Essays on Non-GAAP Measures and Corporate Governance Mechanism: Regulation, Investor Perception, Gatekeeping and Reporting Complexity

DISSERTATION

submitted in partial fulfillment of the requirement for the

degree of doctor rerum politicarum (Dr. rer. pol.) at

TU Dortmund University

Faculty of Business and Economics

Professorship of International Accounting and Auditing

by

Fabian Freches

Dortmund

2026

Table of Content

List of Figures

List of Tables

List of Abbreviations

Abs.	Absatz
Adj.	Adjusted
AG	Aktiengesellschaft
AI	Artificial intelligence
AktG	Aktiengesetz
AktGEG	Einführungsgesetz zum Aktiengesetz
ANOVA	Analysis of variance
APM	Alternative performance measures
ARUG	Gesetz zur Umsetzung der Aktionärsrechterichtlinie
ASCG	Accounting Standards Committee of Germany
BFuP	Betriebswirtschaftliche Forschung und Praxis (Journal)
Bspw.	beispielsweise
BVI	Bundesverband Investment und Asset Management
C&DI	Compliance & Disclosure Interpretations
CEO	Chief executive officer
CSR	Corporate social responsibility
CSRD	Corporate Sustainability Reporting Directive
DAX	Deutscher Aktienindex
DCGK	Deutscher Corporate Governance Kodex
DPR	Deutsche Prüfstelle für Rechnungslegung
DRS	Deutscher Rechnungslegungs Standard
DRSC	Deutsches Rechnungslegungs Standards Committee
e.g.	exempli gratia (for example)
EAA	European Accounting Association
EBIT	Earnings before interest and taxes
EBITDA	Earnings before interest, taxes, depreciation, and amortization
EBT	Earnings before taxes
ED	Exposure Draft

EPRA	European Public Real Estate Association
EPS	Earnings per share
ESG	Environmental, social, and governance
ESMA	European Securities and Markets Authority
et al.	et alia (and others)
EU	European Union
Expl	explained
FOG	Gunning Fog Index
FRE	Flesch Reading Ease
FRE_{Amstad}	Flesch Reading Ease nach Amstad
GAAP	Generally accepted accounting principles
GAS	German Accounting Standard
GE	Geldeinheiten
GuV	Gewinn- und Verlustrechnung
H	Hypothesis
HDAX	Hunderter Deutscher Aktienindex
HGB	Handelsgesetzbuch
HTML	HyperText Markup Language
i.e.	id est (that is)
i.S.d.	im Sinne des/der
I/B/E/S	Institutional Brokers' Estimate System
IAS	International Accounting Standard(s)
IASB	International Accounting Standards Board
IDW	Institut der Wirtschaftsprüfer
IFRS	International Financial Reporting Standards
IR	Investor relations
IRZ	Zeitschrift für Internationale Rechnungslegung (Journal)
KAM	Key audit matters
KGaA	Kommanditgesellschaft auf Aktien)

KoR	Zeitschrift für internationale und kapitalmarktorientierte Rechnungslegung (Journal)
LIX	Lesbarkeitsindex nach Björnsson
M	Mean
MD&A	Management discussion and analysis
MDAX	Mid-Cap-DAX
MPM	Management performance measures
MU	Mutterunternehmen
n	Sample size/amount/Anzahl
n.a.	Not available/non-answer
NGM	Non-GAAP measure(s)
NLP	Natural language processing
o.Ä.	oder Ähnliches
OCR	Optical character recognition
p	p-value
PDF	Portable Document Format
PS	Prüfungsstandard
PwC	PricewaterhouseCoopers
Q&A	Questions and answers
Regulation FD	Regulation Fair Disclosure
Rn.	Randnummer
ROCE	Return on capital employed
RQ	Research question
S.	Seite
S&P	Standard & Poor’s
Sa	standalone
SDAX	Small-Cap-DAX
SdK	Schutzgemeinschaft der Kapitalanleger
SE	Societas Europaea

SEC	U.S. Securities and Exchange Commission
Sog.	sogenannte
Tukey HSD	Tukey's honestly significant difference
Tz.	Textziffer
u.a.	unter anderem
US	United States
USA	United States of America
Vgl.	vergleiche
VHB	Verband der Hochschullehrerinnen und Hochschullehrer für Betriebswirtschaft
VorstAG	Gesetz zur Angemessenheit der Vorstandsvergütung
WPg	Die Wirtschaftsprüfung (Journal)
WSTF	Wiener Sachtextformel
z.B.	zum Beispiel

Acknowledgements

This dissertation is the result of my research at the Chair of International Accounting and Auditing at TU Dortmund University. I am deeply grateful to everyone who played an essential role in this journey.

First, I would like to express my sincere gratitude to my doctoral supervisor, Prof. Dr. Christiane Pott. I greatly valued my time at the chair, which was characterized by a high degree of flexibility and support she granted us in shaping our work and pursuing our research ideas. Above all, I am deeply grateful for her empathy and the genuine appreciation she showed for the individual situation of each member of the team. Her supportive approach and constant willingness to encourage me played a crucial role in completing this dissertation. I would also like to thank Prof. Dr. Kreße for taking on the role of the second reviewer and Prof. Dr. Holzmüller for completing the dissertation committee.

I would also like to thank my co-authors for the pleasant and productive collaboration on our projects, as well as all my colleagues at the Chair for the wonderful time. I would like to mention Sandra Chrzan, Melina Heilmann, Michelle Höfmann, Christian Beer, Jonas Maiwald, and Björn Seeck, with whom I could always enjoy valuable and enriching conversations about academic life and everything beyond it.

I would like to thank my partner, Lena, and my brother, David, for countless conversations in which you offered me new perspectives and encouraged me whenever necessary. Your support in the background, especially towards the end of this journey, was an invaluable source of strength for me.

My greatest thanks, however, go to my parents. Your unconditional love and your ongoing support have accompanied me throughout my life, and without your encouraging words and thoughtful advice, this dissertation would not have been possible. Throughout this journey, your belief in me has given me the strength to continue. I am grateful that you are always there for me.

This dissertation is dedicated to you.

„Ich will, ich werde.“

1. Introduction

The provision of information, especially through corporate reporting, is crucial for the effective functioning of capital markets (Healy & Palepu, 2001). In light of the information asymmetries that exist among participants in the capital market, defined as discrepancies in information quality or access to information that can impair market functioning (Akerlof, 1970; Healy & Palepu, 2001; Lambert et al., 2011), corporate reporting can be broadly categorized into two forms. On the one hand, information may be provided by mandatory disclosure regulations, such as firms' financial statements in accordance with generally accepted accounting principles (GAAP) or remuneration reporting. On the other hand, firms may voluntarily disclose information, such as press releases or analyst presentations. However, because voluntary disclosure leads to additional costs, these expenses must be rationally explained (Hitz, 2010; Verrecchia, 1983). Various theories seek to explain why companies decide to voluntarily disclose information (Cotter et al., 2011; Rouf & Siddique, 2023). For example, signaling theory (Spence, 1973) primarily addresses the challenge of information asymmetries, which necessitates that firms engage in voluntary reporting to supply shareholders with additional insights. Through voluntary disclosure, a company sends a signal about its real performance, thereby reducing information asymmetries (Cotter et al., 2011). According to agency theory (Jensen & Meckling, 1976), the separation between firm ownership and management leads to information asymmetries, with management potentially acting in its own interests rather than those of the shareholders (Cotter et al., 2011; Rouf & Siddique, 2023). Consequently, both mandatory and voluntary financial disclosures are essential for shareholders to effectively monitor management and ensure that its actions align with shareholder interests (Beyer et al., 2010; Cotter et al., 2011; Healy & Palepu, 2001). In addition to addressing theories related to reducing agency problems and information asymmetries, previous studies indicate that voluntary disclosure is also driven by opportunistic motives on the part of management (Brockman et al., 2010; Rouf & Siddique, 2023).

A central aspect of voluntary financial reporting is the disclosure of so-called non-GAAP measures, as these allow management to adjust financial figures and can exert significant influence on investors. Non-GAAP measures are financial performance indicators that are disclosed voluntarily and are not defined by GAAP, i.e., financial reporting standards,

or any other statutory regulations. GAAP measures are reported in accordance with financial reporting standards such as the International Financial Reporting Standards (IFRS) or the United States Generally Accepted Accounting Principles (US-GAAP). In contrast, non-GAAP measures typically modify earnings measures according to GAAP by excluding certain earnings components. Examples of non-GAAP measures include "Adjusted EBIT" or "EBIT before special items", which typically exclude more expense components than income components on average, resulting in non-GAAP measures that are higher than the GAAP measures. Non-GAAP measures are company-specific and, in terms of their design and calculation, not necessarily comparable. By 2024, 97% of the companies listed in Standard & Poor's 500 (S&P 500) disclosed at least one non-GAAP measure (2015: 88%), whereas 72.4% of the companies listed in the German stock index (Deutscher Aktienindex – DAX) reported at least one non-GAAP measure in 2019 (Coleman & Usvyatsky, 2015; Görmar et al., 2025; PwC, 2024). This underscores the (increasing) prevalence of voluntary reporting of non-GAAP measures.

The reporting of non-GAAP measures depends on the cost-benefit trade-off, which is determined by management's intended reporting motive (Black et al., 2018). In research on non-GAAP measures, two primary reporting motives for the voluntary disclosure of non-GAAP measures have been established, and the underlying motive may influence information asymmetries. From one perspective, the informative motive posits that non-GAAP measures provide decision-useful information that supplements GAAP measures, particularly by presenting a financial measure that is consistent, predictable, and comprises only components expected to recur in the future; hence, non-recurring or non-operational components are excluded (Herr et al., 2022). Consequently, non-GAAP measures are also referred to as the company's core earnings and illustrate a sustainable earnings measure (Arena et al., 2020; Hitz, 2010). When management perceives that GAAP measures fail to adequately convey a company's performance, they may leverage their informational advantage to report non-GAAP measures. This practice enables them to disclose exclusive insider information, thereby addressing and reducing information asymmetries (Black et al., 2018; Herr et al., 2022). From another perspective, non-GAAP measures are disclosed because of either opportunistic or strategic management motivations. By primarily excluding expenses, especially those expected to recur or be operational, an opportunistic approach is indicated, and companies can portray enhanced performance outcomes (Black et al., 2018; Hitz, 2010). This approach is often employed

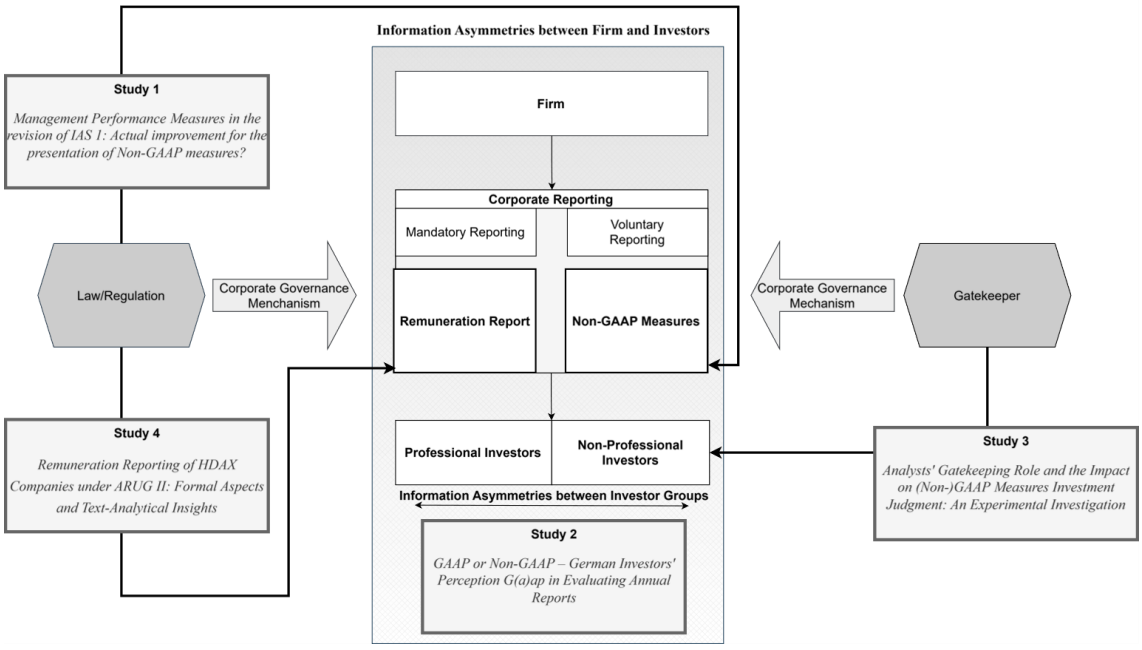
to cover losses, report earnings growth, meet or surpass analyst forecasts, or favorably design management compensation (Arena et al., 2020; Hitz, 2010). Consequently, management may exploit this strategy to mislead investors, a practice that is often moderated by an emphasis on non-GAAP measures in their communication (Herr et al., 2022; Hitz, 2010).

Given the potential of disclosure strategies involving non-GAAP measures, corporate governance plays a crucial role in enhancing transparency. This implies that information is not only accessible but also credible. In this context, corporate governance mechanisms constrain and incentivize management to act in the interests of shareholders, thereby reducing the likelihood that relevant information is undisclosed or lacks credibility (Kanagaretnam et al., 2007). Consequently, it mitigates information asymmetries and diminishes the probability of opportunistic use of non-GAAP measures (Marques, 2017). According to the corporate governance literature, governance mechanisms can be categorized into internal and external mechanisms (Aguilera et al., 2015; Gillan, 2006). This dissertation focuses on external mechanisms outside the firm, specifically laws and regulations, as well as gatekeepers, as external mechanisms play an essential role in ensuring the overall effectiveness of governance (Aguilera et al., 2015). Laws and regulations, such as financial reporting standards, that formulate disclosure requirements obligate management to disclose their private information, which is said to reduce information asymmetries not only between management and investors but also between professional and non-professional investors (Healy & Palepu, 2001). Laws and regulations, as part of the legal system, set the system for how the management board operates (Aguilera et al., 2015). Previous research has demonstrated a positive impact of laws and regulations on the capital market, as well as on non-GAAP reporting (e.g., Black et al., 2012; Daske et al., 2008; Entwistle et al., 2006). However, not only the existence of such information but also the credibility of the disclosed information determines the effective functioning of corporate governance. Research in behavioral finance demonstrates that non-professional and professional investors exhibit differences in their perception and processing of financial accounting information, particularly when dealing with complex data (e.g., Köhler et al., 2020). In this context, gatekeepers complement regulatory laws by serving as informational intermediaries, particularly aiding non-professional investors who may lack the expertise to make informed judgments and decisions. Gatekeepers function as agents, assuring investors of the quality of signals

conveyed by companies, such as through non-GAAP measures (Coffee, 2006). The term gatekeepers encompasses a range of regulatory and capital market institutions, including analysts, auditors, and rating agencies (Roychowdhury & Srinivasan, 2019). Gatekeepers monitor management and can alert shareholders to opportunistic behavior, thereby enhancing transparency (Coffee, 2006). In summary, corporate governance mechanisms, including regulations and gatekeepers, can reduce information asymmetries in the capital market, ensuring its effective functioning (Roychowdhury & Srinivasan, 2019).

This dissertation comprises four papers that explore non-GAAP measures and governance mechanisms, addressing existing research gaps by analyzing recent regulatory developments related to non-GAAP measures. Furthermore, it investigates the impact of non-GAAP measures and the role of analysts as gatekeepers for capital market participants. In addition to voluntary disclosure settings, this dissertation also examines mandatory corporate governance reporting, as reflected in recent regulation on remuneration reporting, which offers a complementary perspective on transparency and reporting complexity. Figure 1.1 presents the research structure of this dissertation.

Figure 1.1: *Research structure*



With regard to regulation, there are already existing requirements for German listed companies concerning the presentation of non-GAAP measures, such as the German Accounting Standard 20 (GAS 20) by the Accounting Standards Committee of Germany (ASCG) and the Guidelines on Alternative Performance Measures by the European

Securities and Markets Authority (ESMA).[1] However, these provide rules that are linked to reporting instruments outside the annual and consolidated financial statements and are therefore only partially subject to audit. In December 2019, the International Accounting Standards Board (IASB), the body responsible for developing international accounting standards, published the exposure draft *General Presentation and Disclosures* (ED/2019/7) as part of a project that subsequently resulted in IFRS 18, which will replace the current International Accounting Standard 1 (IAS 1) *Presentation of Financial Statements*. This initiative is fundamentally driven by stakeholders' desire to make financial reporting more comparable and to improve the overall quality (IASB, 2019a; IASB, 2019b). In addition to mandating the presentation of specified subtotals in the income statement, the exposure draft also sets out requirements for what it refers to as Management Performance Measures, which are conceptually understood as non-GAAP measures. By addressing these Management Performance Measures in the notes to the financial statements, they become part of the financial statements themselves, and all companies reporting under IFRS must observe the requirements. As these non-GAAP measures are thus integrated into the financial statements, their use becomes subject to mandatory disclosure and also subject to financial audit, making the external auditor an additional gatekeeper.

Therefore, IFRS preparers face the challenge of engaging with the content of the new standard. This involves not only the potential differentiation between the terms Management Performance Measures as defined in the Exposure Draft, Alternative Performance Measures under the ESMA Guidelines, and the most significant financial key performance indicators according to GAS 20, but also the need to consider the specific disclosure and reporting obligations set out in both national and international regulations. For this reason, the first paper of this dissertation, titled *"Management Performance Measures in the revision of IAS 1: Actual improvement for the presentation of Non-GAAP measures?" ("Management Performance Measures in der Neugestaltung des IAS 1: Tatsächliche Verbesserung für die Darstellung von Non-GAAP Measures?")*, introduces the Exposure Draft regarding the newly developed concept of Management Performance Measures. In addition, it contrasts the IASB's new requirements with

[1] See ASCG (2012) for German Accounting Standard No. 20 (Deutscher Rechnungslegungs Standard Nr. 20 – DRS 20) and ESMA (2015) for the Guidelines on Alternative Performance Measures, both available in German.

existing concepts (ESMA Guidelines and GAS 20) in terms of their application and presentation, and evaluates them in terms of their practical implementability.

The results of the conceptual study show that the IASB's new requirements largely align with the content of existing regulations. According to the definition in the Exposure Draft, Management Performance Measures are defined as subtotals of income and expenses that 1) are used in public communications outside financial statements, 2) complement totals or subtotals specified by IFRS standards, and 3) communicate to users of financial statements management's view of an aspect of the company's financial performance (IASB, 2019a). A separate disclosure note is required for each identified Management Performance Measure. However, only minor innovations were identified. For example, a mandatory note must be included in the financial statements stating that Management Performance Measures communicate management's view of a particular aspect of the entity's performance, and that comparability with (similar) Management Performance Measures reported by other companies may be limited. This constitutes a new element that was not previously included in the existing regulatory frameworks.

Nevertheless, the necessity of the conceptual requirements set out in the Exposure Draft must be viewed critically. From the perspective of users and considering the existing regulatory requirements under the GAS 20 and ESMA Guidelines, no significant new information is provided. At the same time, both preparers and auditors are likely to face additional effort and increased complexity due to the need to implement another regulatory requirement. Against the backdrop of the widespread use of non-GAAP measures, the legally binding integration into the financial statements is, in principle, a welcome development, especially since the ESMA Guidelines have not been fully implemented to date (ESMA, 2019). The new regulatory requirements formulated by the IASB may thus enhance the transparency of non-GAAP measures, particularly by making misleading presentations to users more difficult.

The Exposure Draft was revised and officially issued as the newly established IFRS 18 *Presentation and Disclosure in Financial Statements* on April 9, 2024, i.e., after the publication of the first study. The formal EU endorsement is still pending and is currently expected to be finalized in early 2026 (EFRAG, 2025). IFRS 18 will be mandatory for IFRS-reporting entities for financial years beginning on or after January 1, 2027. The final standard includes only minor substantive differences compared to the Exposure

Draft with regard to Management Performance Measures.[2] With the implementation of IFRS 18 approaching, approximately two-thirds of the professionals and executives at IFRS-reporting companies surveyed one year after the publication of the standard indicated that they had either not yet addressed the transition to IFRS 18 at all or had only conducted initial analyses (Pferdehirt et al., 2025). Regarding the disclosure of Management Performance Measures in the notes, 28% of respondents expect a significant increase in workload, while 33% report that they are currently unable to reliably assess the impact (Pferdehirt et al., 2025). Accordingly, this study remains relevant for practice, supporting preparers in implementing new reporting requirements following the revision of the Exposure Draft and the adoption of IFRS 18.

Regulatory requirements are applied when transparency needs to be established and abusive purposes are to be prevented. The latter is generally possible when there are information asymmetries between the company and the recipients. Although the capital market in Germany is dominated by institutional professional investors (BVI, 2024), a homogeneous investor landscape cannot be assumed. Therefore, distinctions must be made. Professional (institutional) investors generally possess greater expertise and more experience compared to non-professional (private) investors. Under these circumstances, one can assume that professional investors have an informational advantage over non-professional investors, particularly regarding the use of non-GAAP measures. Non-professional investors may, therefore, be more in need of protection in the context of the presentation of non-GAAP measures in financial reporting than institutional investors, especially when it comes to the correct interpretation of non-GAAP measures and the derivation of value-relevant information, which is more readily accessible to professional investors. This raises the question whether non-GAAP measures are perceived in the same way by both non-professional and professional investors.

[2] See IFRS Foundation (2024). The changes regarding the Management Performance Measures concern the abstractly formulated definition criterion of "public communications outside the financial statements" as set out in the Exposure Draft. This aspect was already discussed in Chapter 2.4 of the first study. Based on stakeholder feedback, the IASB clarified in the final standard that oral statements, transcripts of oral statements, and social media posts do not fall within the scope of public communications. In addition, another change concerns the presentation of tax effects in the reconciliation. However, this aspect was not examined further in the first study. Furthermore, the designation of Management Performance Measures, as set out in the Exposure Draft, has been slightly modified. In the final IFRS 18, the term Management-defined Performance Measures (instead of Management Performance Measures) will be used going forward.

Against this background, the second paper, "*GAAP or Non-GAAP – German Investors' Perception G(a)ap in Evaluating Annual Reports"*, investigates, in a quasi-experimental study, the effect of non-GAAP measures on the perceived reliability of annual reports, the so-called reporting reliability, among non-professional and professional investors. Previous studies have primarily examined how the presentation of non-GAAP measures influences investment-related judgment and decision-making processes, especially for U.S. investors (e.g., Elliott, 2006). This study focuses on the perception process of non-professional and professional investors from Germany, which precedes the assessment and decision regarding an investment. Inspired by the concept of the expectation gap (e.g., Libby, 1979) and based on attribution theory (Heider, 1958), it is argued that due to differing investment experience and expertise, there will be differences in perception regarding the disclosure motives behind non-GAAP measures. This perceptual divide is referred to as the perception gap, whereby the perception of professional investors – because of their greater investment experience, expertise, and sensitivity to disclosure practices employed through non-GAAP measures – serves as a benchmark in the study.

The experimental case of a fictitious company was inspired by the reporting of a real, publicly listed German consumer goods company. The experimental material, which in the respective control group of professional and non-professional participants (GAAP only-Conditions) consisted of an audited annual financial statement (comprising a balance sheet and an income statement) as well as a press release containing only GAAP measures, was supplemented in an additional reporting scenario (non-GAAP measure-Conditions) by including two non-GAAP measures in the press release. Regarding the regulatory changes addressed in the first study due to IFRS 18, participants in a third reporting scenario (non-GAAP measure-Conditions with explanation) were provided with background information and a reconciliation to the non-GAAP measures in addition to the non-GAAP measures. The reported non-GAAP measures were manipulated to be greater than the corresponding GAAP measures. Thus, the design of non-GAAP measures reflects the common practice of excluding expenses rather than income.

Based on a final sample of 174 participants, the results indicate that the perceived reporting reliability of professional investors is not significantly influenced by the presentation of non-GAAP measures or by the additional provision of background information. In contrast, non-professional investors respond to the disclosure of non-GAAP measures. Reporting reliability, as perceived by non-professional investors, is

significantly higher when non-GAAP measures are disclosed. While it was originally expected that a perception gap between professional and non-professional investors would arise only through the presentation of non-GAAP measures, the results show that such a gap already exists in reporting based solely on GAAP measures. This gap is closed by the additional disclosure of non-GAAP measures. Contrary to expectations, the disclosure of non-GAAP measures does not create or increase, but rather decreases, the perception gap regarding perceived reporting reliability. The findings indicate that this effect may be due to possible information asymmetries to the disadvantage of non-professional investors. Professional investors already assess the information base for evaluating the company's economic situation better in the initial GAAP scenario than do non-professional investors. By presenting non-GAAP measures, the perceived information base for non-professional investors improves, whereas there is no observable change for professional investors. This suggests that non-GAAP measures at least provide perceived informational value for non-professional investors. Therefore, this study contributes to the literature by highlighting the different effects of non-GAAP measures on perceived reporting reliability. In particular, regarding non-professional investors, it becomes apparent that there is generally a clear need for information beyond the mandatory GAAP measures. At the same time, however, this also opens up potential vulnerability to strategically oriented reporting practices.

At the same time, the results raise the question whether the identified effects are merely a perception effect among non-professional investors. As expected, professional investors with greater expertise do not respond to the presentation of non-GAAP measures. This suggests that the perceived improvement in the information base among non-professional investors does not necessarily correspond to an actual informational gain, but may also be attributable to different processing mechanisms. Non-professional investors may have difficulties processing and interpreting complex information, such as non-GAAP measures.[3] In this regard, Frederickson and Miller (2004) found that non-GAAP measures influence investment judgments of non-professional investors more through an unconscious, cognitive effect. While the disclosure of non-GAAP measures consciously affects the perceived attractiveness of a company, this, in turn, only unconsciously affects

[3] These problems with understanding complex information also appear in other accounting areas. For example, Köhler et al. (2020) found in a study that non-professional investors, unlike professional investors, have difficulties understanding information from Key Audit Matters.

the investment decision. Therefore, Frederickson and Miller (2004) conclude that non-professional investors do not consciously perceive an informational benefit of non-GAAP measures for investment assessment. Although the conclusions of Frederickson and Miller (2004) relate to judgments of attractiveness and investment decisions, and thus concern a different type of judgment than the reporting reliability examined in this study, their findings show that non-GAAP measures can affect non-professional investors through cognitive processes that do not necessarily rely on conscious information improvement. This alternative perception mechanism does not contradict the results of the present study; however, it does suggest that the improved information base reported by non-professional investors could also be based on unconscious effects. In light of these potentially divergent findings, it can be concluded that the process of information processing leading up to the investment decision in the context of non-GAAP measures is complex and multifaceted for non-professional investors, and should therefore be the subject of future research.

The second study addresses the perceived reporting reliability of financial reports, depending on the attributed motives of professional and non-professional investors for management's motivation to disclose non-GAAP measures. The third study builds on this topic but expands it by providing a theoretical foundation based on Source Credibility Theory (Birnbaum & Stegner, 1979). This theory posits that the perceived credibility of an information source depends on both its expertise (perceived competence) and its source bias (potential bias), and thus directly influences individuals' judgment and decision-making processes (Cohen et al., 2022; DeZoort et al., 2003; Schwarzkopf, 2006). Whereas the second study relied solely on company-issued financial reporting as the information source, the third study examined how non-professional investors' investment judgments change when an additional external source – specifically, analyst forecasts – is made available. The introduction of a new information source can either amplify or diminish the impact of the original source. As a result, financial statement users have access to different information sources for evaluating information and assessing a company's financial performance – with the perceived credibility of sources becoming a crucial factor. External sources such as analyst forecasts are particularly helpful for less experienced investors, enabling them to better contextualize and validate management's statements, especially those involving non-GAAP measures. In this context, analysts act as gatekeepers and serve a key monitoring role within the corporate

governance system, particularly in the presence of information asymmetries. The more objective a source is perceived to be, the more credible it appears (Holt, 2019; Pornpitakpan, 2004). Analysts' forecasts can provide a reference point that supports investors in evaluating management-reported figures and in identifying potential opportunistic reporting practices and limitations in management's disclosure objectives. However, both management and analysts are subject to their own incentive structures, such as the herding behavior of analysts (e.g., Welch, 2000), which can affect the perceived reliability of both sources. Particularly relevant is the conflict of interest inherent in management's aim to outperform analyst forecasts: if such forecasts are exceeded using non-GAAP measures, despite this not being possible under GAAP, it may be interpreted as a signal of opportunistic reporting by management (Marques, 2017). Although the second study analyzes the perceived reliability of individual sources, it remains unclear whether this also results in concrete changes in the investment judgments of non-professional investors. It is therefore of particular interest which source this group considers more relevant. If analyst forecasts are not assigned greater importance, then no significant adjustment in investment judgment would be expected, even in scenarios involving opportunistic reporting by management.

Previous research has investigated the influence of various corporate governance mechanisms, including different gatekeepers, on the disclosure of non-GAAP measures. For instance, the positive impact of the board of directors (e.g., Frankel et al., 2011), audit committees (e.g., Lee, 2022), regulations (e.g., Black et al., 2017), and auditors (e.g., Feng et al., 2023) on the quality of non-GAAP reporting, and consequently a reduction in opportunistic non-GAAP reporting, has been demonstrated. Prior studies have also explored the effect of non-GAAP measures on analysts' judgments (Andersson & Hellman, 2007; Frederickson & Miller, 2004), yet the role of financial analysts as a governance mechanism in a non-GAAP environment, particularly when non-professional investors make investment-related judgments, remains unexplored. Analysts are experienced in non-GAAP reporting as they frequently forecast non-GAAP measures. Thus, they can serve as external governance mechanisms and mitigate aggressive non-GAAP reporting by disciplining managers' non-GAAP reporting behavior (e.g., Christensen et al., 2021). However, it remains uncertain whether analyst involvement also influences how investors interpret and utilize (non-)GAAP information in their investment judgments, thereby fulfilling their gatekeeper role.

Thus, the third study *"Analysts' Gatekeeping Role and the Impact on (Non-)GAAP Measures Investment Judgment: An Experimental Investigation"* addresses this gap by examining the gatekeeping role of financial analysts in shaping non-professional investors' investment judgment. This experimental study examines how non-GAAP measures and analyst forecasts affect the investment judgments of non-professional investors and, in more detail, under which conditions financial analysts act as effective capital market gatekeepers. As in the second study, the experimental case was derived from a real, publicly listed company in Germany. Consistent with the manipulation in the second study, the nature of non-GAAP reporting was manipulated, encompassing three conditions: GAAP only, GAAP combined with non-GAAP standalone (without explanation), and GAAP combined with non-GAAP accompanied by an explanation (transparent disclosure through the provision of background information and a reconciliation). Additionally, a second experimental treatment manipulated the presence of two analyst forecasts concerning both GAAP and non-GAAP measures. In the respective experimental conditions, non-GAAP measures indicate an increase in profit, whereas GAAP measures report a decline. Furthermore, analyst forecasts are partially missed on GAAP measures but exceeded on non-GAAP reporting. Collectively, this scenario illustrates a general tendency towards opportunistic reporting.

With a final sample of 150 participants, the results indicate that the disclosure of non-GAAP measures positively influences the investment judgments of non-professional investors in the absence of other information sources, such as analyst forecasts. However, a moderating effect of transparent disclosure on non-GAAP measures could not be statistically confirmed. The results differed when analysts' forecasts were disclosed. Investment judgment was significantly higher in the GAAP-only condition compared to when forecasts were absent. Interestingly, and contrary to the scenario without analyst forecasts, investment judgment decreased when non-GAAP measures without explanation were reported alongside additional analyst forecasts. Consequently, investment judgment was higher in this scenario when analysts' forecasts were not disclosed. This opposite trend highlights the gatekeeping effect. This trend changes again in the GAAP + non-GAAP with explanation conditions, where investment judgment increased regardless of analyst forecasts, with the highest investment judgment observed when non-GAAP measures were transparently disclosed next to analyst forecasts. This finding suggests that analysts' gatekeeping role is particularly relevant when non-GAAP

measures appear to be of low informational quality due to non-transparent disclosure and when management's motivation to report non-GAAP measures is perceived as opportunistic. In such cases, analysts can serve as effective gatekeepers, highlighting potentially misleading information and warning non-professional investors by signaling through their forecasts, which in turn influences investors' judgments. Moreover, in cases with limited indications of opportunistic reporting, the analysts' gatekeeping role diminishes, and their role shifts to being a valuable additional source of information that enables investors to further assess the disclosed non-GAAP measures and the company's situation in general. Consequently, the analyst's signal is no longer essential as a warning gatekeeping mechanism. This study contributes to the literature by being the first, to my knowledge, to examine the gatekeeping role of financial analysts in a non-GAAP reporting scenario. It also underscores the importance of transparent reporting of non-GAAP measures to regulators and companies to prevent misleading non-professional investors.

While the second study of this dissertation examined the different perceptions regarding GAAP and particularly non-GAAP measures between professional and non-professional investors, the third study provides insights into how the handling of GAAP measures and non-GAAP can be moderated for non-professional investors. The second study shows that professional investors are generally not impacted by the additional reporting of non-GAAP measures, while an initial perception gap between non-professional and professional investors in GAAP-only reporting is closed by non-GAAP measures, with non-professionals reacting to the disclosure. The third study indicates that by providing additional and external information by analysts, non-professional investors are guided through interpreting complex financial reporting, an assistance professional investors generally do not need due to their expertise. More interestingly, if you compare the mean of the captured perceived reporting reliability of professional investors in the second study for the condition where only GAAP measures are reported, this is nearly the same level that non-professional investors have for the investment judgment in the third study. Even though these are two different constructs, it is plausible that perceived reporting reliability is related to investment judgment, and that, through the analyst’s guidance, non-professionals can reduce their knowledge deficit in the regular GAAP reporting. Therefore, the perception gap could be closed either through non-GAAP measures or by providing additional information, such as forecasts, in the GAAP reporting environment.

Because these constructs differ conceptually and have been examined in separate studies, this purely descriptive comparison should be interpreted with caution. However, this interpretation is further contextualized by the fact that the judgment of the information basis of the non-professional investors in the second study has been lower than that of professional investors, which was cautiously interpreted as non-professional investors' information needs that go beyond GAAP measures to make informed decisions. Moreover, the results for the same judgment of the information basis in the third study between the groups in the GAAP-only reporting condition with and without analyst forecasts show that the judgment of non-professional investors was significantly higher when analyst forecasts were provided as additional information compared to participants without analyst forecasts. Therefore, information needs for non-professional investors can be either compensated by additional external information by analyst forecasts or internal information by management through non-GAAP measures. Keeping in mind that mostly non-professional investors are vulnerable to opportunistic reporting, as interpreted in Study 2, and with regard to the first study of this dissertation reflecting recent regulation on non-GAAP reporting to enhance transparency, the results show that regulation and analysts as corporate governance mechanisms can reduce opportunistic reporting of non-GAAP measures and its consequences, therefore improving non-GAAP reporting quality and enabling more informed judgment and decision-making, especially by non-professional investors.

Non-GAAP measures are often incorporated into compensation systems as performance targets for short- or long-term compensation.[4] Their necessity is often justified by the relevance of these key performance indicators for managing the company, which, through their implementation in the compensation system, is intended to discipline management to act in the best interest of the company. However, in this context, the potential opportunistic use of non-GAAP measures in compensation structures is often criticized. For instance, when, contrary to the stated informative motive, items are excluded that are attributable to operating activities or that should be classified as recurring or not one-off business transactions. Such exclusions often lead to a more positive presentation of results and, consequently, to higher variable compensation. This incentive effect may be in the

[4] For example, in its 2021 compensation system, ProSiebenSat.1 Media SE included two non-GAAP measures (Adjusted EBITDA and Adjusted Operating Free Cash Flow) as performance targets for short-term variable compensation. See Overview of the 2021 Compensation Systems (ProSiebenSat.1 Media SE, 2025).

company's interest, so that reporting is deliberately obscured. Text-analytical methods, such as measuring textual complexity through readability indices or conducting sentiment analyses, can uncover such obfuscated reporting and thus provide insight into potential reporting motives (Ege et al., 2024; Laksmana et al., 2012).

The fourth study, *"Remuneration Reporting of HDAX Companies under ARUG II: Formal Aspects and Text-Analytical Insights" ("Vergütungsberichterstattung der HDAX-Unternehmen nach ARUG II: Formale Aspekte und textanalytische Erkenntnisse")*, deals with the statutory reform of remuneration reporting in the German Stock Corporation Act (Aktiengesetz – AktG). The European Union (EU) issued Directive (EU) 2017/828, a legislative act aimed at more closely involving shareholders in corporate governance and generally increasing transparency in listed companies (Kolb et al., 2022). These requirements were transposed into national law through the Act Implementing the Second Shareholder Rights Directive (Gesetz zur Umsetzung der zweiten Aktionärsrechterichtlinie – ARUG II), which (among other things) fundamentally reformed the reporting of executive compensation. Companies that fall within the scope of application must, in accordance with § 162 AktG, prepare an annual report for fiscal years beginning on or after January 1, 2021, detailing the compensation granted and owed to each current and former member of the Management Board and Supervisory Board in the last fiscal year. Furthermore, according to the wording of § 162 AktG, the remuneration report must be "clear" and "understandable".

The extent to which companies meet these requirements is examined in a text analysis study that analyzes the impact of ARUG II on the formal aspects and readability of reports using a pre-post comparison of 438 remuneration reports from German publicly listed companies for the reporting years 2020 to 2022. The text analysis is based on a specially developed Python code to address the inaccuracies of freely available web tools, such as those used in previous readability studies.

The study shows that reporting on executive compensation has become significantly more extensive, both in terms of word count and number of pages. Figures and tables can therefore be useful tools to convey information effectively in the increased scope of the report. In this regard, it can be observed that while the absolute number of figures and tables has increased, their substantive significance in relation to the total length of the compensation report has decreased. Thus, the increased report length is not being matched

to the same extent by supportive integration of figures and tables. According to ARUG II, remuneration reports must be audited by an external auditor to verify whether the legally required minimum disclosures have been made. This type of formal audit represents the minimum statutory standard. However, the results show that the majority of the companies examined also have the content of their remuneration report reviewed. An audit that goes beyond the minimum requirement and verifies the material accuracy of the content of the remuneration report is to be welcomed in the interest of good corporate governance. Regarding the readability of German- and English-language remuneration reports, various readability indices indicate that, despite the increased length of reports, readability has only slightly declined since ARUG II came into effect. Nevertheless, it should be noted that remuneration reports, regardless of the implementation of ARUG II, remain a complex and difficult-to-read instrument for their intended audience. The requirement for "clear" and "understandable" remuneration reporting as per § 162 AktG is therefore only partially met. Thus, this study makes a research contribution not only by examining the descriptive changes resulting from ARUG II, but also by presenting the first text-analytical investigation of the remuneration reporting of German companies under ARUG II. This provides insights into the complexity of corporate reporting.

In addition, the analysis also yields implications for the findings of the second study of this dissertation. Fundamentally, it becomes apparent that readable corporate reports, due to the simplified processing of their information, can lead to stronger investor reactions among non-professional investors, regardless of whether the news is positive or negative (Rennekamp, 2012). The results suggest that the easier readability of the documents increases the trust attributed to the publication by its recipients, which can be traced back to simplified information processing. Although a direct effect cannot be proven, Rennekamp (2012) nonetheless demonstrates a positive indirect effect of readability on the perceived credibility of management. Subject to the actual effect, this can provide an incentive for companies, especially in cases of exceptionally high management compensation, which is discussed controversially in public, to make remuneration reports more readable and thereby increase the acceptance of such compensation.

However, the study by Tan et al. (2014), referring to a heterogeneous investor landscape, shows that a positive tone in texts that are difficult to read, such as has been found for remuneration reports, can especially trigger skeptical reactions among professional

investors, while non-professional investors react more strongly to the tone and adjust their assessment of company results positively. Although the present study did not examine the tone of remuneration reports, it can be inferred against the backdrop of the second study – which shows that non-professional investors, in contrast to professional investors, respond to the reporting of non-GAAP measures with increased trust in the financial report – that companies could in principle strategically target their reporting specifically at non-professional investors. This results in an additional steering mechanism: on the one hand, investor behavior can be positively influenced by the company's interest, primarily through the disclosure of non-GAAP measures. On the other hand, the linguistic design of reporting, both in terms of tone and readability, can be purposefully employed to shape recipients' overall perception. With regard to remuneration reporting, such a steering mechanism could, for example, consist in legitimizing opportunistically designed compensation practices in relation to shareholders and stakeholders with the help of non-GAAP measures.

This once again underscores the need to protect recipients and the necessity of external monitoring mechanisms. On one hand, auditors can signal the reliability of the disclosures ex post by examining the content of remuneration reports. Although most companies already do this, a statutory requirement – especially in conjunction with compensation-relevant ESG aspects and planned mandatory audits in sustainability reporting in the context of the Corporate Sustainability Reporting Directive (CSRD) – could further sharpen this aspect. Analysts, in turn, can provide an ex-ante assessment of the published non-GAAP measures through their forecasts, thus offering indications for potential opportunistic reporting motives.

This dissertation examines the regulation and perception of non-GAAP measures, the role of capital market-related information intermediaries in dealing with non-GAAP measures, and the linguistic and formal design of compensation reports as a related reporting instrument, thus providing a multifaceted perspective on the topic. Overall, it becomes clear that regulatory requirements exist and set framework conditions, but their effectiveness depends on the addressees and correct implementation by companies. This dissertation thus contributes to a better understanding of the interdependencies between regulation, corporate practice, gatekeeper functions, and investor behavior.

Non-GAAP measures will remain practically relevant in the future. Companies often publish non-GAAP measures as a response to the inadequate representation of their corporate performance by GAAP measures. In principle, the use of non-GAAP measures in voluntary reporting cannot be prevented. Consequently, regulators may be called upon to consider additional actions. So far, regulatory requirements only address potential disclosure obligations. In the future, it would be conceivable to focus more closely on the items excluded from the results and their incremental value for the current or future earnings situation. For example, auditors could critically question whether the exclusion of categorically similar items over several reporting periods improves the quality of reporting, or whether such items should not be assigned to operating activities. The latter would not qualify for the supposedly informative purpose of non-GAAP measures. Referring to current reporting practices, there are already industry-specific guidelines that adopt this idea. The EPRA Guidelines, for instance, provide a standardized and concrete calculation scheme for industry-relevant non-GAAP measures in the real estate sector, which on the one hand considers the business model, but on the other hand also meets the regulators' call for greater transparency and comparability (EPRA, 2024). Volatile effects from investment property valuation, which cause significant fluctuations in IFRS results, are industry-specific particularities and are excluded in the industry-specific non-GAAP measure “EPRA Earnings”. Therefore, the aim is to present results that exclusively reflect operating activities (EPRA, 2024). Although a certain degree of discretion remains, this increases the transparency of the key figures.

In this context, Dechow et al. (2024) recently developed a system for assessing the quality of non-GAAP measures based on the excluded items.[5] The study shows that companies making low-quality adjustments receive more comment letters from the SEC or exhibit larger deviations in analysts’ forecasts. In this regard, gatekeepers can exert their influence, send public signals to enforce discipline, and sustainably enhance the quality of non-GAAP measures.

Non-GAAP measures can entail both advantages and disadvantages for recipients, preparers, and regulators. As Herr et al. (2022) observe, the fundamental challenge for regulators persists: they must balance the need to provide companies with autonomy and

[5] Dechow et al. (2024) classify non-GAAP exclusions as high quality, when exclusions are nonrecurring transactions, transitory accounting adjustments, or have limited value for forecasting cash flows.

reduce information asymmetries, while also ensuring sufficient intervention to prevent aggressive and opportunistic reporting through the use of non-GAAP measures. Overall, how corporate reporting by capital market-oriented companies will evolve remains to be seen. Given the growing importance of sustainability reporting, the development of adjusted sustainability reporting measures appears plausible, which would similarly raise the well-known tension between opportunistic and informative motives in reporting non-financial measures. The results of the dissertation make it clear that the responsible use of non-GAAP measures by companies, regulators, intermediaries, and investors is crucial to the contribution these measures can make to reporting quality.

This dissertation is a cumulative work consisting of four individual studies. The first study was published in a national academic journal, while the second and third studies are available as "working papers". The fourth study was published in a scientific journal. Please note that formal aspects, such as the numbering of chapters, figures, tables, footnotes, and page numbers in this dissertation, may differ from the published versions. The published articles were written in German and retain the citation style and other formal requirements of the respective journals. For reasons of consistency and correct citation, please refer exclusively to the respective journal publications or the current version of the working paper.

References

Aguilera, R. V., Desender, K., Bednar, M. K., & Lee, J. H. (2015). Connecting the Dots: Bringing External Corporate Governance into the Corporate Governance Puzzle. *The Academy of Management Annals*, *9*(1), 483–573. https://doi.org/10.1080/19416520.2015.1024503

Akerlof, G. A. (1970). The Market for "Lemons": Quality Uncertainty and the Market Mechanism. *The Quarterly Journal of Economics*, *84*(3), 488. https://doi.org/10.2307/1879431

Andersson, P., & Hellman, N. (2007). Does Pro Forma Reporting Bias Analyst Forecasts? *European Accounting Review*, *16*(2), 277–298. https://doi.org/10.1080/09638180701390966

Arena, C., Catuogno, S., & Moscariello, N. (2020). The unusual debate on non-GAAP reporting in the current standard practice. The lens of corporate governance. *Journal of Management and Governance*, *25*(3), 655–684. https://doi.org/10.1007/s10997-020-09515-z

ASCG (Ed.). (2012). *Deutscher Rechnungslegungs Standard Nr. 20 (DRS 20): Konzernlagebericht*. https://www.drsc.de/app/uploads/2017/02/120928_DRS_20_near-final.pdf

Beyer, A., Cohen, D. A., Lys, T. Z., & Walther, B. R. (2010). The financial reporting environment: Review of the recent literature. *Journal of Accounting and Economics*, *50*(2), 296–343. https://doi.org/10.1016/j.jacceco.2010.10.003

Birnbaum, M. H., & Stegner, S. E. (1979). Source credibility in social judgment: Bias, expertise, and the judge's point of view. *Journal of Personality and Social Psychology*, *37*(1), 48–74. https://doi.org/10.1037/0022-3514.37.1.48

Black, D. E., Black, E. L., Christensen, T. E., & Heninger, W. G. (2012). Has the Regulation of Pro Forma Reporting in the US Changed Investors' Perceptions of Pro Forma Earnings Disclosures? *Journal of Business Finance & Accounting*, *39*(7-8), 876–904. https://doi.org/10.1111/j.1468-5957.2012.02297.x

Black, D. E., Christensen, T. E., Ciesielski, J. T., & Whipple, B. C. (2018). Non-GAAP reporting: Evidence from academia and current practice. *Journal of Business Finance & Accounting*, *45*(3-4), 259–294. https://doi.org/10.1111/jbfa.12298

Black, E. L., Christensen, T. E., Kiosse, P. V., & Steffen, T. D. (2017). Has the Regulation of Non-GAAP Disclosures Influenced Managers' Use of Aggressive Earnings Exclusions? *Journal of Accounting, Auditing & Finance*, *32*(2), 209–240. https://doi.org/10.1177/0148558X15599131

Brockman, P., Martin, X., & Puckett, A. (2010). Voluntary disclosures and the exercise of CEO stock options. *Journal of Corporate Finance*, *16*(1), 120–136. https://doi.org/10.1016/j.jcorpfin.2009.09.001

BVI (2024). *Struktur des deutschen Fondsmarkts im Jahr 2023 nach Anlegertyp und Fonds-Auflegungsstandort [Graph]*.

https://de.statista.com/statistik/daten/studie/1546653/umfrage/fondsmarkt-nach-anlegertyp-und-fonds-auflegungsstandort/

Christensen, T. E., Gomez, E., Ma, M., & Pan, J. (2021). Analysts' role in shaping non-GAAP reporting: Evidence from a natural experiment. *Review of Accounting Studies*, *26*(1), 172–217. https://doi.org/10.1007/s11142-020-09564-7

Coffee, J. C. (2006). *Gatekeepers: The professions and corporate governance* (1. publ). *Clarendon lectures in management studies*. Oxford Univ. Press. http://www.loc.gov/catdir/enhancements/fy0725/2006284515-b.html

Cohen, J. R., Gaynor, L. M., Krishnamoorthy, G., & Wright, A. M. (2022). The effects of audit committee ties and industry expertise on investor judgments—Extending Source Credibility Theory. *Accounting, Organizations and Society*, *102*, 101352. https://doi.org/10.1016/j.aos.2022.101352

Coleman, D., & Usvyatsky, O. (2015). *Trends in Non-GAAP Disclosures*. https://blog.auditanalytics.com/trends-in-non-gaap-disclosures/

Cotter, J., Lokman, N., & Najah, M. M. (2011). Voluntary Disclosure Research: Which Theory Is Relevant? *Journal of Theoretical Accounting Research.* Advance online publication. https://doi.org/10.2139/ssrn.3470466

Daske, H., Hail, L., Leuz, C., & Verdi, R. (2008). Mandatory IFRS Reporting around the World: Early Evidence on the Economic Consequences. *Journal of Accounting Research*, *46*(5), 1085–1142. https://doi.org/10.1111/j.1475-679X.2008.00306.x

Dechow, P. M., Loh, W. T., & Wang, A. Y. (2024). A rating system to evaluate non-GAAP exclusion quality. *Review of Accounting Studies.* Advance online publication. https://doi.org/10.1007/s11142-024-09855-3

DeZoort, F. T., Houston, R. W., & Hermanson, D. R. (2003). Audit Committee Member Support for Proposed Audit Adjustments: A Source Credibility Perspective. *AUDITING: A Journal of Practice & Theory*, *22*(2), 189–205. https://doi.org/10.2308/aud.2003.22.2.189

EFRAG (Ed.). (2025). *The EU Endorsement Status Report*. https://www.efrag.org/sites/default/files/media/document/2025-12/EFRAG%20Endorsement%20Status%20Report%2018%20December%202025.pdf

Ege, M., Kartapanis, A., & Whipple, B. C. (2024). Audits of Non-GAAP Earnings: Evidence from Adjusted EBITDA in Segment Disclosures. *SSRN Electronic Journal.* Advance online publication. https://doi.org/10.2139/ssrn.4852518

Elliott, W. B. (2006). Are Investors Influenced by Pro Forma Emphasis and Reconciliations in Earnings Announcements? *The Accounting Review*, *81*(1), 113–133. https://doi.org/10.2308/accr.2006.81.1.113

Entwistle, G. M., Feltham, G. D., & Mbagwu, C. (2006). Financial Reporting Regulation and the Reporting of Pro Forma Earnings. *Accounting Horizons*, *20*(1), 39–55. https://doi.org/10.2308/acch.2006.20.1.39

EPRA (Ed.). (2024). *Best Practices Recommendations: Guidelines*. https://www.epra.com/application/files/7317/3442/6684/2024-08_-_EPRA_-_BPR_Guidelines_-_v1.3_BSAF.pdf

ESMA (Ed.). (2015). *Leitlinien: Alternative Leistungskennzahlen (APM)*. https://www.esma.europa.eu/sites/default/files/library/2015/10/2015-esma-1415de.pdf

ESMA (Ed.). (2019). *Report: On the use of Alternative Performance Measures and on the compliance with ESMA's APM Guidelines*. https://www.esma.europa.eu/sites/default/files/library/esma32-334-150_report_on_the_thematic_study_on_application_of_apm_guidelines.pdf

Feng, Z., Francis, J. R., Shan, Y., & Taylor, S. L. (2023). Do High-Quality Auditors Improve Non-GAAP Reporting? *The Accounting Review*, *98*(1), 215–250. https://doi.org/10.2308/TAR-2019-0592

Frankel, R., McVay, S. E., & Soliman, M. (2011). Non-GAAP earnings and board independence. *Review of Accounting Studies*, *16*(4), 719–744. https://doi.org/10.1007/s11142-011-9166-3

Frederickson, J. R., & Miller, J. S. (2004). The Effects of Pro Forma Earnings Disclosures on Analysts' and Nonprofessional Investors' Equity Valuation Judgments. *The Accounting Review*, *79*(3), 667–686. http://www.jstor.org/stable/3203274

Gillan, S. L. (2006). Recent Developments in Corporate Governance: An Overview. *Journal of Corporate Finance*, *12*(3), 381–402. https://doi.org/10.1016/j.jcorpfin.2005.11.002

Görmar, J., Thomsen, M., & Watrin, C. (2025). The Reporting of Alternative Performance Measures in Germany and the Introduction of the ESMA Guidelines. *Schmalenbach Journal of Business Research.* Advance online publication. https://doi.org/10.1007/s41471-025-00212-x

Healy, P. M., & Palepu, K. G. (2001). Information asymmetry, corporate disclosure, and the capital markets: A review of the empirical disclosure literature. *Journal of Accounting and Economics*, *31*(1-3), 405–440. https://doi.org/10.1016/S0165-4101(01)00018-0

Heider, F. (1958). *The psychology of interpersonal relations*. John Wiley & Sons Inc. https://doi.org/10.1037/10628-000

Herr, S. B., Lorson, P., & Pilhofer, J. (2022). Alternative Performance Measures: A Structured Literature Review of Research in Academic and Professional Journals. *Schmalenbach Journal of Business Research*, *74*(3), 389–451. https://doi.org/10.1007/s41471-022-00138-8

Hitz, J.-M. (2010). Information versus adverse Anlegerbeeinflussung: Befund und Implikationen der empirischen Rechnungswesenforschung zur Publizität von Pro-forma-Ergebnisgrößen. *Journal Für Betriebswirtschaft*, *60*(2), 127–161. https://doi.org/10.1007/s11301-010-0059-5

Holt, T. P. (2019). An Examination of Nonprofessional Investor Perceptions of Internal and External Auditor Assurance. *Behavioral Research in Accounting*, *31*(1), 65–80. https://doi.org/10.2308/bria-52276

IASB (Ed.). (2019a). *Exposure Draft ED/2019/7: General Presentation and Disclosures*. https://www.ifrs.org/content/dam/ifrs/project/primary-financial-statements/exposure-draft/ed-general-presentation-disclosures.pdf

IASB (Ed.). (2019b). *Snapshot: General Presentation and Disclosures*. https://www.ifrs.org/content/dam/ifrs/project/primary-financial-statements/exposure-draft/snapshot-ed-general-presentation-disclosures.pdf

IFRS Foundation (Ed.). (2024). *Feedback Statement: IFRS 18 Presentation and Disclosure in Financial Statements*. https://www.ifrs.org/content/dam/ifrs/project/primary-financial-statements/ifrs-standard/feedbackstatement-ifrs18-april2024.pdf

Jensen, M. C., & Meckling, W. H. (1976). Theory of the firm: Managerial behavior, agency costs and ownership structure. *Journal of Financial Economics*, *3*(4), 305–360. https://doi.org/10.1016/0304-405X(76)90026-X

Kanagaretnam, K., Lobo, G. J., & Whalen, D. J. (2007). Does good corporate governance reduce information asymmetry around quarterly earnings announcements? *Journal of Accounting and Public Policy*, *26*(4), 497–522. https://doi.org/10.1016/j.jaccpubpol.2007.05.003

Köhler, A., Ratzinger-Sakel, N., & Theis, J. (2020). The Effects of Key Audit Matters on the Auditor's Report's Communicative Value: Experimental Evidence from Investment Professionals and Non-professional Investors. *Accounting in Europe*, *17*(2), 105–128. https://doi.org/10.1080/17449480.2020.1726420

Kolb, S., Nickel, J. R., Riedl, F., & Rupp, A. (2022). *Handbuch Aktienrechtliche Organvergütung: Vergütungssystem und Vergütungsberichterstattung nach ARUG II* (1. Auflage). Schäffer-Poeschel. https://doi.org/10.34156/9783791054568

Laksmana, I., Tietz, W., & Yang, Y.-W. (2012). Compensation discussion and analysis (CD&A): Readability and management obfuscation. *Journal of Accounting and Public Policy*, *31*(2), 185–203. https://doi.org/10.1016/j.jaccpubpol.2011.08.003

Lambert, R. A., Leuz, C., & Verrecchia, R. E. (2011). Information Asymmetry, Information Precision, and the Cost of Capital. *Review of Finance*, *16*(1), 1–29. https://doi.org/10.1093/rof/rfr014

Lee, C.-H. (2022). Non-generally accepted accounting principles disclosures and audit committee chairs' external directorships. *Journal of Business Finance & Accounting.* Advance online publication. https://doi.org/10.1111/jbfa.12566

Libby, R. (1979). Bankers' and Auditors' Perceptions of the Message Communicated by the Audit Report. *Journal of Accounting Research*, *17*(1), 99. https://doi.org/10.2307/2490308

Marques, A. (2017). Non-GAAP earnings: International overview and suggestions for future research. *Meditari Accountancy Research*, *25*(3), 318–335. https://doi.org/10.1108/MEDAR-04-2017-0140

Pferdehirt, H., Beyersdorff, M., & Pilhofer, J. (2025). Befragung von IFRS-Anwendern zur Erstanwendung von IFRS 18: Die neuen Vorschriften zur Darstellung des Abschlusses. *IRZ*(11), 469–478.

Pornpitakpan, C. (2004). The Persuasiveness of Source Credibility: A Critical Review of Five Decades' Evidence. *Journal of Applied Social Psychology*, *34*(2), 243–281. https://doi.org/10.1111/j.1559-1816.2004.tb02547.x

ProSiebenSat.1 Media SE (Ed.). (2025). *Compensation Report*. https://www.prosiebensat1.com/files/2025/04/15/240295e5-c915-4b51-8982-20bb8ed74caa.pdf

PwC (Ed.). (2024). *Earnings with a twist: 2024 update on SEC staff non-GAAP comment trends*. https://viewpoint.pwc.com/dt/us/en/pwc/in_depths/2024/assets/id202408.pdf

Rennekamp, K. (2012). Processing Fluency and Investors' Reactions to Disclosure Readability. *Journal of Accounting Research*, *50*(5), 1319–1354. https://doi.org/10.1111/j.1475-679X.2012.00460.x

Rouf, M. A., & Siddique, M. N.-E.-A. (2023). Theories applied in corporate voluntary disclosure: a literature review. *Journal of Entrepreneurship and Public Policy*, *12*(1), 49–68. https://doi.org/10.1108/JEPP-01-2022-0007

Roychowdhury, S., & Srinivasan, S. (2019). The Role of Gatekeepers in Capital Markets. *Journal of Accounting Research*, *57*(2), 295–322. https://doi.org/10.1111/1475-679X.12266

Schwarzkopf, D. L. (2006). Investors' attitudes toward source credibility. *Managerial Auditing Journal*, *22*(1), 18–33. https://doi.org/10.1108/02686900710715620

Spence, M. (1973). Job Market Signaling. *The Quarterly Journal of Economics*, *87*(3), 355. https://doi.org/10.2307/1882010

Tan, H.-T., Ying Wang, E., & Zhou, B. O. (2014). When the Use of Positive Language Backfires: The Joint Effect of Tone, Readability, and Investor Sophistication on Earnings Judgments. *Journal of Accounting Research*, *52*(1), 273–302. https://doi.org/10.1111/1475-679X.12039

Verrecchia, R. E. (1983). Discretionary disclosure. *Journal of Accounting and Economics*, *5*, 179–194. https://doi.org/10.1016/0165-4101(83)90011-3

Welch, I. (2000). Herding among security analysts. *Journal of Financial Economics*, *58*(3), 369–396. https://doi.org/10.1016/S0304-405X(00)00076-3

2. Management Performance Measures in der Neugestaltung des IAS 1: Tatsächliche Verbesserung für die Darstellung von Non-GAAP Measures?

Publikationsdetails

Zusammenfassung: Im Rahmen des Exposure Drafts „General Presentation and Disclosures“ (ED/2019/7) setzt sich das IASB mit den sog. Management Performance Measures (MPMs) auseinander. MPMs stellen individuelle Kennzahlen dar, die nicht ausdrücklich in den einschlägigen Rechnungslegungsstandards festgelegt sind. Dieser Beitrag grenzt die neuen Regelungen des IASB zu bestehenden Konzepten (ESMA-Leitlinien und DRS 20) hinsichtlich Anwendung und Darstellung der Kennzahlen ab und würdigt diese im Hinblick auf ihre Umsetzung.

Koautoren: Dr. Melina Heilmann, Prof. Dr. Christiane Pott

Stichwörter: IAS 1 Non-GAAP Measures, Management Performance Measure (MPM), Alternative Performance Measure (APM), ESMA-Leitlinien, DRS 20

Publikationsstatus: Veröffentlicht in: *IRZ, Zeitschrift für Internationale Rechnungslegung,* Heft 11 (2020): 407-413.

Hinweis: Aufgrund von Formatierungsanpassungen in dieser Dissertation kann es zu geringfügigen Abweichungen gegenüber der veröffentlichten Version kommen.

2.1 Einleitung

Im Dezember 2019 veröffentlichte das International Accounting Standards Board (IASB) den Exposure Draft „General Presentation and Disclosures“ (ED/2019/7),[1] in welchem die sog. Management Performance Measures (MPMs) thematisiert werden. Die MPMs können den sog. Non-GAAP Measures zugeordnet werden. Hierbei handelt es sich um Kennzahlen, die nicht ausdrücklich in den einschlägigen Rechnungslegungsstandards, wie z.B. HGB oder IFRS, definiert sind (bspw. bereinigtes EBIT). In der Literatur finden sich neben der Begrifflichkeit Non-GAAP Measures zahlreiche andere Bezeichnungen derartiger Kennzahlen wieder: Alternative Leistungskennzahlen (Alternative Performance Measures – APMs), finanzielle Leistungsindikatoren und neuerdings auch Management Performance Measures. Während es sich bei den Non-GAAP Measures um eine allgemeine Begrifflichkeit handelt, resultieren die anderen Bezeichnungen aus zugrunde liegenden Regelwerken.

Eine Regulierung von Non-GAAP Measures für deutsche Unternehmen resultierte bislang im Wesentlichen aus den Leitlinien der Europäischen Wertpapier- und Marktaufsichtsbehörde (ESMA), die die Alternativen Leistungskennzahlen regulieren, und dem deutschen Rechnungslegungsstandard Nr. 20 (DRS 20), welcher den Ausweis von finanziellen Leistungsindikatoren thematisiert. Es stellt sich folglich für Unternehmen und Adressaten die Frage, ob und in welchem Ausmaß durch den Exposure Draft Veränderungen in der Berichterstattung über Non-GAAP Measures seitens der deutschen Unternehmen zu erwarten sind.

Ziel dieses Beitrags ist es, die Regelungen des Exposure Drafts hinsichtlich der MPMs darzustellen und bezüglich der IASB-Zielsetzung kritisch zu würdigen. Im Fokus steht insbesondere die Abgrenzung der MPMs zu den Alternativen Leistungskennzahlen (APMs) gemäß ESMA-Leitlinien und den finanziellen Leistungsindikatoren, die in § 315 Abs. 1 HGB normiert und durch den DRS 20 konkretisiert werden.

