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**Article**

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Article

# Financial Report Readability and Accounting Conservatism

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**Abstract:** Accounting conservatism could affect the quantitative information on a financial statement. In this paper, the author focuses on qualitative information on financial statements. The author investigates the association between financial report readability and accounting conservatism and uses the FOG index to measure financial report readability. By using management discussion and analysis (MD&A) from 1996 to 2019, the author finds that financial report readability is positively associated with accounting conservatism. Additionally, the author separates the samples into high-compensation incentive and low-compensation incentive subsamples. The results show that the above association is stronger in the high-compensation incentive samples than in the low-compensation incentive samples. This result implies that accounting conservatism could mitigate managerial opportunism in the qualitative disclosure setting.

**Keywords:** financial report readability; accounting conservatism; compensation incentive



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## 1. Introduction

Why does the disclosure in the management discussion and analysis (MD&A) become more and more difficult to read? On the one hand, researchers show that managers attempt to obfuscate information in financial disclosure when firms' performances are poor (Li 2008). Under the agency framework, it has been found that managers' obfuscation practices are associated with their compensation incentives. Stock options could align the interests of managers and shareholders. If this was the case, managers with higher stock option incentives could focus completely on shareholders' interests (Eisenhardt 1989; Shapiro 2005). Managers' opportunism could not be observed in the financial report qualitative disclosure setting. The contra-argument of stock options is that stock option incentives motivate managerial opportunism (Li 2008; Benischke et al. 2019; Quigley et al. 2020; Dong et al. 2021). This paper could shed some light on this hot debate.

On the other hand, rational managerial choices to protect proprietary information provide an important alternative explanation (Hayes and Lundholm 1996). Gigler and Hemmer (2001) predicted that conservative accounting disciplines firms' voluntary disclosures. To extend this argument in the mandatory disclosure, the author of the present paper attempts to investigate the association between financial report readability and accounting conservatism.

The current study collects the MD&A from 1996 to 2019. To explore the financial report readability and accounting conservatism, this study uses the FOG index to measure the financial report readability (Li 2008). The lower the FOG index, the higher the financial report readability. This study uses market-to-book (MTB) to measure accounting conservatism (Roychowdhury and Martin 2013; Lawrence et al. 2013). The author calculates the correlation between FOG and MTB directly and also regresses the FOG on MTB to obtain the coefficients between the FOG and MTB. To address the endogeneity problem, this study applies the simultaneous equation models and use the general method of moments (GMM).

This study finds that annual report readability is associated with accounting conservatism. Accounting conservatism mitigates managerial obfuscation practices. The recent trend to move accounting closer to market value provides an alternative explanation as to why financial reports have become more and more difficult to read. Additionally, for those

managers with higher compensation incentives, the association between financial report readability and accounting conservatism becomes stronger. The result supports the agency framework of financial report readability.

This paper makes two contributions. First, this paper contributes to accounting conservatism literature. In the accounting conservatism literature, some researchers focus on the effects of accounting conservatism on quantitative information on financial reports. [Chen et al. \(2014\)](#) found that conditional conservatism reduces earnings persistence. The author of this paper focuses on the effects of accounting conservatism on qualitative information on financial statements. No prior empirical research explores the association between accounting conservatism and financial report readability. Second, this paper contributes to qualitative disclosure literature. This paper focuses on managers' disclosure choices and financial report readability. There are hot debates between the agency cost explanation and the proprietary cost explanation. The present study's results are consistent with the agency cost explanation. The governance role of accounting conservatism varied in different situations: the high-compensation incentive situation and the low-compensation incentive situation. The remainder of the paper proceeds as follows: Section 2 discusses prior literature and hypotheses, and Section 3 explains the research design. Section 4 presents the basic empirical findings, and Section 5 concludes.

## 2. Literature Review and Hypothesis Development

First, this article will review the literature on textual disclosure, which includes obfuscation hypotheses (agency cost view) ([Koch et al. 2018](#)) and proprietary cost explanation. Next, this paper will review the literature on conservative accounting. Building on disclosure and conservatism, the author developed the relevant hypotheses accordingly.

### 2.1. Disclosure

In the last 20 years, a growing body of accounting and finance research has analyzed the information content of textual disclosure ([Gentzkow et al. 2019](#); [Huang et al. 2018](#); [Donovan et al. 2021](#); [Frankel et al. 2022](#)), financial report readability ([Teoh 2018](#)), and tone management ([Baginski et al. 2016](#)).

