

Do Conference Calls Reduce Information Asymmetry When Bad News is Released?

HAN DONKER, PHD
Department Chair and Professor of Accounting
College of Business
Central Washington University
han.donker@cwu.edu

YURIM LEE, PHD*
Assistant Professor of Economics
College of Business
Central Washington University
yurim.lee@cwu.edu

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Abstract

This study examines the impact of Form 8-K filings and conference calls on information asymmetry when firms announce a downward revision in their financial performance guidance. Using a sample of 9,671 lowered earning guidance issued by U.S. firms between 2005 and 2022, the study finds that companies that only use a press release experience a more negative abnormal returns than those who use conference calls and disclose SEC filings. The study uses readability indices and sentiment analysis to capture the tone and complexity of Form 8-Ks and conference calls. The results show that positive-toned Form 8-K filings mitigate the negative impact on abnormal returns, while there is less evidence for the complexity of text used in Form 8-K or the tone of the conference call. The findings suggest that providing more information via 8-K filings and conference calls can reduce information asymmetry and mitigate negative impacts on the firm's future returns.

JEL Classification: G14, D82, M41

Keywords: Conference Call, Information Asymmetry, Sentiment Analysis, Readability, SEC Form 8k, Event Study.

*Corresponding author

Introduction and Motivation

The aim of this study is to investigate the extent to which conference calls alleviate information asymmetry when companies announce a downward revision in their financial performance guidance. In cases where managers need to release negative information, they may opt to use complex language and obfuscate relevant news to make it difficult for investors to comprehend (Bushee, Gow, and Taylor, 2018). Previous research has demonstrated that investors often view silence or lack of news as negative developments (Hollander, Pronk, and Roelofsen, 2010). This is in line with the financial literature that more disclosure of information will reduce information asymmetry and lower the cost of capital (Leuz and Verrecchia, 2000).

Under SEC regulations, companies are usually required to file a Form 8-K promptly when certain events occur, such as entering into a significant contract, or disclosing any information that a "reasonable investor" would consider crucial to their investment decisions. The Regulation Fair Disclosure aims to ensure fair and equal access to information among investors by prohibiting selective disclosure. Reg FD considers the conventional practice of issuing a press release through widely disseminated wire services (or filing a Form 8-K) as fulfilling the requirement for "public disclosure." (Landsford, Lee, and Tucker, 2009).

This study investigates the effect of management announcements of downward revisions of earnings per share on stock market returns through various communication channels such as press releases, conference calls, and Form 8-Ks. Our results reveal that companies that solely rely on a press release without a conference call and Form 8-K face a more negative stock market reaction compared to those who use conference calls and disclose SEC filings (Form 8-K). Additionally, when companies file a positive-toned Form 8-K, the stock market reaction tends to be less negative. For this analysis, we used the Loughran-McDonald (2001) dictionary. However, we did

not discover any evidence to suggest that the complexity of text used in Form 8-K had any effect. Furthermore, we find that positive or negative sentiment during conference calls does not have much impact on the stock market reaction.

Methodology and Sample

Our sample consists of 9,671 lowered earning guidance issued by U.S. firms between years 2005 and 2022. A company may be required to file a Form 8-K if a lowered guidance triggers any of the requirements for the disclosure. While not all Form 8-Ks follow up with conference calls, 99% of the calls are transcribed by Capital IQ (CIQ)¹. In our sample, 1,697 cases (18.2%) of lowered guidance have filed a Form 8-K and have held a conference call. For such cases, sentiment analysis is done on the transcripts provided by CIQ using SpaCy and TextBlob², which are popular tools based on the Lexicon approach used in natural language processing (NLP). By using TextBlob, a Python library for processing textual data, the polarity is calculated within the range [-1.0, 1.0], with -1 being negative and 1 being positive. In cases where a conference call has multiple transcripts due to revisions and editing, we use an average of the resulting sentiments.