[1] Vgl. IASB, General Presentation and Disclosures, abrufbar unter: https://cdn.ifrs.org/-/media/project/primary-financial-statements/exposure-draft/ed-general-presentation-disclosures. pdf (abgerufen am 28.7.2020). Für eine Übersicht zur geplanten Reform des IASB vgl. Hebestreit/Teitler-Feinberg, IRZ 2020, 343 ff.

2.2 Management Performance Measures (MPMs)

Nach dem Exposure Draft des IASB werden zukünftig Anhangangaben zu MPMs erforderlich. Das IASB definiert MPMs als Zwischensummen von Erträgen und Aufwendungen, die

- in der Finanzberichterstattung außerhalb des Abschlusses genutzt werden (z.B. Lagebericht, Pressemitteilungen und Investorenpräsentationen (IFRS X.B79)),
- von den IFRS-Standards festgelegte Zwischensummen ergänzen und
- für einen Teilaspekt der Unternehmensperformance die Sichtweise des Managements wiedergeben (IFRS X.103).

Hier ist zu betonen, dass MPMs definitionsgemäß ausschließlich Zwischensummen von Erträgen und Aufwendungen umfassen, das heißt, dass unter anderem einzelne Ertragszahlen (z.B. bereinigter Umsatz), Verhältniszahlen (z.B. Eigenkapitalrentabilität oder ROCE) oder auch Cashflow-Größen (z.B. Free Cashflow) keine MPMs darstellen. Dies gilt ebenfalls für nichtfinanzielle Kennzahlen. Eine exemplarische Liste von MPMs wird im Exposure Draft nicht aufgeführt. Nach der Definition kämen Größen wie das bereinigte EBIT und bereinigte EBITDA in Betracht. Auch Kennzahlen wie bspw. „EBIT ohne Sondereffekte“[2], „Konzernüberschuss bereinigt um Sondereinflüsse“[3] und „Operatives Ergebnis vor Sondereinflüssen“[4], die häufig in der Umschlagsklappe der Geschäftsberichte platziert werden, können unter die Definition von MPMs fallen.

Verpflichtende Anhangangaben

Über jede identifizierte MPM ist in einer separaten Anhangangabe zu berichten. Die Anhangangabe hat die Erklärung zu beinhalten, dass MPMs die Sichtweise des Managements auf einen Teilaspekt der Unternehmensperformance widerspiegeln und dass die Messgrößen nicht zwangsläufig mit ähnlich bezeichneten Kennzahlen anderer Unternehmen vergleichbar sind.

Darüber hinaus sollen für jede MPM gem. IFRS X.106 folgende Angaben gemacht werden:

[2] Beiersdorf AG, Geschäftsbericht 2019, Kennzahlenübersicht.
[3] Deutsche Telekom AG, Geschäftsbericht 2019, 2.
[4] Volkswagen AG, Geschäftsbericht 2019, Kennzahlenübersicht.

- Beschreibung, warum die MPM die Sichtweise des Managements wiedergibt, inklusive einer Erklärung, wie die Kennzahl berechnet wird und inwiefern die Kennzahl nützliche Informationen über die Unternehmensperformance liefert;
- Überleitungsrechnung zur nächst vergleichbaren IFRS-Größe und
- Anteile des Steuereffekts und des Anteils der nicht beherrschenden Gesellschafter zu jedem Überleitungsposten sowie Angaben zur Berechnung des Steuereffekts.

Sofern das Unternehmen die Berechnung einer MPM verändert, eine neue MPM einführt oder eine MPM nicht mehr weiter im Abschluss berichtet, ist die Veränderung bzw. Ergänzung oder Entfernung der MPM ausführlich zu begründen (IFRS X.108).

Folgende Ausführung stellt eine exemplarische Anhangangabe nach IFRS X.106 dar[5]:

Management Performance Measures

Die ABC AG verwendet drei *Management Performance Measures* (MPMs) gem. den Definitionskriterien des IFRS X in ihrer Finanzberichterstattung mit den Adressaten. Die drei Kennzahlen sind „Bereinigtes EBIT", „Bereinigter Gewinn" und „Bereinigter Gewinn, der den Eigentümern des MU (Mutterunternehmen) zuzurechnen ist".

Mit den MPMs wird die Sichtweise des Managements auf einen Teilaspekt der Unternehmensperformance kommuniziert. MPMs sind nicht durch Standards in den IFRS spezifiziert und möglicherweise nicht mit ähnlich bezeichneten oder beschriebenen Kennzahlen anderer Unternehmen vergleichbar. MPMs werden veröffentlicht, um die in den IFRS spezifizierten Leistungskennzahlen zu ergänzen und nicht zu ersetzen.

Die MPMs werden berechnet, indem die Kennzahlen um die Effekte von Sachverhalten bereinigt werden, die nach Sichtweise des Managements bei der Einschätzung der Unternehmensentwicklung separat betrachtet werden sollten. Das Management bereinigt die Kennzahlen um folgenden Sachverhalt:

Restrukturierungsprojekt

Als ungewöhnliches Ereignis wurde das Restrukturierungsprojekt in Land X identifiziert. Im Zuge der Strategie „Project 2030" wurde die derzeitige Betriebsstätte in Land X nach Land Y verlegt, um eine effizientere Lieferantenversorgung sicherzustellen. Hierbei sind Restrukturierungsaufwendungen in Höhe von 6.000 GE angefallen. Dabei entfallen 2.050

[5] Eine Anhangangabe zu MPMs findet sich in den Illustrative Examples (Note 2).

GE auf Abfindungszahlungen, 3.350 GE auf außerplanmäßige Wertberichtigungen und 600 GE auf die Tilgung von Darlehen in diesem Zusammenhang. Die ABC AG betrachtet diese Ausgaben als ungewöhnlich, da erwartet wird, dass derartige bedeutsame Restrukturierungsprojekte in zukünftigen Berichtsperioden nicht mehr anfallen. Die ABC AG glaubt, dass der Ausweis der MPMs zu einem besseren Verständnis der Abschlussadressaten hinsichtlich der Einschätzung der Unternehmensentwicklung beiträgt.

		Effekte aus Bereinigung aus ungewöhnlichen Ereignissen	
	MPMs	Restrukturierungsprojekt	Kennzahlen gemäß IFRS
Herstellungskosten		–4.990	
Allgemeine Verwaltungsaufwendungen		–410	
Bereinigtes EBIT / Betriebliches Ergebnis	**55.370**	**–5.400**	**49.970**
Aufwendungen aus Finanzierungstätigkeit		–600	
Ertragsteuern		900	
Bereinigter Gewinn / Gewinn	**41.225**	**–5.100**	**36.125**
Gewinn, der nicht beherrschenden Anteilen zuzurechnen ist		–1.020	
Bereinigter Gewinn, der den Eigentümern des MU zuzurechnen ist / Gewinn, der den Eigentümern des MU zuzurechnen ist	**33.485**	**–4.080**	**29.405**

Die in den IFRS spezifizierten Zwischensummen stellen explizit keine MPMs dar, womit für diese Zwischensummen auch keine Anhangangaben erforderlich sind (IFRS X.104, B77). Dazu gehören zum einen Summen und Zwischensummen, deren Ausweis aufgrund der vorgesehenen Neustrukturierung der GuV erforderlich wird, sowie die bereits in IAS 1 vorgeschriebenen Summen. Ebenfalls durch die IFRS spezifiziert – und somit nicht zu den MPMs zählend – sind das Bruttoergebnis und Zwischensummen, die diesem ähnlich sind (z.B. Netto-Zinsergebnis), der operating profit or loss before depreciation and amortisation, der profit or loss from continuing operations und der profit or loss before income tax (IFRS X.104, B78).

Andere Zwischensummen, die nach IFRS X.42 freiwillig in die GuV eingefügt werden, können dagegen die Definition von MPMs erfüllen (IFRS X.109, IFRS X.B81). Ein Beispiel für eine zusätzliche Zwischensumme, die gleichzeitig eine MPM darstellt, ist – unter bestimmten Voraussetzungen – der operating profit before restructuring costs. Prämisse für den Ausweis einer MPM als Zwischensumme in der GuV ist,

- dass diese in die Struktur der vorgeschlagenen Kategorien der GuV passt,
- dass die Präsentation der betrieblichen Aufwendungen (sowohl beim Umsatz- als auch beim Gesamtkostenverfahren) nicht unterbrochen wird und
- dass die Zwischensumme Größen umfasst, die in Übereinstimmung mit den IFRS erfasst und bewertet werden.

Allerdings geht das IASB nicht davon aus, dass viele MPMs diese Kriterien erfüllen und somit in der GuV ausgewiesen werden können (IFRS X.BC165). Somit bleibt die Frage, inwiefern ein solcher Ausweis in der GuV praxisrelevant ist.

Tabelle 2.1 konkretisiert die Definitionskriterien von MPMs.

<table>
<tr><th colspan="3">Finanzielle Leistungskennzahlen</th></tr>
<tr><th colspan="2">(Zwischen-)Summen von Erträgen und Aufwendungen</th><th rowspan="2">Andere Kennzahlen, die keine Zwischensummen von Erträgen und Aufwendungen sind
Beispiele:
• Nettoverschuldung
• Bereinigter Umsatz</th></tr>
<tr><th>IFRS-spezifiziert

Beispiele:
• Jahresüberschuss
• Betriebsergebnis</th><th>MPMs

Beispiele:
• Bereinigtes Betriebsergebnis
• Bereinigtes EBITDA</th></tr>
</table>

Tabelle 2.1: *Entscheidungskriterien zur Identifikation und zum Ausweis von MPMs*

Insgesamt sollen die neuen Berichterstattungspflichten zu MPMs zu einer erhöhten Transparenz beitragen, indem der Zweck sowie die Limitationen dieser aufgezeigt werden (IFRS X.BC167). Zudem will das IASB durch die zusammenhängende Präsentation der Informationen im Anhang eine übersichtliche Darstellung erreichen, die zu einem besseren Verständnis der MPMs beitragen soll (IFRS X.BC163).

Die Abbildung 2.1 gibt eine Übersicht zur Identifikation und zum Ausweis der MPMs.

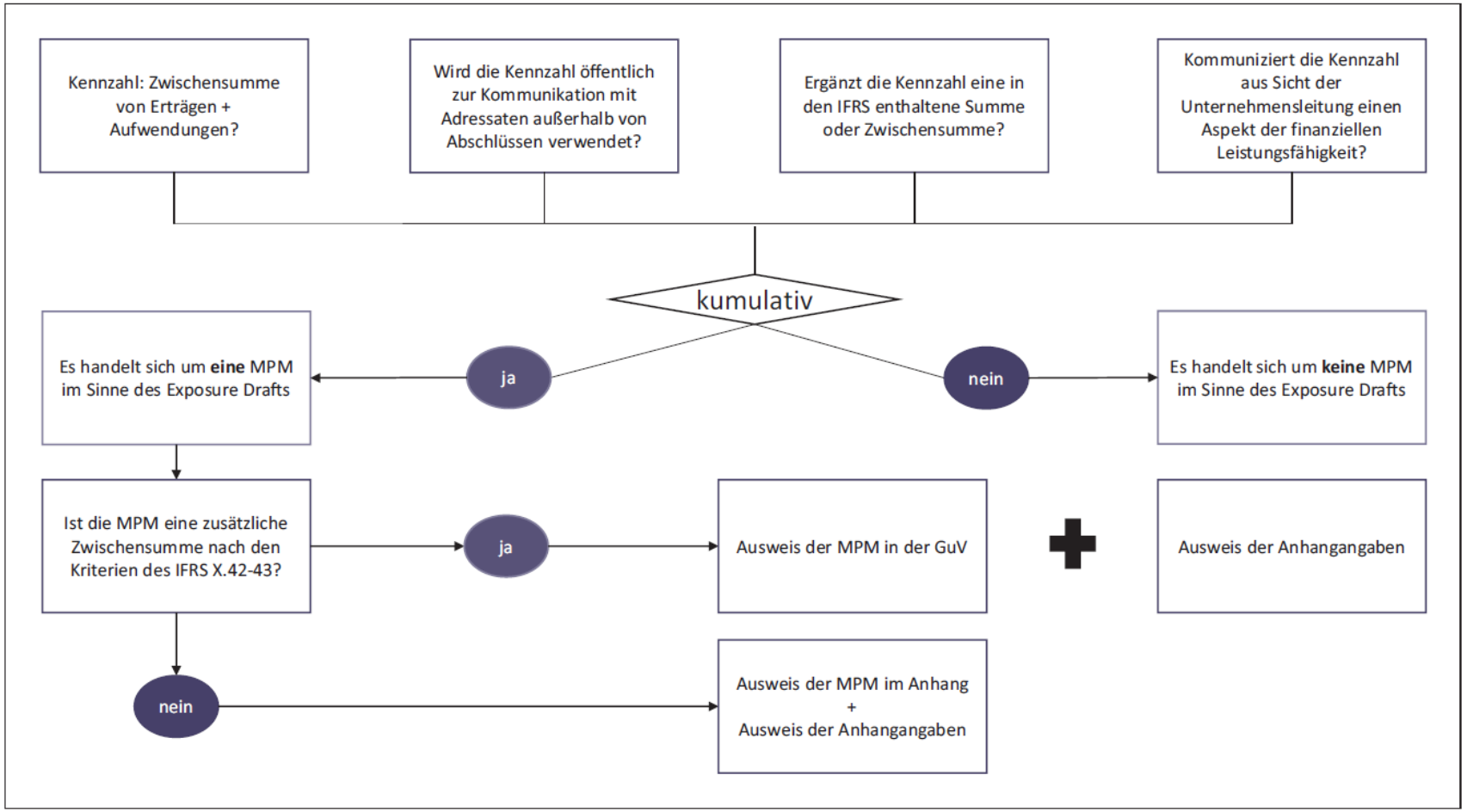


Abbildung 2.1: *Entscheidungskriterien zur Identifikation und zum Ausweis von MPMs*

2.3 Abgrenzung zu bestehenden Konzepten

Non-GAAP Measures werden bereits von den Leitlinien der Europäischen Wertpapier- und Marktaufsichtsbehörde (ESMA) und im deutschen Rechnungslegungsstandard Nr. 20 (DRS 20) behandelt. Der folgende Abschnitt stellt die Regelungen der ESMA sowie des DRS 20 vor und grenzt den Exposure Draft des IASB davon ab.

2.3.1 ESMA-Leitlinien

Seit Juli 2016 gelten die Leitlinien der europäischen Enforcementbehörde ESMA, die insbesondere für den Lagebericht einschlägig sind (ESMA-Leitlinien, Tz. 3). Sie verfolgen das Ziel, die Transparenz und Nützlichkeit der APMs zu unterstützen und somit die Vergleichbarkeit, Verlässlichkeit und Verständlichkeit der Kennzahlen zu verbessern (ESMA-Leitlinien, Tz. 6). In den Leitlinien werden APMs „als Finanzkennzahlen der vergangenen oder zukünftigen finanziellen Leistung, Finanzlage oder Cashflows“ (ESMA-Leitlinien, Tz. 17) bezeichnet. Hiervon ausgeschlossen sind ausdrücklich Kennzahlen, „die im einschlägigen Rechnungslegungsrahmen definiert oder ausgeführt sind“ (ESMA-Leitlinien, Tz. 17). Gängige Beispiele für APMs im Sinne der Leitlinien sind das EBITDA oder das operative Ergebnis (ESMA-Leitlinien, Tz. 18). Die Bezeichnung der Kennzahlen sollte dabei aussagekräftig sein und Inhalt sowie die Berechnungsgrundlage ausdrücken (ESMA-Leitlinien, Tz. 22). Irreführende Angaben und positive Kennzeichnungen (z.B. „Garantierte Erträge“) dürfen nicht genutzt werden (ESMA-Leitlinien, Tz. 23).

Zu jeder APM ist eine quantitative Überleitung auf die unmittelbarste Abschlussgröße anzugeben, und die Überleitungsposten sind einzeln zu erläutern (ESMA-Leitlinien, Tz. 26).[6] Dem Adressaten ist die Verwendung der Kennzahl darzulegen, damit dieser Relevanz und Verlässlichkeit der APM nachvollziehen kann (ESMA-Leitlinien, Tz. 33). APMs dürfen hinsichtlich ihrer Präsenz, Betonung oder Aussagekraft nicht prominenter dargestellt werden als Zahlen, die aus dem Abschluss direkt stammen (ESMA-Leitlinien, Tz. 35). Eine prominentere Darstellung ist anzunehmen, wenn etwa die APM in

[6] Aus den ursprünglichen Leitlinien geht nicht explizit hervor, dass die Überleitung in quantitativer Form notwendig ist. Allerdings konkretisierte die ESMA im Jahr 2017, dass die Überleitung ausdrücklich quantitativ erfolgen sollte. Vgl. ESMA, Q&A On ESMA Guidelines On Alternative Performance Measures (Question 16), abrufbar unter: https://www.es ma.europa.eu/sites/default/files/library/esma 32-51-370_qas_on_esma_guidelines_on_ap ms.pdf (abgerufen am 28.7.2020).

Fettschrift gegenüber einer Kennzahl, die aus dem Abschluss stammt, hervorgehoben wird.[7]

2.3.2 DRS 20

Die Anforderungen an die Konzernlageberichterstattung einschließlich Regelungen zu finanziellen und nichtfinanziellen Leistungsindikatoren sind in DRS 20 zusammengefasst.

Nach DRS 20 sind finanzielle Leistungsindikatoren in die Analyse des Geschäftsverlaufs und der Lage des Konzerns einzubeziehen, sofern diese bedeutsam sind (DRS 20.101). Das Deutsche Rechnungslegungs Standards Committee (DRSC) gibt nicht vor, welche Kennzahlen darzulegen sind. Zu beachten sind jedoch finanzielle Leistungsindikatoren, die auch im Rahmen der internen Steuerung des Konzerns genutzt werden (DRS 20.102). Die Angaben müssen dabei nicht im gleichen Umfang und Detaillierungsgrad der internen Berichterstattung erfolgen, sondern können stärker aggregiert dargestellt werden (DRS 20.B13). Die Berechnung finanzieller Leistungsindikatoren ist offenzulegen, sofern dies nicht im Anhang erfolgt. Dabei soll eine Überleitungsrechnung auf die Abschlusszahlen erfolgen, allerdings nur dann, wenn diese sinnvoll möglich ist (DRS 20.104). Des Weiteren sind wesentliche Veränderungen gegenüber dem Vorjahr darzustellen und zu erläutern (DRS 20.113). Als Beispiele für finanzielle Leistungsindikatoren werden folgende Kennzahlen genannt:

- Eigenkapitalrendite,
- Gesamtkapitalrendite,
- Umsatzrendite,
- Cashflow,
- Working Capital,
- Investitionen in Sachanlagevermögen und in immaterielles Anlagevermögen,
- EBIT,
- EBITDA und
- Wertbeitrag (DRS 20.103).

[7] Vgl. ESMA, Q&A On ESMA Guidelines On Alternative Performance Measures (Question 9), abrufbar unter: https://www.esma.europa.eu/sites/default/files/library/esma32- 51- 370_qas_on_esma_guidelines_on_apms.pdf (ab- gerufen am 28.7.2020).

2.3.3 Konzepte im Vergleich

Personeller Anwendungsbereich

Der Exposure Draft richtet sich an alle Unternehmen, die nach den Vorgaben der IFRS bilanzieren. In Deutschland sind demnach im Wesentlichen kapitalmarktorientierte Konzerne betroffen, da diese ihren Konzernabschluss nach den Regelungen der IFRS aufstellen müssen (Verordnung (EG) Nr. 1606/2002 des Europäischen Parlaments und des Rates). Darüber hinaus hat der Exposure Draft auch Auswirkungen auf diejenigen Unternehmen, die ihren Abschluss freiwillig nach den IFRS aufstellen. Die ESMA-Leitlinien richten sich an alle Emittenten mit Wertpapierhandel an regulierten Märkten i.S.d. ESMA-Leitlinien Tz. 1. Die Vorgaben des DRS 20 sind von den Unternehmen zu berücksichtigen, die nach § 290 HGB zur Aufstellung eines Konzernabschlusses und Konzernlageberichts verpflichtet sind. Somit ist davon auszugehen, dass sich der personelle Anwendungsbereich unter Einbeziehung des Exposure Drafts nicht wesentlich ändern wird.

Die Rechtsverbindlichkeit der bisherigen Regelungen (ESMA-Leitlinien und DRS 20) ist umstritten, da sich keine eindeutige gesetzliche Verpflichtung ableiten lässt. Allerdings liegt eine faktische Verpflichtung zur Anwendung vor, die sich u.a. dadurch ergibt, dass die Deutsche Prüfstelle für Rechnungslegung (DPR) die alternativen Leistungskennzahlen gem. ESMA-Leitlinien als Prüfungsschwerpunkt betrachtet[8] und der DRS 20 durch das Deutsche Rechnungslegungs Standards Committee (DRSC) herausgegeben wird. Sowohl DPR als auch DRSC sind als privates Rechnungslegungsgremium im Sinne des § 342 HGB dazu gesetzlich legitimiert.[9] Bei Annahme des neuen IAS 1 im Rahmen des Endorsement-Verfahrens der EU würden die neuen Regelungen für die Anwender der IFRS rechtlich verpflichtend umzusetzen sein.

Sachlicher Anwendungsbereich

Durch den Exposure Draft werden Non-GAAP Measures nun explizit in den Jahresabschluss miteinbezogen. Abschlüsse fallen ausdrücklich nicht in den sachlichen Anwendungsbereich der ESMA-Leitlinien,[10] während der DRS 20 lediglich die Vorgaben

[8] Vgl. DPR, Prüfungsschwerpunkte 2020, abrufbar unter: https://www.frep.info/docs/pressemitteilungen/2019/20191118_pm.pdf (abgerufen am 28.07.2020).
[9] Ende Juni 2020 hat die Bundesregierung angekündigt die Zusammenarbeit mit der DPR zu beenden, weswegen die gesetzliche Legitimation zukünftig entfällt.
[10] Vgl. ESMA-Leitlinien 2015 Tz. 4.

für die Lageberichterstattung konkretisiert. Häufig werden Non-GAAP Measures prominent in Pressemitteilungen und den ersten Seiten des Geschäftsberichts lanciert und liegen damit außerhalb des Jahresabschlusses. Durch den zusätzlichen Ausweis im Anhang transferiert der Exposure Draft nun bisherige „Non-IFRS"-Angaben zu IFRS-Angaben.[11]

Definition

Im Rahmen des Exposure Drafts legt das IASB einen besonderen Fokus auf Vorschriften zur Identifizierung von MPMs. Dies ist damit zu erklären, dass MPMs deutlich enger definiert sind als die APMs nach den ESMA-Leitlinien oder die finanziellen Leistungsindikatoren i.S.d. DRS 20. MPMs umfassen lediglich Zwischensummen von Erträgen und Aufwendungen. Keine MPMs sind dagegen Zwischensummen von ausschließlich Erträgen oder ausschließlich Aufwendungen. Ebenfalls nicht zu den MPMs – im Gegensatz zu den alternativen Leistungskennzahlen und den finanziellen Leistungsindikatoren – werden Kennzahlen gezählt, die sich auf Vermögen oder Schulden sowie Cashflow-Größen beziehen. So stellt bspw. die Eigenkapitalrendite sowohl eine APM nach den ESMA-Leitlinien als auch einen finanziellen Leitungsindikator nach DRS 20 dar, erfüllt jedoch nicht die Definition einer MPM.

Der DRS 20 konkretisiert die Vorgaben des § 315 Abs. 1 S. 3 HGB, der die Darstellung der bedeutsamsten finanziellen Leistungsindikatoren im Konzernlagebericht vorschreibt. Hier ist herauszustellen, dass lediglich die Darstellung der „bedeutsamsten" und nicht sämtlicher finanzieller Leistungsindikatoren erforderlich ist. Eine derartige Bedeutsamkeit kann sich z.B. durch die interne Relevanz der Kennzahl ergeben, wenn sie einen maßgeblichen Einfluss auf die Vorstandsvergütung hat.[12]

Somit lässt sich schlussfolgern, dass der Definitionsbereich der alternativen Leistungskennzahlen gem. ESMA-Leitlinien den größten Definitionsbereich umfasst, bei dem die MPMs im Sinne des Exposure Drafts und finanziellen Leistungsindikatoren nach DRS 20 zugehörige Teilmengen darstellen.

[11] Vgl. *Bach*/*Berger*, Betriebsberater 2020, 623.
[12] Vgl. *Grottel*, in Beck Bilanz-Kommentar HGB § 315 Rdn. 97.

Ausweis

Tabelle 2.2 stellt vergleichend dar, welche Angaben und Vorgaben im Rahmen des IASB Exposure Draft, der ESMA-Leitlinien und des DRS 20 im Hinblick auf die Non-GAAP Measures gefordert werden.

Ausweisvorgaben im Berichtsinstrument	**IASB Exposure Draft (MPMs)**	**ESMA-Leitlinien (APMs)**	**DRS 20 (bedeutsamste finanzielle Leistungsindikatoren)**
Berechnungsgrundlage	✓	✓	✓
Überleitung auf spezifizierte Abschlussgröße	✓	✓	✓
Berechnungsgrundlage des Steuereffekts sowie Angaben zu Steuereffekten und Effekten der nicht beherrschenden Anteile in der Überleitungsrechnung	✓	X	X
Aussagekraft/Relevanz der Kennzahl	✓	✓	X
Inhaltliche Erklärung, dass es sich um eine unternehmensspezifische Kennzahl handelt	✓	X	X
Expliziter Hinweis zur eingeschränkten Vergleichbarkeit	✓	X	X
Angaben von Vergleichswerten	X	✓	X
Vorgaben zur Verwendung der Kennzahl	**IASB Exposure Draft (MPMs)**	**ESMA-Leitlinien (APMs)**	**DRS 20 (bedeutsamste finanzielle Leistungsindikatoren)**
Vorgabe zur Darstellung und Präsenz der Kennzahl innerhalb des Geschäftsberichts	(X)	✓	X
Aussagekräftige Bezeichnung der Kennzahl	✓	✓	X

* Der Begriff Kennzahl bezieht sich in der Tabelle sowohl auf MPMs, APMs als auch auf die bedeutsamsten finanziellen Leistungsindikatoren.
✓ = ausdrücklich vorhanden; X = nicht vorhanden; (X) = nicht (ausdrücklich) vorhanden

Tabelle 2.2: *Vergleich der Vorgaben*

Insgesamt zeigen sich große Übereinstimmungen hinsichtlich der Ausweisvorgaben und Vorgaben zur Verwendung unternehmensindividueller Kennzahlen des Exposure Drafts sowie der ESMA-Leitlinien. Somit lässt sich schlussfolgern, dass die Regulierung durch das IASB keine wesentlichen Neuerungen zur Folge hat.

Einige Unterschiede zeigen sich jedoch im Detail. So fordert bspw. der Exposure Draft explizit eine Erklärung im Anhang, dass mit MPMs die Sichtweise des Managements auf einen Teilaspekt der Unternehmensperformance kommuniziert wird und dass die Vergleichbarkeit zu ausgewiesenen MPMs anderer Unternehmen ggf. eingeschränkt ist. Die bisherigen Vorgaben der ESMA-Leitlinien und des DRS 20 haben diesen Aspekt kaum behandelt. Des Weiteren ergeben sich Unterschiede bei den Angaben zu Steuereffekten und Effekten der nicht beherrschenden Anteile. Hierzu sollen nach dem Exposure Draft Angaben in der Überleitungsrechnung gemacht werden. Darüber hinaus soll die Berechnungsgrundlage des Steuereffekts im Anhang dargestellt werden.

Hingegen fehlen ausdrückliche Hinweise zur Darstellung und Präsenz der Kennzahl innerhalb des Geschäftsberichts. Lediglich die ESMA-Leitlinien weisen explizit darauf hin, dass alternative Leistungskennzahlen die Berichterstattung hinsichtlich ihrer Präsenz, Betonung und Aussagekraft nicht dominieren sollen.[13] DRS 20 beinhaltet vergleichsweise wenig Vorgaben in Bezug auf den Ausweis unternehmensindividueller Kennzahlen.

2.4 Diskussion

Insgesamt stellt sich die Frage, welche Neuerungen der Exposure Draft überhaupt hinsichtlich Non-GAAP Measures liefert, da viele Redundanzen zu den bestehenden einschlägigen Vorgaben vorhanden sind. Insbesondere eine Steigerung der Transparenz, die im Interesse der Adressaten liegt, scheint unter den neuen Vorgaben nur bedingt erreicht zu werden.

Ungeklärt ist darüber hinaus, wie viele Kennzahlen tatsächlich unter die Definitionskriterien der MPMs fallen. Der Exposure Draft legt die Definition von MPMs vergleichsweise eng aus. Bei der praktischen Auslegung ergeben sich jedoch Unklarheiten. So wird als Definitionskriterium genannt, dass MPMs öffentlich in der Kommunikation mit Adressaten außerhalb des Abschlusses verwendet werden müssen, wobei nicht abschließend konkretisiert wird, welche Instrumente der Berichterstattung darunterfallen. Im extremen Fall ist denkbar, dass jede öffentliche Veranstaltung und

[13] Im Exposure Draft finden sich inhaltliche Hinweise zur Verwendung von Zwischensummen in der GuV. Diese dürfen nicht stärker hervorgehoben werden als die Zahlen gem. IFRS. Da MPMs auch als Zwischensummen ggf. innerhalb der GuV verwendet werden dürfen, können Vorgaben hinsichtlich der Präsenz und Betonung von Non-GAAP Measures gelten (IFRS X.42f.).

Mitteilung eines Unternehmens – sei es eine Analystenkonferenz, eine Pressemitteilung oder auch PR-Termine – hier subsumiert werden könnten. Zweifelhaft ist ebenfalls, ob die einmalige Verwendung einer Non-GAAP Measure gemäß den Kriterien des Exposure Drafts bereits eine MPM begründet oder ob eine regelmäßige Berichterstattung mittels der Kennzahl entscheidend ist. Ein konkreter Leitfaden zur praktischen Umsetzung ist wünschenswert.

Fraglich ist zudem, warum das IASB nur eine kleine Teilmenge der Non-GAAP Measures aufgreift und der Entwurf nicht eine größere Menge von Kennzahlen umfasst. Der Exposure Draft reformiert einen Standard, der zukünftig einen großen Teil der Unternehmen betreffen wird. Der Ansatz des IASB, nur gewisse Kennzahlen zu berücksichtigen, könnte letztendlich nicht ausreichend sein, um das übergeordnete Ziel einer transparenten Berichterstattung zu erreichen. Zukünftig werden Unternehmen weiterhin individuelle Kennzahlen (wie z.B. Free Cashflow oder Working Capital) ausweisen ohne dass Anhangangaben erforderlich werden, da die Kennzahlen nicht unter den Anwendungsbereich des Exposure Drafts fallen.[14] In Zukunft könnten daher die bereits häufig verwendeten Kennzahlen wie ROCE (welches sich paradoxerweise durch Berechnung des (bereinigten) EBIT ergibt) oder der bereinigte Umsatz noch stärker an Bedeutung in der Unternehmensberichterstattung gewinnen.[15] Letztendlich wird den Schwächen der Non-GAAP Measures nicht effektiv genug begegnet und den Unternehmen Gestaltungsfreiraum gelassen.

Zur Handhabung der Non-GAAP Measures bedarf es möglicherweise auch keiner neuen Regulierung. Denkbar ist, dass das IASB die bestehenden Regelungen des IFRS 8 zur Segmentberichterstattung aufgreift. Demnach ist für jedes berichtspflichtige Segment eine Ergebnisgröße anzugeben. Derartige Ergebnisgrößen beruhen auf den Bilanzierungs- und Bewertungsmethoden der internen Steuerung und können grundsätzlich von den Regelungen der IFRS abweichen. Frühere Untersuchungen belegen, dass deutsche und österreichische Unternehmen in der Segmentberichterstattung auf Non-GAAP Measures wie EBIT oder EBITDA zurückgreifen.[16] Die Segmentergebnisgrößen können derweil also auch MPMs darstellen. Der Exposure Draft

[14] Für eine Übersicht der bedeutsamsten unternehmensindividuellen Kennzahlen je Branche vgl. *Blab*/*Turi*, KoR IFRS 2018, 21.
[15] Vgl. *Blab*/*Turi*, KoR IFRS 2018, 20; *Blab*/*Turi*, KoR IFRS 2018, 72.
[16] Vgl. *Franzen*/*Weißenberger*, Journal of Applied Accounting Research 2015, 100-101; *Sopp*/*Ceylan*, WPg 2018, 1517.

gestattet den Anwendern die Möglichkeit, die geforderten Ausweisangaben der MPMs innerhalb der Segmentberichterstattung darzulegen (IFRS X.B83).[17] So könnten die bereits für die einzelnen Segmente verwendeten Non-GAAP Measures bzw. MPMs auf die Gesamtkonzernebene übertragen werden.

Die praktische Umsetzung des Exposure Drafts hat formal auch Auswirkung auf die Abschlussprüfung. MPMs werden durch die Ausweispflichten Bestandteile des Abschlusses und fallen damit in den Wirkungsbereich des Abschlussprüfers. Es ist ebenfalls nicht auszuschließen, dass die MPMs zukünftig häufiger als Key Audit Matter (KAM) thematisiert werden. Bei der Bayer AG werden bereits im Geschäftsjahr 2019 alternative Leistungskennzahlen als KAM betrachtet.[18] Da die Einhaltung der ESMA-Leitlinien hinsichtlich der APMs bereits DPR-seitig berücksichtigt wird, ist es denkbar, dass auch die MPMs zukünftig einem besonderen Fokus unterliegen könnten. Sowohl auf Abschlussersteller- als auch auf Prüferseite könnte ein Mehraufwand entstehen, der insbesondere aus der Identifikation der MPMs sowie den erforderlichen Ausweispflichten im Anhang resultieren könnte. Sowohl die Identifikation der MPMs sowie die Frage, ob ein Ausweis dieser in der GuV erlaubt ist, könnte zu Schwierigkeiten in der praktischen Anwendung führen. Auch hier wären weitere Anwendungshinweise seitens des IASB für die Adressaten hilfreich.

Unabhängig von dieser möglichen Auslegungsproblematik des Exposure Drafts wird sich der Aufwand für Abschlussersteller und Prüfer erhöhen. Dadurch, dass drei verpflichtende Konzepte für deutsche börsennotierte Unternehmen hinsichtlich Non-GAAP Measures parallel bestehen, dürfte es sich arbeitsintensiver gestalten, allen Vorgaben vollumfänglich gerecht zu werden. Insgesamt muss kritisch hinterfragt werden, ob der Exposure Draft einen signifikanten Mehrwert liefert oder lediglich die Komplexität steigert.

[17] Vgl. *Beyersdorff*, WPg 2020, 568.

[18] Als besonders wichtiger Prüfungssachverhalt wird die Bereinigung des EBITDA und des EBIT um Sondereinflüsse klassifiziert. Dies erfüllt grundsätzlich das Verständnis einer Non-GAAP Measure. Vgl. auch Bayer AG, Geschäftsbericht 2019, 228–231.

2.5 Zusammenfassung

Das IASB setzt mit dem Exposure Draft an einer transparenten Darstellung von Non-GAAP Measures an, indem konkrete Ausweisvorgaben im Anhang verpflichtend sind. Allerdings ist festzuhalten, dass für deutsche börsennotierte Unternehmen bereits Regelungen existieren, die weitestgehend mit den Vorgaben des Exposure Draft übereinstimmen. Lediglich kleinere Neuerungen sind festzustellen. Hinsichtlich der identifizierten Redundanzen stellt sich die Frage, ob die neuen Regelungen einen tatsächlichen Mehrwert für Abschlussadressaten liefern, da vermutlich keine wesentlichen neuen Informationen vermittelt werden können. Zugleich ist jedoch von einer gesteigerten Komplexität für Abschlussersteller und Prüfer auszugehen. Unter diesem Aspekt darf die Notwendigkeit der Vorgaben aus dem Exposure Draft hinsichtlich der Non-GAAP Measures hinterfragt werden.

Aufgrund der praktischen Relevanz der Non-GAAP Measures ist es jedoch nachvollziehbar, dass sich das IASB dem Thema widmet. Die Regelungen des IASB sind insofern sinnvoll, als dass durch die Verankerung der Angaben zu Non-GAAP Measures im Abschluss eine rechtliche Bindungswirkung entfaltet wird. Ein aktuelles Studienergebnis der ESMA indiziert, dass die ESMA-Leitlinien nicht vollumfänglich umgesetzt werden, weshalb eine rechtliche Verpflichtung zur Umsetzung begrüßenswert scheint.[19] Der Erlass des Exposure Drafts ist auch ein Versuch, einer missbräuchlichen Nutzung von Non-GAAP Measures entgegenzuwirken.[20] In der Vergangenheit hat das Gremium vermehrt Hinweise einer irreführenden Darstellung der Unternehmensleistung durch Non-GAAP Measures wahrgenommen.[21]

[19] In einer Ende 2019 veröffentlichten Studie stellte die ESMA fest, dass lediglich in 16 von 123 Geschäftsberichten eine vollständige Umsetzung der ESMA-Leitlinien erfolgte. Vgl. ESMA, Abrufbar unter: https://www.esma.europa.eu/sites/default/files/library/esma32-334150_report_on_the_thematic_study_on_application_of_apm_guidelines.pdf (abgerufen am 28.07.2020).

[20] In der Wissenschaft gibt es einen grundsätzlichen Diskurs über die Motivation der Publikation von Non-GAAP Measures. Auf der einen Seite kann das informative Motiv stehen, um zusätzliche wertrelevante Informationen an die Adressaten zu vermitteln. Gegensätzlich kann der Publikation von Non-GAAP Measures ein opportunistisches Motiv nachgesagt werden, da bspw. das Unternehmensergebnis seitens des Vorstands positiv beeinflusst werden kann. Vgl. *Hebestreit/Teitler-Feinberg*, IRZ 2017, 171.Vgl. ebenfalls für einen grundlegen Überblick *Hitz*, Journal für Betriebswirtschaft 2010, 127-161.

[21] Vgl. *Shumsky*, IASB Chair Rings Alarm Over Use of Non-GAAP Measures, abrufbar unter: https://blogs.wsj.com/cfo/2016/05/11/iasb-chair-rings-alarm-over-use-of-non-gaap-measures/ (abgerufen am 28.07.2020).

Die öffentliche Kommentierungsfrist des Exposure Drafts ist am 30.9.2020 planmäßig geendet. Die publizierten Comment Letter deuten an, dass über den Vorschlag des IASB noch diskutiert werden dürfte.[22] Es bleibt abzuwarten, inwiefern das IASB noch Anpassungen vornehmen wird.

[22] Zum 28.07.2020 sind sieben Comment Letter veröffentlicht. Zwei Kommentierungen lehnen das Vorgehen des IASB grundsätzlich ab, zwei weitere Kommentierungen stimmen dem Vorschlag zu. Die restlichen Kommentierungen können keiner grundlegenden Position zugeordnet werden. Vgl. IASB, Exposure Draft and Comment letters: General Presentation and Disclosures (Primary Financial Statements), abrufbar unter: https://www.ifrs.org/projects/work-plan/primary-financial-statements/comment-letters-projects/ed-primary-financial-statements/#comment-letters (abgerufen am 28.07.2020).

2.6 Quellenverzeichnis

Bach, H./Berger, J. (2020), IASB-Vorschläge zur Neufassung von IAS 1 – großer Wurf oder nur Kosmetik?, Betriebsberater, Nr. 11, S. 619–623.

Bayer AG, Geschäftsbericht 2019.

Beiersdorf AG, Geschäftsbericht 2019.

Beyersdorff, M. (2020), Mehr Einblick in die Ertragslage nach IFRS? : ED/2019/7 "General Presentation and Disclosures" des IASB, WPg : Kompetenz schafft Vertrauen, 73. Jg., Nr. 10,, S. 561–569.

Blab, D./Turi, E. H. L. (2018a), Alternative Performance Measures - Analyse zur Anwendungspraxis im MDAX (Teil 1), KoR, Nr. 1, S. 15–21.

Blab, D./Turi, E. H. L. (2018b), Alternative Performance Measures - Analyse zur Anwendungspraxis im MDAX (Teil 2), KoR, Nr. 2, S. 72–77.

Deutsche Telekom AG, Geschäftsbericht 2019.

DPR, Prüfungsschwerpunkte 2020, in: https://www.frep.info/docs/pres%20semitteilungen/2019/20191118_pm.pdf, abgerufen am 28. 7. 2020.

DRSC (2012), Deutscher Rechnungslegungs Standard Nr. 20 (DRS 20). Konzernlagebericht.

ESMA (2015), Leitlinien. Alternative Leistungskennzahlen (APM).

ESMA (2019), Report. On the use of Alternative Performance Measures and on the compliance with ESMA's APM Guidelines, in: https://www.esma.europa.eu/sites/default/files/library/esma32-334-150_report_on_the_thematic_study_on_application_of_apm_guidelines.pdf, abgerufen am 28. 7. 2020.

ESMA (2020), Q&A On ESMA Guidelines On Alternative Performance Measures, in: https://www.esma.europa.eu/sites/default/files/library/esma32-51-370_qas_on_esma_guidelines_on_apms.pdf, abgerufen am 28. 7. 2020.

Franzen, N./Weißenberger, B. E. (2015), The adoption of IFRS 8 – no headway made? Evidence from segment reporting practices in Germany, Journal of Applied Accounting Research, 16. Jg., Nr. 1, S. 88–113.

Grottel (2020), § 315 HGB Rn. 90-101. In: *Grottel, B./Schmidt, S./Schubert, W. J./Störk, U.* (Hrsg.), Beck'scher Bilanz-Kommentar. Handels- und Steuerbilanz : §§ 238 bis 339, 342 bis 342e HGB, 12. Aufl., München.

Hebestreit, G./Teitler-Feinberg, E. (2017), Alternative Performance Measures: Ist-Zustand und Stoßrichtung des IASB, IRZ : Zeitschrift für internationale Rechnungslegung, 12. Jg., Nr. 4, S. 169–176.

Hebestreit, G./Teitler-Feinberg, E. (2020), Neue Zwischensalden in der Gewinn- und Verlustrechnung, Angabe von Non-GAAP-Leistungsindikatoren und stärkere Aufschlüsselung von Abschlussposten : was der ED "General Prensentation and Disclosures" vorschlägt, IRZ : Zeitschrift für internationale Rechnungslegung, 15. Jg., 7/8, S. 343–349.

Hitz, J.-M. (2010), Information versus adverse Anlegerbeeinflussung: Befund und Implikationen der empirischen Rechnungswesenforschung zur Publizität von Pro-forma-Ergebnisgrößen, Journal für Betriebswirtschaft, 60. Jg., Nr. 2, S. 127–161.

IASB (2019a), Exposure Draft ED/2019/7. General Presentation and Disclosures, in: https://www.ifrs.org/content/dam/ifrs/project/primary-financial-statements/exposure-draft/ed-general-presentation-disclosures.pdf, abgerufen am 28. 7. 2020.

IASB (2019b), Exposure Draft ED/2019/7 Illustrative Examples, in: General Presentation and Disclosures https://www.ifrs.org/content/dam/ifrs/project/primary-financial-statements/exposure-draft/ed-illustrative-examples-general-presentation-disclosures.pdf, abgerufen am 28. 7. 2020.

Sepp, K./Ceylan, K. (2018), Segmentberichterstattung in den Jahren 2006 bis 2017 : Gegenüberstellung des Berichtsverhaltens der österreichischen ATX-Unternehmen mit Ergebnissen für den deutschen Kapitalmarkt, WPg : Kompetenz schafft Vertrauen, 71. Jg., Nr. 23, S. 1513–1520.

Shumsky, T. (2016), IASB Chair Rings Alarm Over Use of Non-GAAP Measures, in: https://blogs.wsj.com/cfo/2016/05/11/iasb-chair-rings-alarm-over-use-of-non-gaap-measures, abgerufen am 28. 7. 2020.

Volkswagen AG, Geschäftsbericht 2019

3. GAAP or Non-GAAP – German Investors' Perception G(a)ap in Evaluating Annual Reports

Publication Details

Abstract: This study experimentally examines how the disclosure of non-GAAP measures influences the perceived reporting reliability among professional and non-professional investors in Germany. Motivated by the issuance of IFRS 18, which introduces guidance on the presentation of Management Performance Measures (MPMs), we investigate whether a perception gap exists between these investor groups regarding the reliability of the annual report. Building on attribution theory and the concept of the expectation gap, we find that professional investors remain largely unaffected by non-GAAP disclosures, whereas non-professional investors view reports, including non-GAAP measures, as significantly more reliable than stand-alone GAAP-based reports. We conclude that non-GAAP measures help reducing an existing perception gap from annual reports containing only GAAP measures. While our findings highlight the need to better address the information needs of non-professional investors by extending disclosures beyond GAAP-measures, our results also stress the potential vulnerability of non-professional investors to strategically framed disclosures, emphasizing the need for regulatory efforts to enhance the transparency of financial reporting.

Co-Authors: Celine Daute, Prof. Dr. Christiane Pott

Keywords: Non-GAAP measures, investors' perception, perception gap

Publication Status: Working Paper (accepted for presentation at the 85th Annual Conference of the German Academic Association for Business Research (VHB) 2026). This study was presented at the European Accounting Association (EAA) Junior Virtual Workshop 2025. The research idea was presented at the UA Ruhr Accounting Days 2024.

3.1 Introduction

Companies choose to voluntarily disclose non-GAAP measures – financial performance indicators not defined in accounting standards or legal requirements – alongside their financial statements to complement GAAP figures by providing management's perspective on a company's financial performance (Anderson et al., 2022; Czajor, 2024). This research is motivated by the recent release of IFRS 18 as a disclosure standard, which provides explicit guidelines for including Management Performance Measures (MPMs)[1] as a type of non-GAAP measure in addition to a company's financial reporting (Freches et al., 2020; IASB, 2024a). The standard sets out principles to define, reconcile, and disclose non-GAAP measures that are of particular interest and importance to investors in a structured manner (Czajor, 2024). In this paper, we investigate the effect of the disclosure of non-GAAP measures on professional and non-professional investors' perception of investment-related information in an experimental setting.

Prior research has mainly examined the extent to which the disclosure of non-GAAP measures influences investment decision-making. Prior research shows that while professional investors generally remain unaffected due to their financial expertise (Allee et al., 2007; Bhattacharya et al., 2007; Hitz, 2010b), non-professional investors exhibit a heightened sensitivity to the disclosure and strategic presentation of such measures (Allee et al., 2007). For instance, Bhattacharya et al. (2007) documented a surge in trading activity among non-professional investors surrounding the release of pro forma earnings, suggesting potential misjudgments in their evaluative processes. Experimental research provides additional evidence, indicating that both the mere presence of non-GAAP measures (Frederickson & Miller, 2004) and the degree of emphasis placed on them – such as the inclusion of reconciliations (Dilla et al., 2013; Elliott, 2006) – can significantly influence non-professional investors' decision-making. In contrast, these factors exert no discernible impact on the judgments of professional investors. Given the increasing prominence of non-GAAP measures (Herr et al., 2022), it is crucial to validate and build upon existing research findings. While prior experimental studies have primarily examined how non-GAAP measures influence investment-related judgments and decision-making across different investor groups, our study takes a different perspective

[1] Non-GAAP measures are also referred to as Alternative Performance Measures (APMs), Management Performance Measures (MPMs) or Pro Forma Earnings.

by focusing on the perception of these measures. Specifically, we investigate how investors perceive the disclosure of non-GAAP measures, hypothesizing a perception gap between professional and non-professional investors due to perceived management's disclosure motives. In contrast to prior research emphasizing judgments and decision-making, our study explores the underlying perceptual processes that precede such judgments and decision-making. Drawing on the concept of the expectation gap from audit literature (e.g., Libby, 1979) and attribution theory (Heider, 1958), we argue that differences in knowledge and investment experience, areas in which non-professional investors are generally less proficient (Dilla et al., 2013; Elliott et al., 2008), lead to differences in how non-GAAP measures are perceived.

To assess this perception gap, we evaluate the reliability of the annual report using professional investors, who are more attuned to strategic disclosure practices (Reimsbach, 2014) and have greater knowledge and investment experience, as a benchmark for interpreting non-GAAP measures. Our approach incorporates modified expectation gap measures (as outlined by Gold et al., 2012) as well as measures for management's credibility, inspired by Mercer (2004) and Mercer (2005), to better understand potential disparities in perceptions between professional and non-professional investors. We conducted a between-subjects online experiment to test our hypotheses using a 2 × 3 design: two groups (professional investors and non-professional investors) and three reporting conditions (GAAP only-Condition, non-GAAP measure-Condition, and non-GAAP measure-Condition with explanation). We obtained a final sample of 174 valid participants. Participants were randomly assigned to one of the experimental conditions and then instructed to read general information about a fictitious company, whose information is based on an actual consumer goods company listed on the stock exchange in Germany. In the GAAP only-Condition, participants received an audited financial report consisting of an income statement and a balance sheet, accompanied by a press release highlighting the company's financial performance. In the non-GAAP measure-Condition, two additional non-GAAP measures were included and integrated into the press release. In the non-GAAP measure-Condition with explanation, participants were also provided with background information on the disclosed non-GAAP measures and a GAAP/non-GAAP reconciliation, as suggested in the forthcoming IFRS 18, aimed at addressing stakeholders' demand for more standardized, comparable, and effective reporting (IASB, 2024b).

Our study reveals that professional investors' perception of reporting reliability remains unaffected by the disclosure of non-GAAP measures, suggesting that their financial expertise enables them to evaluate such information critically and objectively. In contrast, non-professional investors perceive reports including non-GAAP figures as significantly more reliable than those based on GAAP, indicating a stronger influence of such disclosures on their perceptions. Interestingly, while a perception gap exists between the two investor groups under GAAP only reporting, the inclusion of non-GAAP measures reduces this gap, implying a convergence in perceived reliability. Upon further analysis, we identified that non-professional investors perceive the informational basis to judge the economic situation of the company in case of GAAP only reporting also lower than professional investors do. This suggests information asymmetries, since non-professional investors remain underinformed regarding GAAP reporting. Regardless of the actual informational content, the additional disclosure of non-GAAP measures provides additional information to non-professional investors. While our findings demonstrate a potential vulnerability of non-professional investors to strategically framed disclosures and underscore the need for enhanced regulatory guidance, the results also highlight the importance of addressing non-professional investors' information needs that go beyond GAAP measures to ensure that they can make well-informed investment decisions.

Our study contributes to the growing body of literature on non-GAAP reporting by offering novel insights into how different investor groups perceive the reliability of financial reporting in response to non-GAAP disclosures. To increase transparency and reliability of non-GAAP measures in the US, Regulation G under the Sarbanes-Oxley Act came into force in 2003 (Görmar et al., 2025; Jennings & Marques, 2011). While prior research has primarily examined US-based investors within the framework of US disclosure regulations, this study extends the literature by investigating the perceptions of professional and non-professional investors in Germany, where the reporting of non-GAAP measures was regulated through the Guidelines on Alternative Performance Measures by the European Securities and Markets Authority (ESMA) in 2016 (ESMA, 2015). However, capital markets and institutional frameworks are typically not as advanced as those in the US (Guillamon-Saorin et al., 2017). By distinguishing between professional and non-professional investors, the study sheds light on heterogeneous processing of financial information and reveals that non-professional investors are significantly more influenced by the presence of non-GAAP figures, regardless of

accompanying explanatory information. In doing so, this research highlights the potential susceptibility of less experienced investors to strategic disclosure practices and calls for greater regulatory attention.

Our paper is structured as follows: In Section 2, we provide a comprehensive review of the relevant literature on non-GAAP measures and examine the perception gap between non-professional and professional investors in complex accounting settings. Building on these insights, we formulate hypotheses. Section 3 outlines our research methodology and details our experimental design for assessing investor perceptions under varying informational conditions. Section 4 presents our empirical findings, supplemented by a robustness analysis. Finally, in Section 5, we critically discuss our results and draw our conclusions.

3.2 Literature Review and Hypothesis Development

3.2.1 Literature Review

Investors are the most significant users of financial statements, as they have a direct influence on the capital provision for companies (Czajor, 2024). Beyond the mandatory information provided in financial statements, voluntarily disclosed non-GAAP measures such as Adjusted EBIT and Adjusted EBITDA are of great importance for investors, although these metrics are not defined in accounting standards or legal requirements (Anderson et al., 2022). The significance of non-GAAP measures was reinforced by the introduction of IFRS 18, which provides explicit guidelines for including Management Performance Measures in a company's financial reporting (IASB, 2024a). As demonstrated by the rising disclosure frequency over the past two decades (Herr et al., 2022), non-GAAP measures have become increasingly prevalent and are widely used in financial reporting (Coleman & Usvyatsky, 2015; Guillamon-Saorin et al., 2017; PwC, 2021). Non-GAAP measures represent modifications to standardized financial metrics from the income statement, achieved by excluding certain elements, typically expenses (Herr et al., 2022; Hitz, 2010b). Non-GAAP measures can be broadly categorized into two types: non-GAAP measures in a broader sense and in a narrow sense. The latter involves adjustments of specific business transactions made by management, often without adhering to standardized calculation methods. In contrast, non-GAAP measures,

in a broader sense, are frequently disclosed in financial statements and, as such, form part of a company's accounting practices and annual audits (Black et al., 2017). A specific subset of non-GAAP measures in a broader sense is often referred to as "earnings before measures" (EB measures), including metrics such as EBIT, EBITDA, or EBT. These measures adjust GAAP earnings by excluding specific components such as interests, taxes, or depreciation and amortization, and can usually be reproduced by external stakeholders due to the information provided in a company's financial statement.

As the voluntary disclosure of non-GAAP measures is costly, most research debates the underlying rational motives of managers for disclosing these metrics (Curtis et al., 2014; Reimsbach, 2014). According to the informative motive, managers tend to voluntarily disclose non-GAAP measures to provide additional decision-useful information to external stakeholders (Herr et al., 2022). In contrast, the strategic motive suggests that excluding certain income-decreasing items allows managers to disclose non-GAAP earnings that exceed GAAP earnings, but potentially mislead investors (Marques, 2006).

In fact, numerous studies demonstrate that non-GAAP measures are more value-relevant and have a higher predictive power than their GAAP equivalents, and therefore can be attributed to be highly relevant in terms of information (Ribeiro et al., 2019). Additionally, non-GAAP measures are more permanent than GAAP earnings, thus better reflect a company's core performance (Bhattacharya et al., 2003) and better predict future firm performance, as they consist of fewer transitory earnings components (Brown & Sivakumar, 2003). Moreover, non-GAAP disclosure can reduce information asymmetries (Charitou et al., 2018; Huang & Skantz, 2016), as management has an information advantage regarding the persistence of earnings components (Bradshaw & Sloan, 2002). However, the reporting of non-GAAP measures has been subject to criticism due to the potential for strategically influencing investors, specifically through the adjustment of expenses that enhance GAAP earnings figures for opportunistic reasons, such as beating analysts' forecasts (Bhattacharya et al., 2003; Black & Christensen, 2009; Doyle et al., 2013; Frankel et al., 2011) or designing management compensation structures (Curtis et al., 2021; Guest et al., 2022; Isidro & Marques, 2013).

Previous research has explored whether investors can assess the usefulness of non-GAAP measures and how their disclosure influences decision-making. Capital-market-based research analyses the trading activities of different investor groups when non-GAAP

measures are reported (Allee et al., 2007; Bhattacharya et al., 2007; Jennings & Marques, 2011) and finds mixed reactions, with professional investors generally remaining unaffected due to their expertise (Allee et al., 2007; Bhattacharya et al., 2007; Hitz, 2010b), while non-professional investors are notably influenced by the disclosure and strategic placement of such measures (Allee et al., 2007). The reaction of the addressees to the non-GAAP measure is favored by the fact that companies effectively communicate the (often better) non-GAAP measures using impression management techniques and emphasize them over the regular GAAP measure (Allee et al., 2007; Bowen et al., 2005; Guillamon-Saorin et al., 2012; Guillamon-Saorin et al., 2017). These results indicate that non-professional investors are most likely to potentially misjudge non-GAAP measures and might be misled by opportunistically motivated disclosure of adjusted metrics (Bhattacharya et al., 2007; Black & Christensen, 2009).

Experimental studies provide further insight into the influence of non-GAAP measures on different groups, mostly distinguishing between non-professional and professional investors. Studies show that both the presence of non-GAAP measures (Frederickson & Miller, 2004) and their emphasis, such as the inclusion and presentation format of reconciliations (Dilla et al., 2013; Elliott, 2006; Hogan et al., 2017), can significantly affect investment-related judgments and decisions of non-professional investors. Non-professional investors tend to react excessively to the disclosure, particularly when negative GAAP earnings are reported (Johnson et al., 2014). Moreover, a study conducted by Frederickson and Miller (2004) shows that non-GAAP measures influence the information processing of non-professional investors and decision-making through unintentional cognitive effects. According to Dilla et al. (2014), financial reporting knowledge plays a crucial role in evaluating non-GAAP measures. Their study demonstrates that differences in financial knowledge significantly affect how non-professional investors interpret and utilize information regarding the distinctions between GAAP and non-GAAP measures. Research indicates that professional investors recognize management's strategic disclosure of non-GAAP measures (Reimsbach, 2014). In contrast, a more recent study conducted by Brosnan et al. (2023) finds that professional investors view a company's financial performance more favorably and are willing to invest significantly more capital when non-GAAP earnings are used to determine executive compensation.

Brown et al. (2023) show that accounting complexity, such as the complexity and diversity of applicable accounting standards, is positively associated with managers' likelihood of disclosing non-GAAP earnings, which suggests that such disclosures may mitigate the informational challenges created by complex mandatory reporting requirements. Extended literature also finds several references to the fact that professional and non-professional investors have different perceptions in complex accounting settings in general. A well-known example is the expectation gap in the audit literature, defined as the difference between what financial statement users perceive auditors' responsibilities to be and what auditors believe their responsibilities entail (McEnroe & Martens, 2001; Quick, 2020). For example, the public often expects that an unqualified opinion assures a financially sound entity, financial statements to be subject to an absolute level of assurance, and to cover a wider scope than is actually the case, so the auditing profession attributes a misperception by financial statement users as the root cause of this gap (Lin & Chen, 2004; Quick, 2020). The literature on the expectation gap has investigated participants with different financial reporting sophistications, indicating that the gap varies with the knowledge and experience of different users (Gold et al., 2012; Monroe & Woodliff, 1994). Gold et al. (2012) found evidence that the difference in perceptions between non-professional financial statement users (represented by students) and auditors is significantly greater than the difference between professional financial statement users (represented by analysts) and auditors in attributing responsibility for financial statements to management. This demonstrates that the gap narrows when there are fewer discrepancies in knowledge and education between auditors and financial statement users.

Another notable discrepancy in complex accounting settings regarding investor perceptions pertains to the treatment of goodwill in financial statements. Goodwill represents the present value of anticipated future benefits from intangible assets that cannot be identified individually (Amel-Zadeh et al., 2023). Accounting standards dictate that goodwill be treated as if it had an indefinite useful life; thus, it is subject to annual impairment tests rather than systematic amortization (Ferramosca & Allegrini, 2021). A study conducted by Köhler et al. (2020) indicates that information about goodwill impairment in the Key Audit Matters (KAM) section of the auditor's report has no communicative value for non-professional investors, while it creates value for professional investors (Köhler et al., 2020). This indicates that non-professional investors

struggle to process the provided information, resulting in a discrepancy in perception between non-professional and professional investors regarding the message conveyed with a KAM section.

Extensive research agrees that financial statement users often have difficulties using information contained in supplementary disclosures (e.g., Dietrich, 2001). Consequently, this information may not be used in their judgments (Clor-Proell et al., 2014). While professional investors incorporate fair value disclosures into their judgments (Clor-Proell et al., 2014), prior research finds that non-professional investors have difficulties in understanding complex fair value information, such as the differentiation in information risk between Level 1 and Level 3 fair value inputs, as well as the fair value accounting of liabilities according to IAS 39 (Lachmann et al., 2010; Riedl & Serafeim, 2011). Thus, existing accounting research identifies a large number of settings in which the discrepancy in perception between professional and non-professional investors is recognizable.

3.2.2 Hypothesis Development

Given the increasing prominence of non-GAAP measures and current developments in regulation, such as IFRS 18, it is crucial to validate and build upon existing research findings. Additionally, as IFRS 18 is supposed to increase the transparency, usefulness, and comparability of financial reporting (Zwirner & Böcker, 2024), the disclosure of MPMs respectively non-GAAP measures should generally result in greater credibility of a company's annual report. Prior research has focused on how non-GAAP measures affect investors' judgments and decisions (e.g., Elliott, 2006; Frederickson & Miller, 2004). In contrast, our study examines how these measures are perceived, proposing a perception gap between professional and non-professional investors arising from differing views on management's disclosure motives. Our research draws on the concept of the expectation gap (e.g., Libby, 1979) as well as attribution theory (Heider, 1958), which offers a theoretical framework for analyzing the psychological mechanisms that underlie investors' responses to the disclosure of non-GAAP measures (Dang & Puwanenthiren, 2024).