[Li \(2008\)](#) found that the Fog index in 10-K files increased from 1993 to 2003, though the SEC issued plain English disclosure guidelines in 1998. This conflict raises an interesting question of why firms lower their report transparency in their 10-K files. Using the Fog index as a proxy of annual report readability, [Li \(2008\)](#) indicated that managers intend to obfuscate information when performance is bad. The obfuscation explanation implies that managerial opportunism affects report readability.

[Lundholm et al. \(2014\)](#) focused on the financial report readability of foreign firms listed on U.S. stock exchanges. They conclude that the report readability of foreign firms is higher.

The difference in discretionary disclosure choices between U.S. and foreign firms implied that the firms' disclosure transparency is dependent on investor requirements and managerial incentives. On the one hand, firms may benefit from discretionary disclosure. Disclosures can reduce firms' cost of capital ([Botosan 1997](#)). On the other hand, managers may also suffer from discretionary disclosure.

[Lo \(2010\)](#) and [Heitzman et al. \(2010\)](#) provided an alternative explanation for Li's findings. Besides opportunistic managerial behavior, rational managerial choices to protect proprietary information provide an important alternative explanation.

Instead of the direct disclosure cost, the indirect costs of disclosures come from a proprietary cost. [Hayes and Lundholm \(1996\)](#) argued that competitors could use disclosure information, such as business segment profitability. The proprietary cost concern could limit disclosure incentives. However, firms may also disclose information to deter entry by competitors. [Verrechia \(1990\)](#) concluded that the type of competition threat affects the association between proprietary cost and disclosure.

## 2.2. Conservatism

Beaver and Ryan (2005) termed unconditional conservatism as the predetermined aspects of the accounting processes that understate the fair value of net assets. They also term conditional conservatism as the accounting reporting processes that decrease book value only under adverse circumstances but do not allow for an increase under favorable circumstances. Watts (2003) identified four determinants of conservatism: (1) contracting; (2) litigation; (3) income tax; and (4) regulatory. Basu (1997) found that conservatism is associated with legal audit liability.

Conservative accounting may affect equity valuation by altering the way in which information is introduced to the market. If this information has the potential to alter expectations about future cash flows, the distortions in the timing or content of the information may influence valuation. Conservative accounting can impact information content and timing by affecting the way in which managers disclose private information. LaFond and Watts (2008) argue that information asymmetry causes conservatism. LaFond and Watts (2008) also attempted to determine whether or not information asymmetry precedes conservatism. Conservatism is measured using the method from Basu (1997), and information asymmetry is measured using the PIN score from Easley and O'Hara (1992). LaFond and Watts (2008) found that interacting PIN score with conservatism yields an incrementally positive association between earnings and returns, suggesting that bad news is reflected sooner in earnings when in the presence of information asymmetry. They then found a positive association between the one-period lagged change in the PIN score and the conservatism measure. This provides evidence that a change in information asymmetry results in a subsequent increase in conservatism. LaFond and Watts interpreted these results to imply that information asymmetry causes accounting conservatism.

Gigler and Hemmer (2001) modeled the effect of accounting bias (i.e., liberal or conservative) on the voluntary disclosure policy of management. Their model analyzes the costs and benefits to both management and shareholders of a voluntary disclosure under both conservative and liberal accounting systems. This model implies that voluntary disclosure reduces risk to the shareholders from a contracting perspective that may arise when accounting is liberally biased (i.e., aggressive). However, they found that the benefit from timely voluntary disclosures does not exceed the cost of producing the disclosure in a conservative accounting system. Thus, the results from Gigler and Hemmer (2001) suggest that conservative accounting and voluntary disclosure appear to act as substitutes for communicating the private information of management. Hui et al. (2009) found that voluntary disclosure is negatively associated with accounting conservatism. The studies support the notion that the timely reporting of bad news preempts the need for voluntary disclosure.

The previously mentioned studies focus primarily on the benefits associated with the timely reporting of bad news. Guay and Verrecchia (2006) contended that the benefits of timely loss recognition must exceed the cost of the informational inefficiencies from such an accounting policy. Thus, the previous conclusions concerning the benefits of conservatism may be incomplete, especially since they fail to consider the possible detriments of either delayed or under-recognized gains. Overall, the findings in this subsection seem to indicate that accounting conservatism alters the way the private information of management is disclosed to the market. These studies further suggest that conservatism has a positive impact on information quality because it preempts voluntary disclosures and reduces information asymmetry.

