

# Readability of Management's Discussion and Analysis

Nicholas Schroeder and Charles Gibson

*Nicholas Schroeder is an Associate Professor of Accounting and Charles Gibson is a Professor of Accounting both at the University of Toledo.*

The Securities and Exchange Commission (SEC) requires firms to prepare a Management Discussion and Analysis (MD&A) as part of the annual report package. The MD&A discusses **issues and trends relating to the firm's liquidity, capital resources and operating results.**

Several recent events have focused on the MD&A. These include suggested changes in content, an SEC review for compliance with existing criteria and an SEC Interpretative Release. Mark Sever and Ronald Boisclair, of Ernst and Young, expressed an opinion in *The Journal of Accountancy* that current trends in financial reporting will increase the importance of the MD&A to financial statement users in the 1990s.<sup>1</sup>

This paper reports on readability of the MD&A. **Readability is "that quality in writing which results in quick and easy communication. Readable writing communicates precisely — and with a single reading."**<sup>2</sup>

## PURPOSE AND HISTORY OF THE MD&A

The MD&A began in 1968 as part of the **Guides for Preparation and Filing of Registration Statements.**<sup>3</sup> In 1974, the SEC proposed, and later required, that corporate annual reports include a discussion and analysis of the summary of operations.<sup>4</sup> In 1980 the SEC adopted the MD&A as a separate requirement and changed the focus from operating results to the financial statements as a whole.<sup>5</sup> This 1980 amendment began the formal requirement for a discussion of issues and trends relating to liquidity, capital resources and the results of operations.

Two SEC concerns about annual report disclosure are evident in these releases. First, the SEC wanted to see more discussion about

certain specific financial topics such as liquidity and results of operations. Second, the SEC repeatedly expressed concern that this discussion be understandable to investors.<sup>6</sup>

Many authoritative pronouncements promote understandability of annual report information. For example, when proposing improvements in annual report and Form 10-K disclosure, the SEC stated:

This annual report to security holders is one of the most widely read disclosure documents,

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<sup>1</sup>Mark V. Sever and Ronald E. Boisclair, "Financial Reporting in the 1990s," *Journal of Accountancy* (January 1990), p. 40.

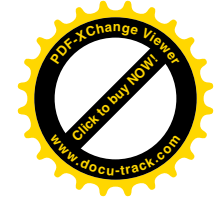
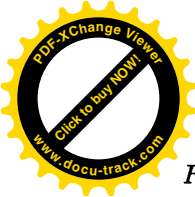
<sup>2</sup>R. L. Lesikar and M. P. Lyons, *Report Writing for Business* (Homewood, Illinois: Irwin, 1986), p. 21.

<sup>3</sup>Securities Act Release 33-4936 (December 9, 1968).

<sup>4</sup>Securities Act Release IC-8175 (January 10, 1974) "...recommended that Rules 13a-3 and 14c-3 be amended to require that annual reports include a brief description of the business of the issuer, line of business disclosure and five year summary of earnings consistent with Form 10-K, explanatory comment on material changes in financial condition in the past year, ... In particular this would include the textual introduction to the summary of operations, explaining changes in operating and nonoperating revenues and expenses, ... To supplement this financial disclosure in the annual report, the proposed amendments would also require management to include such textual information as would, in its opinion, indicate the nature and scope of the liquidity position and of the working capital requirements of the issuer." These amendments were adopted in Securities Act Release 33-5520 (August 14, 1974).

<sup>5</sup>Exchange Act Release 34-17114 (September 2, 1980)

<sup>6</sup>For example, in Securities Act Release 33-5443 (December 12, 1973), the SEC states that it "has long recognized the need for narrative explanation of financial statements. Over the years the rules under the various securities acts have been amended a number of times to require additional narrative disclosure of complex financial transactions." When Securities Act Release 33-6231 (September 2, 1980) amended the annual report form and adopted the MD&A as a separate requirement, repeated references were made to the SEC's concerns about readability of disclosure and the potential impact of additional disclosure on readability.



and potentially the best suited for communicating information in an informative, readable and understandable form to security holders and potential investors.<sup>7</sup>

Statement of Financial Accounting Concepts No. 2 includes understandability as a user-specific quality that helps users perceive the significance of information.

The benefits of information can be increased by making it more understandable and, hence, useful to a wider circle of users.<sup>8</sup>

### The SEC's MD&A Project

In 1986, the SEC received two proposals to include more detail on risk factors in the MD&A. Coopers and Lybrand suggested that auditors perform review procedures on MD&A risk disclosure. The second proposal came from seven major public accounting firms. It suggested both an increase in MD&A risk disclosure and a formal audit of the MD&A.

In a concept release in April 1987, the SEC noted that current rules already require many of the proposals' recommendations.<sup>9</sup> The release also contained a request for comments on the adequacy of MD&A rules and the costs and benefits of the proposals. The proposals were not supported in the comments received. However, more guidance and stricter enforcement of existing rules were often suggested.