Attribution theory describes the mechanism by which individuals attribute causes to events and interpret these causal relationships (Coram et al., 2009; Martinko, 2018). It is often used in examining the effects of voluntary disclosure (Coram et al., 2009; Koonce & Mercer, 2005). In this context, attribution theory suggests that the interpretation of non-GAAP disclosures is influenced by investors' perceptions of management's motives for disclosing these measures (Brosnan et al., 2023). The theory posits that investors attribute events (e.g., the voluntary disclosure of non-GAAP measures) to either internal factors, such as intentional decisions, or external factors, such as regulatory or market pressure (Dang & Puwanenthiren, 2024). According to the opportunistic and informative motive, management discloses non-GAAP measures for internal factors, either to mislead or inform investors. We hypothesize that investors are influenced by their perception of management's motivation to disclose non-GAAP measures. Thus, investors may interpret management's disclosure of non-GAAP measures either as opportunistically motivated, suggesting that non-GAAP measures are intended to mislead market participants, or as informatively motivated, indicating that non-GAAP earnings provide valuable insights into the company's true underlying economic performance (Brosnan et al., 2023). Research has shown that it is almost impossible for external stakeholders to distinguish whether management publishes non-GAAP measures for informative or opportunistic reasons (Herr et al., 2022). However, non-GAAP measures are considered less conservative than their GAAP equivalents (Ribeiro et al., 2019). Conservatism in accounting, characterized by the asymmetrical recognition of economic losses and gains in earnings (Barton et al., 2010), arises partly because managers are incentivized to disclose positive news quickly while postponing the disclosure of negative news (McNichols, 1988). Thus, financial statement users consider disclosures inconsistent with managers' incentives to be more credible (Mercer, 2004), which increases the credibility of conservative accounting (Barton et al., 2010) like GAAP measures, while potentially reducing the perceived credibility of less conservative non-GAAP measures. The identification of management's intent depends on the knowledge and ability of the recipient to detect it (Christensen et al., 2014; Guillamon-Saorin et al., 2017). Given this setting, professional investors are more attuned to strategic disclosure practices (Reimsbach, 2014), use their investment expertise and valuation models to scrutinize these non-GAAP measures critically (Frederickson and Miller, 2004), and attribute the disclosure more skeptically. Attribution theory assumes that investors weigh information

less heavily when they recognize that it is disclosed for opportunistic reasons. Although professional investors can understand the composition and general meaning of non-GAAP measures, their knowledge also makes the discrepancies between GAAP and non-GAAP figures more significant, as is the case when negative GAAP but positive non-GAAP figures are reported. Therefore, a notable contradiction between the disclosed figures would appear less reliable and suggest an opportunistic motive on the part of the management. Hence, we assume that professional investors do not integrate non-GAAP measures in their evaluation of investment-related information because they may perceive the disclosure as strategically motivated. Thus, we propose the following hypothesis:

H1: *The disclosure of non-GAAP measures has no positive effect on professional investors' perception of reporting reliability.*

Non-professional investors generally exhibit a limited understanding of the significance of specific financial statement items (Maines & McDaniel, 2000). Non-professional investors might assume that management is aware of their limited ability to assess the economic situation, and therefore expect that management will provide additional information, since reporting according to GAAP might be too complex for proper evaluation. Therefore, non-professional investors may value the greater information volume that comes with additional non-GAAP measures (Andersson & Hellmann, 2007) and consider the key figures to be informative and relevant. Additionally, recent evidence assumes that investors may have an increased awareness of non-GAAP measures through significant public exposure as well as upcoming regulation of these measures, thus providing informative value for financial statement users (Black et al., 2018; Brosnan et al., 2023; Chen et al., 2021). According to attribution theory, non-professional investors tend to attribute positive intentions to the disclosure of non-GAAP measures. In contrast to professional investors, they may assume that management's actions are aimed at enhancing transparency and facilitating understanding rather than strategically influencing perceptions. We therefore expect that non-professional investors take non-GAAP measures into account regardless of management's true underlying motive and will perceive the reliability of the annual report as higher when non-GAAP measures are disclosed compared to GAAP only reporting. This leads to the following hypothesis:

H2: *The disclosure of non-GAAP measures has a positive effect on non-professional investors' perception of reporting reliability.*

The voluntary nature of non-GAAP measures requires investors to conclude management's motives, which may lead to different perceptions among professional and non-professional investors. This difference in perception is particularly relevant when analyzing how investors assess the reliability of companies' financial reporting. Non-professional investors are more susceptible to the presentation and emphasis of non-GAAP measures, often prioritizing these figures over GAAP measures due to cognitive biases or limited financial expertise. By contrast, professional investors equipped with greater knowledge and analytical skills (Dilla et al., 2013; Elliott et al., 2008) are more likely to recognize and adjust for the potentially strategic intent behind such disclosures. Similar to the audit expectation gap, this difference underscores how non-GAAP measures, while providing potentially valuable insights into a company's performance, also risk widening the gap in financial understanding and decision-making between investor groups. Thus, we propose:

H3: *The different interpretations of management's motives for disclosing non-GAAP measures lead to a gap between professional and non-professional investors' perceptions of the reporting reliability*.

3.3 Research Design

3.3.1 Experimental Design

We conducted a quasi-experiment using a 2 × 3 between-subjects design to test our hypotheses. The experiment was set up online, using the service provider "SurveyMonkey". To explore the potential varying perceptions of non-GAAP measures, we used two distinct participant groups: non-professional and professional investors. Professional investors are distinguished by their typical role in managing investments for external entities (Sharma, 2006) and reflect greater financial knowledge. To assess the differing impacts of non-GAAP measures, we further differentiated among three reporting types. The GAAP only-Conditions (referred to as the GAAP-Condition) acted as the control group for both professional and non-professional investors, where no additional non-GAAP measures were disclosed. In this scenario, participants made their decision on GAAP measures only, which also included EBIT and EPS and were

embedded in the income statement.[2] In the non-GAAP measure-Conditions (referred to as the NGM-Condition), participants were provided with two additional disclosed non-GAAP measures (Adjusted EBIT and Adjusted EPS) as a treatment, without any explanation. As the non-GAAP measures were exclusively disclosed, background information about the non-GAAP measure was provided in the non-GAAP measure-Conditions with explanation (referred to as the NGM_{expl}-Condition). In the NGM_{expl}-Condition, these non-GAAP measures were further clarified, and participants in this group were informed about the purpose and derivation of non-GAAP measures. Additionally, a reconciliation with the corresponding GAAP figures was presented.

To test our first and second hypotheses, H1 and H2, assessing the impact of non-GAAP measures, we conducted two separate single-factor ANOVAs considering professional investors and non-professional investors separately. To test H3, we conducted a two-factorial ANOVA based on the full sample. Figure 3.1 shows the experimental design.

Figure 3.1: *Experimental design*

		Non-GAAP reporting type		
		GAAP-Condition	**NGM-Condition**	**NGM_{expl}-Condition**
Investor type	**Professional investors**	**GAAP_Prof**	**NGM_Prof**	**NGM_{expl}_Prof**
	Non-professional investors	**GAAP_Non-prof**	**NGM_Non-prof**	**NGM_{expl}_Non-prof**

3.3.2 Participants

Participants were recruited through the service panel provider "SurveyMonkey Audience", following previous accounting studies (e.g., Chrzan & Pott, 2024; Thomas, 2023). To examine the non-GAAP reporting environment in Germany, we selected participants from Germany who represent non-professional investors and have prior

[2] In our study, we consider only key figures such as Adjusted EBIT or Adjusted EPS as non-GAAP measures. Earnings-before metrics, such as EBIT, are well defined, because all elements necessary for calculating these metrics can usually be derived from the income statement or the notes (Hitz, 2010a). In doing so, we follow the interpretation of non-GAAP measures in the narrower sense and refer to the experimental study by Reimsbach (2014), which also does not classify metrics such as EBIT as non-GAAP measures.

experience in stock trading. According to Sharma (2006), a key distinction between professional and non-professional investors is that professionals typically manage investments for external entities, such as organizations. Therefore, participants representing professional investors were also recruited from Germany, but they were required to hold positions within the financial sector, such as investment management, financial planning or advice, or the sale of financial products.

Table 3.1: *Demographic information of the sample*

Demographic information of participants (n=174)			
Age	**Frequency non-professional investors (n=90)**	**Frequency professional investors (n=84)**	**Total**
< 18	2	0	2
18 – 29	42	16	58
30 – 44	27	41	68
45 – 59	11	24	35
60+	8	3	11
Sex	**Frequency**	**Frequency**	
Male	63	52	115
Female	27	31	58
n. a.	0	1	1
Education	**Frequency**	**Frequency**	
Lower Secondary School Diploma	2	4	6
Intermediate Secondary School Diploma	12	25	37
University Entrance Qualification (equivalent to high school diploma)	35	16	51
Diplom	6	2	8
Bachelor's Degree	13	24	37
Master's Degree	13	9	22
Doctoral degree	0	4	4
Other	1	0	1
n. a.	8	0	8
Net income	**Frequency**	**Frequency**	
< 1.000 €	11	1	12
1.000 € – 1.499 €	6	1	7
1.500 € – 1.999 €	7	8	15
2.000 € – 3.999 €	28	35	63
4.000 € – 4.999 €	8	19	27
5.000 € – 5.999 €	9	6	15
> 6.000 €	12	11	23
n. a.	9	3	12
Investment experience	**Frequency**	**Frequency**	
< 1 year	18	11	29
1 – 2 years	22	15	37
2 – 5 years	27	28	55
5 – 10 years	14	11	25
> 10 years	9	19	28

n. a. = no answer. Some questions were optional.

Each experimental condition was assigned a minimum of 50 participants. We adjusted our initial sample of 318 participants by excluding those with insufficient processing time

(n=29) and those lacking investment experience for professional investors (n=9). To verify the success of our experimental manipulation, we further excluded participants who did not pass the manipulation check in the case of experimental treatment (n=42). Specifically, participants were asked whether at least one non-GAAP measure had been disclosed. Additionally, participants in the NGM_{expl}-Condition were asked whether these non-GAAP measures were explained in detail and whether the information included a reconciliation to the GAAP measure. We further adjusted our sample by excluding those with incomplete responses (n=7). Additionally, we excluded participants who claimed that they had already participated in the study (n=57). This process resulted in 90 usable responses from non-professional investors and 84 usable responses from professional investors.[3] Consequently, our final sample comprises 174 valid participants.[4] Table 3.1 shows the demographic information of the sample.

3.3.3 Experimental Case and Dependent Variable

Participants were randomly assigned to one of the experimental conditions. They were instructed to read general information about a fictitious company "H.Ear You Electronics" and the procedure of the study.[5] All participants received an audited financial statement consisting of an income statement and a balance sheet, accompanied by a press release outside the audited financial statement. In the context of the GAAP-Condition, the company reported an increase in revenues alongside a decrease in EBIT, net profit, and EPS. The press release emphasized the company's financial performance by comparing the disclosed GAAP figures revenue, EBIT, net profit, and EPS with those from the previous year. In the NGM-Condition, two additional non-GAAP measures were integrated into the press release outside the financial statement. In contrast to the GAAP measures, the company reported an increase in Adjusted EBIT and Adjusted EPS. Following previous studies and practical reporting behavior, the non-GAAP measures were manipulated in such a way that they exceeded their GAAP counterparts (EBIT and

[3] The average number of professional investors for each non-GAAP reporting type aligns with the approximate sample size for each experimental condition in Brosnan et al. (2023), who also employ professional investors as participants.
[4] A high exclusion rate in the recruitment of online participants is a common occurrence, see also Brosnan et al. (2023).
[5] The case study of 'H.Ear You Electronics' is based on a real consumer goods company that is listed on the German stock exchange and reports non-GAAP measures. For the experimental materials, please refer to Appendix Exhibit A and Exhibit B.

EPS).[6] The press release text was slightly adjusted due to impression management techniques (Guillamon-Saorin et al., 2012; Guillamon-Saorin et al., 2017), highlighting the non-GAAP results instead of the GAAP results overall. The NGM_{expl}-Condition built upon the NGM-Condition by additionally providing participants with background information on the embedded non-GAAP measures and a reconciliation to the corresponding GAAP measure disclosed in the income statement, as suggested in the forthcoming IFRS 18 (IASB, 2024a). The background information noted that non-GAAP measures are not defined by IFRS, published outside the scope of audit, and there is no standard for reporting them.[7] Moreover, participants were informed that both non-GAAP measures are adjusted by excluding specific items from GAAP measures. According to management, these non-GAAP measures offer insightful information for better comparing operational performance across reporting periods by excluding non-recurring or non-operational items. Participants were also informed that the non-GAAP measures may not be comparable to similarly named non-GAAP measures of other companies. Therefore, for an assessment of the company, non-GAAP measures should not be considered in isolation or only as a supplement to GAAP measures. The reconciliation outlines the shift from EBIT to Adjusted EBIT and details the items that have been excluded. Following the case study, participants were required to respond to questions concerning the perceived reliability of companies' financial reporting, which served as the basis for collecting our dependent variable. Manipulation checks were conducted, and participants completed supplementary questions regarding process measures and demographic characteristics.

Our dependent variable captures the perceived reliability of companies' financial reporting, as viewed by both non-professional and professional investors. This measure is referred to as the Perceived Reporting Reliability. We build upon prior research that examines the audit expectation gap (e.g., Best et al., 2001; Frank et al., 2001; Gold et al., 2012) and participants' perceptions of management credibility (Mercer, 2004; Mercer, 2005) as the entity responsible for financial reports and disclosure of non-GAAP measures. As management voluntarily discloses these measures without explicitly stating their motivations, we hypothesize that this could influence investors' perceptions of

[6] See e.g., Hogan et al. (2017); Johnson et al. (2014). For descriptive evidence in practical reporting for US firms, see Black et al. (2018).
[7] Since this is a study with investors from Germany, we have decided to use the German term "Alternative Performance Measures – Alternative Leistungskennzahlen" (APMs) to refer to the non-GAAP measures.

management's competence, trustworthiness, and honesty. Participants responded to four concept-related questions. Variations in these perceptions could indicate differing levels of reliability in companies' reporting and suggest a perception gap influenced by the disclosure of non-GAAP measures. Participants were asked to indicate their level of agreement with various statements using a Likert scale ranging from 1 ("strongly disagree") to 7 ("strongly agree"). Inspired by Gold et al. (2012), participants evaluated the credibility of the information presented in the annual report, including the financial statement and press release.[8] Drawing from Mercer (2004) and Mercer (2005), participants rated management's competence in financial reporting, trustworthiness, and honesty.[9] An exploratory factor analysis indicated that all items load onto a single factor, thereby measuring the same construct.[10] Furthermore, a Cronbach's alpha of 0.90 underscores the internal consistency of our scale. With the scale's appropriateness confirmed, we computed an overall measure of non-professional and professional perception, scaled from 1 to 7, by averaging the scores of all four items.

3.4 Results

3.4.1 Main Results

Table 3.2 provides descriptive statistics, including means, standard deviations, and sample sizes, for each experimental condition regarding the Perceived Reporting Reliability.

[8] Since non-GAAP measures are typically disclosed alongside financial statements, the concept was adjusted to evaluate the perceived reliability of the annual report as a whole and not limited to the audited financial statement.

[9] The statement evaluated for assessing management competence was as follows: "I am convinced that the management of H.Ear You Electronics AG demonstrates a high level of competence in the disclosure of financial data and financial reporting" (1=strongly disagree; 7=strongly agree). For assessing management's trustworthiness, the statement was: "I am convinced that the management of H.Ear You Electronics AG is highly trustworthy" (1=strongly disagree; 7=strongly agree). Lastly, for evaluating management's honesty, the statement was: "I am convinced that the management of H.Ear You Electronics AG is very honest" (1=strongly disagree; 7=strongly agree).

[10] All items showed correlations ranging from 0.68 to 0.75 ($p<0.001$), which justifies the use of factor analysis. The factor loadings for all four items were between 0.87 and 0.90.

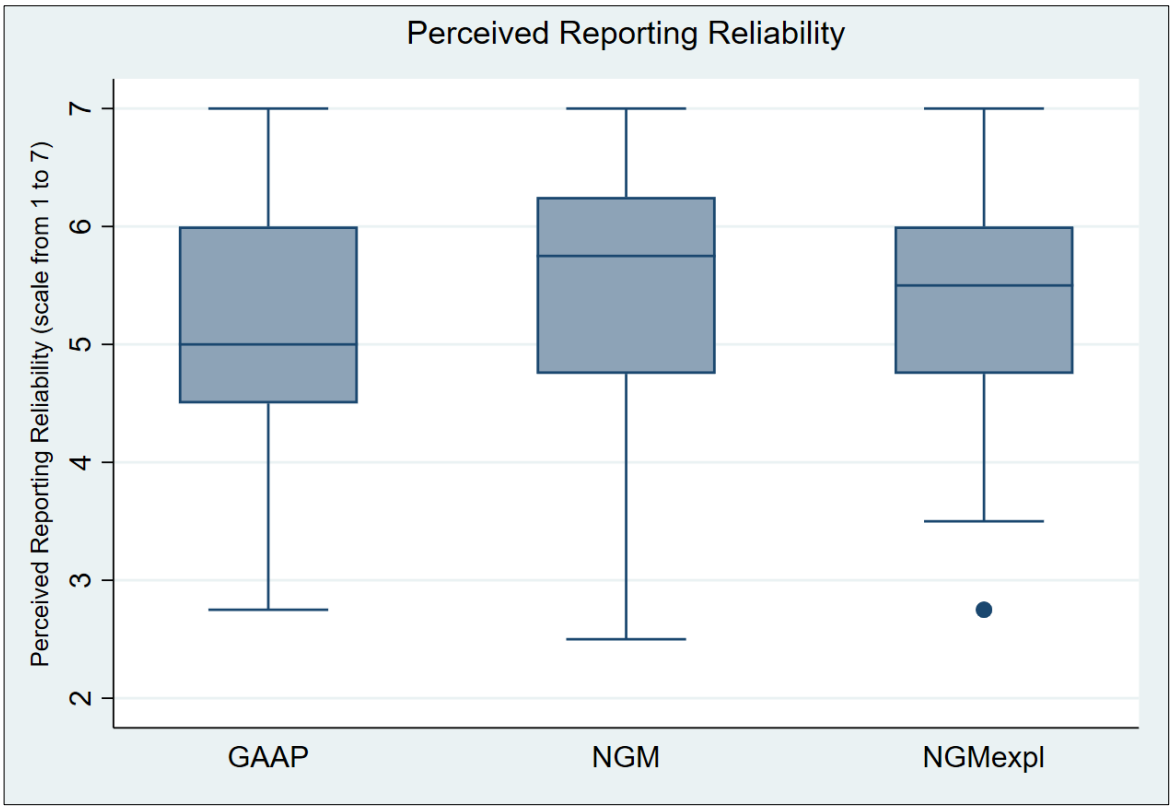
Table 3.2: *Results for Perceived Reporting Reliability: Mean, (standard deviation), [sample size]*

Perceived Reporting Reliability (on a scale from 1 to 7; 1 = very low reliability, 7 = very high reliability)			
Mean (standard deviation) [sample size]	**GAAP-Condition**	**NGM-Condition**	**NGM_{expl}-Condition**
Professional investors	**GAAP_Prof**	**NGM_Prof**	**NGM_{expl}_Prof**
	5.09 (0.97) [34]	5.45 (1.16) [25]	5.35 (1.15) [25]
Non-professional investors	**GAAP_Non-prof**	**NGM_Non-prof**	**NGM_{expl}_Non-prof**
	4.28 (1.22) [43]	5.29 (1.26) [24]	5.41 (1.09) [23]

Professional investors perceive the reliability of reports to be, on average, 5.09, when the annual report includes only GAAP measures (condition GAAP_Prof). This assessment rises to 5.45, when non-GAAP measures are also disclosed but not further explained (condition NGM_Prof). Finally, if these non-GAAP measures are further explained, the perceived reliability slightly decreases to 5.35 (condition NGM_{expl}_Prof).

To examine in more detail how professional investors' perceptions of the reporting reliability vary across different reporting conditions, we illustrate the corresponding values by treatment conditions in Figure 3.2.

Figure 3.2: *Perceived Reporting Reliability of professional investors*



To assess whether the observed differences in mean values were statistically significant, we conducted a single analysis of variance (ANOVA), followed by a Tukey-HSD post-hoc test.[11] Table 3.3 presents the results of the analysis for the professional investor groups, indicating that there are no statistically significant differences in the dependent variable across the three groups ($p = 0.413$). As anticipated, the inclusion of non-GAAP measures in the annual report does not influence professional investors' perceptions of its reliability. This result remains consistent even when supplementary disclosures, such as additional explanations and a reconciliation between GAAP and non-GAAP measures, are provided. Thus, the results are consistent with H1, showing no significant positive effect.

[11] To test the assumptions of ANOVA, we first examined the normal distribution of the data using the Shapiro-Wilk test. The results indicated that the data were normally distributed across all experimental conditions. Additionally, we assessed the assumption of homogeneity of variances using Bartlett's test, Levene's test, and the Brown-Forsythe test. All tests indicated that the assumption of homogeneity of variances was met ($p > 0.05$) for all experimental conditions. We are also aware of the potential limitations of using the Tukey-HSD post-hoc test due to unbalanced sample sizes. To ensure the robustness of our results, we additionally applied the Bonferroni correction, which confirmed the initial findings.

Table 3.3: *Results of ANOVA and post-hoc test for professional investors*

Results of ANOVA professional investors			
Dependent variable	**Treatment**	**F-value**	**p. Adj.**
Reporting reliability	GAAP/NGM/NGM_{expl}	0.894	0.413
Tukey-HSD Post-Hoc test			
Dependent variable	**Comparison groups**	**Diff.**	**p. Adj.**
Reporting reliability	GAAP vs. NGM	0.362	0.416
	GAAP vs. NGM_{expl}	0.262	0.630
	NGM vs. NGM_{expl}	-0.1	0.943
*** p < .01, ** p < .05, * p < .1 (two-tailed)			

A similar approach was employed to examine the impact of non-GAAP measures on the perceived reporting reliability among non-professional investors. The average perceived reliability of reports by non-professional investors is 4.28, when the annual report includes only GAAP measures (Condition GAAP_Non-prof). This assessment increases to 5.29, when non-GAAP measures are also disclosed, but without further explanation (Condition NGM_Non-prof). Finally, if these non-GAAP measures are further elucidated, the perceived reliability slightly rises to 5.41 (Condition NGM_{expl}_Non-prof). Figure 3.3 illustrates the corresponding values by treatment conditions in more detail.

In this case, a single ANOVA revealed a statistically significant effect (p = 0.000). This finding suggests that non-professional investors' perceptions are influenced by the inclusion of non-GAAP measures. To investigate the direction of the significant effect, we conducted a Tukey-HSD post-hoc test, the results of which are shown in Table 3.4. The comparison between the GAAP-Condition and the non-GAAP-Condition revealed a statistically significant difference in perceived reporting reliability, with a mean difference of 1.007 (p = 0.004). This indicates that non-professional investors perceive reporting under the non-GAAP-Condition as significantly more reliable than that under the GAAP-Condition. Additionally, the comparison between the GAAP-Condition and the NGM_{expl}-Condition also reached highly significant results, with a mean difference of 1.128 (p = 0.001). This suggests that, at the 1% significance level, non-professional investors perceive reporting that includes non-GAAP measures and additional explanations as more reliable than under the GAAP-Condition. Lastly, the comparison between the NGM-Condition and the NGM_{expl}-Condition showed no significant difference (mean difference = -0.121, p = 0.936). This indicates that explanatory background information and a reconciliation do not meaningfully influence the perceived reporting reliability in the non-GAAP-Conditions. Taken together, the results support H2,

indicating that the disclosure of non-GAAP measures has a positive effect on non-professional investors' perceptions of reporting reliability.[12]

Figure 3.3: *Perceived Reporting Reliability of non-professional investors*

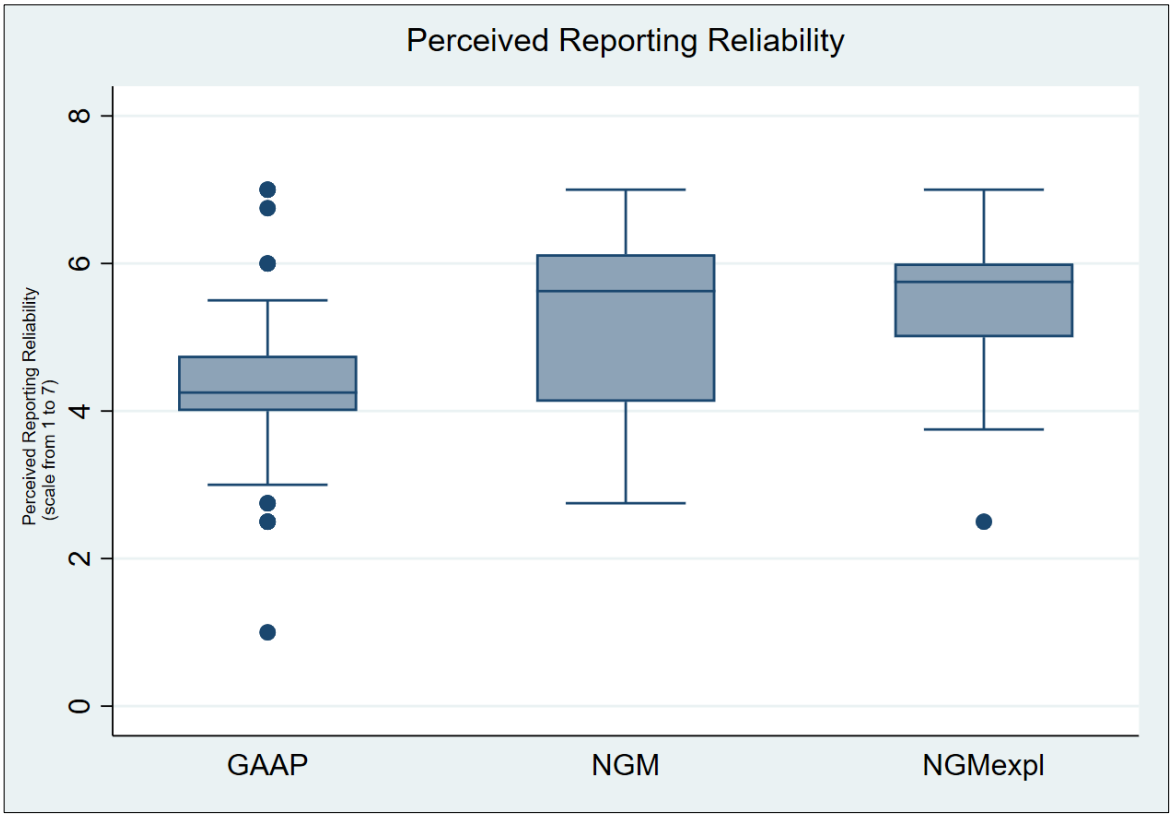


Table 3.4: *Results of ANOVA and post-hoc test for non-professional investors*

Results of ANOVA non-professional investors			
Dependent variable	**Treatment**	**F-value**	**p. Adj.**
Reporting reliability	GAAP/NGM/NGM_{expl}	8.954	0.000***
Tukey-HSD Post-Hoc test			
Dependent variable	**Comparison groups**	**Diff.**	**p. Adj.**
Reporting reliability	GAAP vs. NGM	1.007	0.004***
	GAAP vs. NGM_{expl}	1.128	0.001***
	NGM vs. NGM_{expl}	0.121	0.936
*** p < .01, ** p < .05, * p < .1 (two-tailed)			

To investigate whether a significant discrepancy exists in the perception of reporting reliability between non-professional and professional investors when non-GAAP measures are disclosed, we conducted a joint ANOVA and post-hoc analysis. In this context, professional investors serve as benchmarks given their higher financial expertise

[12] The results remain the same if the identified outliers are adjusted by winsorizing.

and investment experience, which are expected to enable an objective assessment of the underlying financial metrics. The results of the ANOVA, presented in Table 3.5, indicate significant effects between the different groups of professional and non-professional investors ($p = 0.0940$). To further explore the direction of this effect, Figure 3.4 illustrates the corresponding mean values across the different reporting conditions for both investor groups. The significance of the report type ($p = 0.0006$) and the interaction term ($p = 0.0910$) indicate that the varying reporting conditions, and consequently the disclosure of non-GAAP measures, have an impact on the perceived reporting reliability among the different investor groups. These findings are in line with the results of the single ANOVA, which exclusively examined non-professional investors as well as professional investors. By looking at the results of the post-hoc test, we find that non-professional investors initially assess the reporting reliability considerably lower (difference = 0.803) than professional investors when only GAAP measures are disclosed. Contrary to our assumption, it appears that a perception gap already exists in the initial GAAP-Condition, indicated by a significant difference in perceived reporting reliability ($p = 0.030$). Further, the difference between professional and non-professional investors in the NGM-Condition (difference = 0.1580, $p = 0.997$) as well as in the NGM_{expl}-Condition (difference = 0.1580, $p = 1$) reveals no significant effect, indicating that the disclosure of non-GAAP measures leads to convergence in the perceived reliability among the two investor groups. Consequently, while a perception gap exists in the GAAP-Condition, the disclosure of non-GAAP measures appears to mitigate rather than widen the gap. Therefore, we do not find support for H3, which predicts that differing interpretations of management's motives for disclosing non-GAAP measures lead to a perception gap between professional and non-professional investors.

Figure 3.4: *Mean values of Perceived Reporting Reliability of professional and non-professional investors*

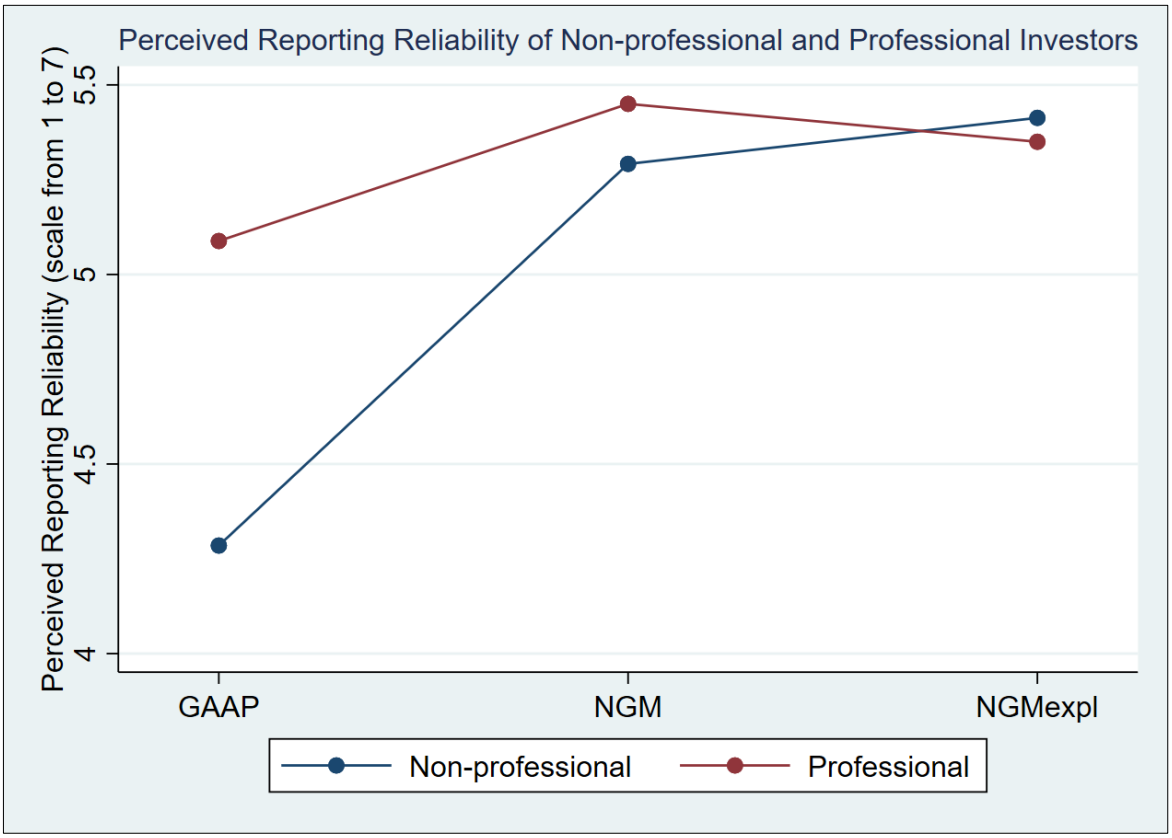


Table 3.5: *Results of ANOVA and post-hoc test for professional and non-professional investors*

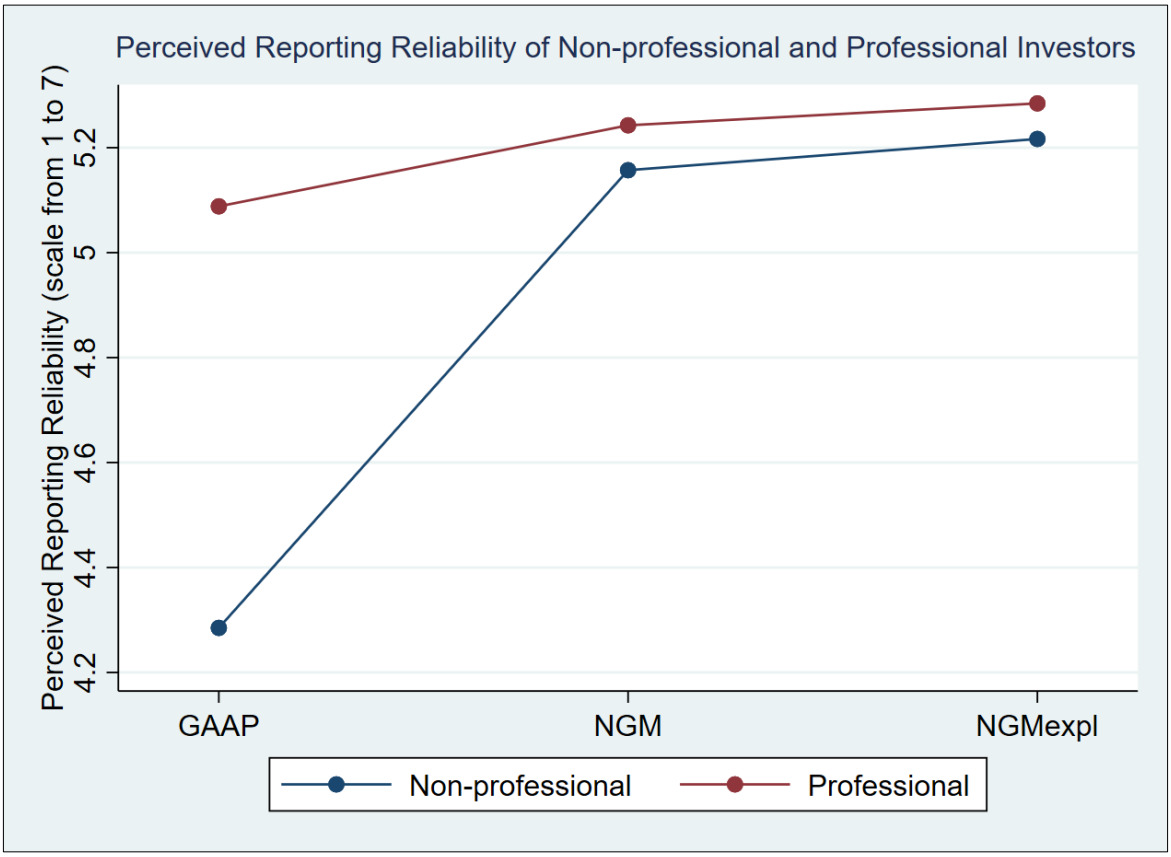
Results of ANOVA professional & non-professional investors			
Dependent variable	**Treatment**	**F-value**	**p. Adj.**
Reporting reliability	Investor type	2.840	0.0940*
	Non-GAAP reporting type	7.750	0.0006***
	Investor type × Non-GAAP reporting type	2.430	0.0910*
Tukey-HSD Post-Hoc test			
Dependent variable	**Comparison groups (excerpt)**	**Diff.**	**p. Adj.**
Reporting reliability	GAAP_Prof vs. GAAP_Non-prof	0.803	0.030**
	NGM_Prof vs. NGM_Non-prof	0.1580	0.997
	NGM_{expl}_Prof. vs. NGM_{expl}_Non-prof	-0.0630	1
*** p < .01, ** p < .05, * p < .1 (two-tailed)			

3.4.2 Robustness Test and Additional Analysis

Building on Kotzian et al. (2020), who examined the statistical effects of excluding participants who failed the manipulation check, we conducted an additional analysis using an adjusted sample. Kotzian et al. (2020) demonstrate that such exclusion increases the likelihood of significant results that do not appear in the full sample. Following their

recommendation, participants who failed the manipulation check were included to assess the robustness of the results (referred to as the "full sample").[13]

Figure 3.5: *Mean values of Perceived Reporting Reliability of professional and non-professional investors (full sample)*



The additional analysis confirms the results of our joint ANOVA, showing significance for the treatment of the different groups ($p = 0.0499$), as well as the different reporting conditions ($p = 0.0061$). The results of the additional analysis also reveal significant differences between professional and non-professional investors in the GAAP-Condition ($p = 0.031$), supporting the robustness of the findings obtained in the main analysis. Figure 3.5 shows the mean values of the Perceived Reporting Reliability of professional and non-professional investors, including those who failed the manipulation check, for the full sample. Table 3.6 presents the corresponding results of the ANOVA and post-hoc tests for professional and non-professional investors in the full sample.

[13] Chrzan and Pott (2024) also included participants who failed manipulation checks and those who were removed for further adjustments, such as professional investors' investment experience or processing time. However, when these participants are included, our results remain significant.

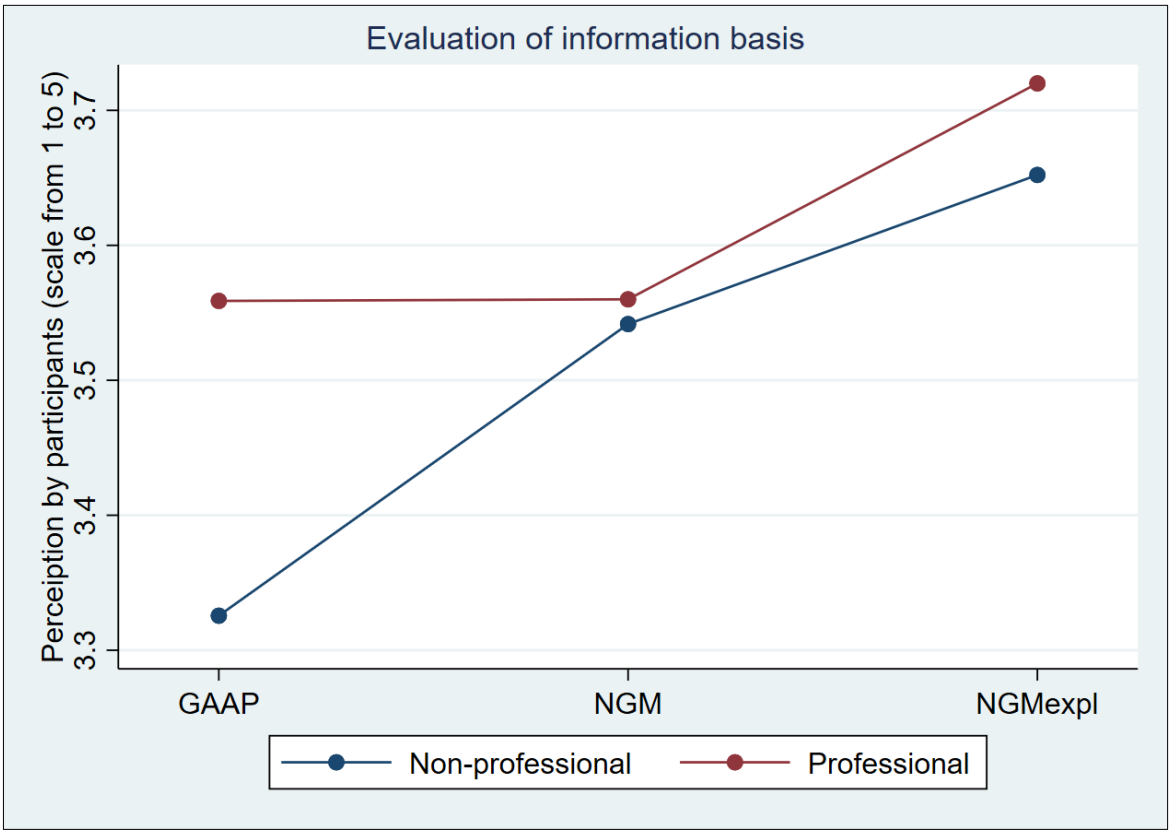
Table 3.6: *Results of ANOVA and post-hoc test for professional and non-professional investors (full sample)*

Results of ANOVA professional & non-professional investors (full sample)			
Dependent variable	**Treatment**	**F-value**	**p. Adj.**
Reporting reliability	Investor type	3.890	0.0499**
	Non-GAAP reporting type	5.240	0.0061***
	Investor type × Non-GAAP reporting type	2.380	0.0948*
Tukey-HSD Post-Hoc test			
Dependent variable	**Comparison groups (excerpt)**	**Diff.**	**p. Adj.**
Reporting reliability	NGM_Non-prof vs. GAAP_Non-prof	0.872	0.013**
	NGM_{expl}_Non-prof vs. GAAP_Non-prof	0.932	0.010**
	GAAP_Prof vs. GAAP_Non-prof	0.803	0.031**
	NGM_Prof vs. NGM_Non-prof	0.086	1
	NGM_{expl}_Prof. vs. NGM_{expl}_Non-prof	0.068	1
*** p < .01, ** p < .05, * p < .1 (two-tailed)			

To understand the behavior of both non-professional and professional investors, participants across all experimental conditions were asked to evaluate whether the informational basis was sufficient to form a judgment on the company's economic situation. Figure 3.6 shows the results.[14] The findings indicate that professional investors generally evaluate the informational basis for judgment and decision-making more favorably under the GAAP-Condition than non-professional investors do. This evaluation by professional investors remains largely stable when non-GAAP measures are disclosed. In contrast, the inclusion of non-GAAP measures enhances the perceived quality of the informational basis among non-professional investors relative to the initial condition. Consequently, non-professional investors view the disclosure of non-GAAP measures positively. In the NGM_{expl}-condition, which includes additional explanations and reconciliations of non-GAAP measures, both non-professional and professional investors assess the informational basis most positively. However, this improved informational basis is accompanied by a slight decline in the perceived reliability of reporting among professional investors, while non-professional investors exhibit a marginally more positive evaluation of reporting reliability. Although these results lack statistical significance, they offer descriptive explanatory insights into participants' perceptions.

[14] The results represent the finding for the initial sample. Participants had to indicate to what extent they agreed with the following statement: "*The information was sufficient to form a judgment on the economic situation of the company*" (1 = "Does not apply at all"; 5 = "Applies completely").

Figure 3.6: *Mean values of professional and non-professional investors' evaluation of the sufficiency of the information basis*



3.5 Discussion and Conclusion

This paper presents the results of an experimental study on the effects of non-GAAP measure disclosure on professional and non-professional investors' perceptions. We find that the two investor groups differ in perceiving reporting reliability (H1 and H2). The lack of statistically significant effects among professional investors supports the notion that professional investors' information processing is guided by their expertise and their non-reaction to the disclosure of non-GAAP earnings releases (Bhattacharya et al., 2007). Nevertheless, non-GAAP measures can be useful for professional investors in specific contexts, for example, to predict future firm performance (Brown & Sivakumar, 2003). Unlike the majority of research findings, which indicate little to no effect on professional investors (e.g., Dilla et al., 2013; Frederickson & Miller, 2004), Cascino et al. (2016) state that professional investors often rely on non-GAAP measures because they believe such measures provide more informative insights into managerial performance and operating

activities than net income. In light of this, it might be anticipated that if non-GAAP measures were entirely irrelevant, both the perceived reliability and evaluation of the informational basis would have markedly declined. Instead, when a reconciliation and background information are provided, the evaluation indicates a slight improvement. Consequently, professional investors may appreciate additional information to facilitate a more nuanced assessment. While non-GAAP measures serve as a valuable tool for assessing a company's situation, their inherent nature often leads to skepticism regarding their credibility. This key issue can be explained by the lack of auditing and the construction of these measures, often perceived as a "black box" (Davern et al., 2019; Entwistle et al., 2012). Regardless of the incremental value of the disclosed non-GAAP measures in our study, we assume that professional investors may discount these measures because of the presence of significant impression management, such as the emphasis on positive outcomes, which may increase skepticism. This aligns with the findings of an archival study by Guillamon-Saorin et al. (2017), where investors identify high impression management as an attempt to positively bias their perception about the persistence of non-GAAP earnings.[15] We therefore conclude that professional investors do not generally evaluate non-GAAP measures as less informative, but rather tend to use these metrics in specific valuation contexts to predict future performance and profitability (e.g., Entwistle et al., 2012) and discount them when they are aware of opportunistic usage.

In contrast, our study presents significant results in the perceived reporting reliability among non-professional investors. Specifically, annual reports complemented by non-GAAP measures are perceived as significantly more reliable compared to those not providing additional non-GAAP information. This suggests that non-professional investors may find non-GAAP measures more reliable for assessing a company's financial health and performance. Nevertheless, the additional impact of explanatory information and reconciliation remains limited for non-professionals and professional investors. The findings of our study demonstrate that non-professional investors possess a weaker information basis than their professional counterparts in the GAAP only case. Prior research indicates that less experienced investors often lack predefined information

[15] The findings by Guillamon-Saorin et al. (2017) also indicates that the market response to non-GAAP disclosures characterized by high levels of impression management is statistically negative in countries with more sophisticated market participants. This suggests that investors tend to penalize such approaches.

needs, engage in less focused searches for relevant information, and rely less on financial statement data when making decisions compared to more experienced investors (Elliott et al., 2008). A study conducted by Hodge and Pronk (2006) indicates that non-professional investors rely on management's discussion of financial results rather than directly analyzing the firm's financial statement. This supports the notion that non-professional investors are more likely to be subject to manipulative non-GAAP disclosures, as indicated through attribution theory. Consequently, understanding the impact of such disclosures on their investment decisions is crucial for both researchers and practitioners aiming to protect these investors from potential misinformation.

Contrary to our expectations, we find no statistical results for hypothesis H3, which may be due to an asymmetry of the information in the GAAP only-Condition to the disadvantage of non-professional investors. Surprisingly, a perception gap between non-professional and professional investors did not arise from the disclosure of non-GAAP measures. Rather, there is already a difference in perception between the different investor groups in the GAAP-Condition, which narrows by the presentation of non-GAAP measures. This suggests that non-professional investors experience difficulties processing information from mandatory disclosures, primarily GAAP figures. Attribution theory suggests that the exclusion of voluntary non-GAAP measures may be perceived as a lack of transparency, potentially leading to confusion and skepticism. Consequently, the perceived reliability of a financial report based on GAAP may be lower than that perceived by professional investors. Further analysis indicates that in the absence of non-GAAP measures, the information available for evaluating a company may be deemed insufficient. When confronted with a complex situation, such as analyzing investment-related information with limited knowledge, non-professional investors may require more comprehensive information to establish a sufficient information basis compared to professional investors. Therefore, it might not be the non-GAAP measures themselves that cause confusion or skepticism, but rather their absence. Collectively, this disparity in information contributes to the perception gap. In turn, existing information asymmetry could be reduced by aligning the information basis between the investor groups using non-GAAP measures. The evaluation of the information basis, as illustrated in Figure 3.6, also indicates that both professional and non-professional investors consider the existence of additional information and a reconciliation helpful.

The implications of this study extend beyond individual investment choices, highlighting the need for regulatory bodies to establish clear guidelines for non-GAAP reporting practices. These guidelines could enhance transparency and accountability, ultimately fostering an investment environment where all investors can make informed decisions based on accurate financial information. The upcoming IFRS 18 regulates the disclosure of non-GAAP measures, which investors welcome as it could limit the possibility of misleading disclosures. Although non-GAAP measures continue to be disclosed outside the IFRS financial statement, they are subject to transparency and reconciliation requirements through mandatory disclosure in the notes (Czajor, 2024). In contrast to the regulation of MPMs in IFRS 18, our study is designed such that the non-GAAP measures are disclosed outside the audited financial statement and are not subject to the auditor. With the upcoming regulation, the auditor will ensure that formal requirements, such as the reconciliation in the notes, are fulfilled. However, the audit does not provide any statement about the actual incremental value of the non-GAAP measure. The composition of the non-GAAP measure, and thus the actual depiction of true operational performance or value relevance, is ultimately determined solely by the company that publishes it. As revealed by a recent study conducted by Anderson et al. (2022), non-professional investors are particularly susceptible to being misled by the assurance signals associated with non-GAAP measures. The study found that participants tend to rely on less informative non-GAAP measures in their investment-related judgments when these measures are audited, potentially leading to inefficient investment decisions. This assurance signal, along with its emphasis in annual reports, may serve as a cue for credibility and relevance for non-professional investors during their information processing and subsequent investment decisions. The framework proposed by Maines and McDaniel (2002) explores how information impacts non-professional investment judgment. Information must be acquired, evaluated, and ultimately weighted, which is conditioned on cues such as placement and labeling, and thus, the perceived reliability of the information (Nelson & Tayler, 2007; Reimsbach, 2014). Assuming that professional investors, with their distinctive knowledge, serve as a benchmark for rational information processing and are not influenced by the disclosure of non-GAAP measures, the differing reactions observed may indicate that non-professional investors experience information overload. Information overload describes negative consequences on information use and integration, and decision quality, among other things caused by excessive information or

data cues (Hartmann & Weißenberger, 2024). Although non-professional investors seemingly value the publication of non-GAAP measures and the expanded information basis, they may not be aware of a potential information overload bias caused by additional information. This may lead non-professional investors to make different, potentially false investment judgments and decisions compared to professional investors. Collectively, this may not enhance, but rather impair, decision quality and opens the possibility for opportunistic disclosure of non-GAAP measures to the disadvantage of non-professional investors. This underlies the necessity for future research that specifically addresses IFRS 18 implementation.

This study offers valuable insights into the effects of non-GAAP disclosure on professional and non-professional investors in Germany. While prior studies focus on investors in the US, our study represents a novel investigation of German investors. The disclosure of non-GAAP measures in the US was regulated by the SEC as early as 2003 (Görmar et al., 2025; Heflin & Hsu, 2008; Jennings & Marques, 2011; Johnson et al., 2014), whereas Germany introduced substantial regulation only in 2016 with the Guidelines on Alternative Performance Measures (ESMA, 2015). Therefore, prior studies focused primarily on US-investors and their findings may not be applicable to the German capital market, emphasizing the importance of our study. Our findings demonstrate that non-professional investors have an information deficit when it comes to the perception of financial measures, which causes them to actively search for additional information. This disparity in information is closed by the provision of non-GAAP measures, which are intended to support decision-making as alternative financial indicators. Nevertheless, this supports our assumption that non-professional investors are more likely to be affected by manipulative disclosure of these figures, as suggested by management following a strategic motive.

As with any experiment, there are certain limitations to our study. First, we investigated a scenario in which non-GAAP measures were greater than their corresponding GAAP measures, similar to prior studies (Dilla et al., 2013; Elliott, 2006; Frederickson & Miller, 2004). We assume that particularly professional investors would have a different perception if non-GAAP measures were lower than GAAP measures, as this may strengthen the reliability of the disclosed non-GAAP metrics. Another limitation of our study is the heterogeneity among non-professional investors, attributable to substantial variations in their information-seeking behaviors and financial knowledge, as evidenced

by the study conducted by Dilla et al. (2014). According to their findings, a higher level of financial knowledge correlates with a reduced likelihood of information misinterpretation. While our results corroborate this relationship among professional investors, it is imperative to consider this factor when deriving implications for non-professional investors. To verify the results of our study, it is particularly important that future studies build on our findings and verify them for the different levels of expertise of non-professional investors. Lastly, the experiment took place in an online setting, so that the scope of the information had to be limited. In a real investment-related setting, investors would have the opportunity to access additional information that goes beyond the experimental design.

3.6 Appendix

Experimental material

Exhibit A: Basic information on the company

The following has been disclosed in all experimental conditions:

Auszug aus dem Jahresabschluss 20x1 – Gewinn- und Verlustrechnung (GuV)

H.Ear You Electronics AG – Geschäftsbericht 20x1

Jahresabschluss

Gewinn- und Verlustrechnung

(durch die Wirtschaftsprüfungsgesellschaft F&F geprüft)	20x0 in Mio. €		20x1 in Mio. €
Umsatzerlöse	**20.066**		**21.397**
Herstellungskosten der zur Erzielung der Umsatzerlöse erbrachten Leistungen	11.092		12.330
Bruttoergebnis des Umsatzes	**8.974**		**9.067**
Vertriebsaufwendungen, allgemeine Verwaltungsaufwendungen und sonstige betriebliche Aufwendungen und Erträge	-6.761		-7.257
Betriebsergebnis (EBIT)	**2.213**		**1.810**
Finanzerträge	267		101
Finanzaufwendungen	-386		-234
Ergebnis vor Steuern	**2.094**		**1.677**
Steuern vom Einkommen und Ertrag	-501		-430
Ergebnis nach Steuern/Jahresüberschuss	**1.593**		**1.247**
Gewinn je Aktie	**3,78 €**		**2,95 €**

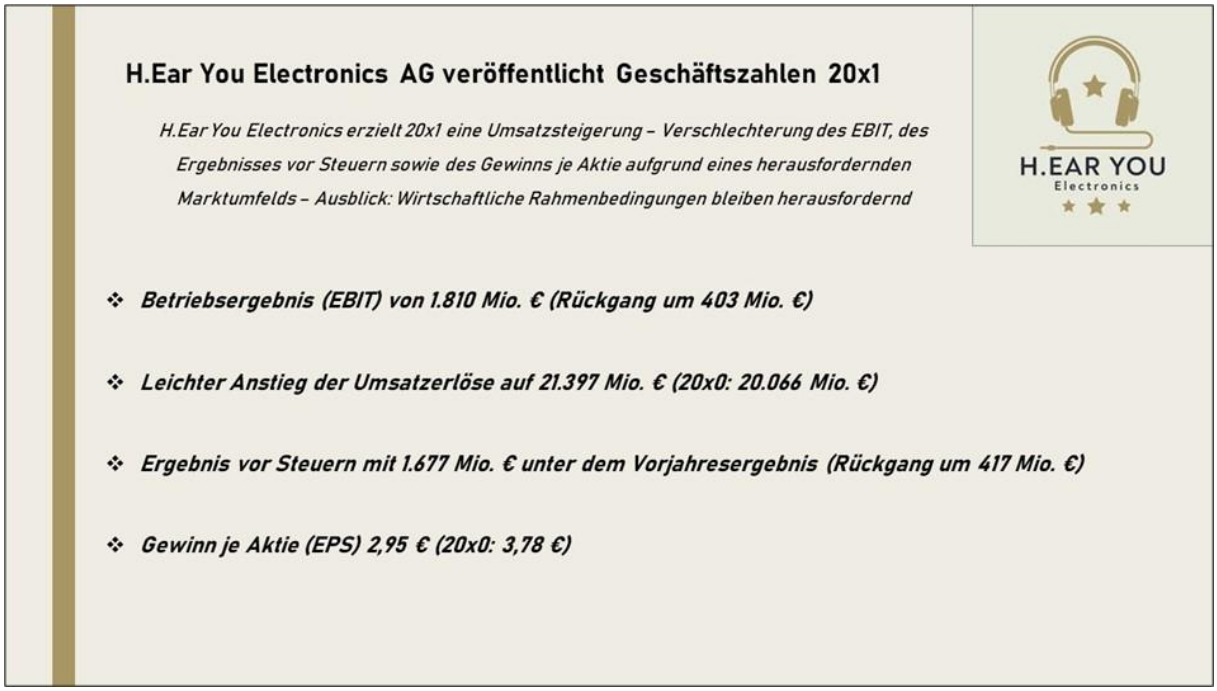
Auszug aus dem Jahresabschluss 20x1 – Bilanz

H.Ear You Electronics AG – Geschäftsbericht 20x1
Jahresabschluss
Bilanz
(durch die Wirtschaftsprüfungsgesellschaft F&F geprüft)

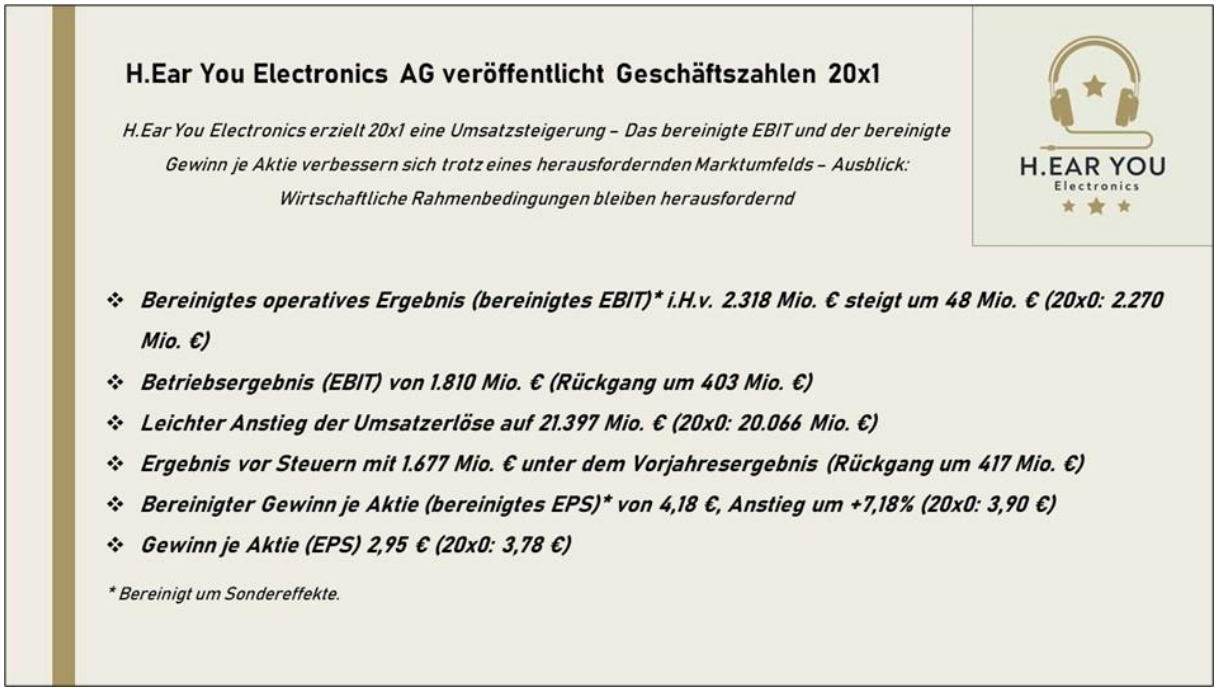
Aktiva			Passiva		
in Mio. €	31.12.20x0	31.12.20x1	in Mio. €	31.12.20x0	31.12.20x1
Langfristige Vermögenswerte	**21.835**	**22.258**			
davon immaterielle Vermögenswerte	16.647	17.097	**Eigenkapital**	**19.256**	**19.839**
Kurzfristige Vermögenswerte	**10.258**	**10.264**			
davon Zahlungsmittel und Zahlungsmitteläquivalente	1.985	1.259			
davon Forderungen und sonstige Vermögenswerte	3.185	3.303	**Schulden**	**12.837**	**12.683**
davon Vorräte	2.953	3.353			
Summe Aktiva	**32.093**	**32.522**	**Summe Passiva**	**32.093**	**32.522**

Exhibit B: Manipulation of Non-GAAP reporting type

The following has been disclosed in the *GAAP-Condition:*



The following has been disclosed in the *NGM-Condition:*



H.Ear You Electronics AG veröffentlicht Geschäftszahlen 20x1

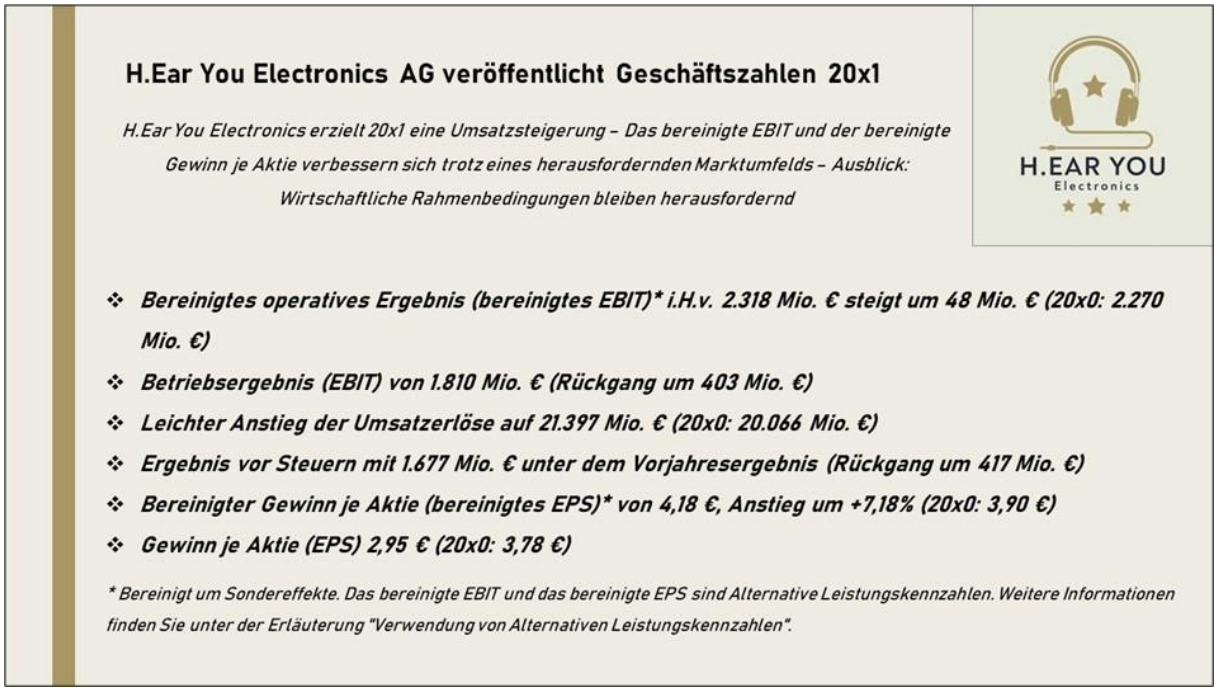
H.Ear You Electronics erzielt 20x1 eine Umsatzsteigerung – Das bereinigte EBIT und der bereinigte Gewinn je Aktie verbessern sich trotz eines herausfordernden Marktumfelds – Ausblick: Wirtschaftliche Rahmenbedingungen bleiben herausfordernd

H.EAR YOU
Electronics

- ***Bereinigtes operatives Ergebnis (bereinigtes EBIT)* i.H.v. 2.318 Mio. € steigt um 48 Mio. € (20x0: 2.270 Mio. €)***
- ***Betriebsergebnis (EBIT) von 1.810 Mio. € (Rückgang um 403 Mio. €)***
- ***Leichter Anstieg der Umsatzerlöse auf 21.397 Mio. € (20x0: 20.066 Mio. €)***
- ***Ergebnis vor Steuern mit 1.677 Mio. € unter dem Vorjahresergebnis (Rückgang um 417 Mio. €)***
- ***Bereinigter Gewinn je Aktie (bereinigtes EPS)* von 4,18 €, Anstieg um +7,18% (20x0: 3,90 €)***
- ***Gewinn je Aktie (EPS) 2,95 € (20x0: 3,78 €)***

** Bereinigt um Sondereffekte.*

The following has been disclosed in the *NGM$_{expl}$-Condition*:



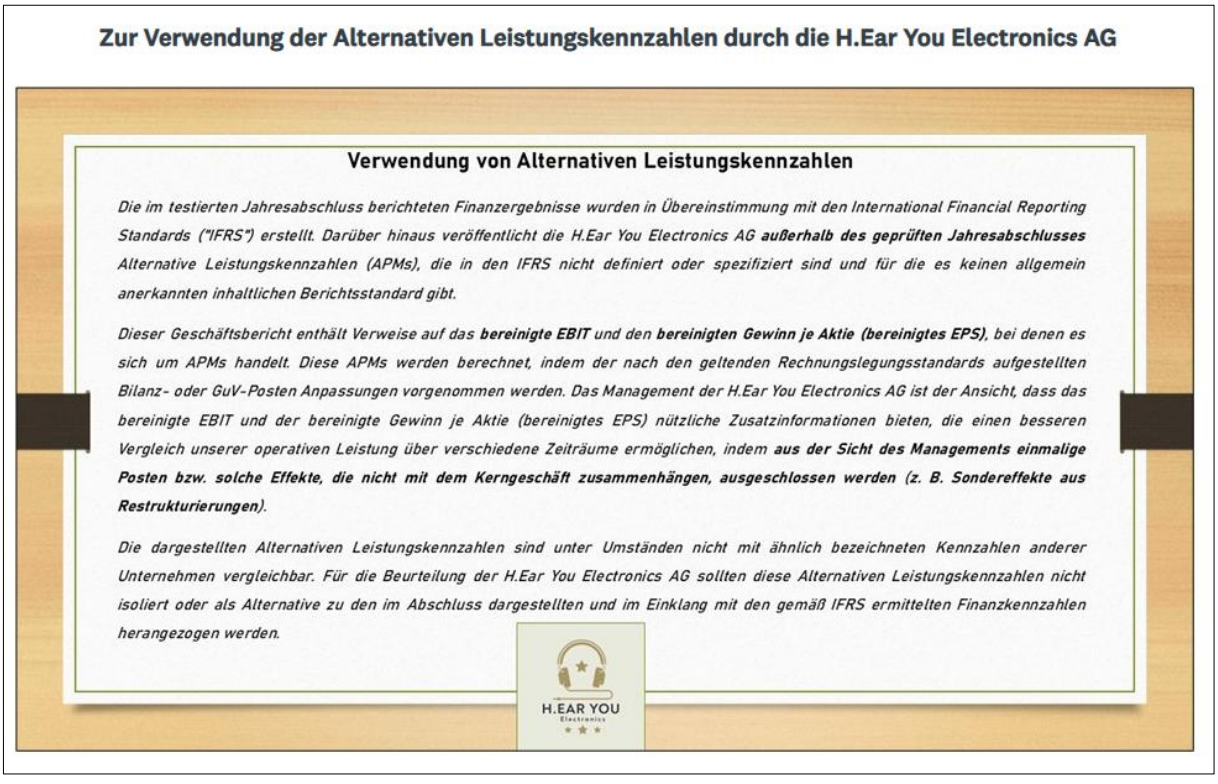
H.Ear You Electronics AG veröffentlicht Geschäftszahlen 20x1

H.Ear You Electronics erzielt 20x1 eine Umsatzsteigerung – Das bereinigte EBIT und der bereinigte Gewinn je Aktie verbessern sich trotz eines herausfordernden Marktumfelds – Ausblick: Wirtschaftliche Rahmenbedingungen bleiben herausfordernd

H.EAR YOU Electronics

- ***Bereinigtes operatives Ergebnis (bereinigtes EBIT)* i.H.v. 2.318 Mio. € steigt um 48 Mio. € (20x0: 2.270 Mio. €)***
- ***Betriebsergebnis (EBIT) von 1.810 Mio. € (Rückgang um 403 Mio. €)***
- ***Leichter Anstieg der Umsatzerlöse auf 21.397 Mio. € (20x0: 20.066 Mio. €)***
- ***Ergebnis vor Steuern mit 1.677 Mio. € unter dem Vorjahresergebnis (Rückgang um 417 Mio. €)***
- ***Bereinigter Gewinn je Aktie (bereinigtes EPS)* von 4,18 €, Anstieg um +7,18% (20x0: 3,90 €)***
- ***Gewinn je Aktie (EPS) 2,95 € (20x0: 3,78 €)***

** Bereinigt um Sondereffekte. Das bereinigte EBIT und das bereinigte EPS sind Alternative Leistungskennzahlen. Weitere Informationen finden Sie unter der Erläuterung "Verwendung von Alternativen Leistungskennzahlen".*



Zur Verwendung der Alternativen Leistungskennzahlen durch die H.Ear You Electronics AG

Verwendung von Alternativen Leistungskennzahlen

Die im testierten Jahresabschluss berichteten Finanzergebnisse wurden in Übereinstimmung mit den International Financial Reporting Standards ("IFRS") erstellt. Darüber hinaus veröffentlicht die H.Ear You Electronics AG ***außerhalb des geprüften Jahresabschlusses*** *Alternative Leistungskennzahlen (APMs), die in den IFRS nicht definiert oder spezifiziert sind und für die es keinen allgemein anerkannten inhaltlichen Berichtsstandard gibt.*

Dieser Geschäftsbericht enthält Verweise auf das ***bereinigte EBIT*** *und den* ***bereinigten Gewinn je Aktie (bereinigtes EPS)****, bei denen es sich um APMs handelt. Diese APMs werden berechnet, indem der nach den geltenden Rechnungslegungsstandards aufgestellten Bilanz- oder GuV-Posten Anpassungen vorgenommen werden. Das Management der H.Ear You Electronics AG ist der Ansicht, dass das bereinigte EBIT und der bereinigte Gewinn je Aktie (bereinigtes EPS) nützliche Zusatzinformationen bieten, die einen besseren Vergleich unserer operativen Leistung über verschiedene Zeiträume ermöglichen, indem* ***aus der Sicht des Managements einmalige Posten bzw. solche Effekte, die nicht mit dem Kerngeschäft zusammenhängen, ausgeschlossen werden*** *(z. B. Sondereffekte aus* ***Restrukturierungen****).*

Die dargestellten Alternativen Leistungskennzahlen sind unter Umständen nicht mit ähnlich bezeichneten Kennzahlen anderer Unternehmen vergleichbar. Für die Beurteilung der H.Ear You Electronics AG sollten diese Alternativen Leistungskennzahlen nicht isoliert oder als Alternative zu den im Abschluss dargestellten und im Einklang mit den gemäß IFRS ermittelten Finanzkennzahlen herangezogen werden.