Accounting conservatism works as corporate governance and mitigates agency costs (Kim and Zhang 2016; Lara et al. 2016, 2020). To sum up, conservatism affects the information environment. Conservatism could mitigate the information asymmetry and preempt voluntary disclosure.

**Hypothesis 1.** *Financial report readability is positively associated with accounting conservatism.*

**Hypothesis 2.** *The association between financial report readability and conservatism will be stronger when the manager's compensation incentive is higher.*

D'Augusta and DeAngelis (2020) found that managers' manipulation of the tone of financial statements varies with the firm's incentives to manage perceptions. Among firms with strong incentives, those not constrained by conservatism will exhibit higher manipulations. In the present author's setting, managers' manipulation of the readability of MD&A varies with the firm's incentives. Therefore, the association in Hypothesis 1 will be stronger in situations in which manipulation is more likely. Based on these considerations, the author of the present paper formulates Hypothesis 2.

### 3. Research Design

#### 3.1. Sample

The author of the present paper followed Li (2008) to collect samples. The steps are as follows: (1) merge COMPUSTAT with CRSP1 (2) match GVKEY and PERMNO by using the Central Index Key (CIK) and drop all samples not matched; (3) drop firms without electronic 10-K filings (4) drop firms whose 10-k filings are less than 3000 words or less than 100 lines; (5) drop firms with an earning book ratio greater than 1 or less than  $-1$ . The resulting sample covers the fiscal years from 1996 to 2019.

#### 3.2. Measure the Disclosure Quality in MD&A

The present author followed Li (2008) and use the Fog index to measure the readability based on the following formula:

$$\text{FOG} = 0.4 \times (\text{number of words per sentence} + \text{percent complex words})$$

#### 3.3. Measure Conservatism

Wang et al. (2009) discussed the construct validity of commonly used empirical measures for conservatism. They identified five measures that are used most frequently in the literature: (1) asymmetric timeliness of earnings (Basu 1997); (2) asymmetric accruals-to-cash-flow (Ball and Shivakumar 2005); (3) market-to-book (MTB); (4) hidden reserves (Penman and Zhang 2002); and (5) negative accruals (Givoly and Hayn 2000). The present author followed Roychowdhury and Martin (2013) and Lawrence et al. (2013) in using MTB to measure conditional conservatism. In robust analysis, the main results are similar by using alternative measures of conservatism.

#### 3.4. Controlled Variables

The first control was size; size is associated with complex business operations. The second control was special items, as special items may cause longer disclosure. The third control was EBIT volatility since unusual EBIT may require extra disclosures (Li 2008).

#### 3.5. Descriptive Statistics

Panel A of Table 1 presents the summary statistics. The readability of financial reports is lower. The mean and median Fog indexes of all the annual reports are 19, implying that these reports are difficult to read. The mean market-to-book (MTB) is 1.85; in general, accounting is conservative.

Panel B of Table 1 presents the Pearson correlation matrix. The correlation between the number of words and the Fog index is 0.26 and significant at the 1% level. The correlation between the Fog index and the MTB is  $-0.0008$  and significant at the 1% level, implying that accounting conservatism is negatively associated with the Fog index. The author interprets this to mean that financial report readability is positively associated with accounting conservatism.

**Table 1.** (A) Descriptive statistics. (B) Pearson correlation matrix.

								(A)	
Variable	Mean.	Std. Dev.	25th	Median	75th				
Market-to-book	1.85	0.45	1.39.	2.21	3.98				
Market value	4159	11540	221.	716	2558				
EBIT	457	1543	0.9.	29.2	304.1				
Volatility (EBIT)	78	514	4.	12	91				
SI	−0.2	33	−0.02	0.	0				
Net income	254	1131	−2	11	91				
Number of words	31,576	27,105	16,208	24,968	38,530				
Fog	19	0.2	18	19	20				

  

								(B)	
Variable									
Market-to-book	1								
Market value	0.0180	1							
EBIT	0.0011	0.3617	1						
Volatility (EBIT)	0.0003	0.3104	0.7272	1					
SI	−0.1455	0.0043	0.0037	−0.0016	1				
Net income	0.0030	0.2340	0.7092	0.5119	0.0007	1			
Number of words	−0.0018	0.2520	0.1287	0.1314	−0.0021	0.0441	1	.	
Fog	−0.0008	0.0521	0.0250	0.0303	−0.0033	0.0081	0.2606	1	

Correlations that are not significant at the 10 percent level are italicized.