An SEC internal task force, formed in March 1988 by the SEC Corporation Finance Division, is conducting an issuer review. For firms being reviewed, several filings such as Form 10-K, the proxy and registration statements are examined. Special emphasis is placed on MD&A disclosure. In an initial review of 218 firms, 206 received letters of comment. In response to SEC staff comments, 72 firms filed amendments.<sup>10</sup> A second phase of the MD&A project, conducted from October to December 1988, examined the filings of another 141 firms. Comment letters sent to 139 firms prompted over 50 firms to file amendments. Over half of the amendments involved a substantial expansion of the MD&A.

The SEC staff has prepared an Interpretative Release to help firms meet MD&A guidelines.<sup>11</sup> The release clarifies current re-

quirements and gives examples of satisfactory disclosure. The SEC has not suggested any changes in existing MD&A rules.

The SEC refers to the MD&A project as a continuing project. Apparently the SEC is committing significant resources to ensure compliance with MD&A guidelines.

### TESTING THE READABILITY OF MD&A DISCLOSURE

Ease of understanding is an important feature of effective financial reporting.<sup>12</sup> Prior accounting research has treated understandability and readability synonymously.<sup>13</sup> In this study, readability of 40 firms' MD&As is compared to readability of President's Letters and financial statement footnotes.

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As previously indicated, the MD&A is a discussion of issues and trends relating to liquidity, capital resources and results of operations. Guidelines for the MD&A have been prepared by the SEC.<sup>14</sup> Style and format of presentation are at the discretion of management.

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The President's Letter permits management to exercise flexibility in both writing style and complexity of presentation. It covers a wide range of topics including financial and nonfinancial operating results.

Footnotes provide more detail about items in the primary financial statements. They also contain much required GAAP and SEC disclosure that cannot be reported in the finan-

<sup>7</sup>Exchange Act Release 10591 (January 10, 1974).

<sup>8</sup>"Qualitative Characteristics of Accounting Information," *Statement of Financial Accounting Concepts No. 2* (Stamford, CT: FASB, May 1980), paragraph 40.

<sup>9</sup>Securities Act Release 33-6711 (April 20, 1987).

<sup>10</sup>Securities Act Release 33-6835 (May 18, 1989).

<sup>11</sup>*Ibid.*, see 54 Federal Register 22427-22436, May 24, 1989.

<sup>12</sup>This issue is discussed and documented in M. J. Jones, "A Longitudinal Study of the Readability of the Chairman's Narratives in the Corporate Reports of a UK Company," *Accounting and Business Research* (Autumn 1988), pp. 297-298.

<sup>13</sup>The fundamental premise that readability reflects understandability has underpinned at least 14 readability studies in financial accounting since 1964. See M. J. Jones, *op. cit.*, p. 298.

<sup>14</sup>See Regulation S-K Item 303 and Securities Act Release 33-6835 (May 18, 1989).

cial statements. Several prior research studies have examined the readability of footnotes. Each study concluded that footnote readability was poor.<sup>15</sup>

Comparisons between footnotes and the MD&A match two financial narratives. Management has the opportunity to write a more readable financial discussion in the MD&A than in the footnotes. Flexibility is allowed in presenting the MD&A while specific guidelines shape the footnotes. Also, there is a tendency to use boilerplate in footnote disclosure. Comparisons between the MD&A and President's Letter match two narratives where management can choose format and presentation technique.

If management takes advantage of the SEC's flexible guidelines to present an understandable financial discussion in the MD&A, it should be more readable than the footnotes. If management tries to present information clearly in both the MD&A and President's Letter, then these narratives should show no significant difference in readability.

### Sample Selection

The firms used in this study were selected from the 1986 Fortune 500 and the 1986 Fortune Service 500.<sup>16</sup> Starting with the first firm from each list, every 25th firm was chosen from the U.S. industrial corporations, diversified service companies, commercial banks, diversified financial companies, savings institutions, insurance companies, retailing companies, transportation companies and utilities. While most prior readability studies examined only samples of text, this study used the complete text.

### Variable Selection

This study examines three aspects of writing known to affect readability.<sup>17</sup> These are: use of the passive voice, word length and sentence length. Word length relates to word selection. Sentence length and use of the passive voice relate to sentence construction.

Sentences are strongest when the verb is in the active voice. Narrative written with extensive use of the passive voice is less forceful, drier, more wordy and less interesting.<sup>18</sup>

Word length affects readability because short words communicate better than long words. Lesikar and Lyons note "there is a strong correlation between word length and word difficulty. The heavier the proportion of long words to short words, the harder the writing is to understand. This is true even when the reader understands long words."<sup>19</sup>

Sentence length is an important variable used in judging readability. "More than any other characteristic of a sentence, length is most clearly related to sentence difficulty. The longer a sentence is, the harder it is to understand."<sup>20</sup>

In addition, an estimate of education level needed to comfortably comprehend each narrative with a single reading was computed using the Flesch Index.<sup>21</sup> Flesch Index scores use a standard formula based on word length and sentence length to compute a subjective measure of reading ease.<sup>22</sup> However, Klare

<sup>15</sup>See, for example, S. Pashalian and W. J. E. Crissy, "How Readable are Corporate Annual Reports," *Journal of Applied Psychology* (August, 1950), pp. 244-248; F. J. Sopor and R. Dolphin Jr., "Readability and Corporate Annual Reports," *The Accounting Review* (April 1964), pp. 358-362; J. E. Smith and N. P. Smith, "Readability: A Measure of the Performance of the Communication Function of Financial Reporting," *The Accounting Review* (July 1971), pp. 552-561; and, C. L. Holley and J. Early, "Are Financial Statements Easy to Read?," *The Woman CPA* (April 1980), pp. 9-13.

