



# “Silence Predicts Investor and Analyst Responses”

Awkward silence: Is manager hesitation informative? by Umit Kurucak <sup>1</sup>

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## Abstract

I investigate whether managers' hesitations provide insights into the future behavior of investors and analysts. Hesitation is defined as the response time (RT) between analyst questions and managerial answers, measured using AI-based speaker diarization and transcript alignment over 7,000 S&P 500 earnings calls (2019–2023). I find that longer RT is associated with lower contemporaneous and one-quarter-ahead cumulative abnormal returns. A split-sample analysis provides empirical evidence supporting the information uncertainty explanation of Post-Earnings Announcement Drift (PEAD). Analysts revise earnings forecasts downward and show increased uncertainty through higher dispersion. RT does not predict earnings surprises, consistent with analysts promptly incorporating the hesitation signal. These results indicate that managerial response time is an additional non-verbal information channel.

## Motivation

- Earnings Calls as Data Source:**
  - Technological advances (AI, ML) allow for analysis of unstructured data.
  - Provides information beyond financial reports.
  - Interactive Q&A sessions offer real-time, unscripted insights.
- Existing Research Focus:**
  - Textual Analysis:* Tone, complexity, spontaneity.
  - Vocal Analysis:* Pitch, affect, vocal quality in speech.
- The Underexplored Channel:** What about the moments of *silence*?
- Psychology Evidence:** The psychology literature suggests that elongated response times signal cognitive load or hesitation.

## Research Question

Does managerial hesitation, measured as the response time (RT) between analyst questions and manager answers, convey economically meaningful information to investors and analysts?

## Contribution

- Provides the first evidence that **managerial response time**, as a proxy for hesitation, is an economically informative non-verbal signal.
- Contributes to the **PEAD literature** by providing empirical support for the information uncertainty explanation.
- Adds to the **information asymmetry** literature by identifying a new channel through which information is conveyed.
- Bridges **behavioral finance and technology** by applying AI-driven audio analysis to understand market participant behavior.

## Result 1: Market Reaction to Managerial Hesitation

**Specification:** Regress cumulative abnormal returns (CAR) on response time (RT) and firm/market/text/audio/executive controls:

$$CAR(i, j) = \beta_0 + \beta_1 RT + \Gamma' Controls + \epsilon$$

**Controls** include:

- Firm:* Size, B/M, Momentum, UE, Volatility...
- Executive:* Age, Tenure, Overconfidence...
- Text:* Manager/Analyst Tone, Readability...
- Audio:* Pitch, Loudness, Jitter, Shimmer...

**Key Findings:**

- An additional second increase in response time is associated with 0.289% and 0.519% decrease in 2-day and 3-month CARs, respectively.
- No significant association in longer horizons
- When earnings news and hesitation information conflict, market response is slower. This provides empirical support for the information uncertainty explanation of PEAD.

	(1) CAR(0,1)	(2) CAR(2,90)	(3) CAR(2,180)
RT	-0.289** (0.130)	-0.519** (0.256)	-0.554 (0.402)
N	6721	6721	6721
Adj. R <sup>2</sup>	0.0845	0.313	0.309

**Interpretation:** Investors react to hesitation signals in the short term, but the effect fades as new information arrives in later quarters.

## Result 2: Analyst Response to Managerial Hesitation

**Specification:** Regress analyst forecast revisions and change in analyst forecast dispersion on response time (RT) and firm/market/text/audio/executive controls:

$$Y_{i,t} = \beta_0 + \beta_1 RT_{i,t} + \Gamma' Controls_{i,t} + \alpha_i + \epsilon_{i,t}$$

where Y is either Forecast Revision (FREV) or Change in Dispersion ( $\Delta$ Dispersion).

**Key Findings:**

- Longer RT leads to downward forecast revisions.
- Dispersion increases, suggesting heightened analyst uncertainty.

