Beyond the Numbers

Predicting Earnout Overstatements through Disclosure Sentiment and Financial Metrics

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Master Thesis

Stockholm School of Economics

2025

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Abstract

We examine whether the linguistic properties of acquisition-related disclosures predict the extent of earnout reversals in European M&A transactions. Using hand-collected data on earnout valuations, subsequent adjustments, and disclosures from transactions announced between 2010 and 2019 by public acquirers in eight European countries, we analyze the sentiment and uncertainty expressed in the MD&A and acquisition note sections of the annual reports in the first year. Using the Loughran & McDonald dictionaries, we measure the presence of positive, negative, and uncertain language. We find that negative wording in MD&A disclosures is associated with higher earnout reversals, while positive language adds noise and lacks predictive power. In contrast, positive sentiment in the acquisition note is significantly associated with subsequent reversals, suggesting that even regulated disclosures may reflect managerial optimism. We also find that valuation uncertainty, measured by target industry volatility, in the absence of sentiment, is a driver of earnout overstatement, and that earnout reversals are more likely in years when acquirers face pre-reversal losses. This study contributes to the literature by applying sentiment analysis of financial notes to deal-level outcomes and extending prior findings on earnings management incentives in contingent consideration to a European setting.

Keywords:

Earnout, Overstatement, Sentiment Analysis, Managerial Opportunism

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Master Thesis
Master Program in Accounting, Valuation and Financial Management
Stockholm School of Economics
Lesia Rublevska and Raffael Nikol, 2025

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1. Introduction

"A good valuation is a bridge between stories and numbers. … As data and tools have improved, valuations have become less cohesive and meaningful, because we've lost connections between stories and numbers that used to exist." – Aswath Damodaran[1]

This thesis aims to investigate whether linguistic properties of transaction-specific disclosure in the Management Discussion and Analysis (MD&A) and the acquisition note (i.e., business combination disclosure) are associated with subsequent reversals of earnout liabilities initially recognized as part of the purchase price. As previous studies have shown, disclosure sentiment is affected by earnings management practices (Elshandidy & Kamel, 2024; Huang et al., 2018; Lo et al., 2017). Therefore, this thesis aims to extend previous research on managerial incentives and earnout overstatement to a European setting. In today's uncertain market environment, acquirers face increasing difficulty in forecasting target performance, particularly in transactions involving private targets, widening the valuation gap between buyers and sellers. One tool to reduce information asymmetry and valuation uncertainty is contingent consideration, also commonly referred to as earnout, where the buyer and seller agree on additional payments if the target company achieves certain milestones. However, the current accounting treatment under IFRS 3 provides managers with considerable discretion in the valuation of earnout contracts, which creates difficulties for investors and stakeholders in accurately valuing the consideration to be transferred for acquisitions. Ferguson et al. (2024) have shown that Australian managers respond to incentives for earnings management and overvalue earnout liabilities initially to realize profits in later periods. In parallel, a growing strand of research suggests that sentiment in corporate communications and disclosures can add information incremental to financial data on future firm-level performance (Chen, 2022; Davis & Tama-Sweet, 2011; Huang et al., 2014, 2018). Earnout accounting and disclosures allow for a unique setting, as they enable the comparison of disclosure sentiment and fair value estimates, e.g., performance estimates, with transaction-level outcomes. The interaction between disclosure sentiment and earn-out overstatements has previously not been explored. To address this gap, this thesis combines textual analysis of corporate disclosure with previous research on factors influencing subsequent reversals of earnouts.

This relationship is examined using a dictionary-based sentiment analysis, following prior work by Loughran & McDonald (2011, 2016). The thesis focuses on sentiment, meaning positive and negative wording, and uncertain wording. Further, the thesis is constrained to a hand-collected sample of earnout fair value estimates for transactions between 2010 and 2019 carried out by publicly listed acquirers in Austria, Belgium, Denmark, Finland, Germany, the Netherlands, Norway, and Sweden featuring an earnout as a part of offered compensation. This selection allows

[1] The quote appears in the Morningstar article (2023) as a summary of direct quotes from Damodaran's interviews and presentations.

for the study of a high monitoring environment and countries with a different legal system origin compared to the Australian study by Ferguson et al. (2024).

1.1. Main Findings

The analysis in this thesis results in five main findings. (1) First, we find that negative language in MD&A disclosure on the acquisition is significantly associated with increased earnout reversals. Importantly, we also find that positive wording in MD&A disclosures dilutes the signal of negative language when included in net sentiment. The results show that positive language is not associated with subsequent reversals, which could be explained by high proportions of positive wording. (2) Second, in the more standardized acquisition note, we find that positive sentiment is associated with increased subsequent reversals. Likewise, increased negative sentiment is associated with lower overstatement. This relationship is robust even when accounting for positive and negative sentiment separately. We also find moderate evidence that increased deal value reduces subsequent reversals. (3) Further, the analysis shows that uncertain wording in the acquisition note is not significantly associated with earnout overstatement, suggesting that the note does not qualify valuation uncertainty in a significant way. In the MD&A, uncertain wording is positively correlated with negative language proportion. The analysis shows weak evidence, when controlling for MD&A negative wording, that increased uncertain language is associated with a reduction in earnout overstatement. (4) Next, the analysis shows that when not controlling for disclosure sentiment, increased target industry volatility increases earnout overstatement, supporting the valuation uncertainty explanation for our sample. (5) Lastly, we find that earnout gains tend to be recorded in years when the acquiring firm records losses. This could support the explanation offered by Ferguson et al. (2024) that management times reversals to mask worsening performance. Alternatively, earnout reversals work as intended and protect acquirers against overpayment in years of worse than expected performance.

1.2. Contributions

First, this thesis makes a significant contribution to M&A and accounting literature, being the first to systematically investigate deal-level outcomes, represented by earnout reversals, through the lens of sentiment analysis. Contrary to prior studies that focus predominantly on firm-level performance or disclosure tone in general, this study pioneers the use of sentiment analysis on transaction-specific textual disclosures, namely in the MD&A and acquisition note in financial statements, to predict earnout overstatements. Methodologically, this study is among the first to apply sentiment analysis techniques to the footnotes of financial statements in the context of M&A accounting. This thesis presents the first empirical evidence that textual disclosures in MD&A and notes are not merely descriptive but may contain forward-looking value on future transaction-level outcomes. The findings on the predictive value of narrative disclosures offer actionable implications for investors, corporate acquirers, and auditors. They highlight the potential of textual

disclosures as early warning signals of valuation risk and elevate the role of narrative analysis in post-deal valuation.

Second, recognizing that empirical evidence from one market cannot conclusively establish the general existence of a phenomenon in other markets, this thesis revisits the previously conducted study by Ferguson et al. (2024) on transactions by Australian acquirers. Thus, by replicating and extending their analysis to a European market setting, this thesis attempts to test the robustness and generalizability of the main findings. Thereby, this research contributes to the existing academic literature on earnouts by exploring whether similar disclosure-based patterns can be observed across distinct regulatory and institutional environments. Moreover, unlike in the benchmark paper, where incentives were determined to be significantly associated with earnout overstatements, this study does not find conclusive evidence supporting this explanation. Instead, we find that target industry volatility, in the absence of textual sentiment, is significantly associated with subsequent reversals. This supports the notion that valuation uncertainty increases earnout overstatements.

The remainder of this thesis is structured as follows. Section 2 reviews the relevant literature on earnouts, discussing their significance, accounting treatment, opportunities for managerial discretion, and the use of sentiment analysis as an emerging tool for detecting overstatements. Section 3 outlines the methodological approach of the study, the data collection process, measurement of earnout overstatement and sentiment, and the construction of the models for sentiment analysis, managerial opportunism, and quality of disclosure. Section 4 presents and analyses descriptive statistics of the sample, the regression results of the analysis on MD&A and acquisition note disclosures, as well as the application of prior research on the sample. Section 5 concludes this thesis by providing a detailed interpretation of the main findings, exploring their implications, acknowledging the study's limitations, and suggesting directions for further research.

2. Literature Review and Hypothesis Development

This section first details the definition of earnouts, research on their usage, and expected benefits for acquirers and sellers. Next, it expands on the accounting treatment of earnouts according to IFRS 3, focusing on how fair value measurement and disclosure requirements afford managers significant discretion, which could affect earnout overstatement. Thereafter, it examines textual analysis practices and findings of previous textual analysis studies, particularly how sentiment is linked with future firm-level performance. Then, the section explores the application of textual analysis to transaction-level disclosure and its potential impact on subsequent earnout outcomes, motivating the first two hypotheses. Finally, the section examines the literature on earnings management, especially in the context of contingent consideration, and its association with disclosure sentiment, resulting in the third hypothesis concerning incentives for earnout overstatements.

2.1. Earnouts in M&A Transactions

In the contemporary dynamic business environment, mergers and acquisitions (henceforth referred to as M&A) play an instrumental role in corporate growth and industry consolidation. Given the inherent complexity of M&A transactions, a persistent challenge arises in bridging the expectation gap between buyers and sellers. Therefore, contingent consideration (also commonly known as an "earnout") can act as a tool to mitigate the issue in question and additionally resolve problems related to moral hazard and adverse selection (Cadman et al., 2014). IFRS 3 defines contingent consideration as "usually, an obligation of the acquirer to transfer additional assets or equity interests to the former owners of an acquiree as part of the exchange for control of the acquiree if specified future events occur or conditions are met. However, contingent consideration also may give the acquirer the right to the return of previously transferred consideration if specified conditions are met." (IASB, 2020).

The significance of earnouts in M&A transactions has increased, with their prevalence rising from approximately 4% of deals in the 1990s (Datar et al., 2001; Kohers & Ang, 2000) to nearly 15% in 2018 (Bates et al., 2018). Moreover, the economic uncertainty induced by heightened trade restrictions and other disrupting events will likely further expand the use of earnouts, as they constitute a mechanism for mitigating valuation risks under volatile market conditions (Dahlen et al., 2025). While current studies predominantly emphasize and analyse publicly available data, i.e., transaction data for public companies, the true extent of earnout usage is probably greater. This is particularly pertinent to earnouts as they constitute an effective tool for reducing information asymmetries, which is a significant factor to consider in private transactions (Dahlen et al., 2024).

2.1.1. Benefits for the Acquirer and Seller

In academia, the main motives for using earnouts are typically viewed from three different perspectives: as a mechanism for mitigating risks, bridging the valuation gap and facilitating the transition by aligning incentives of acquirers and targets, and as an additional source of acquisition financing (Almeida et al., 2004; L. Barbopoulos & Sudarsanam, 2012; Bates et al., 2018; Battauz et al., 2021; Datar et al., 2001; Denis & Sibilkov, 2010; Faulkender & Wang, 2006). The first benefit is represented by the risk-mitigating function that earnouts serve, as the payoff is tied to reaching pre-specified performance targets stipulated by the purchase contract (L. Barbopoulos & Sudarsanam, 2012). This is primarily induced by the underlying uncertainty of post-acquisition cash flows, the basis for valuation used for determining the amount of consideration (Battauz et al., 2021) where information asymmetry adversely affects the estimation of the fair value of a company being purchased (Datar et al., 2001).