The paper utilizes multiple different readability indices from Wharton Research Data Services (WRDS) to capture the tone and the complexity of Form 8-Ks. Loughran-McDonald (2001) positive and negative word proportions capture the percentage of positive and negative words in the document, word count captures the length of the document, and the Gunning Fog index shows how complex the document is, with a higher number indicating higher complexity. Not

¹ <https://wrds-www.wharton.upenn.edu/pages/grid-items/capital-ig-transcripts/>

² <https://textblob.readthedocs.io/en/dev/>

surprisingly, the readability indices display a correlation among themselves (see Table 2), which is taken into account when conducting our empirical analysis.

Other firm-level variables such as size and leverage from CIQ are used to control for firm-specific characteristics. Descriptive statistics are provided in Table 1 and definitions for all variables are given in the Appendix.

The Fama-French three factor model is used to measure the impact of lowered guidance on future expected excess returns:

$$(r_A - r_f) = \beta_0 + \beta_1(r_M - r_f) + \beta_2SMB + \beta_3HML + \epsilon$$

where $(r_A - r_f)$ is the excess return over the risk-free rate, $(r_M - r_f)$ is the excess return on the market portfolio, SMB measures the size premium, and HML measures the value premium.

To measure the size of the effects from SEC Form 8-K filings and conference calls, a dummy is introduced to isolate such cases, along with firm-level controls. According to our conjecture, providing more information via 8-K filings and conference calls will reduce information asymmetry and mitigate negative impacts on the firm's future returns. We test this conjecture by using the following equation:

$$CAAR = \beta_0 + \beta_1SEC8K + \beta_2Control + \epsilon$$

where $SEC8K$ is the dummy variable where it is equal to 1 for lowered guidance with Form 8-K filings and conference calls, and $Control$ captures firm characteristics such as size, leverage, and ROA, to name a few. Based on our hypothesis, we expect the coefficient β_1 to be positive.

We conduct additional regression analyses on Form 8-K filings and conference calls of companies that issued lowered guidance, aiming to determine the effects of tone and complexity at both levels.

Typically, Form 8-Ks are required to be filed within four days of a significant event, and conference calls tend to occur after the filing to provide additional information. This suggests that the Form 8-K itself can vary in its tone (i.e., positive or negative) and complexity. Additionally, the conference call can have a distinct tone independent from the Form 8-K. Our hypothesis is that a more positive tone in both the 8-K and conference call will have a positive impact on abnormal returns. However, our conjecture on the impact of complexity is less clear. While companies may try to mask their situation by writing more complex documents, investors could interpret this as a negative signal. We test our theories using the following equation:

$$CAAR = \beta_0 + \beta_1 8KTone + \beta_2 8KComplex + \beta_3 CallTone + \beta_4 Control + \epsilon.$$

According to our conjecture, we expect coefficients β_1 and β_3 to be positive, while the sign of β_2 is unclear.

Results

Figure 1 shows the cumulative average abnormal returns (CAAR) of the press releases using Fama-French three factor model over the event window [-10,+10]. It shows that negative press release on earnings outlook leads to negative CAAR of -6.767% immediately, within a day or two of the events. BHAR also show similar results (see Table 3). However, we see a discrepancy when the lowered guidance events with Form 8-K filings and conference calls are separated out.

Figure 2 and Table 1 show that firms that have filed Form 8-Ks and held conference calls experience significantly smaller negative abnormal returns (-6.767% versus -3.707% when measured with CAAR). Even when controlling for firm characteristics, filing a Form 8-K and

having a conference call significantly mitigates the negative abnormal returns by 2.17% (see Table 4). Note that robust standard errors are used due to heteroskedasticity.

Tables 5 and 6 show the results of our tests on the tone and complexity of 8-K files and conference calls. The signs of the tones are consistent with our conjecture: the coefficients on Loughran-McDonald (pos) and sentiments are positive, and the coefficient on Loughran-McDonald (neg) is negative. However, only the number of positive words in the 8-K file is significant. This implies that the positiveness of the filed Form 8-K matters for abnormal returns, but less so for the number of negative words used in Form 8-K or the tone of the conference call. Complexity measured by the Gunning Fog Index has a negative relationship with abnormal returns, although it is not significant. In Table 6, we conduct a variation of the experiment above by using the number of words for measuring complexity of the Form 8-K. While the sign of the coefficient on the number of words – or the length of the document – is negative, meaning negative returns are associated with longer documents, it is not significant. The sentiments variable is still not significant as well.

