

READABILITY CHANGES IN COMPENSATION DISCUSSION AND ANALYSIS: THE IMPACT OF THE PLAIN ENGLISH INITIATIVE

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ABSTRACT

In this paper, we use three readability measures (Fog, Flesch and Plain English) to measure Compensation Discussion and Analysis (CD&A) over the time period of 2007 to 2013. We also compare the CD&A to the Letter and Management Discussion and Analysis (MD&A) in 2012 for differences in the level of readability. We find that companies have made appropriate changes to the CD&A from the first time they reported to the SEC in 2007. Secondly, we find that using multiple measures is a better way to get an overview of the readability of financial documents reported to the SEC.

INTRODUCTION

In 1997, the Securities Exchange Commission (SEC) Chairman, Arthur Levitt issued a challenge to all SEC employees to "find worst piece of 'gobbledygook' and transform it into plain English". The contest had an award of \$ 250 U.S. Savings Bond for the first placed entry. In 1998, the SEC released a handbook on "How to Create Clear SEC Disclosure Documents". The objective of this handbook was to assist companies that report to the SEC and investors to provide their information in plain English – making them easier to understand and allowing investors to make informed decisions about their investments. Plain English has also been mandated for federal government documents since the 1990s with varied success on implementation (<http://www.plainlanguage.gov/whatisPL/govmandates/index.cfm>). Although Plain English is only mandated only for prospectuses filings, SEC leaders clearly encourage firms to follow Plain English principles in all their filings and communications with shareholders.

"Plain Language" and "Plain English" have been used interchangeably in many of articles on the Plain Language movement in the United States. Plain Language as been defined by various authors:

- "language that reflects the interests and needs of the reader and consumer rather than the legal, bureaucratic, or technological interests of the writer or of the organization that the writer represents" (Steinberg 1991).
- "goal of the plain-language movement is to produce language (particularly written English) which is clear, straightforward expression, using only as many words as are necessary, and which avoids obscurity, inflated vocabulary and convoluted sentence construction" (Berry, 1995).
- "Plain language (also called Plain English) is communication your audience can understand the first time they read or hear it. Language that is plain to one set of readers may not be plain to

others. Written material is in plain language if your audience can: find what they need; understand what they find; and use what they find to meet their needs.” (www.plainlanguage.gov/whatisPL/)

The focus for these mandates was legal documents, rules or memos using legalese that the common folk would not understand. They related to existing documents that needed to be rewritten in plain English.

To examine the impact of Plain English rule, we use textual analysis to investigate firms' filings. There is growing research in accounting and finance using the textual analysis of qualitative information (Tetlock 2007; Li 2008; Lehavy, Li and Merkley 2011; Loughran and McDonald 2011). These papers have studied various qualitative dimensions of the disclosures such as positive vs. negative tone (Tetlock et al. 2008; Huang et al. 2014), readability (Li 2008; Lehavy et al. 2011) and self-reference bias (Larcker and Zakolyukina 2012). Our focus is on the readability of firms' filings. Prior literature has investigated readability of narrative forms of financial disclosures. Li (2008) finds that firms with lower earnings have less readable annual reports, and that readability increases with earnings persistence in firms that are profitable. He concludes that managers report tone strategically, consistent with an obfuscation incentive to mask a lower level or lower persistence of earnings. Using a measure of the readability of corporate 10-K filings, Lehavy et al. (2011) document that analyst following and informativeness of their reports are greater for firms with less readable 10-Ks. Loughran and McDonald (2014a) show that the traditional Fog index is substantially misspecified when applied to financial disclosures. To examine document readability or plain English enforcement, Loughran and McDonald (2014b) create a standardized statistic that aggregates six writing components identified by the SEC find that the SEC's implantation of the plain English rule substantively impacted managerial behavior. Following previous papers, we employ Fog, Flesch and plain English to measure readability of financial documents.

In 2006, the SEC required companies to add a new section called Compensation Discussion & Analysis (CD&A) to the proxy document. There had been complaints from knowledgeable and institutional shareholders that details of executive compensation especially total compensation were never reported by companies but were estimated by analysts. So the SEC required companies to report detailed compensation disclosures in plain English and with a summary table providing the total compensation amount and its components for the top five earners of the company. The information had to include retirement compensation and payments if any on termination of the employee. Stock options, pensions and perquisites also had to be detailed. The disclosures were reviewed by the SEC in 2007 who reported their findings in in 2009 with suggested corrections many of which related to plain English issues.