<sup>16</sup>The Fortune Directory of the Largest U.S. Industrial Corporations," *Fortune* (April 28, 1986), pp. 182-201; and "The Fortune Directory of the Largest U.S. Non-Industrial Corporations," *Fortune* (June 9, 1986), pp. 122-141.

<sup>17</sup>See for example, R. Flesch, "A New Readability Yardstick," *The Journal of Applied Psychology* (June 1948), pp. 221-233; R. Gunning, *The Technique of Clear Writing* (New York, McGraw-Hill, 1952); or C. H. Bjornsson, "Readability of Newspapers in 11 Languages," *Reading Research Quarterly* (Summer 1983), pp. 480-497.

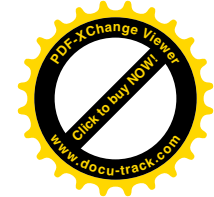
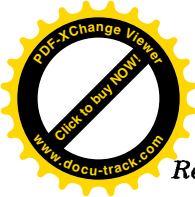
<sup>18</sup>Lesikar and Lyons, op. cit., p. 150-151.

<sup>19</sup>Ibid., p. 147.

<sup>20</sup>Ibid., pp. 153-154.

<sup>21</sup>R. Flesch, "A New Readability Yardstick," *Journal of Applied Psychology* (June 1948), pp. 221-233.

<sup>22</sup>Some may dispute the precision of the education levels computed. Others may argue that an informed reader is able to comprehend text assigned a higher education level than the reader has attained. This study does not make any use of (or any statements about) the absolute value of specific scores computed. This study uses the scores in a relative sense, for comparing between narratives.

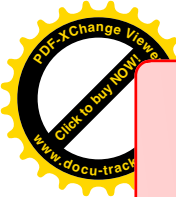


**Table 1A**  
**MEASUREMENT RESULTS BY COMPANY**

	<b>Syllables per Word</b>			<b>Percent of Sentences in the Passive Voice</b>		
	<b>MD&amp;A</b>	<b>Footnotes</b>	<b>President's Letter</b>	<b>MD&amp;A</b>	<b>Footnotes</b>	<b>President's Letter</b>
Aetna Life and Casualty Company	1.92	1.93	1.92	28.6%	47.3%	12.8%
Allied Stores Corporation	1.78	1.84	1.64	10.6%	40.9%	26.3%
American President Companies, Ltd.	1.96	1.91	2.20	14.9%	39.1%	19.4%
Amfac, Inc.	1.94	1.89	1.74	19.8%	46.2%	7.3%
Anheuser-Busch Companies, Inc.	1.83	1.85	1.85	16.8%	44.0%	19.1%
Archer-Daniels-Midland Company	1.88	1.90	1.76	3.7%	29.2%	14.8%
Beatrice Companies, Inc.	1.93	1.90	1.75	16.5%	42.7%	10.3%
Big Three Industries, Inc.	1.83	1.92	1.80	19.2%	35.2%	23.9%
Borg Warner Corporation	1.83	1.95	1.66	12.7%	40.4%	6.3%
Burlington Northern, Inc.	1.86	1.86	1.90	16.3%	38.9%	5.6%
CF Industries	1.84	1.92	1.84	12.1%	40.8%	11.5%
Citicorp	1.86	1.84	1.68	15.9%	43.9%	7.4%
Dorsey Corporation	1.87	1.87	1.72	15.8%	36.4%	13.3%
Dravo Corporation	1.99	1.99	1.93	17.3%	29.5%	7.8%
DWG Corporation	1.89	1.89	*	24.6%	34.5%	*
Economics Laboratory, Inc.	1.84	1.83	1.82	11.4%	40.2%	22.2%
Ferro Corporation	1.87	1.92	1.90	22.7%	40.2%	12.2%
Financial Corp. of America	1.85	1.87	1.72	12.9%	41.8%	16.7%
Federal National Mortgage Association	1.82	1.88	1.65	12.5%	35.7%	5.8%
General Motors Corporation	1.75	1.79	1.79	25.0%	47.9%	11.7%
GTE Corporation	1.92	1.96	1.84	19.8%	35.4%	3.2%
Inland Steel Industries, Inc.	1.87	1.84	1.86	23.9%	38.9%	15.4%
Intel Corporation	1.87	1.89	1.85	27.3%	47.0%	9.6%
J. P. Stevens & Co., Inc.	1.77	1.89	1.71	22.2%	30.9%	23.4%
Marmon Group, Inc.	1.94	1.90	1.81	18.3%	46.6%	12.5%
Metropolitan Life Insurance Company	1.90	1.98	1.82	7.9%	49.0%	12.9%
Moore McCormack Resources, Inc.	1.93	1.87	1.75	11.1%	32.4%	17.0%
Northeast Savings, F.A.	1.88	1.84	1.79	15.7%	50.0%	7.0%
Ohio Edison Company	1.88	1.85	1.69	38.2%	38.4%	6.0%
The Penn Central Corporation	2.10	1.87	1.89	15.2%	38.7%	15.9%
Philbro-Salomon, Inc.	1.97	1.90	1.86	4.3%	36.7%	19.1%
The Pittston Company	1.89	1.84	1.80	12.1%	36.2%	20.5%
PNC Financial Corporation	1.82	1.81	1.80	10.7%	54.5%	17.6%
Reliance Group Holdings, Inc.	1.98	1.97	*	23.1%	55.8%	*
Riggs National Corporation	1.85	1.88	1.73	20.7%	36.3%	11.6%
Sears, Roebuck and Company	1.92	1.94	1.77	25.0%	32.7%	17.1%
United States Tobacco Company	1.84	1.84	1.76	15.4%	43.1%	14.3%
The Upjohn Company	1.88	1.95	1.72	19.5%	42.9%	7.1%
US Bancorp.	1.90	1.86	1.85	14.8%	50.0%	21.2%
West Point-Pepperell, Inc.	1.80	1.87	1.66	9.3%	27.0%	10.7%