Based on our analysis, it can be inferred that Form 8-K filings play a significant role in minimizing information asymmetry regarding both the event and its substance. Specifically, the mere submission of a Form 8-K and the optimistic language used in the document can assist in reducing the negative abnormal returns associated with lowered guidance. On the other hand, the level of complexity in the Form 8-K does not appear to have a considerable effect. Furthermore, opting for conference calls has a beneficial impact on abnormal returns, while the tone of the conference call does not seem to have an influence. Our findings may be explained by the customary practice of firms submitting the obligatory Form 8-Ks before hosting an elective conference call. As a result, the market is already informed of the revised guidance details by the time of the conference calls.

Conclusion

This paper provides insight into the effectiveness of different communication channels used by firms in announcing a downward revision of their financial performance guidance on asymmetric information. The findings suggest that companies relying solely on press releases without SEC 8-K filings and conference calls experience a more negative abnormal returns than those who use these channels. The study also investigates the effects of tone and complexity in Form 8-K filings and conference calls on the market's reaction. Positive-toned Form 8-K filings tend to mitigate the impact of lowered guidance, while the evidence to support the effect of complexity in Form 8-Ks or tone of the conference call is lacking. Overall, our results suggest that providing more information in a positive light through Form 8-K filings and conference calls helps to reduce information asymmetry and mitigate negative impacts on a firm's future returns.

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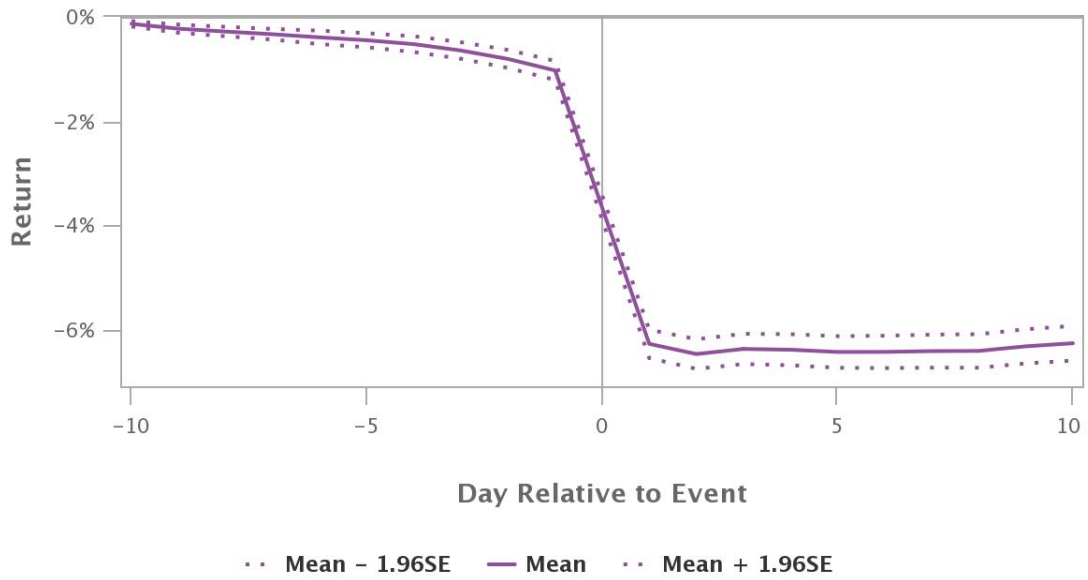
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Figure 1: Cumulative Average Abnormal Returns (CAAR) of Lowered Guidance by Management

