting for audits of financial statements of publicly held companies and for quality control of firms that perform those audits

from the American Institute of Certified Public Accountants (AICPA), where it had existed since the 1930s and bestowed on the PCAOB.

5. Appendix A provides a sample of preferability letters drafted by different auditors.
6. Data availability of directEdgar starts at 1993.
7. Preferability Letters enclosed in 8-K filings are generally associated with other unusual corporate events (e.g., merges & acquisitions, take overs, auditor changes). To ensure more homogenous sample, we exclude them and focus on 10-K filings.
8. Microsoft WORD and SAS yielded almost identical results as the program that we used when calculating number of words per letter.
9. We define the fiscal year during which a firm makes a VAC as year 0 (i.e., t=0), year 1 (i.e.,t=1) as the 1st fiscal year after the accounting change and so on. Prior research on VACs, generally, adopts a three-year window to study the effect of VACs (e.g., Dharan and Lev 1993, Cheng and Coulombe 1993, and Linck, Lopez and Rees 2007).
10. Prior studies show that the buy-side analysts made more optimistic and less accurate forecasts than their counterparts on the sell side (i.e., Groysberg, Healy, and Chapman 2008). However, we are interested in the effect of readability of auditor report on the population of financial analysts in this study, not the difference between buy-side and sell-side.
11. Prior literature suggests that the adjusted actual earnings rather than actual earnings should be used to calculate forecast errors; since financial analysts exclude certain line items from their forecasts, but actual earnings reported by firms include these line items (e.g., Lehavy, Li and Merkley 2009, Peek 2005). In a robustness check, we also use two actual earnings reported by firms (earnings per share (basic) excluding extraordinary items and earnings per share from operations). The results are weaker but marginally significant. We also use the median (variable MEDEST from the I/B/E/S) in our robustness check.
12. We scale words per letter by a constant of 10 to facilitate exposition and comparison with other variables.
13. Because of the unbalanced weight of auditor groups presenting the sample, we also apply the general linear model (GLM) procedure in our analysis. The results remain the same.
14. We scale words per letter by a constant of 10 to facilitate exposition and comparison with other variables.
15. Appendix B provides the listing of audit firms represented in our sample.
16. VAC firms which switched auditors during the period from t=-3 to t=3 are deleted from our sample.
17. Appendix C provides the details on how to calculate performance-matched discretionary accruals.
18. By mentioning the auditors' "strategic disclosure" based on their insights on earnings quality, we do not imply audit failures, but rather the auditors' discretion within the boundary of current regulations. One source of the discretion might be due to the reporting flexibility embedded in Generally Acceptable Accounting Principles (GAAP). Because GAAP allows firms to exercise judgment, and choose among alternative acceptable accounting principles, this practice likely causes variations in earnings quality within the GAAP boundary. We leave for future research to check whether the readability of audit reports is associated with the incurrence of restatements of financial statements.

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APPENDIX A: SAMPLE PREFERABILITY LETTERS BY DIFFERENT AUDITORS

Example1
Exhibit 18, 10-K Filing
October 2, 1997
The Board of Directors
Mosler Inc.

We have audited the consolidated balance sheets of Mosler Inc. as of June 28, 1997 and June 29, 1996 and the related consolidated statements of operations, common stockholders' deficiency and cash flows for the years then ended, included in your Annual Report on Form 10-K to the Securities and Exchange Commission and have issued our report thereon dated October 2, 1997.

Note 3 to such consolidated financial statements contains a description of your adoption during the year ended June 28, 1997 of a change in the method of accounting for service van inventories. In our judgment, such change is to an alternative accounting principle that is preferable under the circumstances.

Yours truly,

DELOITTE & TOUCHE LLP
Cincinnati, Ohio

APPENDIX A: SAMPLE PREFERABILITY LETTERS BY DIFFERENT AUDITORS (CONT.)