In this study, we analyze the CD&A of the top 100 Standard & Poor (S&P) Companies in 2013. The sample collected were the CD&A for the years 2007, 2009, 2012 and 2013. We test for the changes in readability over time especially after the CD&A review by the SEC. We also analyze the Management Discussion & Analysis (MD&A) and the Letter to the Shareholders (Letter) in 2012 for a comparison with the CD&A readability. We find that corporate reporting using the CD&A has improved over time. It has been a gradual improvement with significant differences in readability between 2007 and 2013. We also find that of all the documents, the Letter is the most readable but we found conflicting results while comparing the MD&A and the CD&A. Though the CD&A was shorter, the plain English measure found it less readable than the MD&A. This may be due to the more complicated details of compensation being disclosed using more legalese and passive language.

The remainder of the paper is organized as follows: Section 2 develops our hypotheses. Section 3 provides details on methodology and sample selection. Section 4 analyzes the results while section 5 provides our conclusions.

HYPOTHESES

The SEC required companies to report CD&A from 2006 onwards. They reviewed the disclosures in 2007 and provided the details of their findings in 2009. The SEC chose 350 public companies across a wide range of industries. Their comments were on the manner of presentation, format of the statement, and clarity of the disclosures. (<http://www.sec.gov/divisions/corpfin/guidance/execcompdisclosure.htm>). The summary of the comments indicated that the SEC felt that the readability of the documents was poor and needed more clarity. They suggested more tables, more details on how and why the compensation decisions were made and the implications of such decision-making. So we hypothesize that:

H1: Readability of CD&A will improve from 2007 to 2013.

We expect that the Letter is a document that summarizes the company's performance for the year. It is and was always meant to be written in simple plain English and easy readable to shareholders. The MD&A is the detailed management discussion of the company's past performance and its implications on the future. So we expect this document to be longer and more complicated. The CD&A is a newer document focusing only on executive compensation. It has also got the advantage of the most current review by the SEC on its readability. So we expect it to be more readable as compared to the MD&A. So we hypothesize that: H2: CD&A will be less readable than the Letter, but more readable than MD&A.

METHODOLOGY

Sample

We selected companies on the S&P Top 100 list of July 2013 as our sample, as these are the most well-known public companies with large institutional and individual investor following. Filings of these companies to SEC are the major means of communication to investors, and are read and studied by investors, creditors and other related parties. Following the SEC disclosure rule of 2006, the CD&A was first reported in company annual proxy statement in 2007. The Division of Corporation Finance in SEC launched a review of CD&A in 2007 and reported their findings in 2009. Hence we collected sample companies' CD&A from proxy statements of 2007, 2009, 2012 and 2013 to observe the short-term and long-term changes in readability of CD&A. In addition, we also collected sample companies' MD&A and Letters from their annual financial reports of 2012 for comparison. Out of the 100 companies on the list, seven were either merged or delisted, and were excluded from the analysis. Of the remaining 93 companies, ten companies had partial data missing. These ten firms were kept in the analysis, but analysis without these 10 firms generated qualitatively similar findings. Financial data are obtained from COMPUSTAT by matching GVKEY.

The readability measures

Following the prior literature, we use three statistics to measure the annual report readability (e.g., Li 2008; Loughran and McDonald 2014b).

The first is the Fog index from computational linguistics literature. It is developed by Robert Gunning, and is a simple formula for measuring readability.

$$\text{Fog index} = (\text{Average number of words per sentence} + \text{Percentage of complex words}) \times 0.4$$

The index is affected by two parameters: average number of words in sentences and the percentage of complex words among the entire text. Complex words are defined as words with three syllables or more. In general, a Fog index of 18 means the text is unreadable; 14–18 means it is difficult to read; 12–14 means the level of readability is ideal for average readers; 10–12 means the text is acceptable to read; and 8–10 means the level is easy and meant for children.

