UNIVERSIDADE CATÓLICA PORTUGUESA

The Relationship between Financial Narratives and Abnormal Returns

by

Ana Teresa Wanzeller Guedes de Lacerda Tavares

Católica Porto Business School, Universidade Católica Portuguesa
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by

Ana Teresa Wanzeller Guedes de Lacerda Tavares

Under the supervision of
Paulo Alexandre Pimenta Alves, PhD

Católica Porto Business School, Universidade Católica Portuguesa
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Abstract

This thesis aims to assess and explain the existence of a relationship between Financial Narratives and Stock Price Abnormal Returns in the report publication period. More specifically, Ordinary Least Squares (OLS) regressions are performed to test the relationship between Abnormal Returns (AR) and three Financial Narratives characteristics – Tone, Forward-Looking Disclosure (FLD) and Complexity – controlling for effects such as Size, Book-to-Market, Leverage, Revenues Growth, Investment, Free Float, Return-on-Equity, Dividend Yield, Analysts' Number, and Surprise Earnings. The study is strengthened by a Sensitivity Analysis and Robustness Tests. Results show high evidence of an impact from Net Tone and FLD on AR and fail to evidence the same for Complexity. It is concluded that the higher the Net Tone from the Management Discussion and Analysis' (MD&A) section, Chairman's section and from the Aggregated Review, the higher the AR will be and that the higher the FLD, the lower the AR will be. Finally, this study creates value as the incorporation of a large sample (13,855 observations) from 2,137 London Stock Exchange (LSE) listed firms entails scientific relevance for the assessment of Financial Narratives into Stock Prices, allowing different entities to understand disclosure behaviours and contributing to a growing research field by filling a study gap.

Keywords: Financial Narratives, Stock Prices, Abnormal Returns

"I am naturally drawn to numbers but one of the ironies of working with numbers is that the more I work with them, the more skeptical I become about purely number-driven arguments." (Damodaran, 2017, p. 51)

Resumo

Esta tese tem como objetivo estudar e explicar os impactos das Narrativas Financeiras nos Retornos Anormais dos Preços das Ações no período de publicação do relatório. Mais especificamente, foram empregues regressões *Ordinary Least Squares* para testar a relação entre os Retornos Anormais e três características das Narrativas Financeiras – Tom Líquido, divulgação *Forward-Looking* e Complexidade – controlando para efeitos como o Tamanho, o *Book-to-Market*, a Alavancagem, o Crescimento da Receita, o Investimento, a *Free Float*, o *Return-on-Equity*, o *Dividend Yield*, o Número de Analistas e as *Surprise Earnings*. O estudo é fortalecido por uma Análise de Sensibilidade e Testes de Robustez. Os resultados mostram alta evidência de um impacto do Tom Líquido e do *Forward-Looking* nos Retornos Anormais e falham em evidenciar o mesmo para a Complexidade. É concluído que quanto mais alto o Tom Líquido da secção de Discussão e Análise da Gestão, da secção do *Chairman* e da Revisão Agregada, maior os Retornos Anormais serão e que quanto maior a divulgação *Forward-Looking*, menor os Retornos Anormais serão. Finalmente, este estudo cria valor, uma vez que a incorporação de uma amostra alargada (13,855 observações) de 2,137 empresas listadas na *London Stock Exchange* implica relevância científica para a avaliação das Narrativas Financeiras nos Preços das Ações, permitindo a diferentes entidades compreender comportamentos de divulgação de informação e contribuindo para um campo de investigação em crescimento, preenchendo uma lacuna da literatura.

Palavras-chave: Narrativas Financeiras, Preço das Ações, Retornos Anormais

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List of Abbreviations

AR – Abnormal Returns

CEO – Chief Executive Officer

FE – Fixed Effects

FLD – Forward-Looking Disclosure

FTSE – Financial Times Stock Exchange

GLS – Generalized Least Squares

HTML – Hyper Text Markup Language

IM – Impression Management

LSE – London Stock Exchange

MD&A – Management Discussion and Analysis

NLP – Natural Language Processing

OLS – Ordinary Least Squares

RE – Random Effects

SE – Surprise Earnings

SEC-EDGAR – Securities and Exchange Commission's Electronic Data Gathering, Analysis and Retrieval

US – United States

UK – United Kingdom

Chapter 1
Introduction

1.1. Context

Financial narratives - a term commonly used in academia to refer to qualitative disclosure - can be defined, but not exhaustive to, as annual financial reports, quarterly reports, earnings announcements, press releases and conference calls (El-Haj et al., 2018). For example, the concept can be extended to news articles and/or media contents (e.g., Chan & Qu, 2016; McBeth et al., 2018). For the purpose of this thesis, Financial Narratives can be presumed as the study of financial textual data from annual reports.

As contemplated by Loughran and McDonald (2016), textual analysis is not as precise as quantitative methods traditionally used in accounting and in finance. For this reason, the increasing development of Natural Language Processing (NLP) methods enabled a spike in the quantity of academic research and market implementations that utilize financial text data. This phenomenon is possible because NLP allows for the processing of large amounts of content at a relatively low cost (Lewis & Young, 2019). Particularly, it is increasingly utilized to access annual report qualitative disclosure (Goel et al., 2010; Purda & Skillicorn, 2015; Brown et al., 2020) – which are traditionally considered as an influential source of information for investors (Marston & Shrives, 1991; Lang & Lundholm, 1993) – and to predict stock returns (Balakrishman et al., 2010; Lee et al., 2014).

However, El-Haj et al. (2019)'s study views NLP as not sufficient to access qualitative data and argues for the necessity of additional manual analyses, a rationale which applies mainly to PDF format annual reports, as they tend to be highly unstructured, becoming unfit to be analysed by NLP alone (Lewis & Young, 2019).

El-Haj et al. (2020) proposed a method that retrieves, classifies, and analyses information presented on annual reports published as PDF files – a format that represents, outside the U.S., the primary annual reporting vehicle. Their work produced a unique dataset that quantifies variables ranging from tone – positive or negative word dominance – to uncertainty, fog, complexity, causal reasoning, and FLD for various possible sections on over 26,000 annual reports published by LSE listed firms. This procedure presented incremental relevance to NLP alone, as it trained the retrieval system with multiple rounds of manual analysis utilizing up to 1,000 reports per iteration.

1.2. Objective

The impact of Financial Narratives on Stock Price AR has been subject of studies. While some focus on different countries (El-khateeb & Alaodat, 2023; Aram & Soroushyar, 2024), most research is United States (US) based (Kwon & Tang, 2020; Yan et al., 2021; Chantziaras et al., 2021; Armbrust, 2022; Kwon, 2023), which can be partially explain by: i) easy access to reports via Securities and Exchange Commission's Electronic Data Gathering, Analysis and Retrieval (SEC-EDGAR)[1]; and ii) US reports being presented in a variation of Hyper Text Markup Language (HTML)[2] and, therefore, open text. The present study extends this area of research using El-Haj et al. (2020) United Kingdom (UK) data and

[1] A US repository of corporate filings.
[2] Standard markup language that allows users to organize documents into a hierarchical structure.

focusing on AR from the D_{-2} to D_1, being D_0 the annual report publication date. As to our knowledge, this specific assessment was never performed in literature.

1.3. Structure

Regarding the structure, Chapter 2 consists of a theoretical framework employed though the focus on relevant literature, which analyzes arguments already published and makes the drawing of pertinent objectives possible. Chapter 3 continues with a Research Design, where it is evidenced all methodological assumptions and choices, meaning that all the data treatment is specified, and the model is meticulously illustrated. This is followed by Chapter 4, where all results are critically presented with an associated description and discussion. Moreover, to assure the arrival at safe and rigorous conclusions, a Sensitivity Analysis and Robustness Tests are employed. The study is finalized with the conclusions stated in Chapter 5. Finally, References and Appendices are presented.

Chapter 2
Literature Review and Hypotheses Formulation

There is evidence of a positive correlation between disclosure and companies' share returns (e.g., Healy et al., 1999; Healy & Palepu, 2001). This can be explained by Diamond and Verrecchia (1991), where is stated that the lower the information asymmetry, the higher the price of the security, combined with Verrecchia's (2001) claim that greater disclosure reduces information asymmetry and corroborated with Easley et al. (2002)'s investigation on the role of information-based trading on asset returns using the Fama and French (1992) asset pricing framework, which found that information affects asset prices.

Given the efficient market hypothesis which states that share prices reflect all available information (Fama, 1970), if all participants in a market are informationally efficient, then all deals would be conducted at fair value - there would not be any excess returns. This means, excess return opportunities can be attributed to information asymmetry (Xing et al., 2018). Accordingly, Easley and O'Hara (2004) find that investors demand a higher return for stocks with greater private information as opposed to public information, occurring because uninformed investors face a disadvantage when it comes to decision making. The same study concludes that the quantity and the quality of information affects asset prices.

Literature explored the relevance of not relying solely on financial information, such as earnings, book values and cash flows when valuing a company or as a means to evaluate its economic merit, advocating for non-

financial information as a crucial component in these assessments (e.g., Amir & Lev, 1996; Hirschey et al., 2001; Wyatt, 2008). Similarly, within the financial information, since Ball and Brown (1968) – the first authors to regard the information contained in financial statements alone as of minimal relevance, evidencing that the market assimilates information in a different form - authors have accessed the importance of not relying solely on quantitative disclosure (Lev & Gu, 2016), arguing that qualitative disclosure has additional predictability for asset prices and for long term returns (Engelberg, 2008), with early studies considering voluntary disclosure quality as informative about stock prices (Lang & Lundholm 1996, Lundholm & Myers 2002, Gelb & Zarowin, 2002; Biddle et al., 2009). The effects of qualitative disclosure – or Financial Narratives – are also studied on the cost of equity (Botosan, 1997; Easley & O'Hara, 2004) and on the cost of debt (Sengupta, 1998).

In the present study, qualitative disclosure impacts on abnormal returns are assessed. Particularly, the analysis is subdivided on 4 different annual report components: the MD&A' section, the CEO's section, the Chairman's section, and an Aggregated Performance Review component, which comprises reviews from the CEO, CFO, Business and Operational.

The MD&A is an important annual report section (Mayew et al., 2015; Bochkay & Levine, 2017). It assesses liquidity, capital resources, and operations, providing managerial interpretations on the current and future state of the firm and allowing to publicly communicate future intents and orientations (Yuthas et al., 2004; Li, 2010b; Muslu et al., 2015). Managers decide based on future profitability and are equipped with more information than other stakeholders or outsiders, presenting, their disclosure, superior relevance compared to some empirical earnings measures (Li, 2010a). The examination of this section is commonly observed in literature (e.g., Lee, 2012; Davis & Tama-Sweet, 2012; Muslu et al., 2015)

CEO disclosure is essential for the transparency of leadership attitudes, values and behaviours, being crucial to show CEOs' interpretations on external factors and to the understanding of their vision on actions to be taken (Amernic et al., 2010). CEO's disclosure examination is often observed in literature (e.g., Bannier et al., 2017; Bochkay et al., 2019; Boudt & Thewissen, 2019).