H.EAR YOU Electronics

Nachfolgend wird die Überleitung vom Betriebsergebnis (EBIT) aus dem Jahresabschluss auf das bereinigte operative Ergebnis (Bereinigtes EBIT) kommentiert, um die operative Entwicklung vor Sondereinflüssen darzustellen.

H.Ear You Electronics AG – Geschäftsbericht 20x1
Überleitungsrechnung (außerhalb des Jahresabschlusses)
Bereinigtes operatives Ergebnis (Bereinigtes EBIT)

	20x0 in Mio. €		20x1 in Mio. €
EBIT (wie in Jahresabschluss berichtet)	**2.213**		**1.810**
Erträge aus Restrukturierungsmaßnahmen	-89		-261
Aufwendungen aus Restrukturierungsmaßnahmen	168		680
Sonstige Sondereffekte	-22		89
Bereinigtes EBIT	**2.270**		**2.318**

Zur Berechnung des bereinigten EBIT werden die aus aus der Sicht des Managements einmalige Posten bzw. Effekte, die nicht mit dem Kerngeschäft zusammenhängen, ausgeschlossen.

- **Die Effekte aus Restrukturierungsmaßnahmen entfallen im Jahr 20x1 auf die Optimierung und Zusammenführung von Vertriebsstrukturen.**
- **Sonstige Sondereffekte entfallen im Jahr 20x1 unter anderem auf Effekte aus dem Verkauf einzelner Markenrechte.**

3.7 References

Allee, K. D., Bhattacharya, N., Black, E. L., & Christensen, T. E. (2007). Pro forma disclosure and investor sophistication: External validation of experimental evidence using archival data. *Accounting, Organizations and Society*, *32*(3), 201–222. https://doi.org/10.1016/j.aos.2006.09.012

Amel-Zadeh, A., Glaum, M., & Sellhorn, T. (2023). Empirical Goodwill Research: Insights, Issues, and Implications for Standard Setting and Future Research. *European Accounting Review*, *32*(2), 415–446. https://doi.org/10.1080/09638180.2021.1983854

Anderson, S. B., Hobson, J. L., & Sommerfeldt, R. D. (2022). Auditing Non-GAAP Measures: Signaling More Than Intended *Contemporary Accounting Research*, *39*(1), 577–606. https://doi.org/10.1111/1911-3846.12724

Andersson, P., & Hellman, N. (2007). Does Pro Forma Reporting Bias Analyst Forecasts? *European Accounting Review*, *16*(2), 277–298. https://doi.org/10.1080/09638180701390966

Barton, J., Hansen, T. B., & Pownall, G. (2010). Which Performance Measures Do Investors Around the World Value the Most—and Why? *The Accounting Review*, *85*(3), 753–789. https://doi.org/10.2308/accr.2010.85.3.753

Best, P. J., Buckby, S., & Tan, C. (2001). Evidence of the audit expectation gap in Singapore. *Managerial Auditing Journal*, *16*(3), 134–144. https://doi.org/10.1108/02686900110385579

Bhattacharya, N., Black, E. L., Christensen, T. E., & Larson, C. R. (2003). Assessing the relative informativeness and permanence of pro forma earnings and GAAP operating earnings. *Journal of Accounting and Economics*, *36*(1), 285–319. https://doi.org/10.1016/j.jacceco.2003.06.001

Bhattacharya, N., Black, E. L., Christensen, T. E., & Mergenthaler, R. D. (2007). Who Trades on Pro Forma Earnings Information? *The Accounting Review*, *82*(3), 581–619. http://www.jstor.org/stable/30243790

Black, D. E., & Christensen, T. E. (2009). US Managers' Use of 'Pro Forma' Adjustments to Meet Strategic Earnings Targets. *Journal of Business Finance & Accounting*, *36*(3-4), 297–326. https://doi.org/10.1111/j.1468-5957.2009.02128.x

Black, D. E., Christensen, T. E., Ciesielski, J. T., & Whipple, B. C. (2018). Non-GAAP reporting: Evidence from academia and current practice. *Journal of Business Finance & Accounting*, *45*(3-4), 259–294. https://doi.org/10.1111/jbfa.12298

Black, E. L., Christensen, T. E., Kiosse, P. V., & Steffen, T. D. (2017). Has the Regulation of Non-GAAP Disclosures Influenced Managers' Use of Aggressive Earnings Exclusions? *Journal of Accounting, Auditing & Finance*, *32*(2), 209–240. https://doi.org/10.1177/0148558X15599131

Bowen, R. M., Davis, A. K., & Matsumoto, D. A. (2005). Emphasis on Pro Forma versus GAAP Earnings in Quarterly Press Releases: Determinants, SEC Intervention, and Market Reactions. *The Accounting Review*, *80*(4), 1011–1038. http://www.jstor.org/stable/4093115

Bradshaw, M. T., & Sloan, R. G. (2002). GAAP versus The Street: An Empirical Assessment of Two Alternative Definitions of Earnings. *Journal of Accounting Research*, *40*(1), 41–66. https://doi.org/10.1111/1475-679X.00038

Brosnan, M., Duncan, K., Hasso, T., & Hollindale, J. (2023). Non-GAAP earnings and executive compensation: An experiment. *Accounting & Finance*, *63*(4), 4375–4398. https://doi.org/10.1111/acfi.13098

Brown, L. D., & Sivakumar, K. (2003). Comparing the value relevance of two operating income measures. *Review of Accounting Studies*, *8*(4), 561–572. https://doi.org/10.1023/A:1027328418571

Brown, N. C., Huffman, A. A., & Cohen, S. (2023). Accounting Reporting Complexity and Non-GAAP Earnings Disclosure. *The Accounting Review*, *98*(6), 37–71. https://doi.org/10.2308/TAR-2018-0760

Cascino, S., Clatworthy, M., Garcia Osma, B., Gassen, J., Imam, S., & Jeanjean, T. (2016). *Professional Investors and the Decision Usefulness of Financial Reporting*. https://research-information.bris.ac.uk/ws/portalfiles/portal/73272665/Professional_investors_and_the_decision_usefulness_of_financial_reporting.pdf

Charitou, A., Floropoulos, N., Karamanou, I., & Loizides, G. (2018). Non-GAAP Earnings Disclosures on the Face of the Income Statement by UK Firms: The Effect on Market Liquidity. *The International Journal of Accounting*, *53*(3), 183–202. https://doi.org/10.1016/j.intacc.2018.07.003

Chen, W., Han, J., & Tan, H.-T. (2016). Investor reactions to management earnings guidance attributions: The effects of news valence, attribution locus, and outcome controllability. *Accounting, Organizations and Society*, *55*, 83–95. https://doi.org/10.1016/j.aos.2016.10.002

Chen, W., Harding, N., & He, W. (2021). Non-Professional Investors' Judgments of the Reliability of Fair Value Estimates—The Impact of Investor Mood. *Behavioral Research in Accounting*, *33*(1), 43–63. https://doi.org/10.2308/BRIA-19-035

Christensen, T. E., Drake, M. S., & Thornock, J. R. (2014). Optimistic Reporting and Pessimistic Investing: Do Pro Forma Earnings Disclosures Attract Short Sellers? *Contemporary Accounting Research*, *31*(1), 67–102. https://doi.org/10.1111/1911-3846.12009

Chrzan, S., & Pott, C. (2024). Limiting environmental reporting flexibility: Investor judgment based on the EU taxonomy. *Review of Quantitative Finance and Accounting*, 1–38. https://doi.org/10.1007/s11156-024-01297-x

Clor-Proell, S. M., Proell, C. A., & Warfield, T. D. (2014). The Effects of Presentation Salience and Measurement Subjectivity on Nonprofessional Investors' Fair Value Judgments. *Contemporary Accounting Research*, *31*(1), 45–66. https://doi.org/10.1111/1911-3846.12041

Coleman, D., & Usvyatsky, O. (2015). *Trends in Non-GAAP Disclosures*. https://blog.auditanalytics.com/trends-in-non-gaap-disclosures/

Coram, P. J., Monroe, G. S., & Woodliff, D. R. (2009). The Value of Assurance on Voluntary Nonfinancial Disclosure: An Experimental Evaluation. *AUDITING: A Journal of Practice & Theory*, *28*(1), 137–151. https://doi.org/10.2308/aud.2009.28.1.137

Curtis, A., Li, V., & Patrick, P. H. (2021). The use of adjusted earnings in performance evaluation. *Review of Accounting Studies*, *26*(4), 1290–1322. https://doi.org/10.1007/s11142-021-09580-1

Curtis, A. B., McVay, S. E., & Whipple, B. C. (2014). The Disclosure of Non-GAAP Earnings Information in the Presence of Transitory Gains. *The Accounting Review*, *89*(3), 933–958. http://www.jstor.org/stable/24468323

Czajor, P. (2024). IFRS 18: Advancing the Relevance and Utility of Financial Statements for Stakeholders. *European Research Studies Journal*, *XXVII*(Special Issue A), 265–275. https://doi.org/10.35808/ersj/3650

Dang, M., & Puwanenthiren, P. (2024). *Catalyst or Constraint? Non-Gaap Earnings Disclosures and Dividend Payments.* https://doi.org/10.2139/ssrn.4877468

Davern, M., Gyles, N., Hanlon, D., & Pinnuck, M. (2019). Is Financial Reporting Still Useful? Australian Evidence. *Abacus*, *55*(1), 237–272. https://doi.org/10.1111/abac.12152

Dietrich, J. R. (2001). *Market Efficiency, Bounded Rationality, and Supplemental Business Reporting Disclosures*. SSRN.

Dilla, W. N., Janvrin, D. J., & Jeffrey, C. (2013). The impact of graphical displays of pro forma earnings information on professional and nonprofessional investors' earnings judgments. *Behavioral Research in Accounting*.

Dilla, W. N., Janvrin, D. J., & Jeffrey, C. (2014). Pro forma accounting disclosures: The effect of reconciliations and financial reporting knowledge on nonprofessional investors' judgments. *Advances in Accounting*, *30*(1), 43–54. https://doi.org/10.1016/j.adiac.2013.12.002

Doyle, J. T., Jennings, J. N., & Soliman, M. T. (2013). Do managers define non-GAAP earnings to meet or beat analyst forecasts? *Journal of Accounting and Economics*, *56*(1), 40–56. https://doi.org/10.1016/j.jacceco.2013.03.002

Elliott, W. B. (2006). Are Investors Influenced by Pro Forma Emphasis and Reconciliations in Earnings Announcements? *The Accounting Review*, *81*(1), 113–133. https://doi.org/10.2308/accr.2006.81.1.113

Elliott, W. B., Hodge, F. D., & Jackson, K. E. (2008). The Association between Nonprofessional Investors' Information Choices and Their Portfolio Returns: The Importance of Investing Experience *Contemporary Accounting Research*, *25*(2), 473–498. https://doi.org/10.1506/car.25.2.7

Entwistle, G. M., Feltham, G. D., & Mbagwu, C. (2012). Credibility Attributes and Investor Perceptions of Non- GAAP Earnings Exclusions. *Accounting Perspectives*, *11*(4), 229–257. https://doi.org/10.1111/1911-3838.12000

ESMA (Ed.). (2015). *Final Report: ESMA Guidelines on Alternative Performance Measures*. https://www.esma.europa.eu/sites/default/files/library/2015/11/2015-esma-1057_final_report_on_guidelines_on_alternative_performance_measures.pdf

Ferramosca, S., & Allegrini, M. (2021). Impairment or amortization of goodwill? An analysis of CFO perceptions of goodwill accounting. *European Management Journal*, *39*(6), 816–828. https://doi.org/10.1016/j.emj.2021.03.001

Frank, K. E., Jordan Lowe, D., & Smith, J. K. (2001). The expectation gap: perceptual differences between auditors, jurors and students. *Managerial Auditing Journal*, *16*(3), 145–150. https://doi.org/10.1108/02686900110385588

Frankel, R., McVay, S., & Soliman, M. (2011). Non-GAAP earnings and board independence. *Review of Accounting Studies*, *16*(4), 719–744. https://doi.org/10.1007/s11142-011-9166-3

Freches, F., Heilmann, M., & Pott, C. (2020). Management Performance Measures in der Neugestaltung des IAS 1: Tatsächliche Verbesserung für die Darstellung von Non-GAAP Measures? *IRZ : Zeitschrift für internationale Rechnungslegung*.

Frederickson, J. R., & Miller, J. S. (2004). The Effects of Pro Forma Earnings Disclosures on Analysts' and Nonprofessional Investors' Equity Valuation Judgments. *The Accounting Review*, *79*(3), 667–686. http://www.jstor.org/stable/3203274

Gold, A., Gronewold, U., & Pott, C. (2012). The ISA 700 auditor's report and the audit expectation gap: Do explanations matter? *International Journal of Auditing*.

Görmar, J., Thomsen, M., & Watrin, C. (2025). The Reporting of Alternative Performance Measures in Germany and the Introduction of the ESMA Guidelines. *Schmalenbach Journal of Business Research.* Advance online publication. https://doi.org/10.1007/s41471-025-00212-x

Guest, N. M., Kothari, S. P., & Pozen, R. C. (2022). Why Do Large Positive Non-GAAP Earnings Adjustments Predict Abnormally High CEO Pay? *The Accounting Review*, *97*(6), 297–326. https://doi.org/10.2308/TAR-2019-0003

Guillamon-Saorin, E., Isidro, H., & Marques, A. (2017). Impression management and non-GAAP disclosure in earnings announcements. *Journal of Business Finance & Accounting.* Advance online publication. https://doi.org/10.1111/jbfa.12238

Guillamon-Saorin, E., Osma, B. G., & Jones, M. J. (2012). Opportunistic disclosure in press release headlines. *Accounting and Business Research*, *42*(2), 143–168. https://doi.org/10.1080/00014788.2012.632575

Hartmann, M., & Weißenberger, B. E. (2024). Information overload research in accounting: a systematic review of the literature. *Management Review Quarterly*, *74*(3), 1619–1667. https://doi.org/10.1007/s11301-023-00343-7

Heflin, F., & Hsu, C. (2008). The impact of the SEC's regulation of non-GAAP disclosures. *Journal of Accounting and Economics*, *46*(2-3), 349–365. https://doi.org/10.1016/j.jacceco.2008.07.002

Heider, F. (1958). *The psychology of interpersonal relations*. John Wiley & Sons Inc. https://doi.org/10.1037/10628-000

Herr, S. B., Lorson, P., & Pilhofer, J. (2022). Alternative Performance Measures: A Structured Literature Review of Research in Academic and Professional Journals. *Schmalenbach Journal of Business Research*, *74*(3), 389–451. https://doi.org/10.1007/s41471-022-00138-8

Hitz, J.-M. (2010a). Press Release Disclosure of 'Pro Forma' Earnings Metrics by Large German Corporations – Empirical Evidence and Regulatory Recommendations. *Accounting in Europe*, *7*(1), 63–86. https://doi.org/10.1080/17449480.2010.485376

Hitz, J.-M. (2010b). Information versus adverse Anlegerbeeinflussung: Befund und Implikationen der empirischen Rechnungswesenforschung zur Publizität von Pro-forma-Ergebnisgrößen. *Journal Für Betriebswirtschaft*, *60*(2), 127–161. https://doi.org/10.1007/s11301-010-0059-5

Hodge, F., & Pronk, M. (2006). The Impact of Expertise and Investment Familiarity on Investors' Use of Online Financial Report Information. *Journal of Accounting, Auditing & Finance*, *21*(3), 267–292. https://doi.org/10.1177/0148558X0602100304

Hogan, B. R., Krishnamoorthy, G., & Maroney, J. J. (2017). Pro Forma Earnings Presentation Effects and Investment Decisions. *Behavioral Research in Accounting*, *29*(2), 11–24. https://doi.org/10.2308/bria-51775

Huang, Q., & Skantz, T. R. (2016). The informativeness of pro forma and street earnings: an examination of information asymmetry around earnings announcements. *Review of Accounting Studies*, *21*(1), 198–250. https://doi.org/10.1007/s11142-015-9345-8

IASB. (2024a). *Accounting Taxonomy 2024 Proposed Update 1: IFRS 18 Presentation and Disclosure in Financial Statements*. https://www.ifrs.org/content/dam/ifrs/project/ifrs-accounting-taxonomy-update-primary-financial-statements/iasb-ptu-2024-1-ifrs18.pdf

IASB. (2024b). *Project Summary: IFRS 18 Presentation and Disclosure in Financial Statements*. https://www.ifrs.org/content/dam/ifrs/project/primary-financial-statements/ifrs-standard/projectsummary-ifrs18-april2024.pdf

Isidro, H., & Marques, A. (2013). The Effects of Compensation and Board Quality on Non-GAAP Disclosures in Europe. *The International Journal of Accounting*, *48*(3), 289–317. https://doi.org/10.1016/j.intacc.2013.07.004

Jennings, R., & Marques, A. (2011). The Joint Effects of Corporate Governance and Regulation on the Disclosure of Manager-Adjusted Non-GAAP Earnings in the US. *Journal of Business Finance & Accounting*, *38*(3-4), 364–394. https://doi.org/10.1111/j.1468-5957.2011.02238.x

Johnson, A., Percy, M., Stevenson-Clarke, P., & Cameron, R. (2014). The Impact of the Disclosure of Non-GAAP Earnings in Australian Annual Reports on Non-Sophisticated Users. *Australian Accounting Review*, *24*(3), 207–217. https://doi.org/10.1111/auar.12034

Karim, K. E. (Ed.). (2023). *Advances in Accounting Behavioural Research*. *Advances in Accounting Behavioral Research*. Emerald Publishing Limited. https://doi.org/10.1108/aabr

Köhler, A., Ratzinger-Sakel, N., & Theis, J. (2020). The Effects of Key Audit Matters on the Auditor's Report's Communicative Value: Experimental Evidence from Investment Professionals and Non-professional Investors. *Accounting in Europe*, *17*(2), 105–128. https://doi.org/10.1080/17449480.2020.1726420

Koonce, L. L., & Mercer, M. (2005). Using Psychology Theories in Archival Financial Accounting Research. *SSRN Electronic Journal.* Advance online publication. https://doi.org/10.2139/ssrn.311105

Kotzian, P., Stoeber, T., Hoos, F., & Weissenberger, B. E. (2020). To be or not to be in the sample? On using manipulation checks in experimental accounting research. *Accounting Research Journal*, *33*(3), 469–482. https://doi.org/10.1108/ARJ-06-2019-0128

Lachmann, M., Wöhrmann, A., & Wömpener, A. (2010). Investorenreaktionen auf die Fair Value-Bilanzierung von Verbindlichkeiten nach IFRS: Eine experimentelle Untersuchung. *Journal of business economics*.

Libby, R. (1979). Bankers' and Auditors' Perceptions of the Message Communicated by the Audit Report. *Journal of Accounting Research*, *17*(1), 99. https://doi.org/10.2307/2490308

Lin, Z. J., & Chen, F. (2004). An Empirical Study of Audit 'Expectation Gap' in The People's Republic of China. *International Journal of Auditing*, *8*(2), 93–115. https://doi.org/10.1111/j.1099-1123.2004.00084.x

Maines, L. A., & McDaniel, L. S. (2000). Effects of Comprehensive-Income Characteristics on Nonprofessional Investors' Judgments: The Role of Financial-Statement Presentation Format. *The Accounting Review*, *75*(2), 179–207. http://www.jstor.org/stable/248644

Marques, A. (2006). Sec interventions and the frequency and usefulness of non-GAAP financial measures. *Review of Accounting Studies*, *11*(4), 549–574. https://doi.org/10.1007/s11142-006-9016-x

Martinko, M. (2018). *Attribution Theory*. Routledge. https://doi.org/10.4324/9781315137926

McEnroe, J. E., & Martens, S. C. (2001). Auditors' and Investors' Perceptions of the "Expectation Gap". *Accounting Horizons*, *15*(4), 345–358. https://doi.org/10.2308/acch.2001.15.4.345

McNichols, M. (1988). A comparison of the skewness of stock return distributions at earnings and non-earnings announcement dates. *Journal of Accounting and Economics*.

Mercer, M. (2004). How Do Investors Assess the Credibility of Management Disclosures? *Accounting Horizons*, *18*(3), 185–196. https://doi.org/10.2308/acch.2004.18.3.185

Mercer, M. (2005). The Fleeting Effects of Disclosure Forthcomingness on Management's Reporting Credibility. *The Accounting Review*, *80*(2), 723–744. https://doi.org/10.2308/accr.2005.80.2.723

Monroe, G. S., & Woodliff, D. R. (1994). An empirical investigation of the audit expectation gap: Australian evidence. *Accounting & Finance*, *34*(1), 47–74. https://doi.org/10.1111/j.1467-629X.1994.tb00262.x

Nelson, M. W., & Tayler, W. B. (2007). Information Pursuit in Financial Statement Analysis: Effects of Choice, Effort, and Reconciliation. *The Accounting Review*, *82*(3), 731–758. https://doi.org/10.2308/accr.2007.82.3.731

PwC. (2021). *To GAAP or to non-GAAP COVID-19: What you should know: Non-GAAP measures are more popular than ever*. https://viewpoint.pwc.com/dt/us/en/pwc/in_the_loop/assets/nongaapitlupdated.pdf

Quick, R. (2020). The audit expectation gap: A review of the academic literature. *Maandblad Voor Accountancy En Bedrijfseconomie*, *94*(1/2), 5–25. https://doi.org/10.5117/mab.94.47895

Reimsbach, D. (2014). Pro forma earnings disclosure: the effects of non-GAAP earnings and earnings-before on investors' information processing. *Journal of Business Economics*, *84*(4), 479–515. https://doi.org/10.1007/s11573-013-0688-y

Ribeiro, A., Shan, Y., & Taylor, S. (2019). Non-GAAP Earnings and the Earnings Quality Trade-off. *Abacus*, *55*(1), 6–41. https://doi.org/10.1111/abac.12150

Riedl, E. J., & Serafeim, G. (2011). Information risk and fair values: An examination of equity betas. *Journal of Accounting Research*.

Sharma, D. S. (2006). Effects of professional and non-professional investors' perceptions of board effectiveness on their judgments: An experimental study. *Journal of Accounting and Public Policy*, *25*(1), 91–115. https://doi.org/10.1016/j.jaccpubpol.2005.11.004

Thomas, S. (2023). Professionalism, Professional Commitment, and Performance. In K. E. Karim (Ed.), *Advances in Accounting Behavioural Research. Advances in Accounting Behavioral Research* (pp. 269–289). Emerald Publishing Limited. https://doi.org/10.1108/s1475-148820230000026010

Zwirner, C., & Böcker, C. (2024). IFRS 18: Darstellung und Angaben im Abschluss : Kurzüberblick zu den Neuerungen für die Praxis. *IRZ : Zeitschrift für internationale Rechnungslegung*.

4. Analysts' Gatekeeping Role and the Impact on (Non-)GAAP Measures Investment Judgment: An Experimental Investigation

Publication Details

Abstract: This study investigates how non-GAAP measures and analyst forecasts affect the investment judgments of non-professional investors, and under which conditions financial analysts act as effective capital market gatekeepers. A 2 × 3 between-subjects online experiment was conducted with 150 non-professional investors from Germany. The experimental manipulation varied the type of non-GAAP reporting (GAAP only, GAAP + non-GAAP standalone, GAAP + non-GAAP with explanation) and the presence of analyst forecasts. Consistent with prior research, the disclosure of non-GAAP measures alongside GAAP measures positively affected the investment judgment of non-professional investors when analyst forecasts were absent. However, the effect of transparent explanations for non-GAAP measures was not statistically significant. Drawing on source credibility theory, the findings show that when analyst forecasts were present, investment judgment was significantly higher in the GAAP only condition than when forecasts were absent. In the GAAP + non-GAAP standalone condition, the presence of analyst forecasts led to a decrease in investment judgment, while in the GAAP + non-GAAP with explanation condition, investment judgment increased regardless of analyst forecasts. The results suggest that analysts serve as effective gatekeepers, particularly when non-GAAP measures lack transparency, have low information quality, and may be disclosed opportunistically. However, the interpretation of these findings depends on the underlying reporting motive. This study contributes to the understanding of the impact of non-GAAP measures and the gatekeeping role of analysts in shaping the investment judgment of non-professional investors. The findings have implications for regulators and companies in enhancing transparent non-GAAP reporting.

Keywords: Non-GAAP measures, Analyst, Gatekeeper, Experimental research

Publication Status: Working Paper

4.1 Introduction

The objective of this study is to investigate how non-GAAP measures and analyst forecasts affect the investment judgments of non-professional investors, and under which conditions financial analysts act as effective capital market gatekeepers. Financial analysts are highly trained securities specialists employed by investment banks and brokerage firms who specialize in specific industries. Their disclosures reflect a comprehensive understanding of a firm's industry, strategy, and management quality, along with specific stock recommendations and earnings forecasts (Brauer & Wiersema, 2018). They are among the most significant gatekeepers.[1] In corporate governance research, the term "gatekeeper" refers to individuals or institutions that play an important role in monitoring and regulating companies and their executives. These gatekeepers are tasked with ensuring that companies comply with the relevant laws, regulations, and ethical standards. More specifically, gatekeepers of capital markets, such as financial analysts or auditors, fulfill a main task. Their role as agents is to act as reputational intermediaries who assure investors of the quality of the signal sent by companies (Coffee, 2006). Usually, these signals reach investors through corporate disclosure. By lending reputational capital to the corporation, analysts enable investors to rely on firm disclosure, which protects investor interests (Koch et al., 2014; Ormazábal, 2016). In comparison to the other gatekeepers in the corporate governance system, they have the advantage that they can act theoretically independently and cannot be fired like auditors. In this context, companies frequently report non-GAAP financial measures. Non-GAAP measures adjust GAAP earnings measures for specific components (e.g., non-recurring, unusual, or non-operating) based on management's subjective assessments (Herr et al., 2022; Hitz, 2010b; Sellhorn et al., 2014). However, given the costs associated with publishing non-GAAP measures, the rationale must be explained (Hitz, 2010b). On the one hand, non-GAAP measures are disclosed for informative purposes, such as conveying value-relevant information, as they are more useful in predicting future firm performance or disclosing sustainable earnings (e.g., Bhattacharya et al. 2003; Brown & Sivakumar, 2003; Curtis et al., 2014). On the other hand, non-GAAP measures are disclosed for opportunistic and strategic reasons, such as positively influencing investors' assessment of a firm's earnings situation or achieving benchmark performance that would not be met

[1] In the study of Lim and Monroe (2022), 70% of US and non-US firms are followed by at least one financial analyst, with 7.16 analysts following per firm year.

under GAAP measures (e.g., Bhattacharya et al., 2003; Black & Christensen, 2009; Doyle et al., 2013). In this regard, regulators express concern that non-GAAP measures may serve as fraud risk factors (Leone, 2010) and potentially mislead non-professional investors. Prior research indicates that non-professional investors, in particular, react to the disclosure of non-GAAP measures (e.g., Bhattacharya et al., 2007; Elliott, 2006; Frederickson & Miller, 2004). Given that analysts have already demonstrated their significant role as intermediaries in the capital market, for instance, in detecting fraud (Chen et al., 2016; Cotter & Young, 2007; Dyck et al., 2010), especially for non-professional and less sophisticated investors (Baker & Haslem, 1973; Kelly et al., 2012), the question arises as to what role analysts play in investment judgments involving non-GAAP measures by non-professional investors.

Previous research on non-GAAP measures has investigated the influence of various internal and external corporate governance mechanisms, such as the board of directors (e.g., Frankel et al., 2011; Isidro & Marques, 2013), audit committees (Lee, 2022; Seetharaman et al., 2014), regulations (e.g., Black et al., 2017; Entwistle et al., 2006; Heflin & Hsu, 2008; Kolev et al., 2008), media attention (Koning et al., 2010), and auditors (e.g., Feng et al., 2023; Rautiainen et al., 2023), primarily demonstrating a positive effect on non-GAAP reporting quality and a reduction in opportunistic usage. Previous studies have also examined the effect of non-GAAP measures on analysts' judgment (Andersson & Hellman, 2007; Frederickson & Miller, 2004) but have not investigated the role of financial analysts as a governance mechanism in a non-GAAP environment when non-professional investors make investment-related judgments and decisions. However, financial analysts are familiar with non-GAAP reporting, as they and analyst-forecast-tracking services, such as I/B/E/S, exclude certain earnings components in calculating a firm's core earnings, which are also referred to as ''street earnings" (Christensen et al., 2011).[2] Aggressive and opportunistic non-GAAP reporting is, thus, particularly prevalent when internal corporate governance fails and a company is scrutinized by fewer analysts (Christensen et al., 2021; DeBoskey et al., 2025; Frankel et al., 2011). Accordingly, analysts function as external governance mechanisms and can mitigate aggressive non-GAAP reporting (Christensen et al., 2021; DeBoskey et al.,

[2] Street earnings were initially considered as a valid proxy for company reported non-GAAP measures. However, Bentley et al. (2018) indicate using measures by I/B/E/S underestimates managers non-GAAP measures and that they differ systematically. Consequently, recent studies no longer choose street earnings as a proxy (Herr et al., 2022).

2025). Christensen et al. (2021) provide evidence that analysts discipline managers' non-GAAP reporting behavior but do not examine whether analyst involvement also shapes how investors interpret and use (non-)GAAP information in their investment judgments. Consequently, the extent to which analyst-provided forecasts influence non-professional investors' judgments in a (non-)GAAP reporting environment remains an open question. This study addresses this gap by examining the gatekeeping role of financial analysts in shaping non-professional investors' investment judgment.

My research methodology is grounded in the information-processing and judgment framework established by Maines and McDaniel (2000), in alignment with other experimental accounting studies (e.g., Frederickson & Miller, 2004; Lachmann et al., 2011; Nelson & Tayler, 2007; Reimsbach, 2014). First, I investigate the impact of (transparent) non-GAAP measures on investment judgment in the absence of analyst forecasts, following prior studies (e.g., Dilla et al., 2014; Elliott, 2006; Frederickson & Miller, 2004; Reimsbach, 2014). This serves as a benchmark for evaluating the potential impact of analyst forecasts in a subsequent analysis. Building on source credibility theory (Birnbaum & Stegner, 1979), this study investigates whether and under which conditions analyst forecasts influence non-professional investors' investment judgments across GAAP and non-GAAP reporting types. According to this theory, source credibility depends on investors' perceptions of the source's expertise and its potential bias. Accordingly, the study examines how the credibility of management and analyst reporting sources shapes investors' judgments, and whether analyst forecasts exert an impact in certain disclosure settings.

To examine my research question, I conducted a 2 × 3 between-subjects online experiment involving non-professional investors from Germany. The final sample comprised 150 participants. The participants engaged with a scenario involving a fictitious German company, whose information was based on an actual consumer goods company listed on the German Stock Exchange. The experimental manipulation was executed along two dimensions. First, the type of non-GAAP reporting (Non-GAAP reporting type) was varied to assess its impact on investment judgment. Participants were either presented with only GAAP measures, with no non-GAAP measures disclosed (GAAP only-condition), serving as the control group. In the second condition (GAAP + Non-GAAP standalone-condition), participants received two additional non-GAAP measures, Adjusted EBIT and Adjusted EPS, which were higher than the corresponding

GAAP measures. These non-GAAP measures were included in a press release outside the financial statement without further background information. In the third condition (GAAP + Non-GAAP with explanation-condition), these non-GAAP measures were disclosed transparently, accompanied by additional information, such as reconciliation. Second, to examine the potential impact of analysts (dimension: Analyst Forecast), two forecast scenarios were either omitted or included, each based on the primary measures disclosed under the respective conditions of the non-GAAP reporting type. I assessed the investment judgment of non-professional investors using a multi-item scale inspired by Asay et al. (2023). This experimental design resulted in six experimental conditions, with each participant randomly assigned to one of them.

Consistent with my first hypothesis and prior research, I found that the disclosure of non-GAAP measures alongside GAAP measures positively affects the investment judgment of non-professional investors when other information sources are absent. I also observed slight increases and descriptive indications of the positive effect of transparency in non-GAAP measures on investors' judgment when other external information is absent. However, this effect was not statistically significant, leading to the rejection of the second hypothesis. These results changed when the analyst forecasts were disclosed. In a setting where only GAAP measures were disclosed, the investment judgment of non-professional investors who also received analyst forecasts on the GAAP measures was significantly higher than when analyst forecasts were absent. Conversely, participants' investment judgment decreased (increased) when non-GAAP measures without explanation were reported alongside GAAP measures with (without any) additional analyst forecasts being disclosed. In this case, the investment judgment of non-professional investors was higher when they were not provided with any additional analyst forecasts. In the case of transparent non-GAAP measures, that is, when participants were provided with additional information on the background of disclosed non-GAAP measures, investment judgment by participants increased regardless of analyst forecasts. The results were robust to additional statistical and non-statistical tests.

I interpret these findings to mean that analysts' gatekeeping role may be particularly important when non-GAAP measures are not transparently disclosed, the company's voluntary disclosure seems to be of low information quality, and management's reporting motive is driven by opportunistic reasons. In this case, the analyst's signal can serve as a sufficient warning to non-professional investors who are confused by contradictory

information and only become aware of potential source bias through the analyst. Consequently, non-professional investors adjust their investment decisions accordingly. Analysts serve as interpreters of (less informative) non-GAAP measures, highlighting potentially misleading information, and may act as effective capital market gatekeepers. Moreover, I interpret the results to mean that in scenarios where there is no indication of opportunistic behavior or managerial bias, either due to limited opportunities for opportunistic reporting (GAAP only-condition) or transparent disclosure by management (GAAP + Non-GAAP with explanation-condition), financial analysts serve as an additional and valuable source of information. They either verify management disclosures or provide supplementary information to non-professional investors, but do not serve in a gatekeeping function. Especially when disclosing transparent non-GAAP measures, source credibility concerns are proactively addressed by management through transparent disclosure and reconciliation, leading the analyst role to be a supplementary information provider rather than a warning gatekeeping function. However, depending on the *real* underlying reporting motive of management, misleading implications of these findings should be considered; for example, opportunism can become plausible even if the disclosure is potentially informative.

This study contributes to the literature in three ways. To the best of my knowledge, this study is the first to experimentally investigate the potential gatekeeping role of analysts in a non-GAAP investment reporting setting for non-professional investors' judgment. This study contributes to a more profound understanding of the impact of non-GAAP measures on investment judgment and the gatekeeping function of governance mechanisms on non-GAAP reporting, demonstrating that financial analysts can signal potential opportunistic reporting and contribute to the literature on non-GAAP measures and corporate governance mechanisms. Second, while most studies focus on experimental settings with investors from the United States, this topic is becoming increasingly relevant for European investors because of impending regulations. Consequently, non-professional investors from Germany participated in this experimental setting, which incorporates elements of the forthcoming regulations outlined in IFRS 18 for management-defined performance measures, equivalent to non-GAAP measures. Third, as the magnitude of the difference between non-GAAP and GAAP measures plays a pivotal role in investment decisions (Andersson & Hellman, 2007), the experimental treatment for non-GAAP measures and analyst forecasts is based on archival data. This

study enhances the realism of the experimental setting and provides insights based on a real-case–inspired scenario. Collectively, this study also holds implications for regulators and companies, underscoring the importance of consistently transparent reporting of non-GAAP measures to avoid misleading non-professional investors.

The remainder of this paper is organized as follows. In Section 2, I review the related literature and develop hypotheses and my research question regarding investor judgment based on underlying theories and prior research. Section 3 describes my research methodology for measuring investment judgment based on the experimental case, and Section 4 presents my results with additional analysis and robustness tests. In Section 5, I discuss the findings and conclude.

4.2 Literature Review and Hypothesis Development

4.2.1 Non-GAAP Measures and Investor Reaction

Non-GAAP measures are derived from measures in accordance with generally accepted accounting principles (GAAP), so-called GAAP measures, and are adjusted for company-defined items, such as restructuring, tax issues, and acquisitions (Black et al., 2018). The use of non-GAAP measures has significantly increased and is common practice in financial reporting (Coleman & Usvyatsky, 2015; Guillamon-Saorin et al., 2017; PwC, 2024). For the US, Black et al. (2021) show that the frequency of non-GAAP reporting among S&P 500 firms increased from 53.2% in 2009 to 70.9%. Furthermore, McKeon (2018) indicates that by 2017, 97% of S&P 500 firms reported at least one non-GAAP measure.[3] Therefore, non-GAAP reporting has been established, particularly in the energy, finance, healthcare, and information technology sectors (Black et al., 2021; European Securities and Markets Authority, 2019). The reasons why companies voluntarily publish key figures have not been conclusively clarified. On the one hand, an informative motive is postulated. Companies use non-GAAP measures to convey value-relevant information to their stakeholders that cannot be communicated due to the restrictive requirements of accounting standards. Critics argue that regulated accounting standards, such as IFRS or US-GAAP, do not reflect the "true" and "sustainable" performance of the company; therefore, managers tend to voluntarily disclose

[3] Results are similar for Bentley et al. (2018). Additionally, the European Securities and Markets Authority (2019) shows in their European study that all Euro Stoxx 50 companies report at least one non-GAAP measure.

information when the informativeness of GAAP earnings is relatively low (Lougee & Marquardt, 2004). Indeed, prior research has highlighted the practical relevance of non-GAAP measures. These measures hold additional value for investors because they tend to be more sustainable than GAAP earnings, thereby offering a clearer picture of a company's fundamental performance (Bhattacharya et al., 2003) and providing a better forecast of future company performance, as non-GAAP measures include fewer temporary earnings elements (Brown & Sivakumar, 2003; Curtis et al., 2014). Additionally, non-GAAP reporting can help diminish information asymmetries (Charitou et al., 2018; Huang & Skantz, 2016) because management possesses an informational advantage concerning the persistence of earnings components (Bradshaw & Sloan, 2002). Nonetheless, the use of non-GAAP measures has faced criticism due to the potential for strategic and misleading intentions, especially since there were initially few regulatory guidelines for these measures. Specifically, it has been shown that companies often modify their non-GAAP measures by adjusting expenses to opportunistically enhance their GAAP earnings, such as to surpass analysts' predictions or other earnings benchmarks like prior-year results (Bhattacharya et al., 2003; Black & Christensen, 2009; Doyle et al., 2013; Frankel et al., 2011) or to structure management compensation (Curtis et al., 2021; Guest et al., 2022; Isidro & Marques, 2013). According to Marques (2017), opportunistic non-GAAP reporting can be summarized by three characteristics: first, when non-GAAP measures are used to exceed benchmarks when GAAP measures would not. Second, if items that are recurring in nature and pertain to the core operational performance are adjusted to calculate non-GAAP measures; and third, if the non-GAAP measure is emphasized more than the GAAP measure.

Intended publication motifs can only be effective if non-GAAP measures are relevant to investors. Numerous studies have examined investor reactions to non-GAAP measures and shown that their publication can impact investor behavior (e.g., Bradshaw et al., 2018; Brown & Sivakumar, 2003; Johnson & Schwartz, 2005). Research studies on non-GAAP measures typically differentiate between professional and non-professional investors. Non-professional investors are particularly responsive to non-GAAP measures, incorporating them into their investment judgments and decisions, as shown in prior studies (Anderson et al., 2022; Bhattacharya et al., 2007; Elliott, 2006; Frederickson & Miller, 2004; Hogan et al., 2017; Johnson et al., 2014; Reimsbach, 2014). These investors demonstrate a strong reaction in terms of various aspects of non-GAAP measures, such

as presentation and transparency, whereas professional investors' behavior appears to be less affected by their disclosure (Allee et al., 2007; Elliott, 2006; Frederickson & Miller, 2004). Additionally, companies' use of impression-management techniques, such as the location, positioning, and presentation of non-GAAP measures in their press releases, to effectively communicate and emphasize non-GAAP measures over standard GAAP measures encourages a response from the intended audience (Allee et al., 2007; Bowen et al., 2005; Guillamon-Saorin et al., 2012; Guillamon-Saorin et al., 2017).

4.2.2 Analyst Disclosure and Its Impact on Investors

Financial reporting is viewed as a crucial tool for intermediating the capital market, with analysts deemed one of the most important and influential users of financial reporting (Brauer & Wiersema, 2018; Hail et al., 2021; Revsine et al., 2001; Schipper, 1991). Financial analysts closely follow firms and industries, publish research reports, disclose stock recommendations, and forecast firms' earnings, cash flows, and revenues (Beyer et al., 2010; Brauer & Wiersema, 2018). They can be classified as experts, with industry knowledge being the most important source of their work (Brown et al., 2015). Therefore, analysts fulfill an important monitoring function for investors and moderate the relationship between companies and investors (Bradshaw et al., 2017; Brauer & Wiersema, 2018). The role of analysts as intermediaries becomes increasingly significant in the presence of information asymmetries, as they can transform complex information into a more accessible format for investors, assisting them in making informed investment decisions (Chang et al., 2008; Huang et al., 2018).

Analysts' publications are often given significant consideration by investors when making investment judgments and decisions (Hirst et al., 1995; Kelly et al., 2012; Krishnan & Booker, 2002; Mikhail et al., 2007). Their recommendations can prevent investors from making disposition errors, for example, by selling winning stocks too early (Chang et al., 2008; Krishnan & Booker, 2002). Therefore, the importance of external source credibility in shaping investor decisions is well documented. Both Chang et al. (2008) and Hirst et al. (1995) demonstrate that investors' reactions are influenced not only by the information itself but also by the reputation of the source, underscoring the significance of external credibility in financial decision-making.[4] In line with these

[4] Kadous et al. (2009) investigate the impact of forecast accuracy and boldness on investors' perceptions of analyst credibility. They find that if an analyst provides a bold and accurate forecast, investors are likely

findings, Boivie et al. (2016) show that investors react more intensely to stock recommendations issued by star analysts, assigning greater importance to their status than to management's reputation.

Although analysts provide essential guidance to investors, their recommendations are not always neutral. Regulators are concerned that non-professional investors may rely too heavily on analysts' recommendations, particularly because analysts' recommendations are biased and tend to be generally over-optimistic (Beckers et al., 2004; De Bondt & Thaler, 1990), especially in the case of firms with high accruals (Bradshaw et al., 2001) or for long-term forecasts (Hovakimian & Saenyasiri, 2010).[5] Beyer et al. (2010) attribute biased recommendations to three primary factors that lead analysts to withhold their private information.[6] First, analysts choose not to fully disclose private information; instead, they publish only an imprecise version of their knowledge. Second, analysts engage in herding behavior by disregarding their own information because of concerns about their reputation.[7] Third, personal incentives, such as the desire to curry favor with management or financial motivations, influence analysts' decisions. For example, Welch (2000) showed that market analysts tend to herd and that herding behavior occurs mostly when there is little reliable information available. Hong et al. (2000) state that herding is often exhibited by less experienced analysts because of reputational concerns. These analysts are less likely to issue timely forecasts and tend to reverse their forecasts more frequently. Specifically, management and analysts engage in close communication and are interdependent. Management executives closely follow analysts' work because financial analysts influence the demand for firms' stocks and, therefore, impact firms' market value (Brauer & Wiersema, 2018). In the event of a missed earnings forecast, managers may seek to exert influence on analysts through increased management interactions (Washburn & Bromiley, 2014) or by rendering favors such as access to private information and events (Westphal & Clement, 2008).[8] As analysts monitor

to perceive the analyst as having the highest credibility, and consequently, they are more inclined to rely on the analyst's future research reports.

[5] Hovakimian and Saenyasiri (2010) analyzed the data after Regulation FD in the US on analyst forecasts and found that the mean analyst forecast bias declined after Regulation FD applied.

[6] See Beyer et al. (2010) and Brauer and Wiersema (2018) for a comprehensive literature review on analysts' work and the incentives they encounter.

[7] Herding describes the actions in which economic agents imitate each other, basing decisions on others' actions, potentially leading to unstable capital markets (Spyrou, 2013).

[8] The results of Drake and Myers (2011) indicate that greater analyst experience and a lower number of firms in an analyst's portfolio might mitigate overoptimism.

management and enhance corporate governance, management may compromise this role (Brauer & Wiersema, 2018), leading to a systematic bias in the capital market. However, legal institutions can counteract and enhance analyst performance by strengthening shareholder protection (Koch et al., 2014).

In particular, non-professional investors appear to follow analysts' recommendations (Jansson et al., 2024). Non-professional investors draw on their expertise to reduce uncertainty (Huber et al., 2010; Jansson et al., 2024), particularly when facing high levels of uncertainty in valuation contexts (Bouteska & Mili, 2023). Nevertheless, non-professional investors are also subject to the negative consequences of analyst bias. Malmendier and Shanthikumar (2007) have demonstrated that non-professional investors tend to be more responsive to analysts' buy recommendations, leading to increased trading activity. Consequently, in the presence of analyst bias, non-professional investors tend to make less optimal investment decisions than professional investors because they rely on analyst recommendations. Similarly, Mikhail et al. (2007) demonstrate that following analyst recommendations for stock purchases, trading activities by non-professional investors tend to increase more than those of professional investors do. Professional investors appear to be more proficient at interpreting the intricate data presented by analysts than non-professional investors. In conclusion, financial analysts can function as information intermediaries for capital market participants through their expertise and close interactions with corporations. However, incentive structures also exert influence, potentially affecting analysts' behavior and leading to suboptimal decision-making, particularly for non-professional investors.

4.2.3 Non-GAAP Measures and Corporate Governance Gatekeeper

Corporate governance describes the system of laws, rules, and other factors that control activities within a company (Gillan & Starks, 2005). It is deeply rooted in large corporations and is essential for ethical corporate management and control, focusing on limiting opportunistic management behavior and reducing information asymmetry (Ashbaugh-Skaife et al., 2006). Corporate governance can be divided into internal mechanisms, which include all factors within the company, and external mechanisms, which include all factors outside the company (Gillan, 2006). Research on the internal mechanisms of corporate governance focuses on the board of directors or the supervisory board in a two-tier system as the main mechanism for monitoring and disciplining

managers (Fama, 1980; Hillman & Dalziel, 2003). In contrast, external mechanisms of corporate governance examine the disciplinary effects outside the company, especially from the capital market. Gatekeepers are among the actors in corporate governance. Typically, these gatekeepers, such as analysts, auditors, and credit rating agencies, serve as reputational intermediaries by providing verification services to investors (Ormazábal, 2016). Their role is particularly crucial when companies disclose non-GAAP measures, as this practice aims to lower agency costs by offering additional information (Frankel et al., 2011). The relevance of corporate governance to non-GAAP measures has gained increasing attention in accounting research over the last few decades (Arena et al., 2020). In particular, due to the opportunistic use of non-GAAP measures, various corporate governance instruments and their influence on non-GAAP measures have been examined.

Internal Governance

Regarding internal governance mechanisms[9], it has been shown that board independence is positively associated with non-GAAP quality (Frankel et al., 2011), that the nomination of accounting experts in audit committees reduces the number of non-GAAP measures and improves the quality of non-GAAP measures (Seetharaman et al., 2014), as well as the amount of external directorships held by the audit committee chair (Lee, 2022). Furthermore, board diversity positively affects non-GAAP disclosure quality (Ranasinghe et al., 2022).[10] A recent study by Hao (2023) reports that firms with disclosure committees report higher-quality non-GAAP measures and are less likely to receive a comment letter from the Securities and Exchange Commission (SEC), but that financial experts in audit committees provide better monitoring functions than financial experts in disclosure committees.[11] Non-GAAP measures are often criticized for being used opportunistically in the context of management compensation. In this context, Isidro and Marques (2013) analyzed a set of European firms and how performance-based

[9] I follow the corporate governance framework of Gillan (2006), which provides a broad definition of the term. This framework encompasses various mechanisms within the corporate environment that can impact a company's own governance practices. This includes, for example, legal regulation, while Durnev and Kim (2005), as Klapper and Love (2004) view corporate governance as a counterbalance to weak regulation rather than as a part of the governance system.

[10] Examining the impact of debt covenant violations on non-GAAP disclosure, Christensen et al. (2019) find that improved non-GAAP reporting quality can be found for companies with greater audit committee independence, confirming the general positive impact of audit committees.

[11] Committees differ in two main points. While the disclosure committee consists of companies' employees, is a management committee and voluntary, the audit committee encompasses independent outside companies' members, supports the board of director and is mandatory (Hao, 2023).

compensation and corporate governance are associated with non-GAAP disclosure. Their findings reveal that compensation systems related to firms' market performance lead to aggressive non-GAAP reporting (e.g., making adjustments for recurring items, emphasizing non-GAAP measures, or not disclosing reconciliations). However, efficient corporate governance can reduce aggressive reporting, even when the board of directors may not recognize the quality of the adjustments made.

Taken together, prior research highlights that internal corporate governance impacts non-GAAP disclosures and can counteract opportunistic usage.

External Governance – Regulation

Beyond internal governance structures, external corporate governance also impacts non-GAAP measures.[12] Prior research examines the impact of government regulations, such as Regulation G by the SEC, on non-GAAP measures.[13] First, Jennings and Marques (2011) combine both aspects of corporate governance. Their findings indicate that the joint effect of strong internal corporate governance (high proportion of outside directors), a board of directors, and regulation has a positive impact on preventing misleading non-GAAP measures. Their results confirm the positive impact on non-GAAP measures for firms with strong (internal) corporate governance, regardless of external regulation. Interestingly, they extend the empirical findings to firms with weak internal corporate governance. In contrast to the period before federal regulation by the SEC, investors were no longer misled by non-GAAP measures after Regulation G was applied, highlighting the importance of internal and external corporate governance. The implementation of Regulation G had an immediate impact on reducing non-GAAP reporting (Entwistle et al., 2006; Heflin & Hsu, 2008; Marques, 2006); although this decrease was not sustained, and disclosures continued to increase over time (Black et al., 2012). However, the quality of non-GAAP reporting has sustainably improved through government intervention (Black et al., 2017; Bond et al., 2017; Entwistle et al., 2006; Heflin & Hsu, 2008; Kolev

[12] Additional gatekeepers may include media coverage (Koning et al., 2010) or investor sentiment (Brown et al., 2012). For a comprehensive review of the literature on non-GAAP measures, refer to Black et al. (2018), Brosnan et al. (2023a), and Herr et al. (2022). For a more focused examination of non-GAAP measures in the context of corporate governance, see Arena et al. (2020).

[13] The Regulation G was issued by the SEC in the year 2003. The primary objective of these guidelines is to ensure the transparent disclosure of non-GAAP measures. In the European Union, guidelines have been released by the European Securities and Markets Authority (ESMA) since 2015. These guidelines establish principles for the publication of non-GAAP measures. For example, empirical studies by the European Securities and Markets Authority (2019), Vinciguerra et al. (2020), and Jana and McMeeking (2021) analyze the application of the guidelines.

et al., 2008). After the adoption of Regulation G, exclusion became more transitory and of higher quality (Kolev et al., 2008), the gap between non-GAAP income and GAAP income decreased and was less prominently disclosed (Entwistle et al., 2006), and the probability of meeting or beating analyst forecasts using non-GAAP measures decreased (Black et al., 2017; Bond et al., 2017; Heflin & Hsu, 2008).[14] The findings of Black et al. (2012) also show that investors generally react more strongly to non-GAAP measures in the post-regulation period, but that they rely more on non-GAAP measures that are not misleading. In the post-regulation period, investors appear to be more able to discount misleading, aggressive non-GAAP measures, which forces managers to improve their non-GAAP reporting quality. However, Gomez et al. (2023) show that regulatory interventions to enhance transparency may also lead to unintended disadvantages, such as decreased informativeness of earnings measures, increased information asymmetry, and less accurate analyst forecasts. In summary, government regulation generally mitigates, though does not definitively prevent the opportunistic and misleading use of non-GAAP measures.

External Governance – Auditor

Therefore, the importance of external gatekeepers should not be underestimated. For example, auditors fulfill their role as gatekeepers and play a crucial role in corporate governance by ensuring that financial statements and management reports are free from material misstatements and fraud (Cohen et al., 2002). As non-GAAP measures are generally not subject to financial statement audits, auditors typically review non-GAAP measures only superficially.[15] Nonetheless, their association with non-GAAP measures has been studied in various empirical studies. As non-GAAP measures are potentially misleading and investors rely on them, they are challenging for auditors (Rautiainen et al., 2023). Rautiainen et al. (2023) were the first to survey auditors to examine auditor's perception of non-GAAP measures. Using a survey-based approach, their results indicate that auditors generally tend to view non-GAAP measures favorably.[16] However, as prior

[14] The results of Bond et al. (2017) also illustrate that Compliance and Disclosure Interpretations (C&DIs) by the SEC partially reversed this result. The C&DIs were issued in 2010 to relax prior rigorous guidelines on non-GAAP measures. Like the effect of Regulation G, their findings indicate that C&DIs generally led to higher quality exclusion in non-GAAP measures.

[15] An exception pertains to the use of non-GAAP measures in segment reporting, which consequently becomes subject to the annual audit (Ege et al., 2024).

[16] Rautiainen et al. (2023) survey 220 certified public auditors from Finland. They studied how auditors perceive non-GAAP measures and their relationships to professional skepticism.

empirical findings have demonstrated, non-GAAP measures can result in decreased audit quality and a heightened probability of auditors resigning as audit fees increase, indicating additional work and risk from the auditor perspective (Chen et al., 2012; Hallman et al., 2022; Rautiainen et al., 2023). Moreover, their reporting can impact going-concern judgments and auditors' materiality thresholds, as non-GAAP measures might be used as a materiality benchmark during the audit (Albrecht et al., 2020; Feng et al., 2023; Hallmann et al., 2022). However, auditors can improve the reporting of non-GAAP measures. Feng et al. (2023) show that clients of high-quality auditors are more likely to disclose non-GAAP measures and that their adjustments made in calculating non-GAAP measures are less predictive of future earnings and less value-relevant, indicating the higher quality of non-GAAP measures.[17] A recent study by Heflin et al. (2024) reveals the impact of auditor style on non-GAAP disclosure practices. Their findings indicate that companies audited by the same Big Four accounting firm tend to exhibit similar patterns in their non-GAAP reporting approaches. According to Macchioni et al. (2022), companies audited by the same Big 4 auditor tend to publish comparable non-GAAP measures, thereby ensuring higher quality. Furthermore, DeBoskey et al. (2025) recently showed that CFOs with prior audit experience are linked to more aggressive firms' non-GAAP reporting, but this does not necessarily have to be an opportunistic motive. In their study, Ege et al. (2024) examined the use of non-GAAP measures in segment reporting, which represents an exception where non-GAAP measures are included in financial statements. In this context, external auditing leads to improved quality of reported non-GAAP measures, thereby reducing opportunistic motives. However, Anderson et al. (2022) illustrate that investors tend to over-rely on the assurance signal in an experimental setting. They show that when a non-GAAP measure is less informative and audited, investors consider it inappropriate for their investment judgments.

4.2.4 Hypothesis Development

Prior studies have explored the influence of various corporate governance mechanisms and gatekeepers on non-GAAP disclosures and investment judgment and decision-making, revealing their effects. In this context, financial analysts have also been shown to act as important external governance mechanisms. For example, Bentley et al. (2018)

[17] In the study of Feng et al. (2023), high-quality auditors are represented either by a Big 4 auditor, a national industry leader or a city-level industry leader, respectively, based on their audit fees.

disentangle managers' and analysts' non-GAAP reporting and show that analysts selectively adjust managerial non-GAAP disclosures when forming their own non-GAAP measures. Moreover, Christensen et al. (2021) provide evidence that analysts discipline managers' non-GAAP reporting behavior, thereby constraining opportunistic disclosure practices. However, while prior research establishes the role of analysts as monitors and external governance mechanisms in the non-GAAP reporting process, the influence of analysts as gatekeepers on the decision-making and judgment of non-professional investors remains unexplored. In particular, it is unclear whether and how analyst-provided forecasts shape non-professional investors' interpretation and use of non-GAAP information in their investment judgments. To examine the untested effect of incorporating analyst forecasts in conjunction with non-GAAP measures in the judgment-making processes of non-professional investors, it is essential to first assess the isolated impact of non-GAAP measures on investment behavior. This serves as a benchmark for evaluating the influence of analysts in their gatekeeping role.

From a company perspective, signaling theory (Spence, 1973) is useful for explaining voluntary corporate disclosure. According to this theory, two parties have access to different information (Connelly et al., 2011), leading to information asymmetries. The party with an information advantage sends a signal to reduce information asymmetries. Companies regularly publish non-GAAP measures to provide capital market participants with additional information. By publishing non-GAAP measures, management, which can assess the actual performance of the company, can signal this performance through non-GAAP reporting to the capital market, which cannot otherwise be conveyed through GAAP reporting. However, the signal must be visible and utilized by the addressee in the interest of the company to be effective. Therefore, my theoretical foundation is based on the model of Maines and McDaniel (2000), following other experimental studies in financial accounting (e.g., Frederickson & Miller, 2004; Lachmann et al., 2011; Nelson & Tayler, 2007; Reimsbach, 2014).

The psychological framework of Maines and McDaniel (2000) describes how the presentation of information affects non-professional investors' information processing and explains how non-GAAP measure disclosure can impact their investment judgment. The framework states that investor judgment is the result of a three-stage information process (Reimsbach, 2014). Specifically, judgments by non-professional investors are the function of information acquisition, information evaluation, and information weighting

(Lachmann et al., 2011). First, the addressee must acquire and store information so that it can be processed later. In other words, an individual reads the information and can recall it later (Elliott et al., 2007; Reimsbach, 2014). It is essential that the information is clearly perceived; otherwise, subsequent processes of information evaluation and weighting cannot occur (Maines & McDaniel, 2000; Nelson & Tayler, 2007). Second, the information must be evaluated. This means that individuals assess the characteristics and implications of each piece of information, such as its relevance, for the decision context (Elliott et al., 2007; Nelson & Tayler, 2007). Information weighting reflects, in a third step, the extent to which a piece of information is incorporated into a judgment or decision (Lachmann et al., 2011). In a judgment or decision scenario, an individual is confronted with various information. In this step, the implication of a piece of information is assimilated for an overall judgment or decision and weighed against other available information (Hodge et al., 2004).[18] The weight an individual places on the evaluated information considers the perceived importance and reliability of that information for the judgment and decision scenario (Maines & McDaniel, 2000; Nelson & Tayler, 2007). As especially financial information is often intervolved and not evaluated separately, the stages of information evaluation and information weighting are sometimes taken together and described as information integration (Elliott et al., 2007; Lachmann et al., 2011). According to the framework of Maines and McDaniel (2000), this information processing ultimately leads to judgments (e.g., about companies' economic situations) or related decisions (e.g., potential investments) by non-professional investors (Frederickson & Miller, 2004; Hodge et al., 2004).