\*The annual reports of DWG Corporation and Reliance Group Holdings, Inc., did not contain President's Letters



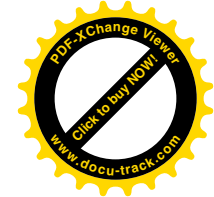
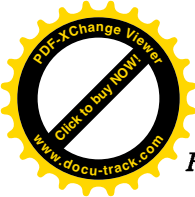


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**Table 1B**  
**MEASUREMENT RESULTS BY COMPANY**

	<b>Words per Sentence</b>			<b>Estimated Years of Education Needed for Clear Readability</b>		
	<b>MD&amp;A</b>	<b>Footnotes</b>	<b>President's Letter</b>	<b>MD&amp;A</b>	<b>Footnotes</b>	<b>President's Letter</b>
Aetna Life and Casualty Company	22.00	22.73	21.97	18.2	18.6	18.2
Allied Stores Corporation	20.50	21.80	23.24	15.6	16.8	13.8
American President Companies, Ltd.	22.96	20.09	29.81	19.2	17.8	21.4
Amfac, Inc.	17.73	20.42	24.32	17.8	17.4	15.6
Anheuser-Busch Companies, Inc.	19.86	22.32	23.66	16.4	17.2	17.4
Archer-Daniels-Midland Company	21.00	20.63	19.55	17.4	17.6	15.0
Beatrice Companies, Inc.	22.70	22.81	22.96	18.6	18.2	15.6
Big Three Industries, Inc.	22.06	20.74	21.02	16.8	18.0	16.0
Borg Warner Corporation	16.41	20.89	15.54	15.6	18.6	12.4
Burlington Northern, Inc.	22.22	21.81	17.78	17.4	17.2	17.0
CF Industries	16.15	21.55	23.81	15.8	18.2	17.2
Citicorp	23.00	27.84	20.09	17.4	18.2	13.8
Dorsey Corporation	19.65	18.87	21.13	17.0	16.8	14.6
Dravo Corporation	18.22	20.85	19.37	18.8	19.2	17.8
DWG Corporation	31.69	29.05	*	19.8	19.2	*
Economics Laboratory, Inc.	21.44	21.95	22.30	16.8	16.8	16.6
Ferro Corporation	20.93	21.91	22.47	17.2	18.2	18.0
Financial Corp. of America	22.08	24.07	25.50	17.2	17.8	15.6
Federal National Mortgage Association	22.81	22.66	23.07	16.8	17.8	13.8
General Motors Corporation	25.14	28.90	23.52	16.0	17.4	16.4
GTE Corporation	22.72	23.68	25.61	18.4	19.4	17.6
Inland Steel Industries, Inc.	22.77	22.25	22.44	17.6	17.0	17.2
Intel Corporation	22.81	19.75	19.92	17.6	17.4	16.6
J. P. Stevens & Co., Inc.	21.89	22.64	20.39	15.8	18.0	14.4
Marmon Group, Inc.	21.68	23.17	26.38	18.6	18.2	17.2
Metropolitan Life Insurance Company	19.64	22.37	20.10	17.4	19.4	16.2
Moore McCormack Resources, Inc.	22.24	24.51	21.36	18.6	18.0	15.2
Northeast Savings, F.A.	23.11	24.15	24.06	17.8	17.4	16.4
Ohio Edison Company	27.94	25.86	22.00	18.8	17.8	14.4
The Penn Central Corporation	25.38	25.02	21.28	22.0	18.0	17.6
Philbro-Salomon, Inc.	26.78	23.42	25.97	20.2	18.2	18.0
The Pittston Company	24.71	21.96	28.82	18.4	17.0	17.6
PNC Financial Corporation	17.34	23.28	19.05	15.6	16.6	15.6
Reliance Group Holdings, Inc.	24.98	22.55	*	20.0	19.2	*
Riggs National Corporation	23.16	23.05	23.79	17.4	17.8	15.4
Sears, Roebuck and Company	23.91	22.34	18.34	18.6	18.6	15.0
United States Tobacco Company	23.95	21.98	19.23	17.4	17.0	15.0
The Upjohn Company	17.17	22.01	20.17	16.6	18.8	14.4
US Bancorp.	19.19	20.87	19.22	17.4	17.0	16.4
West Point-Pepperell, Inc.	21.81	20.43	18.79	16.2	17.2	12.8