Chairman's statements offer an outlook of the firm's performance and a overview of future prospects (Clatworthy & Jones, 2001). They intend to serve two purposes: to inform and to promote (Henry, 2008b). This section is the least technical and most readable one (Subramanian et al., 1993, Jones & Shoemaker, 1994), being it the most popular in terms of reading (Lee & Tweedie, 1977; Courtis, 1982). Chairman's disclosure examination is often observed in literature (e.g., Smith & Taffler, 2000; Schleicher & Walker, 2010; Lawati et al., 2023).

Providing a more specific context, CFOs are likely to have a higher impact and expertise in reporting financial and operating results when compared to CEOs who can sometimes be overconfident, optimistically biased and present a higher tone (Jiang et al., 2010; Willhite, 2015; Davis et al., 2015; Amicis et al., 2021). Adding the fact that CEOs and other parties may delegate some disclosure to CFOs (Brochstein, 2013; Imbert, 2015; Willhite, 2015; Crowley, 2019), this means that CFOs can sometimes provide investors with more relevant information, playing an important role in reporting transparency (Mian 2001; Geiger & North, 2006; Bamber et al., 2010; Jiang et al., 2010; Ham et al., 2017). Similarly, there is a demand for other segments who can provide additional insights, such as business leaders, that provide critical information that is difficult to access otherwise (Corbin Advisors, 2020), which can make investors perceive more relevance on these communications. There is, however, minimal study conducted on these types of segment disclosures, presumably because it is difficult to attribute them to specific executives (Goldman & Zhang, 2022). As so,

the present study assesses CFO's performance reviews aggregated with the CEO's, Business and Operating components.

2.1. Net Tone

Henry (2008b) defines Tone as "the affect or feeling of a communication", meaning a concept of sentiment. It is measured by the frequency of positive and/or negative words scaled by the total words and assessed by a wordlist (Henry, 2006). Loughran and McDonald (2011) present an alternative wordlist. However, Henry (2006)'s presents a better balance between the dimension of positive and negative words and, therefore, might result in a lesser bias towards the negative words, which is significantly larger in Loughran and McDonald (2011).

Particularly, the concept of a Net Tone is measured as the difference between positive and negative words scaled by the total[3] (Huang et al., 2014).

The phenomenon of utilizing a positive tone, instead of neutral and/or negative one, with an intent to bias decisions is a form of Impression Management (IM) (Krische, 2005; Schrand & Walther, 2000; Osma & Guillamón-Saorín, 2011; Melloni et al., 2016; Boudt & Thewissen, 2019).

The IM term goes back Goffman (1959), who referred to it as the ways that people attempt to control how they are perceived by others, in a goal-directed conscious or unconscious way (Tashmin, 2016). In a financial reporting context, IM can be defined as attempts to select, control, and manipulate the impression displayed to readers of financial data (Neu, 1991; Neu et al., 1998; Clatworthy & Jones, 2001) which, even if not intentional, specially targets qualitative disclosure, as it is not audited (Clatworthy & Jones, 2003). Regardless, this phenomenon, also denominated as Tone Management (Huang et al., 2014), often occurs to mislead

[3] Computational formula available in Table E-1.

investors about firms' primary characteristics and financial data necessary to determine stability and/or "health".

In more detail, IM can occur in different forms (Merkl-Davies & Brennan 2007; Brennan et al. 2009; Merkl-Davies et al. 2011), some of them being thematic manipulation (the bias of themes or the use of positive or negative words and sentences), attribution of organizational outcomes (positive organizational outcomes to internal factors - entitlements - and negative organizational outcomes to external factors - excuses), syntactical manipulation (the use of complicated language to obfuscate corporate performance), and performance comparisons (the bias of numerical disclosures and the use of performance comparison).

Concealment is a form of manipulation of information. Since Abrahamson and Park (1994), the study of how corporate officers conceal negative organizational outcomes from an agency theory perspective have been conducted. The authors found evidence that while some stakeholders prompt to reveal negative outcomes, others promote concealment and tolerate it. Accordingly, managers omit or shift pessimistic language when they have strong incentives to report strategically, for example, to skew investor perceptions upwards and/or meet or beat past earnings or analysts' forecasts (Davis & Tama-Sweet, 2012; Huang et al., 2014).

In the same manner, Elshandidy and Kamel (2024) showed that manipulating firms are likely to use a less negative tone to conceal fraudulent practices while non-manipulating firms tend to use a more positive tone for involvement in earnings management – the manipulation of reported earnings by the use of specific accounting methods, by the management (Akers et al., 2007; Schleicher & Walker, 2010; Beneish et al., 2013; Huang et al., 2018).

Accordingly, Huang et al (2014) showed that tone misinforms investors, concluding that a positive tone indicated negative future earnings and cash

flows, while being more positive when companies had substantial incentives to. Conversely, when companies granted CEOs stock options with the intent of lowering the share price, they prefer to manipulate the tone downwards. In the same study, a high positive tone indicated an overly optimistic immediate stock price response and subsequent return reversal, meaning that it contained negative information about future firm fundamentals.

Globally, Tone impacts investors' reactions and can frame financial performance in favourable light, causing investors to consider results in terms of increases relative to reference points (Henry, 2008b). It can also allow the prediction of firms' performances (Abrahamson & Amir, 1996; Davis & Tama-Sweet, 2012; Huang et al., 2014), failures (Smith & Taffler, 2000) and immediate market reactions (Henry, 2008b; Davis et al., 2012). Some authors argue that a positive tone better explains market reactions when compared to a negative one, which appears less trustworthy (Schleicher & Walker, 2010; Yekini et al., 2016; Elshandidy & Kamel, 2024), while some authors argue the opposite (Kothari et al., 2009). In terms of means of disclosure, Frankel et al. (2010) and Price et al. (2012) findings indicate that Conference Calls' tone is a strong predictor of AR and trading volume. Similarly, Bannier et al. (2017) study proved the same for CEO speeches and Tetlock et al. (2008) for news media articles.

In more detail, studies found Tone to have a positive relationship with future stock returns (Lang & Lundholm, 2000; Tetlock, 2007; Feldman et al., 2009; Elshandidy & Kamel, 2024), with stock prices briefly underreacting to the negative words (Tetlock et al., 2008).

Conversely, some studies advocate that firms with low levels of performance use a more optimistic tone (Cho et al., 2010; Bakar & Ameer, 2010; Wang & Hussainey, 2013; Plumlee et al., 2015; Roman et al., 2019). Similarly, Schleicher and Walker (2010) found that firms with large impending performance declines bias the tone upwards. They also found that loss and risky firms provide a

positive tone, while firms with a contemporaneous earnings decline provide a more negative tone. In the same sense, Huang et al. (2014) found that a positive tone has a positive stock return at earnings announcements and a delayed negative reaction in the first and second quarters after.

Having evidenced through literature that Tone impacts market dynamics, for this section, the present thesis intends to apply El-Haj et al. (2020) dataset to the proposed hypotheses, developed as follows:

Hypothesis 1: The Net Tone employed in companies' reports is associated with AR.

H1a: The Net Tone employed in the MD&A' section is associated with AR.

H1b: The Net Tone employed in the CEO's section is associated with AR.

H1c: The Net Tone employed in the Chairman's section is associated with AR.

H1d: The Net Tone employed in the Aggregated Review is associated with AR.

2.2. Forward-Looking

Aljifri and Hussainey (2007) defined FLD as "the class of information that refers to current plans and future forecasts that enable investors and other users to assess a company's future financial performance". This thesis addresses FLD as a qualitative based concept that is captured thought a list of words that suggests future considerations, more specifically, Hussainey et al. (2003) updated list. Moreover, it assesses this concept through annual report retrieved data, which is, according to Athanasakou and Hussainey (2014), the source which is more likely to contain FLD.

Managers face significant litigation and reputational penalties if they provide incorrect FLD. (Celik et al., 2006), which may make companies adopt conservative disclosure behaviours (Sadjiarto et al., 2021) and assure investors

on the accuracy of the information being subject of trade. However, companies only seem to employ FLD when the benefits exceed the costs of doing so (Baginski et al., 2004; Athanasakou & Hussainey, 2014), being possible benefits the reduction of financing costs (Aljifri & Hussainey, 2007). Moreover, firms can provide FLD with the intent of mitigating poor information environments (Muslu et al., 2015) and reduce information asymmetry (Urquiza, 2016; Sadjiarto et al., 2021).

Literature demonstrates that FLD improves business projections and capital markets decision-making (Sadjiarto et al., 2021). FLD both allows for the accuracy of analysts' forecasts (Barron et al., 1999; Bozzolan et al., 2009) and by the frequency of and changes in, enables a more precise estimation of future earnings (Schleicher & Walker, 1999; Hussainey et al., 2003; Hassanein et al., 2019) and firm performance (Clarkson et al., 1994, 1999; Miller & Piotroski, 2000; Hussainey & Aal-Eisa, 2009; Hassanein et al., 2019; Sadjiarto et al., 2021). In more detail, there is evidence that greater FLD is associated high future earnings, even after controlling for other determinants of future performance (Li, 2010b) and with greater stock returns (Muslu et al., 2008; Bozanic et al., 2018) and market responses, especially when earnings announcements specify greater earnings than previously anticipated (Miller & Piotroski, 2000).

Conversely, given Schleicher et al. (2007) argument that loss or unprofitable firms provide more relevant information, there is evidence in literature advocating for FLD to be mostly utilized by these firms (Hussainey & Al-Najjar, 2011; Wang & Hussainey, 2013; Muslu et al., 2015; Hassanein & Hussainey, 2015), with Athanasakou and Hussainey (2014) indicating that managers rely heavily on FLD when the company raises debt or reports bad earnings news. Nevertheless, Hassanein et al. (2019) showed that FLD increases investors' valuation of low-performing firms.

Having evidenced through literature that FLD impacts market dynamics, for this section, the present thesis intends to apply El-Haj et al. (2020) dataset to the proposed hypotheses, developed as follows:

Hypothesis 2: The FLD employed in companies' reports is associated with AR.

H2a: The FLD employed in the MD&A' section is associated with AR.

H2b: The FLD employed in the CEO's section is associated with AR.

H2c: The FLD employed in the Chairman's section is associated with AR.

H2d: The FLD employed in the Aggregated Review is associated with AR.

2.3. Complexity

Klare (1963) defines Readability as "the ease of understanding or comprehension" derived from the writing style and DuBay (2004) explains this diminishes the concept to the writing style, disregarding content, coherence, and organization. Loughran and McDonald (2014) define Readability as the individual investors aptitude to understand value-relevant information from disclosure and advocate for the fact that readability and complexity cannot be disentangled, arguing for complexity as readability inherent. Similarly, the present study assumes these two concepts as equivalent, treating complexity as the lack of readability.