Unlike professional investors, non-professional investors often possess poorly defined valuation models and tend to acquire information sequentially, typically reviewing accounting information in the order in which it is presented (Maines & McDaniel, 2000; Reimsbach, 2014; SRI International, 1987). Due to their prominent placement in accounting disclosures, non-GAAP measures are acquired by non-professional investors in making judgment decisions, as prior research demonstrates (e.g., Dilla et al., 2013; Frederickson & Miller, 2004; Johnson et al., 2014; Reimsbach, 2014). Therefore, I refer to the second and third steps of the Maines and McDaniel framework (2000), building on the argumentation of Frederickson and Miller (2004) as well as Reimsbach (2014) to

[18] Frederickson and Miller (2004) outline the process as consisting of two stages, beginning with information acquisition, followed by a combined step of information evaluation and weighting.

explain my hypothesis. The impact of stimuli, such as non-GAAP measures, on information assessment by non-professional investors can manifest through intentional or unintentional cognitive effects. Regarding intentional cognitive effects, non-GAAP measures may influence non-professional judgment through various mechanisms. Given that non-professional investors often lack comprehensive financial reporting and investment knowledge, they tend to seek cues to determine the relevance of information (Frederickson & Miller, 2004). One potential cue is the disclosure and presence of non-GAAP measures themselves. As non-GAAP measures are voluntarily disclosed, the associated costs must be explained rationally (Hitz, 2010b). For non-professional investors, this cost may already indicate the relevance of the information, as it would not be disclosed otherwise. The prominence of information serves as another cue for determining its relevance. Through specific impression-management techniques, the disclosed non-GAAP measures can be highlighted over GAAP measures. This includes emphasizing non-GAAP measures through more prominent placement in reporting, for example, in the headline of a press release, and more frequent mentions compared to conventional GAAP measures (Guillamon-Saorin et al., 2017). Consequently, non-professional investors assess the relevance of information based on its presentation. In summary, due to their presence and prominence, non-professional investors may classify non-GAAP measures as more relevant than GAAP measures through intentional cognitive effects. In the context of unintended cognitive effects, heuristics may play a crucial role in the judgment and decision-making processes. Heuristics refer to simplified decision rules that are applied in complex situations (Libby et al., 2002). Investors may employ anchoring heuristics in investment judgment, which represents a complex scenario (Reimsbach, 2014). Originally conceptualized by Tversky and Kahneman (1974), anchoring effects describe individuals' tendency to consider initial values (anchors) and adjust their judgments accordingly (Andersson & Hellman, 2007; Reimsbach, 2014). Non-GAAP measures serve as such anchors (Andersson & Hellmann, 2007). Eye-tracking research indicates that readers typically establish their initial point of focus at the top of financial documents (Ceravolo et al., 2022). Furthermore, Badger et al. (2025) use eye-tracking and find that, when earnings reports are favorable, emphasizing key financial metrics in headlines can draw increased attention from non-professional investors, potentially influencing their valuation assessments. Given the mentioned prominent placement of non-GAAP measures, particularly when highlighted

for positive results in headlines, their qualifications as anchors can be assumed. In the context of investment evaluation, non-GAAP measures are generally higher than GAAP earnings and are presumed to positively influence the judgments of non-professional investors (Reimsbach, 2014). Additionally, the framing effect is central to prospect theory (Kahneman & Tversky, 1979), which provides a model for decision-making under risk. The framing effect posits that outcomes are perceived as either gains or losses relative to a reference point (Levy, 1992; Kühberger & Tanner, 2010). Considering that non-GAAP measures can transform a negative frame of loss or decline in GAAP earnings into a positive frame of gain or increase, investors are likely to view non-GAAP measures favorably when making investment judgment. Furthermore, Frederickson and Miller (2004) have demonstrated that investment valuations are higher when additional non-GAAP measures are published compared to when only GAAP metrics are reported. Based on these arguments, the following hypothesis is formulated:

H1: *In the absence of other information sources, non-professional investors' investment judgment is higher when non-GAAP measures are disclosed alongside GAAP measures compared to GAAP-only disclosures.*

As previously noted, signaling theory (Spence, 1973) is valuable for understanding companies' perspectives on the reporting of non-GAAP measures. In my first hypothesis, I posit that this signal will significantly impact non-professional investment judgment. However, considering non-professional investors limited financial reporting knowledge and the presumed absence of alternative external information sources, additional information might be required to explain the background as well as the calculation of non-GAAP measures to ensure full unfolding of the company's signal. With the upcoming IFRS 18, companies are required to disclose information in the notes about all non-GAAP measures reported. It also includes a reconciliation to the closest GAAP measure and should enhance transparency regarding non-GAAP measures. As I (still) assume that non-GAAP measures as well as the information about non-GAAP measures will be acquired by non-professional investors,[19] this additional explanation might influence non-

[19] This assumption is made because a reconciliation statement is only published when non-GAAP measures are disclosed at the same time. Furthermore, previous studies (e.g., Elliott, 2006; Zhang & Zheng, 2011)

professionals' evaluation and/or weighting of information, taking up the second and third steps in the framework of Maines and McDaniel (2000). In particular, a reconciliation can make the disclosed information more salient and provide insight into management's motive behind the disclosed signal through non-GAAP measures (Nelson & Tayler 2007). Thus, considering a potential opportunistic reporting motive, this additional information may lead to uncertainties and skepticism regarding the processed information concerning non-GAAP measures. In this context, Elliott (2006) experimentally demonstrated that reconciliations mitigate the positive influence of non-GAAP measures on investor judgment. These findings are supported by archival research on the effect of reconciliation of non-GAAP measures on investors' judgment (Allee et al., 2007; Zhang & Zheng, 2011). Furthermore, Dilla et al. (2014) distinguish between different levels of financial reporting knowledge among non-professional investors in an experimental study. They find that non-professional investors with less financial knowledge tend to downgrade their investment evaluations after thoroughly reviewing reconciliation information, as long as this information clearly presents the differences between GAAP and non-GAAP measures. Non-professional investors appear to accurately grasp information about adjusted items in non-GAAP measures only when they are distinctly presented in a reconciliation. In general, this reinforces the notion that non-professional investors require assistance to fully comprehend non-GAAP measures. Furthermore, the provision of additional information regarding disclosed non-GAAP measures may influence not only the evaluation of the information but also its weight. As uncertainties arise concerning the typically unaudited non-GAAP measures, the investment judgment of non-professional investors is likely to be more affected by the information derived from the audited, although generally lower, GAAP measures, as these provide a greater degree of assurance. This will likely lead to lower investment judgments relative to non-GAAP measures presented without additional explanations. In the opposite, from the perspective of an informative reporting motive, the explanation and reconciliation of non-GAAP measures may reveal their full incremental value to non-professional investors, which would otherwise not be possible. By revealing the company's "true" performance, non-GAAP measures enable a more sustainable and realistic evaluation of future investment opportunities. Non-professional investors may only be able to grasp and

have shown that a reconciliation statement influences the investment evaluation of non-professional investors, which suggests that they do acquire the information provided in the reconciliation statement.

understand the actual informational value of non-GAAP measures for their investment judgment once these metrics have been explained. In this regard, Chen et al. (2021) developed a qualitative disclosure score for non-GAAP measures, which evaluates the transparency of qualitative non-GAAP information based on factors such as the provision of reconciliations and the explanation of the usefulness of these metrics. Their findings indicate that transparent qualitative disclosure of non-GAAP measures is associated with higher non-GAAP earnings quality and reduces the likelihood of opportunistic reporting behavior. Therefore, comprehensive explanations and transparent presentations can be interpreted as signals that non-GAAP measures are more informative and reflective of informative reporting motives. Furthermore, it can be argued that in the absence of regulation requirements, management would not disclose and explain non-GAAP measures if the management board were pursuing an opportunistic reporting motive, which may be interpreted as a positive and informative signal (Frederickson & Miller, 2004). According to the framework proposed by Maines and McDaniel (2000), the explanation and reconciliation of non-GAAP measures may lead to enhanced evaluation and/or weighting of the disclosed non-GAAP measures, thereby resulting in higher investment judgments by non-professional investors.

Considering these two divergent perspectives, it can be posited that the influence of non-GAAP measures is significantly moderated by transparent explanations, including the reconciliation of the disclosed non-GAAP measures. Consequently, I propose the following non-directional hypothesis:

H2: *In the absence of other information sources, the effect of additional disclosed non-GAAP measures on non-professional investors' investment judgment is moderated by a transparent explanation of these non-GAAP measures.*

However, the role of analysts as gatekeepers has not been sufficiently examined in a non-GAAP setting. Therefore, the question arises whether non-professional investors information processing, especially the information weighing in the context of Maines and McDaniel (2000), and their subsequent judgment decisions will change when confronted with additional external information. I assume that in judgment decisions, when

confronted with information from more than one source, the credibility of each information source is likely to be an important factor, and investors are sensitive to and rely on such credibility cues (Alexander, 2003; DeZoort et al., 2003; Martin, 2019). Credibility cues can be derived from internal or external sources. Management's credibility, partly based on the disclosure of financial reporting, reflects an internal credibility cue. In contrast, the credibility derived from external assurance sources, such as analyst reports or financial audits, represents an external credibility cue. When a new source of information becomes available, it can alter the impact and reliability of the original source or vice versa. Consequently, financial users have different sources to evaluate information and assess a company's financial performance, and credibility becomes a crucial factor. In other words, the credibility of the sender determines the acceptability of the message sent, and individuals perceive information as more credible to the extent that they believe its source is more objective (Holt, 2019; Pornpitakpan, 2004). According to the framework of Maines and McDaniel (2000), this suggests that the source with higher credibility will influence the direction of investment judgment and decision-making, as non-professional investors assign greater weight to it in their information processing.

However, there may be differences in the perceived credibility of different sources. In this regard, source credibility theory provides a theoretical explanation. Source credibility theory posits that source expertise and source bias are crucial for the perceived credibility of information sources (Birnbaum & Stegner, 1979).[20] Generally, a source is perceived as more credible when it has greater expertise and is less prone to bias (DeZoort et al., 2003; Hux, 2021).[21] Source expertise reflects the perceived competence of the information source and capability to make correct statements, which depends on training, experience, and knowledge (Birnbaum & Stegner, 1979; Liew & Tan, 2021; Pornpitakpan, 2004). Source bias refers to possible bias and incentives that might be reflected in the information disclosed by a source (DeZoort et al., 2003). Source bias captures factors that are perceived to cause the difference between a source's disclosure and the true state of nature (Birnbaum & Stegner, 1979). Alexander (2003) notes that source bias reflects the extent to which a source is influenced to report outcomes that are

[20] Source credibility is sometimes described as depending on source expertise and source trustworthiness (see e.g., Hux, 2021), which are considered equivalent factors (DeZoort et al., 2003).
[21] It remains unclear whether expertise or bias more strongly determines source credibility. Empirical studies report mixed findings. For a literature overview, see Pornpitakpan (2004).

inconsistent with the actual event. Source credibility theory has been used in previous experimental accounting studies (e.g., Cohen et al., 2022; DeZoort et al., 2003; Hirst et al., 1999; Holt, 2019; Hux, 2021; Hoang & Phang, 2021).[22] For example, Hirst et al. (1999) found that investors' earnings predictions are influenced by management's forecast accuracy. DeZoort et al. (2003) use source credibility theory to hypothesize the effects of financial-report timing, EPS proximity to analyst forecasts, and external auditor argument consistency on audit committee members' support for audit adjustment. In this context, Cohen et al. (2022) examine the effects of audit committee ties and industry expertise on investor judgments based on source credibility theory. Building on source credibility theory, Hux (2021) finds that non-professional investors perceive the audit team as more trustworthy and the audited financial statements as more reliable when no component auditor is used. However, this perception does not affect their evaluation of the audit team's competence or influence their investment behavior.

Projected on this study, I assume that source expertise is not the crucial factor that might impact non-professional investors' perceptions of source credibility. It is widely acknowledged that analysts who have been following companies for an extended period possess a great level of expertise and knowledge about the entity they are analyzing. This extensive familiarity may lead to them being considered reliable and credible gatekeepers because of their access to private information. Therefore, they are at a comparable level of expertise to management, who is responsible for financial reporting and therefore holds great expertise as well. Nevertheless, analyst forecasts might impact non-professional investor judgment in another way, which might be caused by the perceived source bias as a crucial factor, either in analyst or management information.

Through their forecasts, analysts provide an external reference point that enables investors to retrospectively classify and evaluate a company's key figure. Therefore, they send a signal that can make a statement on the credibility of the company's key figure, and thus of the information disclosed by management, and can reduce the existing information asymmetries between companies and investors. While the need to verify GAAP measures does not appear urgent because of the existing regulatory framework and other governance mechanisms, such as the audit of financial statements, the

[22] Complementary Schwarzkopf (2006) survey methods are used to examine investors' perception and use of common information sources such as a company's internet website or consensus forecast of financial analysts, finding no differences for non-professional as well as professional investors.

gatekeeper role of the analyst appears more necessary for the publication of non-GAAP measures due to a lack of sufficient regulation.[23] There are two possible scenarios: either an analyst's forecast falls short of the company's disclosed non-GAAP measure, or it surpasses the non-GAAP measure.

In the latter case, this could lead to a perception of an informative reporting motive on the part of non-professional investors. Even for skeptical addressees, when considering a potential strategic benchmark-beating scenario with management trying to exceed analyst forecasts as an indication for opportunistic reporting, the disclosure of non-GAAP measures lower than analyst forecasts may emphasize to investors that non-GAAP measures are mainly disclosed for their important incremental value for assessing firms' future performance, which in result might increase management's credibility. Furthermore, it is conceivable that a higher analyst forecast than the non-GAAP result signals potential earnings potential to addressees. It is likely that a reference to the analyst forecast could result in a higher investment assessment. Due to the absence of opportunistic behavior, the gatekeeper role may not be necessary to protect investors. Furthermore, as analysts rely on forecast accuracy to maintain their reputational capital, there is also no apparent indication of source bias in analyst disclosures. In this scenario, neither source provides cues for opportunistic source bias, making a credibility shift unlikely. Consequently, according to source credibility theory, there is no overall negative impact on investment judgment, and investor evaluations may remain stable or become slightly more favorable. However, independent of credibility considerations, investors may still lower their investment judgment because missing the analyst forecast creates a negative frame effect, as mentioned earlier. This performance-based frame effect operates separately from the credibility mechanism but may influence overall investment assessments.

However, in the other scenario, which occurs noticeably more frequently, where a non-GAAP measure exceeds analysts' forecasts, especially when this would not be possible based on GAAP earnings, there may be an inducement for opportunistic reporting among non-professional investors to report higher earnings. In this context, it may only be the

[23] The potential for manipulation in GAAP measures is limited due to existing governance mechanisms. However, it is still conceivable that analysts influence judgments on GAAP-based reporting as well. For example, analysts provide positive additional assurance of GAAP measures and the company's economic situation, which in turn could lead to a more favorable assessment of the company's overall condition.

analyst's signal, through their forecasting, that indicates an opportunistic use to investors, draws attention to the limited incremental value of the non-GAAP measures, and leads non-professional investors to scrutinize information more closely (Christensen et al., 2021). As a result, non-professional investors may assess their investment judgment more negatively due to skepticism and relatively reduced credibility by management. Subject to the actual incremental value of the published non-GAAP measures, analysts in such a scenario would fulfill their gatekeeper function, reduce information asymmetries, and warn the investor against making a poor investment. Additionally, concerns about reputational consequences may induce analysts to exercise greater caution in their recommendations (Hong et al., 2000), potentially increasing their credibility and trustworthiness from the investors' perspective. Beyond credibility considerations, exceeding the analyst forecast may also create a positive performance frame, reinforcing non-professional investors' assessments. Thus, while missing the analyst forecast can create a negative performance frame, exceeding it can create a positive performance frame.

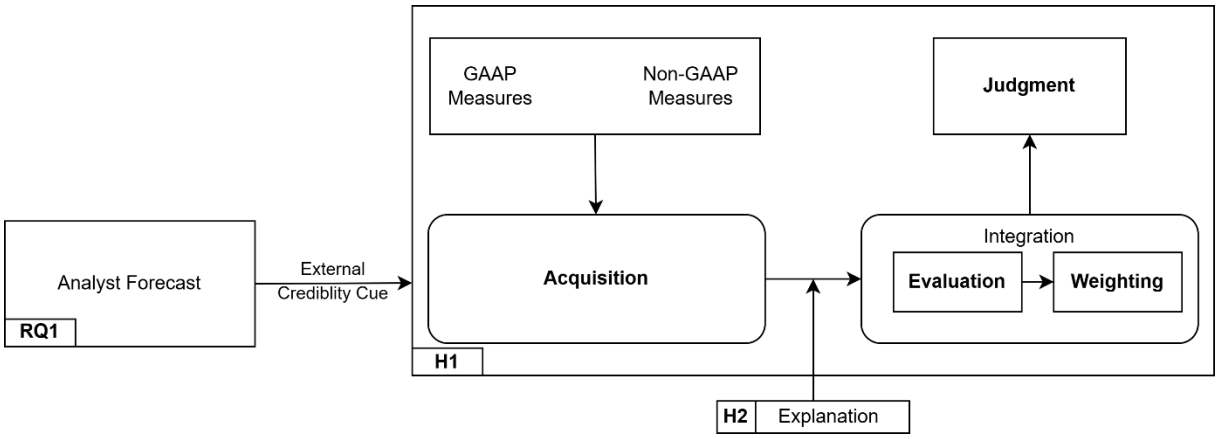
Conversely, management disclosure may exert a more significant influence on the judgment of non-professional investors than analysts' disclosures. In line with the source credibility theory, Mercer (2004) notes that the credibility of disclosures is enhanced when management has fewer incentives to be biased and is perceived as competent. However, this credibility also depends on the timing, amount of supporting information, and inherent plausibility of the disclosures. The potentially greater impact of management reports may be attributed to the limited credibility often ascribed to analysts who are not always perceived as neutral. If management exerts a greater influence than analysts, this could suggest that investors do not adhere to analysts' disclosures and may remain unaware of opportunistic practices. This scenario could amplify the effect of opportunistic behavior, as non-professional investors might interpret management reports as additional confirmation of a company's positive performance. In such opportunistic cases, the gatekeeping role of analysts would not only fail but could also exacerbate the situation. Depending on the actual reporting context, information sources may also exhibit mutual dependence, whereby the validation of a company's financial results through an analyst report can enhance the credibility of management and, overall, the assessment of the company's situation (Mercer, 2004).

However, according to the model by Maines and McDaniel (2000), non-professional investors' judgment depends on how the information provided by management and analysts is evaluated and weighted in their decision-making process. Even if both sources are evaluated equally, an effective gatekeeper signal sent by the analyst, as proposed by the Source Credibility Theory, still depends on which source is perceived as more credible, as individuals place more reliance on this information, giving it more weight in their judgments and decisions (Holt, 2019). In other words, non-professional investors tend to give less weight to less credible sources and rely more heavily on more credible sources. Given the ambiguity surrounding the source and information processing within the Maines and McDaniel (2000) framework, it remains unclear which information source may exert a more dominant impact on the judgment and decision-making of non-professional investors in both purely GAAP reporting settings and in settings where GAAP and non-GAAP measures are reported jointly. Assuming an opportunistic reporting motive, most notably when the non-GAAP figure exceeds the analyst forecast, management is likely to be perceived as a more biased source. In such cases, investors tend to assign greater weight to analyst forecasts, which they interpret as a more credible benchmark, resulting in a negative adjustment of investment judgments. Conversely, if investors perceive management as a less biased source, non-GAAP disclosures receive greater weight, leading to more favorable investment judgments. Given the lack of clarity regarding the impact on non-professional investment judgment in all scenarios, the following research question is formulated:

RQ1: *How does the presence of analyst forecasts affect non-professional investors' investment judgment across GAAP and non-GAAP disclosure types?*

Figure 4.1 summarizes the theoretical framework based on the work by Maines and McDaniel (2000).

Figure 4.1: *Theoretical framework*



4.3 Research Design

To test my hypotheses and research question, I conduct a 2 × 3 between-subjects design with analyst forecast and non-GAAP reporting type as manipulated variables.

To understand the impact of non-GAAP measures on investment judgment, I manipulate the Non-GAAP reporting type by presenting two additional non-GAAP measures. The *GAAP only* condition (hereafter: $GAAP_{only)}$ served as the control group, in which no additional non-GAAP measures were reported, and participants based their investment judgment on GAAP measures only. In the *GAAP + NonGAAP standalone* condition ($NonGAAP_{sa}$), participants received two additional non-GAAP measures without any explanation. The *GAAP + Non-GAAP with explanation* condition ($NonGAAP_{expl)}$ included both non-GAAP measures and an explanation of their purpose, derivation, and reconciliation with the corresponding GAAP numbers.

To examine the potential effect of analysts, two forecast scenarios were provided, each based on the primary metrics revealed in the press release (GAAP or GAAP/non-GAAP). The forecasts were tailored to match the experimental conditions. These experimental groups are referred to as the ANA_GAAP_{only}, $ANA\_NonGAAP_{sa}$, and $ANA\_NonGAAP_{expl}$ conditions. All other conditions were kept constant across the experimental conditions. This resulted in six experimental conditions, with each participant being randomly allocated to one of the conditions. Figure 4.2 illustrates the experimental design.

Figure 4.2: *Experimental design*

		Non-GAAP reporting type		
		GAAP only	**GAAP + Non-GAAP standalone**	**GAAP + Non-GAAP with explanation**
Analyst forecast	**Analyst forecast not provided**	**$GAAP_{only}$**	**$NonGAAP_{sa}$**	**$NonGAAP_{expl}$**
	Analyst forecast provided	**ANA_GAAP_{only}**	**$ANA\_NonGAAP_{sa}$**	**$ANA\_NonGAAP_{expl}$**

Participants

Participants were recruited from an online panel provider. Online recruitment platforms are valued for their efficiency, easy application, access to a large and relatively diverse pool of participants (Bentley, 2021; Gill et al., 2013), and use in various experimental studies (e.g., Brosnan et al., 2023b; Durney et al., 2024; Krische, 2019; Lambert et al., 2018). In line with the methodology of Chrzan and Pott (2024), I recruited non-professional investors through SurveyMonkey Audience.[24] The participants were selected from Germany and had to be at least 18 years old. Additionally, they were required to have prior experience in stock trading according to the selection criteria. This group includes individuals who invest their personal funds in the stock market. Each experimental condition was sent to a minimum of 50 participants. In total, 318 participants took part in the experimental study, of which 150 responses were usable.[25] The high exclusion rate of 52.83% was mainly caused by failed manipulation checks. Manipulation checks were implemented for each embedded manipulation to ensure that the manipulation was successful and that the case information was correctly understood. Participants were required to answer up to three questions. First, they were asked whether the case information contained at least one adjusted financial measure such as adjusted EBIT. Second, they were required to indicate whether the conception and use of non-GAAP measures were explicitly described. Third, they were asked whether the case information included analysts' forecasts of the company's published key figures. All manipulation checks had to be clearly responded to with "*Yes*" or "*No*", causing no room

[24] Participants were compensated by SurveyMonkey Audience directly.
[25] The study was conducted in August 2024.

for interpretation. In the presence of manipulation, failed manipulation checks led to the exclusion of 78 participants. Moreover, I adjusted the sample for dropouts (n=9), repeated participation to prevent conflict with the between-subject design (n=59)[26], and short as well as exceeding processing times (n=22).[27] Facing the problem of over-claimers in online recruiting (Chandler & Paolacci, 2017), I prescreened participants before active participation.[28] Following Bentley (2021), participants were asked to answer an accounting-related question at the beginning to ensure data quality.[29] 58.13% of the initial sample answered correctly. Table 4.1 presents the demographic information of the sample.[30]

[26] Participants were asked if they had previously participated in a similar study.
[27] Processing time was recorded for all participants. After adjusting for failed manipulation check, I established the 10th percentile as the lower threshold value in each experimental condition and dropped participants below the condition-related threshold to ensure data quality. One participant was excluded due to exceeding a processing time of more than 40 minutes, which indicated inattention.
[28] Overclaiming describes participants in online recruitment who falsely assert their suitability as study participants, for instance, based on their professional expertise.
[29] Participants were asked to answer the following question: "*Which of the following is part of a company's financial statements? A.) Income Statement, B.) Balance Sheet, C.) Stakeholder Analysis or D.) ABC Analysis*". 58.13% of the initial sample provided both correct responses. However, I kept wrong responses in the sample, as nearly 94.98% of the sample identified at least one component of the financial statement, reflecting a minimum of accounting-related knowledge.
[30] Answering individual questions was optional. Non-answers are marked with n/A.

Table 4.1: *Demographic information*

Demographic information of participants (n=150)			
Age	**Frequency**	**Percent**	**Cumulative**
< 18	2	1,33%	1,33%
18 – 29	50	33,33%	34,67%
30 – 44	51	34,00%	68,67%
45 – 59	29	19,33%	88,00%
60+	18	12,00%	100,00%
Sex	**Frequency**	**Percent**	**Cumulative**
male	99	66,00%	66,00%
female	50	33,33%	99,33%
n/A	1	0,67%	100,00%
Education	**Frequency**	**Percent**	**Cumulative**
Lower Secondary School Diploma	6	4,00%	4,00%
Intermediate Secondary School Diploma	21	14,00%	18,00%
University Entrance Qualification (equivalent to high school diploma)	49	32,67%	50,67%
Diplom	13	8,67%	59,33%
Bachelor's Degree	22	14,67%	74,00%
Master's Degree	28	18,67%	92,67%
Other	2	1,33%	94,00%
n/A	9	6,00%	100,00%
Income	**Frequency**	**Percent**	**Cumulative**
< 1.000 €	12	8,00%	8,00%
1.000 € – 1.499 €	9	6,00%	14,00%
1.500 € – 1.999 €	15	10,00%	24,00%
2.000 € – 3.999 €	50	33,33%	57,33%
4.000 € – 4.999 €	17	11,33%	68,67%
5.000 € – 5.999 €	13	8,67%	77,33%
> 6.000 €	24	16,00%	93,33%
n/A	10	6,67%	100,00%
Investment experience	**Frequency**	**Percent**	**Cumulative**
< 1 year	24	16,00%	16,00%
1 – 2 years	31	20,67%	36,67%
2 – 5 years	44	29,33%	66,00%
5 – 10 years	34	22,67%	88,67%
> 10 years	17	11,33%	100,00%

Experimental Procedure

The experiment was conducted on the online platform SurveyMonkey, where all experimental materials were provided in German. The study examines the case of the fictitiously listed company "H.Ear You Electronics". This case was inspired by a real company in the consumer goods industry that is listed on the stock exchange in Germany and reports non-GAAP measures. Initially, all participants were provided with instructions for the case study and presented with background information about the company. Subsequently, the participants were presented with the experimental materials.

Each participant, regardless of their allocation to the experimental condition, was presented with a press release and an excerpt of the financial statement, including the balance sheet and income statement.[31] The balance sheet and income statement were marked as audited. The income statement indicates a decline in operating profit (EBIT), net income, and earnings per share (EPS) despite increased revenue.[32] The press release text highlights the company's financial performance and provides a concise summary with reference to the previous year's figures.[33] In the $GAAP_{only}$ condition, the press release refers only to operational profit (EBIT), revenue, net income, and earnings per share (EPS). In the $NonGAAP_{sa}$ and $NonGAAP_{expl}$ conditions, two additional non-GAAP measures "Adjusted EBIT" and "Adjusted EPS" were embedded in the press release, but not in the financial statement.[34] In accordance with previous experimental studies, I manipulated non-GAAP measures that exceed the corresponding GAAP measures.[35] Adjusted EBIT revealed a profit of 2,318 million € (previous year 2,270 million €), whereas (unadjusted) EBIT, according to GAAP, indicated a profit of 1,830 million € (previous year: 2,223 million €). Adjusted EPS demonstrated a profit of 4.18 € (previous year: 3.90 €), while (unadjusted) EPS according to GAAP showed a profit of 2.95 € (previous year: 3.78€). Consequently, both adjusted EBIT and adjusted EPS exhibited an increase in earnings, whereas the GAAP measures for EBIT and unadjusted EPS reported a decline in earnings. Moreover, considering impression management techniques emphasizing non-GAAP measures (Guillamon-Saorin et al., 2012; Guillamon-Saorin et al., 2017; Marques, 2010), the press release text was slightly modified in the $NonGAAP_{sa}$ and $NonGAAP_{expl}$ conditions, focusing on the company's financial performance based on adjusted figures rather than solely on GAAP measures. Finally, after examining the press release, income statement, and balance sheet, participants in the $NonGAAP_{expl}$ condition were additionally provided with an explanation of the disclosed non-GAAP measures.[36]

[31] See Appendix Exhibit A.

[32] Some researchers classify operating profit (EBIT) also as a non-GAAP measure in a broader sense due to its varying calculation methodology (e.g., Hitz, 2010a; Marques, 2006). However, as operating profit (EBIT) is frequently included in income statements, this measure can be calculated by external stakeholders without barriers and is subject to mandatory financial audit. This study, therefore, focuses exclusively on non-GAAP measures in a narrow sense, such as Adjusted EBIT, following the classification of other studies (e.g., Allee et al., 2007; Black et al., 2017; Bowen et al., 2005; Reimsbach, 2014).

[33] See Appendix Exhibit B.

[34] The press release was accordingly provided with a brief note in the footnote that Adjusted EBIT and Adjusted EPS are adjusted for special effects. See Appendix Exhibit B.

[35] See Elliott (2006); Frederickson and Miller (2004); Hogan et al. (2017); Johnson et al. (2014). For descriptive evidence in practical reporting for US firms, see Black et al. (2018).

[36] In the $NonGAAP_{expl}$ condition, the press release was accordingly provided with a brief note in the footnote that Adjusted EBIT as well as Adjusted EPS are non-GAAP measures and adjusted for special

In reference to the upcoming IFRS 18, this includes a statement by management that Adjusted EBIT and Adjusted EPS are non-GAAP measures, which are located outside the audited financial statement and are not defined in accordance with GAAP but are entity-specific and cannot necessarily be compared with similarly titled measures of other entities. Furthermore, it states how the non-GAAP measures are calculated and that, from a management perspective, the measures represent an aspect of the entity's financial performance that provides useful supplementary information for assessing the operating performance. Moreover, a reconciliation between EBIT and adjusted EBIT is provided with a brief explanation of the individual items excluded.

Analyst forecast constitute the second dimension of the treatment. Participants in certain experimental groups were provided with additional information after they examined the material provided in the non-GAAP reporting condition. The supplementary data consisted of forecasts made by two separate fictional analysts. Prior research has shown that star analysts can be highly influential (e.g., Kim et al., 2021), make more accurate forecasts and valuable stock recommendations (e.g., Fang & Yasuda, 2014; Jin et al., 2023; Loh & Stulz, 2011; Stickel, 1992; Xu et al., 2013), and have a greater impact on investor behavior than non-star analysts (e.g., Boivie et al., 2016; Kirk et al., 2014; Stickel, 1992).[37] Therefore, one of the analyst forecasts (Analyst A) was labelled as "Star Analyst". The analysts' forecasts contained corresponding forecasts by both analysts for each GAAP and non-GAAP measure included in the press release. By comparing the actual result with the corresponding forecast, it was indicated whether the fictitious company "H.Ear You Electronics" exceeded or fell short of the corresponding forecast. Consequently, in the ANA_GAAP$_{only}$[38] condition, the forecast of Analyst A for EBIT (1,711 million €) was exceeded, but fell short for earnings per share (3.03 €), as well as for EBIT (1,847 million €) and earnings per share (3.74 €) forecast issued by Analyst B.[39]

effects. Furthermore, for additional information, reference was made to the subsequent explanations. As the documents were provided in German, the common term "Alternative Performance Measures (APMs) – Alternative Leistungskennzahlen" has been used as a synonym for non-GAAP measures. See also Appendix Exhibit B.

[37] Star analysts are listed on Institutional Investor's All-America Research Team, an annual ranking by institutional investors. These analysts are considered the best among their peers (Brauer & Wiersema, 2018).

[38] See also Appendix Exhibit C.

[39] To provide participants with realistic forecasts, historical data on earnings forecasts were obtained for a five-year period from the Refinitiv database for the firm that served as the basis for the case study. Forecasts for respective key figures were calculated using two methodologies. The first method involved calculating the forecast by determining the average deviation of the key figure result from the mean analyst recommendation over the five-year period. This approach reflects a moderate and realistic forecast. The

ANA_NonGAAP$_{sa}$[40] and ANA_NonGAAP$_{expl}$[41] conditions additionally contain forecasts regarding Adjusted EBIT and Adjusted EPS. In this context, the company's results for Adjusted EBIT exceeded both the prediction of Analyst A (2,284 million €) and Analyst B (2,050 million €). Similarly, the company's adjusted EPS results marginally surpassed the prediction of Analyst A (4.17 €) and more significantly exceeded the prediction of Analyst B (4.01 €). Taken together, this illustrates an opportunistic benchmark beating and aggressive non-GAAP reporting, where forecasts based on GAAP measures are (partially) missed, while benchmarks based on non-GAAP measures are exceeded (e.g., Black & Christensen, 2009; Christensen et al., 2021; Doyle et al., 2013; Isidro & Marques, 2015). Finally, the presentation format of the experimental material was constant across all experimental conditions.

After all the experimental materials were presented, the participants responded to a set of questions related to their investment judgment. These questions were followed by manipulation checks and context-related debriefing questions regarding non-GAAP measures and analyst forecasts, depending on the experimental condition. Finally, demographic information (e.g., gender, age, investment experience, and profession) was collected from the participants.[42] All experimental cases were pretested. Fourteen participants with different levels of expertise in financial accounting participated in the pre-test, and their comments led to minor changes.

Dependent Variable:

As a dependent variable, I capture non-professional investors' investment judgment. Hence, investment judgment is a latent construct and not directly observable, it must be approximated and measured by observable indicators (Asay et al., 2023). My measurement of investment judgment is inspired by prior literature. Asay et al. (2023) recently collected dependent measures used in studies on non-professional investor judgment and revealed that these measures capture three underlying constructs: (1) expectations regarding future firm performance and value, (2) holistic perceptions of the

second method represents a more extreme, yet still plausible, approach. In this instance, the analyst forecast is derived by considering the mean value of the difference between the lowest and highest analyst recommendations over the five-year period for the respective key figure.

[40] See also Appendix Exhibit C.

[41] See also Appendix Exhibit C.

[42] I checked for potential influence of demographics on investors judgment. However, there were no indications of a potential influence by demographic characteristics.

firm, and (3) evaluations of the risk associated with investing in the firm. I decided to focus on the holistic perceptions of the firm and therefore embedded four items regarding this construct. Participants were asked to answer questions regarding *investment willingness*, *general perception of investment, investment likelihood,* and *investment attractiveness* on differing Likert scales.[43] Such a multi-item approach has been used in previous studies on non-GAAP measures (e.g., Brosnan et al., 2023b; Dilla et al., 2014). I conducted an exploratory factor analysis to ensure the appropriateness of the scale.[44] The analysis revealed that all four items loaded onto one single factor and captured the same underlying construct.[45] Cronbach's alpha was calculated to ensure the internal consistency of the scale. The analysis showed a Cronbach's alpha of 0.89, indicating a high level of internal consistency.[46] Therefore, I aggregated the individual item scores to compute an overall measure of non-professional investor judgment using the average score of the four items. Each item, as well as non-professional investor judgment, was scaled on a range from 1 to 7.

4.4 Results

Table 4.2 provides descriptive statistics, including means, standard deviations, and sample sizes, for each experimental condition regarding investment judgment. For an enhanced comparison between groups, Figure 4.3 illustrates the plotted mean values for non-professional investor judgment across the experimental conditions.

[43] Participants were asked for *investment willingness*: "How willing are you to invest in H.Ear You Electronics AG stock?" (1=Very Unwilling; 7=Very Willing); for *general perception of investment*: "My general perceptions of H.Ear You Electronics AG's stock as a potential investment are _____." (1=very negative; 7=very positive); for *investment likelihood*: "How likely is it that you will invest in the shares of H.Ear You Electronics AG? (on a scale from 0% to 100%)" (0%=very unlikely; 100%=very likely) and for *investment attractiveness*: "Please indicate on a scale from (1) "Very unattractive investment" to (7) "Very attractive investment" how attractive the H.Ear You Electronics AG share is for you as an investment?".

[44] All items demonstrated correlations between 0.61 and 0.74 ($p<0.001$), supporting the application of a factor analysis.

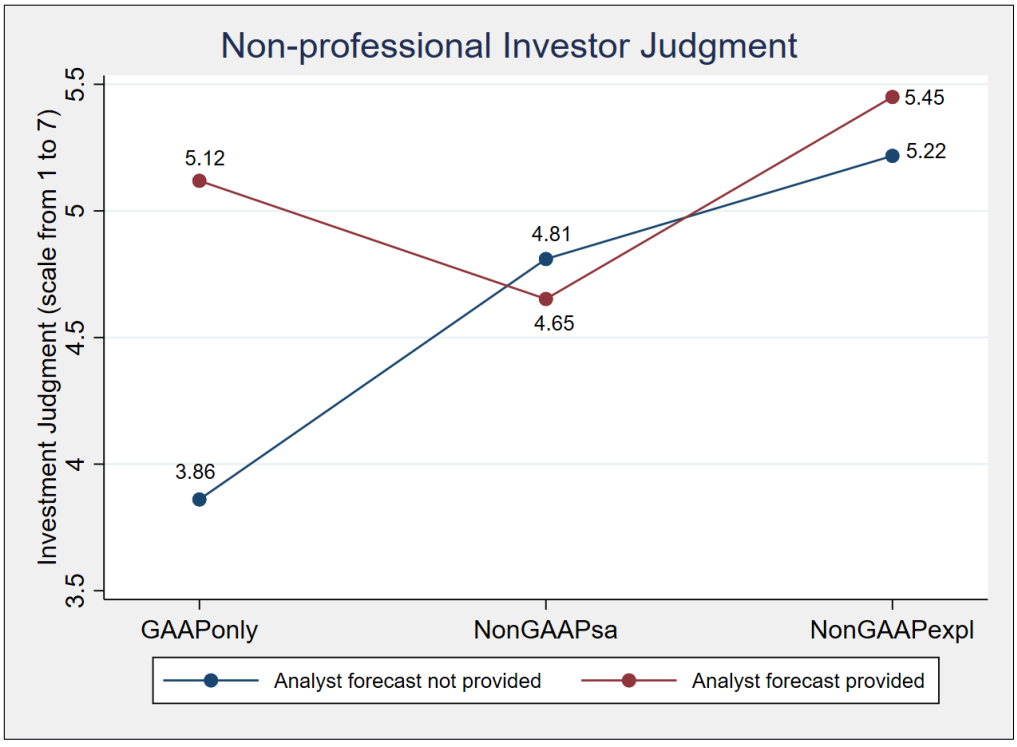
[45] The extracted factor explains 75.84% of the total variance. Factor loadings of all four items ranged from 0.85 to 0.90.

[46] In my study, Cronbach's alpha reflects internal consistency based on my final sample. According to Cortina (1993) and Peterson (1994), it is considered acceptable if Cronbach's alpha is greater than 0.70. Cronbach's alpha is dependent upon the quantity of items included such that an increased number of items corresponds to a higher coefficient. An excessively high Cronbach's alpha may indicate redundancy resulting from an excessive number of similar questions (Smith, 2020). Even with the removal of an item from the scale, Cronbach's alpha remains at a minimum of 0.84, indicating good internal consistency.

Table 4.2: *Results for investment judgment: Mean, (standard deviation), [sample size]*

Investment judgment (on a scale from 1 to 7; 1 = poorest judgment, 7 = best judgment)			
Mean (standard deviation) [sample size]	**GAAP only**	**GAAP + Non-GAAP standalone**	**GAAP + Non-GAAP with explanation**
Analyst forecast not provided	**$GAAP_{only}$**	**$NonGAAP_{sa}$**	**$NonGAAP_{expl}$**
	3.86 (1.15) [43]	4.81 (1.45) [25]	5.22 (1.00) [23]
Analyst forecast provided	**ANA_GAAP_{only}**	**$ANA\_NonGAAP_{sa}$**	**$ANA\_NonGAAP_{expl}$**
	5.12 (1.20) [21]	4.65 (1.27) [23]	5.45 (1.01) [15]

Figure 4.3: *Mean plot for non-professional investor judgment across different experimental conditions*



To test the hypotheses, a two-factor analysis of variance (ANOVA) was conducted.[47] This was used to examine whether the means of the different experimental groups regarding

[47] To check for the assumption of ANOVA, I tested for variance homogeneity with a Levene test, as the measurement variation should be equally distributed across all possible values of the independent variables. The test showed variance homogeneity for all experimental conditions. To evaluate the assumption of normal distribution, a Shapiro-Wilk test was conducted, which indicated that one subsample (experimental group) exhibited non-normal distribution. Consequently, a logarithmic transformation was applied to the

investment judgment differed significantly. The results of ANOVA are presented in Table 4.3. The results show that both the model (p=0.000) and the factors of non-GAAP reporting type (p=0.005) and analyst forecast (p=0.032) are significant. As the interaction term of non-GAAP reporting type and analyst forecast is also significant (p=0.009), the results indicate that the effect of non-GAAP reporting type on investment judgment depends on the presence of an analyst forecast.

Table 4.3: *Results of ANOVA*

Results of ANOVA: Investment Judgment		
Source	**F-value**	**p-value**
Model	6.84	0.000***
Non-GAAP reporting type	5.59	0.005***
Analyst forecast	4.70	0.032**
Non-GAAP reporting type X Analyst forecast	4.87	0.009***
*** p < .01, ** p < .05, * p < .1 (two-tailed)		

The subsequent Tukey post-hoc test performs pairwise comparisons and identifies which groups significantly differ from each other, as well as the magnitude and direction of these differences. The results of the post-hoc test are presented in Table 4.4.[48]

data to normalize the distribution skewness. However, this approach was unsuccessful. Given that this issue pertains to only one of the six groups and the variance is homogeneous, it is deemed justifiable to proceed with the ANOVA.

[48] See also Appendix Exhibit D for full results. Due to the unbalanced sample size, I also conducted a post-hoc test with Bonferroni correction, which is more conservative. However, the results remain significant, supporting the robustness of my findings.

Table 4.4: *Results of Tukey post-hoc test*

Results of Tukey Post-Hoc test: Investment Judgment (excerpt)			
Dependent variable	**Comparison groups**	**Diff.**	**p. Adj.**
Investment Judgment	$NonGAAP_{sa}$ vs. $GAAP_{only}$	0.950	0.023**
	$NonGAAP_{expl}$ vs. $GAAP_{only}$	1.357	0.000***
	$NonGAAP_{expl}$ vs. $NonGAAP_{sa}$	0.407	0.846
	$ANA\_NonGAAP_{sa}$ vs. ANA_GAAP_{only}	-0.467	0.788
	$ANA\_NonGAAP_{expl}$ vs. ANA_GAAP_{only}	0.331	0.964
	$ANA\_NonGAAP_{expl}$ vs. $ANA\_NonGAAP_{sa}$	0.798	0.342
	ANA_GAAP_{only} vs. $GAAP_{only}$	1.259	0.002***
	$ANA\_NonGAAP_{sa}$ vs. $NonGAAP_{sa}$	-0.158	0.997
	$ANA\_NonGAAP_{expl}$ vs. $NonGAAP_{expl}$	0.223	0.992
	$ANA\_NonGAAP_{sa}$ vs. $GAAP_{only}$	0.792	0.114
	$ANA\_NonGAAP_{expl}$ vs. $GAAP_{only}$	1.590	0.000***
*** p < .01, ** p < .05, * p < .1 (two-tailed)			

The findings indicate that the investment judgment of non-professional investors consistently improves across experimental scenarios when analyst forecasts are absent (blue line). In the $GAAP_{only}$ condition, which serves as the control group, non-professional investors assign an investment judgment rating of 3.86. This rating increases to 4.81 when non-GAAP measures are additionally disclosed ($NonGAAP_{sa}$). Furthermore, if non-GAAP measures are disclosed and supplemented by an explanation and a reconciliation ($NonGAAP_{expl}$), the investment judgment of non-professional investors rises to 5.22. Since the increase between $GAAP_{only}$ and $NonGAAP_{sa}$ conditions (p=0.023) and between $GAAP_{only}$ and $NonGAAP_{expl}$ conditions (p=0.000) is statistically significant, I can accept my hypothesis H1, which states that non-professional investors' investment judgment is higher when non-GAAP measures are disclosed in addition to GAAP measures. Therefore, the disclosure of non-GAAP measures positively influences investment judgment. Regarding Hypothesis 2, there is a trend indicating that non-professional investors positively consider transparent explanations and reconciliation statements, leading to a higher investment judgment than in the $NonGAAP_{sa}$ condition. However, because the difference between the $NonGAAP_{sa}$ and $NonGAAP_{expl}$ conditions is not statistically significant (p=0.846), Hypothesis H2 is rejected.

Non-professional investors, who also have analyst forecasts as a basis for information (red line), assess investment judgment in the ANA_GAAP_{only} condition relatively well (M=5.12). This assessment falls slightly (M=4.65) if non-GAAP measures are

additionally disclosed, which are also referred to in analyst forecasts ($ANA\_NonGAAP_{sa}$). However, non-professional investors rate the investment judgment best if they are provided with additional non-GAAP measures with background explanations and reconciliation in addition to the analyst forecast ($ANA\_NonGAAP_{expl}$). The mean value of 5.45 corresponds to the best investment judgment among all experimental groups. However, in contrast to the results of the participants who did not have an analyst forecast for their investment judgment, the changes between the individual experimental groups with an analyst forecast proved to be statistically insignificant.

A direct comparison is of interest to evaluate the impact of analyst forecasts in conjunction with non-GAAP measures on the investment judgment of non-professional investors. It can be seen that non-professional investors already make a higher investment judgment in the baseline scenario without the additional disclosure of non-GAAP figures if analyst forecasts are available at the same time and can be used for judgment on a GAAP-only basis. The difference between the ANA_GAAP_{only} and $GAAP_{only}$ experimental groups is 1.259 and is highly significant (p=0.002). This significant difference is balanced out so that when non-GAAP figures are also shown, participants in the $NonGAAP_{sa}$ condition without analyst forecasts make a higher investment judgment (+0.158) than those in the $ANA\_NonGAAP_{sa}$ condition. This indicates a significant interaction effect. If additional explanations and a reconciliation with the non-GAAP measures are provided, the investment judgment of the participants in the $ANA\_NonGAAP_{exp}$ group increases significantly more than that of the participants in the $NonGAAP_{exp}$ condition. In this scenario, the judgment is higher (+0.223) when the analyst forecast is available than when it is not. Although this difference between the two groups is not significant, it nevertheless shows that participants in the $ANA\_NonGAAP_{exp}$ condition would make a significantly higher investment judgment (+1.590) than participants in the $GAAP_{only}$ control group. This difference is also highly significant (p=0.000).

Robustness test and additional analysis

According to Kotzian et al. (2020), removing participants due to failed manipulation checks may lead to significant results when they do not exist in the full sample. Subsequently, an additional analysis was conducted, including participants who did not

pass the manipulation checks to ensure the robustness of the results. In doing so, I also address concerns related to the small sample size. Table 4.5 presents the descriptive statistics of the data.[49] Table 4.6 shows the results of ANOVA, and Table 4.7 presents the results of the post-hoc tests. The findings were largely consistent. Although the factor of non-GAAP reporting type is no longer significant, the interaction term remains significant. Furthermore, post-hoc tests indicate that significant differences between the groups persist. The initial significant difference between $GAAP_{only}$ and ANA_GAAP_{only} is reduced over time by the disclosing of non-GAAP measures. In this regard, the results are robust with the initial findings. This implies that non-professional investors are influenced by non-GAAP measures, even if they do not consciously process them. Furthermore, this suggests that non-professional investors' investment judgment tends to be higher when analyst forecasts or non-GAAP measures are consciously noticed.

Table 4.5: *Results for investment judgment (full sample): Mean, (standard deviation), [sample size]*

Investment judgment (on a scale from 1 to 7; 1 = poorest judgment, 7 = best judgment)			
Mean (standard deviation) [sample size]	**GAAP only**	**GAAP + Non-GAAP standalone**	**GAAP + Non-GAAP with explanation**
Analyst forecast not provided	**$GAAP_{only}$**	**$NonGAAP_{sa}$**	**$NonGAAP_{expl}$**
	3.86 (1.15) [43]	4.74 (1.46) [35]	4.86 (1.27) [30]
Analyst forecast provided	**ANA_GAAP_{only}**	**$ANA\_NonGAAP_{sa}$**	**$ANA\_NonGAAP_{expl}$**
	5.04 (1.29) [29]	4.49 (1.22) [33]	4.93 (1.25) [24]

[49] During subsequent adjustments, some participants were excluded again due to factors such as repeated participation or processing time. Consequently, not all 74 participants initially removed by the failed manipulation check in the main analyses are included. The sample size for this analysis is n = 194.

Table 4.6: *Results of ANOVA with failed manipulation check*

Results of ANOVA with failed manipulation check: Investment Judgment		
Source	**F-value**	**p-value**
Model	4.30	0.001**
Non-GAAP reporting type	1.85	0.160
Analyst forecast	3.22	0.075*
Non-GAAP reporting type X Analyst forecast	5.89	0.003***
*** p < .01, ** p < .05, * p < .1 (two-tailed)		

Table 4.7: *Results of Tukey post-hoc test with failed manipulation check*

Results of Tukey Post-Hoc test with failed manipulation check: Investment Judgment (excerpt)			
Dependent variable	**Comparison groups**	**Diff.**	**p. Adj.**
Investment Judgment	$NonGAAP_{sa}$ vs. $GAAP_{only}$	0.875	0.034**
	$NonGAAP_{expl}$ vs. $GAAP_{only}$	1.006	0.014**
	$NonGAAP_{expl}$ vs. $NonGAAP_{sa}$	0.131	0.998
	$ANA\_NonGAAP_{sa}$ vs. ANA_GAAP_{only}	-0.551	0.534
	$ANA\_NonGAAP_{expl}$ vs. ANA_GAAP_{only}	-0.116	0.999
	$ANA\_NonGAAP_{expl}$ vs. $ANA\_NonGAAP_{sa}$	0.435	0.800
	ANA_GAAP_{only} vs. $GAAP_{only}$	1.183	0.002***
	$ANA\_NonGAAP_{sa}$ vs. $NonGAAP_{sa}$	-0.243	0.969
	$ANA\_NonGAAP_{expl}$ vs. $NonGAAP_{expl}$	0.060	1.000
	$ANA\_NonGAAP_{sa}$ vs. $GAAP_{only}$	0.632	0.270
	$ANA\_NonGAAP_{expl}$ vs. $GAAP_{only}$	1.067	0.015**
*** p < .01, ** p < .05, * p < .1 (two-tailed)			

Furthermore, a Kruskal-Wallis test and Dunn post-hoc tests, which are non-parametric methods, were conducted to ensure that the results were robust. This test does not require a normal distribution for application. I aim to address any potential concerns regarding the assumptions violated in the use of ANOVA, particularly because of the small sample sizes in certain experimental conditions. Table 4.8 presents the results of the Kruskal-Wallis test.

Table 4.8: *Results of Kruskal-Wallis test*

Results of Kruskal-Wallis-Test: Investment Judgment	
Comparison groups	**p-value**
$GAAP_{only}$/$NonGAAP_{sa}$/$NonGAAP_{expl}$/ANA_GAAP_{only}/$ANA\_NonGAAP_{sa}$/$ANA\_NonGAAP_{expl}$	0.001***
*** p < .01, ** p < .05, * p < .1 (two-tailed)	

The Kruskal-Wallis test reveals significant differences between the experimental groups (p=0.001). Following this, Dunn post-hoc tests confirm the same significant group differences identified by the Tukey post-hoc test in the main analysis (Table 4.9). These consistent results across parametric and non-parametric approaches support the robustness of the findings.

Table 4.9: *Results of Dunn post-hoc test*

Results of Dunn Post-Hoc test (only significant results): Investment Judgment		
Dependent variable	**Comparison groups**	**p. Adj.**
Investment Judgment	$NonGAAP_{sa}$ vs. $GAAP_{only}$	0.017**
	$NonGAAP_{expl}$ vs. $GAAP_{only}$	0.000***
	ANA_GAAP_{only} vs. $GAAP_{only}$	0.002***
	$ANA\_NonGAAP_{expl}$ vs. $GAAP_{only}$	0.000***
*** p < .01, ** p < .05, * p < .1 (two-tailed and bonferroni corrected p-values)		

To identify possible explanations for the results, the participants were asked to answer debriefing questions. To provide potential explanations, two-sample t-tests were conducted for selected groups. All participants were asked to assess on a 5-point Likert scale with endpoints 1 (“strongly disagree”) to 5 (“strongly agree”) whether the financial key figures were useful in their investment judgment-making. Interestingly, there is a significant difference (p=0.030, one-tailed) in the perceived usefulness of the key figures between the groups in the ANA_GAAP_{only} condition (M=3.81) and the $ANA\_Non\_GAAP_{sa}$ condition (M=3.35). If non-GAAP measures are also presented without explanation, the usefulness is rated as lower by the participants, even when their information basis is greater. Only when the non-GAAP measures are explained does the perceived usefulness in the $ANA\_Non\_GAAP_{expl}$ condition (M=3.80) increase significantly compared to the $ANA\_Non\_GAAP_{sa}$ group (p=0.044, one-tailed). However, this trend cannot be confirmed if the participants do not have analyst predictions present. In this case, the usefulness of the financial key measures is rated higher compared to the

exclusive presentation of GAAP measures (M=3.47) when non-GAAP measures are presented without (M=3.64) or with an explanation (M=3.74). Therefore, the publication of non-GAAP measures is rated slightly positively from an investor perspective.

Moreover, all participants had to evaluate on a 5-point Likert scale with endpoints 1 ("strongly disagree") to 5 ("strongly agree") whether the information provided was sufficient to form a judgment about the company's financial situation. There is a significant difference between the $GAAP_{only}$ and ANA_GAAP_{only} conditions, which may explain the initial gap in investment judgment. The mean of $GAAP_{only}$ (M=3.33) is significantly lower than the mean of ANA_GAAP_{only} (M=3.86; p=0.012, one-tailed). As analyst forecasts represent an additional information source, this may be interpreted as a lack of information to properly evaluate company performance and the need for a better information basis for the evaluation. By disclosing additional non-GAAP measures, this lack of information is slightly reduced as the mean values increase. This may lead to the conclusion that non-professionals might proactively seek complementary information.

To examine the relevance of analyst forecasts on their investment judgment, I asked participants in the respective conditions on a 7-point Likert scale with endpoints 1 ("not taken into account at all") to 7 ("fully taken into account"), to which extent they have taken the analysts' forecasts into account when answering previous questions. Participants' mean for analysts' forecast of 4.90 is nearly the same as for non-GAAP measures (M=4.87).[50] However, no significant differences were observed between the groups. Regarding the greater relevance of Star Analyst for non-professional investors, I also asked participants in the ANA_GAAP_{only}, $ANA\_NonGAAP_{sa}$, and $ANA\_NonGAAP_{expl}$ conditions which analyst forecasts they considered in answering previous questions.[51] The results show a slight descriptive tendency towards Star Analyst A (M=2.878), in line with prior findings. However, this tendency is not statistically significant (p=0.174, one-tailed).

[50] Participants who were presented non-GAAP measures were asked to which extent they have taken adjusted EBIT and adjusted EPS into account when answering previous questions (1= "not taken into account at all"; 7= "fully taken into account"). The result considers participants in the non-GAAP reporting types with and without analyst forecasts.

[51] Participants were asked: „In answering the previous questions on the case study, I ..." (1= "…only analyst forecast A (Star Analyst) taken into account."; 3 = "… both analyst forecasts equally considered/not considered."; 5= "Only analyst forecast B taken into account.").

4.5 Discussion and Conclusion

This study demonstrates how non-GAAP measures and analyst forecasts affect the investment judgments of non-professional investors, and under which conditions financial analysts act as effective capital market gatekeepers. Consistent with my first hypothesis, the findings indicate that non-GAAP measures significantly and positively influence the investment evaluation of non-professional investors from Germany when no additional external information sources are available (H1). These results align with previous studies that predominantly examined the impact on non-professional investors outside Germany (e.g., Elliott, 2006; Frederickson & Miller, 2004). Collectively, this confirms that non-GAAP measures can still exert an influence, irrespective of their increasing prevalence and country-specific contexts, such as the regulatory frameworks applied in recent decades. However, the effect of a transparent explanation, including reconciliation, could not be statistically confirmed (H2). Although there is a slight descriptive positive tendency, this effect is too weak and fails to replicate prior findings that report a significant but mitigating effect of reconciliation on non-professional investors (Elliott, 2006). This may be due to the extent of my non-GAAP adjustments, which is inspired by a real non-GAAP reporting scenario, but is not as extreme as those found in other non-GAAP studies (e.g., Elliott, 2006; Johnson et al., 2014). Participants may be particularly sensitive to these adjustments, especially when non-GAAP measures transform a GAAP-based loss into a profit (Andersson & Hellmann, 2007).[52]

As the demonstrated impact enables companies to strategically report and disclose opportunistically adjusted non-GAAP measures, this positions gatekeepers to mitigate information asymmetries and particularly safeguard non-professional investors. In this context, this study is the first to experimentally examine the influence of financial analysts as gatekeepers on the (non-)GAAP-based investment judgments of non-professional investors in Germany. My study reveals that analysts can influence the investment judgments of non-professional investors, which differs from scenarios where no analyst forecast is disclosed. The investment judgments of non-professional investors who received corresponding analyst forecasts in the $GAAP_{only}$ scenario were significantly

[52] For example, Johnson et al. (2014) report in their experimental study a loss of $1,120 million ($250 million profit in the previous year) according to GAAP, while non-GAAP information indicates a profit of $408.1 million ($250 million profit in the previous year), effectively transforming a GAAP loss into a non-GAAP profit. Similarly, Elliott (2006) reports a GAAP loss alongside a non-GAAP profit per share.

higher than those of investors who did not receive them. I interpret the role of analysts in this case as a valuable additional information source for non-professional investors. In the $GAAP_{only}$ scenario, the gatekeeper role of analysts is not required as a potential warning because the absence of non-GAAP measures indicates no opportunistic behavior. Due to other existing gatekeepers, such as the audit of financial statements and the obligation to apply financial reporting standards, analyst forecasts are perceived more as a helpful addition to investment judgment, providing either an indication of future earnings potential if a company's performance falls short of analyst forecasts or confirmation of results if a company's performance meets analyst forecasts. This interpretation is further supported by the fact that participants in the ANA_GAAP_{only} scenario evaluated the usefulness of financial figures for investment judgment, as well as the evaluation of the information basis for forming a judgment on a company's economic situation, better than in the $GAAP_{only}$ scenario without any analyst forecast being disclosed. Overall, the analyst acts as a form of positive assurance, is perceived as a credible external source by non-professional investors, and thereby enhances the overall credibility of management's financial reporting, leading to higher assessments of information evaluation and greater weighting.

In the scenario where non-GAAP measures are presented without accompanying explanations alongside GAAP measures, the reactions of participants differ. Participants who were not provided with analyst forecasts tend to increase their investment judgments, whereas those with access to analyst forecasts tend to decrease theirs. In this context, it is assumed that the analyst's signal is perceived as a warning to investors, who may be confused by the contradictory information and adjust their investment judgments accordingly. Analysts serve as effective interpreters of non-GAAP measures, which can be seen as less informative in this context. This conclusion is further supported by the observation that the usefulness of financial figures for investment judgment decreases significantly when analyst forecasts are present, while it increases in their absence. The information basis is also evaluated as lower in the analyst scenario when non-GAAP measures are disclosed without explanation than when GAAP measures and analyst forecasts are disclosed, leading to confusion among participants. Non-professional investors appear to lack the expertise to interpret the implications of non-GAAP measures independently. The consideration of analyst forecasts in investment evaluations, coupled with conflicting outcomes based on GAAP measures (income decrease) versus non-

GAAP measures (income increase), may result in cognitive dissonance among non-professional investors. Analyst forecasts represent a warning signal, and analysts consequently caution non-professional investors and enable them to infer potential opportunistic behavior by management. According to source credibility theory, the analyst signal highlights perceived source bias in management reporting aimed at beating the analyst forecast, leading non-professional investors to evaluate management-provided information more negatively and, consistent with the framework of Maines and McDaniel (2000), to assign less weight to the originally positive non-GAAP information and downgrade their investment judgments. This pattern is consistent with a gatekeeping effect. In the absence of a gatekeeping effect, one would expect analyst forecasts to amplify, rather than counteract, the generally positive impact of non-GAAP disclosures on investment judgment. This would lead to a trend similar to that observed in the absence of analyst forecasts.

However, this confusion seems to be resolved through the transparent explanation of non-GAAP measures. Consequently, investment judgment increases, regardless of whether analyst forecasts are published. In the reporting scenario where non-GAAP measures are not only explained but also complemented by analyst forecasts, investment judgment is the highest among all scenarios. This indicates that cognitive dissonance is reduced through transparency. This is demonstrated especially by the significant difference in investment assessment among participants in the $GAAP_{only}$ and $ANA\_NonGAAP_{exp}$ conditions (+1.590; p=0.000). In the scenario comparing the minimal information basis ($GAAP_{only}$) with the most comprehensive information base ($ANA\_NonGAAP_{exp}$), the findings are not particularly surprising. Transparent disclosure by management is complemented by analysts' disclosures. The parallel increase in investment judgments with and without analyst forecasts suggests that no gatekeeping effect is present in this scenario. The non-GAAP measures appear to be more informative due to transparent disclosure, and the significance of the analyst's gatekeeping role diminishes. Analysts are now regarded as a beneficial but no longer essential addition. The necessity for a gatekeeper is obviated because transparent disclosure mitigates perceived source bias, thereby restoring the credibility of management's reporting, which is further supported by a perceived credible signal from analysts. This implication is further supported by participants' significant agreement with having a sufficient information basis to form a judgment in this scenario, as opposed to when non-GAAP measures are not explained.

Collectively, this suggests that in two scenarios, the gatekeeping role of analysts may not be strictly necessary. In the $GAAP_{only}$ condition, the analyst enhances the credibility of an already inherently credible signal, as there are minimal concerns regarding management bias. Conversely, in the non-GAAP condition with explanation, the analyst supplements a signal that could potentially raise credibility concerns. However, these concerns are proactively addressed by management through transparent disclosure and reconciliation. Consequently, the analyst's signal is no longer essential as a warning gatekeeping mechanism but is regarded as a valuable additional source of information that enables investors to further assess the disclosed non-GAAP measures.