The second advantage of utilizing contingent consideration when structuring a deal is its ability to align the expectations of both parties regarding future outcomes. Acquirers and targets hold divergent perspectives on the matter, with acquirers typically adopting a more conservative or pessimistic outlook, while sellers tend to be more optimistic about future expectations. Therefore, sellers would assign greater value to earnouts, potentially reducing the valuation gap and thereby allowing for a smooth transition as the sellers are incentivized to maintain or enhance company performance post-acquisition (Datar et al., 2001).

The salience of earnout incentives is particularly evident when acquirers intend to retain management of a target company. Previous research finds that more than two-thirds of earnout acquisitions led to the target management staying with the company (Datar et al., 2001) and their tenure was extended over a longer period (Cadman et al., 2014). The success of utilizing earnouts in acquisitions is highlighted by long-term returns experienced by buyers who had earnout agreements in place, outperforming their counterparts with non-earnout forms of payments (Barbopoulos et al., 2016).

The third benefit is related to the financing side of the acquisition, as earnouts imply deferral of the contingent consideration payment over the earnout period (Bates et al., 2018). Since cash is more valuable for financially constrained companies, as suggested by Faulkender & Wang (2006) and Denis & Sibilkov (2010), earnouts can help mitigate underinvesting. Bates et al. (2018) proposed a novel approach to viewing earnouts as a valuable source of acquisitions financing. In this regard, earnouts would have a financial contract-like structure, thereby making target company sellers claimants on cashflows generated by the buyer or the combined company. Therefore, the substance of contingent consideration provides financial relief for the acquirer due to the payment retention in the form of unissued equity, a cash reserve, or unused credit (Bates et al., 2018). Thus, as found by Almeida et al. (2004) using earnouts helps firms that face financial constraints to preserve cash flows to be further invested in other profitable projects.

However, accurate measurement of the total acquisition price, and therefore the correct and reliable estimate of the value of earnouts, is crucial. This, together with the exact measurement of milestones, is often regarded as a major source of disagreement between the parties (Kohers & Ang, 2000). Earnout payments are often based on predetermined financial metrics such as achievement of a certain level of revenue or EBITDA, as well as some non-financial targets or milestones (e.g., events like passing clinical trials for companies in the pharmaceutical industry, successfully completing specific contractual obligations, or securing required contracts)(Cain et al., 2011).

2.2. IFRS 3 and Fair Value Accounting

With IFRS 3 (2008), accounting for contingent consideration changed considerably. This section explores the most important changes and practices from IFRS 3(2008) regarding earnouts, disclosure requirements and their value relevance, and finally, often used valuation methods for earnout liabilities.

The IFRS 3 (2008) revised standard was issued in January 2008, taking effect on all acquisitions for which the acquisition date is on or after the start of the first reporting period beginning after July 2009. Before IFRS 3 (2008), earnouts were only recognized when they met the "reliably measurable" and "probable" criteria (Mabaso et al., 2019). In practice, this meant that few acquirers recognized a liability for contingent consideration, which often limited the information available to investors about actual consideration transferred (Ferguson et al., 2024). IFRS 3 (2008, paragraph 39) requires acquirers to recognize contingent consideration at fair value at the acquisition date and as part of the consideration transferred. With the dropping of the "probable" and "reliable measurable criteria, IFRS 3 (2008) awarded significant freedoms to acquiring managers in recognizing earnout liabilities, even when settlement is not probable or accurate measurement is not reliably available (Ferguson et al., 2024).

Contingent consideration that is not accounted for as equity (e.g., when a fixed number of shares is to be transferred) is accounted for as a financial liability at fair value (paragraph 40). After the measurement period, being a maximum of one year after the acquisition date (paragraph 45), contingent consideration, which is not accounted for as equity, is remeasured at fair value at each reporting date and changes in fair value are recognized in profit and loss (paragraph 58). This means that when the contingent liability is lower than initially assumed, the company will realize a gain in the profit and loss. This can seem counterintuitive as the target company performed below initial expectations (BC358)(IASB, 2015). Additionally, goodwill is not to be adjusted despite the fair value of consideration transferred being lower than assumed in the goodwill measurement (BC356-357). This contrasts with IFRS 3 (2004), where any adjustment to contingent consideration included in goodwill was followed by an adjustment to goodwill (Mabaso et al., 2019). Together with the low barriers to recognizing contingent consideration, this could provide

managers with incentives to initially overvalue earnouts in order to realize a future "free" gain through the profit and loss.

With IFRS 3 (2008), the IASB has followed the treatment of contingent consideration under US GAAP SFAS 141 (R), where contingent consideration is also measured at fair value at acquisition and subsequent changes in fair value are recognized in earnings, if not classified as equity (Cadman et al., 2014).

Equity classified contingent consideration is rare in practice, both in firms applying US GAAP (Cadman et al., 2014) and IFRS (Ferguson et al., 2024). Firms that require the reporting of consistent earnings use contingent consideration to a lesser extent and tend to structure the contingent consideration to fit the equity classification, avoiding the risk of fair value adjustments (Allee et al., 2011). Additionally, transactions and liabilities to former owners and employees for future services are not to be included in the purchase price (paragraph 52) and are covered by separate IFRS. The acquirer must apply judgment on whether contingent consideration fulfils the purpose of future services and retention. These forms of contingent consideration are usually expensed over the time of the contract and are here referred to as "expensed earnouts".

2.2.1. Disclosure Requirements and Information Value of Disclosures

Disclosure requirements of both IFRS 3 and IFRS 7 apply to contingent consideration (Bannister, 2013). Under IFRS 3, at acquisition, companies are required to provide the fair value, range of possible outcomes, and a description of the basis for determining the payment (paragraph B64g). In subsequent periods, companies are required to disclose any changes in the recognized amount of contingent consideration, changes to ranges of outcomes and the reason for these changes, and the valuation method and key inputs (paragraph B67b). This applies until the contingent consideration is settled. However, IFRS 3 allows for aggregate disclosure of acquisitions only material in collection (paragraph B65 & B67). This also implies that non-material transactions do not need to be disclosed. While IFRS 7 requires a classification into the fair value hierarchy, it does not require deal-specific disclosure of contingent consideration.

The accounting treatment of items measured at fair value and their associated disclosure can have a significant impact on the value perception of a company. Credit analysts have been shown to value companies with unrealized fair value gains higher, despite these gains being reported through OCI (Allini et al., 2022). The value relevance of fair value disclosures with significant unobservable inputs (level 3) can be enhanced significantly when independent opinions are included in the valuation (Bu et al., 2024; Sangchan et al., 2022).

Disclosures that can demonstrate high earnings quality remain important. The relationship between earnings quality and market valuation is not direct. Companies with low earnings quality also earn low market valuations (Dechow et al., 2010). However, firms that meet or beat expectations of

earnings, despite evidence of earnings management to achieve them, are rewarded with higher valuations (Myers et al., 2007). At the same time, higher earnings quality, especially accruals quality, is associated with both lower cost of equity (J. Francis et al., 2004, 2005) and with a lower cost of debt (J. Francis et al., 2005).

2.2.2. Valuation Methods, Performance Targets, and Causes of Uncertainty

Contingent consideration, as the name suggests, is contingent on future events or the achievement of future milestones. Because such events are in the future, they are uncertain in nature. As most target firms are private and thus do not have an observable market price, contingent consideration contracts use a proxy for firm value as the performance benchmark (Cain et al., 2011). In a study of US acquisitions featuring contingent consideration, 32.1% of contracts used cash flows (including EBITDA and other proxies) as a measure, a further 31.5% used sales, and 12.2% used non-financial performance targets (Cain et al., 2011). Other accounting measures for income, such as ROA or net income were also used (Cain et al., 2011). Cain et al. (2011) found that sales-based measures are preferred to income measures in industries with high Tobin's Q. Additionally, non-financial measures are more likely to be used if the acquirer and target are in the same industry and the industry has a high Tobin's Q.

The valuation method for contingent consideration is not defined and there are diverging opinions about the most accurate method to apply. While most scholars agree that contingent consideration contracts have the characteristics of a financial option and should be valued using an option pricing model (Battauz et al., 2021; Ragozzino et al., 2016; Tallau, 2009), the inputs to be used and exact valuation methodology are a matter of further research (Battauz et al., 2021; Ragozzino et al., 2016). Asbra and Miles (2009) suggest using a discounted cash flow method, which accounts for the probability of not achieving the earnout as part of the discount factor. Should the earnout contain multiple payout scenarios, the article suggests using a probability-weighting scheme as part of the discounted cash flow method (Asbra & Miles, 2009). This indicates that increased volatility and risk result in a lower recognized fair value of the contingent consideration at the acquisition date, which leads to lower goodwill and lower risk for impairment (Asbra & Miles, 2009).

Tallau (2009) suggests using a modified version of the Black-Scholes model to value the contingent consideration. They argue that most contingent consideration contracts have an asymmetric payoff for the seller, where they only participate in positive payouts, which follows the payoffs of common options on equity. Using this method, the study finds that increasing volatility increases the value of the contract, but it can also have the opposite effect, depending on the design of the earnout contract (Tallau, 2009). Professional bodies (Grant Thornton, 2021; Rödl & Partner, 2024; The Appraisal Foundation, 2019) and scholars (Battauz et al., 2021; Ragozzino et al., 2016) advise using a Monte-Carlo simulation for complex structured contingent consideration contracts. As is common with option-based valuation, increased volatility usually

increases the valuation of the contract when applying a Monte-Carlo simulation. (Burney, 2019). However, a survey of professionals showed that they prefer simple valuation methods for contingent consideration, such as the discounted cash flow method (Dahlen et al., 2024).

2.3. Sentiment Analysis

As discussed previously, quantitative disclosure has a significant impact on the valuation and perception of a company. However, an increasing strand of research finds evidence that linguistic information in corporate, analyst, or public discourse adds incremental information to investors, with some arguing that sentiment can help investors predict future performance (Davis & Tama-Sweet, 2011; Huang et al., 2014, 2018; Twedt & Rees, 2012). However, textual analysis in accounting has received relatively limited attention, as the focus has traditionally been placed on financial and quantitative information, often leading to the text in notes to financial statements being underexplored. Nevertheless, empirical studies employing textual analysis, which was utilized to quantify qualitative disclosures, suggest that "tone" measures are considerably associated with companies' profitability and unexpected earnings (Kearney & Liu, 2014; Loughran & McDonald, 2011).