Whitin all Narratives, this seems to be the hardest one to capture, with less available analyses in literature. Regardless, there are different approaches to measure it (Riley & Luippold, 2015). As an example, complex measures include the Fog (Gunning, 1952) and Bog Index (Bonsall et al., 2017). A higher (lower) Fog or Bog implies lower (higher) readability (complexity), these measures are ambiguous (Loughran & McDonald, 2014) and hard to measure and for that they are not going to be explored in this thesis.

As it is the case of the present study, some authors utilize the number of words' logarithm (You & Zhang, 2009, Miller, 2010, Lawrence, 2013; Loughran & McDonald, 2011, 2014), with some advocating that the size of the document – which can be dictated by the number of words – can be an indicative of a firm's complexity (You & Zhang, 2009; Loughran & McDonald, 2014). There is also the case of authors using combinations of definitions, such as Li (2008), who uses both the Fog Index and the wordcount.

Lawrence (2013) argues that complexity (as the length of the financial statements) entails a barrier to the extraction of information from disclosure. Notwithstanding, Readability seems to influence investors' behaviours, with an associated increase in their reliance on it, even when it has no impact on the quantity of information that they attain (Rennekamp, 2012).

You and Zhang (2009) find that when Complexity is above the median, firms' have a delayed – 12 months following – stock market reaction given that affects investors' ability to incorporate information into the stock price, nevertheless arguing that it can be predictive of post report stock returns. This appear to be in line with the rationale presented by Hong and Stein (1999) of complexity affecting the speed of information diffusion and with Lee (2012) argument for a delayed price response to poor readability.

Franco et al. (2015) provided evidence on the positive relation between it and a trading volume reaction. Specifically, there is evidence that more complex (longer and less readable) disclosure is associated with lower trading behaviour from small investors as it restricts the quantity of information that they are willing or capable of extracting (Grossman & Stiglitz, 1980; Bloomfield, 2002; Hirshleifer & Teoh, 2003; Miller, 2010). In the same sense, Li (2008) finds that firms who disclose with higher readability show persistent positive earnings, which is consistent with Elliott et al. (2015)'s finding that concrete language increases investors' willingness to invest. Conversely, some findings indicate the

absence of a relationship between complexity and firm profitability, report period AR and a market reaction (Courtis, 1986; Lee, 2012; Loughran & McDonald, 2014).

Nevertheless, managers purposely utilize complex language to conceal information (Merkl-Davies & Brennan, 2007; Asay et al., 2018), which can increase the chance of a future stock price crash. (Ertugrul et al., 2017; Kim et al. 2019; Kong et al., 2021). Particularly, Li (2008) shows that, by the increase of documents' complexity, Management may attempt to conceal poor performance and weak future earnings, increasing the information acquisition costs for investors (Bushee et al., 2018).

Having evidenced through literature that Complexity impacts market dynamics, for this section, the present thesis intends to apply El-Haj et al. (2020) dataset to the proposed hypotheses, developed as follows:

Hypothesis 3: The Complexity employed in companies' reports is associated with AR.

H3a: The Complexity employed in the MD&A' section is associated with AR.

H3b: The Complexity employed in the CEO's section is associated with AR.

H3c: The Complexity employed in the Chairman's section is associated with AR.

H3d: The Complexity employed in the Aggregated Review is associated with AR.

Chapter 3
Research Design

3.1. Sample Selection and Data Collection

To retrieve the quantified narratives, it was used an extract from the El-Haj et al. (2020)'s dataset[4], updated in 2021, which allowed the correspondence to Datastream company's codes. The extract includes an annual report analysis of 2,148 English firms, all listed on LSE. Given that annual reports are not available for all years, for the period that starts in 2006 and ends in 2018, this equates to a total of 14,501 observations. None of these observations include firms from the Financial and the Real Estate sectors. After removing observations where it was impossible to establish a connection with the dependent variable, the final sample equated to total of 13,855 observations from 2,137 firms. A sample distribution over industry and year can be found, respectively, in Table A-1 and in Table A-2.

The model studied dependent and control variables were retrieved from Refinitiv Eikon and Datastream. Accounting related variables were matched by the report fiscal year. Except for the dependent variable, market variables were matched for the day after the report date (D_1) to refrain from the issues presented by reports being published after the market closing time. To control for noise right before the earnings announcement and to refrain from long-horizon methods' statistical limitations (Barber & Lyon, 1997; Kothari & Warner, 1997,

[4] Narratives' variables definitions can be found in Table E-1.

2007), the dependent variable was computed to be AR from D_{-2} to D_1, being D_0 the report publication day. This variable is computed by subtracting the expected returns to the total returns (Brown & Warner, 1985; Henry, 2008b). The expected returns were computed using the Financial Times Stock Exchange (FTSE) 350 index. This index was chosen for covering the most prominent LSE listed firms. In more detail, it comprises FTSE 100 and FTSE 250, together representing the top 350 firms and consequently being the most fitting benchmark for UK firms' expected returns. Weekends and holidays' values were controlled for at every step.

Book-to-Market, Leverage, ROE, Dividend Yield and Surprise Earnings (SE) were trimmed for each observation that fell outside the percentile 1 at each tail. Revenues Growth was trimmed for observations that fell outside of the percentile 1 at the right tail. Moreover, given Henry (2006)'s Net Tone definition[5], for this Narrative, -1 or 1 observations were removed because it is peculiar and improbable that speech could be 100% negative or positive, respectively. These procedures are performed to prevent the possibility of errors in the data affecting the model. Given this, all variables descriptive statistics are presented in Table 3-1, bellow presented.

[5] Can be consulted in Table E-1.

VARIABLES	N	mean	sd	min	p25	p50	p75	max
Narratives Variables (Independent Variables)								
Net Tone MD&A	13,832	0.3540	0.2200	-0.9440	0.2360	0.3820	0.5020	0.9930
Net Tone CEO	6,667	0.6780	0.2420	-0.8670	0.5830	0.7410	0.8440	0.9850
Net Tone Chair	10,834	0.6450	0.2500	-0.7740	0.5240	0.7070	0.8330	0.9850
Net Tone REV	10,711	0.5190	0.2960	-0.8670	0.3740	0.5830	0.7340	0.9810
Forward Looking MD&A	13,855	0.0120	0.0038	0.0000	0.0100	0.0118	0.0138	0.1430
Forward Looking CEO	6,974	0.0153	0.0085	0.0000	0.0107	0.0145	0.0191	0.3530
Forward Looking Chair	11,800	0.0174	0.0080	0.0000	0.0127	0.0168	0.0216	0.2220
Forward Looking REV	11,002	0.0125	0.0074	0.0000	0.0087	0.0116	0.0151	0.3120
Word Count MD&A	13,855	17,311	16,367	502	6,185	11,186	23,224	198,900
Word Count CEO	6,974	1,932	1,464	0	1,035	1,600	2,443	26,002
Word Count Chair	11,800	1,044	842	0	612	880	1,265	28,331
Word Count REV	11,002	3,856	3,734	13	1,562	2,976	4,999	96,427
Other Variables (Control and Dependent Variables)								
Book-to-Market	13,365	0.7530	0.6400	-0.1530	0.3250	0.5890	0.9910	4.8210
Leverage	13,387	0.4040	0.9370	-4.9660	0.0000	0.1420	0.5500	7.3830
Revenues Growth	13,199	0.2010	0.7390	-1.0000	-0.0081	0.0597	0.2160	9.2900
Free Float	13,594	0.6600	0.2330	0.0000	0.4900	0.6900	0.8600	1.0000
Δ ROE	11,927	-0.0371	0.4340	-2.9920	-0.1090	-0.0067	0.0663	2.3630
Δ Dividend Yield	13,576	0.0007	0.0105	-0.0524	0.0000	0.0000	0.0004	0.0546
Surprise Earnings	7,866	0.2130	0.4290	-1.9010	0.0180	0.1070	0.2810	3.7370
AR	13,855	0.0078	0.1230	-0.8690	-0.0327	0.0038	0.0450	2.2170
Size (in millions)	13,820	1,179	5,787	0	10	45	309	107,778
Investment	13,855	70,867	574,824	0	108	1,001	10,305	26,260,000
#Analysts	13,855	4	6	0	0	1	5	36

Table 3-1: Descriptive Statistics

It can be observed that, within all the narratives variables, CEO's section variables tend to reduce the sample the most. This could be justified by the fact that, contrary to the case of US reports, UK reports are not standardized. In that sense, firms may opt not to present a CEO's section in their reports. It can be predicted not as significant results for this section's narratives.

Due to unavailability of data in some time periods, the number of observations is cut to 7,866, being the SE control variable responsible for 5,989. Because of this, a sensitivity analysis was performed without this variable in the end.

3.2. Methodology

To test the hypotheses, the following model was implemented:

$$
\begin{aligned}
AR_{it} &= \beta_0 + \beta_1 \times \text{Narrative}_{it} + \beta_2 \times \text{Size}_{it} + \beta_3 \times \text{Book-to-Market}_{it} + \beta_4 \times \text{Leverage}_{it} \\
&+ \beta_5 \times \text{Revenues Growth}_{it} + \beta_6 \times \text{Investment}_{it} + \beta_7 \times \text{Free Float}_{it} \\
&+ \beta_8 \times \Delta\,\text{ROE}_{it} + \beta_9 \times \Delta\,\text{Dividend Yield}_{it} + \beta_{10} \times \text{Number of Analysts}_{it} \\
&+ \beta_{11} \times \text{Surprise Earnings}_{it} + \sum_{t=1}^{T} \delta_t \times \text{Year}_t + \sum_{s=1}^{S} \lambda_s \times \text{Industry}_s + \varepsilon_{it}
\end{aligned}
$$

Where:

- β_0 denotes the constant/intercept
- $\beta_{1\text{-}11}$ denote the variables' coefficients
- δ_t represents the fixed effect for each year (dummy variables for each)
- λ_s represents the fixed effect for each industry (dummy variables for each)
- ε_{it} denotes the residual error
- The subscripts i, t, and s denote the firm, year, and industry, respectively.

3.3. Control Variables

The following table (Table 3-2) comprehends all control variables definitions and their respective Datastream codes and is followed by a detailed rationale on the inclusion of them in the model.