Therefore, I conclude that the analyst's gatekeeping role may be particularly crucial for non-professional investors when voluntary disclosure appears to be of low informational quality, that is, when non-GAAP measures are not explained transparently and are less informative, and management's motivation to report non-GAAP measures is opportunistic.[53] In such cases, the analyst's gatekeeping role is needed to warn and protect non-professional investors by serving as an external signal that helps non-professional investors to infer potential managerial bias. In this context, other gatekeepers may not be effective; for example, auditors cannot efficiently address this issue because it typically falls largely outside the scope of an audit. While the experimental setting reflects a reporting scenario in which opportunistic benchmark beating is plausible, the interpretation of the results more generally depends on the real underlying reporting motive. Specifically, if non-GAAP measures are not adequately explained, they may also be misinterpreted by non-professional investors in the case of an informative reporting motive, potentially leading to unintended consequences when considering analyst forecasts. The distinction between scenarios in which non-GAAP measures are explained versus those in which they are not explained and the corresponding analyst forecasts highlight that such measures can alert investors to opportunistic reporting. Conversely, if the voluntary disclosure of non-GAAP reporting exceeding analyst forecasts is driven by an informative rather than an opportunistic motive and non-GAAP measures are not explained, cognitive dissonance may mislead non-professional investors, causing them to

[53] Please note that the term „less informative" refers specifically to the qualitative characteristics of disclosure as described by Chen et al. (2021) and is unrelated to the incremental value provided by non-GAAP measures.

downgrade their investments. In this case, perception of opportunism could become plausible for non-professional investors, even if the disclosure is informative.

Nonetheless, scenarios that enhance transparency and allow investors to adjust their investment judgments generally reflect a positive perception. The results are also in line with the work of Mercer (2004), who described that disclosure credibility also depends on contextual factors, such as the timing and precision of the disclosure as well as the amount of supporting information. As explanation and reconciliation represent supporting information, prior research can be confirmed in this aspect, as investment judgment is higher in the conditions with explanation than when explanation is absent for non-GAAP measures. This amount of information and transparency seems to affect the credibility of the disclosure, mainly management credibility (Mercer, 2004). This may be due to the disclosure of proprietary information that reduces the possibility of acting opportunistically later, and therefore reflects ex-post verification (Hutton et al., 2003; Mercer, 2004). Collectively, these findings are significant for regulators and companies, underscoring the importance of consistently transparent reporting of non-GAAP measures to avoid misleading non-professional investors. While one could theoretically argue that, based on the findings in the scenario with transparent non-GAAP reporting, an analyst could enhance the effect of opportunistic reporting, given that investment judgments are highest in this condition, this argumentation appears less compelling, as increased transparency substantially limits the plausibility of opportunistic motives.

Furthermore, the gatekeeping role of analysts is effective only if analysts are not influenced by their own opportunistic behavior and if their forecasts accurately reflect the actual performance of companies. Otherwise, they risk establishing misleading reference points. Although this study does not evaluate the actual performance of analysts, it demonstrates that analysts generally influence judgment. Additionally, non-professional investors should be cognizant of the latency between management disclosures and analyst forecasts, with the latter representing an ex-ante perspective and the former an ex-post perspective.[54] Even when analysts frequently publish and revise their forecasts, it is essential to consider this temporal gap, which can cause increased asymmetries between both groups. In examining how analyst forecasts and non-GAAP measures have been

[54] This could be addressed by comparing the analysts' forecasts with management's forecast. However, management regularly publishes forecasts only for the company's relevant key performance indicators. These may include, but are not necessarily limited to, non-GAAP measures.

taken into account, there was no significant difference between non-GAAP measures and analyst forecasts, as their means are on the same level (non-GAAP measures, M=4.90; analyst forecasts, M=4.87) in their respective conditions. This suggests that both types of information were acquired properly. However, as the results for investment judgment differ across groups, this may be interpreted as unintended cognitive processes operating at the evaluation and weighting stages of information processing. In examining the relevance of star analysts compared to non-star analysts, I did not find any significant differences. This finding contrasts with the results of Boivie et al. (2016), who reported that investors respond more significantly to the recommendations of star analysts than to those of non-star analysts, suggesting a greater level of trust in the work of reputable star analysts. However, it is important to note that only Analyst A was labelled as a star analyst, which may have influenced the results by providing insufficient background information on analyst reputation to participants.

However, this study has some limitations. Non-professional investors from Germany participated in this study. It remains unclear whether these results can be generalized. For example, in the U.S., non-GAAP reporting is widespread and was regulated more strictly at an early stage than in Europe. Therefore, non-professional investors from the U.S. could be sensitized, which could possibly lead to a weakening of the observed effects in this context. In addition, a scenario was developed in which an increase in earnings was achieved through non-GAAP measures, whereas a decrease in earnings was recorded using GAAP measures. Although an earnings-increasing non-GAAP measure is a realistic scenario and often represents opportunistic benchmark beating, it is unclear whether the same effects are present in the case of non-GAAP measures that are lower than their corresponding GAAP measures. Andersson and Hellmann (2007) note that an anchor and framing effect on investors' behavior depends on the magnitude of non-GAAP and GAAP measures. In cases where (lower) non-GAAP measures frame a more negative picture than (higher) GAAP measures, non-professional investors could make a significantly more negative investment assessment. The extent to which analysts' forecasts would moderate this effect is also of interest. One potential limitation is the extent to which the experimental cases reflect realistic scenarios. Referring to the framework of Maines and McDaniel (2000), the scenario in this experiment was designed to allow for the assumption of acquiring information provided through analyst forecasts by the participants. Analyst forecasts regarding financial figures were presented directly

alongside the company's financial information. However, in practice, companies typically address analyst forecasts only at the global level in their annual report. Generally, a detailed comparison of specific financial metrics does not occur. Consequently, stakeholders must proactively seek this information to incorporate analyst forecasts into their investment evaluation. While a laboratory experiment was used to control external factors, a field experiment might provide more realistic insights and increase external validity (Valli et al., 2017). Finally, due to the sample size, the statistical power of my analysis might be limited and needs to be confirmed with more participants.

Further research should examine whether the results can be confirmed for companies with good and bad corporate governance. From a theoretical perspective, the capital market should only discipline management and reduce information asymmetries if the internal governance mechanism fails (Fama, 1980; Walsh & Seward, 1990). Moreover, Koch et al. (2014) note that analyst performance depends on the governance system in which they are embedded. More specifically, they find in their study that analyst work as a gatekeeper improves with stronger shareholder protection; however, stronger shareholder protection and governance systems make their performance less valuable to investors and finally lead to a reduced number of analysts following firms. The governance system and its mechanisms are interconnected and moderate each other. As I do not differentiate between different levels of governance quality, further research might reveal the effect of governance quality on the relevance of financial analysts alongside non-GAAP disclosure. In addition, I do not differentiate between favorable and unfavorable analyst forecasts. It remains uncertain whether the same consequences can be observed when analysts' forecasts exceed the non-GAAP measure, as firms' motivation for opportunistic use is inherently constrained in this scenario. Finally, it is important to explore which gatekeeper holds greater relevance for the capital market or how their interaction affects investment behavior, as prior research shows that a firm's disclosure credibility depends on multiple factors, such as external assurance (Mercer, 2004). Given that auditors have access to private information about a company's performance (e.g., during annual audits), investors might place more trust in their work than in that of analysts, making auditors the most pertinent gatekeepers for capital market investors. The upcoming implementation of IFRS 18 will increase the significance of this matter, as non-GAAP measures will require disclosure in financial statement notes and will thus be subject to annual audits. As a result, non-GAAP measures will regularly become part of the annual

audit. The results of Ege et al. (2024) show that, when subject to audit, the exclusions in non-GAAP measures made are of higher quality and that analyst forecasts are similar to the non-GAAP measures disclosed by the company when these have been audited, also indicating higher quality. Therefore, it can be projected that a double assurance signal will be sent to investors in the future. Analyst forecasts are prospective, while the financial statement audit is retrospective. Complemented by findings of Christensen et al. (2021) with an analyst's effective monitoring role of management, this development is likely to enhance the overall quality of non-GAAP measures and reduce the effects of opportunistic reporting practices. Together, both mechanisms and their potential interactions can contribute to effective corporate governance. Additionally, as prior research indicates that professional investors generally remain unaffected by non-GAAP disclosures (Allee et al., 2007; Elliott, 2006; Frederickson & Miller, 2004), it would be interesting if the results of the study could be transferred to professional investors as well. Future research could also examine whether analysts' own incentives and potential behavioral biases affect the reliability of their forecasts in non-GAAP settings. As Andersson and Hellmann (2007) is notably one study that finds that even analysts can be impacted by and put more attention on non-GAAP disclosure, this topic generally needs future research, as when analysts might be negatively affected, the whole gatekeeper function may be harmed. Furthermore, archival research may ensure robust results and provide additional insights into this subject.

This study makes several contributions to the literature. First, it addresses the gap in understanding the impact of various corporate governance mechanisms within the context of non-GAAP disclosures. While financial analysts play a crucial role in capital markets, their influence on investors has not been extensively examined experimentally in a non-GAAP setting. My research contributes to the understanding of whether and under what conditions analyst forecasts can affect the judgment of non-professional investors by signaling potential opportunistic reporting, thereby highlighting analysts as potential capital market gatekeepers. Additionally, this study contributes to the body of experimental research that builds on the source credibility theory (e.g., Cohen et al., 2022; DeZoort et al., 2003; Hirst et al., 1999). Moreover, as most experimental studies focus on investors from the United States, who have heightened awareness of early non-GAAP reporting and are more sensitive due to earlier regulations, this research focuses on investors from Germany, who may be less familiar with non-GAAP measures. This focus

is particularly relevant given the forthcoming IFRS 18, which mandates the inclusion of information on non-GAAP measures in financial statements and underscores the practical significance for German investors. Furthermore, by utilizing data from the Refinitiv database on non-GAAP and GAAP reporting, as well as collecting analyst forecasts from the same database, the experimental treatment is grounded in real data on non-GAAP reporting by management and analyst forecasts, thereby enhancing the realism of the scenario. The findings of this study also have practical implications. On the one hand, the study shows that a transparent presentation of non-GAAP measures can positively influence investment and information assessment. This is of particular interest, as non-professional investors in particular have a lower level of information. From this perspective, the recently issued IFRS 18 is a positive development. However, as non-GAAP measures are regularly communicated outside annual financial statements, transparency disclosures should also be included in other reporting formats. On the other hand, additional sources of information that verify the signal sent through non-GAAP measures could be voluntarily embedded in supporting the interests of good corporate governance. Therefore, the inclusion of analyst forecasts in reporting can be a useful source for non-professional investors to make informed decisions. Moreover, as the current regulation in Germany is solely focused on transparency, future regulation could build on the calculation and actual content of the non-GAAP measures and regulate which types of circumstances should be excluded to calculate non-GAAP measures.

4.6 Appendix

Experimental material

Exhibit A: Basic information on the company

The following has been disclosed in all experimental conditions.

Auszug aus dem Jahresabschluss 20x1 – Gewinn- und Verlustrechnung (GuV)

H.Ear You Electronics AG – Geschäftsbericht 20x1

Jahresabschluss

Gewinn- und Verlustrechnung

(durch die Wirtschaftsprüfungsgesellschaft F&F geprüft)	20x0 in Mio. €		20x1 in Mio. €
Umsatzerlöse	**20.066**		**21.397**
Herstellungskosten der zur Erzielung der Umsatzerlöse erbrachten Leistungen	11.092		12.330
Bruttoergebnis des Umsatzes	**8.974**		**9.067**
Vertriebsaufwendungen, allgemeine Verwaltungsaufwendungen und sonstige betriebliche Aufwendungen und Erträge	-6.761		-7.257
Betriebsergebnis (EBIT)	**2.213**		**1.810**
Finanzerträge	267		101
Finanzaufwendungen	-386		-234
Ergebnis vor Steuern	**2.094**		**1.677**
Steuern vom Einkommen und Ertrag	-501		-430
Ergebnis nach Steuern/Jahresüberschuss	**1.593**		**1.247**
Gewinn je Aktie	**3,78 €**		**2,95 €**

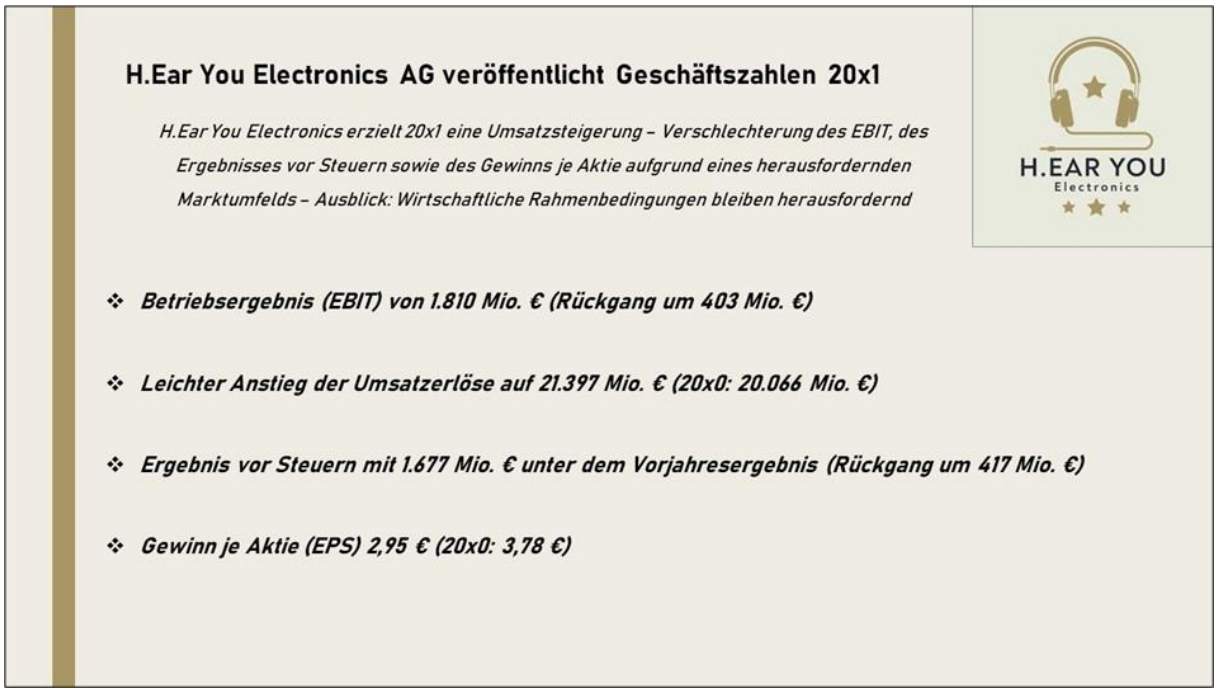
Auszug aus dem Jahresabschluss 20x1 – Bilanz

H.Ear You Electronics AG – Geschäftsbericht 20x1
Jahresabschluss
Bilanz
(durch die Wirtschaftsprüfungsgesellschaft F&F geprüft)

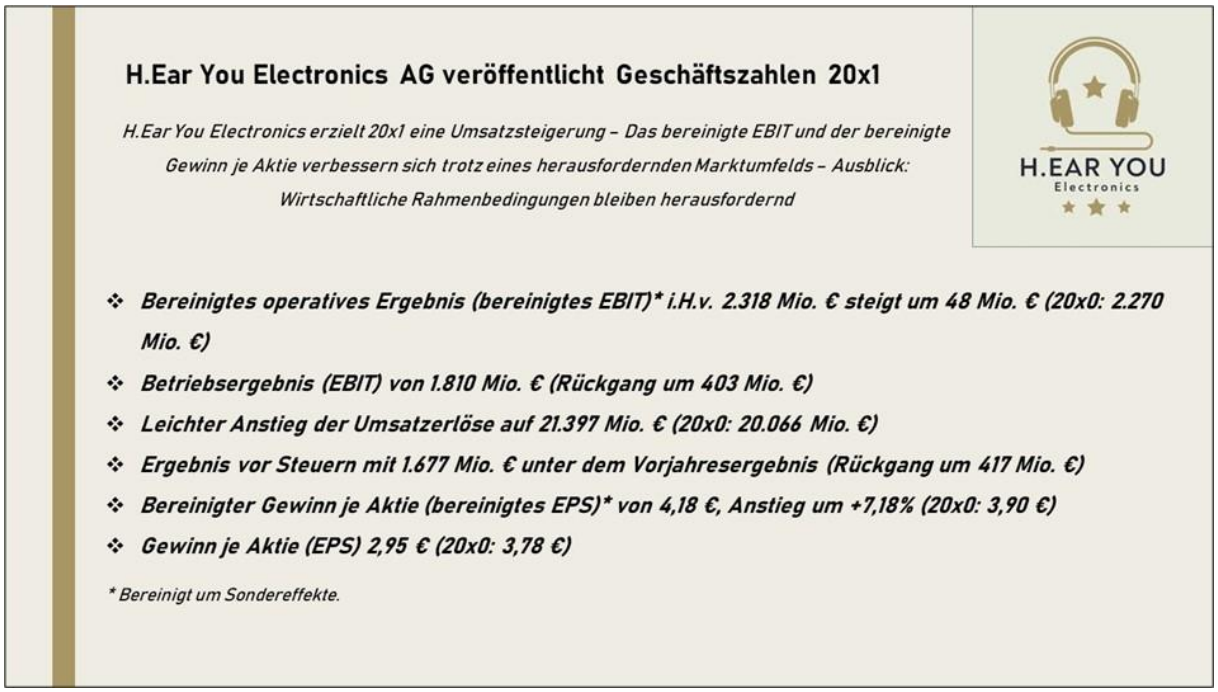
Aktiva			Passiva		
in Mio. €	31.12.20x0	31.12.20x1	in Mio. €	31.12.20x0	31.12.20x1
Langfristige Vermögenswerte	**21.835**	**22.258**			
davon immaterielle Vermögenswerte	16.647	17.097	**Eigenkapital**	**19.256**	**19.839**
Kurzfristige Vermögenswerte	**10.258**	**10.264**			
davon Zahlungsmittel und Zahlungsmitteläquivalente	1.985	1.259			
davon Forderungen und sonstige Vermögenswerte	3.185	3.303	**Schulden**	**12.837**	**12.683**
davon Vorräte	2.953	3.353			
Summe Aktiva	**32.093**	**32.522**	**Summe Passiva**	**32.093**	**32.522**

Exhibit B: Manipulation of Non-GAAP reporting type

Condition $GAAP_{only}$



Condition *NonGAAP*$_{sa}$



H.Ear You Electronics AG veröffentlicht Geschäftszahlen 20x1

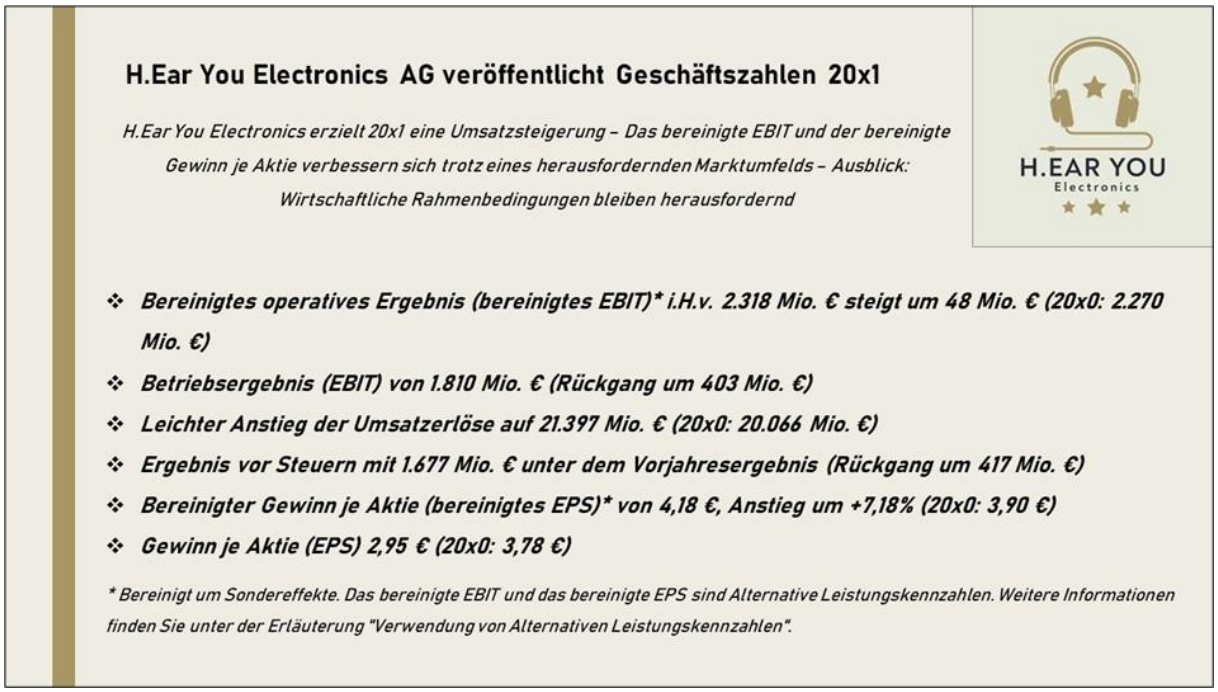
H.Ear You Electronics erzielt 20x1 eine Umsatzsteigerung – Das bereinigte EBIT und der bereinigte Gewinn je Aktie verbessern sich trotz eines herausfordernden Marktumfelds – Ausblick: Wirtschaftliche Rahmenbedingungen bleiben herausfordernd

H.EAR YOU
Electronics

- ***Bereinigtes operatives Ergebnis (bereinigtes EBIT)* i.H.v. 2.318 Mio. € steigt um 48 Mio. € (20x0: 2.270 Mio. €)***
- ***Betriebsergebnis (EBIT) von 1.810 Mio. € (Rückgang um 403 Mio. €)***
- ***Leichter Anstieg der Umsatzerlöse auf 21.397 Mio. € (20x0: 20.066 Mio. €)***
- ***Ergebnis vor Steuern mit 1.677 Mio. € unter dem Vorjahresergebnis (Rückgang um 417 Mio. €)***
- ***Bereinigter Gewinn je Aktie (bereinigtes EPS)* von 4,18 €, Anstieg um +7,18% (20x0: 3,90 €)***
- ***Gewinn je Aktie (EPS) 2,95 € (20x0: 3,78 €)***

** Bereinigt um Sondereffekte.*

Condition *NonGAAP*$_{expl}$



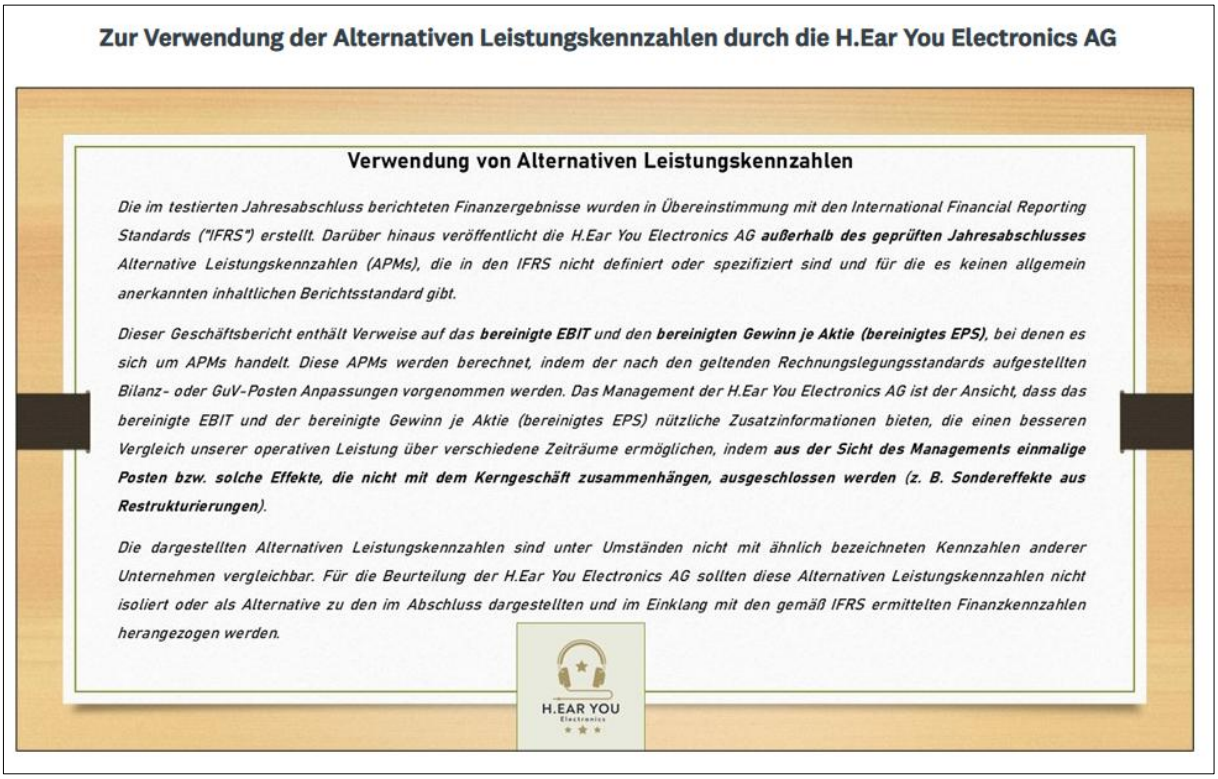
H.Ear You Electronics AG veröffentlicht Geschäftszahlen 20x1

H.Ear You Electronics erzielt 20x1 eine Umsatzsteigerung – Das bereinigte EBIT und der bereinigte Gewinn je Aktie verbessern sich trotz eines herausfordernden Marktumfelds – Ausblick: Wirtschaftliche Rahmenbedingungen bleiben herausfordernd

H.EAR YOU Electronics

- ***Bereinigtes operatives Ergebnis (bereinigtes EBIT)* i.H.v. 2.318 Mio. € steigt um 48 Mio. € (20x0: 2.270 Mio. €)***
- ***Betriebsergebnis (EBIT) von 1.810 Mio. € (Rückgang um 403 Mio. €)***
- ***Leichter Anstieg der Umsatzerlöse auf 21.397 Mio. € (20x0: 20.066 Mio. €)***
- ***Ergebnis vor Steuern mit 1.677 Mio. € unter dem Vorjahresergebnis (Rückgang um 417 Mio. €)***
- ***Bereinigter Gewinn je Aktie (bereinigtes EPS)* von 4,18 €, Anstieg um +7,18% (20x0: 3,90 €)***
- ***Gewinn je Aktie (EPS) 2,95 € (20x0: 3,78 €)***

** Bereinigt um Sondereffekte. Das bereinigte EBIT und das bereinigte EPS sind Alternative Leistungskennzahlen. Weitere Informationen finden Sie unter der Erläuterung "Verwendung von Alternativen Leistungskennzahlen".*



Zur Verwendung der Alternativen Leistungskennzahlen durch die H.Ear You Electronics AG

Verwendung von Alternativen Leistungskennzahlen

Die im testierten Jahresabschluss berichteten Finanzergebnisse wurden in Übereinstimmung mit den International Financial Reporting Standards ("IFRS") erstellt. Darüber hinaus veröffentlicht die H.Ear You Electronics AG ***außerhalb des geprüften Jahresabschlusses*** *Alternative Leistungskennzahlen (APMs), die in den IFRS nicht definiert oder spezifiziert sind und für die es keinen allgemein anerkannten inhaltlichen Berichtsstandard gibt.*

Dieser Geschäftsbericht enthält Verweise auf das ***bereinigte EBIT*** *und den* ***bereinigten Gewinn je Aktie (bereinigtes EPS)****, bei denen es sich um APMs handelt. Diese APMs werden berechnet, indem der nach den geltenden Rechnungslegungsstandards aufgestellten Bilanz- oder GuV-Posten Anpassungen vorgenommen werden. Das Management der H.Ear You Electronics AG ist der Ansicht, dass das bereinigte EBIT und der bereinigte Gewinn je Aktie (bereinigtes EPS) nützliche Zusatzinformationen bieten, die einen besseren Vergleich unserer operativen Leistung über verschiedene Zeiträume ermöglichen, indem* ***aus der Sicht des Managements einmalige Posten bzw. solche Effekte, die nicht mit dem Kerngeschäft zusammenhängen, ausgeschlossen werden*** *(z. B. Sondereffekte aus* ***Restrukturierungen****).*

Die dargestellten Alternativen Leistungskennzahlen sind unter Umständen nicht mit ähnlich bezeichneten Kennzahlen anderer Unternehmen vergleichbar. Für die Beurteilung der H.Ear You Electronics AG sollten diese Alternativen Leistungskennzahlen nicht isoliert oder als Alternative zu den im Abschluss dargestellten und im Einklang mit den gemäß IFRS ermittelten Finanzkennzahlen herangezogen werden.

H.EAR YOU Electronics

Nachfolgend wird die Überleitung vom Betriebsergebnis (EBIT) aus dem Jahresabschluss auf das bereinigte operative Ergebnis (Bereinigtes EBIT) kommentiert, um die operative Entwicklung vor Sondereinflüssen darzustellen.

H.Ear You Electronics AG – Geschäftsbericht 20x1
Überleitungsrechnung (außerhalb des Jahresabschlusses)
Bereinigtes operatives Ergebnis (Bereinigtes EBIT)

	20x0 in Mio. €		20x1 in Mio. €
EBIT (wie in Jahresabschluss berichtet)	**2.213**		**1.810**
Erträge aus Restrukturierungsmaßnahmen	-89		-261
Aufwendungen aus Restrukturierungsmaßnahmen	168		680
Sonstige Sondereffekte	-22		89
Bereinigtes EBIT	**2.270**		**2.318**

Zur Berechnung des bereinigten EBIT werden die aus aus der Sicht des Managements einmalige Posten bzw. Effekte, die nicht mit dem Kerngeschäft zusammenhängen, ausgeschlossen.

- **Die Effekte aus Restrukturierungsmaßnahmen entfallen im Jahr 20x1 auf die Optimierung und Zusammenführung von Vertriebsstrukturen.**
- **Sonstige Sondereffekte entfallen im Jahr 20x1 unter anderem auf Effekte aus dem Verkauf einzelner Markenrechte.**

Exhibit C: Manipulation of analyst forecast

Condition *ANA_GAAP*$_{only}$

Finanzkennzahlen und Analystenprognosen

Die H.Ear You Electronics AG wird von zahlreichen Finanzanalysten beobachtet. Die folgende Auflistung enthält einen Auszug der Institutionen, die Prognosen für das abgeschlossene Geschäftsjahr 20x1 getroffen haben und stellt die Analystenvorhersagen mit den tatsächlichen Finanzergebnissen der H.Ear You Electronics AG gegenüber.

FINANZKENNZAHLEN UND ANALYSTENPROGNOSE FÜR DAS BERICHTSJAHR 20X1

✓ Analystenprognose übertroffen
× Analystenprognose nicht übertroffen

H.EAR YOU Electronics

	H.Ear You Electronics AG	Analyst A (Star Analyst)		Analyst B	
EBIT	1.810 Millionen €	1.711 Millionen €	✓	1.847 Millionen €	×
Gewinn je Aktie/EPS	2,95 €	3,03 €	×	3,74 €	×

Die Aufzählung erhebt keinen Anspruch auf Vollständigkeit. Die erstellten Analysen unterliegen keinerlei Einflussnahme oder Kontrolle durch das Management. Sie stellen nicht die Meinung, Einschätzung, Prognose oder eine Empfehlung des Managements der H.Ear You Electronics AG dar.

Condition *ANA_NonGAAP*$_{sa}$

Finanzkennzahlen und Analystenprognosen

Die H.Ear You Electronics AG wird von zahlreichen Finanzanalysten beobachtet. Die folgende Auflistung enthält einen Auszug der Institutionen, die Prognosen für das abgeschlossene Geschäftsjahr 20x1 getroffen haben und stellt die Analystenvorhersagen mit den tatsächlichen Finanzergebnissen der H.Ear You Electronics AG gegenüber.

FINANZKENNZAHLEN UND ANALYSTENPROGNOSE FÜR DAS BERICHTSJAHR 20X1

✓ Analystenprognose übertroffen
✗ Analystenprognose nicht übertroffen

H.EAR YOU Electronics

	H.Ear You Electronics AG	Analyst A (Star Analyst)		Analyst B	
Bereinigtes EBIT *	2.318 Millionen €	2.284 Millionen €	✓	2.050 Millionen €	✓
EBIT	1.810 Millionen €	1.711 Millionen €	✓	1.847 Millionen €	✗
Bereinigtes EPS *	4,18 €	4,17 €	✓	4,01 €	✓
EPS	2,95 €	3,03 €	✗	3,74 €	✗

** Bereinigt um Sondereffekte.*

Die Aufzählung erhebt keinen Anspruch auf Vollständigkeit. Die erstellten Analysen unterliegen keinerlei Einflussnahme oder Kontrolle durch das Management. Sie stellen nicht die Meinung, Einschätzung, Prognose oder eine Empfehlung des Managements der H.Ear You Electronics AG dar.

Condition *ANA_NonGAAP*$_{expl}$

Finanzkennzahlen und Analystenprognosen

Die H.Ear You Electronics AG wird von zahlreichen Finanzanalysten beobachtet. Die folgende Auflistung enthält einen Auszug der Institutionen, die Prognosen für das abgeschlossene Geschäftsjahr 20x1 getroffen haben und stellt die Analystenvorhersagen mit den tatsächlichen Finanzergebnissen der H.Ear You Electronics AG gegenüber.

FINANZKENNZAHLEN UND ANALYSTENPROGNOSE FÜR DAS BERICHTSJAHR 20X1

✓ Analystenprognose übertroffen
✗ Analystenprognose nicht übertroffen

H.EAR YOU Electronics

	H.Ear You Electronics AG	Analyst A (Star Analyst)		Analyst B	
Bereinigtes EBIT*	2.318 Millionen €	2.284 Millionen €	✓	2.050 Millionen €	✓
EBIT	1.810 Millionen €	1.711 Millionen €	✓	1.847 Millionen €	✗
Bereinigtes EPS*	4,18 €	4,17 €	✓	4,01 €	✓
EPS	2,95 €	3,03 €	✗	3,74 €	✗

** Bereinigt um Sondereffekte. Das bereinigte EBIT und das bereinigte EPS sind Alternative Leistungskennzahlen. Weitere Informationen finden Sie unter der Erläuterung "Verwendung von Alternativen Leistungskennzahlen" auf den folgenden Seiten.*

Die Aufzählung erhebt keinen Anspruch auf Vollständigkeit. Die erstellten Analysen unterliegen keinerlei Einflussnahme oder Kontrolle durch das Management. Sie stellen nicht die Meinung, Einschätzung, Prognose oder eine Empfehlung des Managements der H.Ear You Electronics AG dar.

Exhibit D: Results of Tukey Post-Hoc test: Investment Judgment

Results of Tukey Post-Hoc test: Investment Judgment			
Dependent variable	**Comparison groups**	**Diff.**	**p. Adj.**
Investment Judgment	$NonGAAP_{sa}$ vs. $GAAP_{only}$	0.950	0.023**
	$NonGAAP_{expl}$ vs. $GAAP_{only}$	1.357	0.000***
	$NonGAAP_{expl}$ vs. $NonGAAP_{sa}$	0.407	0.846
	$ANA\_NonGAAP_{sa}$ vs. ANA_GAAP_{only}	-0.467	0.788
	$ANA\_NonGAAP_{expl}$ vs. ANA_GAAP_{only}	0.331	0.964
	$ANA\_NonGAAP_{expl}$ vs. $ANA\_NonGAAP_{sa}$	0.798	0.342
	ANA_GAAP_{only} vs. $GAAP_{only}$	1.259	0.002***
	$ANA\_NonGAAP_{sa}$ vs. $NonGAAP_{sa}$	-0.158	0.997
	$ANA\_NonGAAP_{expl}$ vs. $NonGAAP_{expl}$	0.223	0.992
	$ANA\_NonGAAP_{sa}$ vs. $GAAP_{only}$	0.792	0.114
	$ANA\_NonGAAP_{expl}$ vs. $GAAP_{only}$	1.590	0.000***
	$NonGAAP_{sa}$ vs. ANA_GAAP_{only}	-0.309	0.952
	$NonGAAP_{expl}$ vs. ANA_GAAP_{only}	0.098	1.000
	$ANA\_NonGAAP_{expl}$ vs. $NONGAAP_{sa}$	0.640	0.575
	$NonGAAP_{expl}$ vs.$ANA\_NONGAAP_{sa}$	0.565	0.598
*** p < .01, ** p < .05, * p < .1 (two-tailed)			

4.7 References

Albrecht, A., Chen, J. Z., & Nelson, K. K. (2020). *Non-GAAP Earnings and Auditors' Going Concern Opinions: Working paper.* Texas Christian University.

Alexander, R. M. (2003). The Effects of Source Credibility on Tax Professional Judgment in Consulting Engagements. *Journal of the American Taxation Association*, *25*(s-1), 33–49. https://doi.org/10.2308/jata.2003.25.s-1.33

Allee, K. D., Bhattacharya, N., Black, E. L., & Christensen, T. E. (2007). Pro forma disclosure and investor sophistication: External validation of experimental evidence using archival data. *Accounting, Organizations and Society*, *32*(3), 201–222. https://doi.org/10.1016/j.aos.2006.09.012

Anderson, S. B., Hobson, J. L., & Sommerfeldt, R. D. (2022). Auditing Non-GAAP Measures: Signaling More Than Intended *Contemporary Accounting Research*, *39*(1), 577–606. https://doi.org/10.1111/1911-3846.12724

Andersson, P., & Hellman, N. (2007). Does Pro Forma Reporting Bias Analyst Forecasts? *European Accounting Review*, *16*(2), 277–298. https://doi.org/10.1080/09638180701390966

Arena, C., Catuogno, S., & Moscariello, N. (2020). The unusual debate on non-GAAP reporting in the current standard practice. The lens of corporate governance. *Journal of Management and Governance*, *25*(3), 655–684. https://doi.org/10.1007/s10997-020-09515-z

Asay, H. S., Hales, J., Hinds, C., & Rupar, K. (2023). Nonprofessional Investor Judgments: Linking Dependent Measures to Constructs. *The Accounting Review*, 1–32. https://doi.org/10.2308/TAR-2021-0551

Ashbaugh-Skaife, H., Collins, D. W., & LaFond, R. (2006). The effects of corporate governance on firms' credit ratings. *Journal of Accounting and Economics*, *42*(1), 203–243. https://doi.org/10.1016/j.jacceco.2006.02.003

Badger, A., Li, S., & Shi, S. W. (2025). In the eyes of investors: the role of attention in nonprofessional investors' reaction to earnings announcements. *Accounting Forum*, 1–33. https://doi.org/10.1080/01559982.2025.2488905

Baker, H. K., & Haslem, J. A. (1973). Information needs of individual investors. *The Journal of Accountancy*(5), 64–70. https://doi.org/10.57912/23890383

Beckers, S., Michael Steliaros, & Thomson, A. (2004). Bias in European Analysts' Earnings Forecasts. *Financial Analysts Journal*, *60*(2), 74–85. http://www.jstor.org/stable/4480558

Bentley, J. W. (2021). Improving the Statistical Power and Reliability of Research Using Amazon Mechanical Turk. *Accounting Horizons*, *35*(4), 45–62. https://doi.org/10.2308/HORIZONS-18-052

Bentley, J. W., Christensen, T. E., Gee, K. H., & Whipple, B. C. (2018). Disentangling Managers' and Analysts' Non-GAAP Reporting. *Journal of Accounting Research*, *56*(4), 1039–1081. https://doi.org/10.1111/1475-679X.12206

Beyer, A., Cohen, D. A., Lys, T. Z., & Walther, B. R. (2010). The financial reporting environment: Review of the recent literature. *Journal of Accounting and Economics*, *50*(2), 296–343. https://doi.org/10.1016/j.jacceco.2010.10.003

Bhattacharya, N., Black, E. L., Christensen, T. E., & Larson, C. R. (2003). Assessing the relative informativeness and permanence of pro forma earnings and GAAP operating earnings. *Journal of Accounting and Economics*, *36*(1), 285–319. https://doi.org/10.1016/j.jacceco.2003.06.001

Bhattacharya, N., Black, E. L., Christensen, T. E., & Mergenthaler, R. D. (2007). Who Trades on Pro Forma Earnings Information? *The Accounting Review*, *82*(3), 581–619. http://www.jstor.org/stable/30243790

Birnbaum, M. H., & Stegner, S. E. (1979). Source credibility in social judgment: Bias, expertise, and the judge's point of view. *Journal of Personality and Social Psychology*, *37*(1), 48–74. https://doi.org/10.1037/0022-3514.37.1.48

Black, D. E., Black, E. L., Christensen, T. E., & Heninger, W. G. (2012). Has the Regulation of Pro Forma Reporting in the US Changed Investors' Perceptions of Pro Forma Earnings Disclosures? *Journal of Business Finance & Accounting*, *39*(7-8), 876–904. https://doi.org/10.1111/j.1468-5957.2012.02297.x

Black, D. E., & Christensen, T. E. (2009). US Managers' Use of 'Pro Forma' Adjustments to Meet Strategic Earnings Targets. *Journal of Business Finance & Accounting*, *36*(3-4), 297–326. https://doi.org/10.1111/j.1468-5957.2009.02128.x

Black, E. L., Christensen, T. E., Kiosse, P. V., & Steffen, T. D. (2017). Has the Regulation of Non-GAAP Disclosures Influenced Managers' Use of Aggressive Earnings Exclusions? *Journal of Accounting, Auditing & Finance*, *32*(2), 209–240. https://doi.org/10.1177/0148558X15599131

Black, D. E., Christensen, T. E., Ciesielski, J. T., & Whipple, B. C. (2018). Non-GAAP reporting: Evidence from academia and current practice. *Journal of Business Finance & Accounting*, *45*(3-4), 259–294. https://doi.org/10.1111/jbfa.12298

Black, D. E., Christensen, T. E., Ciesielski, J. T., & Whipple, B. C. (2021). Non-GAAP Earnings: A Consistency and Comparability Crisis? *Contemporary Accounting Research*, *38*(3), 1712–1747. https://doi.org/10.1111/1911-3846.12671

Boivie, S., Graffin, S. D., & Gentry, R. J. (2016). Understanding the direction, magnitude, and joint effects of reputation when multiple actors' reputations collide. *Academy of Management Journal.* Advance online publication. https://doi.org/10.5465/amj.2014.0521

Bond, D., Czernkowski, R., Lee, Y.-S., & Loyeung, A. (2017). Market reaction to non-GAAP earnings around SEC regulation. *Journal of Contemporary Accounting & Economics*, *13*(3), 193–208. https://doi.org/10.1016/j.jcae.2017.09.001

Bouteska, A., & Mili, M. (2023). The Role of Investor Sentiment and Valuation Uncertainty in the Changes around Analyst Recommendations: Evidence from U.S. Firms. *Journal of Behavioral Finance*, *24*(1), 73–96. https://doi.org/10.1080/15427560.2021.1948853

Bowen, R. M., Davis, A. K., & Matsumoto, D. A. (2005). Emphasis on Pro Forma versus GAAP Earnings in Quarterly Press Releases: Determinants, SEC Intervention, and Market Reactions. *The Accounting Review*, *80*(4), 1011–1038. http://www.jstor.org/stable/4093115

Bradshaw, M. T., Christensen, T. E., Gee, K. H., & Whipple, B. C. (2018). Analysts' GAAP earnings forecasts and their implications for accounting research. *Journal of Accounting and Economics*, *66*(1), 46–66. https://doi.org/10.1016/j.jacceco.2018.01.003

Bradshaw, M. T., Ertimur, Y., & O'Brien, P. (2017). Financial Analysts and Their Contribution to Well-Functioning Capital Markets. *Foundations and Trends® in Accounting*, *11*(3), 119–191. https://doi.org/10.1561/1400000042

Bradshaw, M. T., Richardson, S. A., & Sloan, R. G. (2001). Do Analysts and Auditors Use Information in Accruals? *Journal of Accounting Research*, *39*(1), 45–74. https://doi.org/10.1111/1475-679X.00003

Bradshaw, M. T., & Sloan, R. G. (2002). GAAP versus The Street: An Empirical Assessment of Two Alternative Definitions of Earnings. *Journal of Accounting Research*, *40*(1), 41–66. https://doi.org/10.1111/1475-679X.00038

Brauer, M., & Wiersema, M. (2018). Analyzing Analyst Research: A Review of Past Coverage and Recommendations for Future Research. *Journal of Management*, *44*(1), 218–248. https://doi.org/10.1177/0149206317734900

Brosnan, M., Duncan, K., Hasso, T., & Hollindale, J. (2023a). Happy 20-year anniversary non-GAAP earnings: a systematic review of the literature. *Journal of Accounting Literature*, *ahead-of-print*(ahead-of-print). https://doi.org/10.1108/JAL-02-2023-0035

Brosnan, M., Duncan, K., Hasso, T., & Hollindale, J. (2023b). Non-GAAP earnings and executive compensation: An experiment. *Accounting & Finance*, Article acfi.13098. Advance online publication. https://doi.org/10.1111/acfi.13098

Brown, L. D., Call, A. C., Clement, M. B., & Sharp, N. Y. (2015). Inside the "Black Box" of Sell-Side Financial Analysts. *Journal of Accounting Research*, *53*(1), 1–47. http://www.jstor.org/stable/24518861

Brown, N. C., Christensen, T. E., Elliott, W. B., & Mergenthaler, R. D. (2012). Investor Sentiment and Pro Forma Earnings Disclosures. *Journal of Accounting Research*, *50*(1), 1–40. https://doi.org/10.1111/j.1475-679X.2011.00427.x

Brown, L. D., & Sivakumar, K. (2003). Comparing the value relevance of two operating income measures. *Review of Accounting Studies*, *8*(4), 561–572. https://doi.org/10.1023/A:1027328418571

Ceravolo, M. G., Farina, V., Fattobene, L., Leonelli, L., & Raggetti, G. (2022). Anchoring effect in visual information processing during financial decisions: An eye-tracking study. *Journal of Neuroscience, Psychology, and Economics*, *15*(1), 19–30. https://doi.org/10.1037/npe0000153

Chandler, J. J., & Paolacci, G. (2017). Lie for a Dime: When Most Prescreening Responses Are Honest but Most Study Participants Are Impostors. *Social Psychological and Personality Science*, *8*(5), 500–508. https://doi.org/10.1177/1948550617698203

Chang, M., Ng, J., & Yu, K. (2008). The Influence of Analyst and Management Forecasts on Investor Decision Making: An Experimental Approach. *Australian Journal of Management*, *33*(1), 47–67. https://doi.org/10.1177/031289620803300104

Charitou, A., Floropoulos, N., Karamanou, I., & Loizides, G. (2018). Non-GAAP Earnings Disclosures on the Face of the Income Statement by UK Firms: The Effect on Market Liquidity. *The International Journal of Accounting*, *53*(3), 183–202. https://doi.org/10.1016/j.intacc.2018.07.003

Chen, J., Cumming, D., Hou, W., & Lee, E. (2016). Does the External Monitoring Effect of Financial Analysts Deter Corporate Fraud in China? *Journal of Business Ethics*, *134*(4), 727–742. https://doi.org/10.1007/s10551-014-2393-3

Chen, L., Krishnan, G., & Pevzner, M. (2012). Pro forma disclosures, audit fees, and auditor resignations. *Journal of Accounting and Public Policy*, *31*(3), 237–257. https://doi.org/10.1016/j.jaccpubpol.2011.10.008

Chen, H.-C., Lee, Y.-J., Lo, S.-Y., & Yu, Y. (2021). Qualitative characteristics of non-GAAP disclosures and non-GAAP earnings quality. *Journal of Accounting and Economics*, *72*(1), 101402. https://doi.org/10.1016/j.jacceco.2021.101402

Christensen, T. E., Gomez, E., Ma, M., & Pan, J. (2021). Analysts' role in shaping non-GAAP reporting: Evidence from a natural experiment. *Review of Accounting Studies*, *26*(1), 172–217. https://doi.org/10.1007/s11142-020-09564-7

Christensen, T. E., Merkley, K. J., Tucker, J. W., & Venkataraman, S. (2011). Do managers use earnings guidance to influence street earnings exclusions? *Review of Accounting Studies*, *16*(3), 501–527. https://doi.org/10.1007/s11142-011-9158-3

Christensen, T. E., Pei, H., Pierce, S. R., & Tan, L. (2019). Non-GAAP reporting following debt covenant violations. *Review of Accounting Studies*, 1–36. https://doi.org/10.1007/s11142-019-09492-1

Chrzan, S., & Pott, C. (2024). Limiting environmental reporting flexibility: Investor judgment based on the EU taxonomy. *Review of Quantitative Finance and Accounting*, 1–38. https://doi.org/10.1007/s11156-024-01297-x

Coffee, J. C. (2006). *Gatekeepers: The professions and corporate governance* (1. publ). *Clarendon lectures in management studies*. Oxford Univ. Press. http://www.loc.gov/catdir/enhancements/fy0725/2006284515-b.html

Cohen, J. R., Gaynor, L. M., Krishnamoorthy, G., & Wright, A. M. (2022). The effects of audit committee ties and industry expertise on investor judgments—Extending Source Credibility Theory. *Accounting, Organizations and Society*, *102*, 101352. https://doi.org/10.1016/j.aos.2022.101352

Cohen, J. R., Krishnamoorthy, G., & Wright, A. M. (2002). Corporate Governance and the Audit Process *Contemporary Accounting Research*, *19*(4), 573–594. https://doi.org/10.1506/983M-EPXG-4Y0R-J9YK

Coleman, D., & Usvyatsky, O. (2015). *Trends in Non-GAAP Disclosures*. https://blog.auditanalytics.com/trends-in-non-gaap-disclosures/

Connelly, B. L., Certo, S. T., Ireland, R. D., & Reutzel, C. R. (2011). Signaling Theory: A Review and Assessment. *Journal of Management*, *37*(1), 39–67. https://doi.org/10.1177/0149206310388419

Cortina, J. M. (1993). What is coefficient alpha? An examination of theory and applications. *Journal of Applied Psychology*, *78*(1), 98–104. https://doi.org/10.1037/0021-9010.78.1.98

Cotter, J., & Young, S. M. (2007). Do Analysts Anticipate Accounting Fraud? Advance online publication. https://doi.org/10.2139/ssrn.981484

Curtis, A., Li, V., & Patrick, P. H. (2021). The use of adjusted earnings in performance evaluation. *Review of Accounting Studies*, *26*(4), 1290–1322. https://doi.org/10.1007/s11142-021-09580-1

Curtis, A. B., McVay, S. E., & Whipple, B. C. (2014). The Disclosure of Non-GAAP Earnings Information in the Presence of Transitory Gains. *The Accounting Review*, *89*(3), 933–958. http://www.jstor.org/stable/24468323

De Bondt, W. F. M., & Thaler, R. H. (1990). Do Security Analysts Overreact? *The American Economic Review*, *80*(2), 52–57. http://www.jstor.org/stable/2006542

DeBoskey, D. G., Wang, J., & Wang, L. (2025). CFO prior audit experience and firms' non-GAAP reporting. *Review of Quantitative Finance and Accounting.* Advance online publication. https://doi.org/10.1007/s11156-025-01390-9

DeZoort, F. T., Houston, R. W., & Hermanson, D. R. (2003). Audit Committee Member Support for Proposed Audit Adjustments: A Source Credibility Perspective. *AUDITING: A Journal of Practice & Theory*, *22*(2), 189–205. https://doi.org/10.2308/aud.2003.22.2.189

Dilla, W. N., Janvrin, D. J., & Jeffrey, C. (2013). The impact of graphical displays of pro forma earnings information on professional and nonprofessional investors' earnings judgments. *Behavioral Research in Accounting*.

Dilla, W. N., Janvrin, D. J., & Jeffrey, C. (2014). Pro forma accounting disclosures: The effect of reconciliations and financial reporting knowledge on nonprofessional investors' judgments. *Advances in Accounting*, *30*(1), 43–54. https://doi.org/10.1016/j.adiac.2013.12.002

Doyle, J. T., Jennings, J. N., & Soliman, M. T. (2013). Do managers define non-GAAP earnings to meet or beat analyst forecasts? *Journal of Accounting and Economics*, *56*(1), 40–56. https://doi.org/10.1016/j.jacceco.2013.03.002

Drake, M. S., & Myers, L. A. (2011). Analysts' accrual-related over-optimism: do analyst characteristics play a role? *Review of Accounting Studies*, *16*(1), 59–88. https://doi.org/10.1007/S11142-009-9118-3

Durnev, A. R., & Kim, E. H. (2005). To Steal or Not to Steal: Firm Attributes, Legal Environment, and Valuation. *The Journal of Finance*, *60*(3), 1461–1493. https://doi.org/10.1111/j.1540-6261.2005.00767.x

Durney, M. T., Johnson, J. A., Sinha, R. K., & Young, D. (2024). CEO (in)activism and investor decisions. *Contemporary Accounting Research*, Article 1911-3846.13004. Advance online publication. https://doi.org/10.1111/1911-3846.13004

Dyck, A., Morse, A., & Zingales, L. (2010). Who Blows the Whistle on Corporate Fraud? *The Journal of Finance*, *65*(6), 2213–2253. https://doi.org/10.1111/j.1540-6261.2010.01614.x

Ege, M., Kartapanis, A., & Whipple, B. C. (2024). Audits of Non-GAAP Earnings: Evidence from Adjusted EBITDA in Segment Disclosures. *SSRN Electronic Journal.* Advance online publication. https://doi.org/10.2139/ssrn.4852518

Elliott, W. B. (2006). Are Investors Influenced by Pro Forma Emphasis and Reconciliations in Earnings Announcements? *The Accounting Review*, *81*(1), 113–133. https://doi.org/10.2308/accr.2006.81.1.113

Elliott, W. B., Hodge, F. D., Kennedy, J. J., & Pronk, M. (2007). Are M.B.A. Students a Good Proxy for Nonprofessional Investors? *The Accounting Review*, *82*(1), 139–168. https://doi.org/10.2308/accr.2007.82.1.139

Entwistle, G. M., Feltham, G. D., & Mbagwu, C. (2006). Financial Reporting Regulation and the Reporting of Pro Forma Earnings. *Accounting Horizons*, *20*(1), 39–55. https://doi.org/10.2308/acch.2006.20.1.39

European Securities and Markets Authority. (2019). *Report On the use of Alternative Performance Measures and on the compliance with ESMA's APM Guidelines.*

European Securities and Markets Authority. https://www.esma.europa.eu/document/report-use-alternative-performance-measures-and-compliance-esma%E2%80%99s-apm-guidelines

Fama, E. F. (1980). Agency Problems and the Theory of the Firm. *Journal of Political Economy*, *88*(2), 288–307. https://doi.org/10.1086/260866

Fang, L. H., & Yasuda, A. (2014). Are stars' opinions worth more? The relation between analyst reputation and recommendation values. *Journal of Financial Services Research.* Advance online publication. https://doi.org/10.1007/s10693-013-0178-y

Feng, Z., Francis, J. R., Shan, Y., & Taylor, S. L. (2023). Do High-Quality Auditors Improve Non-GAAP Reporting? *The Accounting Review*, *98*(1), 215–250. https://doi.org/10.2308/TAR-2019-0592

Frankel, R., McVay, S. E., & Soliman, M. (2011). Non-GAAP earnings and board independence. *Review of Accounting Studies*, *16*(4), 719–744. https://doi.org/10.1007/s11142-011-9166-3

Frederickson, J. R., & Miller, J. S. (2004). The Effects of Pro Forma Earnings Disclosures on Analysts' and Nonprofessional Investors' Equity Valuation Judgments. *The Accounting Review*, *79*(3), 667–686. http://www.jstor.org/stable/3203274

Gill, F. J., Leslie, G. D., Grech, C., & Latour, J. M. (2013). Using a web-based survey tool to undertake a Delphi study: Application for nurse education research. *Nurse Education Today*, *33*(11), 1322–1328. https://doi.org/10.1016/j.nedt.2013.02.016

Gillan, S. L. (2006). Recent Developments in Corporate Governance: An Overview. *Journal of Corporate Finance*, *12*(3), 381–402. https://doi.org/10.1016/j.jcorpfin.2005.11.002

Gillan, S. L., & Starks, L. T. (2005). A Survey of Shareholder Activism: Motivation and Empirical Evidence. *SSRN Electronic Journal.* Advance online publication. https://doi.org/10.2139/ssrn.663523

Gomez, E., Heflin, F., & Wang, J [Jasmine] (2023). Securities and Exchange Commission Regulation and Non-GAAP Income Statements. *The Accounting Review*, *98*(2), 149–175. https://doi.org/10.2308/TAR-2018-0719

Guest, N. M., Kothari, S. P., & Pozen, R. C. (2022). Why Do Large Positive Non-GAAP Earnings Adjustments Predict Abnormally High CEO Pay? *The Accounting Review*, *97*(6), 297–326. https://doi.org/10.2308/TAR-2019-0003

Guillamon-Saorin, E., Isidro, H., & Marques, A. (2017). Impression management and non-GAAP disclosure in earnings announcements. *Journal of Business Finance & Accounting.* Advance online publication. https://doi.org/10.1111/jbfa.12238

Guillamon-Saorin, E., Osma, B. G., & Jones, M. J. (2012). Opportunistic disclosure in press release headlines. *Accounting and Business Research*, *42*(2), 143–168. https://doi.org/10.1080/00014788.2012.632575

Hail, L., Muhn, M., & Oesch David (2021). Do Risk Disclosures Matter When It Counts? Evidence from the Swiss Franc Shock. *Journal of Accounting Research*, *59*(1), 283–330. https://doi.org/10.1111/1475-679X.12338

Hallman, N. J., Schmidt, J. J., & Thompson, A. M. (2022). Audit Implications of Non-GAAP Reporting. *Journal of Accounting Research*, *60*(5), 1947–1989. https://doi.org/10.1111/1475-679X.12433

Hao, J. (2023). The effect of disclosure committees on non-GAAP reporting quality. *Journal of Accounting and Public Policy*, *42*(4), 107118. https://doi.org/10.1016/j.jaccpubpol.2023.107118

Heflin, F., & Hsu, C. (2008). The impact of the SEC's regulation of non-GAAP disclosures. *Journal of Accounting and Economics*, *46*(2-3), 349–365. https://doi.org/10.1016/j.jacceco.2008.07.002

Heflin, F., Tan, J., Ton, K., & Wang, J [Jasmine] (2024). Does auditor style influence non-GAAP earnings disclosure? *Contemporary Accounting Research*, *41*(3), 1639–1671. https://doi.org/10.1111/1911-3846.12952

Herr, S. B., Lorson, P., & Pilhofer, J. (2022). Alternative Performance Measures: A Structured Literature Review of Research in Academic and Professional Journals. *Schmalenbach Journal of Business Research*, *74*(3), 389–451. https://doi.org/10.1007/s41471-022-00138-8

Hillman, A. J., & Dalziel, T. (2003). Boards of Directors and Firm Performance: Integrating Agency and Resource Dependence Perspectives. *The Academy of Management Review*, *28*(3), 383–396. https://doi.org/10.2307/30040728

Hirst, D. E., Koonce, L., & Simko, P. J. (1995). Investor Reactions to Financial Analysts' Research Reports. *Journal of Accounting Research*, *33*(2), 335. https://doi.org/10.2307/2491491

Hirst, D. E., Koonce, L., & Miller, J. (1999). The Joint Effect of Management's Prior Forecast Accuracy and the Form of Its Financial Forecasts on Investor Judgment. *Journal of Accounting Research*, *37*, 101. https://doi.org/10.2307/2491347

Hitz, J.-M. (2010a). Press Release Disclosure of 'Pro Forma' Earnings Metrics by Large German Corporations – Empirical Evidence and Regulatory Recommendations. *Accounting in Europe*, *7*(1), 63–86. https://doi.org/10.1080/17449480.2010.485376

Hitz, J.-M. (2010b). Information versus adverse Anlegerbeeinflussung: Befund und Implikationen der empirischen Rechnungswesenforschung zur Publizität von Pro-forma-Ergebnisgrößen. *Journal Für Betriebswirtschaft*, *60*(2), 127–161. https://doi.org/10.1007/s11301-010-0059-5

Hoang, H., & Phang, S.-Y. (2021). How Does Combined Assurance Affect the Reliability of Integrated Reports and Investors' Judgments? *European Accounting Review*, *30*(1), 175–195. https://doi.org/10.1080/09638180.2020.1745659

Hodge, F. D., Kennedy, J. J., & Maines, L. A. (2004). Does Search-Facilitating Technology Improve the Transparency of Financial Reporting? *The Accounting Review*, *79*(3), 687–703. https://doi.org/10.2308/accr.2004.79.3.687

Hogan, B. R., Krishnamoorthy, G., & Maroney, J. J. (2017). Pro Forma Earnings Presentation Effects and Investment Decisions. *Behavioral Research in Accounting*, *29*(2), 11–24. https://doi.org/10.2308/bria-51775

Holt, T. P. (2019). An Examination of Nonprofessional Investor Perceptions of Internal and External Auditor Assurance. *Behavioral Research in Accounting*, *31*(1), 65–80. https://doi.org/10.2308/bria-52276

Homburg, C., Klarmann, M., & Vomberg, A. (Eds.). (2017). *Handbook of Market Research*. Springer International Publishing. https://doi.org/10.1007/978-3-319-05542-8

Hong, H., Kubik, J. D., & Solomon, A. (2000). Security Analysts' Career Concerns and Herding of Earnings Forecasts. *The RAND Journal of Economics*, *31*(1), 121. https://doi.org/10.2307/2601032

Hovakimian, A., & Saenyasiri, E. (2010). Conflicts of Interest and Analyst Behavior: Evidence from Recent Changes in Regulation. *Financial Analysts Journal*, *66*(4), 96–107. http://www.jstor.org/stable/25741294

Huang, A. H., Lehavy, R., Zang, A. Y., & Zheng, R. (2018). Analyst Information Discovery and Interpretation Roles: A Topic Modeling Approach. *Management Science*, *64*(6), 2833–2855. https://doi.org/10.1287/mnsc.2017.2751

Huang, Q., & Skantz, T. R. (2016). The informativeness of pro forma and street earnings: an examination of information asymmetry around earnings announcements. *Review of Accounting Studies*, *21*(1), 198–250. https://doi.org/10.1007/s11142-015-9345-8

Huber, J., Kirchler, M., & Stöckl, T. (2010). The hot hand belief and the gambler's fallacy in investment decisions under risk. *Theory and Decision*, *68*(4), 445–462. https://doi.org/10.1007/s11238-008-9106-2

Hutton, A. P., Miller, G. S., & Skinner, D. J. (2003). The Role of Supplementary Statements with Management Earnings Forecasts. *Journal of Accounting Research*, *41*(5), 867–890. https://doi.org/10.1046/j.1475-679X.2003.00126.x

Hux, C. T. (2021). How Does Disclosure of Component Auditor Use Affect Nonprofessional Investors' Perceptions and Behavior? *AUDITING: A Journal of Practice & Theory*, *40*(1), 35–54. https://doi.org/10.2308/AJPT-18-116

Isidro, H., & Marques, A. (2013). The Effects of Compensation and Board Quality on Non-GAAP Disclosures in Europe. *The International Journal of Accounting*, *48*(3), 289–317. https://doi.org/10.1016/j.intacc.2013.07.004

Isidro, H., & Marques, A. (2015). The Role of Institutional and Economic Factors in the Strategic Use of Non-GAAP Disclosures to Beat Earnings Benchmarks. *European Accounting Review*, *24*(1), 95–128. https://doi.org/10.1080/09638180.2014.894928

Jana, S., & McMeeking, K. (2021). Alternative Performance Measures: Determinants of Disclosure Quality – Evidence from Germany. *Accounting in Europe*, *18*(1), 102–142. https://doi.org/10.1080/17449480.2020.1829655

Jansson, M., Michaelsen, P., Sonsino, D., & Gärling, T. (2024). Non-professional versus professional investors' trust in financial analysts' recommendations and influences on investments. *Review of Behavioral Finance*, *16*(5), 860–882. https://doi.org/10.1108/RBF-07-2023-0191

Jennings, R., & Marques, A. (2011). The Joint Effects of Corporate Governance and Regulation on the Disclosure of Manager-Adjusted Non-GAAP Earnings in the US. *Journal of Business Finance & Accounting*, *38*(3-4), 364–394. https://doi.org/10.1111/j.1468-5957.2011.02238.x

Jin, H., Mazouz, K., Wu, Y., & Xu, B. (2023). Can star analysts make superior coverage decisions in poor information environment? *Journal of Banking & Finance*, *146*, 106650. https://doi.org/10.1016/j.jbankfin.2022.106650

Johnson, A., Percy, M., Stevenson-Clarke, P., & Cameron, R. (2014). The Impact of the Disclosure of Non-GAAP Earnings in Australian Annual Reports on Non-Sophisticated Users. *Australian Accounting Review*, *24*(3), 207–217. https://doi.org/10.1111/auar.12034

Johnson, W. B., & Schwartz, W. C. (2005). Are Investors Misled by "Pro Forma" Earnings? *Contemporary Accounting Research*, *22*(4), 915–963. https://doi.org/10.1506/CKET-2ERA-NNRP-ATXF

Kadous, K., Mercer, M., & Thayer, J. (2009). Is There Safety in Numbers? The Effects of Forecast Accuracy and Forecast Boldness on Financial Analysts' Credibility with Investors. *Contemporary Accounting Research*, *26*(3), 933–968. https://doi.org/10.1506/car.26.3.12

Kahneman, D., & Tversky, A. (1979). Prospect Theory: An Analysis of Decision under Risk. *Econometrica*, *47*(2), 263–291. https://doi.org/10.2307/1914185

Kelly, K., Low, B., Tan, H.-T., & Tan, S.-K. (2012). Investors' Reliance on Analysts' Stock Recommendations and Mitigating Mechanisms for Potential Overreliance *Contemporary Accounting Research*, *29*(3), 991–1012. https://doi.org/10.1111/j.1911-3846.2011.01138.x

Kim, J. B., Kim, Y., & Lee, J. (2021). Analyst reputation and management earnings forecasts. *Journal of Accounting and Public Policy*, *40*(1), 106804. https://doi.org/10.1016/j.jaccpubpol.2020.106804

Kirk, M. P., Reppenhagen, D. A., & Tucker, J. W. (2014). Meeting Individual Analyst Expectations. *The Accounting Review*, *89*(6), 2203–2231. https://doi.org/10.2308/accr-50828

Klapper, L., & Love, I. (2004). Corporate governance, investor protection, and performance in emerging markets. *Journal of Corporate Finance*, *10*(5), 703–728. https://EconPapers.repec.org/RePEc:eee:corfin:v:10:y:2004:i:5:p:703-728

Koch, C. von, Nilsson, O., & Eriksson, K. (2014). Does shareholder protection affect the performance of analysts as a gatekeeper? *Journal of Management and Governance*, *18*(2), 315–345. https://doi.org/10.1007/s10997-012-9227-4

Kolev, K., Marquardt, C. A., & McVay, S. E. (2008). SEC Scrutiny and the Evolution of Non-GAAP Reporting. *The Accounting Review*, *83*(1), 157–184. https://doi.org/10.2308/accr.2008.83.1.157

Koning, M., Mertens, G., & Roosenboom, P. (2010). The Impact of Media Attention on the Use of Alternative Earnings Measures. *Abacus*, *46*(3), 258–288. https://doi.org/10.1111/j.1467-6281.2010.00319.x

Kotzian, P., Stoeber, T., Hoos, F., & Weissenberger, B. E. (2020). To be or not to be in the sample? On using manipulation checks in experimental accounting research. *Accounting Research Journal*, *33*(3), 469–482. https://doi.org/10.1108/ARJ-06-2019-0128

Krische, S. D. (2019). Investment Experience, Financial Literacy, and Investment-Related Judgments. *Contemporary Accounting Research*, *36*(3), 1634–1668. https://doi.org/10.1111/1911-3846.12469

Krishnan, R., & Booker, D. M. (2002). Investors' Use of Analysts' Recommendations. *Behavioral Research in Accounting*, *14*(1), 129–156. https://doi.org/10.2308/bria.2002.14.1.129

Kühberger, A., & Tanner, C. (2010). Risky choice framing: Task versions and a comparison of prospect theory and fuzzy-trace theory. *Journal of Behavioral Decision Making*, *23*(3), 314–329. https://doi.org/10.1002/bdm.656

Lachmann, M., Wöhrmann, A., & Wömpener, A. (2011). Acquisition and integration of fair value information on liabilities into investors' judgments. *Review of Accounting & Finance*.