Example2
Exhibit 18, 10-K Filing
Hechinger Company
1801 McCormick Drive
Largo, MD 20774
January 8, 1999
Ladies and Gentlemen:

We have audited the consolidated balance sheets of Hechinger Company and subsidiaries (a wholly-owned subsidiary of Centers Holdings, Inc.) as of October 3, 1998 and September 27, 1997, and the related consolidated statements of operations, stockholders' equity, and cash flows for the year ended October 3, 1998 and the 34 weeks ended September 27, 1997, and have reported thereon under date of January 8, 1999.

The aforementioned consolidated financial statements and our audit report thereon are included in the Company's annual report on Form 10-K for the year ended October 3, 1998. As stated in Note 1 to the financial statements, during the quarter ended October 3, 1998, the Company changed its method of applying the LIFO accounting method for inventories of its Hechinger/Home Quarters stores to the retail method. The Company believes it is preferable to utilize the same method of accounting for all of its inventories. The inventory of the Company's
161 Builder's Square stores which was acquired September 26, 1997, and which represented approximately 60% of consolidated inventories as of October 3, 1998 and September 27, 1997, is stated at the lower of LIFO cost or market, using the retail inventory method (i.e. "retail LIFO"). The inventory of the Company's existing 110 Hechinger/Home Quarters stores, which represented approximately 40% of consolidated inventories as of October 3, 1998 and September 27, 1997, was previously stated at the lower of LIFO cost or market (i.e. the retail inventory method was not utilized). The Company believes that utilizing the retail method of accounting for inventories is consistent with the accounting method utilized by a number of retailers, including the Company's largest competitor. The Company also desired to utilize the same accounting method for financial reporting and income tax purposes. Effective for the year ended October 3, 1998, the Company elected to use the retail LIFO method of accounting for inventories of its Hechinger/Home Quarters stores for income tax purposes. In accordance with your request, we have reviewed and discussed with Company officials the circumstances and business judgment and planning upon which the decision to make this change in the method of accounting was based.

With regard to the aforementioned accounting change, authoritative criteria have not been established for evaluating the preferability of one acceptable method of accounting over another acceptable method. However, for purposes of Hechinger Company's compliance with the requirements of the Securities and Exchange Commission, we are furnishing this letter.

Based on our review and discussion, with reliance on management's business judgment and planning, we concur that the newly adopted method of accounting is preferable in the Company's circumstances.

Very truly yours,

KPMG LLP

APPENDIX B: LISTING OF AUDIT FIRMS

Name	Freq.	Percent	Cum. Freq
Arthur Andersen	54	12.86	54
Deloittte & Touche	77	18.33	131
KPMG Peat Marwick	69	16.43	200
PriceWaterHouse Coopers	64	15.24	264
Ernst & Young	75	17.86	339
Price Waterhouse	9	2.14	348
Coopers & Lybrand	24	5.71	372
Grant Thornton	13	3.1	385
Hein + Associates	1	0.24	386
Moore Stephens, P.C.	1	0.24	387
BDO Seidman	14	3.33	401
Ehrhardt Keefe Steiner & Hottman	2	0.48	403
Crowe, Chizek and Company LLP	2	0.48	405
Mahoney Sabol & Company, LLP	1	0.24	406
Kostin, Ruffkess & Company, LLC	2	0.48	408
Stephenson & Trlicek, P.C.	1	0.24	409
DeCoria, Maichel and Teague P.S.	1	0.24	410
Carlin, Charron & Rosen, LLP	1	0.24	411
Singer Lewak Greenbaum and Goldstein	1	0.24	412
Rachlin Cohen & Holtz LLP	1	0.24	413
Travis, Wolff & Company, L.L.P.	1	0.24	414
Blackman Kallick, LLP	1	0.24	415
McGladrey & Pullen LLP	1	0.24	416
Hein & Associates LLP	1	0.24	417
BKD, LLP	1	0.24	418
Swenson Advisors, LLP	1	0.24	419
Pritchett, Siler & Hardy, P.C.	1	0.24	420