CONTROL VARIABLE	Definition	Datastream Codes
Size	Natural logarithm of the market value of equity at D_1	MV
Book-to-Market	Book-to-market ratio = (BV equity + BV debt) / (MV equity + BV debt) at D_1	WC03995; WC03255; MV
Leverage	Debt-to-equity ratio = BV debt / BV equity for the current fiscal year	WC03995; WC03255
Revenues Growth	Firm sales growth rate = (current fiscal year's net sales or revenues / last fiscal year's total net sales or revenues - 1) * 100	WC08631
Investment	Natural logarithm of the capital expenditures for the current fiscal year	WC04601
Free Float	Total amount of share capital freely available to ordinary investors expressed as a percentage of total number of shares at D_1	NOSHFF
Δ ROE	Current fiscal year over last fiscal year absolute change in firm return of equity	WC08301
Δ Dividend Yield	Current fiscal year over last fiscal year absolute change in firm dividend yield	WC09404
#Analysts	Natural logarithm of total number of estimates of earnings per share in the mean FY1 at D_1	EPS1NE
Surprise Earnings	Natural logarithm of annual surprise earnings' mean for the current fiscal year	EPSSURMN

Table 3-2: Control Variables' Definitions

3.3.1. Size (Market Value)

Size can predict returns (Banz, 1981; Schnaubelt & Seifert, 2020), which is fair to be stated given that small companies are riskier, more severely impacted by illiquidity and exposed to higher transaction costs (Lesmond et al., 1999; Shumway, 2001; Amihud, 2002; Jegadeesh & Wu, 2013). Large companies, which are considered as more stable, diversified and liquid, earn a lower risk premium (Wisniewski & Yekini, 2015).

Additionally, firms' size is commonly correlated with the likelihood of voluntary corporate disclosures (Mathews, 1997; Robb et al. 2001; Flöstrand, 2006; Flöstrand & Ström, 2006; Premuroso et al., 2012). Particularly, as great influencers on the economy and society, larger companies are subject of greater information demand and incentives from stakeholders, therefore standing a lower marginal cost of information production as disclosure cost per unit of size decreases due to the fixed cost associated with disclosure (Firth, 1979; Chow & Wong-Boren, 1987; King et al., 1990; Wallace et al., 1994; Hossain et al., 1995; Inchausti, 1997; Ahmed & Courtis, 1999; Beattie et al., 2004; Hassan et al., 2006; Alsaeed, 2006; Abhayawansa & Guthrie, 2016).

Not to disregard evidence provided for an existence of a relation between firm size and FLD on its own (Cerf, 1961; Cooke, 1992; Uyar & Kilic, 2012a; Alkhatib, 2012; Alkhatib & Marji, 2012), larger firms being associated with more disclosure is consistent with literature consecutive findings that larger firms would provide more FLD (Walker & Tsalta, 2001; Kent & Ung, 2003; Vanstraelen et al., 2003; Leventis & Weetman, 2004; Gao et al., 2005; Hossain et al., 2005; Celik et al., 2006; Lim et al., 2007; Hossain & Hammami, 2009; Abed et al., 2011, Muslu et al., 2015; Abhayawansa & Guthrie, 2016; Menicucci, 2018). Specifically, larger firms may prefer other means of releasing FLD than through annual reports (Athanasakou & Hussainey, 2014). However, Aljifri and Hussainey (2007) demonstrate the absence of this relationship. Regarding Tone, there seems to be a

relationship between smaller firms and a lower Tone. Larger firms tend to reveal a more optimistic picture (Jegadeesh & Wu, 2013).

Being the inclusion of this variable constantly observed in literature (e.g., Muslu et al., 2015; Hassanein et al., 2019; Fu et al., 2021) with different measures, such as capital employed and sales turnover (Firth, 1979) or total assets and turnover (Cooke, 1991), this thesis uses the market value/capitalization (Debreceny et al., 2002), which seems to be the most common, being it equal to the number of issued shares times the share price on the stock market.

3.3.2. Book-to-Market

Firms with higher book-to-market ratios provide higher returns, either by virtue of risk compensation, or to correct market undervaluation (Stattman, 1980; Rosenberg et al, 1985; Fama & French, 1992, 1993; Lakonishok et al. 1994; Chan et al., 1995; Fama & French, 1998; Desai et al., 2004; Baker & Wurgler, 2006; Wisniewski & Yekini, 2015; Blau et al., 2015). Specially, AR after report dates tend to be higher for high BTM firms (Porta et al., 1997; Schnaubelt et al., 2020).

In terms of a Narratives effect, the higher (lower) the BTM, the lower (higher) the Tone and the FLD will be (Muslu et al., 2015; Bochkay et al., 2019; Arslan-Ayaydin et al., 2021; Liu et al., 2023). The inclusion of this variable is commonly observed in literature (e.g., Loughran & McDonald, 2011; Price et al., 2012; Huang et al., 2014).

3.3.3. Leverage

Liu et al. (2023) findings show Leverage as being negatively correlated with returns comovement. Conversely, Bhandari (1988) showed a positive relationship between leverage and stock returns.

In terms of reporting, some studies found the existence of a relationship between disclosure and leverage (Malone et al., 1993; Hossain et al., 1994; Wallace et al., 1994), while others failed to do so (Chow & Wong-Boren, 1987; Ahmed & Nicholls, 1994; Wallace & Naser, 1995; Hossain et al., 1995; Raffournier, 1995; Celik et al., 2006).

Some research advocates that that highly leveraged companies tend to disclose more than less leveraged companies with the intent of satisfying creditors' demands for it, enhancing monitoring (Watts, 1977; Riahi-Belkaoui & Kahl, 1978; Malone et al., 1993; Wallace et al., 1994; Zarzeski, 1996; Ahmed & Courtis, 1999; Prencipe, 2004; O'Sullivan et al., 2008; White et al., 2010; Orens & Lybaert, 2010; Abeysekera, 2011; Alkhatib, 2012; Uyar & Kilic, 2012b).

More specifically, there is evidence of a positive association between Leverage and FLD (Ahmed & Courtis, 1999; Aljifri & Hussainey, 2007; Urquiza et al., 2009; Urquiza, 2016). Conversely, Celik et al. (2006) and Menicucci (2008) failed to find this correlation and Bochkay et al. (2019) showed negative association between CEO's FLD and Leverage.

The inclusion of this variable is commonly observed in literature (e.g., Hájek et al., 2013; Abhayawansa & Guthrie, 2016; Elshandidy & Kamel, 2024).

3.3.4. Revenues Growth

There is a positive correlation between revenues growth and companies' performance (Henry, 2008a), being the ones with higher growth more likely to present higher values in future periods (Hassanein & Hussainey, 2019). Some studies (Blau et al., 2015; Alduais et al., 2022) employ this variable in their model.

3.3.5. Capital Expenditures

Companies with increasing capital expenditures are likely to have lower valuations in future periods (Mangena et al., 2012, Hassanein & Hussainey, 2019). Some studies (e.g.,

Blau et al., 2015; Ataullah et al., 2018; Bochkay et al., 2019) employ this variable in their model.

3.3.6. Free Float

Elmagrhi et al. (2016) showcased disclosure as a function of ownership. Ownership is driven by the percentage held by insider management and outsider investors (Vroom & McCann, 2009), typically categorized by government agencies, institutional investors and other individual investors (Abdallah & Eltamboly, 2022).

Some literature (D'Avolio, 2002; Chen et al., 2002; Nagel, 2005; Asquith et al., 2005) shows that institutional ownership increases transaction costs, lowering market activity. Conversely, some literature indicates that high transaction costs precede AR (Asquith & Meulbroek, 1995; Desai et al., 2002). On the Narratives sense, Readability seems to increase information efficiency on the stock price when there is smaller institutional ownership (Lee, 2012). As a literature observation, Loughran and McDonald (2011) and Blau et al. (2015) employ institutional ownership in their study.

Similarly to Abdallah and Eltamboly (2022), this thesis assesses ownership through the free float percentage. The authors in question showed that the higher this variable the higher the FLD appears to be.

3.3.7. Return-on-Equity

ROE is a performance or profitability indicator, more specifically the shareholders' money rate of return and a great indicator of stock price returns (Hájek et al., 2013). Hassanein & Hussainey (2019) found a negative corelation between this indicator and firms' value.

In terms of disclosure, there is also evidence of negative association between profitability and FLD (Celik et al., 2006; Aljifri & Hussainey, 2007; Abed et al., 2011).

Conversely, Cahan and Hossain (1996) showed that companies with higher ROE tend to engage in additional FLD. Menicucci (2018) found both positive and negative correlations depending on the type of FLD. It seems to also exist failure to find correlation between these two variables (Walker & Tsalta, 2001; Kent & Ung, 2003; Hossain et al., 2005). Some authors advocate for negative relationship between firm performance and complexity (Li, 2008; Guay et al., 2016). The inclusion of this variable is commonly observed in literature (e.g., Vanstraelen et al., 2003; Urquiza et al., 2009; Alduais et al., 2022).

3.3.8. Dividend Payout

Dividend payout is commonly observed in literature (e.g., Hájek et al., 2013; Schnaubelt & Seifert, 2020; Qian & Sun, 2021). Although facing great controversy (Miller & Modigliani, 1961), there is evidence of its implications on firm value (Allen & Michaely, 2003; Brav et al., 2005; DeAngelo & DeAngelo, 2006). More specifically, there is evidence of a negative correlation between dividend yields and firms' value (Hassanein & Hussainey, 2019) and of dividend yield as drivers of stock returns (Campbell & Hamao, 1992), which can be explained by the fact that dividends may limit management's ability to invest and create value (Officer, 2011). Conversely, some literature advocates for the fact that dividend paying firms tend to be the most profitable and stable ones (DeAngelo et al., 2004; Denis & Osobov, 2008). Price et al. (2012) found that dividend payments impact Tone, meaning that investors rely better on non-financial information when there is greater cash flow uncertainty (Amir & Lev, 1996).

3.3.9. Number of Analysts

Companies monitored by more analysts disclose additional information to them without a respective report disclosure (Bhushan, 1989; Lang & Lundholm 1993; Frankel & Li 2004; Yu, 2008).

Furthermore, research suggests that the adequacy of Tone in predicting stock price crash risk is more pronounced when companies have greater analyst following (Fu et al., 2021). In more detail, companies with higher number of analysts following disclose higher levels of Tone (Fu et al., 2021), higher levels of FLD (Lang & Lundholm, 1996; Li, 2010b; Muslu et al., 2015), and higher levels of Complexity (Lehavy et al., 2011; Lee, 2012).

The inclusion of this variable is commonly observed in literature (e.g., Price et al., 2012; Blau et al., 2015; Schnaubelt & Seifert, 2020).

3.3.10. Surprise Earnings

Literature demonstrates a correlation between Surprise Earnings and Stock Returns (Ball & Brown, 1968; Foster et al, 1984; Bernard & Thomas, 1990; Price et al., 2012; Kothari & Wasley, 2019; Alduais et al., 2022), with Schnaubelt and Seifert (2020) advocating for it as a main predictor. Conversely, some studies advocate for SE as not having a linear relationship with returns (Freeman & Tse, 1992; Cheng et al., 1992; Kothari, 2001, Dellavigna & Pollet, 2009).