Lambert, T. A., Luippold, B. L., & Stefaniak, C. M. (2018). Audit Partner Disclosure: An Experimental Exploration of Accounting Information Contagion. *Behavioral Research in Accounting*, *30*(1), 27–38. https://doi.org/10.2308/bria-51853

Lee, C.-H. (2022). Non-generally accepted accounting principles disclosures and audit committee chairs' external directorships. *Journal of Business Finance & Accounting.* Advance online publication. https://doi.org/10.1111/jbfa.12566

Leone, M. (2010). *What's on the SEC's Radar?* https://www.cfo.com/news/whats-on-the-secs-radar/669054/

Levy, J. S. (1992). An Introduction to Prospect Theory. *Political Psychology*, *13*(2), 171–186. http://www.jstor.org/stable/3791677

Libby, R., Bloomfield, R., & Nelson, M. W. (2002). Experimental research in financial accounting. *Accounting, Organizations and Society*, *27*(8), 775–810. https://doi.org/10.1016/S0361-3682(01)00011-3

Liew, T. W., & Tan, S.-M. (2021). Social cues and implications for designing expert and competent artificial agents: A systematic review. *Telematics and Informatics*, *65*, 101721. https://doi.org/10.1016/j.tele.2021.101721

Lim, Y., & Monroe, G. S. (2022). Analyst Coverage and Audit Fees: International Evidence. *Journal of Accounting, Auditing & Finance*, *37*(2), 466–492. https://doi.org/10.1177/0148558X20928243

Loh, R. K., & Stulz, R. M. (2011). When Are Analyst Recommendation Changes Influential? *Review of Financial Studies*, *24*(2), 593–627. https://doi.org/10.1093/rfs/hhq094

Lougee, B. A., & Marquardt, C. A. (2004). Earnings Informativeness and Strategic Disclosure: An Empirical Examination of "Pro Forma" Earnings. *The Accounting Review*, *79*(3), 769–795. http://www.jstor.org/stable/3203278

Macchioni, R., Allini, A., & Prisco, M. (2022). The role of the Big Four audit firms and the legal system in non-GAAP comparability. *Financial Reporting*(1), Article 3, 79–116. https://doi.org/10.3280/FR2022-001003

Maines, L. A., & McDaniel, L. S. (2000). Effects of Comprehensive-Income Characteristics on Nonprofessional Investors' Judgments: The Role of Financial-Statement Presentation Format. *The Accounting Review*, *75*(2), 179–207. https://doi.org/10.2308/accr.2000.75.2.179

Malmendier, U., & Shanthikumar, D. (2007). Are small investors naive about incentives? *Journal of Financial Economics*, *85*(2), 457–489. https://doi.org/10.1016/j.jfineco.2007.02.001

Marques, A. (2006). Sec interventions and the frequency and usefulness of non-GAAP financial measures. *Review of Accounting Studies*, *11*(4), 549–574. https://doi.org/10.1007/s11142-006-9016-x

Marques, A. (2010). Disclosure strategies among S&P 500 firms: Evidence on the disclosure of non-GAAP financial measures and financial statements in earnings press releases. *The British Accounting Review*, *42*(2), 119–131. https://doi.org/10.1016/j.bar.2010.02.004

Marques, A. (2017). Non-GAAP earnings: International overview and suggestions for future research. *Meditari Accountancy Research*, *25*(3), 318–335. https://doi.org/10.1108/MEDAR-04-2017-0140

Martin, R. (2019). Examination and implications of experimental research on investor perceptions. *Journal of Accounting Literature*, *43*(1), 145–469. https://doi.org/10.1016/j.acclit.2019.11.001

McKeon, J. (2018). *Long-Term Trends in Non-GAAP Disclosures: A Three-Year Overview*. https://blog.auditanalytics.com/long-term-trends-in-non-gaap-disclosures-a-three-year-overview/

Mercer, M. (2004). How Do Investors Assess the Credibility of Management Disclosures? *Accounting Horizons*, *18*(3), 185–196. https://doi.org/10.2308/acch.2004.18.3.185

Mikhail, M. B., Walther, B. R., & Willis, R. H. (2007). When Security Analysts Talk, Who Listens? *The Accounting Review*, *82*(5), 1227–1253. http://www.jstor.org/stable/30243498

Moscariello, N., & Pizzo, M. (Eds.). (2020). *Reporting Non-GAAP Financial Measures: A Theoretical and Empirical Analysis in Europe*. London.

Nelson, M. W., & Tayler, W. B. (2007). Information Pursuit in Financial Statement Analysis: Effects of Choice, Effort, and Reconciliation. *The Accounting Review*, *82*(3), 731–758. https://doi.org/10.2308/accr.2007.82.3.731

Ormazábal, G. (2016). The Role of Stakeholders in Corporate Governance: A View from Accounting Research. *Foundations and Trends® in Accounting*, *11*(4), 193–290. https://doi.org/10.1561/1400000053

Peterson, R. A. (1994). A Meta-Analysis of Cronbach's Coefficient Alpha. *Journal of Consumer Research*, *21*(2), 381–391. http://www.jstor.org/stable/2489828

Pornpitakpan, C. (2004). The Persuasiveness of Source Credibility: A Critical Review of Five Decades' Evidence. *Journal of Applied Social Psychology*, *34*(2), 243–281. https://doi.org/10.1111/j.1559-1816.2004.tb02547.x

PwC (Ed.). (2024). *Earnings with a twist: 2024 update on SEC staff non-GAAP comment trends*. https://viewpoint.pwc.com/dt/us/en/pwc/in_depths/2024/assets/id202408.pdf

Ranasinghe, D., Unda, L. A., & Wright, S. (2022). Do women mind the non-GAAP? Board gender diversity and non-GAAP disclosure quality. *European Accounting Review*, 1–27. https://doi.org/10.1080/09638180.2022.2116065

Rautiainen, A., Saastamoinen, J., & Pajunen, K. (2023). Auditors' perceptions of alternative performance measures – alternative truths and professional skepticism. *Accounting in Europe*, 1–20. https://doi.org/10.1080/17449480.2023.2244509

Reimsbach, D. (2014). Pro forma earnings disclosure: the effects of non-GAAP earnings and earnings-before on investors' information processing. *Journal of Business Economics*, *84*(4), 479–515. https://doi.org/10.1007/s11573-013-0688-y

Revsine, L., Collins, D. W., & Johnson, W. B. (2001). *Financial reporting & analysis* (2nd ed.). Prentice Hall.

Schipper, K. (1991). Analysts' Forecasts. *Accounting Horizons*, *5*(4).

Schwarzkopf, D. L. (2006). Investors' attitudes toward source credibility. *Managerial Auditing Journal*, *22*(1), 18–33. https://doi.org/10.1108/02686900710715620

Seetharaman, A., Wang, X., & Zhang, S. (2014). An Empirical Analysis of the Effects of Accounting Expertise in Audit Committees on Non-GAAP Earnings Exclusions. *Accounting Horizons*, *28*(1), 17–37. https://doi.org/10.2308/acch-50584

Sellhorn, T., Hombach, K., & Stier, C. (2014). *Strategische Finanzberichterstattung durch Pro forma-Kennzahlen und Finanzgrafiken: Herausforderung für die Abschlussanalyse*. *Edition Unternehmensmitbestimmung und Unternehmenssteuerung: Vol. 286*. Hans-Böckler-Stiftung.

Smith, M. (2020). *Research methods in accounting* (Fifth edition). SAGE.

Spence, M. (1973). Job Market Signaling. *The Quarterly Journal of Economics*, *87*(3), 355. https://doi.org/10.2307/1882010

Spyrou, S. (2013). Herding in financial markets: a review of the literature. *Review of Behavioral Finance*, *5*(2), 175–194. https://doi.org/10.1108/RBF-02-2013-0009

SRI International. (1987). *Investor information needs and the annual report*. Financial Executives Research Foundation.

Stickel, S. E. (1992). Reputation and Performance Among Security Analysts. *The Journal of Finance*, *47*(5), 1811–1836. https://doi.org/10.1111/j.1540-6261.1992.tb04684.x

Tversky, A., & Kahneman, D. (1974). Judgment under Uncertainty: Heuristics and Biases. *Science*, *185*(4157), 1124–1131. http://www.jstor.org/stable/1738360

Valli, V., Stahl, F., & Feit, E. M. (2017). Field Experiments. In C. Homburg, M. Klarmann, & A. Vomberg (Eds.), *Handbook of Market Research* (pp. 1–29). Springer International Publishing. https://doi.org/10.1007/978-3-319-05542-8_3-1

Vinciguerra, R., Cappellieri, F., & Gravante, A. (2020). The effects of the ESMA guidelines on the behaviour of companies on non-GAAP disclosure in Europe. In N. Moscariello & M. Pizzo (Eds.), *Reporting Non-GAAP Financial Measures: A Theoretical and Empirical Analysis in Europe.* London.

Walsh, J. P., & Seward, J. K. (1990). On the Efficiency of Internal and External Corporate Control Mechanisms. *The Academy of Management Review*, *15*(3), 421. https://doi.org/10.2307/258017

Washburn, M., & Bromiley, P. (2014). Managers and analysts: An examination of mutual influence. *Academy of Management Journal*.

Welch, I. (2000). Herding among security analysts. *Journal of Financial Economics*, *58*(3), 369–396. https://doi.org/10.1016/S0304-405X(00)00076-3

Westphal, J. D., & Clement, M. B. (2008). Sociopolitical dynamics in relations between top managers and security analysts: Favor rendering, reciprocity, and analyst stock recommendations. *Academy of Management Journal*.

Xu, N., Chan, K. C., Jiang, X., & Yi, Z. (2013). Do star analysts know more firm-specific information? Evidence from China. *Journal of Banking & Finance*, *37*(1), 89–102. https://doi.org/10.1016/j.jbankfin.2012.08.014

Zhang, H., & Zheng, L. (2011). The valuation impact of reconciling pro forma earnings to GAAP earnings. *Journal of Accounting and Economics*, *51*(1-2), 186–202. https://doi.org/10.1016/j.jacceco.2010.07.001

5. Vergütungsberichterstattung der HDAX-Unternehmen nach ARUG II: Formale Aspekte und textanalytische Erkenntnisse

Publikationsdetails

Zusammenfassung: Die Einführung des ARUG II hat die Vergütungsberichterstattung börsennotierter Unternehmen umfassend reformiert. Diese Studie analysiert die Auswirkungen auf Umfang und Lesbarkeit der Berichte anhand eines Prä-Post-Vergleichs von 438 Vergütungsberichten der Berichtsjahre 2020 bis 2022. Textanalysen zeigen, dass sich die Lesbarkeit trotz des stark gestiegenen Berichtsumfangs nur geringfügig verschlechtert hat, die Berichte aber weiterhin schwer verständlich bleiben. Viele Unternehmen lassen ihre Berichte freiwillig über die gesetzlichen Mindestanforderungen hinaus prüfen, um ein bewusstes Transparenzsignal zu senden.

Koautoren: Jonas Maiwald

Stichwörter: Vergütungsberichte, Textanalyse, ARUG II, Corporate Governance, Post-Implementierungsbewertung

Publikationsstatus: Veröffentlicht in: *Betriebswirtschaftliche Forschung und Praxis (BFuP)*, Heft 6 (2025): 585-610.

Hinweis: Aufgrund von Formatierungsanpassungen in dieser Dissertation kann es zu geringfügigen Abweichungen gegenüber der veröffentlichten Version kommen.

5.1 Einleitung

Angesichts der Auswirkungen vergangener Finanzkrisen, unzureichender Unternehmenskontrollen sowie einer verstärkten Ausrichtung auf kurzfristige statt langfristige Unternehmensentwicklungen hat die Europäische Union die Aktionärsrichtlinie (Richtlinie (EU) 2017/828) verabschiedet. Diese hebt den Vergütungsbericht als zentrales Instrument hervor, um die Rechenschaftspflicht der Unternehmensleitung auszudehnen. Ziel ist es, Aktionären eine verbesserte Überwachung und Bewertung der Unternehmensführung auf Basis klar definierter Kriterien zu ermöglichen. In Deutschland wurden die Vorgaben der europäischen Aktionärsrichtlinie durch das Gesetz zur Umsetzung der zweiten Aktionärsrechterichtlinie (ARUG II)[1] vom 12.12.2019 maßgeblich mit Formulierung des § 87a AktG und § 162 AktG in nationales Recht überführt.[2]

Die Berichterstattung der Unternehmensorgane wurde somit grundlegend reformiert, denn erstmalig müssen Unternehmen einen nach den in § 162 Abs. 1 Satz 1 AktG definierten Kriterien *klaren* und *verständlichen* Bericht erstellen. Der vorliegende Beitrag untersucht anhand eines Prä-Post-Vergleichs, inwiefern sich die Vergütungsberichterstattung börsennotierter Unternehmen mit der Einführung des ARUG II verändert hat. Neben formalen Aspekten der Berichterstattung richtet die Analyse den Fokus auf die Lesbarkeit der Vergütungsberichte von HDAX-Unternehmen. Die Sprachkomplexität wird mittels Textanalyse systematisch erfasst, um zu bestimmen, inwieweit die gesetzlichen Anforderungen hinsichtlich Klarheit und Verständlichkeit gemäß § 162 Abs. 1 Satz 1 AktG erfüllt werden.

Der Beitrag ist wie folgt strukturiert: Kapitel 2 stellt die inhaltlichen Neuerungen des ARUG II zur Vergütungsberichterstattung dar und gibt einen Überblick über empirische Studien zur Vorstandsvergütung sowie textanalytische Ansätze in der Rechnungslegungsforschung. Kapitel 3 erläutert die Methodik. Kapitel 4 präsentiert die Ergebnisse der Untersuchung, ordnet sie ein und interpretiert sie unter Berücksichtigung des gewählten methodischen Vorgehens. Kapitel 5 fasst die zentralen Erkenntnisse zusammen.

[1] Vgl. *Bundesministerium der Justiz und für Verbraucherschutz* (2019).
[2] Vgl. *Kolb et al.* (2022), S. 33-35.

5.2 Hintergrund

5.2.1 Gesetz zur Umsetzung der zweiten Aktionärsrechterichtlinie (ARUG II)

Die gesetzlichen Vorgaben zum Vergütungsbericht sind in § 162 AktG normiert. Demnach ist ein separater Vergütungsbericht für ab dem 1.1.2021 beginnende Geschäftsjahre von Vorstand sowie Aufsichtsrat jeder börsennotierten Gesellschaft jährlich zu erstellen.[3] Im Gegensatz zu den vorherigen handelsrechtlichen Vorgaben ist die Erstellung des Vergütungsberichts als eine Gemeinschaftsaufgabe beider Unternehmensorgane zu verstehen.[4] In den sachlichen Anwenderkreis fallen sämtliche börsennotierten Gesellschaften in der Rechtsform einer Aktiengesellschaft (*AG*), Europäische Aktiengesellschaften (*SE*) mit Sitz in Deutschland sowie Kommanditgesellschaften auf Aktien (*KGaA*)[5], wobei Letztere nur mit inhaltlichen Einschränkungen einbezogen werden.[6] Eine verpflichtende Anwendung des § 162 AktG ist über eine entsprechende Regelung in der Unternehmenssatzung auch für nicht börsennotierte Unternehmen denkbar.[7]

Im Vergütungsbericht sind für den relevanten Personenkreis des Vorstands und des Aufsichtsrats nach den Vorgaben des § 162 Abs. 1 Satz 2 AktG unter anderem Angaben zu allen festen und variablen Vergütungsbestandteilen (Nr. 1), zur vergleichenden Darstellung der jährlichen Veränderungen der Vergütung (Nr. 2), zu den gewährten und zugesagten Aktien sowie Aktienoptionen (Nr. 3) und etwaigen Abweichungen vom Vergütungssystem (Nr. 5) zu machen. Ferner sind etwa Angaben nach § 162 Abs. 2 Satz 1 AktG auszuweisen, sofern einem Vorstandsmitglied von einem Dritten im Hinblick auf seine Tätigkeit als Vorstandsmitglied Leistungen zugesagt oder im Geschäftsjahr gewährt worden sind (Nr. 1) oder für den Fall der vorzeitigen Beendigung seiner Tätigkeit zugesagt worden sind (Nr. 2). Eine weitere zentrale Neuerung ist der Vertikalvergleich, bei dem die Organvergütung mit der Ertragsentwicklung der Gesellschaft und der Arbeitnehmervergütung in Relation gesetzt wird.[8] Grundsätzlich dürfen Angaben jedoch

[3] Vgl. § 162 Abs. 1 AktG; § 26j Abs. 2 AktGEG; *MüKoAktG/Spindler*, AktG § 162 Rn. 91; *Rimmelspacher/Roland* (2020), S. 202 f.
[4] Vgl. *MüKoAktG/Spindler*, AktG § 162 Rn. 12.
[5] Mangels Vorstands sind im Falle einer börsennotierten Kommanditgesellschaft auf Aktien der Komplementär sowie der Aufsichtsrat zur Erstellung des Vergütungsberichts verpflichtet. Vgl. *MüKoAktG/Spindler*, AktG § 162 Rn. 12.
[6] Vgl. *MüKoAktG/Spindler*, AktG § 162 Rn. 11; *Rimmelspacher/Roland* (2020), S. 201 f.
[7] Vgl. *Grigoleit/Rachlitz*, AktG § 162 Rn. 27; *Kuthe/Reuters* (2022), S. 2115.
[8] Vgl. *Rimmelspacher/Kliem* (2021), S. 1000.

unterlassen werden, sofern sie nach vernünftiger kaufmännischer Beurteilung der Gesellschaft einen nicht unerheblichen Nachteil zufügen können.[9]

Die handelsrechtlichen Berichtspflichten, insbesondere die Anhangangaben gemäß § 285 Nr. 9 HGB, bleiben weiterhin bestehen, wurden jedoch speziell für börsennotierte Unternehmen im Hinblick auf die Vermeidung von Redundanzen angepasst.[10] Ferner sind die Neuerungen des ARUG II hinsichtlich der Berichterstattung in der gegenwärtigen Fassung des Deutschen Corporate Governance Kodex (DCGK) als Grundsatz mitaufgenommen worden.[11] Ansonsten bestehen keine freiwillig anzuwendenden Empfehlungen und Anregungen im Kodex. Demgemäß sind die Vorgaben aus dem Aktiengesetz alleinige Grundlage zur Erstellung des Vergütungsberichts.[12]

Der Vergütungsbericht soll *klar* und *verständlich* über die im letzten Geschäftsjahr jedem einzelnen gegenwärtigen oder früheren Mitglied des Vorstands und des Aufsichtsrats der Gesellschaft und von Unternehmen desselben Konzerns gewährte und geschuldete Vergütung informieren.[13] Die Formulierung durch den deutschen Gesetzgeber orientiert sich dabei an dem durch die EU-Kommission veröffentlichten Entwurf einer Leitlinie zur Vergütungsberichterstattung.[14] Demnach muss der Bericht generell klar, prägnant, sinnvoll und verständlich sein.[15] Die normativen Empfehlungen auf EU-Ebene sind somit detaillierter als die nationale Umsetzung. Wenngleich die Leitlinien keinen rechtsverbindlichen Charakter haben, so sind die Empfehlungen bei Auslegungsfragen zu berücksichtigen.[16] Die Darstellungsvorgabe der Klarheit und Verständlichkeit gilt gleichermaßen für den Vergütungsbericht nach § 162 AktG als auch für das Vergütungssystem nach § 87a AktG. Aus den unbestimmten Rechtsbegriffen der Klarheit und Verständlichkeit ergibt sich für die Unternehmensorgane somit ein Spielraum für die Gestaltung des Vergütungsberichts.[17] Vorstand und Aufsichtsrat können sich an dem dem Vergütungsbericht zugrunde liegenden Empfängerhorizont des Adressatenkreises orientieren.[18] So wird in der Regierungsbegründung weiter formuliert, dass der

[9] Vgl. § 162 Abs. 6 AktG.
[10] Vgl. *Beck Bil-Komm/Grottel*, HGB § 285 Rn. 260.
[11] Vgl. *Regierungskomission Deutscher Corporate Governance Kodex* (2022), Grundsatz 26.
[12] Vgl. *Rimmelspacher/Roland* (2020), S. 201 f.
[13] Vgl. § 162 Abs. 1 AktG.
[14] Vgl. *EU-Kommission* (2022).
[15] Vgl. *EU-Kommission* (2022), S. 4.
[16] Vgl. *MüKoAktG/Spindler*, AktG § 162 Rn. 31.
[17] Vgl. *Hölters/Weber*, AktG § 162 Rn. 13; *MüKoAktG/Spindler*, AktG § 162 Rn. 32.
[18] Vgl. *Anzinger* (2019), S. 84.

Vergütungsbericht „[…] *dem durchschnittlich informierten, situationsadäquat aufmerksamen und verständigen Aktionär eine informierte Entscheidung* […]" ermöglichen soll.[19] Mitunter wird der Empfängerhorizont auch mit einem allgemeinen, mit den Verhältnissen von Aktiengesellschaften in den Grundzügen vertrauten Leser definiert, während klargestellt wird, dass nicht jede einzelne Person zum Adressatenkreis zählt.[20]

Grundsätzlich sind nach Ansicht des deutschen Gesetzgebers langatmige Formulierungen mit technischen Begriffen zu unterlassen, während hingegen Beispiele und Schaubilder den Zweck der Klarheit und Verständlichkeit fördern können.[21] Im Gegensatz dazu weist die EU-Kommission jedoch darauf hin, dass erläuternde schriftliche Ausführungen insbesondere für komplexe Sachverhalte dienlich sein können.[22] Ferner muss der Vergütungsbericht alle Pflichtinformationen enthalten, wenngleich Negativmeldungen nicht angezeigt werden müssen. Verweise auf andere Veröffentlichungen sind dabei für Pflichtangaben unzulässig, während der Gesetzgeber den Verweis auf über die Berichtspflicht hinausgehende Informationen gestattet.

Die Berichtsgrundlage für den Vergütungsbericht wird durch die ebenfalls nach ARUG II reformierten Vorgaben für das Vergütungssystem von Vorständen börsennotierter Gesellschaften determiniert. Die Klarstellung einer auf die nachhaltige *und* langfristige Entwicklung der Gesellschaft ausgerichteten Vergütungsstruktur stellt eine zentrale Neuerung dar. Sie basiert auf den Grundsätzen für die Bezüge von Vorstandsmitgliedern nach § 87 AktG sowie den neu eingeführten Vorgaben für die Vergütungssysteme börsennotierter Gesellschaften nach § 87a AktG, die als Operationalisierung dieser Grundsätze dienen. Hierdurch wird klargestellt, dass der Nachhaltigkeitsaspekt nicht nur auf eine zeitliche Dimension im Sinne der alten Fassung auszulegen ist, sondern auch ausdrücklich nichtfinanzielle Zielvorgaben berücksichtigt werden müssen, womit der Gesetzgeber die gesellschaftliche Verantwortung der Unternehmen betont.[23] In der Praxis etabliert sich eine klare Tendenz zur Einbindung von ESG-Faktoren in die Vorstandsvergütung.[24] Zusätzlich sind im neu eingeführten § 87a AktG die

[19] Vgl. *Deutscher Bundestag* (2019), S. 109.
[20] Vgl. *Grigoleit/Rachlitz*, AktG § 162 Rn. 17.
[21] Vgl. *Deutscher Bundestag* (2019), S. 109.
[22] Vgl. *EU-Kommission* (2022), S. 4.
[23] Vgl. *Velte* (2020b), S. 14.
[24] Vgl. etwa *Tönnies/Tönnies* (2024); *Schmidt/Pacher* (2022); für Unternehmen im EURO STOXX 50 *Mühlberger/Woern* (2024).

Mindestinhalte zur Vergütung von Vorstandsmitgliedern geregelt. So muss nach § 87a Abs. 1 AktG das Vergütungssystem Angaben u. a. zu der Maximalvergütung (Nr. 1), zu dem Beitrag der Vergütung zur Förderung der Geschäftsstrategie und zur langfristigen Entwicklung der Gesellschaft (Nr. 2), zu allen festen und variablen Vergütungsbestandteilen (Nr. 3) sowie zu allen finanziellen und nichtfinanziellen Leistungskriterien für die Gewährung variabler Vergütungsbestandteile (Nr. 4) beinhalten.[25] Mit Einführung des ARUG II stimmt die Hauptversammlung gemäß § 120a Abs. 1 AktG mindestens alle vier Jahre über das Vergütungssystem ab und muss den Vergütungsbericht nach § 120a Abs. 4 AktG jährlich billigen. Wenngleich das Votum der Hauptversammlung allenfalls beratenden Charakter hat, so ist davon auszugehen, dass das Meinungsbild der Aktionäre notwendigerweise durch die Sorgfaltspflichten des Aufsichtsrats nach § 116 AktG zu berücksichtigen sein wird.[26] Ferner können die sogenannten Say-on-pay-Mechanismen für mediale Aufmerksamkeit sorgen und zum Handeln zwingen.[27]

Der Vergütungsbericht ist von einem Wirtschaftsprüfer dahingehend formell zu prüfen, ob die vom Gesetz geforderten Inhalte auch tatsächlich veröffentlicht wurden.[28] Der Wirtschaftsprüfer testiert die Berichterstattung dann in einem separaten Vermerk, der dem Vergütungsbericht beizufügen ist.[29] Eine inhaltliche Prüfung bleibt hingegen freiwillig, wenngleich sie vom Berufsstand gefordert wird, um der Gefahr einer Vergrößerung der Erwartungslücke entgegenzutreten.[30] Die Prüfung des Vergütungsberichts stellt somit einen eigenständigen Prüfungsgegenstand dar. Unbeachtlich dessen hat der Wirtschaftsprüfer im Rahmen der Jahresabschlussprüfung nach den handelsrechtlichen Vorgaben zu prüfen, ob die berichtspflichtige Gesellschaft in der Erklärung zur Unternehmensführung den geforderten Verweis nach § 289f Abs. 2 HGB auf den Vergütungsbericht aufgenommen hat.[31] Nach Beschluss der Hauptversammlung sind der Vergütungsbericht sowie der Prüfungsvermerk unverzüglich

[25] Vgl. *Stöber* (2020), S. 94.
[26] Vgl. *MüKoAktG/Spindler*, AktG § 87a Rn. 8; *MüKoAktG/Kubis*, AktG § 120a Rn. 22.
[27] Vgl. etwa *Manager Magazin* (2022). Für empirische Befunde zur Wirkung der Say-on-pay-Mechanismen siehe *Balsam et al.* (2016).
[28] Das Institut der Wirtschaftsprüfer (IDW) hat mit der Verabschiedung eines entsprechenden Prüfungsstandards (IDW PS 870) auf die formelle Pflichtprüfung reagiert.
[29] Vgl. § 162 Abs. 3 AktG.
[30] Vgl. *IDW* (2018), S. 4.
[31] Vgl. *Kolb et al.* (2022), S. 188 f.

auf der Internetseite der Gesellschaft zu veröffentlichen und für die Dauer von zehn Jahren kostenfrei zugänglich zu machen.[32]

5.2.2 Deskriptive Studien zur Vorstandsvergütung im deutschsprachigen Raum

Regulatorische Veränderungen an den Vorgaben zur Organvergütung sind regelmäßig Gegenstand empirischer Untersuchungen.[33] Eine Untersuchung zur Entwicklung der Vorstandsvergütung in Deutschland im Kontext des Gesetzes zur Angemessenheit der Vorstandsvergütung (VorstAG), einer Vorgängerregelung des ARUG II, zeigt, dass die durchschnittlichen Vorstandsgehälter im Zeitraum von 2006 bis 2018 lediglich moderat von 1,83 Millionen € auf 1,99 Millionen € anstiegen. Zudem gewinnen langfristige Vergütungsbestandteile, etwa Aktienoptionen, zunehmend an Bedeutung in der Gesamtvergütung börsennotierter Unternehmen in Deutschland und ältere CEOs verdienen im Mittel mehr als jüngere CEOs.[34] Ferner stellen *Tröger/Walz* fest, dass die mit dem VorstAG erstmalig eingeführten Say-on-pay-Mechanismen zur Abstimmung über die Vergütungssysteme nur im begrenzten Maße eine Wirkung entfalten haben.[35] *Aust* bewertet mithilfe eines Scoring-Modells die Qualität der Vergütungsberichte börsennotierter Unternehmen für das Geschäftsjahr 2016 bzw. 2016/2017. Sie stellt fest, dass die Vergütungsberichterstattung der DAX-30-Unternehmen in den Bereichen Transparenz, Nachvollziehbarkeit und Kommunikation qualitativ höherwertiger ist als die der MDAX-Unternehmen.[36]

Bisherige Studien, die den Effekt der ARUG-II-Regulierung untersuchen, konzentrieren sich auf die inhaltliche Gestaltung der Vergütungssysteme. *Tönnies/Tönnies* nutzen ein Scoring-Modell und untersuchen die Relevanz von ESG-Faktoren in den Vergütungssystemen. Dabei verwendet die überwiegende Mehrheit der DAX-40- sowie SDAX-Unternehmen ESG-Faktoren in der Vorstandsvergütung. In der Qualität der Berichterstattung zeigen sich deutliche Index- und Branchenunterschiede, was auf ein heterogenes Berichtsverhalten der Unternehmen hindeutet.[37] Allerdings stellen *Bannier/Reinschmidt* fest, dass Nachhaltigkeitsziele eher in der kurzfristigen variablen

[32] Vgl. § 162 Abs. 4 AktG; *MüKoAktG/Spindler*, AktG § 162 Rn. 92.
[33] Vgl. etwa *Götz/Friese* (2010) für die Wirkung des Vorstandsvergütungsangemessenheitsgesetzes oder *Burg et al.* (2016) zur Wirkung von HGB, DCGK und der IFRS auf die Vergütungspraxis.
[34] Vgl. *Beck et al.* (2020), S. 790, 802, 806.
[35] Vgl. *Tröger/Walz* (2019), S. 381.
[36] Vgl. *Aust* (2019), S. 468.
[37] Vgl. *Tönnies/Tönnies* (2024), S. 232.

Vergütung berücksichtigt werden. Dies lässt die Hypothese zu, dass Nachhaltigkeitsziele zwar im Sinne gesetzlicher Vorgaben berücksichtigt werden, jedoch geringere Bedeutung erhalten und nicht als wesentlicher Anreiz für eine langfristige positive Unternehmensentwicklung betrachtet werden. Andernfalls wäre eine stärkere Gewichtung in der langfristigen variablen Vergütung zu erwarten.[38] Hinsichtlich der gewährten Vorstandsvergütung pro Mitglied in Gänze lässt sich im Median kein eindeutiger Trend erkennen, wenngleich dies unter Berücksichtigung der langjährigen variablen Vergütung noch zu bestätigen ist.[39] Der Umfang der Vergütungsberichte von DAX-Unternehmen ist von durchschnittlich 19 auf 31 Seiten gestiegen, was als Ausdruck eines zunehmenden Komplexitätsbedarfs in der Berichterstattung interpretiert wird.[40] Weiterführende Studien hinsichtlich der Eigenschaften des Vergütungsberichts als eigenständiges Berichtsinstrument fehlen im deutschsprachigen Raum und begründen somit den weiteren Forschungsbedarf.

5.2.3 Textanalytische Studien in der Rechnungslegungsforschung und theoretische Fundierung

Die Publizitätspflicht von Unternehmen ermöglicht grundsätzlich die Analyse der offenzulegenden Dokumente durch Textanalysen. Als Textanalyse wird im erweiterten Sinne die Anwendung einer Natural Language Processing-Methode (NLP) auf Textdaten zur automatischen Informationsextraktion oder -messung verstanden.[41] Die Textanalyse findet vermehrt Anwendung in der Rechnungslegungsforschung, um die Ähnlichkeit[42], die Stimmung[43] oder die Lesbarkeit[44] von Textdokumenten zu erheben.

Die Lesbarkeitsanalyse hat sich in der Rechnungslegungsforschung zur Untersuchung der Verständlichkeit sowie zur Identifikation potenzieller Manipulationen durch bewusste sprachliche Steuerung von Wahrnehmung und Vertrauen der Berichtsadressaten etabliert. Die Forschungsansätze unterscheiden sich dabei sowohl in der Zielsetzung – deskriptiv versus kausal – als auch in der Wahl der Berichtsinhalte (z. B. Management Discussion

[38] Vgl. *Bannier/Reinschmidt* (2022), S. 640.
[39] Vgl. *Armeli/Misterek* (2023), S. 1; *Götz/Stahl* (2023), S. 196.
[40] Vgl. *Götz et al.* (2022), S. 219.
[41] Vgl. *Bochkay et al.* (2023), S. 766. Für einen ausführlichen Literaturüberblick von NLP-Methoden in der rechnungslegungsbezogenen Forschung siehe *Loughran/McDonald* (2016) und *Bochkay et al.* (2023). *Kang et al.* (2020) geben einen umfassenden Literaturüberblick für die Managementforschung.
[42] Vgl. *Mauritz et al.* (2023); *Quick et al.* (2021).
[43] Vgl. *Lohmann/Ohliger* (2020); *Lohmann/Danisch* (2021); *Pöferlein* (2021); *Frankel et al.* (2022).
[44] Vgl. *Guay et al.* (2016); *Bonsall et al*. (2017); *Velte* (2020a); für einen umfassende Literaturübersicht siehe *Gosselin et al*. (2021).

and Analysis (MD&A), CSR-Berichte, Risiko- und Chancenberichte).[45] Empirische Studien belegen, dass Unternehmensleitungen gezielt komplexe Berichtsdokumente einsetzen können, um suboptimale Unternehmensentwicklungen zu kaschieren.[46] So zeigt etwa eine breite empirische Untersuchung, dass Unternehmen mit schwacher Performance tendenziell weniger lesbare Jahresberichte (Form 10-K) veröffentlichen, während eine höhere Lesbarkeit im MD&A-Abschnitt signifikant mit größerer Gewinnpersistenz einhergeht – ein Befund, der auf potenziell manipulierende Sprachgestaltung (obfuscation) hindeutet.[47] So kann die Einschätzung von Investoren durch die Lesbarkeit der Unternehmenspublikationen gelenkt werden.[48]

Methodisch dominieren in der Literatur quantitative Lesbarkeitsindizes wie der Flesch Reading Ease (FRE), Gunning Fog Index (FOG), Lesbarkeitsindex nach Björnsson (LIX) oder die Wiener Sachtextformel (WSTF), mitunter angepasst an deutschsprachige Texte (z. B. Flesch Reading Ease nach Amstad (FRE_{Amstad})).[49] Teilweise werden auch pragmatische Lesbarkeitsmetriken der Textkomplexität verwendet, etwa die Anzahl der Wörter[50] oder – bei standardisierten digitalen Berichten – die Dateigröße als Indikatoren für Informationsdichte und Umfang.[51]

Die Lesbarkeitsindizes ermöglichen skalierbare Auswertungen und zeichnen sich durch ihre Objektivierbarkeit und Vergleichbarkeit bei großen Datensätzen aus, erfassen jedoch primär formale Merkmale wie Satzlänge oder Silbenanzahl – nicht jedoch semantische Verständlichkeit, argumentative Struktur oder kontextuelle Logik.[52] Die strukturelle Textanalyse hingegen verfolgt einen funktional-diagnostischen Ansatz. Sie ermöglicht nicht nur die Bewertung sprachlicher Komplexität, sondern auch die gezielte Identifikation sogenannter Nullpositionen – das heißt inhaltlich erwartbare, aber ausgelassene Informationen. Damit erlaubt die strukturelle Textanalyse Rückschlüsse auf kommunikative Intentionen und potenzielle Transparenzvermeidung.[53]

[45] Vgl. *Gosselin et al.* (2021), S. 553-557.
[46] Vgl. *Loughran/McDonald* (2014), S. 1648.
[47] Vgl. *Li* (2008), S. 225-247.
[48] Vgl. *El-Sayed et al.* (2021); *Gao et al.* (2023); *Quick et al*. (2024).
[49] Vgl. *Gosselin et al.* (2021), S. 558 f.
[50] Vgl. *You/Zhang* (2009).
[51] Vgl. *Loughran/McDonald* (2014).
[52] Vgl. *Li* (2008), S. 222; *Gosselin et al.* (2021), S. 558 f.
[53] Vgl. *Grottke* (2009).

Lesbarkeitsindizes dienen somit der quantitativen Erfassung sprachlicher Komplexität und damit der kognitiven Belastung beim Textverständnis – beeinflusst etwa durch Satzstruktur und Wortverwendung.[54] Im Folgenden werden die in dieser Untersuchung eingesetzten Messansätze näher erläutert.

Der FOG sowie der FRE eignen sich für die Analyse englischsprachiger Dokumente. Beide werden wie folgt ermittelt:[55]

$$FOG^{56}=0{,}4\left[\left(\frac{\text{Anzahl Wörter}}{\text{Anzahl Sätze}}\right)+100\left(\frac{\text{Anzahl komplexer Wörtern}}{\text{Anzahl Wörter}}\right)\right]$$

Hierbei gelten Wörter mit mehr als zwei Silben als komplex.

$$FRE^{57}=206{,}835-1{,}015\left(\frac{\text{Anzahl Wörter}}{\text{Anzahl Sätze}}\right)-84{,}6\left(\frac{\text{Anzahl Silben}}{\text{Anzahl Wörter}}\right)$$

Ein niedriger FOG weist auf einen leicht lesbaren Text hin, während ein hoher Wert auf eine schwer verständliche Textstruktur hindeutet. Im Gegensatz dazu signalisiert ein niedriger (hoher) Wert des FRE einen komplexen (einfachen) Text.[58] Der FOG misst Verständlichkeit anhand von Satzlänge und Wortkomplexität. Technische Bücher (19,5) sind besonders anspruchsvoll, während Jugendmagazine (8,6) leicht verständlich sind. So entspricht ein Wert von 17 dem Leselevel eines Hochschulabsolventen, während ein Wert von 6 einem Sechstklässler entspricht.[59] Der FRE-Index skaliert die Lesbarkeit von 0 bis 100. Texte unter 30 sind sehr schwer verständlich (akademisches Niveau), während Werte über 90 sehr leichte Texte kennzeichnen, die bereits ab der 4. Schulklasse lesbar sind.[60]

Der LIX sowie der FRE_{Amstad} eignen sich zur Ermittlung der Lesbarkeit deutschsprachiger Texte.[61] Hier lauten die Formeln zur Erhebung der Lesbarkeit:

[54] Vgl *Loughran/McDonald* (2014), S. 1647; *Bochkay et al.* (2023), S. 779.
[55] Vgl. *Loughran/McDonald* (2016), S. 1193; *Stone/Parker* (2013), S. 35.
[56] Vgl. *Gunning* (1952).
[57] Vgl. *Flesch* (1948).
[58] Vgl. *Loughran/McDonald* (2014), S. 1648; *Stone/Parker* (2013), S. 35.
[59] Vgl. *Courtis* (1995), S. 7.
[60] Vgl. *Courtis* (1995), S. 7; *Flesch* (1948).
[61] Vgl. *Diederich*/*Velte* (2019); *Heyd/Anselmann* (2019); *Heilmann et al.* (2020); *Gros/Hanke* (2021); *Quick et al.* (2023), *Quick et al.* (2024).

$$LIX^{62} = \left(\frac{\text{Anzahl langer Wörter}}{\text{Anzahl Wörter}}\right) 100 + \left(\frac{\text{Anzahl Wörter}}{\text{Anzahl Sätze}}\right)$$

Hierbei gelten Wörter mit mehr als sechs Buchstaben als lang.

$$FRE_{Amstad}^{63} = 180 - \frac{\text{Anzahl Wörter}}{\text{Anzahl Sätze}} - \left(58{,}5\,\frac{\text{Anzahl Silben}}{\text{Anzahl Wörter}}\right)$$

Der LIX-Wert misst die Lesbarkeit anhand der Anzahl langer Wörter und Sätze. Texte mit einem Wert über 60 gelten als sehr schwer verständlich, während Werte zwischen 50 und 55 als schwer und zwischen 40 und 45 als durchschnittlich verständlich eingestuft werden. Texte unter 25 sind besonders leicht lesbar.[64] Dementgegen signalisiert ein niedriger (hoher) Wert des FRE_{Amstad} einen komplexen (einfachen) Text. Der FRE_{Amstad}, eine Anpassung des klassischen FRE-Index für deutschsprachige Texte, verwendet eine Skala, bei der Werte unter 20 für sehr schwierige Texte stehen, während Werte zwischen 20 und 30 als schwierig und zwischen 30 und 40 als anspruchsvoll gelten.[65]

Die Analyse der Lesbarkeit in Vergütungsberichten lässt sich durch die Einbeziehung theoretischer Modelle fundiert begründen. Die Impression-Management-Theorie (bzw. Obfuscation Theory) geht davon aus, dass die Unternehmensführung die Berichterstattung gezielt so gestaltet, dass bestimmte Informationen gegenüber den Adressaten verschleiert oder versteckt werden.[66] Das übergeordnete Ziel besteht darin, die Wahrnehmung der Adressaten vom Unternehmen gezielt zu beeinflussen.[67] Eine derart manipulierte Darstellung erfolgt nicht nur durch das Weglassen nachteiliger Informationen, die etwa durch strukturelle Textanalyse identifiziert werden kann, sondern auch durch eine sprachlich komplexe Ausgestaltung, bei der negative Inhalte zwar enthalten sind, jedoch im Gesamtduktus schwer identifizierbar oder interpretierbar bleiben. Vor diesem Hintergrund ermitteln Lesbarkeitsindizes das Komplexitätsniveau und können mögliche Impression-Management-Techniken aufdecken.

Hinsichtlich der Vergütungsberichterstattung besteht aus Sicht des Managements ein theoretischer Anreiz zur Verschleierung insbesondere dann, wenn die

[62] Vgl. *Björnsson* (1968); siehe ferner *Heilmann et al.* (2020, S. 711), die die Anwendung des LIX anhand eines konkreten Beispiels veranschaulichen.
[63] Vgl. *Amstad* (1978), S. 80.
[64] Vgl. *Anderson* (1983), S. 494; *Courtis* (1995), S. 8; *Björnsson* (1983), S. 484.
[65] Vgl. *Amstad* (1978), S. 80 & S. 153.
[66] Vgl. *Brennan et al.* (2009), S. 790; *Gosselin et al.* (2021), S. 563.
[67] Vgl. *Hohmann/Schäfer* (2020), S. 461.

vergütungsrelevanten Ziele zwischen Vorstand und Adressaten auseinanderfallen. Solche Zieldivergenzen lassen sich in unterschiedlichen Konstellationen argumentieren.[68] So verfolgen Vorstand und Aktionäre zwar grundsätzlich das übergeordnete Ziel der Gewinnmaximierung. Allerdings können sich die Interessen im Hinblick auf die Nachhaltigkeit der Gewinne deutlich unterscheiden: Während der Vorstand primär an der Optimierung kurzfristiger variabler Vergütung interessiert sein kann – beispielsweise durch den Ausschluss aufwandswirksamer Sachverhalte mittels Non-GAAP-Kennzahlen oder bilanzpolitischer Maßnahmen – verfolgen Aktionäre in der Regel eine nachhaltige Unternehmenswertsteigerung, die typischerweise über langfristige variable Vergütungskomponenten incentiviert wird. Wird der Adressatenkreis über die Aktionäre hinaus erweitert, so ist ebenfalls denkbar, dass etwa ESG-relevante Vergütungsziele nur symbolisch integriert und nicht ernsthaft verfolgt und somit in Gänze die Interessen der Stakeholder vernachlässigt werden. Die bisherige Forschung belegt, dass die Vergütungsstruktur Vorstände dazu bewegen kann, die Lesbarkeit der Berichterstattung aus persönlich-opportunistischen Gründen zu erschweren.[69]

5.3 Methodik

5.3.1 Untersuchungsgegenstand und Sample

Die vorliegende Studie analysiert die Vergütungsberichte der HDAX-Unternehmen, die zum Stichtag 31.12.2022 über die Geschäftsjahre 2020 bis 2022 hinweg kontinuierlich im Index vertreten waren. Zur Untersuchung der Auswirkungen des ARUG II wurde ein Prä-Post-Vergleich durchgeführt. Dabei repräsentieren die Vergütungsberichte für das Geschäftsjahr 2020 die letzte Berichtsperiode vor Inkrafttreten des ARUG II, während die Vergütungsberichte ab dem Geschäftsjahr 2021 die erste Berichtsperiode nach Inkrafttreten des Gesetzes darstellen.[70] Im Falle abweichender Geschäftsjahre wurde sichergestellt, dass Vergütungsberichte, die gemäß der Ergebnisdarstellung als 2021 klassifiziert wurden, dem ersten Berichtsdurchgang der neuen Gesetzgebung

[68] Solche Zielkonflikte bilden ebenfalls den zentralen Gegenstand der Agency-Theorie, die davon ausgeht, dass aufgrund asymmetrischer Informationsverteilung zwischen Prinzipal und Agent Anreize zu opportunistischem Verhalten entstehen.
[69] Vgl. *Li* (2008); *Laksmana et al.* (2012).
[70] Da die Neuregelungen des ARUG II ausschließlich für börsennotierte Unternehmen gelten, wurden Vergütungsangaben nicht kapitalmarktorientierter Unternehmen von der Untersuchung ausgeschlossen.

entsprechen.[71] Ausgehend von 100 Unternehmen, die zum Stichtag 31.12.2022 im HDAX geführt wurden, sind 19 Unternehmen, die während des Beobachtungszeitraums nicht kontinuierlich im HDAX gelistet waren, ausgeschlossen worden, um die Konsistenz des Prä-Post-Vergleichs zu wahren. Aus der Grundgesamtheit wurden zusätzlich acht Unternehmen mit ausländischem Hauptsitz ausgeschlossen. Im Sinne guter Investor Relations sollten die Vergütungsberichte neben der deutschen auch in der englischen Sprache veröffentlicht und entsprechend gesammelt werden. Die endgültige Stichprobe umfasst somit 73 Unternehmen und 219 deutsch-/englischsprachige Vergütungsberichte. Die Branchenzuordnung erfolgte anhand der Klassifizierung der Deutschen Börse.[72] Abbildung 5.1 gibt eine Übersicht der Branchenverteilung in der finalen Stichprobe.

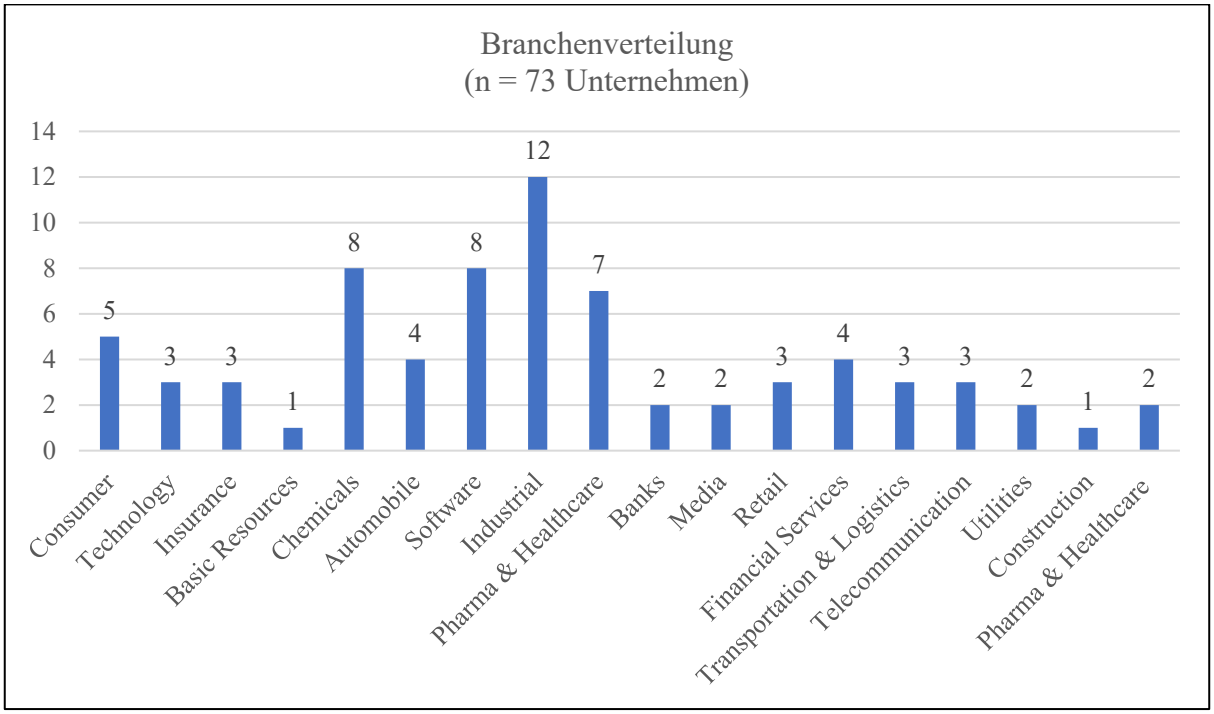


Abbildung 5.1*: Branchenverteilung der Unternehmen*

[71] In der Stichprobe weisen sieben Unternehmen ein abweichendes Geschäftsjahr auf. So führt bspw. die Aurubis AG in ihrem Vergütungsbericht, eingebettet im Geschäftsbericht 2020/2021 (Geschäftsjahr 1.10.2020 bis 30.9.2021), explizit an, dass dieser nicht nach den Vorgaben des ARUG II erstellt wurde. Folglich wurde der darauffolgende Vergütungsbericht für das Geschäftsjahr 2021/2022 in die Ergebnisse für 2021 aufgenommen, da dieser erstmals gemäß § 162 AktG erstellt wurde. Einige Unternehmen haben wiederum die neuen Vorgaben bereits vorzeitig umgesetzt, obwohl die rechtliche Verpflichtung erst im folgenden Geschäftsjahr greifen würde. Ein Beispiel hierfür sind die Siemens AG und die Siemens Healthineers AG, die ihre Vergütungsberichte 2021 für das Geschäftsjahr vom 1.10.2020 bis zum 30.9.2021 bereits nach den Regelungen des ARUG II erstellt haben und damit über die gesetzlichen Anforderungen hinausgehen.

[72] Vgl. *Deutsche Börse AG* (2024).

Die Unternehmen weisen zum 31.12.2022 in Summe ein Marktkapital von 1.457,66 Milliarden € auf und repräsentieren damit 75,45 % des gesamten Marktkapitals der HDAX-Unternehmen zum Stichtag.

5.3.2 Datenerhebung und Aufbereitung

Die Vergütungsberichte der Geschäftsjahre 2020 bis 2022 wurden händisch erhoben und hinsichtlich ihrer Verfügbarkeit als eigenständige Berichte, als Bestandteil des Geschäftsberichts oder in alternativen Veröffentlichungsformen geprüft.[73] Notwendige Schritte, wie die Entschlüsselung und Extraktion der Berichte aus PDF-Dokumenten, wurden durchgeführt. Zur Optimierung der maschinellen Verarbeitung erfolgte eine Konvertierung der PDF-Dokumente in Word-Formate, um die anschließende Datenbereinigung effizienter zu gestalten. Die Bereinigung der Berichte erfolgte durch eine Kombination aus maschinellen und manuellen Schritten. Ziel war es, Missinterpretationen durch die angewandten Lesbarkeitsalgorithmen zu minimieren und die orthografische sowie syntaktische Integrität der Texte zu wahren. Ein zentrales Bereinigungsziel bestand in der Erhaltung der Satzstruktur, um eine präzise Analyse der Lesbarkeit zu gewährleisten.

Datenaufbereitung

Zunächst wurden mithilfe eines hierfür eigens entwickelten Python-Codes Tabellen, Abbildungen, Überschriften, Links sowie Aufzählungen ohne abschließende Satzzeichen entfernt, um den Fließtext der Berichte zu erfassen.[74] Um sicherzustellen, dass Punkte ausschließlich als Satzendzeichen identifiziert wurden, wurden insgesamt 209 spezifische sowie gängige Abkürzungen berücksichtigt. Diese wurden im Rahmen der Bereinigung durch ihre ausgeschriebene Fassung ersetzt. Zwecks Verbesserung der maschinellen Satzsegmentierung wurden Punkte innerhalb von Sätzen – bspw. hinter Datumsangaben –eliminiert.[75] Die Konvertierung in Word-Dokumente führte vereinzelt zu Umbrüchen innerhalb von Wörtern. Diese Unschärfe wurde korrigiert, indem die getrennten Wörter wieder zusammengeführt wurden. Ferner wurden Bindestriche durch Leerzeichen ersetzt, Apostrophe sowie entsprechende HTML-Zeichencodes entfernt und mehrfach

[73] Siehe Kapitel 5.4.1.
[74] Ein ähnliches Vorgehen diesbezüglich findet sich bei *Laksmana et al.* (2012); im Gegensatz dazu schließen *Quick et al.* (2024) sämtliche Fußnoten aus, die in dieser Untersuchung bei vorliegender Satzstruktur erhalten blieben.
[75] Vgl. auch Vorgehen bei *Quick et al.* (2024).

aufeinanderfolgende Leerzeichen auf ein einzelnes reduziert. Zusätzlich wurden nicht-alphabetische Zeichen, mit Ausnahme von Umlauten und relevanten Satzzeichen, durch Leerzeichen ersetzt. Aufeinanderfolgende Punkte wurden zu einem Punkt zusammengeführt. Abschließend wurden im Rahmen der Lesbarkeitsalgorithmen überflüssige Leerzeichen eliminiert. Die maschinelle Bereinigung wurde iterativ verbessert, indem Besonderheiten einzelner Vergütungsberichte in den Python-Code sukzessiv eingearbeitet wurden.[76]

Die maschinell bereinigten Berichte (n=426)[77] wurden abschließend einer umfassenden manuellen Prüfung unterzogen. Die Einbindung manueller Prüfungen erwies sich als gängige Methode, um Formatierungsabweichungen und spezifische Eigenheiten einzelner Dokumente zu adressieren.[78] Besonders bei Berichten mit komplexer Formatierung war eine manuelle Nachbearbeitung unerlässlich. Derartige Berichte enthielten bspw. bis zu fünf aufeinanderfolgende Absätze, Unterbrechungen durch grafische Elemente, nicht-standardisierte Textstrukturen oder lagen lediglich als gescannte Druckversion vor.

Maschinelle Analyse und Validierung der Ergebnisse

Für die Lesbarkeitsanalyse der Vergütungsberichte wurden zwei Python-Codes entwickelt, die auf die Anforderungen der deutschen und englischen Sprache zugeschnitten sind. Dies war notwendig, da sprachspezifische Unterschiede, insbesondere bei der Silbenerkennung, eine getrennte Verarbeitung erforderten. Während der deutsche Code unter Verwendung der *spaCy*-Bibliothek das Modell *de_core_news_sm* nutzt, greift der englische Code auf das Modell *en_core_web_sm* zurück. Das allgemeine Vorgehen beider Codes umfasst die präzise Erkennung von Sätzen, Wörtern und Silben sowie die Berechnung der oben eingeführten Lesbarkeitsindizes.

[76] Die angewandte Bereinigungsmethodik lehnt sich hauptsächlich an das Verfahren von *Hemmings et al.* (2020, S. 584 ff.) an. Während die Autoren nur Tabellen o. Ä. entfernt haben, deren Inhalt zu mehr als 15 % aus Zahlen bestand, wurden in der vorliegenden Untersuchung sämtliche Tabellen und Grafiken unabhängig von ihrem narrativen Textanteil entfernt (vgl. Kapitel 5.4.5 Limitation).

[77] Von den insgesamt 438 erhobenen Berichten wurden 426 in die Lesbarkeitsanalyse einbezogen. Aufgrund technischer Restriktionen konnten die Berichte zweier Unternehmen dahingehend nicht analysiert werden, etwa weil es sich um gescannte Dokumente handelte, bei denen die OCR-Texterkennung fehlschlug. Durch die Analyse der verbleibenden Berichte entstanden über zwei Millionen Datenpunkte (bspw. Zwischenergebnisse der Lesbarkeitsanalyse).

[78] Den Verfassern sind keine Studien bekannt, die eine vergleichbare manuelle Bereinigungsschleife vorsehen oder explizit darauf eingehen.

Die Entscheidung zur Entwicklung eines eigenen Codes anstelle der Nutzung verfügbarer Online-Tools wurde getroffen,[79] um methodische Schwächen externer Lösungen zu vermeiden. Stichprobenartige Validierungstests mit drei webbasierten Tools wiesen inkonsistente Ergebnisse auf, darunter Fehler bei der Satzsegmentierung und eine fehlende Transparenz hinsichtlich der Berechnungsprozesse. Der entwickelte Code adressiert diese Herausforderungen durch die detaillierte Darstellung aller Zwischenschritte und ermöglicht so eine präzise sowie nachvollziehbare Analyse durch die Ausgabe erkannter Wörter, Sätze oder die Silbenzählung pro Wort sowie weiterer Zwischenergebnisse in Excel. Die getesteten Online-Tools[80] wurden ergänzend als Robustheitstest eingesetzt, um den entwickelten Code neben stichprobenbasierten Prüfungen der eigenen Zwischenergebnisse zu validieren. Die Ergebnisse von bis zu drei verschiedenen Tools wurden dabei gemittelt und die Differenz zu dem eigenen Code berechneten Werten analysiert. Diese Differenzen waren durchgehend marginal und beeinflussten die Einstufung der Lesbarkeit nicht.

5.4 Ergebnisse der Untersuchung und Diskussion

5.4.1 Ort der Veröffentlichung

Ungeachtet der Veröffentlichung auf der Internetseite stellt sich für Unternehmen die praktische Frage, den Vergütungsbericht in die konventionelle Berichterstattung einzubinden.[81] Ein explizites Berichtsformat bzw. der Standort des Vergütungsberichts wird in § 162 AktG nicht genannt. Somit ist grundsätzlich eine Veröffentlichung außerhalb oder innerhalb des Geschäftsberichts denkbar.[82]

Mit 43 der 73 untersuchten Unternehmen haben die Unternehmen mehrheitlich den Vergütungsbericht in den Geschäftsbericht integriert. Dies entspricht sowohl für 2021 als auch 2022 einem Anteil von 58,90 %. Die restlichen Unternehmen der Stichprobe haben den Vergütungsbericht außerhalb des Geschäftsberichts und somit als ein ausschließlich separates Berichtsinstrument auf der Unternehmenshomepage als PDF-Datei veröffentlicht. Auffällig ist, dass der Vergütungsbericht in acht Fällen für das Berichtsjahr

[79] Andere Autoren nutzen frei verfügbare Webtools. Vgl. bspw. *Diederich/Velte* (2019), S. 465; *Heilmann et al.* (2020), S. 711 sowie *Quick et al.* (2023), S. 848.
[80] *Online Utility* (2025); *Readability Formulas* (2024); *Schöll* (2025); *Bond* (2025); *Lenhard/Lenhard* (2022).
[81] Vgl. *Vetter/Tielmann* (2022), S. 387; *Grigoleit/Rachlitz*, AktG § 162 Rn. 73.
[82] Da der Vergütungsbericht vor ARUG II kein eigenständiges Berichtsinstrument und Bestandteil des Geschäftsberichts war, werden im Folgenden nur die Berichtsjahre 2021 und 2022 betrachtet.