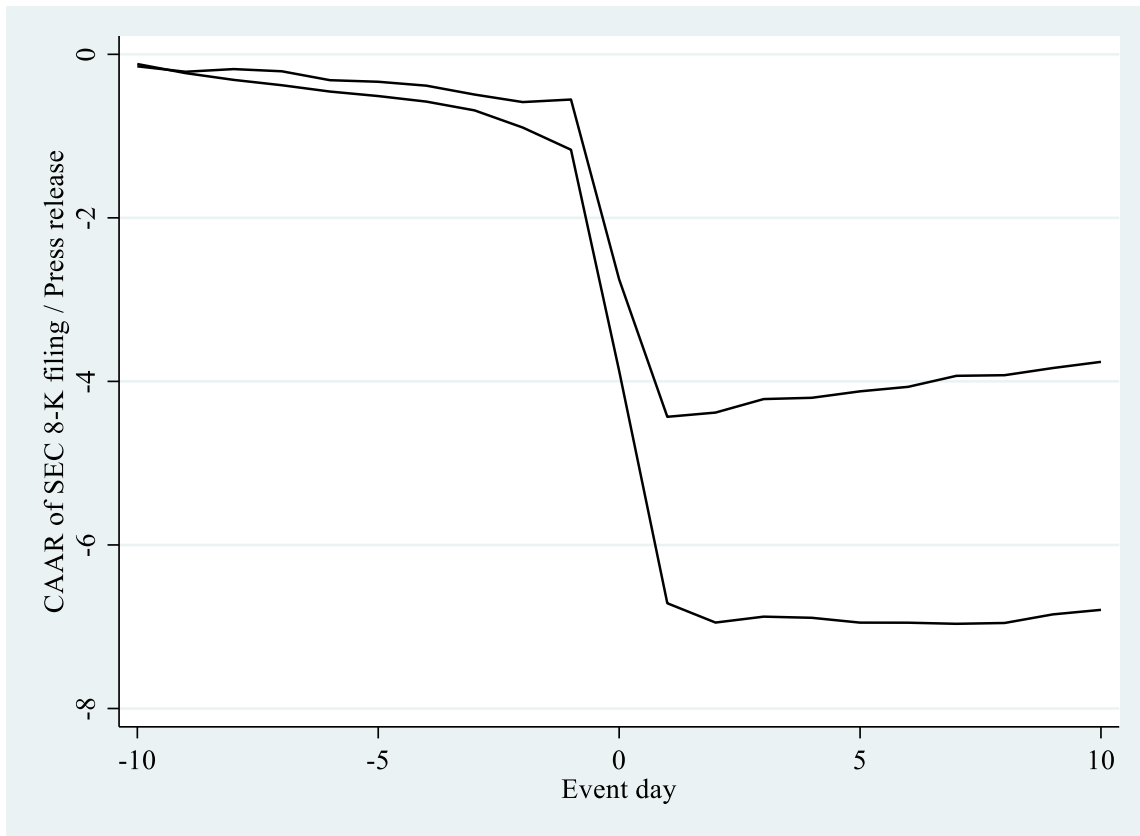
Cumulative Abnormal Return: Mean & 95% Confidence Limits

There are 9919 events in total with non-missing returns.



Highcharts.com

Figure 2: CAARs of SEC 8-K Filings and Press Releases



Note: The upper line shows the result of the SEC 8-K filings and the lower line shows the CAARs of the press releases.

Table 1: Descriptive Statistics

Variable	Obs	Mean	Std. Dev.	Min	Max
sec8k	9671	.1824	.3862	0	1
FogIndex	1764	17.6297	2.7099	12.306	33.7693
sentiments	1697	.126	.026	.0251	.2104
wordslog	1764	2.8021	.4464	1.5798	4.4166
Loughran-McDonald (neg)	1764	.44	.068	0	4.02
Loughran-McDonald (pos)	1764	.52	.037	0	3.98
size	9671	3.1708	.9731	.0071	7.8439
lev	9671	.5327	.2241	.0201	.9995
roa	9671	4.3063	8.039	-79.9517	61.6005
beta	9671	1.153	.6195	-1.9875	7.5034
mtb	9666	1.297	1.4137	.0009	39.9677
accruals	9671	-.0547	.1086	-3.5635	1.8396
sga	9671	.2597	.4143	-.157	18.5333
fcf	9671	.0299	.0976	-1.3729	.9522
aturn	9495	1.0118	.7189	.0007	8.5061
news	9671	.5035	.5	0	1
loss	9671	.2241	.417	0	1