Regarding disclosure, Price et al. (2012) argued a correlation between SE and Tone. Aggregating the two realms, Blau et al. (2015) findings indicate an increase in short selling given high surprise earnings and tone, suggesting successive returns decrease, being the combination of them increasingly predictive.

The inclusion of this variable is commonly observed in literature (e.g., Wisniewski & Yekini, 2015; Bochkay et al., 2019; Hong & Kottimukkalur, 2024).

3.4. Fixed Effects

Year Fixed Effects (FE) are included in the study given the existence of macroeconomic conditions that vary by year (Campbell et al., 2020) and to refrain from the fact that

narratives could be persistent over multiple years, because, as panel data was used, the model can create inter-temporal correlations (Kang et al., 2018).

Industry FE are accounted for as there are 35 different Industries present in the data. This was used to refrain from intrinsic operational conditions that could affect the model, given that Company FE were not included. The intention is to capture alterations across companies, meaning that firm-specific time-invariant variables are not intended to be controlled for. This was possible to be performed as a large sample allows for within-firm variation tests, a rationale also mentioned by Merkley (2014).

The inclusion of Year and Industry FE is commonly observed in literature (e.g., Athanasakou & Hussainey, 2014; Muslu et al., 2015; Elshandidy & Kamel; 2024).

3.5. Regressions

After evidencing all model assumptions, to employ it, 12 different OLS regressions were conducted:

- [1] tests the MD&A section Net Tone for firm *i* in year *t*;
- [2] tests the CEO section Net Tone for firm *i* in year *t*;
- [3] tests the Chairman section Net Tone for firm *i* in year *t*;
- [4] tests the Net Tone from the Aggregated Review for firm *i* in year *t*;
- [5] tests the MD&A section FLD for firm *i* in year *t*;
- [6] tests the CEO section FLD for firm *i* in year *t*;
- [7] tests the Chairman section FLD for firm *i* in year *t*;
- [8] tests the FLD from the Aggregated Review for firm *i* in year *t*;
- [9] tests the MD&A section Complexity for firm *i* in year *t*;
- [10] tests the CEO section Complexity for firm *i* in year *t*;
- [11] tests the Chairman section Complexity for firm *i* in year *t*;
- [12] tests the Complexity from the Aggregated Review for firm *i* in year *t*.

Chapter 4
Results

4.1. Net Tone

As it can be observed in Table 4-1, results show a positive association between Net Tone and AR. This is evident for all the sections except for the CEO's section, whose Net Tone showed to be non-significant in the explanation of the dependent variable. For regression [1], Net Tone showed itself as positively correlated with the dependent variable, being the null hypothesis rejected and the coefficient statistically significant at a 1% level. Similarly, for regression [3] and [4], the same occurred. All of this means that H1a, H1c and H1d were confirmed.

In terms of control variables, Book-to-Market, Δ ROE, and the Number of Analysts were adequate to be included, given their statistical significance at 1% level in all regressions for this Narrative. In an increasing order, Leverage, Free Float, Investment and Δ Dividend Yield showed some suitability, varying in significance levels. Finally, Size, Revenues Growth and Surprise Earnings appeared not add value to the model by failing to show significance.

	Hypothesis 1							
	[1] H1a		[2] H1b		[3] H1c		[4] H1d	
Constant	-0.00466		0.0217		-0.00370		-0.00521	
	(0.735)		*(0.260)*		*(0.812)*		*(0.724)*	
Net Tone MD&A	0.023	***						
	(0.00117)							
Net Tone CEO			0.00419					
			(0.589)					
Net Tone Chair					0.017	***		
					(0.00597)			
Net Tone REV							0.0131	***
							(0.00998)	
Size	0.00201		0.00137		0.00155		0.00221	
	(0.137)		*(0.464)*		*(0.311)*		*(0.134)*	
Book-to-Market	-0.00995	***	-0.0131	***	-0.0101	***	-0.0106	***
	(8.17e-05)		*(0.000265)*		*(0.000345)*		*(0.000122)*	
Leverage	-0.00203		-0.00125		-0.00230		-0.00237	
	(0.168)		*(0.540)*		*(0.159)*		*(0.130)*	
Revenues Growth	0.000235		-0.000473		-1.10e-05		-0.000293	
	(0.927)		*(0.886)*		*(0.997)*		*(0.915)*	
Free Float	-0.00773		-0.0157	*	-0.00991		-0.00667	
	(0.193)		*(0.0627)*		*(0.140)*		*(0.297)*	
Δ ROE	0.0211	***	0.00753		0.0196	***	0.0188	***
	(8.87e-10)		*(0.132)*		*(7.97e-07)*		*(6.26e-07)*	
Δ Dividend Yield	0.373	***	0.241	*	0.374	***	0.339	***
	(7.68e-05)		*(0.0597)*		*(0.000288)*		*(0.000654)*	
Investment	0.00171	**	0.00134		0.0018	**	0.00183	**
	(0.0138)		*(0.176)*		*(0.0221)*		*(0.0158)*	
#Analysts	-0.0111	***	-0.0115	***	-0.01	***	-0.0122	***
	(2.38e-05)		*(0.00207)*		*(0.000785)*		*(1.78e-05)*	
Surprise Earnings	0.00151		0.00207		0.00230		0.00112	
	(0.632)		*(0.608)*		*(0.512)*		*(0.733)*	
Year Fixed Effects	Yes		Yes		Yes		Yes	
Industry Fixed Effects	Yes		Yes		Yes		Yes	
Observations	6,982		4,093		5,665		6,154	
Adj R-squared	0.0223		0.0088		0.0201		0.0179	

Notes: p-values in parentheses; ***: p<0.01; **: p<0.05; *: p<0.1

Table 4-1: Hypothesis 1 Coefficients' Estimates

4.2. Forward-Looking

As it can be observed in Table 4-2, results show a negative association between FLD and AR. This is evident for all the sections, indicating statistical significance for the explanation of the dependent variable. For regression [5], FLD showed itself as negatively correlated with the dependent variable, being the null hypothesis rejected and the coefficient statistically significant at a 1% level. Similarly, for regression [6], [7] and [8], the same occurred. All of this means that Hypothesis 2 was verified at all its components.

In terms of control variables, Book-to-Market and the Number of Analysts were adequate to be included, given their statistical significance at 1% level in all regressions for this Narrative. In an increasing order, Leverage and Free Float, Size, Investment, Δ ROE and Δ Dividend Yield showed some suitability, varying in significance levels. Finally, Revenues Growth and Surprise Earnings appeared not add value to the model by failing to show significance.

	Hypothesis 2							
	[5] H2a		[6] H2b		[7] H2c		[8] H2d	
Constant	0.0210		0.0356	*	0.0217		0.00901	
	(0.126)		*(0.0522)*		*(0.144)*		*(0.533)*	
Forward Looking MD&A	-1.702	***						
	(6.06e-06)							
Forward Looking CEO			-0.766	***				
			(0.000115)					
Forward Looking Chair					-0.47	***		
					(0.00234)			
Forward Looking REV							-0.65	***
							(0.000535)	
Size	0.00229	*	0.00153		0.00142		0.0025	*
	(0.0895)		*(0.398)*		*(0.336)*		*(0.0840)*	
Book-to-Market	-0.0112	***	-0.0126	***	-0.012	***	-0.0115	***
	(6.27e-06)		*(0.000276)*		*(9.67e-06)*		*(1.81e-05)*	
Leverage	-0.00220		-0.00160		-0.00257		-0.00288	*
	(0.134)		*(0.408)*		*(0.105)*		*(0.0619)*	
Revenues Growth	0.00114		-0.000249		0.00164		0.000490	
	(0.651)		*(0.937)*		*(0.586)*		*(0.856)*	
Free Float	-0.00520		-0.0158	*	-0.00805		-0.00619	
	(0.381)		*(0.0536)*		*(0.212)*		*(0.328)*	
Δ ROE	0.0216	***	0.00663		0.0208	***	0.019	***
	(3.03e-10)		*(0.167)*		*(7.11e-08)*		*(2.48e-07)*	
Δ Dividend Yield	0.384	***	0.242	*	0.383	***	0.358	***
	(4.65e-05)		*(0.0533)*		*(0.000142)*		*(0.000267)*	
Investment	0.00154	**	0.00112		0.00162	**	0.00161	**
	(0.0266)		*(0.243)*		*(0.0345)*		*(0.0313)*	
#Analysts	-0.0108	***	-0.0113	***	-0.01	***	-0.0125	***
	(4.48e-05)		*(0.00177)*		*(0.000488)*		*(9.10e-06)*	
Surprise Earnings	0.00128		0.00201		0.000927		0.00108	
	(0.686)		*(0.612)*		*(0.788)*		*(0.738)*	
Year Fixed Effects	Yes		Yes		Yes		Yes	
Industry Fixed Effects	Yes		Yes		Yes		Yes	
Observations	6,990		4,253		6,097		6,251	
Adj R-squared	0.0237		0.0129		0.0195		0.0196	

Notes: p-values in parentheses; ***: p<0.01; **: p<0.05; *: p<0.1

Table 4-2: Hypothesis 2 Coefficients' Estimates

4.3. Complexity

As it can be observed in Table 4-3, results suggest no association between Complexity and AR. This is evident for all the sections, indicating statistical insignificance for the explanation of the dependent variable. In all regressions ([9], [10], [11] and [12]), the null hypothesis was failed to reject, meaning that Hypothesis 3 was refuted at all its components.

In terms of control variables, Book-to-Market and the Number of Analysts were adequate to be included, given their statistical significance at 1% level in all regressions for this Narrative. In an increasing order, Leverage, Free Float, Investment, Δ ROE and Δ Dividend Yield showed some suitability, varying in significance levels. Finally, Size, Revenues Growth and Surprise Earnings appeared not add value to the model by failing to show significance.