As a subset of qualitative analysis, textual analysis in accounting and finance is represented by different measures conventionally framed as sentiment analysis, targeted phrases, readability of documents, and topic modelling. Widely used, sentiment analysis attempts to provide information on the sentiment portrayed in the text by extracting and analyzing the words or phrases contained in it. To determine sentiment, researchers utilize dictionaries, or word lists, with the most widely recognized being Harvard's GI and Diction, general dictionaries used in business and finance, Henry, and Loughran and McDonald, both specifically designed for accounting and financial analysis purposes (Kearney & Liu, 2014). The aforementioned word lists primarily focus on positive and negative words, with further modifications depending on the list of choice. However, in recent studies, the LM (Loughran and McDonald) word lists have gained dominance as relatively exhaustive, creating six categories: positive, negative, uncertainty, litigious, strong, and weak modal. Furthermore, usage of a net sentiment score (defined as positive minus negative word count) has found increasing adoption in the field of sentiment research (Loughran & McDonald, 2016). Moreover, in the financial literature, textual sentiment is analysed through four different sources: through messages posted on the Internet, media coverage, analyst reports, and corporate filings, with financial statements sentiment proving a valuable source for the determination of individual company performance and stock prices (Kearney & Liu, 2014).

Despite most research having focused on the impact of historic performance on sentiment or market reactions to disclosure tone, some studies have examined the predictive power of sentiment in analyst reports, corporate communications and disclosures (Cao et al., 2023; Chen, 2022; Davis & Tama-Sweet, 2011; Huang et al., 2014; Twedt & Rees, 2012). Twedt & Rees (2012) conclude that the tone (or sentiment) of analyst reports adds incremental information to the earnings forecast,

and that optimistic tone is related with higher returns. Davis & Tama-Sweet (2011) find a negative association between MD&A pessimist tone and future firm performance. When looking at M&A performance and acquisition announcement sentiment, Coa et al. (2023) conclude that target and acquirer positive sentiment leads higher M&A success and faster completion of deals. Chen (2022) finds that optimistic sentiment in M&A announcements is associated with positive future firm performance. However, Huang et al. (2014) highlight that abnormal positive tone in earnings press releases is used by managers to misguide investors and indicative of future negative performance. These studies demonstrate that sentiment carries incremental informational value beyond quantitative data on future firm performance.

While this strand of research has focused on predicting acquirer-level or firm-level future performance from the narrative information contained in corporate disclosure, little research is available on target performance after acquisition (Dogan & Ugurlu, 2024) and the predictive power of deal-specific disclosure in the annual reports. We propose that narrative disclosures related to specific M&A transactions contain informational value regarding managerial estimates of deal-level outcomes. Therefore, this study addresses this gap by exploring whether the tone of acquisition-related disclosures can anticipate the achievement of earnout milestones. Because private targets often do not publish financial data, we use earnout reversals, i.e., cases where the contingent payment is reduced or not paid, as a proxy for target underperformance. As is inherent in the accounting treatment of earnouts, should a target not reach the expected performance at acquisition, the earnout will not be paid, giving some insights into the performance of the target. This leads to the following hypothesis:

H1: Transaction-specific narrative in the MD&A section of the annual report is associated with subsequent earnout reversals

In addition to MD&A, we examine the acquisition note, a more standardized and regulated disclosure. Prior work suggests that notes tend to be more structured and carry more informational value (Loughran & McDonald, 2011). Therefore, we expect any deviation from the neutral tone typical of financial statement notes to have a stronger signalling effect compared to the more subjective MD&A. Thus, we propose the following hypothesis:

H2: Transaction-specific narrative contained in the acquisition note is associated with subsequent earnout reversals

2.4. Incentives for Earnings Management

While prior literature demonstrates that disclosure tone can contain forward-looking information, it remains unclear whether such tone reflects genuine uncertainty, strategic optimism, or deliberate manipulation. Huang et al. (2018) found that increased earnings management is associated with a positive tone in earnings announcements. Lo et al. (2017) conclude that companies with higher

earnings management tend to reduce the readability of their MD&A section. Additionally, Elshandidy & Kamel (2024) find that earnings management and tone are positively associated, with extreme cases of earnings manipulation reducing their usage of negative language. However, Chen (2022) does not find a relationship between earnings management practices and the sentiment of M&A PR. This ambiguity is critical in the context of earnout valuation as sentiment might serve as a proxy for managerial incentives. Fair value accounting allows for significant managerial discretion, especially when applied to illiquid or non-traded assets, which could lead to earnings management (Marra, 2016).

Accounting research into the domain of earnings management often differentiates between accrual earnings management, when management manipulates earnings using accounting discretion afforded under GAAP, and real earnings management, where management manipulates earnings by adjusting the timing of investments and other business activities (Xu et al., 2007).

Contingent consideration incentivizes earnings management for both the acquirer, to reduce any payments to a minimum, and the seller, if still involved in the running of the target, to maximize the payout (Voßmann, 2023). Vossmann (2023) found that seller-managed targets engage in both real and accrual earnings management during the contingent consideration period. In contrast, acquirer-managed targets do not engage in any form of earnings management despite the acquirer having incentives to do so.

When engaging in earnings management, a manager's choice to do so often depends on the type, i.e., real or accrual, as well as on the associated opportunities, costs, and risks (Cohen & Zarowin, 2010; Zang, 2012). While accounting practices in the realm of accrual earnings management are more heavily scrutinized, real earnings management is less likely to be detected (Cohen et al., 2008). Earnout liabilities essentially represent an accrual, but the fair value is difficult to determine, which makes it hard to detect earnings management through earn-outs. The country of origin can also influence the extent of earnings management, as many country-specific factors influence the incentives for earnings management (Burghstahler et al., 2006; Coppens & Peek, 2005). In a European context, the alignment of financial and tax reporting increases and the development of the equity capital market, often measured as the dependence of bank funding compared to equity financing, reduces earnings management in public companies (Burghstahler et al., 2006; Coppens & Peek, 2005).

2.4.1. Impact on Investors and Stakeholders

The value relevance of earnings management to investors is disputed. Proponents of the efficient market hypothesis would argue that with sufficient information available, investors can exclude any impact of earnings management and calculate the correct earnings number (Dechow & Skinner, 2000). However, the level of detail is not always sufficient and investors have different levels of capabilities to understand additional disclosures (Dechow & Skinner, 2000). For example,

Indian retail investors do not have the skill to detect earnings management (Priyesh & Jijo, 2023) and Robin Hood traders do not trade as a rational market participant would, but rather follow an attention-driven trade strategy (Michels, 2025).

Since earnouts can be manipulated by managers, investors perceive possible earnings management and a pursuit of short-term profit maximization as an adverse effect, with the latter being an especially strong concern among strategic investors (Dahlen et al., 2024). Additionally, earnout overvaluations and the subsequent reversals typically appear as a non-recurring gain with little salient presentation and detailed explanations provided thereby impeding investors from reliably making a well-informed decision due to such obfuscation (Magnan et al., 2015). Earnouts, when recorded as a liability, falling under Level 3 (unobservable inputs) and with fair value remeasured at each reporting period, artificially induce volatility in earnings. This is due to their amalgamation with items of different measurement bases on the balance sheet. The introduced volatility reduces predictability of future performance (Penman, 2007). Furthermore, as the recent academic literature suggests, investors tend to have a weaker reaction to less readable disclosures (Asay et al., 2018; Lawrence, 2013; Tan et al., 2015), which might impel managers to obfuscate inputs for valuing contingent consideration at acquisition and assumptions used in subsequent fair value remeasurements.

2.4.2. Mitigating Factors of Earnings Management

Despite earnouts being prone to downward and upward misstatement, several mechanisms are identified to alleviate this type of earnings management. One such mechanism is the use of high-quality auditors. As evidenced by Allee & Wangerin (2018), auditors have to perform an independent assessment to ascertain whether earnout-related performance targets are met at the end of the earnout period. Previous studies suggest that Big 4 auditors tend to deliver audits of higher quality due to their superior resources and expertise, and have better perceived reputation for quality (DeFond et al., 2017; J. R. Francis, 2004). As shown by multiple studies, firms with larger, e.g., Big 4, auditors report lower levels of earnings management (Alzoubi, 2018; J. R. Francis & Yu, 2009; Lin & Hwang, 2010). Consistent with the aforementioned findings, results obtained by Allee & Wangerin (2018) demonstrate that when high-quality auditors are expected to be involved in verifying accounting-based earnings metrics, the contingent consideration proportion is higher.

In addition to a high-quality audit, analyst coverage could reduce earnout manipulations due to the increased scrutiny of financial figures and performance. If there are significant adjustments involved, reported financial performance might be distorted and, therefore, requires special attention to improve comparability among companies (Papa, 2013). Brown et al. (2014) conclude that analysts with higher media coverage, especially star analysts, experience greater market reactions to the publication of their earnings forecasts. Despite analysts actively using the information from notes and financial statements in their judgment (De Franco et al., 2011),

academic literature available on the topic suggests that fair value changes of liabilities are regarded as less relevant than corresponding changes in asset values (Koonce et al., 2011). This value perception by analyst allows for more room in earnings management on earnout valuation.

Lastly, an important monitoring factor is debt financing. The presence of low levels of debt financing has been shown to decrease earnings management in public firms (Alzoubi, 2018; Ghosh & Moon, 2010). At the same time, high levels of corporate debt are associated with increases in earnings management, as companies deal with restrictive covenants (Alzoubi, 2018; Ghosh & Moon, 2010). Debt financing, especially from banks, in acquisitions is viewed favourably by shareholders (Bharadwaj & Shivdasani, 2003). This could be the result of acquisitions with debt financing showing less acquisition risk (Kravet, 2014). Debt financing serves as an additional layer of monitoring on acquisitions (Bharadwaj & Shivdasani, 2003), and is associated with more conservative accounting practices (Kravet, 2014). Therefore, debt financing, when used at the correct level, can reduce incentives for earnings management, especially in M&A transactions.

Ferguson et al. (2024) conclude that controls and mitigating factors reduce earnout overstatement. Additionally, their study of the Australian market finds that managerial opportunism, and not valuation uncertainty, is associated with earnout overstatement. Inherently, earnouts create incentives for all sides to engage in earnings management (Voßmann, 2023). As highlighted previously, accounting regulations under IFRS 3 also provide managers with discretion regarding recognition and valuation. While Ferguson et al. (2024) highlight the role of incentives in one regulatory setting, it remains unclear whether these patterns hold in Europe, where monitoring environments are stronger and institutional frameworks differ. Additionally, cultural background has been shown to affect the use of earn-outs significantly (Ewelt-Knauer et al., 2021). Finally, as earnings management and disclosure sentiment have been shown to be linked, a stand-alone analysis of incentives can shed insights into the relationship between incentives, sentiment, and earnout overstatements. Therefore, we investigate whether earnings management incentives are associated with earnout overstatement in a European setting. To test this relationship, we construct:

H3: Managerial incentives for earnings management are associated with earnout overstatement in a European context

3. Methodology

This thesis aims to examine the predictive power of disclosure sentiment on subsequent earnout achievement and the accuracy of earnout valuation. First, this chapter outlines the sample selection process, data sources, and data collection used in the analysis. The section then explores the construction of key variables, particularly our measures of sentiment and overstatement. This is followed by a description of the regression framework used to test our main hypotheses regarding disclosure tone and managerial incentives, and subsequent earnout reversals. Finally, the section introduces a narrative disclosure quality score to assess whether the depth of acquisition reporting influences the likelihood of earnout overstatement.