\*The annual reports of DWG Corporation and Reliance Group Holdings, Inc., did not contain President's Letters



notes that these two factors are reliable indicators of difficulty.<sup>23</sup>

Flesch Index scores were selected for estimating readability for several reasons. The Flesch Index is **considered reliable, valid and practical**.<sup>24</sup> Prior research has shown that the Flesch Index is valid for assessing readability of adult material.<sup>25</sup> Finally, the Flesch Index is a well accepted method for estimating readability of financial narrative.<sup>26</sup>

Measurements of passive voice usage, word length, sentence length and Flesch Index scores for the MD&A, footnote and President's Letter are reported in Tables 1A and 1B. **The rest of this paper discusses the results and implications of the comparison of MD&A with footnote and President's Letter readability.**

## DISCUSSION AND ANALYSIS OF FINDINGS

### Use of the Passive Voice

Management makes much less use of the passive voice when freed from the confines of GAAP. Both the **averages in Table 2** and the cumulative frequency distributions in Figure 1 show **substantially less use of the passive voice in the MD&As and President's Letters**

**than in the footnotes.** The statistical tests, reported in Table 2, show a significant difference between use of the passive in the MD&As and footnotes. There was no significant difference in use of the passive voice between the MD&As and President's Letters.

**On an individual firm basis,** the Spearman Rank Correlation shows that a firm's use of the passive in the MD&A was **not indicative of use of the passive in the other narratives.** Only West Point Pepperell and Federal National Mortgage Association consistently made less than average use of the passive voice in all three narratives. Archer Daniels Midland, Moore McCormack Resources and The Pittston

<sup>23</sup>For details on reliability of readability formulas, see G. R. Klare, "Assessing Readability," *Reading Research Quarterly* (No. 1, 1974-75), pp. 62-102.

<sup>24</sup>See, for example, Klare, op. cit., pp. 96-98 or J. S. Chall, *Readability — an Appraisal of Research and Application* (Columbus, Ohio: Ohio State University, 1958), pp. 58-68.

<sup>25</sup>C. E. Swanson and H. G. Fox, "Validity of Readability Formulas," *Journal of Applied Psychology* (No. 2, 1953), pp. 114-118.

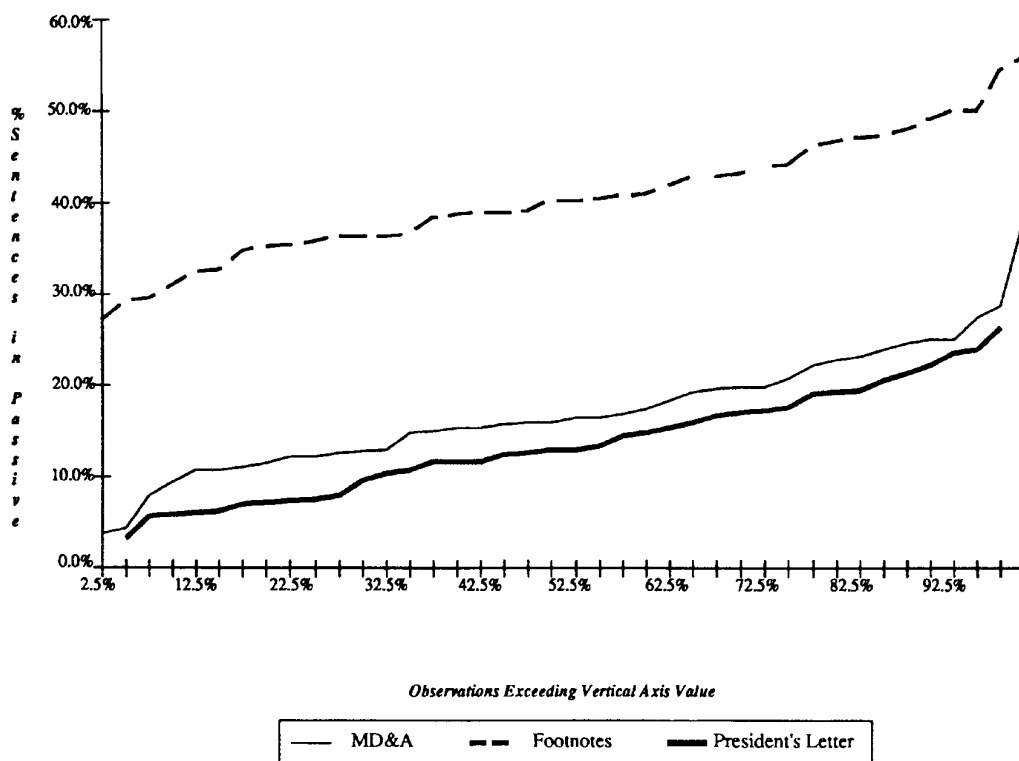
<sup>26</sup>A listing of 11 prior studies using the Flesch Index to assess readability of financial communications is contained in M. J. Jones, op. cit., p. 298.