Table 2: Correlation Matrix (Pearson)

Variables	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)	(15)
(1) Ldpos	x														
(2) Ldneg	0.5300	x													
(3) FogIndex	0.4000	0.5500	x												
(4) sentiments	0.0600	0.0100	0.0300	x											
(5) wordslog	0.6400	0.7500	0.6400	0.0700	x										
(6) size	0.0400	0.0600	0.0300	0.0900	0.0500	x									
(7) lev	-0.0200	0.0600	0.0000	0.0500	0.0500	0.3100	x								
(8) roa	0.0300	-0.0200	-0.0200	0.0000	-0.0300	0.3200	-0.0500	x							
(9) beta	-0.0400	-0.0500	-0.0400	-0.0400	-0.0600	-0.0700	0.0000	-0.0400	x						
(10) mtb	0.0500	0.0200	0.0100	0.1100	0.0900	-0.1800	-0.2500	0.0800	-0.0100	x					
(11) accruals	0.0000	-0.0200	-0.0600	-0.0100	-0.0200	0.0800	-0.0800	0.2200	-0.0200	-0.0400	x				
(12) sga	0.0300	0.0100	0.0100	0.0400	0.0200	-0.2800	-0.1000	-0.3700	0.0200	0.1800	-0.1100	x			
(13) fcf	0.0400	0.0300	0.0200	0.0500	0.0300	0.2000	0.0000	0.5600	-0.0500	0.0700	-0.1300	-0.2100	x		
(14) aturn	-0.0100	-0.0100	-0.0800	-0.0300	-0.0500	0.1200	0.0100	0.2600	0.0400	0.0600	0.0000	-0.0800	0.1200	x	
(15) news	0.0400	0.0000	0.0200	0.1000	0.0400	-0.0100	-0.0400	0.1800	0.0100	0.1200	0.2000	-0.0600	0.0600	0.0300	x
(16) loss	0.0000	0.0700	0.0500	0.0000	0.0300	-0.2800	0.0400	-0.5600	0.1000	0.0000	-0.3700	0.2200	-0.2400	-0.1200	-0.2400

Table 3: Cumulative Average Abnormal Returns Press Releases versus Form 8-Ks

This Table shows the results of the cumulative average abnormal returns and the buy-hold abnormal returns of press releases and form 8-Ks using Fama-French three factor model.

Fama-French	Press Releases	Form 8-K	Differences in Means
CAAR [-10,+10]	-6.767	-3.707	-3.060***
BHAR [-10,+10]	-6.760	-3.844	-2.916***

Note: *** p<.01, ** p<.05, * p<.1.

Table 4: The Impact of Conference Calls on Cumulative Abnormal Returns

Variables	Coef.	Robust St.Err.	p-value	Sig
sec8k	2.1720	0.3822	0.0000	***
size	2.1746	0.1861	0.0000	***
lev	0.3850	0.8860	0.6639	
roa	-0.0114	0.0470	0.8087	
beta	0.5266	0.3337	0.1146	
mtb	0.1571	0.1687	0.3515	
accruals	-7.9399	2.9987	0.0081	***
sga	-0.1388	0.6541	0.8319	
fcf	4.3602	3.6940	0.2379	
aturn	-2.2252	0.2487	0.0000	***
news	-1.0880	0.3379	0.0013	***
loss	-3.3688	0.6493	0.0000	***
Constant	-11.4478	0.9161	0.0000	***
R-squared	0.0398	Number of observations		9,490
F-statistics	29.5616	Prob > F-statistics		0.0000