	Hypothesis 3							
	[9] H3a		[10] H3b		[11] H3c		[12] H3d	
Constant	-0.00149		0.00766		0.0175		-0.00239	
	(0.942)		*(0.743)*		*(0.368)*		*(0.892)*	
Complexity MD&A	0.00117							
	(0.610)							
Complexity CEO			0.00230					
			(0.260)					
Complexity Chair					-0.000696			
					(0.721)			
Complexity REV							0.000720	
							(0.646)	
Size	0.00175		0.00142		0.00142		0.00226	
	(0.207)		*(0.433)*		*(0.338)*		*(0.120)*	
Book-to-Market	-0.0116	***	-0.0132	***	-0.012	***	-0.012	***
	(3.25e-06)		*(0.000151)*		*(9.28e-06)*		*(7.81e-06)*	
Leverage	-0.00244	*	-0.00177		-0.00261		-0.00281	*
	(0.0990)		*(0.363)*		*(0.101)*		*(0.0687)*	
Revenues Growth	0.00128		-0.000235		0.00162		0.000506	
	(0.613)		*(0.941)*		*(0.591)*		*(0.852)*	
Free Float	-0.00752		-0.0167	**	-0.00811		-0.00713	
	(0.207)		*(0.0423)*		*(0.209)*		*(0.260)*	
Δ ROE	0.0221	***	0.00686		0.0208	***	0.0193	***
	(1.39e-10)		*(0.154)*		*(7.51e-08)*		*(1.77e-07)*	
Δ Dividend Yield	0.381	***	0.246	**	0.38	***	0.364	***
	(5.52e-05)		*(0.0497)*		*(0.000164)*		*(0.000214)*	
Investment	0.00172	**	0.00138		0.00178	**	0.00182	**
	(0.0134)		*(0.151)*		*(0.0200)*		*(0.0151)*	
#Analysts	-0.0112	***	-0.0117	***	-0.01	***	-0.0124	***
	(3.58e-05)		*(0.00124)*		*(0.000522)*		*(1.21e-05)*	
Surprise Earnings	0.00145		0.00179		0.00107		0.000724	
	(0.647)		*(0.651)*		*(0.757)*		*(0.824)*	
Year Fixed Effects	Yes		Yes		Yes		Yes	
Industry Fixed Effects	Yes		Yes		Yes		Yes	
Observations	6,990		4,253		6,095		6,251	
Adj R-squared	0.0208		0.0097		0.0180		0.0177	

Notes: p-values in parentheses; ***: p<0.01; **: p<0.05; *: p<0.1

Table 4-3: Hypothesis 3 Coefficients' Estimates

4.4. Sensitivity Analysis and Robustness Tests

As a form of Sensitivity Analysis, all the 12 previously presented OLS regressions were repeated without the SE variable. As previously explained, this variable significantly downsizes the sample. By removing it, the sample was increased to 13,855 observations.

Results remain mostly unchanged, with exceptions of a change of significance for the CEO's Net Tone coefficient estimate and of estimating the FLD from the Aggregated Review as non-significant. With the presented change, the suitability of control variables was also subject of alterations, all of them appearing to be explicative of the dependent variable. All the rest was coherent with the main model. Table B-1, Table B-2 and Table B-3 provide a clear depiction of this procedure.

In a panel analysis, the Hausman (1978)'s test can be used to decide between using the Random Effects (RE) model, as opposed to FE in the model. The null hypothesis indicates that RE is preferred while the alternative hypothesis indicates FE is adequate. If the p-value is smaller than 0.05 the null hypothesis is rejected, and the FE model is chosen. If it is greater than 0.05, the null hypothesis is failed to reject and the RE model is chosen.

Similarly to Krause et al. (2017), this was employed as a Robustness Test to assess the suitability of OLS regressions versus Generalized Least Squares (GLS) regressions for the thesis model. Results varied with the inclusion of SE and Table 4-4 details how.

GLS regressions were estimated for regressions that Hausman (1978)'s test showed as preferable. In a SE including context, REV's Net Tone was given as non-significant, contradicting the main model. When it comes to the control variables: for Hypothesis 1, Size became relevant; for Hypothesis 2, Leverage became obsolete; for Hypothesis 3, Size became relevant, and Leverage and Investment became obsolete. In a SE excluding context, everything showed coherence. Table C-1, Table C-2, Table C-3, Table D-1, Table D-2 and Table D-3 provide a clear depiction of these regressions.

		with Surprise Earnings			without Surprise Earnings		
Regression	Narrative	p-val	H0	Model Chosen	p-val	H0	Model Chosen
[1]	Net Tone MDA	0.0355	Rejected	FE	0.0089	Rejected	FE
[2]	Net Tone CEO	0.1265	Failed to Reject	RE	0.0860	Failed to Reject	RE
[3]	Net Tone Chair	0.0126	Rejected	FE	0.0206	Rejected	FE
[4]	Net Tone REV	0.0610	Failed to Reject	FE	0.0288	Rejected	FE
[5]	Forward Looking MDA	0.0303	Rejected	FE	0.0119	Rejected	FE
[6]	Forward Looking CEO	0.1364	Failed to Reject	RE	0.1189	Failed to Reject	RE
[7]	Forward Looking Chair	0.0558	Failed to Reject	FE	0.0032	Rejected	FE
[8]	Forward Looking REV	0.0716	Failed to Reject	RE	0.0715	Failed to Reject	RE
[9]	Complexity MDA	0.1168	Failed to Reject	FE	0.0023	Rejected	FE
[10]	Complexity CEO	0.1954	Failed to Reject	RE	0.1212	Failed to Reject	RE
[11]	Complexity Chair	0.1078	Failed to Reject	FE	0.0085	Rejected	FE
[12]	Complexity REV	0.0707	Failed to Reject	RE	0.0630	Failed to Reject	RE

Table 4-4: Hausman's Tests' Results

Chapter 5
Conclusions

5.1. Net Tone

For **Hypothesis 1a**, it can be verified the existence of consensual premisses from the main model and the robustness tests. As the main model indicated, there is evidence that the Net Tone of the MD&A' section is positively correlated with AR. This means that the higher the Net Tone of the MD&A' section displayed in the D_0's report, the higher the AR from D_{-2} to D_1 will be for the corresponding firm.

For **Hypothesis 1b**, it can be verified the existence of consensual premisses from the main model and the majority of robustness tests. This means that the null hypothesis was failed to reject and that there is no evidence to indicate a correlation between the Net Tone of the CEO's section displayed in the D_0's report with the AR from D_{-2} to D_1 for the corresponding firm.

For **Hypothesis 1c**, it can be verified the existence of consensual premisses from the main model and the robustness tests. As the main model indicated, there is evidence that the Net Tone of the Chairman's section is positively correlated with AR. This means that the higher the Net Tone of the Chairman's section displayed in the D_0's report, the higher the AR from D_{-2} to D_1 will be for the corresponding firm.

Hypothesis	Narrative	Main Model	Without SE	RE	RE without SE	Overall	Conclusion
1a	Net Tone MD&A	***	***	Not Estimated	Not Estimated	***	Yes
1b	Net Tone CEO	Insignificant	*	Insignificant	Insignificant	Insignificant	No
1c	Net Tone Chair	***	***	Not Estimated	Not Estimated	***	Yes
1d	Net Tone REV	***	***	Insignificant	Not Estimated	Inconsistent	Some Evidence
2a	Forward Looking MD&A	***	***	Not Estimated	Not Estimated	***	Yes
2b	Forward Looking CEO	***	***	***	***	***	Yes
2c	Forward Looking Chair	***	Insignificant	***	Not Estimated	Inconsistent	Some Evidence
2d	Forward Looking REV	***	***	***	***	***	Yes
3a	Complexity MD&A	Insignificant	Insignificant	Insignificant	Not Estimated	Insignificant	No
3b	Complexity CEO	Insignificant	Insignificant	Insignificant	Insignificant	Insignificant	No
3c	Complexity Chair	Insignificant	Insignificant	Insignificant	Not Estimated	Insignificant	No
3d	Complexity REV	Insignificant	Insignificant	Insignificant	Insignificant	Insignificant	No

Notes: ***: p<0.01; **: p<0.05; *: p<0.1

Table 5-1: Arguments' Development - Premisses and Conclusions

For **Hypothesis 1d**, Table 5-1 indicates inconsistency. Meaning that there is only some evidence suggesting that the Net Tone from the Aggregated Review is positively correlated with AR. With less strength of argument than the case of the other Hypotheses, it can be stated that the higher the Net Tone of the Aggregated Review displayed in the D_0's report, the higher the AR from D_{-2} to D_1 will be for the corresponding firm.

Overall, **Hypothesis 1** findings seem to mainly agree with the Huang et al. (2014)'s rationale that the market positively reacts to tone at initial stages.

5.2. Forward-Looking

For **Hypothesis 2a**, it can be verified the existence of consensual premisses from the main model and the robustness tests. As the main model indicated, there is evidence that the FLD of the MD&A' section is negatively correlated with AR. This means that the higher the FLD of the MD&A' section displayed in the D_0's report, the lower the AR will be from D_{-2} to D_1 for the corresponding firm.

For **Hypothesis 2b**, it can be verified the existence of consensual premisses from the main model and the robustness tests. As the main model indicated, there is evidence that the FLD of the CEO's section is negatively correlated with AR. This means that the higher the FLD of the CEO's section displayed in the D_0's report, the lower the AR from D_{-2} to D_1 will be for the corresponding firm.

For **Hypothesis 2c**, Table 5-1 indicates inconsistency. Meaning that there is only some evidence suggesting that the FLD of the Chairman's section is negatively correlated with AR. With less strength of argument than the case of the other Hypotheses, it can be stated that the higher the FLD of the Chairman's section displayed in the D_0's report, the lower the AR from D_{-2} to D_1 will be for the corresponding firm.

For **Hypothesis 2d**, it can be verified the existence of consensual premisses from the main model and the robustness tests. As the main model indicated, there is evidence that the FLD of the Aggregated Review is negatively correlated with AR. This means that the higher the FLD of the Aggregated Review displayed in the D_0's report, the lower the AR from D_{-2} to D_1 will be for the corresponding firm.

For **Hypothesis 2** as a whole, these findings seem to contradict studies that associate higher FLD with higher stock returns (Muslu et al., 2008; Bozanic et al., 2018). Nevertheless, they indicate that FLD is negatively regarded by investors, possibly given by the fact that some literature views FLD as an indicator of loss and unprofitable firms (Hussainey & Al-Najjar, 2011; Wang & Hussainey, 2013; Muslu et al., 2015; Hassanein & Hussainey, 2015).

5.3. Complexity

For **Hypothesis 3**, it can be verified the existence of consensual premisses from the main model and the robustness tests. This means that the null hypothesis was failed to reject and that there is no evidence to indicate a correlation between the Complexity displayed in the D_0's report with the AR from D_{-2} to D_1 for the corresponding firm. This is consistent with Courtis (1986), Lee (2012) and Loughran and McDonald (2014), who seemed to also indicate an absence of relationship. However, the issue could also be related to the expecting of results at D_1, having some papers advocated that Complexity impacts tend to be of later observation (Hong & Stein, 1999; You & Zhang, 2009; Lee, 2012).

5.4. Contributions and Implications

Backed on 272 references, these thesis findings present important implications for regulatory bodies developing rules and recommendations on disclosure requirements and contribute to the ongoing debate on emerging specifications for qualitative disclosure. It also presents itself as useful for investors in the assessment of Financial Narratives into Stock Prices and creates value by contributing for a greater understanding of disclosures behaviors by different entities. Finally, it contributes to academia and scientific development by covering a literature gap.