Table 2  
AVERAGE SCORES AND STATISTICAL TEST RESULTS

	Use of Passive (sentences)	Word Length (syllables)	Sentence Length (words)	Readability Estimates (grade level)
Average scores				
MD&A narrative	17.1%	1.881	22.044	17.66
Footnote narrative	40.4%	1.888	22.679	17.88
President's letter	13.6%	1.796	22.008	16.03
Statistical Test Results				
<i>Differences between measurements by narrative type (Signs Test)</i>				
MD&A and Footnotes	0.000000	N/S	N/S	N/S
MD&A and President's letters	N/S	0.000019	N/S	0.000012
<i>Similarity between measurements by firm (Spearman Rank Correlation)</i>				
MD&A and Footnotes	N/S	0.0036	0.0006	0.0106
MD&A and President's letters	N/S	0.004	N/S	0.0039

N/S not significant at the .05 level

**Figure 1**  
**USE OF THE PASSIVE VOICE**  
**Cumulative Frequency Distribution of Observations**



Company seldom used the passive in their footnotes and MD&As. However, these firms were above average users of the passive in their President's Letters. Aetna Life and Casualty Company, Intel Corporation, General Motors Corporation and Reliance Group Holdings used the passive voice much more than average in their MD&As and footnotes.

### Word Length

The flexibility in the SEC's MD&A requirements might lead one to expect clearer wording in the MD&A than is found in the more rigidly regulated footnotes. However, the cumulative frequency distributions for word length (measured as syllables per word) shown in Figure 2 indicates otherwise. There is virtually no difference between the average word length noted in the MD&As and footnotes. On the other hand, average word lengths in the

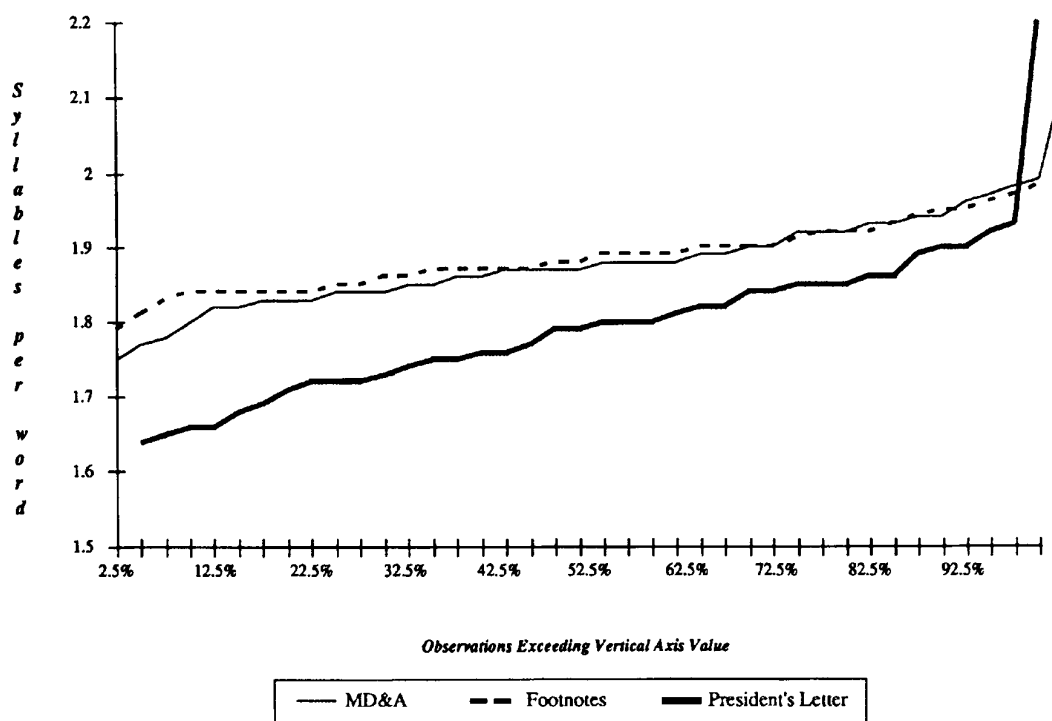
MD&A are significantly longer than those found in the President's Letters (see Table 2).

On an individual firm basis, the Spearman Rank Correlation Test shows a consistency in word length between a firm's narratives (see Table 2). Firms with longer or shorter average word length in their MD&A were likely to have similar results in both their President's Letter and footnotes. For example, Allied Stores Corporation had one of the most readable word lengths for all three narratives. In contrast, Dravo Corporation, Reliance Group Holdings, Philbro-Salomon, Inc., and American President Companies showed some of the longest, and thus least readable, word lengths in all three narratives.

### Sentence Length

Sentence length, a key aspect of readability, was virtually the same for all three narra-

**Figure 2**  
**WORD LENGTH**  
**Cumulative Frequency Distribution of Observations**



tives. The cumulative frequency distributions (see Figure 3) do show a few President's Letters and MD&As with shorter sentence lengths. However, all three narratives averaged approximately 22 words per sentence. Statistical tests noted no significant sentence length difference between narratives.