**Model**

The basic regression model is as follows:

$$Disclosure_{it} = \alpha + \pi * Conservatism_{it} + \beta * Control_{it} + \epsilon_{it} \tag{1}$$

To address the endogeneity problem, the author followed Beatty et al. (1995) in using instrumental variables (IV), two-stage least squares (2SLS), and three-stage least squares (3SLS). Second differences were used as IVs (Anderson and Hsiao 1982). To address the causality, LaFond and Watts (2008) were followed to add lagged variables. The simultaneous equation models are as follows:

$$Disclosure_{it} = \alpha + \alpha(k) * \sum_{k=1}^t Disclosure_{it-k} + \pi(k) * \sum_{k=1}^t Conservatism_{it-k} + \beta * Control_{it} + \epsilon_{it} \tag{1a}$$

$$Conservatism_{it} = \alpha + \alpha(k) * \sum_{k=1}^t Disclosure_{it-k} + \pi(k) * \sum_{k=1}^t Conservatism_{it-k} + \beta * Control_{it} + \epsilon_{it} \tag{1b}$$

Finally, the author used the general method of moments (GMM) to explore the associations and estimate standard errors using the bootstrap method (Marais 1984).

**4. Results**

Hypothesis 1 predicts that financial report readability is positively associated with firm-specific accounting conservatism. The author investigates this association both on level specification and change specification in Tables 2 and 3.

The negative coefficients between Fog and MTB indicate a positive relation between report readability and accounting conservatism. In the column Fog, the coefficient of MTB is −0.02 (with a t-statistic of −1.84) when using Fog to explain the whole annual report. The coefficient of MTB is −4 (with a t-statistic of −1.97) when using length to explain the whole report. The 1 percent increase in accounting conservatism could reduce the length of financial reports by 4 percent. The coefficient of the 1st difference of MTB and 1st difference of Fog is −0.03 (with a t-statistic of −2.87). The change in accounting conservatism could affect the change in the Fog index.

**Table 2.** The determinants of Fog and number of words.

Dependent Variable	Fog	Number of Words
Independent Variable	.	.
Lagged Fog	0.27 (9.81) ***	.
Lagged number of words		0.20 (7.81) ***
Conservatism	−0.02 (−1.84) *	−4 (−1.97) **
Special item	0.03 (1.09)	−49 (−0.83)
Volatility (EBIT)	0.03 (2.91) ***	14 (5.36) ***
Market value	−0.13 (−3.57) ***	21 (4.55) ***
Year dummies	Yes	Yes
Industry dummies	Yes	Yes
Observations	53,949	53,949
Adjusted R <sup>2</sup>	4.2%	5.3%

\*\*\* significant at 1%, \*\* significant at 5%, \* significant at 10%.

**Table 3.** The determinants of changes in Fog and number of words.

Dependent Variable	1st Difference Fog	1st Difference Words
Independent Variable	Predicted sign	.
1st difference of conservatism	−0.03 (−2.87) ***	1 (0.54)
Special item	−0.04 (−1.99) **	−23 (−2.2) **
Volatility (EBIT)	−0.002 (−2.08) **	−4 (−2.63) ***
Market value	0.05 (1.52)	13 (7.29) ***
Year dummies	Yes	Yes
Industry dummies	Yes	Yes
Observations	53,949	53,949
Adjusted R <sup>2</sup>	3.9%	3.1%

\*\*\* significant at 1%, \*\* significant at 5%.

Hypothesis 2 states that the association between financial report readability and accounting conservatism becomes stronger when managers’ compensation incentives to manipulate financial report readability are stronger. The author repeated the same regression in subsamples, which were divided into low-compensation incentive and high-compensation incentive samples. The results show the coefficient is significantly stronger in subsamples with higher incentives (Table 4). The difference of the coefficients is 0.02 and significant at the 1 percent level. Agency theory suggests that managers’ compensation incentive is associated with accounting discretion choice (Koch et al. 2018). This paper finds that accounting conservatism could mitigate the agency issue.