5.5. Limitations

It can be pointed out, as the study limitations, the focusing of only 3 different Narratives and 4 different sections, as El-Haj et al. (2020) quantifies Narratives such as the Fog Index, the Flesch, Causal language and Uncertainty for all the presented sections and more. All of these should also be subject to this type of analysis to allow more insightful conclusions. Moreover, the control variables that present themselves as non-explicative of the dependent variable should be replaced and more could be added to increase the Adjusted R-Squared, which never presents itself above 3%. OLS regressions could have been replicated using robust standard errors and correlations between all model variables could have been discussed. Regarding Complexity, a study of a later impact could have been useful to better conclude an absence of relationship with AR. Finally, a Cumulative AR analysis could have been helpful to understand investors behaviours in a more detailed manner.

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Appendices

A. Sample Distribution over Year and Industry

YEAR	Freq.	Percent
2006	1,234	8.91%
2007	1,327	9.58%
2008	1,255	9.06%
2009	1,163	8.39%
2010	1,069	7.72%
2011	1,033	7.46%
2012	1,010	7.29%
2013	995	7.18%
2014	1,020	7.36%
2015	990	7.15%
2016	952	6.87%
2017	946	6.83%
2018	861	6.21%
Total	13,855	100.00%

Table A-1: Sample Distribution over Year

INDUSTRY	Freq.	Percent
Aerospace & Defense	185	1.34%
Alternative Energy	174	1.26%
Automobiles & Parts	55	0.40%
Beverages	128	0.92%
Chemicals	201	1.45%
Construction & Mats	478	3.45%
Consumer Services	121	0.87%
Drug & Grocery Stores	201	1.45%
Elec. & Electrical EQ	392	2.83%
Electricity	153	1.10%
Food Producers	330	2.38%
Gas, Water & Mul Util	86	0.62%
General Industrials	223	1.61%
Health Care Providers	143	1.03%
Hhold GDS & Home Con.	270	1.95%
Ind. Engineering	225	1.62%
Ind. Metals & Mining	834	6.02%
Ind. Support Services	1,497	10.80%
Ind. Transportation	333	2.40%
Industrial Materials	85	0.61%
Leisure Goods	107	0.77%
Media	866	6.25%
Medical Eq. Services	287	2.07%
Oil, Gas and Coal	1,162	8.39%
Personal Goods	134	0.97%
Pharm. & Biotech	743	5.36%
Prec. Metals & Mining	498	3.59%
Retailers	569	4.11%
Software & Comp. SVS.	1,639	11.83%
Tech. Hardware, Equip	343	2.48%
Telecom. Equipment	133	0.96%
Telecom. SVS. PRVDS.	250	1.80%
Tobacco	23	0.17%
Travel & Leisure	933	6.73%
Waste & Disposal SVS	54	0.39%
Total	13,855	100.00%

Table A-2: Sample Distribution over Industry

B. Sensitivity Analysis: without SE

	Hypothesis 1							
	[1] H1a		[2] H1b		[3] H1c		[4] H1d	
Constant	-0.00871		0.0167		-0.0124		0.00599	
	(0.399)		*(0.255)*		*(0.293)*		*(0.603)*	
Net Tone MD&A	0.0276	***						
	(2.87e-07)							
Net Tone CEO			0.0111	*				
			(0.0736)					
Net Tone Chair					0.0221	***		
					(1.32e-05)			
Net Tone REV							0.0133	***
							(0.00107)	
Size	0.00201	**	0.000545		0.00182		0.000871	
	(0.0445)		*(0.696)*		*(0.106)*		*(0.435)*	
Book-to-Market	-0.00929	***	-0.0115	***	-0.00878	***	-0.00842	***
	(9.43e-07)		*(4.33e-05)*		*(4.04e-05)*		*(7.41e-05)*	
Leverage	-0.00248	*	-0.00283		-0.00314	**	-0.00238	*
	(0.0615)		*(0.109)*		*(0.0345)*		*(0.0892)*	
Revenues Growth	0.00105		-0.00604	***	0.00315	*	-0.00156	
	(0.481)		*(0.00331)*		*(0.0690)*		*(0.357)*	
Free Float	-0.0144	***	-0.0235	***	-0.0151	***	-0.0135	**
	(0.00288)		*(0.000456)*		*(0.00605)*		*(0.0105)*	
Δ ROE	0.0225	***	0.0121	***	0.0216	***	0.0188	***
	(0)		*(0.00105)*		*(0)*		*(0)*	
Δ Dividend Yield	0.336	***	0.242	**	0.351	***	0.306	***
	(0.000206)		*(0.0369)*		*(0.000351)*		*(0.00105)*	
Investment	0.00113	**	0.000774		0.00122	**	0.001	*
	(0.0202)		*(0.308)*		*(0.0261)*		*(0.0768)*	
#Analysts	-0.00615	***	-0.00227		-0.00521	**	-0.00375	*
	(0.00259)		*(0.418)*		*(0.0235)*		*(0.0883)*	
Year Fixed Effects	Yes		Yes		Yes		Yes	
Industry Fixed Effects	Yes		Yes		Yes		Yes	
Observations	10,872		5,541		8,622		8,774	
Adj R-squared	0.0270		0.0164		0.0263		0.0179	

Notes: p-values in parentheses; ***: p<0.01; **: p<0.05; *: p<0.1

Table B-1: Hypothesis 1 Coefficients' Estimates without SE

	Hypothesis 2							
	[5] H2a		[6] H2b		[7] H2c		[8] H2d	
Constant	0.0101		0.0283	**	0.0110		0.0211	*
	(0.335)		*(0.0419)*		*(0.332)*		*(0.0649)*	
Forward Looking MD&A	-0.819	***						
	(0.00437)							
Forward Looking CEO			-0.43	***				
			(0.00414)					
Forward Looking Chair					-0.211			
					(0.126)			
Forward Looking REV							-0.5	***
							(0.00228)	
Size	0.00214	**	0.000942		0.00161		0.000803	
	(0.0323)		*(0.486)*		*(0.140)*		*(0.470)*	
Book-to-Market	-0.0108	***	-0.0112	***	-0.011	***	-0.0104	***
	(9.57e-09)		*(3.61e-05)*		*(8.14e-08)*		*(7.07e-07)*	
Leverage	-0.00306	**	-0.00313	*	-0.00323	**	-0.00312	**
	(0.0207)		*(0.0626)*		*(0.0248)*		*(0.0263)*	
Revenues Growth	0.00180		-0.00517	***	0.00296	*	-0.00152	
	(0.227)		*(0.00959)*		*(0.0768)*		*(0.364)*	
Free Float	-0.013	***	-0.0234	***	-0.0134	**	-0.0131	**
	(0.00751)		*(0.000342)*		*(0.0105)*		*(0.0131)*	
Δ ROE	0.0233	***	0.0117	***	0.0211	***	0.0192	***
	(0)		*(0.00106)*		*(0)*		*(0)*	
Δ Dividend Yield	0.351	***	0.25	**	0.388	***	0.29	***
	(0.000107)		*(0.0281)*		*(5.05e-05)*		*(0.00196)*	
Investment	0.00128	***	0.000605		0.00124	**	0.00114	**
	(0.00830)		*(0.411)*		*(0.0200)*		*(0.0435)*	
#Analysts	-0.00581	***	-0.00218		-0.00475	**	-0.00381	*
	(0.00443)		*(0.422)*		*(0.0322)*		*(0.0828)*	
Year Fixed Effects	Yes		Yes		Yes		Yes	
Industry Fixed Effects	Yes		Yes		Yes		Yes	
Observations	10,886		5,783		9,346		8,981	
Adj R-squared	0.0252		0.0170		0.0223		0.0183	

Notes: p-values in parentheses; ***: p<0.01; **: p<0.05; *: p<0.1

Table B-2: Hypothesis 2 Coefficients' Estimates without SE

	Hypothesis 3							
	[9] H3a		[10] H3b		[11] H3c		[12] H3d	
Constant	0.00282		0.0120		0.0164		0.0237	*
	(0.862)		*(0.517)*		*(0.294)*		*(0.0945)*	
Complexity MD&A	-9.47e-05							
	(0.961)							
Complexity CEO			0.00148					
			(0.415)					
Complexity Chair					-0.00147			
					(0.393)			
Complexity REV							-0.00140	
							(0.310)	
Size	0.00205	**	0.000874		0.00165		0.000917	
	(0.0498)		*(0.519)*		*(0.129)*		*(0.413)*	
Book-to-Market	-0.0107	***	-0.0115	***	-0.0109	***	-0.0102	***
	(-1.52e-08)		*(2.46e-05)*		*(1.06e-07)*		*(1.15e-06)*	
Leverage	-0.00302	**	-0.00312	*	-0.00317	**	-0.00296	**
	(0.0229)		*(0.0636)*		*(0.0275)*		*(0.0352)*	
Revenues Growth	0.00173		-0.00515	***	0.00297	*	-0.00159	
	(0.244)		*(0.00996)*		*(0.0761)*		*(0.345)*	
Free Float	-0.0138	***	-0.0243	***	-0.0133	**	-0.0137	***
	(0.00446)		*(0.000203)*		*(0.0114)*		*(0.00913)*	
Δ ROE	0.0234	***	0.0117	***	0.0211	***	0.0192	***
	(0)		*(0.00104)*		*(0)*		*(0)*	
Δ Dividend Yield	0.35	***	0.254	**	0.385	***	0.294	***
	(0.000114)		*(0.0259)*		*(5.70e-05)*		*(0.00173)*	
Investment	0.00135	***	0.000687		0.00128	**	0.00125	**
	(0.00594)		*(0.351)*		*(0.0166)*		*(0.0261)*	
#Analysts	-0.00581	***	-0.00229		-0.00473	**	-0.00332	
	(0.00551)		*(0.399)*		*(0.0330)*		*(0.133)*	
Year Fixed Effects	Yes		Yes		Yes		Yes	
Industry Fixed Effects	Yes		Yes		Yes		Yes	
Observations	10,886		5,782		9,343		8,981	
Adj R-squared	0.0245		0.0158		0.0222		0.0173	

Notes: p-values in parentheses; ***: p<0.01; **: p<0.05; *: p<0.1

Table B-3: Hypothesis 3 Coefficients' Estimates without SE

C. Robustness Test: RE with SE

	Hypothesis 1			
	[2] H1b		[4] H1d	
Constant	0.0397		0.00496	
	(0.201)		*(0.849)*	
Net Tone CEO	-0.00321			
	(0.698)			
Net Tone REV			0.00603	
			(0.281)	
Size	0.00277		0.00336	*
	(0.235)		(0.0720)	
Book-to-Market	-0.016	***	-0.012	***
	(0.000261)		*(0.000496)*	
Leverage	-0.00139		-0.00133	
	(0.570)		*(0.482)*	
Revenues Growth	0.00158		0.00183	
	(0.637)		*(0.512)*	
Free Float	-0.0243	**	-0.0146	*
	(0.0257)		*(0.0914)*	
Δ ROE	0.00644		0.0192	***
	(0.193)		*(2.58e-07)*	
Δ Dividend Yield	0.213	*	0.319	***
	(0.0844)		*(0.000862)*	
Investment	0.000726		0.00104	
	(0.538)		*(0.264)*	
#Analysts	-0.0157	***	-0.0147	***
	(0.000310)		*(1.38e-05)*	
Surprise Earnings	0.00256		0.000291	
	(0.626)		*(0.945)*	
Industry Fixed Effects	Yes		Yes	
Year Fixed Effects	Yes		Yes	
Observations	4,093		6,154	