On an individual firm basis, the Spearman Rank Correlation Test (see Table 2) shows that firms were likely to use similar sentence lengths in their MD&A and footnotes. For example, DWG Corporation had the longest average sentence length for both of these narratives. General Motors Corporation, Penn Central Corporation, Philbro-Salomon, Inc. and Ohio Edison Company also had much longer than average sentence length for these narratives. In contrast, sentence length was much more readable than average in all three

narratives of Borg Warner Corporation, Dravo Corporation and US Bancorp.

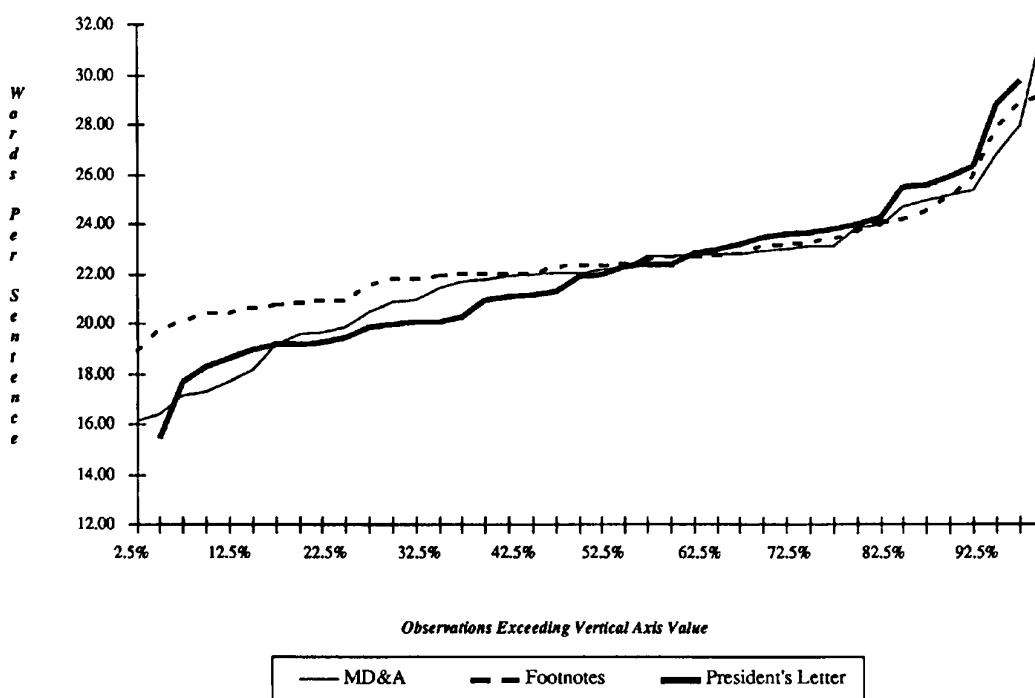
### Readability Estimates

There is no evidence of management preparing a more readable financial discussion in the MD&A than in the footnotes. Rather, the statistical tests (see Table 2) confirm the visual perception (see Figure 4) of no difference in readability. On the other hand, the President's Letters were significantly more readable than the MD&As (see Table 2 and Figure 4). Management apparently has the ability to present information in an understandable manner. However, this study shows that most managers have not successfully used this ability in the MD&A.

The Spearman Rank Correlation (see Table 2) shows, on an individual firm basis, a simi-



**Figure 3**  
**SENTENCE LENGTH**  
**Cumulative Frequency Distribution of Observations**



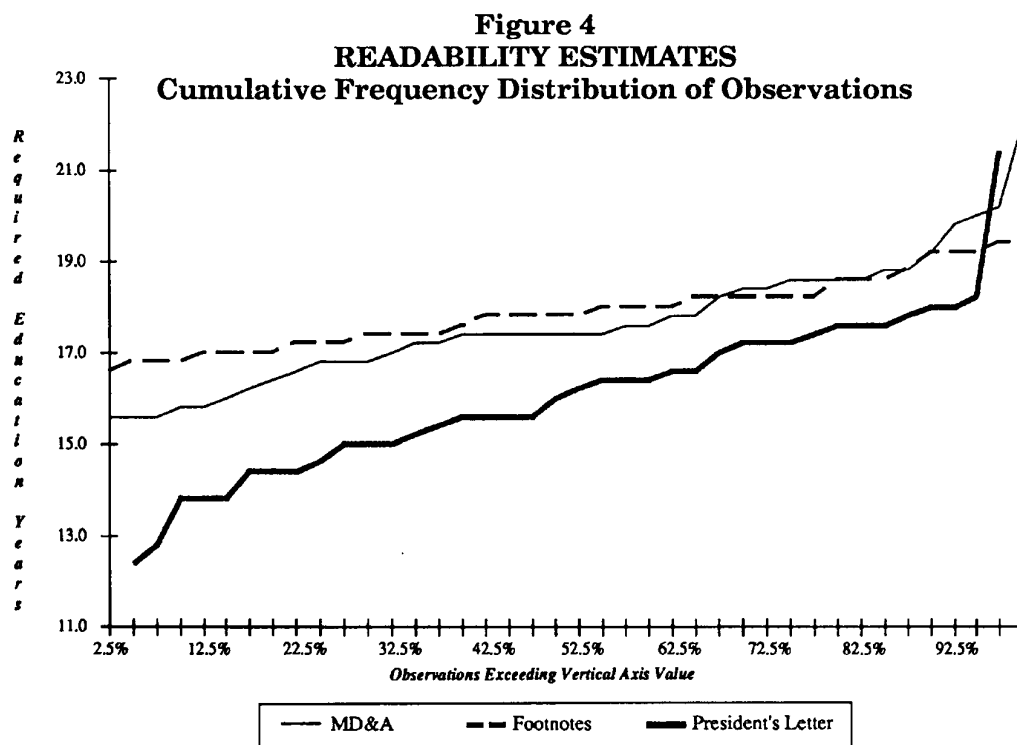
larity in Flesch Index ratings for a firm's MD&A and footnotes.<sup>27</sup> In addition, the Spearman Rank Correlation (see Table 2) shows a significant association between the estimated readability of the individual firm's MD&A and President's Letter. Thus, a firm with one of the more readable MD&As was also more likely to have a more readable President's Letter and footnotes. Similarly, a firm with one of the poorest MD&A readability estimates is also likely to have poor readability estimates for both its President's Letter and footnotes.