3.1. Sample Selection and Data Sources

The analysis in this paper is restricted to transactions announced between 2010 and 2019 by public companies listed in the European countries of Austria, Belgium, Denmark, Finland, Germany, Netherlands, Norway, and Sweden. The countries were selected based on the following criteria. First, all countries mandate publicly listed companies to apply IFRS, harmonizing the treatment of earnouts. Secondly, the countries all have robust corporate governance and frequent reporting requirements. Additionally, the countries selected have strong, similar legal systems, with their origins being either Scandinavian or German (Burghstahler et al., 2006).

The data frame of 2010 - 2019 was chosen to ensure all transactions are accounted for under IFRS 3 (2008) and that the earnout period has finished by the time of writing. Additionally, while most transactions from 2020 and 2021 have reached the end of their earnout period, the Covid-19 pandemic and the following M&A boom created substantial volatility in global markets and in initial managerial expectations that the analysis aims to avoid.

To select our sample, we screened for transactions by public acquirers, listed in any of the above countries, with a deal value of one million Euros or above in the LSEG SDC Platinum database. The acquisitions in the sample consist only of transactions that feature any of the labels “Earnout, Earnout Profit, Earnout Sales”. Additionally, the sample is restricted to acquisitions that acquired at least 50% of the target equity, resulting in 287 transactions over this period. Table 1 details the exclusion process on the database.

Table 1. Initial sample selection

	n
Acquisitions announced between 2010 - 2019	503 406
Acquirer publicly listed in country selection	10 517
Deal completed	7 356
Deal value above 1 mEUR	2 679
Consideration offered includes Earnout	298
More than 50% of equity acquired in transaction	287

Fair value estimates, subsequent adjustments, conditions, and payments of contingent consideration were hand-collected for each transaction over the earnout period from annual reports obtained via Capital IQ, Retriever Business database**,** and company websites. Where no English reports were available, reports were translated by DeepL to enable the data collection. Auditor information was collected from Capital IQ or hand-collected from annual reports. Fundamentals and transaction-level information were retrieved from Compustat Global – Fundamentals and LSEG SDC Platinum. Analyst estimates consensus and actuals data were collected from I/B/E/S. Stock and Index prices were obtained from Compustat Global – Daily. Event study data was collected from Event Study by WRDS using custom event windows.

The sample of earnouts is further constrained by the requirements of the research. The selection process is reported in table 2. Acquisitions treated as asset acquisitions are not considered, as they have distinct accounting treatment under IFRS 3 (2008). Earnouts with talent retention as the main purpose are not capitalized but expensed and therefore excluded. Next, equity classified earnouts are not revalued and consequently removed from the sample. Lastly, the sample is further constrained by transactions where there is no deal-specific earnout disclosure, valuations cannot be followed over time, the acquirer is delisted, or the target is sold before the earnout period ends. This results in a sample of 87 transactions.

Table 2. Transactions in sample with disclosure available	**n**
Earnouts after IFRS 3 applies (2010)	287
Less: Accounted for as asset acquisition	7
Less: Expensed earnouts	6
Less: Equity-classified earnouts	5
Less: Acquirer delisted or target disposed	18
Less: No fair-value or deal specific disclosure over time	164
Liability classified earnouts with subsequent disclosure available	**87**

3.2. Textual Sentiment Analysis

In order to research the effect of disclosure sentiment, or "tone", we hand-collected passages from the MD&A and the acquisition note that relate to the transaction under observation from the annual report of the acquisition year. Where available, we used the English version of the annual report. Where not available, we translated the disclosure using the DeepL API for Python. The MD&A and acquisition note disclosure are investigated separately, as previous research has generally investigated notes and MD&A separately (Loughran & McDonald, 2011). Further, we expect the language to differ between mandated accounting notes and the less regulated MD&A section.

Sentiment analysis can be carried out using multiple methods, with the most popular being the dictionary-based approach or machine learning (Kearney & Liu, 2014). To test **H1 and H2,** we

employ a dictionary-based approach using the well-established Loughran & McDonald dictionary (L&M lists) (Loughran & McDonald, 2011), as general dictionaries are not appropriate for financial texts (Kearney & Liu, 2014). The dictionary contains separate lists with finance-specific words in the categories of positive, negative, uncertain, litigious, and constraining. For our analysis, we rely on the word lists for positive, negative and uncertain language.

The most important part of a dictionary-based approach is the weighting method of terms, meaning how the raw word count in the text is interpreted (Kearney & Liu, 2014). Loughran & McDonald (2011) suggest weighing words based on the frequency of appearance, while Jegadeesh & Wu (2012) argue that words should be ranked based on previous market reaction to reports containing these words. However, as these methods require large samples and our sample includes few observations and sentiment analysis on acquisition disclosures is in its infancy, we rely on a simple proportional weighting scheme, meaning each word that is contained on a list is assigned the same weight and then scaled by the total word count to account for different lengths of disclosures, following Loughran & McDonald (2013) and Twedt & Rees (2012). We account for simple negation by controlling for any negator {no, not, none, neither, never, no} within three words of either a positive or negative word (Jegadeesh & Wu, 2013; Loughran & McDonald, 2011). We then create a variable for net sentiment to measure the tone of the disclosure by subtracting negative word count from the positive word count, as suggested by previous research (Chen, 2022; Huang et al., 2018; Twedt & Rees, 2012). In order to be able to compare sentiment across different lengths of texts, we scale the world list counts by the total word count.

Therefore, to measure sentiment, we follow Twedt & Rees (2012) by defining the sentiment score as:

$$Sentiment = \frac{Positive\ word\ count - Negative\ word\ count}{Total\ word\ count}$$

To further control for the varying size of the disclosure, we additionally remove stopwords from the total word count. Stopwords are words that are considered not to add informational content to the text (Jegadeesh & Wu, 2013; McDonald, 2024). For this purpose, we use the generic stopwords list developed by McDonald (2024).

Additionally, we perform additional regressions with the Sentiment variable split into the proportion of positive and negative words for both sections. This addresses the concern that effects could be lost due to negative messages being "dressed up" in positive words, which can affect measures of positive tone or net sentiment (Kearney & Liu, 2014; Loughran & McDonald, 2011, 2016).

To measure the achievement of target-level performance goals, we use degree of earnout overstatement. Following Ferguson et al. (2024), we define this as

$$Ov = \frac{IE - TP}{IE}$$

Where Ov = Overstatement
IE = Initial estimate of earnout liability
TP = Total payments to earnout liability

This ratio measures the difference between the initial estimate and total payments, scaled by the initial estimate of payouts (a value of 1 meaning the entire earn-out was reversed, 0 meaning actual payout equals the initial estimate, and negative values indicating the earn-out was underestimated and additional payments were made). Earnout overstatement will form our primary dependent variable during this study, as transactions with earnouts under IFRS 3 allow for a unique setting where manager estimates of target performance can be compared to the actual achievement. While it is not a direct measure of performance in any single year, it indicates whether the target's cumulative performance fell short of expectations and to what extent. When considered over the earn-out period, earnout overstatement provides a reasonable measure of how many of the performance milestones were actually achieved versus initially projected and communicated.

The most common statistical method used in sentiment analysis is linear regression, with some form of sentiment as the main independent variable and additional control variables (Kearney & Liu, 2014). We employ a linear regression with selected controls from Ferguson et al. (2024) where they identified four distinct groups of factors that influence earnout overstatement: managerial incentives, market monitoring, valuation uncertainty, and acquirer and deal properties. To control for acquiring manager incentives we use the acquirers cumulative abnormal return (Acq_AR) on deal announcement and the acquirers return on assets in the previous period before announcement (Acq_ROA) (Ferguson et al., 2024). From the monitoring variables, we select Big4 and Analyst_f to control for impacts of audit quality and analyst following on disclosure quality (Ferguson et al., 2024). To control for target characteristics, we use target industry Tobin's Q (Tar_Q) and annualized target industry volatility (Tar_Vol) (Cain et al., 2011). Lastly, we employ the natural logarithm of the deal value (Deal_V) and total assets of the acquirer (Acq_A) to control for both deal and acquirer size (Cao et al., 2023; Ferguson et al., 2024).

We employ the these together with the textual property variables as our independent variables, which results in equation 1:

$$\begin{aligned} \mathrm{Ov} = \alpha + \beta_S\ \mathrm{Sentiment} + \beta_U\ \mathrm{Uncertainty\ score} + \beta_I\ \mathrm{Incentives} + \beta_M\ \mathrm{Monitoring} \\ + \beta_V\ \mathrm{Valuation\ uncertainty} + \beta_C\ \mathrm{Controls} \\ + \beta_{FE}\ \mathrm{Industy\ and\ year\ fixed\ effects} + \varepsilon \end{aligned} \quad (1)$$

In our regressions, we cluster standard errors at the firm level to account for intra-firm correlation, recognizing that multiple transactions from the same firm may not be independent. This ensures

more robust inference by adjusting for potential heteroskedasticity and autocorrelation within firms**.** Additionally, we include industry and year fixed effects to control for unobserved heterogeneity across sectors and time. Industry fixed effects capture structural differences in earnout use, or deal structuring practices across sectors, while year fixed effects control for macroeconomic conditions, regulatory changes, or market-wide sentiment that may vary over time and affect earnout valuation behaviour. Due to the fewer observations compared to Ferguson et al. (2024), we only use the first digit SIC code as the identifier for industry fixed effects.

Lastly, we perform additional regressions with the sentiment or uncertainty score as a dependent variable to check if incentives or valuation uncertainty influence either of the variables. This is done to check the robustness of our model and to contribute to previous research on the drivers of disclosure sentiment (Chen, 2022; Huang et al., 2018; Lo et al., 2017).

3.3. Managerial Opportunism and Earnout Overstatement

Next, we employ the methodology established by Ferguson et al. (2024) to investigate the relationship between managerial incentives and valuation uncertainty on earnout overstatement. We perform this analysis in order to contribute to previous research by applying the model to new jurisdictions and a heightened monitoring environment (Burghstahler et al., 2006). Additionally, this allows for a robustness check of the model performed without the interference from the textual variables.

Ferguson et al. (2024) propose three different models to investigate the association of earnout overstatements and managerial incentives, monitoring, and valuation uncertainty. The first two use the previously established overstatement variable as the dependent variable. The first model includes all observations and additional variables compared to the previous regressions. The second model isolates only observations with acquirers that have at least one analyst following and introduces two new variables. The dummy variable M_o_B identifies whether acquirers met or beat analyst expectations in the period prior to the acquisition. The variable LN_Analyst represents the natural logarithm of analysts following the firm at the time of acquisition. The third model aims to capture incentives present for the timing of earnout gains. For this purpose, as proposed by Fergusion et al. (2024), we expand the model to firm year observations over the earnout period and introduce new variables to the regression. We first construct the dependent variable of earnout gains divided by total assets. Gains or losses due to a change in probability are counted as positive and negative respectively, otherwise the variable is set to 0. Per firm year, we also capture the variable Pre_Loss, if companies recorded a pre-earnout reversal loss in years with earnout gains, and the variable Decline, which captures if companies had a decline in EPS before the earnout gains compared to the period before.