APPENDIX C: DISCRETIONARY ACCRUALS MODEL

We estimate discretionary accruals by using the cross-sectional Jones (1991) model adjusted for lagged return on assets and industry effect (Kothari, Leone, and Wasley 2005) as follows:

$$\frac{TACC_{i,t}}{ATA_{i,t}} = \alpha + \beta_0 \frac{1}{ATA_{i,t}} + \beta_1 \frac{\Delta REV_{i,t} - \Delta REC_{i,t}}{ATA_{i,t}} + \beta_2 \frac{PPE_{i,t}}{ATA_{i,t}} + \beta_3 ROA_{i,t} + \varepsilon_{i,t}$$

(4)

Where

$TACC_{i,t}$	=	total accruals in year t of the ith firm in same two-digit SIC industry, measured as the differences between income before extraordinary items and cash flow from operation in year t (Collins and Hribar 2002)
$ATA_{i,t}$	=	total assets at the end of year t-1 of the ith firm
$\Delta REV_{i,t}$	=	revenue in year t less revenue in t-1 of the ith firm
$\Delta REC_{i,t}$	=	change in receivables in t-1 of the ith firm
$PPE_{i,t}$	=	gross property, plant, and equipment at the end of year t of the ith firm
$ROA_{i,t}$	=	return on assets at year t of the ith firm
α and βs	=	parameters to be estimated

Equation (4) is estimated by using data from all firms matched on year t-1 and two-digit SIC industry groupings. The parameter estimates from this regression are then used to estimate the prediction error from Equation (4) in year t. This error serves as our proxy for discretionary accruals in year t.

TABLE 1
PANEL A: DISTRIBUTION OF PREFERABILITY LETTERS BY YEAR

Year	Frequency	Percent	Cumulative Frequency
1994	16	3.80	16
1995	14	3.33	30
1996	15	3.56	45
1997	37	8.79	82
1998	32	7.60	114
1999	21	4.99	135
2000	10	2.38	145
2001	46	10.93	191
2002	31	7.36	222
2003	30	7.13	252
2004	36	8.55	288
2005	40	9.50	328
2006	37	8.79	365
2007	26	6.18	391
2008	30	7.13	421

TABLE 1
PANEL B: DISTRIBUTION OF PREFERABILITY BY AUDITORS

Auditor Group	Frequency	Percent	Cumulative Frequency
Small	21	5.00	21
Medium	27	6.43	48
Large	372	88.57	420*

* one preferability letter does not have the auditor's identity.

FIGURE 1

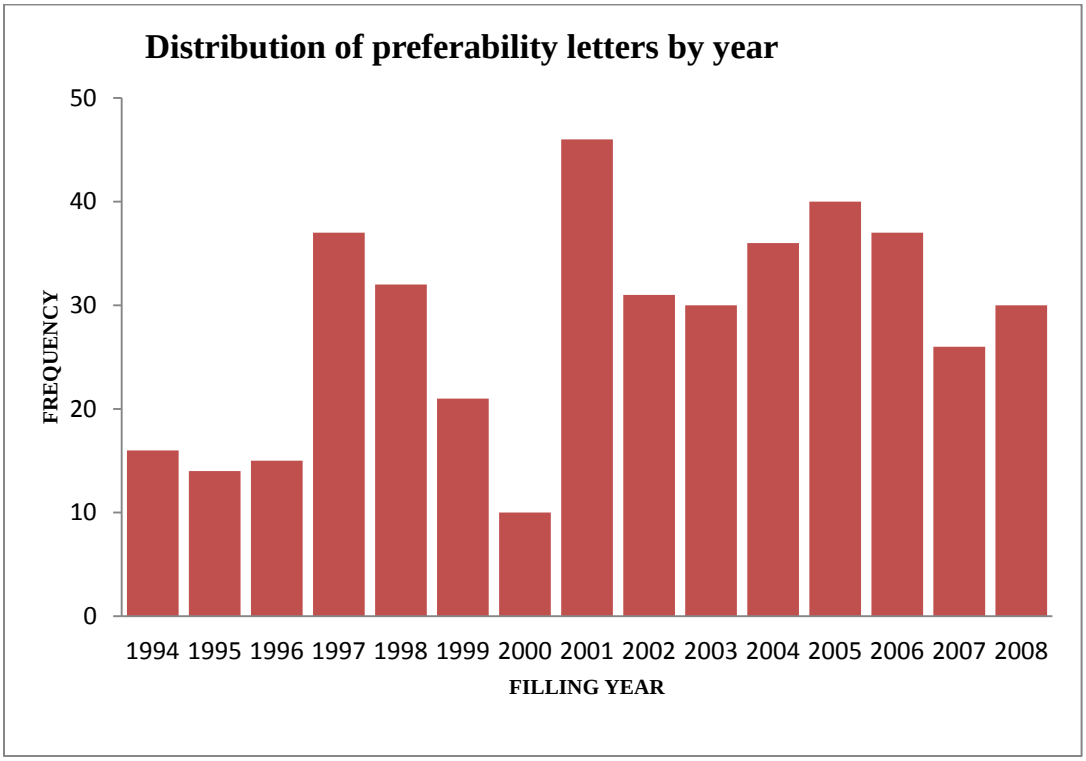
Distribution of preferability letters by year
FREQUENCY
50
40
30
20
10
0
1994 1995 1996 1997 1998 1999 2000 2001 2002 2003 2004 2005 2006 2007 2008
FILLING YEAR