	FREV	$\Delta$ Dispersion
RT	-0.00180*** (0.0591)	0.0504*** (0.0226)
N	6649	6515
Adj. R <sup>2</sup>	0.0559	0.0665

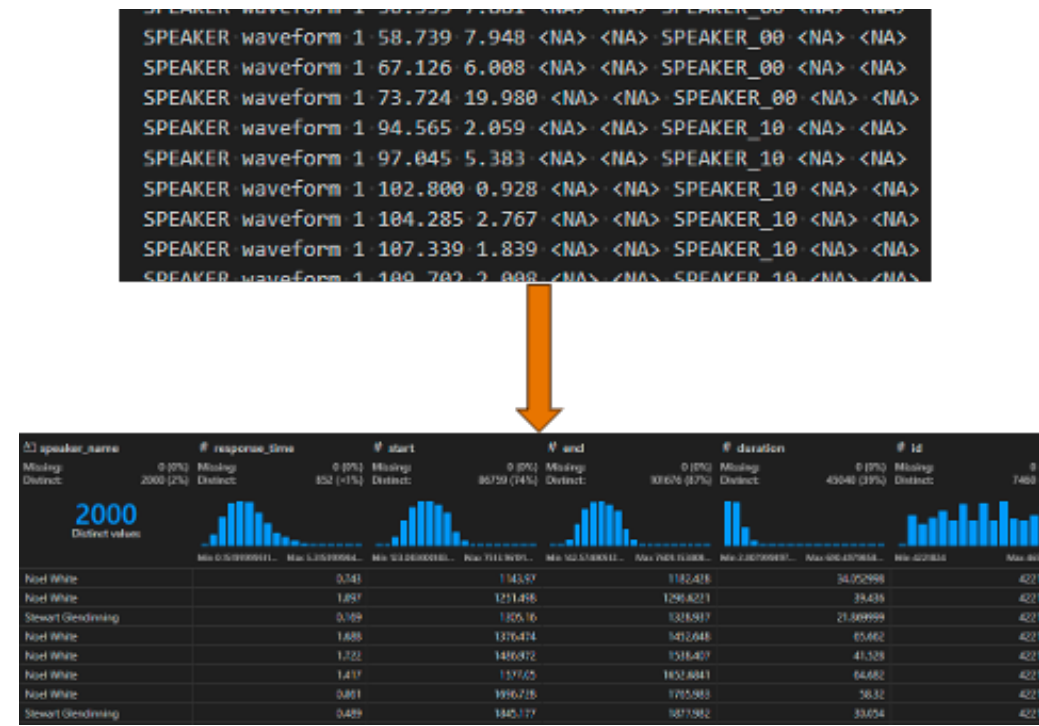
**Interpretation:** Analysts interpret long pauses as negative signals, leading them to revise their forecasts downward. Furthermore, analysts tend to disagree more, specifically when earnings news and hesitation information conflict.

## Challenges and Solutions

### Challenge 1: Measuring Manager Hesitation

Managerial hesitation is not directly observable. Traditional textual analysis overlooks silent pauses that may convey information.

**Solution:** I extract response times from audio recordings by combining speaker diarization and transcript alignment. This process identifies the precise timing between the end of analyst questions and the start of managerial responses, generating an objective hesitation measure.



### Challenge 2: Validating the Hesitation Measure

Even with a response time measure, it remains unclear whether this truly reflects hesitation or information withholding.

**Solution:** I validate the measure using a tersile-split analysis. Abnormal stock returns respond significantly only in the top tersile of response times, suggesting that unusually long delays—rather than routine pauses—contain informative content.

## Conclusion

- Silence speaks.** Managerial response time is a non-verbal channel of information.
- Longer pauses** are perceived **negatively** by both investors and analysts, leading to lower returns and downward forecast revisions.
- The findings provide empirical support for the **information uncertainty theory** of PEAD.
- This work showcases the potential for **AI-driven analysis of unconventional data sources** in finance.
- This work demonstrates **value of in person interactions** in the financial markets.

## Selected References

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