Due to the reduced sample size in our study, we employ a modified version of the models proposed by Ferguson et al. (2024). We limit variables in each category to the variables we deem have the most theoretical backing. For the incentive category, we exclude CEO bonuses as total pay,

Ferguson et al. (2024) failed to find a significant relationship and data availability on CEO pay on Capital IQ can be limited for smaller firms. We further exclude the cross-border identifier, as previous studies tended to employ Target industry volatility, Target industry Tobin's Q, and cross-industry acquisitions in studies on earnout usage and uncertainty(Allee & Wangerin, 2018; Cain et al., 2011). From the controls, we use deal value and acquirer operating cash flow, while excluding acquirer total assets and acquirer leverage, to control for deal size and earnout use for more financially constrained firms. Additionally, these variables tended to result in the most significant results in Ferguson et al. (2024).

3.4. Narrative Score and Quality of Disclosure

Following Ferguson et al. (2024), we construct a narrative score of the disclosure quality for each transaction to test if more qualitative disclosure is associated with lower overstatements. Using hand-collected data, we assign a score of 0 or 1 for each transaction if the disclosure fulfils the category. The score is designed to capture the informational transparency of acquisition-related disclosures provided by the acquirer and whether they are related to increased overstatements. The categories, as proposed by Ferguson et al. (2024), are as follows. In the initial period, we check for the disclosure of (1) the valuation technique, (2) significant unobservable inputs, and (3) the probability of earnout payments, undiscounted amount, and discount rate. In subsequent periods, the transactions are scored on (4) the specific disclosure of earnout related revaluations in either the income statement or in a separate line item in an earnout related note, and (5) if the gains related to revaluation (losses) are explained sufficiently. Often, acquirers tend not to mention the reason for the reduction in earnout provisions, with little indication of milestone performance.

We then split the observations into two groups, opaque disclosers for observations with a score below the median, and informative disclosers, for observations above the median. Then, we compare the mean earnout overstatement in both groups using a Welch t-test, which accounts for differences in sample variance between groups.

Additionally, we further split the observations into highly informative disclosers, meaning a score of 4 or above, and into medium to low disclosers, having a score of 3 and below. This allows to investigate if the effect is concentrated among the most transparent firms.

4. Results

This chapter presents the results and analysis of the previously presented methodology, organized by the three previously established research questions. First, this chapter presents the descriptive statistics of the sample, providing an overview and summarizing key characteristics of the sample. Next, Section 4.2 shows the regression results of MD&A language scores and overstatement of earnouts. Thereafter, Section 4.3 presents results of the analysis on acquisition note properties and subsequent reversals. Additionally, Section 4.3.1 showcases the relationship between the control variables and the textual properties of the disclosures. Further, Section 4.4 examines the influence of earnings management incentives on overstatement, as outlined in the previous chapter. Finally, Section 4.5 explores the association between disclosure quality and overstatement. A discussion of the results is then made in the following chapter.

4.1. Descriptive Statistics

This section showcases the summary statistics of the variables employed in this thesis, with the tables presenting the mean, 10th percentile, median, 90th percentile and the standard deviation of each variable.

Table 3. Summary statistics on earnout variables

Variable	N	Mean	P10	Median	P90	SD
Ov	87	0.35	-0.15	0.21	1	0.513
Ov_Dummy (0/1)	87	0.598	0	1	1	0.493
Ov | Ov_Dummy	52	0.681	0.171	0.83	1	0.342
EarnG_A	282	0.004	0	0	0.012	0.015

Table 3 shows the summary statistics of the dependent variables used in this study. The distribution of the earnout overstatement dummy highlights that 60% of acquirers in the sample have overstated the earnout liability in the year of acquisition compared to actual payouts. This is slightly below the percentage of the Australian sample used by Ferguson et al. (2024) with 68%. Across all transactions, the average overstatement was 35% of the initial valuation. Transactions, resulting in an overstatement, were on average overstated by 70%. Looking at the yearly earnout gains divided by total assets, we see that earnout gains tend to be a small portion of assets in a specific year. However, looking at firm-years with earnout gains (88 out of 282), we get an average of 1.4%, which represents a substantial boost to ROA.

Table 4. Summary statistics on deal and firm level variables

Variable	N	Mean	P10	Median	P90	SD
Acq_AR	87	0.037	-0.025	0.016	0.099	0.096
Acq_ROA	87	0.026	-0.026	0.062	0.165	0.36
CEO_B	87	0.146	0	0.068	0.382	0.173
M_o_B (0/1)	75	0.36	0	0	1	0.483
Decline (0/1)	282	0.461	0	0	1	0.499
Pre_Loss (0/1)	282	0.067	0	0	0	0.251
Big4 (0/1)	87	0.885	0	1	1	0.321
Analyst_f (0/1)	87	0.862	0	1	1	0.347
N_Analysts	75	4.263	1	2	11	4.237
LN_Analyst	75	0.987	0	0.693	2.398	0.948
Debt_f (0/1)	87	0.046	0	0	0	0.211
Tar_Vol	87	0.127	0.096	0.125	0.151	0.027
Tar_Q	87	1.61	1.257	1.497	2.077	0.425
Cross_B (0/1)	87	0.621	0	1	1	0.488
Cross_I (0/1)	87	0.46	0	0	1	0.501
Acq_A	87	468	17.084	155.86	863.215	1469.297
Acq_A (LN)	87	4.804	2.825	5.001	6.736	1.629
Acq_De	87	0.496	0.296	0.474	0.734	0.2
Deal_V	87	40.992	2.178	14.339	83.282	71.623
Deal_V (LN)	87	2.673	0.775	2.638	4.433	1.444
Acq_CFO	87	0.093	-0.013	0.098	0.248	0.208
Nar_Sco	87	2.057	0	2	4	1.442

Table 4 provides the descriptive statistics for the acquirer and target characteristics used in the analysis. Looking at the incentives, we see that the companies in the sample, on average, experience a positive reaction to the acquisition announcement, as measured by the cumulative abnormal return. They also tend to have a positive ROA, with the median ROA in the year before the acquisition being 6.2%. However, of the companies that have an analyst following, only 36% managed to meet or beat analyst expectations in the period prior to the acquisition. The bonus component in terms of total compensation for the CEO tends to be low throughout the sample, with an average of 15% and a median of 7%.

Looking at the monitoring variables, we see generally strong monitoring for the companies in the sample. 89% of the companies have a Big 4 auditor, above the proportion of 75% of acquirers in the United States (Allee & Wangerin, 2018). Additionally, 86% have at least one analyst following the company. The median company, that had at least one analyst following, had two analysts in

the period before the acquisition. However, we see that there is a large variation in the number of analysts, with the mean and standard deviation being 4.2 analysts. On the other hand, only 5% of deals in the sample utilized debt financing for the transaction.

The sample exhibits dispersions in the valuation uncertainty category. Annualized target industry volatility averages 0.13 with low standard deviation of 0.03, which is likely due to the fact that industry volatility was proxied using FTSE Eurofirst 300 sector index volatility. Tobin's Q is more varied with an average of 1.6 and a standard error of 0.42. Additionally, we see that 46% of deals are performed across industries.

The sample consists of companies with a large variety of total assets on the balance sheet before the acquisition, averaging 468 mEUR. The average company has a leverage of 50% and recorded a positive operating cash flow of around 9% of assets before the acquisition. Deal value also varies across the sample, with a standard deviation of 71 mEUR, showcasing the spread in deal value in the sample. The average deal value is around 41 mEUR.

Table 5. Summary statistics on textual variables

Variable	N	Mean	P10	Median	P90	SD
Sentiment_Note	87	0.006	-0.009	0.002	0.024	0.013
Negative_note_score	87	0.003	0	0.002	0.006	0.004
Positive_note_score	87	0.005	0	0.005	0.012	0.005
Uncertainty_note	87	0.008	0.002	0.007	0.017	0.007
sentiment_Main	87	0.033	0	0.029	0.075	0.031
Negative_main_score	87	0.013	0	0	0.048	0.033
Positive_main_score	87	0.121	0	0.103	0.207	0.112
Uncertainty_Main	87	0.023	0	0	0.069	0.056

Table 5 shows the distribution of the textual variables under analysis. The scores in the acquisition note are generally low, indicating that they use little qualifying language. This agrees with the typically neutral language of financial statement notes. Additionally, the distribution shows that acquisition notes generally contain some form of uncertain language, with more than 90% of observations recording at least one word from the uncertainty list. In the MD&A disclosure, the distribution statistics show that the section on average contains a higher proportion of positive wording, both when looking at the gross proportion and the net sentiment variable. Further, less than 50% of the observations use some form of uncertain language in the disclosure.

4.2. MD&A Disclosure

In this section, we explore the predictive power of the MD&A disclosure on earnout reversal in future periods.

Table 6. Regression results of MD&A sentiment

Term	Expected sign	Model MD&A	Standard error
Sentiment_main	+/-	-0.369	(1.594)
Uncertainty_main_score	+	0.206	(1.219)
Big4	-	0.272	(0.261)
Analyst_f	-	0.210	(0.221)
Acq_AR	-	0.267	(0.643)
Acq_ROA	-	-0.222*	(0.128)
Tar_Vol	+	5.889**	(2.711)
Tar_Q	+	0.070	(0.172)
Acq_A	+/-	0.022	(0.067)
Deal_V	-	-0.118**	(0.056)
Num.Obs.		87	
R2 Adj.		0.041	
Std.Errors		by: Firm	
FE: Industry		X	
FE: Year		X	

Note: *: Significant at the 10% level; **: Significant at the 5% level; ***: Significant at the 1% level

The regression results presented in table 6 highlight that sentiment derived from the transaction-related MD&A sections does not show a statistically significant relationship with earnout reversals.

The results reveal that increased target industry volatility significantly led to higher earnout overstatement. This aligns with expectations that increased industry volatility increases valuation difficulty and, therefore, could result in higher earnout reversals. Despite this, uncertain language, when paired with sentiment of the MD&A disclosure, is not significantly associated with earnout overstatement.

However, when the sentiment variable is split into positive and negative sentiment in table 7, a significant, positive relationship between negative language and future earnout reversal can be observed. This suggests that positive wording in MD&A sections is not a reliable predictor of future earnout reversals and interferes with the predictive power of negative wording. Additionally, the regression shows a marginally significant, negative association between uncertain linguistic and earnout reversals. This suggests that more uncertain wording is associated with less overstatement. This effect is only visible in this analysis, as negative wording is positively correlated with uncertain wording (see appendix B for correlation matrix), suggesting that the sentiment measure may have previously absorbed variance associated with uncertain wording, masking its independent effect. When negative and positive sentiment are included separately, the model shows that higher proportions of uncertain wording are associated with a reduction in

subsequent reversals. The positive correlation between negative wording and uncertain language suggests that managers package negative wording with uncertain qualifiers.
Overall, we see the model fit, expressed as adjusted R^2, is improved significantly by splitting positive and negative scores, further underwriting that positive wording introduces noise to the analysis.