TABLE 2
PANEL A: DISTRIBUTION OF VARIABLES (FROM T=-3 TO T=3 SURROUNDING VAC)*

Variable	Mean	Median	Std.	1 Pctl	25 Pctl	75 Pctl	99 Pctl	N
Fog*	19.06	18.97	2.56	13.89	17.22	20.80	25.05	282
Words*	23.13	23.50	7.15	12.00	16.60	28.50	39.50	282
Adj_FE	-0.09	0.01	0.98	-2.48	-0.04	0.04	0.84	825
TA*	0.06	0.01	0.31	0.00	0.00	0.03	1.88	1735
EARN	0.01	0.00	0.18	-0.44	-0.02	0.03	0.48	1732
CHEARN	0.01	0.03	0.19	-0.53	-0.01	0.06	0.30	1735
EARNQ	0.01	0.02	0.10	-0.35	-0.02	0.07	0.20	1366

*For variables Fog and Words, the statistics is based on the year that the VAC incurred (i.e.,t=0).
*Words is scaled by a constant of 10.
*TA is measured in $100, 000,000,000.

TABLE 2
PANEL B: PEARSON CORRELATION (FROM T=-3 TO T=3)

	Fog	Words	Adj_FE	TA	EARN	CHEARN	EARNQ	AG
Fog	1.00							
Words	0.28***	1.00						
Adj_FE	0.08**	0.06*	1.00					
TA	0.09***	0.00	-0.01	1.00				
EARN	-0.01	0.00	0.25***	0.01	1.00			
CHEARN	-0.01	0.01	0.27***	0.00	0.41***	1.00		
EARNQ	0.05**	0.05*	0.21***	0.00	0.48***	0.30***	1.00	
AudGroup	0.13***	-0.04*	0.03	0.07***	0.08***	-0.02	0.07***	1

***Significant at the 1 percent (two-tailed test)
**Significant at the 5 percent (two-tailed test)
*Significant at the 10 percent (two-tailed test)

