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TITLE: «The impact of the Adoption of Integrated Reporting Practices on Accounting Quality: Eurozone Evidence»

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ΕΥΧΑΡΙΣΤΙΕΣ

Για την εκπόνηση της παρούσας διπλωματικής εργασίας θα ήθελα να εκφράσω τις θερμές ευχαριστίες μου προς την επιβλέπουσα καθηγήτριά μου, κα. Αναγνωστοπούλου Σεραΐνα, για την άμεση ανταπόκρισή της καθώς και για την πολύτιμη καθοδήγησή της.

ABSTRACT

This dissertation studies the impact of the adoption of Integrated Reporting (IR) Practices on the Accounting Quality of Eurozone firms and uses three measurements including total accruals analysis and total skewness of cash flows measurement as well as earnings-cash flow correlation analysis. The analyzed study period extends from 2005 to 2023 with its results obtained through multiple regression analyses to determine IR adoption impacts on financial reporting quality. The analysis outcomes demonstrate that implementation of Integrated Reporting (IR) enhances both cash flow reporting conservatism as well as earnings-cash flows coherence. The obtained proxies demonstrate no meaningful connection to ESG performance metrics thus indicating sustainability practices generate minimal effects on accounting quality within this framework. Characteristics such as net income along with operating cash flows, leverage and profitability influence the development of accounting practices according to the dissertation findings. The present study adds empirical proof about IR's advantages to financial reporting transparency levels and reporting quality standards through its findings. Additional research must investigate sector-specific elements, long-term effects and different accounting quality assessment techniques in order to develop these findings.

Keywords: Integrated Reporting, Accounting Quality, Conservatism, ESG Performance, Eurozone Firms

ΠΕΡΙΛΗΨΗ

Η παρούσα μελέτη εξετάζει την επίδραση της υιοθέτησης της Ενιαίας Έκθεσης (Integrated Reporting - IR) στην ποιότητα της λογιστικής σε επιχειρήσεις της Ευρωζώνης, εστιάζοντας σε τρεις διακριτούς δείκτες: τα συνολικά λογιστικά δεδουλευμένα (total accruals), την ασυμμετρία των ταμειακών ροών (total skewness of cash flows) και τη συσχέτιση μεταξύ κερδών και ταμειακών ροών. Χρησιμοποιώντας δεδομένα από το 2005 έως το 2023, η μελέτη εφαρμόζει πολλαπλά μοντέλα παλινδρόμησης για να αναλύσει την επίδραση της υιοθέτησης της Ενιαίας Έκθεσης στην ποιότητα των λογιστικών καταστάσεων. Τα αποτελέσματα δείχνουν ότι η υιοθέτηση της Ενιαίας Έκθεσης (IR) συνδέεται με την αύξηση της συντηρητικότητας στις ταμειακές ροές και τη βελτίωση της συσχέτισης μεταξύ κερδών και ταμειακών ροών. Ωστόσο, οι δείκτες ESG δεν παρουσιάζουν σημαντική συσχέτιση με τους εξεταζόμενους δείκτες, υποδηλώνοντας ότι οι πρακτικές βιωσιμότητας έχουν ελάχιστη επίδραση στην ποιότητα της λογιστικής πληροφόρησης. Τα ευρήματα αναδεικνύουν τον ρόλο χαρακτηριστικών, όπως τα καθαρά κέρδη, οι ταμειακές ροές, η μόχλευση και η κερδοφορία, στη διαμόρφωση λογιστικών πρακτικών. Η μελέτη συνεισφέρει στον ευρύτερο διάλογο για την Ενιαία Έκθεση, παρέχοντας εμπειρικές ενδείξεις για τα οφέλη της στη διαφάνεια και την ποιότητα της χρηματοοικονομικής πληροφόρησης. Μελλοντικές έρευνες θα πρέπει να εξετάσουν δυναμικές που αφορούν συγκεκριμένους κλάδους, μακροπρόθεσμες επιπτώσεις και εναλλακτικά μέτρα λογιστικής ποιότητας έτσι ώστε να επεκταθούν τα ευρήματα.