Table 7. Regression model results with positive and negative sentiment from MD&A

Term	Expected sign	Sentiment MD&A	Standard error
Positive_main_score	+/-	0.058	(0.436)
Negative_main_score	+/-	5.893**	(2.580)
Uncertainty_main_score	+	-2.200*	(1.255)
Acq_AR	-	0.514	(0.659)
Acq_ROA	-	-0.233*	(0.122)
Big4	-	0.348	(0.244)
Analyst_f	-	0.245	(0.195)
Tar_Vol	+	5.175*	(2.694)
Tar_Q	+	0.090	(0.166)
Acq_A	+/-	0.009	(0.067)
Deal_V	-	-0.136**	(0.053)
Num.Obs.		87	
R2 Adj.		0.105	
Std.Errors		by: Firm	
FE: Industry		X	
FE: Year		X	

Note: *: Significant at the 10% level; **: Significant at the 5% level; ***: Significant at the 1% level

We also observe a marginally significant, negative relationship between acquirer ROA and earnout reversals, suggesting that more profitable firms may structure earnouts more conservatively. The analysis also indicates that larger deals are generally associated with lower reversals. This is in line with expectations that larger deals face more valuation scrutiny.

Importantly, we do not find that either monitoring variable has significant influence on earnout overstatement. While not significant, coefficients of both analyst following and Big4 auditors are contrary to expectations.

4.3. Acquisition Note and Overstatement

Table 8 shows the regression results for earnout overstatement and acquisition note textual information. Model 1 uses the net sentiment variable, while Model 2 shows the results when the variable is split into positive and negative proportions. Standard errors are shown in brackets.

Table 8. Regression model with acquisition note textual variables

Term	Expected sign	(1)	(2)
sentiment_note	+/-	10.432**	
		(4.672)	
Positive_note_score	+/-		27.954**
			(11.873)
Negative_note_score	+/-		-33.345*
			(18.298)
Uncertainty_note_score	+	2.573	2.014
		(8.663)	(9.955)
Big4	-	0.186	0.082
		(0.264)	(0.277)
Analyst_f	-	0.243	0.276
		(0.241)	(0.238)
Acq_AR	-	0.061	0.044
		(0.632)	(0.614)
Acq_ROA	-	-0.278**	-0.256*
		(0.131)	(0.133)
Tar_Vol	+	4.149	3.451
		(2.963)	(3.044)
Tar_Q	+	0.089	0.090
		(0.153)	(0.170)
Acq_A	+/-	0.001	0.012
		(0.067)	(0.066)
Deal_V	-	-0.116**	-0.144***
		(0.049)	(0.051)
Num.Obs.		87	87
R2 Adj.		0.110	0.122
Std.Errors		by: Firm	by: Firm
FE: Industry		X	X
FE: Year		X	X

Note: *: Significant at the 10% level; **: Significant at the 5% level; ***: Significant at the 1% level

In Model (1), we observe a significant, positive association between the sentiment of the acquisition note and earnout overstatement. This suggests that acquirers tend to report more positively on acquisitions that will not reach the communicated targets.

Interestingly, the uncertainty score of the acquisition note does not show a significant relationship with overstatement. This suggests that important risks or uncertainties are not communicated through narrative disclosures.

Applying the split into positive and negative language proportion in table 8 Model (2), we find that the results are robust. We continue to see significant effects on both positive and negative wording, with the relationship consistent in both directions, meaning more positive wording is associated with increased overstatements.

Target industry volatility is no longer significantly associated with earnout overstatements, showing that this variable is sensitive to the inclusion of acquisition note sentiment. This change may indicate that acquisition note sentiment captures some of the risk previously explained by industry volatility. This is further explored in section 4.3.1.

Deal value and Acquirer ROA continue to be significant and negatively correlated, in line with results of the regressions using the MD&A textual variables.

In conclusion, we see that acquisition note sentiment carries meaningful predictive power of earnout overstatement, both the positive and negative wording. Interestingly, this is not the case for uncertain language. However, the modest model fit shows that there are many factors influencing future earnout reversals, highlighting the difficulty in predicting earnout overstatements.

4.3.1. Drivers of Sentiment and Uncertainty

To check the robustness of the results, we perform regressions with the sentiment score and the uncertainty score for both the MD&A and acquisition note section as the dependent variable. We include the same variables as controls to investigate if they drive the tone of the disclosures.

Table 9 shows the regression results for each text score variable as a dependent variable. Overall, most controls do not have a significant correlation with the textual disclosure tone. The regression for the sentiment of the acquisition note shows a trend that target industry volatility influences the sentiment of the acquisition note. This explains the absence of this effect in table 8 and could indicate that managers are more optimistic in acquisition notes of higher volatility deals. The sentiment in MD&A disclosure is not driven by any of the control variables, as indicated by the negative adjusted R-squared and the lack of significant variables, again demonstrating the interference of the positive portion on this variable.

Table 9. Drivers of textual variables of selected controls

Term	Sentiment note	Sentiment MD&A	Uncertainty note	Uncertainty MD&A
Big4	0.007	0.005	-0.007	-0.115
	(0.005)	(0.016)	(0.007)	(0.073)
Analyst_f	-0.004	-0.003	0.007*	0.036
	(0.004)	(0.011)	(0.004)	(0.041)
Acq_AR	0.018	-0.019	0.004	-0.047
	(0.016)	(0.046)	(0.008)	(0.060)
Acq_ROA	0.005	0.003	0.004	0.032*
	(0.004)	(0.011)	(0.003)	(0.019)
Tar_Vol	0.157*	-0.066	0.020	-0.206
	(0.084)	(0.205)	(0.049)	(0.230)
Tar_Q	-0.001	-0.012	-0.002	-0.011
	(0.004)	(0.011)	(0.002)	(0.014)
Acq_A	0.002	0.001	-0.000	0.003
	(0.002)	(0.004)	(0.001)	(0.006)
Deal_V	-0.000	0.001	-0.001	-0.008
	(0.001)	(0.003)	(0.001)	(0.006)
Num.Obs.	87	87	87	87
R2 Adj.	0.083	-0.150	0.013	0.193
Std.Errors	by: Firm	by: Firm	by: Firm	by: Firm
FE: Industry	X	X	X	X
FE: Year	X	X	X	X

Note: *: Significant at the 10% level; **: Significant at the 5% level; ***: Significant at the 1% level, Standard errors shown in brackets

The model for uncertainty in the acquisition also has a low, but positive R-squared, showing that the controls have little explanatory power of the uncertainty in the note. However, there is weak evidence that analysts following increase the usage of uncertain language. The uncertainty in the MD&A disclosures is modestly explained by the model, indicating that firm- and deal-level characteristics drive part of the chosen language in the MD&A section. The results show a trend of higher ROA firms using more uncertain language. Interestingly, we do not see that market reactions, measured as abnormal return to the acquisition announcement, drive any of the disclosure language variables.

4.4. Managerial Opportunism and Overstatement Revisited

Revisiting the study conducted by Ferguson et al. (2024) we aim to replicate the research on the relationship between contingent consideration provisions and managerial opportunism. Tables 10 and 11 below present the results of the regression outputs for Model 1, 2 and 3.

The models are constructed to include firm-clustered standard errors as well as controls for year and industry fixed effects. For Model 1 the number of observations is 87 and 75 in Model 2, with values of adjusted R^2 being 0.118 and 0.185, respectively. In general, both models demonstrate little evidence of incentives for overstatement of contingent consideration. As presented in Model 1, Acq_ROA has a negative coefficient and is statistically significant at the 10% level (-0.501; standard error = 0.297), indicating that the acquirer's lower return on assets in the year prior to the transaction is associated with a higher likelihood of the earnout overstatement. This could suggest that better performing acquirers tend to exhibit lower risk of misstating contingent consideration upwards.

Nevertheless, both Models 1 and 2 reveal that volatility and, therefore, valuation uncertainty are significantly related to the earnout overstatement. Tar_Vol (target industry volatility) demonstrates a positive and statistically significant association with overstatements at the 5% level, which indicates that transactions involving the acquisition of more volatile targets are more likely to result in a greater earnout overstatement. Furthermore, the coefficient for Cross_I (a cross-industry acquisition) is negative, namely -0.211 and significant at the 10% level, suggesting that even though being relatively modest in magnitude, cross-industry transactions might be associated with a lower likelihood of earnout being overstated. Moreover, Deal_V has a negative association with overstatements and is statistically significant at the 10% level, indicating that larger deal values may correspond to lower overstatement risk, which might be a factor of potentially stronger due diligence or level of scrutiny. Other variables in Model 1 are not statistically significant.

In Model 2, changes in coefficient magnitude and significance can be observed with the inclusion of additional explanatory variables and testing the model only on transactions that have at least one analyst following. For Acq_AR, the coefficient increases to 0.775 while remaining positive and statistically insignificant. However, Acq_ROA is no longer statistically significant and becomes smaller in magnitude (-0.227), which could be due to the additional variables introduced in the model.

The newly introduced variables in Model 2, M_o_B (meet or beat) and Debt_f (debt financing), both are significant at 10% level. M_o_B shows a positive relationship with overstatements, significant at the 10% level. This implies that if an acquirer manages to meet or beat analysts' forecasts in the period before acquisition, the likelihood of earnout overstatement is increased. Further, debt financing shows a negative trend in Model 2, suggesting that debt-financed transactions by firms that are also covered by analysts may be associated with a lower probability of contingent consideration overstatement. Consistent with Model 1, Tar_Vol remains positively and significantly linked with overstatements. Deal_V remains negative but does not show a significant relationship.

The adjusted R^2 increases in Model 2 to 0.185 (Model 1: 0.118), indicating a slight improvement in explanatory power when focusing on acquirers with analysts following.

Table 10. Regression results of managerial incentives

Term	Expected sign	Model 1	Model 2
Acq_AR	-	0.361	0.775
		(0.569)	(0.708)
Acq_ROA	-	-0.501*	-0.227
		(0.297)	(0.720)
M_o_B	-		0.280*
			(0.154)
Big4	-	0.284	-0.134
		(0.263)	(0.291)
Analyst_f	-	0.254	
		(0.231)	
LN_Analyst	-		-0.128
			(0.100)
Debt_f	-	-0.475	-0.619*
		(0.301)	(0.358)
Tar_Vol	+	5.465**	6.499**
		(2.583)	(2.684)
Tar_Q	+	0.066	0.077
		(0.165)	(0.214)
Cross_I	+	-0.211*	-0.136
		(0.125)	(0.140)
Deal_V	-	-0.104*	-0.028
		(0.040)	(0.053)
Acq_CFO	+/-	0.552	0.733
		(0.642)	(0.685)
Num.Obs.		87	75
R2 Adj.		0.118	0.185
Std.Errors		by: Firm	by: Firm
FE: Industry		X	X
FE: Year		X	X

Note: *: Significant at the 10% level; **: Significant at the 5% level; ***: Significant at the 1% level

When testing for annual earnout gains throughout the earnout period, as displayed in table 11, the sample of observations becomes considerably larger with 282 firm-year observations. This model includes a broader set of incentive variables and retains industry and year fixed effects, with approximately 18% of the variation in overstatements explained. The new model demonstrates a greater number of significant results, notably Acq_ROA, Pre_Loss, Deal_V and Acq_CFO.