TABLE 2
PANEL C: READABILITY OF PREFERABILITY LETTERS

Year	Mean	Median	Std.	1 Pctl	25 Pctl	75 Pctl	99 Pctl	N
1994 Fog	18.93	18.87	1.99	15.14	17.66	20.18	23.02	16
Words	23.53	23.70	6.03	13.40	18.15	27.90	35.70	16
1995 Fog	18.69	17.67	2.47	14.33	17.53	20.32	23.01	14
Words	23.16	20.70	7.95	15.60	17.40	27.50	45.00	14
1996 Fog	17.82	17.22	2.93	13.84	15.10	20.50	22.67	15
Words	22.01	18.50	6.07	13.80	17.90	26.90	32.00	15
1997 Fog	17.63	17.45	2.59	12.31	15.49	18.98	22.49	37
Words	20.18	192.00	6.81	120.00	139.00	272.00	329.00	37
1998 Fog	19.36	19.73	3.11	13.28	16.82	21.07	25.74	32
Words	223.75	214.00	66.84	127.00	178.00	257.50	405.00	32
1999 Fog	18.44	18.37	2.68	13.99	16.33	21.23	21.90	21
Words	210.43	196.00	79.27	136.00	152.00	265.00	454.00	21
2000 Fog	21.79	19.46	7.11	13.51	16.38	26.40	34.22	10
Words	213.60	184.50	64.68	146.00	167.00	269.00	323.00	10
2001 Fog	18.86	19.28	2.28	13.46	17.32	20.33	23.80	46
Words	246.89	244.50	69.31	123.00	191.00	307.00	372.00	46
2002 Fog	19.15	19.43	2.74	13.48	17.12	21.88	23.93	31
Words	254.90	280.00	80.82	111.00	179.00	317.00	381.00	31
2003 Fog	19.98	19.39	2.70	14.75	18.27	22.69	24.76	30
Words	233.83	242.50	58.98	149.00	177.00	275.00	357.00	30
2004 Fog	20.10	19.39	3.46	13.62	17.78	22.09	27.56	36
Words	255.33	240.50	101.24	121.00	170.50	315.00	507.00	36
2005 Fog	19.51	19.14	4.00	13.86	16.02	22.09	28.95	40
Words	219.93	210.00	71.38	105.00	149.00	280.50	364.00	40
2006 Fog	20.67	20.58	3.23	14.06	18.20	22.84	28.59	37
Words	228.76	245.00	60.11	133.00	168.00	272.00	341.00	37
2007 Fog	19.83	19.86	2.48	13.94	18.56	21.09	24.06	26
Words	230.00	222.00	74.33	105.00	157.00	311.00	348.00	26
2008 Fog	18.78	18.79	2.79	11.35	16.73	20.50	24.91	30
	270.30	274.50	73.59	131.00	231.00	324.00	428.00	30

TABLE 2
PANEL D: READABILITY OF PREFERABILITY LETTERS BY AUDITOR GROUP

Variable	Mean	Median	Std.	1 Pctl	25 Pctl	75 Pctl	99	N
Small Fog	17.42	17.11	2.66	13.79	15.10	19.00	23.13	21
Words	201.29	179.00	61.54	135.00	152.00	226.00	331.00	21
Med Fog	17.80	17.82	1.60	14.14	16.43	18.79	20.94	27
Words	282.74	265.00	65.60	149.00	248.00	318.00	507.00	27
Large Fog	19.50	19.43	3.23	13.33	17.30	21.63	28.59	372
Words	231.50	231.00	73.68	120.00	165.50	288.50	418.00	372