2021 und in fünf Fällen für das Jahr 2022 in den Lagebericht integriert wurde. Dies widerspricht der verbreiteten Rechtsauffassung, wonach der Vergütungsbericht als aktienrechtliches Informationsinstrument zwingend getrennt vom Lagebericht als handelsrechtliches Informationsinstrument zu veröffentlichen ist.[83] Diese Trennung wird insbesondere mit der unterschiedlichen Zuständigkeitsverteilung begründet: Während der Vergütungsbericht als Gemeinschaftsaufgabe von Aufsichtsrat und Vorstand angefertigt wird, obliegt die Erstellung des Lageberichts gemäß § 264 Abs. 1 HGB ausschließlich dem Vorstand.[84]

Unabhängig des gewählten Standorts ist der Vergütungsbericht gemäß § 162 Abs. 4 AktG pflichtmäßig auf der Internetseite zu veröffentlichen und kostenfrei zugänglich zu machen. Allerdings zeigt sich, dass die Auffindbarkeit der (archivierten) Vergütungsberichte nicht in jedem Fall ohne hohe Suchkosten möglich ist. Zwar gilt die Publizitätspflicht nach herrschender Meinung bereits mit der Bekanntmachung der Hauptversammlungsunterlagen als erfüllt.[85] Dem steht jedoch entgegen, dass – auch wenn die Aktionäre aus betriebswirtschaftlicher Sicht als primäre Adressaten der Vergütungsberichterstattung gelten – ein erweiterter Adressatenkreis zu berücksichtigen ist. So betont etwa der Erwägungsgrund 33 der Europäischen Aktionärsrichtlinie (Richtlinie (EU) 2017/828), dass Offenlegungspflichten auch potenziellen Anlegern und an der Gesellschaft interessierten Akteuren eine Beurteilung der Vergütung ermöglichen sollen. Vor diesem Hintergrund erscheint eine ausschließlich aktionärsorientierte Veröffentlichung im Kontext des heutigen Corporate-Governance-Reportings nicht mehr zweckmäßig. Es wird daher empfohlen, Vergütungsberichte auf der Unternehmenswebsite klar gekennzeichnet und über einen einheitlichen Menüpunkt sowie eine verständliche Menüführung – etwa im Bereich Investor Relations (IR) – leicht zugänglich bereitzustellen.[86]

Bei 54 der 73 Unternehmen sind die Vergütungsberichte der Berichtsjahre 2021 sowie 2022 auf den Investor-Relations-Seiten klar gekennzeichnet, chronologisch aufgeführt

[83] Vgl. *Vetter/Tielmann* (2022), S. 387; *Kuthe/Reuters* (2022), S. 2116.
[84] Vgl. *Vetter/Tielmann* (2022), S. 387; *MüKoAktG/Spindler*, AktG § 162 Rn. 11a f.
[85] Vgl. *MüKoAktG/Spindler*, AktG § 162 Rn. 91; *Grigoleit/Rachlitz*, AktG § 162 Rn. 72; siehe auch Gesetzesbegründung: *Deutscher Bundestag* (2019), S. 113.
[86] Vgl. *BeckOGK/Bayer/Scholz*, AktG § 162 Rn. 169. Im Rahmen der Untersuchung wurde die leichte Zugänglichkeit der Vergütungsberichte angenommen, sofern diese für jedes Berichtsjahr klar gekennzeichnet waren und entweder als eigener Menüpunkt auf den IR-Seiten aufgeführt wurden oder über Menüpunkte wie „Vergütung“, „Corporate Governance“, „Vorstand“ oder „Publikationen“ ohne wesentliche Hürden zugänglich waren.

und somit problemlos zugänglich. Des Weiteren beginnt bei einem Unternehmen die chronologische Auflistung erst mit dem Berichtsjahr 2022. Vier Unternehmen bieten die Berichte weder explizit auf den Investor-Relations-Seiten noch dauerhaft in den Unterlagen zur Hauptversammlung an, sodass der Zugang ausschließlich über den Geschäftsbericht möglich ist. Bei 14 Unternehmen sind die Vergütungsberichte nur über die archivierten Unterlagen in den verschiedenen Ordnern der Hauptversammlungen möglich gewesen. Bei der Erhebung hat sich gezeigt, dass einige Unternehmen lediglich den Vergütungsbericht der letzten Berichtsperiode auf den Corporate-Governance-Seiten ihrer Website gut sichtbar platzieren.[87] Während die Geschäftsberichte in aller Regel im Archiv der Finanzpublikation chronologisch gelistet werden, ist der Zugang der nicht im Geschäftsbericht eingebetteten Vergütungsberichte somit nur über die archivierten offengelegten Unterlagen der jeweiligen Hauptversammlungen möglich gewesen. Es ist fraglich, ob diese Publikationspraxis dem in Erwägungsgrund 32 der Europäischen Aktionärsrichtlinie (Richtlinie (EU) 2017/828) geforderten „problemlosen Zugang" tatsächlich entspricht.

5.4.2 Umfang, Abbildungen und weitere formale Gestaltung

In Tabelle 5.1 sowie Abbildung 5.2 werden die Ergebnisse hinsichtlich des Umfangs sowie der formalen Gestaltung der Vergütungsberichte präsentiert. Gemessen anhand der Anzahl der Wörter zeigt sich, dass der Berichtsumfang der Vergütungsberichte 2021 nach Einführung des ARUG II signifikant gestiegen ist ($p < 0{,}0001$). Die durchschnittliche Wortanzahl der Berichte stieg von 4043,38 (2020) auf 6494,18 (2021). Im Berichtsjahr 2022 beträgt die durchschnittliche Anzahl der Wörter 6666,44, womit der Berichtsumfang erneut gegenüber dem Vorjahr angestiegen ist. Jedoch lässt sich anhand der Standardabweichung feststellen, dass der Berichtsumfang der Unternehmen über die Organvergütung teils erheblich variiert. So umfasst der Vergütungsbericht der TAG Immobilien AG im Jahr 2022 lediglich 2536 Wörter. Hingegen sind die Vergütungsberichte der Deutschen Bank AG über alle drei Jahre mit Abstand am umfangreichsten (2020: 12639 Wörter; 2021: 15635 Wörter; 2022: 14627 Wörter). Dies ist dadurch begründet, dass die Deutsche Bank AG zusätzlich über die Vergütung der Mitarbeitenden, die nicht im Vorstand oder Aufsichtsrat sitzen, Bericht erstattet. Das

[87] Zum Zeitpunkt der Erhebung betraf dies Vergütungsberichte des Jahres 2023, die nicht Gegenstand der Untersuchung sind.

Unternehmen kommt damit zusätzlichen gesetzlichen Anforderungen aus der Institutsvergütungsverordnung sowie Kapitaladäquanzverordnung nach.

	Deutsch			Englisch		
	2020	2021	2022	2020	2021	2022
Mittelwert	4043,38	6494,18	6666,44	5204,63	7703,87	8266,85
Median	3938	6105	6116	5185	7184	7928
Standardabweichung	2165,30	2490,39	2286,41	2667,09	2822,25	2775,98
Stichprobenumfang[88]	71	71	71	71	71	71

Tabelle 5.1: *Anzahl der Wörter in den Vergütungsberichten*

Ähnliche Entwicklungen lassen sich auch in den in englischer Sprache verfassten Vergütungsberichten beobachten. Die durchschnittliche Wortanzahl dieser Berichte ist ebenfalls signifikant angestiegen ($p < 0{,}0001$). In der ersten Berichtsperiode nach den Vorgaben des ARUG II umfassen die Vergütungsberichte durchschnittlich 7703,87 Wörter, was einer durchschnittlichen Zunahme von 2499,24 Wörtern pro Bericht im Vergleich zur letzten Berichtsperiode vor Inkrafttreten des ARUG II entspricht. Ein marginaler Anstieg des Berichtsumfangs zwischen den Jahren 2021 und 2022 sowie die Variationen im Umfang der Berichte zeigen sich analog zu den Entwicklungen bei den Vergütungsberichten in deutscher Sprache.

Der starke Anstieg der Anzahl an Wörtern deutet an, dass die Berichterstattung umfangreicher und möglicherweise komplexer geworden ist. Diese Entwicklung kann im Kontext der *Information Overload*-Theorie gesehen werden. Information Overload wird in der Accounting-Forschung als Zustand definiert, in dem die Anforderungen an die Informationsverarbeitung einer Person deren verfügbare Zeit oder Kapazität zur Verarbeitung aufgrund zu vieler oder irrelevanter Informationen übersteigen.[89] Um Information Overload zu begegnen, kann der Einsatz von Visualisierungen (z. B. Abbildungen und Tabellen) dienlich sein, um Informationen zu geringen Kosten zu vermitteln und die Kapazität des Adressaten zur Informationsverarbeitung zu entlasten.[90]

[88] Die Ermittlung der Anzahl der Wörter wurde anhand der Datengrundlage für die folgende Lesbarkeitsanalyse durchgeführt. Siehe zum Vorgehen Kapitel 5.3.2.
[89] Vgl. *Schick et al.* (1990), S. 199; *Hartmann/Weißenberger* (2024), S. 1622.
[90] Vgl. hierzu die Anmerkungen des *IASB* (2017, S. 24) zu den Lösungsansätzen des sogenannten „Disclosure Problem". Als „Disclosure Problem" wird die unzureichende Kommunikation relevanter Informationen sowie die geringe Berücksichtigung wichtiger Informationen und die Einbettung von zu vielen irrelevanten Informationen in Jahresabschlüssen bezeichnet.

Eine Einbettung von Abbildungen und Tabellen wird auch in der Regierungsbegründung angeregt.[91] Ebenfalls kann der Einsatz von Inhaltsverzeichnissen die Suchzeit des Adressaten nach gezielten Informationen reduzieren und den Bericht besser strukturieren. Angesichts dessen werden im Folgenden die Ergebnisse hinsichtlich der Einbettung von Abbildungen und Inhaltsverzeichnissen wiedergegeben.

Abbildung 5.2 zeigt die Entwicklung der Gestaltung von Vergütungsberichten anhand der Nutzung von Abbildungen und Tabellen. Zudem wird der durchschnittliche Seitenumfang der Vergütungsberichte im Zeitverlauf dargestellt, um das Verhältnis zwischen visuellen Darstellungen und dem Seitenumfang zu analysieren.

Die gestiegene Anzahl an Wörtern zeigt sich auch im Seitenumfang der Berichte. Während der durchschnittliche Vergütungsbericht aller 73 untersuchten Unternehmen noch 15,1 Seiten (Median: 14 Seiten) im Jahr 2020 umfasste, ist die durchschnittliche Seitenzahl auf 27,75 (2021 – Median: 26 Seiten) bzw. 30,11 (2022 – Median: 28 Seiten) gestiegen. Dies ist ein signifikanter Anstieg ($p < 0{,}0001$) zwischen den ersten beiden Jahren, wenngleich sich die teils erhebliche Streuung der Anzahl an Wörtern auf den Seitenumfang übertragen lässt. Während die durchschnittliche Anzahl an Abbildungen und Tabellen pro Vergütungsbericht in den Jahren sukzessive von 11,52 Abbildungen bzw. Tabellen (2020 – Median: 10) auf 19,64 (2021 – Median: 19) bzw. 21,05 (2022 – Median: 21) gestiegen ist und somit einen signifikanten Anstieg ($p < 0{,}0001$) mit erstmaliger ARUG-II-Anwendung verzeichnet, hat die inhaltliche Gewichtung der Abbildungen und Tabellen im Verhältnis zur Gesamtlänge der Berichte abgenommen. Der relative Anteil der Abbildungen bzw. Tabellen je Seite ist kontinuierlich gesunken: Im Jahr 2020 lag dieser Wert bei 0,77, reduzierte sich 2021 auf 0,74 und erreichte 2022 einen Wert von 0,72. Es kann festgestellt werden, dass dem gestiegenen Komplexitätsbedarf des Berichts gemessen am Umfang nicht im gleichen Maße mit einer gestiegenen Unterstützung der Informationen durch Tabellen und Abbildungen begegnet wurde.

[91] Vgl. *Deutscher Bundestag* (2019), S. 109. Jedoch kritisieren Aktionärsverbände dieses Vorgehen vereinzelt. So bemängelt die Schutzgemeinschaft der Kapitalanleger (SdK) in ihrer Beschlussempfehlung zum Vergütungsbericht 2023 der MorphoSys AG die „*eng geschriebenen Seiten mit zahlreichen Tabellen und Grafiken*“ als zu komplex. Vgl. hierzu *Schutzgemeinschaft der Kapitalanleger* (2024).

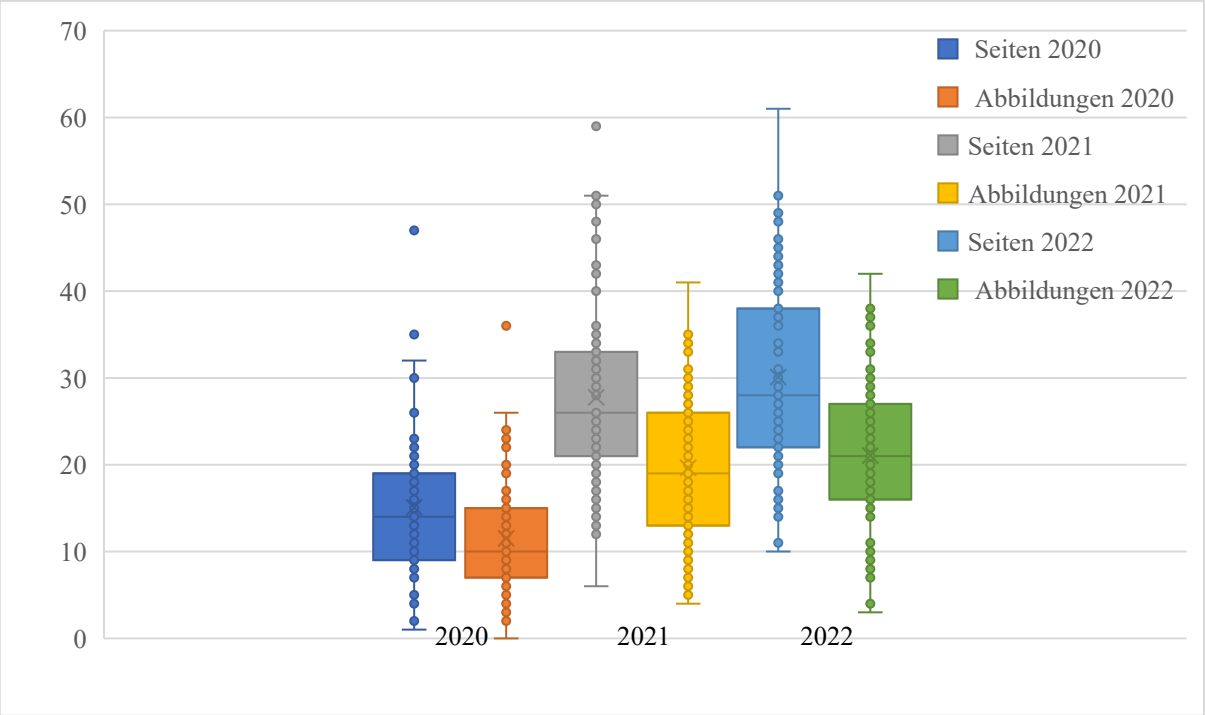


Abbildung 5.2: *Umfang und Gestaltung der Berichte*

Im Jahr 2021 enthielten 27 Vergütungsberichte (36,99 % der untersuchten Unternehmen) ein Inhaltsverzeichnis, während dieser Anteil im darauffolgenden Berichtsjahr auf 36 Vergütungsberichte (49,32 %) anstieg.

5.4.3 Prüfung der Berichte 2021 und 2022

Gemäß § 162 Abs. 3 AktG ist der Vergütungsbericht vom Abschlussprüfer dahingehend zu prüfen, ob die erforderlichen Mindestangaben im Vergütungsbericht gemäß § 162 Abs. 1 und 2 AktG gemacht wurden. Die Veröffentlichungspflicht nach § 162 Abs. 4 AktG umfasst auch die Offenlegung des Prüfvermerks des Abschlussprüfers. Für das Berichtsjahr 2021 sind alle 73 untersuchten Unternehmen dieser Pflicht nachgekommen und haben den Prüfvermerk veröffentlicht. Im Berichtsjahr 2022 fehlt der Prüfvermerk jedoch vollständig bei den Vergütungsberichten der Aixtron SE und Evotec SE. Beide Unternehmen haben ihren Vergütungsbericht außerhalb des Konzernabschlusses und des Konzernlageberichts veröffentlicht, sodass der Bestätigungsvermerk des Abschlussprüfers keinen Bezug zum Vergütungsbericht nimmt und daher nicht als Ersatztestat gewertet werden kann. In diesen Fällen fehlt den externen Adressaten somit der Prüfvermerk als Form der Assurance. Hinsichtlich der Prüfungstiefe haben sowohl

2021 als auch 2022 insgesamt 44 Unternehmen eine inhaltliche Prüfung ihrer Vergütungsberichte durchgeführt, was etwa 60 % der untersuchten Unternehmen entspricht. Auffällig ist, dass sechs Unternehmen von einer formellen Prüfung 2021 auf eine inhaltliche Prüfung 2022 umgestellt haben. Im gleichen Umfang haben jedoch sechs Unternehmen ihre Prüfungstiefe reduziert und von einer inhaltlichen Prüfung 2021 auf eine formelle Prüfung 2022 gewechselt. Gründe für diese Änderungen werden nicht angegeben. Branchenspezifische Besonderheiten zeigen sich in der Automobil- und Chemiebranche, in der alle Unternehmen ihren Vergütungsbericht 2022 freiwillig einer inhaltlichen Prüfung unterzogen haben. Ähnlich wie bei der Überprüfung der Angemessenheit der Vorstandsvergütung, bei der eine Analyse vergleichbarer Unternehmen derselben Branche erfolgt, könnte auch das Berichtsverhalten branchengleicher Unternehmen als Maßstab für die Prüfungstiefe dienen.

Eine inhaltliche Prüfung deckt die gesetzlich vorgeschriebene formelle Pflichtprüfung nach § 162 Abs. 3 AktG ab. Im Sinne einer guten Corporate Governance ist es daher aus Adressatensicht begrüßenswert, wenn die Vergütungsberichte neben der pflichtmäßigen formellen Prüfung auch materiell durch den Abschlussprüfer hinsichtlich der inhaltlichen Richtigkeit geprüft werden. Die vom IDW geäußerten Bedenken hinsichtlich einer möglichen vergrößerten Erwartungslücke durch eine lediglich formelle Prüfung sind unter Berücksichtigung der Analyseergebnisse somit unbegründet.[92] Es bleibt allerdings abzuwarten, ob zukünftig weitere Unternehmen auf eine materiell-inhaltliche Prüfung setzen werden.

5.4.4 Lesbarkeit

Die bisherigen Ergebnisse können als Indikator einer erhöhten Komplexität interpretiert werden. Diese Schlussfolgerung stünde im Gegensatz zur Formulierung des § 162 Abs. 1 Satz 1 AktG, der einen klaren und verständlichen Vergütungsbericht vorschreibt. Mittels Berechnung von Lesbarkeitsindizes ist eine differenzierte Beurteilung der Vergütungsberichte möglich. Im Folgenden werden in Tabelle 5.2 sowie Abbildung 5.3 und Tabelle 5.3 sowie Abbildung 5.4 die Ergebnisse der ermittelten Lesbarkeitswerte der Vergütungsberichte in deutscher und englischer Sprache im Zeitraum 2020 bis 2022 dargestellt und anschließend eingeordnet.

[92] Vgl. *IDW* (2018), S. 4.

Die Lesbarkeit der englischsprachigen Vergütungsberichte wird anhand der in Kapitel 5.2 vorgestellten Lesbarkeitsindizes FRE sowie FOG erhoben. Der durchschnittliche FRE-Wert ist von 25,24 im Jahr 2020 auf 22,60 im Jahr 2021 gesunken. Die Veränderung im Prä-Post-Vergleich zur ARUG-II-Einführung ist statistisch signifikant ($p < 0{,}0001$) und deutete auf eine erschwerte Lesbarkeit der Vergütungsberichte hin. Im Jahr 2022 ist der Mittelwert des FRE marginal auf 22,44 gesunken. Entsprechend der Klassifizierung des FRE wird der Text somit konstant als sehr schwierig eingestuft und richtet sich primär an ein Publikum mit akademischem Hintergrund.[93] Eine ähnliche Entwicklung lässt sich für den FOG beobachten. Ausgehend von einem FOG-Wert von 20,26 im Jahr 2020 stieg der Mittelwert statistisch signifikant ($p < 0{,}0001$) auf 21,00 im Jahr 2021 an und veränderte sich im Jahr 2022 nur marginal auf 21,05. Nach den theoretischen Referenzwerten des FOG entsprechen die Vergütungsberichte über den Beobachtungszeitraum somit dem Leselevel von Hochschulabsolventen.[94]

	Flesch Reading Ease (FRE)			Gunning Fog Index (FOG)		
	2020	2021	2022	2020	2021	2022
Mittelwert	25,24	22,60	22,44	20,26	21,00	21,05
Minimum	13,04	13,41	14,71	17,39	18,80	19,39
Maximum	34,58	29,30	29,49	23,77	23,76	23,63
Standardabweichung	3,90	3,33	3,06	1,22	0,96	0,87
Stichprobenumfang[95]	71	71	71	71	71	71

Tabelle 5.2: *Die Lesbarkeit der englischsprachigen Vergütungsberichte*

Des Weiteren variieren die Lesbarkeitswerte mit der Branchenzugehörigkeit. In dem untersuchten Sample sind die Vergütungsberichte der Unternehmen aus dem Energiesektor für die Berichtsjahre 2021 und 2022 mit einem durchschnittlichen FOG-Wert von 19,76 am einfachsten zu lesen, während die Vergütungsberichte der Unternehmen aus der Medienbranche am komplexesten sind.

Beide verwendeten Lesbarkeitsindizes deuten einen gleichartigen Trend an, so dass robuste Ergebnisse geschlussfolgert werden können. Grundsätzlich lässt sich eine marginale Verschlechterung der Lesbarkeit der englischsprachigen Vergütungsberichte

[93] Vgl. Kapitel 5.2.3.
[94] Vgl. Kapitel 5.2.3.
[95] Diese sowie fortfolgende Analysen wurden anhand der Datengrundlage für die Lesbarkeitsanalyse durchgeführt. Zum Vorgehen siehe Kapitel 5.3.2.

mit ARUG II feststellen. Insgesamt liegen die Mittelwerte des FRE und FOG für die englischsprachigen Berichte in einem Bereich, der auf eine sehr schwere Lesbarkeit bzw. Verständlichkeit hinweist.

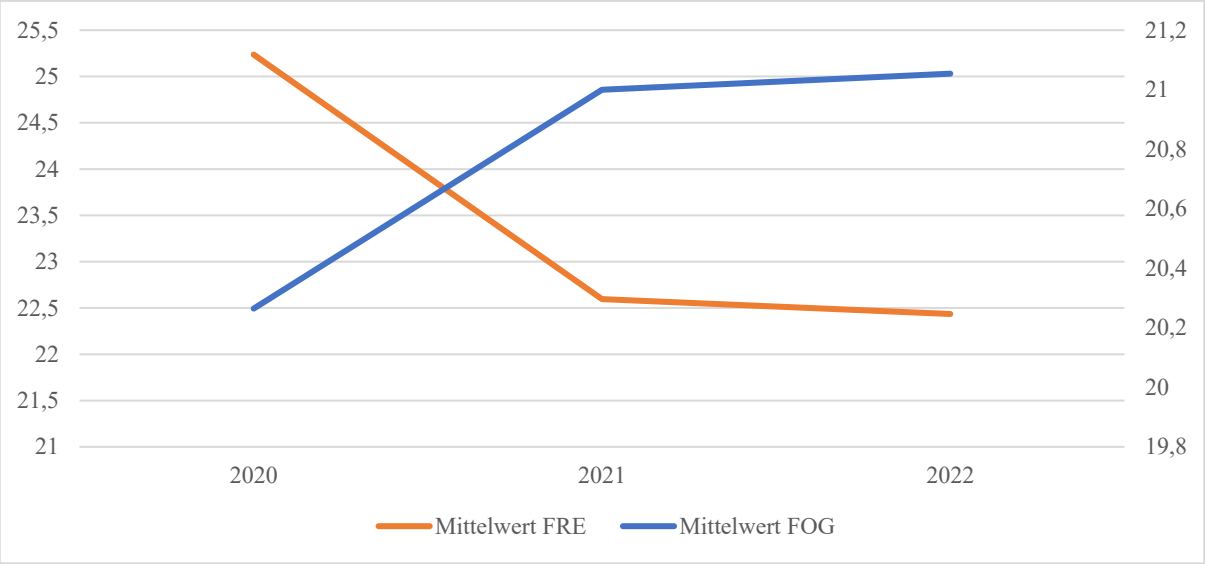


Abbildung 5.3: *Entwicklung der Mittelwerte der Lesbarkeitsindizes FRE und FOG*

Die Ergebnisse des FOG zeigen für die untersuchten Vergütungsberichte einen Mittelwert von 20,77 über den Zeitraum 2020 bis 2022. Dieser Wert liegt deutlich über den empfohlenen Schwellenwerten für geschäftliche Texte von maximal zwölf.[96] Während die Ergebnisse auf einem ähnlichen Niveau wie Studien zu Vergütungsberichten von US-Unternehmen liegen,[97] deutet eine Untersuchung der Vergütungsberichte von FTSE 350-gelisteten Unternehmen auf eine bessere Lesbarkeit hin.[98] Amerikanische Vergütungsberichte, die den regulatorischen Anforderungen der SEC unterliegen, weisen einen durchschnittlichen FOG von 21,82 auf.[99] Dieser Wert liegt leicht über den Befunden der vorliegenden Analyse und unterstreicht, dass auch amerikanische Vergütungsberichte ein hohes Maß an sprachlicher Komplexität aufweisen. Dabei ist jedoch zu berücksichtigen, dass sich die regulatorischen Rahmenbedingungen in den USA deutlich von denen in Deutschland unterscheiden.

Weitere Untersuchungen bieten Kontext zur Textkomplexität anderer Berichtsinstrumente. In einer Studie zu Pflichtangaben nach IFRS 3 wurde ein FOG-Wert

[96] Vgl. *Laksmana et al.* (2012), S. 191.
[97] Vgl. *Hemmings et al.* (2020), S. 557: Mittelwert 23,6; *Laksmana et al.* (2012), S. 191: Mittelwert 21,82.
[98] Vgl. *Hooghiemstra et al.* (2017), S. 706: Mittelwert > 17.
[99] Vgl. *Laksmana et al.* (2012), S. 191.

von 19,05 ermittelt, wobei geografische und sprachliche Überschneidungen mit dem vorliegenden Sample bestehen.[100] Für Key Audit Matters (KAMs) wurden FOG-Werte von 22,51 für das Jahr 2020 und 22,36 für 2021 ermittelt, die nahe an den Ergebnissen der vorliegenden Untersuchung liegen.[101] Obwohl sich KAMs, ähnlich wie Vergütungsberichte, an Aktionäre richten, handelt es sich um Kommunikationselemente, die von Abschlussprüfern bereitgestellt werden. Untersuchungen zur Lesbarkeit der lageberichtähnlichen Berichterstattung mittels MD&A-Berichterstattung US-amerikanischer Unternehmen (FOG: 18,02 bzw. 18-20)[102] verdeutlichen, dass Vergütungsberichte deutscher Unternehmen sprachlich anspruchsvoller gestaltet sind.

Die englischsprachigen Vergütungsberichte der HDAX-Unternehmen weisen im Durchschnitt einen FRE-Mittelwert auf, der zwischen den Ergebnissen von *Laksmana et al.*[103] und *Velte* liegt. Ein Vergleich mit der Studie von *Velte*, der Vergütungsberichte ausgewählter HDAX-Unternehmen für den Zeitraum 2014-2018 analysierte, zeigt einen FRE-Mittelwert von 26,64. Dieser Wert liegt zwar über dem Ergebnis der vorliegenden Untersuchung, fällt jedoch weiterhin in die anspruchsvollste Lesbarkeitskategorie (0-30).[104]

Untersuchungen zu anderen Berichtsinstrumenten zeigen ebenfalls eine hohe sprachliche Komplexität, weisen jedoch Unterschiede in Zielsetzung, Struktur und Lesbarkeit im Vergleich zu Vergütungsberichten auf.[105]

Die Lesbarkeit der deutschsprachigen Vergütungsberichte wird anhand der in Kapitel 5.2 vorgestellten Indizies LIX sowie FRE_{Amstad} erhoben. Die Ergebnisse sind in Tabelle 5.3 und Abbildung 5.4 dargestellt. Der durchschnittliche LIX-Wert der Vergütungsberichte im Jahr 2020, der letzten Berichtsperiode vor der Anwendung des ARUG II, beträgt 65,39. Im Zuge der Implementierung des ARUG II stieg der LIX-Wert der Vergütungsberichte im Prä-Post-Vergleich statistisch signifikant ($p < 0{,}0001$) auf durchschnittlich 67,44 im Jahr 2021 an, was auf eine erschwerte Lesbarkeit der Berichte hinweist. In der zweiten Berichtsperiode sank der durchschnittliche LIX-Wert im Jahr

[100] Vgl. *Rupertus et al.* (2017), S. 83.
[101] Vgl. *Quick et al.* (2023), S. 851.
[102] Vgl. *Lo et al.* (2017), S. 7.
[103] Vgl. *Laksmana et al.* (2012), S. 191: Mittelwert 19,84.
[104] Vgl. *Velte* (2021), S. 38.
[105] *Kaya/Seebeck* (2018, S. 1000) analysieren KAMs und ermittelten FRE-Werte von 20,14 bis 30,29; *Rupertus et al.* (2017, S. 83) errechnen für Finanzinformationen (z. B. IFRS 3) einen FRE-Wert von 22,81.

2022 marginal auf 67,29. Die Vergütungsberichte liegen stets über dem Schwellenwert von 60 und sind demgemäß als sehr schwer verständlich zu klassifizieren.[106]

	Lesbarkeitsindex nach Björnsson (LIX)			Flesch Reading Ease Amstad (FRE_{Amstad})		
	2020	2021	2022	2020	2021	2022
Mittelwert	65,39	67,44	67,29	25,77	23,22	23,66
Minimum	58,17	62,63	61,93	12,10	15,04	14,94
Maximum	74,41	74,19	74,39	34,57	29,09	30,78
Standardabweichung	2,96	2,29	2,20	3,89	3,19	2,75
Stichprobenumfang	71	71	71	71	71	71

Tabelle 5.3: *Die Lesbarkeit der deutschsprachigen Vergütungsberichte*

Eine vergleichbare Entwicklung der Lesbarkeit lässt sich anhand des FRE_{Amstad} beobachten. Ausgehend von einem durchschnittlichen Lesbarkeitswert von 25,77 nach FRE_{Amstad} im Jahr 2020, zeigte sich mit der erstmaligen Anwendung der neuen gesetzlichen Vorgaben ein statistisch signifikanter Rückgang ($p < 0{,}0001$) auf 23,22 im Jahr 2021, was ebenfalls auf eine erschwerte Lesbarkeit hindeutet. Analog zur Entwicklung des LIX-Werts veränderte sich der FRE_{Amstad}-Wert im Jahr 2022 nur marginal und erreichte einen durchschnittlichen Wert von 23,66. Die Lesbarkeitswerte nach FRE_{Amstad} liegen durchweg in der Referenzkategorie von 20 bis 30 und weisen auf eine schwierige Lesbarkeit der Vergütungsberichte hin.[107] Die Ergebnisse lassen auf robuste Ergebnisse schließen. Besonders hervorzuheben sind die Vergütungsberichte der Deutschen Post AG (durchschnittlicher LIX-Wert: 62,95) sowie der RWE AG (durchschnittlicher LIX-Wert: 63,64), die in der Post-ARUG-II-Berichtsperiode 2021/2022 die niedrigsten LIX-Werte aufweisen und damit im Vergleich zu anderen Berichten eine relativ gute Lesbarkeit aufzeigen.[108] Im Branchenvergleich erzielen Unternehmen aus der Energiebranche sowie dem Bankensektor mit einem durchschnittlichen LIX-Wert von 64,26 bzw. 64,69 die besten Lesbarkeitswerte.

[106] Vgl. Kapitel 5.2.3.
[107] Vgl. Kapitel 5.2.3.
[108] Diese Feststellung lässt sich ebenfalls auf die englischsprachigen Vergütungsberichte der Jahre 2021 bzw. 2022 übertragen (ermittelt über den FOG-Wert).

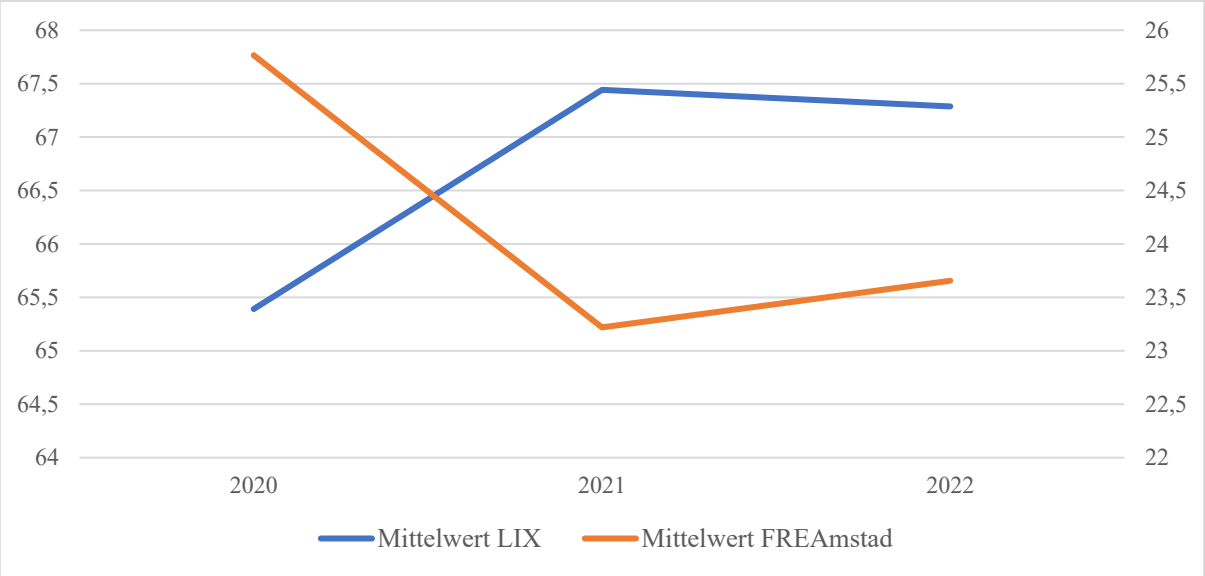


Abbildung 5.4: *Entwicklung der Mittelwerte der Lesbarkeitsindizes LIX und FRE$_{Amstad}$*

Ein direkter Vergleich der ermittelten Ergebnisse für deutsche Vergütungsberichte ist schwierig, da bisher keine textanalytischen Untersuchungen bekannt sind, die deutschsprachige Vergütungsberichte mit einem vergleichbaren Sample und unter Verwendung der Lesbarkeitsindizes LIX und FRE$_{Amstad}$ analysiert haben. Mit einem LIX-Mittelwert von 66,70 und einem FRE$_{Amstad}$-Mittelwert von 24,21 können unsere Ergebnisse lediglich als indirekter Robustheitstest für die englischen Analysen herangezogen werden, gleichwohl die Indizes sprachübergreifend nicht vergleichbar sind. Das Fehlen solcher Studien unterstreicht hingegen die Relevanz unserer Untersuchung im deutschsprachigen Raum. Vergleichbare Studien zu anderen Berichtsinstrumenten liefern jedoch Kontext.[109]

Es kann festgestellt werden, dass die Vergütungsberichte sowohl in deutscher als auch in englischer Sprache ein komplexes Berichtsinstrument darstellen. Trotz des durch ARUG II erheblich erweiterten Umfangs hat sich die Lesbarkeit zwar statistisch signifikant verschlechtert, allerdings ist für die Adressaten diese Verschlechterung auf dem bestehenden Berichtsniveau praktisch kaum wahrnehmbar.

[109] *Quick et al.* (2024, S. 434) berichten für Risiko- und Chancenberichte einen durchschnittlichen LIX-Wert von 64,90. *Tanirak/Lazar* (2024, S. 17) ermitteln für ESG-Berichte der DAX-40-Unternehmen einen Mittelwert von 59. *Gros/Hanke* (2021, S. 536) finden für IFRS-Konzernabschlüsse Mittelwerte von 63,64 und 63,67. Für KAM-Angaben berichten *Diederich/Velte* (2019, S. 464) einen durchschnittlichen FRE$_{Amstad}$-Wert von 12,73. *Quick et al.* (2024, S. 434) ermitteln einen Durchschnittswert von 19,40, während *Gros/Hanke* (2021, S. 536) für IFRS-Konzernabschlüsse Werte von 12,59 bzw. 13,27 berichten.

5.4.5 Limitation

Die Nutzung klassischer Lesbarkeitsmaße, wie die des FOG zur Bewertung der Lesbarkeit von Finanzberichten, steht in der Kritik, da er häufig verwendete Fachbegriffe als komplex einstuft, obwohl diese für die Zielgruppe verständlich sein können.[110] So gibt es bspw. sprachspezifische Besonderheiten, etwa im Deutschen, wo lange zusammengesetzte Wörter das Komplexitätsmaß verzerren können, obwohl sie für Fachleser problemlos verständlich sind.[111] Eine mögliche Alternative bietet der Bog-Index, der die Komplexität von Begriffen auf Basis eines spezifischen Wörterbuchs bewertet und nicht primär die Silbenanzahl als Maßstab heranzieht.[112] Im Kontext dieser Argumentation wird auf den unterschiedlichen Kenntnisstand von privaten und institutionellen Investoren Bezug genommen. Insbesondere bei privaten bzw. weniger versierten Anlegern, die nicht per se mit den finanzwirtschaftlichen Fachbegriffen vertraut sind, ist eine transparente sowie verständliche Kommunikation wichtig.[113] Ferner wurden narrative Teile der Berichte bei der Bereinigung von Abbildungen, Tabellen und ähnlichen Formatierungen teilweise vom Analysegegenstand ausgeschlossen. Eine differenziertere Bereinigung erscheint in diesem Zusammenhang sinnvoll.[114]

5.5 Schlussbetrachtung

Die vorliegende Studie zeigt, dass die Berichterstattung über die Organvergütung börsennotierter Aktiengesellschaften mit der Einführung des ARUG II sowohl in Umfang als auch Detailtiefe deutlich zugenommen hat. Trotz dieses erweiterten Berichtsumfangs ist die Lesbarkeit der Vergütungsberichte nur geringfügig verschlechtert. Grundsätzlich ist festzuhalten, dass der Vergütungsbericht – ungeachtet gesetzlicher Reformen – weiterhin ein komplexes Berichtsinstrument darstellt, das für die Adressaten anspruchsvoll bleibt. Die gesetzlichen Anforderungen nach § 162 AktG, die einen klaren und verständlichen Bericht fordern, werden folglich nur bedingt erfüllt. Unternehmen sollten daher gezielt eine verständlichere Sprache und eine klarere Struktur nutzen, um die Nachvollziehbarkeit für Aktionäre zu verbessern.

[110] Vgl. *Loughran/McDonald* (2014), S. 1645; *Efretuei/Hussainey* (2023).
[111] Vgl. *Fritz/Töws* (2018), S. 66.
[112] Vgl. *Loughran/McDonald* (2014), S. 1645.
[113] Vgl. *Beier-Middelschulte* (2004), S. 74; *Hooghiemstra et al.* (2017), S. 720 f.
[114] Vgl. bspw. Vorgehen von *Hemmings et al.* (2020, S. 584 ff.), welche die Entfernung derartiger Formatierungen lediglich vornahmen, wenn der narrative Anteil < 85 % betrug.

Umfangreichere Rechenschaftspflichten ermöglichen den Adressaten sowohl einen intra-Unternehmensvergleich mit den Vorperioden desselben Unternehmens als auch einen inter-Unternehmensvergleich mit branchengleichen Wettbewerbern, um die Angemessenheit der Vergütung zu beurteilen. Es zeigt sich allerdings, dass die Auffindbarkeit und Vergleichbarkeit der Berichte durch uneinheitliche Darstellungsformen eingeschränkt sein können. Die Definition einheitlicher Tabellen, die Festlegung klarer Referenzwerte sowie strukturierte Vorgaben für die Darstellung zentraler Vergütungselemente könnten zur besseren Vergleichbarkeit zwischen Unternehmen beitragen. Darüber hinaus lässt die Mehrheit der Unternehmen ihre Berichte freiwillig über die gesetzlichen Anforderungen hinaus prüfen, was die Verlässlichkeit der Berichterstattung stärkt.

Inwieweit eine klarere und sachlich ausgewogenere Darstellung das Vertrauen der Aktionäre stärkt, sollte Gegenstand weiterer Untersuchungen sein. Studien aus den USA deuten bspw. darauf hin, dass die sprachliche Gestaltung das Aktionärsvotum beeinflusst.[115]

[115] Vgl. *Hemmings et al.* (2020), S. 547.

5.6 Literaturverzeichnis

Amstad, T. (1978), Wie verständlich sind unsere Zeitungen?, Dissertation, Universität Zürich, Zürich.

Anderson, J. (1983), Lix and rix: Variations on a little-known readability index, in: Journal of Reading, 26. Jg., S. 490–496.

Anzinger, H. M. (2019), Vorstands- und Aufsichtsratsvergütung: Kompetenzverteilung und Offenlegung nach der zweiten Aktionärsrechterichtlinie, in: Zeitschrift für Unternehmens- und Gesellschaftsrecht, 48. Jg., S. 39–96.

Armeli, N./Misterek, F. (2023), Vorstandsvergütungsstudie 2023. Entwicklung der Vergütung von Vorständen aus DAX- und MDAX-Unternehmen im Geschäftsjahr 2022, Düsseldorf 2023, https://www.imu-boeckler.de/fpdf/HBS-008765/p_mbf_report_2023_80.pdf (abgerufen am 25. 1. 2025).

Aust, V. (2019), Qualität oder Quantität? - Kommunikation in der DAX30- und MDAX-Vergütungsberichterstattung von Vorständen, in: Betriebswirtschaftliche Forschung und Praxis, 71. Jg., S. 468–488.

Balsam, S./Boone, J./Liu, H./Yin, J. (2016), The impact of say-on-pay on executive compensation, in: Journal of Accounting and Public Policy, 35. Jg., S. 162–191.

Bannier, C./Reinschmidt, J. (2022), Vorstandsvergütung in DAX- und MDAX-Unternehmen. Wie nachhaltig sind die Vergütungssysteme der börsennotierten deutschen Unternehmen?, in: WPg, 75. Jg., S. 639–645.

Beck, D./Friedl, G./Schäfer, P. (2020), Executive compensation in Germany, in: Journal of Business Economics, 90. Jg., S. 787–824.

Beck Bil-Komm/Grottel (2024), HGB § 285. In: *Grottel, B./Justenhoven, P./Kliem, B./Schubert, W. J.* (Hrsg.), Beck'scher Bilanz-Kommentar. Handels- und Steuerbilanz : §§ 238-339, 342-342r HGB, 14. Aufl., München 2024.

BeckOGK/Bayer/Scholz (2024), AktG § 162. In: *Stilz, E./Veil, R.* (Hrsg.), beck-online.Grosskommentar AktG 2024.

Beier-Middelschulte, A. (2004), Finanzkommunikation junger Emittenten, Wiesbaden 2004.

Björnsson, C. H. (1968), Läsbarhet, Stockholm 1968.

Björnsson, C. H. (1983), Readability of Newspapers in 11 Languages, in: Reading Research Quarterly, 18. Jg., S. 480–497.

Bochkay, K./Brown, S. V./Leone, A. J./Tucker, J. W. (2023), Textual Analysis in Accounting: What's Next?*, in: Contemporary Accounting Research, 40. Jg., S. 765–805.

Bond, S. (2025), Gunning Fog Index, http://gunning-fog-index.com/fog.cgi (abgerufen am 25. 1. 2025).

Bonsall, S. B./Leone, A. J./Miller, B. P./Rennekamp, K. (2017), A plain English measure of financial reporting readability, in: Journal of Accounting and Economics, 63. Jg., S. 329–357.

Brennan, N. M./Guillamon-Saorin, E./Pierce, A. (2009), Methodological Insights, in: Accounting, Auditing & Accountability Journal, 22. Jg., S. 789–832.

Bundesministerium der Justiz und für Verbraucherschutz (2019), Gesetz zur Umsetzung der zweiten Aktionärsrechterichtlinie (ARUG II),

https://www.bgbl.de/xaver/bgbl/start.xav?startbk=Bundesanzeiger_BGBl&jumpTo=bgbl119s2637.pdf#/text/bgbl119s2637.pdf?_ts=1748620971769 (abgerufen am 25. 1. 2025).

Burg, T./Plietsch, D./Pott, C./Walter, J. (2016), Die Vorstandsvergütung der DAX30-Unternehmen im Kontext von HGB, DCGK und IFRS, in: KoR: internationale und kapitalmarktorientierte Rechnungslegung, 16. Jg., S. 23–32.

Courtis, J. K. (1995), Readability of annual reports: Western versus Asian evidence, in: Accounting, Auditing & Accountability Journal, 8. Jg., S. 4–17.

Grottel, B./Justenhoven, P./Kliem, B./Schubert, W. J. (Hrsg.) (2024), Beck'scher Bilanz-Kommentar. Handels- und Steuerbilanz : §§ 238-339, 342-342r HGB, 14. Aufl., München 2024.

Deutsche Börse AG (2024), Report: Listed Companies Frankfurt Stock Exchange, https://www.deutsche-boerse-cash-market.com/dbcm-de/instrumente-statistiken/statistiken/gelistete-unternehmen (abgerufen am 25. 1. 2025).

Deutscher Bundestag (2019), Entwurf eines Gesetzes zur Umsetzung der zweiten Aktionärsrechterichtlinie (ARUG II). RegBegr. BT-Drs. 19/9739, https://dserver.bundestag.de/btd/19/097/1909739.pdf (abgerufen am 25. 1. 2025).

Diederich, M./Velte, P. (2019), Key Audit Matters im neuen Bestätigungsvermerk. Eine quantitative Berichtsanalyse für HDAX- und SDAX-Unternehmen im Geschäftsjahr 2017, in: Deutsches Steuerrecht, 57. Jg., S. 461–468.

Efretuei, E./Hussainey, K. (2023), The fog index in accounting research: contributions and challenges, in: Journal of Applied Accounting Research, 24. Jg., S. 318–343.

El-Sayed, D. H./Adel, E./Elmougy, O./Fawzy, N./Hatem, N./Elhakey, F. (2021), The influence of narrative disclosure readability, information ordering and graphical representations on non-professional investors' judgment: evidence from an emerging market, in: Journal of Applied Accounting Research, 22. Jg., S. 138–167.

EU-Kommission (2022), Guidelines on the standardised presentation of the remuneration report under Directive 2007/36/EC, as amended by Directive (EU) 2017/828, as regards the encouragement of long-term shareholder engagement, https://ec.europa.eu/transparency/expert-groups-register/core/api/front/document/88046/download (abgerufen am 25. 1. 2025).

Flesch, R. (1948), A new readability yardstick, in: The Journal of applied psychology, 32. Jg., S. 221–233.

Frankel, R./Jennings, J./Lee, J. (2022), Disclosure Sentiment: Machine Learning vs. Dictionary Methods, in: Management science, 68. Jg., S. 5514–5532.

Fritz, D./Töws, E. (2018), Text Mining and Reporting Quality in German Banks - A Cooccurrence and Sentiment Analysis, in: Universal Journal of Accounting and Finance, 6. Jg., S. 54–81.

Gao, J./Hartmann, F./Zhang, M./Chen, Y. (2023), The impact of CSR performance and CSR disclosure readability on investors' earnings estimates, in: Accounting & Finance, 63. Jg., S. 1157–1186.

Goette, W./Habersack, M./Kalss, S. (Hrsg.) (2024), Münchener Kommentar zum Aktiengesetz, 6. Aufl., München 2024.

Gosselin, A.-M./Le Maux, J./Smaili, N. (2021), Readability of Accounting Disclosures: A Comprehensive Review and Research Agenda*, in: Accounting Perspectives, 20. Jg., S. 543–581.

Götz, A./Friese, N. (2010), Empirische Analyse der Vorstandsvergütung im DAX und MDAX nach Einführung des Vorstandsvergütungsangemessenheitsgesetzes, in: Corporate Finance, 1. Jg., S. 410–420.

Götz, A./Stahl, M. (2023), Vorstandsvergütung in DAX und MDAX 2022. Analyse der Vergütung und der Vergütungselemente, in: Corporate Finance, 14. Jg., S. 193–196.

Götz, A./Stahl, M./Wiedmann, K. (2022), Vorstandsvergütung in DAX und MDAX 2021. Analyse der Vergütungsberichte nach § 162 AktG, in: Corporate Finance, 13. Jg., S. 215–220.

Grigoleit, H. C. (Hrsg.) (2020), Aktiengesetz. Kommentar, 2. Aufl., München 2020.

Grigoleit/Rachlitz (2020), AktG § 162. In: *Grigoleit, H. C.* (Hrsg.), Aktiengesetz. Kommentar, 2. Aufl., München 2020.

Gros, M./Hanke, A. (2021), Fehleridentifikation im Enforcement-Verfahren - Was kann die Computerlinguistik leisten? Schwerpunktthema: Prüfungswesen, in: Betriebswirtschaftliche Forschung und Praxis, 73. Jg., S. 519–550.

Grottke, M. (2009), Die strukturale Textanalyse als bilanzanalytisches Instrument zur Auswertung von Lageberichten, in: Die Betriebswirtschaft, 69. Jg.

Guay, W./Samuels, D./Taylor, D. (2016), Guiding through the Fog: Financial statement complexity and voluntary disclosure, in: Journal of Accounting and Economics, 62. Jg., S. 234–269.

Gunning, R. (1952), The technique of clear writing, New York 1952.

Hartmann, M./Weißenberger, B. E. (2024), Information overload research in accounting: a systematic review of the literature, in: Management Review Quarterly, 74. Jg., S. 1619–1667.

Heilmann, M./Höfmann, M./Pott, C. (2020), Berichterstattung von Aufsichtsrat und Vorstand. „Der Ton macht die Musik“: eine textimmanente Analyse, in: WPg, 73. Jg., S. 707–714.

Hemmings, D./Hodgkinson, L./Williams, G. (2020), It's OK to pay well, if you write well: The effects of remuneration disclosure readability, in: Journal of Business Finance & Accounting, 47. Jg., S. 547–586.

Heyd, R./Anselmann, D. (2019), Die Beschreibung der Key Audit Matters in den Bestätigungsvermerken ausgewählter Unternehmen. Analyse anhand eines Scoring-Modells, in: Zeitschrift für Bilanzierung, Rechnungswesen & Controlling, 43. Jg., S. 579–584.

Hohmann, F./Schäfer, D. (2020), Impression Management in der Finanzberichterstattung. Wie Unternehmen die Leser der Berichterstattung durch sprachliche Gestaltung beeinflussen können, in: IRZ : Zeitschrift für internationale Rechnungslegung, 15. Jg., S. 461–467.

Hölters, W./Weber, M. (Hrsg.) (2022), Aktiengesetz. Kommentar, 4. Aufl., München 2022.

Hölters/Weber (2022), AktG § 162. In: *Hölters, W./Weber, M.* (Hrsg.), Aktiengesetz. Kommentar, 4. Aufl., München 2022.

Hooghiemstra, R./Kuang, Y. F./Qin, B. (2017), Does obfuscating excessive CEO pay work? The influence of remuneration report readability on say-on-pay votes, in: Accounting and Business Research, 47. Jg., S. 695–729.

IASB (2017), Disclosure Initiative—Principles of Disclosure. Discussion Paper DP/2017/1, https://www.ifrs.org/content/dam/ifrs/project/disclosure-initative/disclosure-initiative-principles-of-disclosure/discussion-paper/published-documents/discussion-paper-disclosure-initiative-principles-of-disclosure.pdf (abgerufen am 25. 1. 2025).

IDW (2018), Referentenentwurf eines Gesetzes zur Umsetzung der zweiten Aktionärsrechterichtlinie (ARUG II-RefE), bmj.de/SharedDocs/Downloads/DE/Gesetzgebung/Stellungnahmen/2019/12042018_Stellungnahme_Institut-Wirtschaftspruefer_ARUG-II.pdf?__blob=publicationFile (abgerufen am 25. 1. 2025).

Kang, Y./Cai, Z./Tan, C.-W./Huang, Q./Liu, H. (2020), Natural language processing (NLP) in management research: A literature review, in: Journal of management analytics, 7. Jg., S. 139–172.

Kaya, D./Seebeck, A. (2018), Computergestützte Textanalyse von erweiterten Bestätigungsvermerken, in: WPg, 71. Jg., S. 995–1002.

Kolb, S./Nickel, J. R./Riedl, F./Rupp, A. (2022), Handbuch Aktienrechtliche Organvergütung: Vergütungssystem und Vergütungsberichterstattung nach ARUG II, Stuttgart 2022.

Kuthe, T./Reuters, M. (2022), Der aktienrechtliche Vergütungsbericht nach § 162 AktG. Praxisrelevante Hinweise, in: Betriebs-Berater, 77. Jg., S. 2115–2120.

Laksmana, I./Tietz, W./Yang, Y.-W. (2012), Compensation discussion and analysis (CD&A): Readability and management obfuscation, in: Journal of Accounting and Public Policy, 31. Jg., S. 185–203.

Lenhard, W./Lenhard, A. (2022), Berechnung des Lesbarkeitsindex LIX nach Björnson, https://www.psychometrica.de/lix.html (abgerufen am 25. 1. 2025).

Li, F. (2008), Annual report readability, current earnings, and earnings persistence, in: Journal of Accounting and Economics, 45. Jg., S. 221–247.

Lo, K./Ramos, F./Rogo, R. (2017), Earnings management and annual report readability, in: Journal of Accounting and Economics, 63. Jg., S. 1–25.

Lohmann, C./Danisch, C. (2021), Sprachliche Konsistenz in der Unternehmensberichterstattung: Ein Vergleich der sprachlichen Tonalität von finanziellen und nichtfinanziellen Unternehmensberichten, in: Betriebswirtschaftliche Forschung und Praxis, 73. Jg., S. 179–199.

Lohmann, C./Ohliger, T. (2020), Bankruptcy prediction and the discriminatory power of annual reports: empirical evidence from financially distressed German companies, in: Journal of Business Economics, 90. Jg., S. 137–172.

Loughran, T. I./McDonald, B. (2011), When Is a Liability Not a Liability? Textual Analysis, Dictionaries, and 10-Ks, in: The Journal of Finance, 66. Jg., S. 35–65.

Loughran, T. I./McDonald, B. (2014), Measuring Readability in Financial Disclosures, in: The Journal of Finance, 69. Jg., S. 1643–1671.

Loughran, T. I./McDonald, B. (2016), Textual Analysis in Accounting and Finance: A Survey, in: Journal of Accounting Research, 54. Jg., S. 1187–1230.

Manager Magazin (2022), Klatsche für den Bayer-Vorstand. Vergütungsbericht fällt durch, https://www.manager-magazin.de/unternehmen/pharma/bayer-aktionaere-watschen-vorstand-auf-hauptversammlung-ab-a-87f75621-aa9e-4f15-bfd4-5c07c5fdfc30 (abgerufen am 25. 1. 2025).

Mauritz, C./Nienhaus, M./Oehler, C. (2023), The role of individual audit partners for narrative disclosures, in: Review of Accounting Studies, 28. Jg., S. 1–44.

Mühlberger, M./Woern, M. (2024), ESG-Ziele in der Vorstandsvergütung. Eine empirische Analyse des EURO STOXX 50, in: KoR: internationale und kapitalmarktorientierte Rechnungslegung, 24. Jg., S. 327–336.

MüKoAktG/Kubis (2024), AktG § 120a. In: *Goette, W./Habersack, M./Kalss, S.* (Hrsg.), Münchener Kommentar zum Aktiengesetz, 6. Aufl., München 2024.

MüKoAktG/Spindler (2024a), AktG § 162. In: *Goette, W./Habersack, M./Kalss, S.* (Hrsg.), Münchener Kommentar zum Aktiengesetz, 6. Aufl., München 2024.

MüKoAktG/Spindler (2024b), AktG § 87a. In: *Goette, W./Habersack, M./Kalss, S.* (Hrsg.), Münchener Kommentar zum Aktiengesetz, 6. Aufl., München 2024.

Online Utility (2025), Tests Document Readability, https://www.online-utility.org/english/readability_test_and_improve.jsp (abgerufen am 25. 1. 2025).

Pöferlein, M. (2021), Sentiment Analysis of German Texts in Finance: Improving and Testing the BPW Dictionary, in: Journal of Banking and Financial Economics, 8. Jg., S. 5–24.

Quick, R./Kordisch, J./Schneider, C. (2024), Zum Einfluss der Abschlussprüfungsqualität auf die Lesbarkeit von Risiko- und Chancenberichten, in: Der Konzern, 22. Jg., S. 431–436.

Quick, R./Pappert, N./Friedrich, C./Carlé, T. (2021), Ähnlichkeiten und "Boilerplates" in der Berichterstattung über Key Audit Matters in den Bestätigungsvermerken der DAX-30-Unternehmen, in: Betriebswirtschaftliche Forschung und Praxis, 73. Jg., S. 461–478.

Quick, R./Pappert, N./Rose, J. (2023), Zur Lesbarkeit von Key Audit Matters. Eine empirische Untersuchung zu den Bestätigungsvermerken der HDAX-Unternehmen, in: WPg, 76. Jg., S. 844–851.

Readability Formulas (2024), Average Readability Consensus Calc, https://readabilityformulas.com/calculator-arlc-formula.php (abgerufen am 25. 1. 2025).

Regierungskomission Deutscher Corporate Governance Kodex (2022), Deutscher Corporate Governance Kodex, https://www.dcgk.de//files/dcgk/usercontent/de/download/kodex/220627_Deutscher_Corporate_Governance_Kodex_2022.pdf (abgerufen am 25. 1. 2025).

Rimmelspacher, D./Kliem, B. (2021), Der Vertikalvergleich im Vergütungsbericht nach § 162 AktG, in: WPg, 74. Jg., S. 1000–1008.

Rimmelspacher, D./Roland, S. (2020), Der Vergütungsbericht nach ARUG II, in: WPg, 73. Jg., S. 201–209.

Rupertus, H./Kaiser, F./Bravidor, M. (2017), Auf hohem Niveau schwierig!?: die Lesbarkeit der Finanzberichterstattung im internationalen Vergleich: eine empirische Analyse für Deutschland, Großbritannien und Frankreich, in: KoR: internationale und kapitalmarktorientierte Rechnungslegung, 17. Jg., S. 79–85.

Schick, A. G./Gordon, L. A./Haka, S. (1990), Information overload: A temporal approach, in: Accounting, organizations and society, 15. Jg., S. 199–220.

Schmidt, M./Pacher, S. (2022), ESG-Leistungskriterien in der Vorstandsvergütung. Eine Marktanalyse auf Basis der DAX-Familie, in: Zeitschrift für Corporate Governance, 17. Jg., S. 112–115.

Schöll, P. (2025), Fleschindex - Berechnen, https://www.fleschindex.de/berechnen/ (abgerufen am 25. 1. 2025).

Schutzgemeinschaft der Kapitalanleger (2024), Geplantes Abstimmungsverhalten der SdK auf der ordentliche Hauptversammlung am 27.08.2024, https://api.sdk.org/m/07345d2b-1028-4fbc-8fee-66189d3f8de7 (abgerufen am 25. 1. 2025).

Stilz, E./Veil, R. (Hrsg.) (2024), beck-online.Grosskommentar AktG 2024.

Stöber, M. (2020), Neuerungen im Aktienrecht durch das ARUG II, in: Deutsches Steuerrecht, 58. Jg., S. 391–398.

Stone, G./Parker, L. D. (2013), Developing the Flesch reading ease formula for the contemporary accounting communications landscape, in: Qualitative research in accounting & management, 10. Jg., S. 31–59.

Tanirak, E./Lazar, C. (2024), Analyse der ESG-Berichtspraxis in DAX 40-Unternehmen. Trends, Bewertungen und Lesbarkeit von 2019 bis 2022, in: ESGZ - Fachzeitschrift für Nachhaltigkeit und Recht, 3. Jg., S. 10–19.

Tönnies, A./Tönnies, M. (2024), Nachhaltigkeit in der Vorstandsvergütung börsennotierter Aktiengesellschaften in Deutschland. Ergebnisse einer Stichprobenanalyse von DAX-40 und S-DAX-Unternehmen für das Geschäftsjahr 2021, in: WPg, 77. Jg., S. 224–232.

Tröger, T. H./Walz, U. (2019), Does Say on Pay Matter? Evidence from Germany, in: European company and financial law review, 16. Jg., S. 381–414.

Velte, P. (2020a), Associations between the financial and industry expertise of audit committee members and key audit matters within related audit reports, in: Journal of Applied Accounting Research, 21. Jg., S. 185–200.

Velte, P. (2020b), "Nachhaltige und langfristige" Vorstandsvergütung nach dem ARUG II. Erste Anmerkungen zur zwingenden Einbeziehung von Sozial- und Umweltaspekten nach § 87 I 2 AktG, in: Neue Zeitschrift für Gesellschaftsrecht, 23. Jg., S. 12–15.

Velte, P. (2021), Effect of overlapping audit and compensation committee memberships on the readability of management compensation reports in the German HDAX, in: Journal of managerial issues, 33. Jg., S. 27–48.

Vetter, E./Tielmann, J. (2022), Zum Standort des Vergütungsberichts nach § 162 AktG, in: Neue Zeitschrift für Gesellschaftsrecht, 25. Jg., S. 387–388.

You, H./Zhang, X. (2009), Financial reporting complexity and investor underreaction to 10-K information, in: Review of Accounting Studies, 14. Jg., S. 559–586.

Statement on the Use of Artificial Intelligence (AI)

During the preparation of this dissertation, I used artificial intelligence tools to support improvements in linguistic clarity, expression and translation. Suggestions generated by AI tools were carefully reviewed and, where necessary, revised.

Fabian Freches