**Table 4.** Test of Hypothesis 2: Dependent Fog in high-(low-)incentive subsample.

	Low Incentive		High Incentives		Difference	
	Coeff.	t-Stat	Coeff.	t-Stat	Coeff.	t-Stat
Lagged Fog	0.24 ***	7.34	0.23 ***	6.83	0.01	0.67
Conservatism	−0.02 ***	−5.42	−0.04 ***	−7.76	0.02 ***	3.01
Special item	0.02	0.89	0.03	1.27	−0.01	0.94
Volatility (EBIT)	0.02 ***	3.83	0.03 ***	4.15	−0.01	1.54
Market value	−0.14 ***	2.97	−0.17 ***	3.32	0.03 ***	5.45
Year dummies	Yes		Yes			
Industry dummies	Yes		yes			
Observations	6324		6325			
Adjusted R	2.9%		2.1%			

The author separates observations into the high-incentive (low-incentives) subsample if the Black–Sholes fair value of stock options granted to the CEO in the year t + 1 is below the annual median. \*\*\* significant at 1%.

## 5. Discussion

The regression results show that financial report readability is associated with accounting conservatism. The coefficient between them is  $-4$  and significant at the 5% level. If managers increase the conservative accounting by 1 percent, the number of words will reduce by 4 percent. Accounting conservatism reduces the length of disclosure. This result is consistent with [Gigler and Hemmer \(2001\)](#)'s argument. Accounting conservatism preempts the disclosure. In practice, if the manager decides to choose accounting policies and accounting estimates with a higher conservative approach, the manager could provide a concise and short MD&A. After separating the samples into higher-compensation incentive samples and low-compensation incentive samples, the author finds that the above association is stronger in the higher-compensation incentive subsamples. Compensation incentives motivate managerial opportunism. Accounting conservatism could mitigate the negative effects of compensation incentives.

There are several limitations to this paper. First, the evidence of the paper supports an agency cost view of financial report readability ([Li 2008](#)). It cannot exclude that the proprietary cost view could co-exist ([Hayes and Lundholm 1996](#)). The agency explanation and proprietary cost explanation may co-exist. A future study could explore both the agency cost view and proprietary cost view simultaneously. Second, in [Table 2](#), if using the Fog index as a proxy of financial report readability, the coefficient of conservatism is  $-0.02$  and significant at the 10% level. In practice, managers could increase the Fog of the report, increase the length of the report, or increase the Fog of the report and length of the report together. Managers could also reduce the Fog and increase the length of the report. Future research could explore the combinations of managers' report choices. Third, the paper uses regression to analyze the association between financial reports and accounting conservatism. The endogeneity problem could affect results. The author uses SEM to mitigate the endogeneity problem. However, there are always other improvements that could be implemented. In empirical research, it is difficult to reach a consensus agreement to eliminate the endogeneity problem. Fourth, the author focuses on financial report readability. This is just one aspect of qualitative disclosure. Future research could explore other aspects of qualitative disclosure, for example, the presence of a positive tone or negative tone in the qualitative disclosure.

## 6. Conclusions

The present study finds that financial report readability is associated with accounting conservatism. The author interprets the results as follows: when firms adopt much more conservative accounting practices, firms are less likely to obfuscate the financial report. Their reports are easy to understand and are short. In addition, this association is stronger when the managers' compensation incentive is higher. This result suggests that accounting conservatism could mitigate agency issues from compensation incentives. If stock options motivate managerial opportunism, managers intend to write MD&As with complicated sentences and long reports. Accounting conservatism could mitigate the agency issue by reducing the length of the report or by decreasing the Fog index of the report.

Managers' stock options could align the manager's interest with stockholders' interest ([D'Augusta and DeAngelis 2020](#); [Heitzman et al. 2010](#)). Manager's stock options could also motivate managerial opportunism ([Li 2008](#); [Guay and Verrecchia 2006](#); [Huang et al. 2018](#)). In the present setting, the results support managerial opportunism. In practice, the CEO compensation committee would better implement other compensation mechanisms rather than overly rely on the stock option incentive. If the CEO compensation incentive is high, the Board of Directors should implement other governance mechanisms; for example, accounting conservatism could play an important governance role in this situation.

This result is consistent with [Gigler and Hemmer \(2001\)](#)'s argument. Accounting conservatism preempts the disclosure. In practice, if the manager decides to choose accounting policies and accounting estimates with a more conservative approach, the manager could provide a concise and short MD&A. In practice, the recent trend to move accounting closer



to market value implies a less conservative approach to accounting. The author of the present study predicts that financial reports could become longer and more difficult to read in the future. Practitioners should trade off the merits and demerits of accounting conservatism. Top managers should carefully choose accounting policies and estimates. These choices could influence their financial report quantitatively and qualitatively.

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