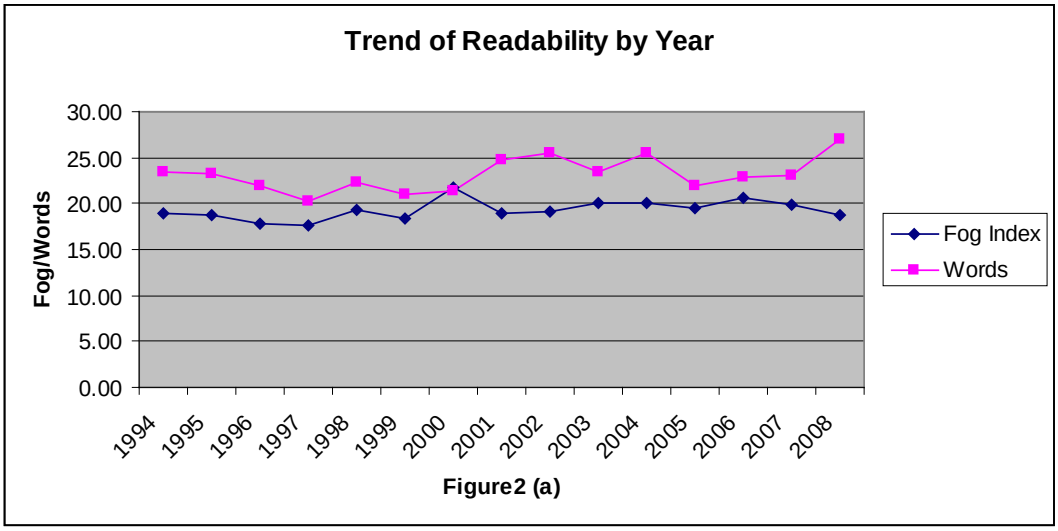

Figure2 (a)

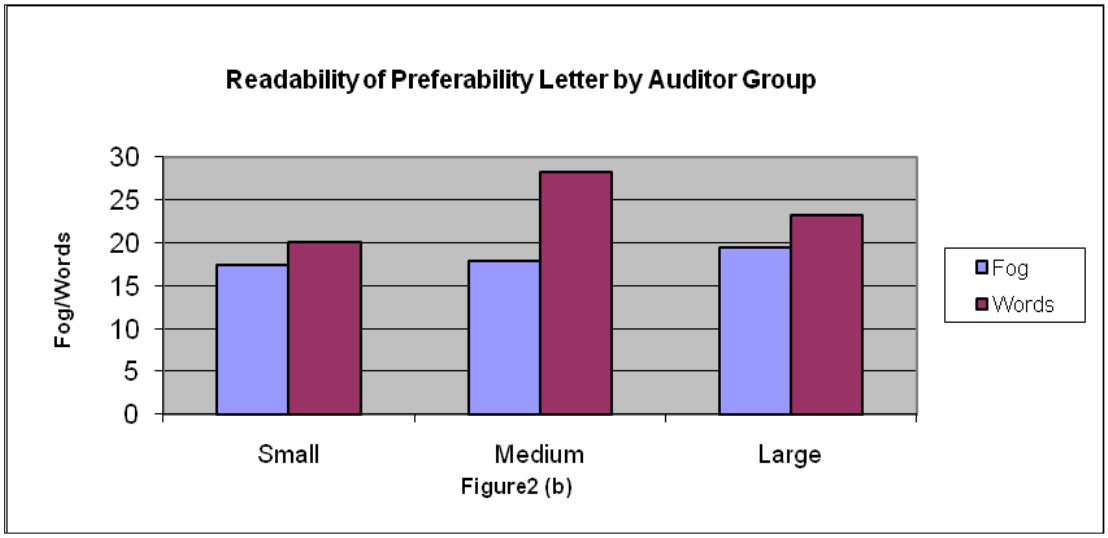

Figure2 (b)

TABLE 3
THE RELATION BETWEEN FORECAST ERRORS & READABILITY (T=1 TO T=3 , N=617)

Dep=FE	Coef.	Coef.	Coef.	Dep=FE	Coef.	Coef.	Coef.
Intercept	-1.35**	-1.67***	-1.73***	Intercept	-0.68**	-1.02***	-1.01***
Fog	0.06**	0.07***	0.08***	Words	0.02*	0.03***	0.03***
EARN		2.98***	2.98***	EARN		3.12***	3.11***
TA			-0.17	TA			-0.14
F-Statistic	4.07**	18.19***	12.54***	F-Statistic	3.37*	19.11***	13.00***
Adj-R^2	1.09%	9.21%	9.27%	Adj-R^2	1.01%	9.65%	9.60%

TABLE 4
THE RELATION BETWEEN READABILITY & AUDITOR GROUPS (T=0, N=282)

Dep =Fog	Coef.	Coef.	Dep=Words	Coef.	Coef.
Intercept	16.99***	18.38***	Intercept	25.06***	20.05***
AudGroup	0.73***		AudGroup	-0.68*	
LargeDummy		0.83***	LargeDummy		2.75***
MedDummy		-0.70*	MedDummy		8.71***
F-Statistic	31.38***	24.25***	F-Statistic	3.46*	51.00***
Adj-R^2	1.72%	2.63%	Adj-R^2	0.14%	5.45%