Notes: p-values in parentheses; ***: p<0.01; **: p<0.05; *: p<0.1

Table C-1: Hypothesis 1 RE Estimation with SE

	Hypothesis 2					
	[6] H2b		[7] H2c		[8] H2d	
Constant	0.0474		0.0165		0.0150	
	(0.112)		*(0.527)*		*(0.557)*	
Forward Looking CEO	-0.676	***				
	(0.00186)					
Forward Looking Chair			-0.45	***		
			(0.00570)			
Forward Looking REV					-0.64	***
					(0.00265)	
Size	0.00280		0.00364	*	0.00373	**
	(0.214)		*(0.0511)*		*(0.0411)*	
Book-to-Market	-0.0152	***	-0.0108	***	-0.0122	***
	(0.000359)		*(0.00118)*		*(0.000266)*	
Leverage	-0.00174		-0.00160		-0.00174	
	(0.455)		*(0.403)*		*(0.349)*	
Revenues Growth	0.00179		0.00400		0.00209	
	(0.576)		*(0.196)*		*(0.450)*	
Free Float	-0.0232	**	-0.0140		-0.0147	*
	(0.0280)		*(0.108)*		*(0.0844)*	
Δ ROE	0.00539		0.0198	***	0.0189	***
	(0.258)		*(1.90e-07)*		*(1.84e-07)*	
Δ Dividend Yield	0.224	*	0.351	***	0.344	***
	(0.0653)		*(0.000281)*		*(0.000281)*	
Investment	0.000421		0.000359		0.000710	
	(0.714)		*(0.703)*		*(0.441)*	
#Analysts	-0.0156	***	-0.0127	***	-0.0146	***
	(0.000234)		*(0.000202)*		*(1.12e-05)*	
Surprise Earnings	0.00336		0.000457		0.000556	
	(0.513)		*(0.917)*		*(0.894)*	
Industry Fixed Effects	Yes		Yes		Yes	
Year Fixed Effects	Yes		Yes		Yes	
Observations	4,253		6,097		6,251	

Notes: p-values in parentheses; ***: p<0.01; **: p<0.05; *: p<0.1

Table C-2: Hypothesis 2 RE Estimation with SE

	Hypothesis 3							
	[9] H3a		[10] H3b		[11] H3c		[12] H3d	
Constant	-0.00800		0.0252		0.0123		0.00685	
	(0.799)		*(0.454)*		*(0.678)*		*(0.805)*	
Complexity MD&A	0.00225							
	(0.433)							
Complexity CEO			0.00170					
			(0.432)					
Complexity Chair					-0.000612			
					(0.774)			
Complexity REV							0.000183	
							(0.917)	
Size	0.00331	*	0.00266		0.00365	*	0.00356	*
	(0.0602)		*(0.240)*		*(0.0517)*		*(0.0537)*	
Book-to-Market	-0.012	***	-0.0155	***	-0.0109	***	-0.0124	***
	(0.000106)		*(0.000292)*		*(0.00117)*		*(0.000230)*	
Leverage	-0.00163		-0.00170		-0.00158		-0.00167	
	(0.362)		*(0.467)*		*(0.409)*		*(0.370)*	
Revenues Growth	0.00313		0.00180		0.00406		0.00216	
	(0.228)		*(0.575)*		*(0.190)*		*(0.435)*	
Free Float	-0.0151	*	-0.0243	**	-0.0141		-0.0156	*
	(0.0608)		*(0.0221)*		*(0.107)*		*(0.0674)*	
Δ ROE	0.0215	***	0.00564		0.0197	***	0.0192	***
	(2.11e-10)		*(0.236)*		*(2.04e-07)*		*(1.23e-07)*	
Δ Dividend Yield	0.368	***	0.228	*	0.347	***	0.348	***
	(5.30e-05)		*(0.0599)*		*(0.000331)*		*(0.000236)*	
Investment	0.000705		0.000627		0.000513		0.000931	
	(0.410)		*(0.586)*		*(0.586)*		*(0.312)*	
#Analysts	-0.0139	***	-0.0157	***	-0.0128	***	-0.0145	***
	(1.22e-05)		*(0.000221)*		*(0.000200)*		*(1.39e-05)*	
Surprise Earnings	0.000591		0.00289		0.000478		0.000408	
	(0.884)		*(0.575)*		*(0.914)*		*(0.922)*	
Year Fixed Effects	Yes		Yes		Yes		Yes	
Industry Fixed Effects	Yes		Yes		Yes		Yes	
Observations	6,990		4,253		6,095		6,251	

Notes: p-values in parentheses; ***: p<0.01; **: p<0.05; *: p<0.1

Table C-3: Hypothesis 3 RE Estimation with SE

D. Robustness Test: RE without SE

	Hypothesis 1	
	[2] H1b	
Constant	0.0160	
	(0.444)	
Net Tone CEO	0.00828	
	(0.196)	
Size	0.00157	
	(0.317)	
Book-to-Market	-0.0121	***
	(9.11e-05)	
Leverage	-0.00315	
	(0.104)	
Revenues Growth	-0.00501	**
	(0.0156)	
Free Float	-0.023	***
	(0.00256)	
Δ ROE	0.0108	***
	(0.00316)	
Δ Dividend Yield	0.24	**
	(0.0360)	
Investment	0.000198	
	(0.811)	
#Analysts	-0.00328	
	(0.285)	
Industry Fixed Effects	Yes	
Year Fixed Effects	Yes	
Observations	5,541	

Notes: p-values in parentheses; ***: p<0.01; **: p<0.05; *: p<0.1

Table D-1: Hypothesis 1 RE Estimation without SE

	Hypothesis 2			
	[6] H2b		[8] H2d	
Constant	0.0251		0.0155	
	(0.211)		*(0.457)*	
Forward Looking CEO	-0.414	***		
	(0.00781)			
Forward Looking REV			-0.577	***
			(0.00129)	
Size	0.00199		0.00256	*
	(0.190)		*(0.0612)*	
Book-to-Market	-0.0117	***	-0.0111	***
	(9.52e-05)		*(7.73e-06)*	
Leverage	-0.00331	*	-0.00324	**
	(0.0714)		*(0.0472)*	
Revenues Growth	-0.00428	**	-0.000250	
	(0.0339)		*(0.883)*	
Free Float	-0.0226	***	-0.013	*
	(0.00232)		*(0.0540)*	
Δ ROE	0.0104	***	0.0178	***
	(0.00333)		*(9.82e-11)*	
Δ Dividend Yield	0.248	**	0.284	***
	(0.0271)		*(0.00170)*	
Investment	-1.64e-05		-0.000203	
	(0.984)		*(0.762)*	
#Analysts	-0.00331		-0.00585	**
	(0.265)		*(0.0240)*	
Industry Fixed Effects	Yes		Yes	
Year Fixed Effects	Yes		Yes	
Observations	5,783		8,981	

Notes: p-values in parentheses; ***: p<0.01; **: p<0.05; *: p<0.1

Table D-2: Hypothesis 2 RE Estimation without SE

	Hypothesis 3			
	[10] H3b		[12] H3d	
Constant	0.00989		0.0162	
	(0.678)		*(0.476)*	
Complexity CEO	0.00131			
	(0.488)			
Complexity REV			-0.00136	
			(0.379)	
Size	0.00193		0.00272	**
	(0.205)		*(0.0487)*	
Book-to-Market	-0.0119	***	-0.0107	***
	(7.51e-05)		*(1.64e-05)*	
Leverage	-0.00327	*	-0.00305	*
	(0.0757)		*(0.0618)*	
Revenues Growth	-0.00422	**	-0.000261	
	(0.0365)		*(0.878)*	
Free Float	-0.0235	***	-0.0136	**
	(0.00158)		*(0.0438)*	
Δ ROE	0.0104	***	0.0179	***
	(0.00338)		*(7.46e-11)*	
Δ Dividend Yield	0.252	**	0.287	***
	(0.0250)		*(0.00153)*	
Investment	4.97e-05		-7.16e-05	
	(0.951)		*(0.915)*	
#Analysts	-0.00341		-0.00546	**
	(0.254)		*(0.0361)*	
Industry Fixed Effects	Yes		Yes	
Year Fixed Effects	Yes		Yes	
Observations	5,782		8,981	

Notes: p-values in parentheses; ***: p<0.01; **: p<0.05; *: p<0.1

Table D-3: Hypothesis 3 RE Estimation without SE

E. Independent Variables' Definitions

INDEPENDENT VARIABLES	Definitions
Net Tone MD&A	Henry (2006)'s Net Tone = (nº of positive words - nº of negative words)/(nº of positive words + nº of negative words) from the Management Discussion & Analysis' section
Net Tone CEO	Henry (2006)'s Net Tone = (nº of positive words - nº of negative words)/(nº of positive words + nº of negative words) from the CEO's section
Net Tone Chair	Henry (2006)'s Net Tone = (nº of positive words - nº of negative words)/(nº of positive words + nº of negative words) from the Chairman's section
Net Tone REV	Henry (2006)'s Net Tone = (nº of positive words - nº of negative words)/(nº of positive words + nº of negative words) from the Aggregate Performance Review (CEO Review + CFO Review + Business Review + Operating Review)
Forward Looking MD&A	Hussainey et al. (2003)'s updated version Forward-Looking Wordlist from the Management Discussion & Analysis' section
Forward Looking CEO	Hussainey et al. (2003)'s updated version Forward-Looking Wordlist from the CEO's section
Forward Looking Chair	Hussainey et al. (2003)'s updated version Forward-Looking Wordlist from the Chairman's section
Forward Looking REV	Hussainey et al. (2003)'s updated version Forward-Looking Wordlist from the Aggregate Performance Review (CEO Review + CFO Review + Business Review + Operating Review)
Complexity MD&A	Natural logarithm of the number of words from the Management Discussion & Analysis' section
Complexity CEO	Natural logarithm of the number of words from the CEO's section
Complexity Chair	Natural logarithm of the number of words from the Chairman's section
Complexity REV	Natural logarithm of the number of words from the Aggregate Performance Review (CEO Review + CFO Review + Business Review + Operating Review)

Table E-1: Independent Variables' Definitions (El-Haj et al., 2020)