The second index is Flesch. This variable is similar to Fog in meaning, but is constructed in such a way that higher scores mean greater readability.

$$\text{Flesch score} = 206.835 - (1.015 \times \text{average number of words per sentence}) - (84.6 \times \text{average number of syllables per word})$$

The Flesch score ranges between 0 – 100. The higher the score, the easier it is to read the document. The standard ranges from 60-69 while numbers below 60 are considered difficult. A score below 30 is considered confusing and requires at least a college degree to understand the material.

The third index is Plain English created by Loughran and McDonald (2014b) based on specific examples provided by the SEC documentation surrounding the plain English initiative.

$$\text{Plain English} = -\text{Sentence length} - \text{Word length} - \text{Passive} - \text{Legalese} + \text{Personal pronouns} - \text{Other}$$

A high value of Plain English would indicate better readability. Each measure used in Plain English calculation, such as Sentence length, is standardized to have a mean of 0 and a standard deviation of 1. The above six components are: (1) Sentence length: The average number of words per sentence in the document. Rule 421(d) emphasizes this in the Plain English handbook (e.g., pp.28-29); (2) Word length: The average number of characters in each word; (3) Passive: A count of passive words in the document. Auxiliary verb variants of “to be” includes: “to be”, “to have”, “will be”, “has been”, “have been”, “had been”, “will have been”, “being”, “am”, “are”, “is”, “was”, and “were”. Auxiliary verbs followed by a word ending in “ed” or one of 158 irregular verbs, such as “caught” and “struck”, are defined as passive words. The handbook emphasize the importance of avoiding passive voice; (4) Legalese: A count of the words and phrases identified in Staff Legal Bulletin No. 7 (<http://www.sec.gov/interp/legal/cfslb7a.htm>) as inappropriate legal jargon. A list of 12 phrases and 48 words are identified, examples include “qualified in its entirety” or “hereinafter so surrendered”; (5) Personal pronouns: A count of personal pronouns, whose usage the handbook (p. 22) indicates will “dramatically” improve the clarity of writing. The handbook targets first-person plural and second-person singular personal pronouns. Counts are tabulated for “we”, “us”, “our”, “ours”, “you”, “your”, “yours”; (6) Other: The count of negative phrases, superfluous words and the word “respectively” combined. Specifically, negative phrases refer to 11 negative compound phrases identified on page 27 of the handbook (e.g., “does not have” or “not certain”). Superfluous words refer to eight phrases identified as superfluous on page 25 of the handbook.

RESULTS

Table 1 reports summary statistics of sample firms. Based on SIC (From COMPUSTAT) codes, the firms are classified into 12 Fama-French industries (Fama and French 1997). Our sample firms are from 11 industries and are clustered mostly in the following industries: finance, manufacturing, business equipment and healthcare. The average market value of equity in July 2013 is reported by industries. Energy industry has the highest market value and utilities industry has the lowest one. The average market value of overall firms is 85,039 million.

We reported the average number of words used, numbers used, Fog index, Flesch score and plain English measure for each year and each type of disclosure in Table 2A. In 2007 the average number of words used in CD&A was 8,172 with 676 numbers; the average Fog index was 18.86, Flesch score of 29.01 and Plain English measure of -2.38. Over the years, there seemed to be a consistent increase in the average number of words and numbers used in CD&A. Despite the fact CD&A was getting lengthier and used more letters, its Fog and Flesch indices showed slightly improvement while Plain English measures consistently improved. In Table 2B, we report means of total words, total numbers, and each readability measure by industries. The highest total words used is in Finance industry and highest total numbers used is in Consumer Durables industry. In terms of readability measures, disclosures of Chemicals and Allied Products industry are most readable using Fog index; disclosures of Shops industry are most readable using Flesch and Plain English index.