The regression model for Table 4:

$$Adj\_FE_{i,t=1,2,3} = \alpha_1 + \beta_1 \operatorname{Re} ad_{i,t=0} + \sum \phi_j Ctrl\left(j_{i,t=1,2,3}\right) + \varepsilon_{i,t} \quad (1)$$

The regression model for Table 5:

$$\operatorname{Re} ad_{i,t=0} = \alpha_0 + \beta_2 AudGroup_{i,t=0} + \varepsilon_{i,t=0} \quad (2a)$$

$$\operatorname{Re} ad_{i,t=0} = \alpha_0 + \beta_3 L\arg eDummy_{i,t=0} + \beta_4 MedDummy_{i,t=0} + \varepsilon_{i,t=0} \quad (2b)$$

***Significant at the 1 percent (two-tailed test)

**Significant at the 5 percent (two-tailed test)

*Significant at the 10 percent (two-tailed test)

TABLE 5
PERCENTAGE OF CHANGE IN EARNINGS & DISCRETIONARY ACCRUALS

	Change in Earnings				Discretionary Accruals		
Year	Mean	Median	N	Year	Mean	Median	N
-3	0.49%	0.34%	255	-3	1.47%	1.73%	255
-2	1.35%	0.32%	259	-2	2.39%	2.45%	259
-1	0.00%	0.34%	270	-1	1.84%	2.09%	270
0	-0.32%	-0.15%	282	0	0.89%	1.95%	282
1	0.89%	1.06%	261	1	0.40%	2.02%	261
2	1.44%	0.61%	219	2	1.29%	2.19%	219
3	-0.24%	0.41%	189	3	1.27%	2.31%	189

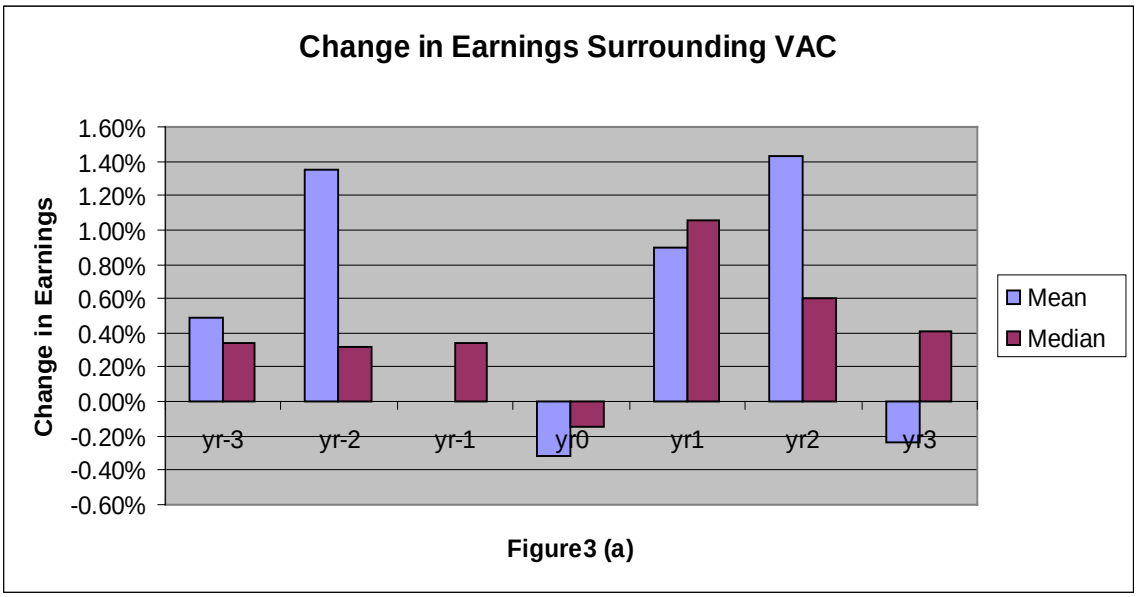

Figure3 (a)