In Model 3, Acq_ROA shows a negative and statistically significant association with yearly earnout reversals (-0.018), at the 1% significance level. This highlights a consistent relationship across models, suggesting that acquirers with higher return on assets are less likely to engage in earnout provision overstatements (and vice versa). Pre_Loss indicates whether the acquirer reports a loss before reversals in that period, which is positively and significantly associated with earnout gains (0.021), significant at the 1% level. This suggests that firms record earnout gains in periods where they experience losses. However, we do not observe a significant relationship between the decline in pre-reversal EPS and the recorded earnout gains per firm-year.

Table 11. Regression results of firm year observations

Term	Expected sign	Model 3	Standard error
Acq_AR	-	0.012	(0.013)
Acq_ROA	-	-0.018***	(0.006)
Pre_Loss	+	0.021***	(0.003)
Decline	+	0.002	(0.002)
Big4	-	0.003	(0.002)
Analyst_f	-	0.001	(0.001)
Debt_f	-	-0.002	(0.002)
Tar_Vol	+	-0.009	(0.032)
Tar_Q	+	0.000	(0.002)
Cross_I	+	-0.000	(0.001)
Deal_V	-	0.001*	(0.001)
Acq_CFO	+/-	0.015**	(0.005)
Num.Obs.		282	
R2 Adj.		0.182	
Std.Errors		by: Firm & Year	
FE: Industry		X	
FE: Year		X	

Note: *: Significant at the 10% level; **: Significant at the 5% level; ***: Significant at the 1% level

Moreover, Acq_CFO is also positively correlated with yearly earnout gains, which implies that higher cash flow from operations might be linked with increased risk of overstatement. Results for the Deal_V variable show that a larger deal value is weakly associated with an increased likelihood of earnout gains in this model. Other variables are not statistically significant and overall Model 3 is consistent with some of the patterns observed in Models 1 and 2, in particular the negative relationship between acquirer profitability and overstatements.

To summarize, we only find marginally significant associations between overstatement and incentive variables. Instead, Models 1 and 2 reveal a significant association between target industry volatility and earnout overstatements. However, Model 3 shows a strong correlation between earnout gains and pre-reversal losses, implying that reversals occur in years with negative financial performance.

4.5. Narrative Score and Overstatement

In this section, we test whether higher-quality disclosures are associated with lower levels of earnout overstatement. Specifically, we compare the median of groups split into informative and opaque disclosers, as pioneered by Ferguson et al. (2024).

Table 12 shows that, while opaque disclosers on average overstate more, the difference is not statistically significant.

Table 12. T-test on with narrative score median split

	Opaque	**Informative**	**T-test**
N	58	29	
Mean	0.383	0.286	-0.864

Note: *: Significant at the 10% level; **: Significant at the 5% level; ***: Significant at the 1% level

While the split along the median does not yield significant results, the classification into highly informative (a score of ≥ 4) and medium to low (a score of < 4) shows a substantial difference in average overstatement, as shown in table 13. Highly informative disclosers on average only overstate earnouts by 9%, whereas medium to low disclosers show a mean of 40%.

Table 13. T-test on narrative score, split into highly informative and medium to low

	Medium to Low	**Highly informative**	**T-test**
N	72	15	
Mean	0.405	0.088	-2.648**

Note: *: Significant at the 10% level; **: Significant at the 5% level; ***: Significant at the 1% level

These results provide tentative evidence of lower overstatement in firms with high disclosure quality. However, due to the limited sample size for highly informative disclosers, these findings should be interpreted with caution and tested further in future research.

5. Discussion

H1: Transaction-specific narrative in the MD&A section of the annual report is associated with subsequent earnout reversals

Our analysis shows no significant association between the net sentiment and future earnout reversals. However, when the net sentiment is split into positive and negative proportions, we do find a significant, positive association between negative word score and future earnout reversals. This aligns with findings from Davis & Tama-Sweet (2011), where they concluded that pessimistic tone in MD&A is negatively associated with future performance. However, the scale of the effect has to be interpreted with care, as the negative wording is positively correlated with the uncertain wording. This could suggest that managers tend to wrap negative statements in uncertain wording to manage the tone of the disclosure. The marginally significant negative association of the uncertainty score after controlling for negative language, however, could indicate that the more uncertain language is used, the more cautious the valuation of earnout liabilities is. We tested the model for multicollinearity and determine it to be low (VIF <3) (see appendix C).

The absence of a significant effect between positive word score in the MD&A section and earnout overstatement is in line with concerns that positive language is used to "dress up" negative news (Kearney & Liu, 2014; Loughran & McDonald, 2011, 2016). Additionally, we expect the MD&A section to speak positively of acquisitions carried out during the financial year. However, Li (2010) found a positive relationship between average sentiment in forward-looking statements in the MD&A section and future performance. We do find this association, which could be due to the unique phrasing of acquisition statements in the MD&A section, or the lower sample size in this study, and that acquisition statements are shorter.

In conclusion, we find evidence that negative wording can predict subsequent reversals of earnout liabilities. We additionally find weak evidence for the influence of uncertain language, but only when controlling for negative wording. This leads us to conclude that there is predictive power in the MD&A disclosure, but interpretation of the results requires additional controls. Our results contribute to other literature that finds an association between future performance and negative sentiment in MD&A (Davis & Tama-Sweet, 2011; Li, 2010).

H2: Transaction-specific narrative contained in the acquisition note is associated with subsequent earnout reversals

The study finds a significant, positive relationship between acquisition note sentiment and subsequent earnout reversals. Additionally, we find that target volatility is significantly associated with sentiment, but not with earnout reversals when controlling for sentiment. One explanation for these findings could be that managers are aware of the risk for the acquisition and use a more positive language to mask the underlying risk. This is in line with findings by Huang et al. (2014, 2018) that positive tone in financial statements and earnings announcements is an indicator for

future negative performance. On the other hand, managers could be more enthusiastic about more volatile acquisitions and therefore express a more positive sentiment when describing the deal in the acquisition note. The disregard for risk could be a reason for the overvaluation of earnout liabilities in the year of acquisition. Still, there could be embedded characteristics of the earnout contracts or the chosen valuation method of earnout contracts that are not present in our model, which could drive the positive sentiment when volatility is high.

Importantly, we do not find that uncertain language is associated with feature reversals or that any of the uncertainty controls are correlated with the use of uncertain language in the note. This could suggest that managers mask underlying uncertainty and do not use uncertain terms to warn investors of potential risks. Another explanation could be that uncertain language is generally used in acquisition notes, as almost all acquisition notes in the sample contain one or more uncertain words, as evidenced by the summary statistics. Therefore, we contend that the uncertain word list could be picking up specific standard phrases as uncertainty, as it was originally developed on complete annual reports, not on financial statement notes.

Our results remain robust even when separating into positive and negative sentiment, adding to the studies that found that the net sentiment, including positive wording, adds incremental information to quantitative disclosure (Huang et al., 2014, 2018; Jegadeesh & Wu, 2013; Li, 2010). This clashes with the findings for the MD&A Section, where only the negative language is significantly associated with subsequent reversals. We argue that the more precise language of acquisition notes is more informative, as the tone is generally neutral in acquisition notes. Instances of positive or negative wording are shown to provide informational value on the acquisition, as deviations from the neutral tone indicate management sentiment of the acquisition. This could be a result of the more intimate deal knowledge required to construct the acquisition note.

Finally, we find that our controls remain stable throughout our models with language variables. We find a significant negative relationship between acquirer ROA and overstatement in our sample. This follows findings by Ferguson et al. (2024), who argue that higher-performing firms have lower incentives to overvalue earnout provisions. Alternatively, we suggest that better-performing firms have access to better resources and are able to value earnout provisions more effectively. Additionally, we see that deal value is negatively associated with earnout reversals, which could suggest increased monitoring on larger deals. The increased accuracy could also stem from more resources spent on the deal, allowing for a more accurate valuation of contingent consideration milestones.

Our results from section 4.3.1 show that market reactions to acquisition announcements do not significantly drive sentiment in annual report disclosures, as we find no relationship between announcement cumulative returns and the sentiment variables. We, therefore, find no evidence that managers adjust the sentiment of their disclosure to “correct” initial market reactions to

acquisition announcements. Overall, we find little evidence that the chosen controls drive sentiment or uncertain wording.

In conclusion, we find that acquisition note sentiment can partially predict subsequent reversals of earnout provisions, even when controlling for other factors that influence overstatement. This is in line with both (Huang et al., 2014) and (Twedt & Rees, 2012) that sentiment provides incremental information beyond quantitative financial information. This suggests that users of financial statements should pay attention not only to what is quantitatively disclosed regarding acquisitions featuring earnouts, but also how the disclosure describes them.

H3: Earnout overstatement is associated with managerial incentives for earnings management in the European context

Contrary to Ferguson et al. (2024) which finds significant evidence of incentives driving future contingent consideration provision reversals, our results are insufficient to provide conclusive results. Notwithstanding the overall results, some of our findings are consistent with the study conducted on the Australian market. For acquirer's ROA, the association with earnouts is negative, as previously described in the Results section for Model 1 and Model 3, reaffirming that poorer financial performance of the acquirer may impel it to record larger portion of a provision at acquisition initially to create a "jar" that can be used to bolster financing performance from an obscure source. However, following the results demonstrated in Model 2, when only considering companies that have an analyst following, this incentive becomes insignificant, potentially suggesting that the assumption no longer holds when new conditions are introduced.

The significant relationship between pre-reversal losses and reported earnout gains follows the findings in the Australian market by Feguson et al. (2024). We offer two possible interpretations for this finding. On the one hand, as suggested by Ferguson et al. (2024), companies demonstrate opportunistic behaviour with regard to the timing of reversals, which implies that such an activity should be closely monitored and scrutinized. On the other hand, another plausible explanation of the phenomenon might stem from the inherent properties of earnout contracts. Payments are only triggered in the case the target company manages to meet the agreed performance levels or other conditions of a contingent consideration clause. Therefore, when the target company, fully integrated and consolidated, exhibits deteriorating financial performance, it likely affects the overall performance of the acquirer. However, this negative performance could result in the non-achievement of earnout milestones and thus protect the acquirer from overpayment. The absence of a relationship between pre-reversal EPS decline and reported earnout gains supports this interpretation, as we do not see the firms timing gains to improve reported performance.

The analysis did not find a relationship between the monitoring variables and overstatement. As the descriptive statistics (section 4.1) show, over 85% of companies in the sample had a Big 4

auditor in the year of the acquisition. Additionally, 75 out of 87 observations had at least one analyst following in the period before the acquisition. On the other hand, only 5% of transactions featured debt security financing. Thus, the low variance in the observations could explain the absence of the expected effect of reducing earnout overstatements. Further, differences in the monitoring environment and legal system could also affect the efficiency of the monitoring factors. Additionally, Ferguson et al. (2024) also do not find a significant relationship between analyst following or the number of analysts and subsequent overstatements.