The narrative of Allied Stores Corporation, West Point Pepperell, Inc. and Dorsey Corporation consistently earned better readability scores. In fact, Allied Stores Corporation earned the best readability estimate for both its MD&A and footnotes and the third best readability estimate for its President's Letter.

In contrast, each narrative of some other firms, most notably Marmon Group, Inc., Dravo Corporation, DWG Corporation, Reliance Group Holdings, Inc., Philbro-Salomon, Inc. and The Penn Central Corporation, consistently ranked among the least readable text examined for this study.

Readability levels of the narratives by Borg Warner Corporation, J. P. Stevens & Co., Inc., and The Upjohn Company were noticeably inconsistent. All had footnotes with worse than average readability but presented some of the most readable MD&As and President's Letters reviewed in this study.

<sup>27</sup>This was not unexpected. The Flesch scores are derived using a standard formula based on word length and sentence length. Previous tests reported above note a similarity in the word length and the sentence length of these two financial narratives, both on an overall sample basis and on an individual firm basis.



### Summary of the Results

Table 2 and Figures 1 through 4 present visual and statistical information about the understandability of three selected narratives prepared by managers of the 40 sample firms. The graphs and statistical tests compare the MD&A with the President's Letter and the footnotes.

Both the MD&A and President's Letter allow significant flexibility in style and presentation. Therefore, one would expect similar levels of understandability in the MD&A and President's Letter. However, the MD&A's understandability indicators resemble those of the footnotes more often than those of the President's Letter.

### RECOMMENDATIONS

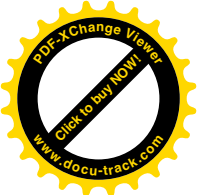
Presenting a comprehensive program for improving readability is not feasible within this paper. However, several useful suggestions can be made. Writers concerned with readability need to choose their words and write their sentences with the reader in mind. Readability can be improved by limiting vo-

cabulary to common words whenever technical terminology is not required. Writing sentences in the active voice will help hold the reader's interest. Readability can also be improved by using the shorter word when synonyms exist. Finally, holding down average sentence length will improve the reader's understanding of the narrative.<sup>28</sup>

### CONCLUSION

The results of this study show that many firms are missing an opportunity to improve financial reporting communications. The MD&A can be made more readable and comprehensible to users. Managers responsible for communicating financial information in narrative form must remember that the narrative should "express" rather than "impress."

<sup>28</sup>Writers wanting to improve their written communication skills should consider enrolling in a technical writing course or working with a writer's guide such as *Effective Writing: A Handbook for Accountants*, Second Edition by Claire Arevalo May (Englewood Cliffs, N.J., 1989) or *The Technique of Clear Writing* by Robert Gunning (New York: McGraw Hill, 1952).



## 사업보고서 가독성

우리말 사업보고서 가독성 연구의 가능성에 대한 탐색적 연구 ✓

10-K 보고서의 텍스트 분석에 근거한 경쟁변수가 재무분석가의 이익예측 속성에 미치는 영향  
최고경영진의 심리적 단어 사용의 성과예측성에 관한 연구: 미국제조기업 10-K 보고서 텍스트 분석을 기반으로

## 가독성 측정방법

텍스트의 난이도 파악을 위한 가독성 정보의 시각화

## 가독성 개선방안

가독성의 관점에서 본 법률 언어의 어휘론적인 문제점 및 개선 방안

산림휴양지역 내 설치된 자기안내식 해설판의 가독성 평가 및 개선방안

## Readability Annual Report

Annual report readability, current earnings, and earnings persistence

Annual report readability variability: tests of the obfuscation hypothesis

The effect of thematic structure on the variability of annual report readability

Earnings management and annual report readability

Readability of annual reports: Western versus Asian evidence

An investigation into annual report readability and corporate risk-return relationships

Performance and readability: A comparison of annual reports of profitable and unprofitable corporations

Annual report readability, tone ambiguity, and the cost of borrowing

Relationship between annual report readability and corporate financial performance