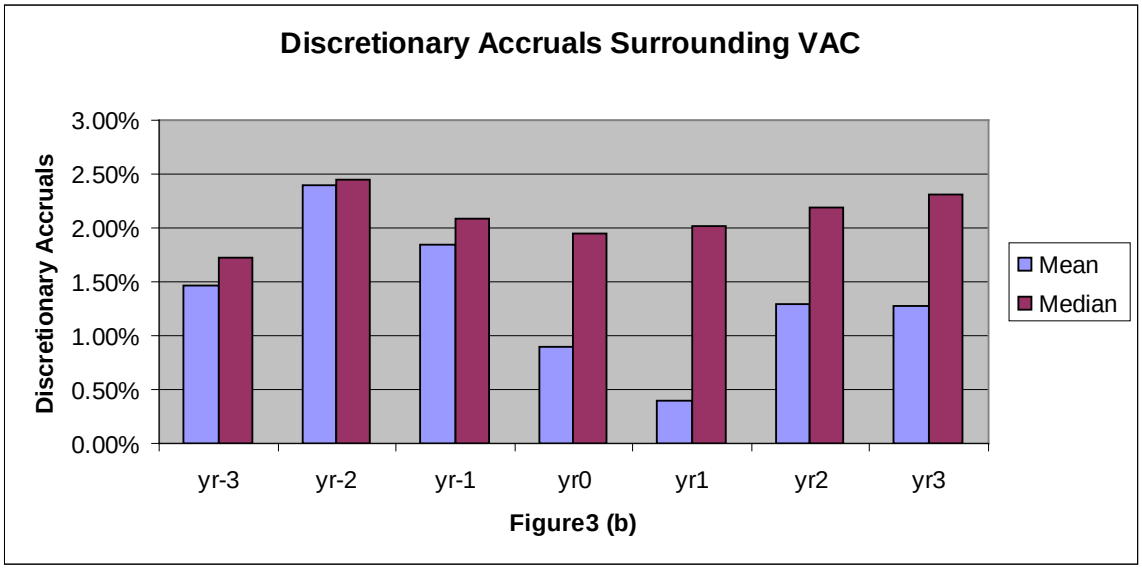

Figure3 (b)

TABLE 6
THE RELATION BETWEEN READABILITY & EARNINGS ATTRIBUTES (T=-3 TO T=3, N=1,735)

Dep=Fog	Coef.	Coef.	Coef.	Coef.	Dep=Words	Coef.	Coef.	Coef.	Coef.
Intercept	18.98**	17.15***	18.46***	18.38***	Intercept	22.69***	22.95***	20.40***	20.26***
EARNQ	1.29*	1.09	1.27*	2.29***	EARNQ	3.02*	3.05*	2.35	4.59**
AudGroup		0.65***			AudGroup		-0.09		
LargeDummy			0.66**	0.73**	LargeDummy			2.15***	2.44***
MedDummy			-1.03***	-1.00***	MedDummy			6.08***	6.11***
CHEARN				0.48	CHEARN				0.38
EARN				-1.85***	EARN				-3.66***
TA				0.28	TA				-2.89***
F-Statistic	3.56*	11.77***	13.94***	8.83***	F-Statistic	2.84*	1.45	12.91***	24.51***
Adj-R^2	0.20%	1.55%	2.77%	3.33%	Adj-R^2	0.13%	0.11%	2.55%	3.30%

The Regression model for Table 6

$$\mathrm{Re}ad_{i,t=0} = \alpha_0 + \beta_5 EARNQ_{i,t=-3to3} + \beta_6 CHEARN_{i,t=-3to3} + \beta_7 AudGroup_{i,t=-3to3} + \sum \lambda_\varphi Ctrl\left(\varphi_{i,t=-3to3}\right) + \varepsilon_{i,t} \quad (3)$$

***Significant at the 1 percent (two-tailed test)

**Significant at the 5 percent (two-tailed test)

*Significant at the 10 percent (two-tailed test)