Next, we reported the correlations among various measures of readability using 2012 CD&A, MD&A, and Letter to shareholders in Table 3. The predicted signs of correlations were presented in Panel A of Table 3. The number of words used and numbers used were always significantly and positively correlated with each other, but they were not consistently correlated with other readability measures. In particular, the number of words used was not related to Fog, Flesch or Plain English in all three reports; and the number of numbers used was positively correlated with Fog (negatively related with Flesch) of MD&A, and negatively related with Fog (positively related to Flesch) in letter to shareholders. As such, the number of words and numbers used in a report seemed to measure the length of a report only. They didn't seem to capture the degree of readability in a report. On the other hand, the other three measures of readability were highly connected. For example, Fog index was always negatively correlated with the Flesch score in all three reports, as both have average number of words in sentence and word syllables in their measures. In addition, Plain English measure were positively correlated with Fog and negatively correlated with Flesch for both MD&A and letter to shareholders. Therefore, other than for CD&A, Fog, Flesch and Plain English measures were all related.

We then reported the changes in CD&A readability measures throughout the test periods in Table 4. With the exception of Plain English measure, changes in all other measures were insignificant in the interim comparisons (2009 vs. 2007, 2010 vs. 2009, 2013 vs. 2012). However, almost all 2013 readability measures, except Flesch, were significantly different from those of 2007. Taken together, the readability changes in CD&A seemed to be gradual, but noticeable over the years. After firms started reporting CD&A in 2007, SEC launched a random review of 350 CD&As and reported its findings and recommendations in 2008 and 2009. One theme in the recommendation is for firms to revise the format and language used to improve readability. But the effect of such review was not immediate as it might take time for firms to change the established norm of reporting. In the long run, however, the changes were significant. CD&As of 2013 were on average longer (9399 vs. 8172, $t=2.355$, $p<0.021$) and used more numbers (823 vs. 676, $t = 2.592$, $p < 0.011$) than those of 2007, but they were also more readability based on Fog (18.43 vs. 18.86, $t=-2.204$, $p<0.030$) and Plain English measures (-0.80 vs. -2.38, $t=4.494$, $p<0,001$). The effect of such change in readability was specially prominent in Plain English, as not only the overall change but also a couple interim changes (2009 vs. 2007 and 2012 vs. 2009) were significant ($t=2.339$, $p<0.002$; $t= 2.716$, $p<0.008$.). In reporting CD&A, firms responded to the Plain English initiative with longer reports, but more readable texts. Hypothesis 1 was supported.

Finally we reported the comparison among 2012 CD&A, MD&A and letter to shareholders in Table 5. Comparing to MD&A, CD&A was shorter, used fewer numbers, but the results on the other three readability measures were conflicted. CD&A was more readable according to Fog and Flesch, but less

readable according to Plain English measure. In other words, CD&A reporting might have included fewer average number of words per sentence and fewer multi-syllable words than MD&A, but it still contained more legalese and passive language. When comparing to the Letter, however, CD&A was longer and less readable across the measures. To sum up, as expected, letter to shareholders was the most readable among the three means of reports. CD&A was shorter than MD&A, but it still needed improvement in terms of Plain English measure.

CONCLUSIONS

We analyzed the readability of the CD&A disclosures over the time period of 2007 to 2013 – specifically 2007, 2009, 2012 and 2013. We also compared the CD&A to the Letter and MD&A in 2012 for differences in the level of readability. We used the average number of words used, numbers used, Fog index, Flesch score and plain English measure for our analysis. We found that our first hypothesis is supported – there is an improvement in the readability over time of the CD&A. The improvement is gradual and across all the measures. The CD&A increased in number of words across time. Though there were no significant changes from year to year, there was a significant improvement in readability from 2007 to 2013. When comparing the CD&A, MD&A and the Letter for the year 2012, we had mixed results. The Letter was the most readable as expected but the CD&A was less readable compared to the MD&A, even though it was shorter in both words and numbers. Using the Flesch & Fog measures, the CD&A was more readable but the plain English measure implied that the CD&A was less readable than the MD&A. This may be driven by the facts that the CD&A uses more legalese and passive language while describing the technical details of executive compensation.

In conclusion, we find that companies have made appropriate changes to the CD&A from the first time they reported to the SEC in 2007. But there is more scope for improvement. Secondly, we find that using multiple measures is a better way to get an overview of the readability of financial documents reported to the SEC. A longer term study over another ten years would give us a better feel if these results are a continuing trend or does the SEC keep reminding the reporting companies to keep improving their reports based on the “Plain English Initiative”.

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All tables are available from author upon request.