*** $p < .01$, ** $p < .05$, * $p < .1$

Table 5: The Impact of Conference Calls on Cumulative Abnormal Returns

Variables	Coef.	Robust St.Err.	p-value	Sig
Loughran-McDonald (pos)	2.1914	101.2766	0.0306	**
Loughran-McDonald (neg)	-0.2501	58.9756	0.6716	
Fog-Index	-0.0954	0.1433	0.5058	
Sentiments	13.3391	12.9511	0.3032	
size	1.1479	0.5467	0.0359	**
lev	3.1161	2.0312	0.1252	
roa	0.0967	0.1065	0.3638	
beta	0.8728	0.8005	0.2757	
mtb	-0.0341	0.2762	0.9019	
accruals	-21.1447	6.6757	0.0016	***
sga	0.9395	0.4087	0.0216	**
fcf	-12.6089	7.4335	0.0900	*
aturn	-0.9220	0.4242	0.0299	**
news	-0.3998	0.6644	0.5474	
loss	-5.6310	1.6182	0.0005	***
Constant	-10.6513	3.3077	0.0013	***
R-squared	0.0359	Number of observations		1683
F-statistics	2.9930	Prob > F-statistics		0.0001

*** $p < .01$, ** $p < .05$, * $p < .1$

Table 6: The Impact of Sentiment Analysis on Cumulative Abnormal Returns

Variables	Coef.	Robust St.Err.	p-value	Sig
sentiments	14.6387	12.9879	0.2599	
wordslog	-0.0538	0.6462	0.9336	
size	1.1710	0.5483	0.0329	**
lev	3.0038	2.0209	0.1374	
roa	0.0968	0.1067	0.3641	
beta	0.8534	0.8034	0.2882	
mtb	-0.0151	0.2783	0.9568	
accruals	-20.7849	6.6732	0.0019	***
sga	0.9980	0.4045	0.0137	**
fcf	-12.4010	7.4620	0.0967	*
aturn	-0.9123	0.4224	0.0309	**
news	-0.3731	0.6625	0.5734	
loss	-5.6127	1.6250	0.0006	***
Constant	-11.3511	2.9167	0.0001	***
R-squared	0.0333	Number of observations		1,683
F-statistics	3.1906	Prob > F-statistics		0.0001

*** $p < .01$, ** $p < .05$, * $p < .1$

Appendix: Variable Definitions

Variable	Definition
sec-8k	Form 8-K is the report that companies file with the SEC to announce major events such as lowered guidance
sentiments	Index of polarity on range [-1, 1] where 1 is positive, 0 is neutral, and -1 is negative.
Loughran-McDonald (neg)	Proportion of Loughran-McDonald financial negative words in the SEC-8-K document
Loughran-McDonald (pos)	Proportion of Loughran-McDonald financial positive words in the SEC 8-K document.
FogIndex	The Gunning Fog Index is equal to 0.4 (average_words_per_sentence + 100 (complex_word_count / word_count)). This formula was developed in 1952 to measure grade-level readability.
wordslog	Logarithm of the number of words in sentences of 5 words or more in the SEC 8-K filings.
news	An indicator variable equal to 1 if the current-period income is greater than or equal to the previous total income, and 0 otherwise
loss	An indicator variable equal to 1 if the firm reports losses in a given year, and 0 otherwise
beta	The estimated coefficient is derived from a least squares regression using stock and benchmark index returns based on weekly frequency over a one year period.
accruals	Ratio of net income minus cash flows from operating activities scaled by total assets
fcf	Free cash flow is defined as cash flows from operations minus capital expenditures divided by total assets
mtb	Market-to-book ratio is defined as the market capitalization divided by total assets
sga	Selling, general, and administrative expenses divided by total revenues
lev	Leverage is defined as total liabilities divided by total assets
size	Logarithm of total revenues in US\$ millions
roa	Return on assets is defined as earnings before interest and taxes divided by total assets as percentage
aturn	Assets turnover is defined as total revenues divided by total assets