The analysis of the narrative score provides tentative support that higher-quality, more transparent reporting is associated with lower levels of earnout overstatement. This aligns with findings by Ferguson et al. (2024), which found significant differences in overstatements between informative and opaque disclosers. While a simple median split did not yield statistically significant differences, the results become significant when isolating highly informative disclosers. This could support the notion of obfuscating important information by managers who overstate and highlights the differences in disclosure practices between companies applying IFRS 3, as suggested by Ferguson et al. (2024).

The major difference when comparing findings in the Australian market with our results for Europe lies in the magnitude of the effect that target industry volatility has on overstatements. While being insignificant for Australia, i.e., target industry volatility is not associated with earnout overstatements, we find supporting evidence for their relationship. The regression analysis of both Models 1 and 2 indicates that higher industry volatility is significantly associated with higher overstatement. This suggests that in the European context, it is probable that volatility prompts companies to overvalue earnouts. This supports the notion that volatility introduces additional valuation uncertainty or that greater provisions are made when companies are unsure about the outcome.

In conclusion, we only find weak associations between managerial incentive variables and earnout overstatements. Instead, we find supporting evidence for valuation uncertainty influencing earnout overstatements, as target industry volatility is significantly associated with overstatements in both Models 1 and 2 in table 10. While we do find the timing of earnout gains to be associated with pre-reversal losses, the absence of a significant relationship between EPS decline and earnout gains could suggest that this pattern arises from how earnouts inherently function, rather than from intentional managerial action. Therefore, we do not find conclusive evidence that managerial incentives increase earnout overstatement.

5.1. Limitations

We contend that our study, due to the low availability of disclosure, operates with a limited sample size. Generally, textual analysis on financial disclosure is carried out on all publicly listed firms in large markets such as the US or the UK, which results in a much larger sample (Cao et al., 2023; Chen, 2022; Twedt & Rees, 2012). Thus, the models used in this thesis are constrained in the

number of control variables to reduce the loss of statistical power. Additionally, the higher exclusion rate compared to Ferguson et al. (2024) indicates that European firms are less transparent on earnout disclosures. Therefore, the study is missing datapoints from acquisitions with earnouts in the period under observation. We advise that the results might only apply to companies with relatively transparent disclosure practices. Further, the sample contains fewer observations from some countries than expected, with a majority of transactions conducted by Swedish companies. This could be due to the data collection method of the SDC database.

Secondly, the study uses future earnout reversals as a proxy for target performance. However, as previously explored, there are incentives for both acquirer and target management to engage in earnings management to decrease or increase future earnout payments. While the study controls for previously established incentives for earnings management, there could be unexplored or omitted variables that change the results. Furthermore, the study, due to a lack of disclosure, does not control for the applied valuation method, which can significantly affect the valuation of expected earnout payments.

A third limitation to our study is the limited length of the text under study, especially for the MD&A section. As most textual analysis studies focus on either the entire annual report (Jegadeesh & Wu, 2013; Loughran & McDonald, 2011), the entire MD&A section (Davis & Tama-Sweet, 2011) or analyst reports (Twedt & Rees, 2012). While some studies focus on more granular disclosures, such as M&A press releases (Cao et al., 2023; Chen, 2022) or forward-looking statements contained in the MD&A sections (Li, 2010), the analysis in this study focuses on only one note from the annual report and transaction-level statements in the MD&A section.

Lastly, our model fit, as expressed by adjusted R^2 is moderate for most models in our study, highlighting the complexity of predicting future earnout reversals. However, the model fit is in line with other studies that analyse text sentiment and future performance (Huang et al., 2014; Twedt & Rees, 2012).

Choosing a fitting word list is very important when using a dictionary approach, as words can be positive or negative, depending on the context (Kearney & Liu, 2014). The LM-dictionaries used in this study were developed on the annual reports of American companies and, therefore, might not be perfectly accurate when applied to specific disclosure sections of European firms. Additionally, as we had to translate some reports from other languages into English, we are dependent on a correct tonal translation of the chosen segments.

5.2. Further research and Recommendations

Future research could apply different textual analysis methods, especially from the machine learning domain, as they can identify the sentiment of sentences. Potentially, the development of new sentiment analysis tools and frameworks could further enhance the precision and quality of analysis, providing valuable avenues for future research. Additionally, the complexity of the

disclosure (often expressed as the FOG-index) could provide clarity on the association between readability of disclosures and transaction-level performance, as other studies have explored in similar contexts**.** As discussed in the limitations section, future research could include additional controls, especially the chosen valuation method. Next, we recommend testing our findings in other markets, such as the United States or the United Kingdom, which generally have a higher deal volume. However, with increasing firm size, the threshold for material disclosure is higher, impacting data availability. Lastly, future research could explore the effect of acquisition sentiment on the future performance of publicly listed targets that continue to publish financial information, eliminating the need for a proxy.

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7. Appendix

Appendix A: Variable Definitions

Table 14. Variable definitions

Variables	Definitions
Earnout and Deal-related	
Ov_D	Acquirer's initial earnout liability minus actual earnout payment, scaled by initial earnout liability.
Ov_Dummy	An indicator variable that equals 1 if an acquirer's initial earnout liability is larger than the actual earnout payment, and 0 otherwise.
EarnG_A	Absolute amount of earnout gains/losses (if any) recorded in acquiring firms' net income scaled by the beginning balance of total assets.
Deal_V	Natural logarithm of the transaction value in EUR as disclosed by SDC.
Cross_I	An indicator variable that equals 1 if the acquirer's two-digit SIC industry code and the target's primary two-digit SIC code are different, and 0 otherwise
Acq_AR	Acquirer's three-day market-adjusted cumulative abnormal return centred on the acquisition announcement date [–1, 1], with the daily return of all stocks listed in the country of origin's market as a market benchmark.
Debt_f	An indicator variable that equals 1 if the transaction has been flagged as debt financed by the SDC database, and 0 otherwise.
Textual variables	
Sentiment_note	Number of positive words less the number of negative words scaled by total word count in the acquirers' acquisition note for the transaction.
Sentiment_main	Number of positive words less the number of negative words scaled by total word count in the acquirer's MD&A disclosures that are relevant for the transaction.
Positive_note_score	Number of positive words scaled by total word count in the acquirers' acquisition note for the transaction
Positive_main_score	Number of positive words scaled by total word count in the acquirer's MD&A disclosures that are relevant for the transaction.
Negative_note_score	Number of negative words scaled by total word count in the acquirers' acquisition note for the transaction
Negative_note_score	Number of negative words scaled by total word count in the acquirer's MD&A disclosures that are relevant for the transaction.
Uncertainty_note_score	Number of uncertain words scaled by total word count in the acquirers' acquisition note for the transaction.
Uncertainty_main_score	Number of uncertain words scaled by total word count in the acquirer's MD&A disclosures that are relevant for the transaction.
Acquirer and Target Characteristics	
Acq_A	Natural logarithm of acquirer's total assets in mEUR.

Acq_De	Acquirer's total liabilities divided by total assets.
Acq_CFO	Acquirer's cash flow from operations divided by total assets.
Acq_ROA	Acquirer's net income divided by total assets.
Big4	An indicator variable that equals 1 if the auditor of an acquirer in the acquisition year is a Big 4 auditor, and 0 otherwise.
CEO_B	Ratio of acquiring firm's CEO bonus scaled by total pay in the year prior to acquisition completion.
M_o_B	An indicator variable that equals 1 if an acquirer met or beat analyst earnings forecast in the period prior to the acquisition announcement, and 0 otherwise.
LN_Analyst	Natural logarithm of the number of analysts following an acquiring firm the period before the acquisition.
Analyst_f	An indicator variable that equals 1 if an acquiring firm has at least one following analyst the period before acquisition, and 0 otherwise.
Decline	An indicator variable that equals 1 if an acquiring firm's current year pre-earnout reversal EPS is below actual prior-year EPS, and 0 otherwise.
Pre_Loss	An indicator variable that equals 1 if an acquiring firm has a pre-reversal net loss in the year when earnout fair value gains are recorded, and 0 otherwise.
Tar_Vol	Annualized volatility of the return of the target's applicable FTSE Eurofirst 300 sector index measured over the last 100 days prior to the acquisition announcement. This serves as a proxy of target industry volatility.
Tar_Q	Median value of Tobin's Q for listed western European firms in the same industry (primary 2-digit SIC) as the target firm in the fiscal year before the deal announcement. Q is the ratio of market value of a firm to the book value of its total assets, where firm market value is measured as book value of total assets less book value of equity plus market value of equity.

Appendix B: Correlation matrix

Table 15. Correlation matrix of textual variables

	Positive_main_score	Negative_main_score	Uncertainty_main_score	Positive_note_score	Negative_note_score	Uncertainty_note_score
Positive_main_score	1.000	0.407	0.425	0.270	0.251	0.205
Negative_main_score	0.407	1.000	0.719	0.030	0.231	0.377
Uncertainty_main_score	0.425	0.719	1.000	-0.019	0.367	0.428
Positive_note_score	0.270	0.030	-0.019	1.000	0.158	0.106
Negative_note_score	0.251	0.231	0.367	0.158	1.000	0.318
Uncertainty_note_score	0.205	0.377	0.428	0.106	0.318	1.000

Appendix C: VIF-test MD&A section

Table 16. VIF test on MD&A section

Positive_main_score	Negative_main_score	Uncertainty_main_score	Acq_AR	Acq_ROA	Big4
1.338	2.381	2.618	1.446	1.403	2.270
Analyst_f	Tar_Vol	Tar_Q	Acq_A	Deal_V	
1.705	1.195	1.118	2.459	2.015	

Appendix D: AI Disclosure

The usage of AI is predominantly limited to ChatGPT. The usage of AI for this thesis was primarily constrained to structure, writing quality and coding-assistance. We consulted with ChatGPT for suggestions on how to increase the overall readability, clarity, and fluency of the thesis. Despite returning a considerable number of results, we implemented only the changes that appeared the most useful in our view, while examining factual correctness and modifying the responses at our discretion. Moreover, as non-native speakers, we employed ChatGPT for grammar improvements and spell check. This applied especially where sentences were complex and the message we attempted to convey was unclear or equivocal. For the same reason, Grammarly was utilized at the final stage when reviewing the outcome of the thesis.

In addition, ChatGPT was used for coding-related assistance, especially in writing and troubleshooting Python and R code. This included resolving specific errors, ensuring correct syntax, and improving the efficiency of certain code segments. Code inputs were always double-checked to see if they produced the intended result. Output from AI-assisted coding segments, especially the Python code, was tested on a sample basis.

However, ChatGPT or other AI tools were not employed for research design, theoretical development, literature review, or the interpretation of results since it is not a trustworthy source, which tends to make up references and facts. Therefore, no sources, references, or factual claims generated by ChatGPT were relied upon, due to its known limitations in reliably generating accurate and verifiable academic information.

Overall, the use of AI tools was carefully constrained to editorial and technical support, where all outputs were manually reviewed and adjusted when necessary to ensure accuracy and relevance. Therefore, we believe that AI has only indirectly increased the quality of this thesis by improving grammar, readability, and coding efficiency. We recognize that AI can be a powerful tool for thesis writing, but it still requires manual oversight, and outputs always require human oversight, as implied meaning or tone can get lost.