Λέξεις-Κλειδιά: Ενιαία Έκθεση, Ποιότητα Λογιστικής, Συντηρητικότητα, ESG, Επιχειρήσεις Ευρωζώνης

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1. Introduction

Through its role in disclosing corporate transparency the financial reporting system enables investors and regulators alongside other stakeholders to determine firm financial well-being and risk estimates alongside long-term value potential (Ball, 2006). A traditional financial reporting framework centers its analysis on historical financial results while largely avoiding wider aspects including corporate governance together with environmental sustainability and social responsibility components (De Villiers et al., 2017). The demand for extensive corporate disclosure resulted in Integrated Reporting (IR) to become a reporting framework which merges financial together with non-financial information into one unified document according to International Integrated Reporting Council [IIRC] (2013). Integrated Reporting creates a complete understanding of organizational strategy execution through governance structures by showing performance achievements together with ESG factors and future planning (Eccles & Krzus, 2010).

IR adoption strengthens its presence within the Eurozone because regulatory and investor expectations push firms to increase their transparency levels (European Commission, 2022). The effect that IR implementation has on overall accounting quality remains uncertain. Studies show mixed results over the effectiveness of IR in improving financial reporting quality and information symmetry (Barth et al., 2017) although proponents support the contrary (Garcia Lara et al., 2016). The objective of this study evaluates the association between Eurozone firms' adoption of integrated reporting and their accounting quality by using total accruals and skewness in cash flows and the earnings-cash-flow relationship as measurement tools. This study investigates financial reporting practice changes resulting from IR adoption and contributes knowledge of integrated disclosure effects on financial statement reliability and transparency (Serafeim, 2015).

This study provides empirical evidence which demonstrates whether Integrated Reporting firms maintain superior accounting quality than those operating under traditional financial reporting methods. Specifically, total accruals examination shows if firms employing Integrated Reporting methods use cautious accrual methods in their financial statements (Dechow et al., 2010). The study examines the impact of Integrated Reporting on cash flow skewness to evaluate its link with risk-aversive financial reporting approaches (Garcia Lara et al., 2016). Financial transparency receives support

through IR because this method improves the connection between earnings and cash flows (Barth et al., 2017). The analysis uses a 2005-2023 dataset of Eurozone-listed firms to run multiple regression tests that consider size, leverage and profitability as well as environmental, social, and governance (ESG) factors as control variables (Ball, 2006).

During the study it became evident that financial reporting becomes more cautious with conservative tactics after implementing International Reporting (IR) because it brings cash flows and earnings into better agreement. We found no meaningful relationship between IR adoption and ESG performance indices which implies sustainability practices and accounting quality do not show a connection in this specific environment (De Villiers et al., 2017). Data shows how Implementing Reporting brings financial reporting advantages yet disproves the notion that sustainability disclosures automatically deliver better financial reporting quality.

The study findings from this dissertation deliver critical implications that benefit both regulatory bodies and decision-makers in corporations along with investors. European bodies that create sustainability disclosure standards such as the Corporate Sustainability Reporting Directive (CSRD) have made better comprehension of financial reporting effects from Integrated Reporting (European Commission, 2022). This study generates empirical findings about both strengths and barriers of adopting IR in the Eurozone sector (Serafeim 2015).

This dissertation adds to IR and financial reporting quality to existing debates to assist better corporate transparency decisions and regulatory compliance and integrated disclosure standard development (Eccles & Krzus, 2010).

The rest of the dissertation is organized as follows. The second section presents the literature review and hypothesis development of the study. Section three outlines the methodology implimented, including the empirical model, the sample selection process, and the measurement of the variables. The findings of the thesis are being discussed in the fourth section, while the final section presents the conclusions of the study.

2.Literature Review & Hypothesis Development

2.1. Introduction to Financial Reporting and Its Evolution

Company stakeholders rely on financial reporting as an essential foundation of corporate governance and transparency for their understanding of business operational outcomes as well as current financial status and future predictions. Traditionally financial reporting presents quantitative financial statements through balance sheets and income statements and cash flow statements that follow standard accounting standards including GAAP and IFRS (Ball, 2006). Financial reporting exists for the purpose of providing investors together with creditors as well as regulators and stakeholders accurate financial information which assists economic decision processes (Conceptual Framework for Financial Reporting, 2018).

Financial reporting developed into its present state from different economic crises coupled with corporate scandals and various regulatory reforms. In early financial reporting days managers focused mainly on shareholder wealth without considering wider organizational duties. Financial disclosure weaknesses revealed by Enron and WorldCom accounting scandals in the early 2000s triggered the United States to pass the Sarbanes-Oxley Act 2002 under stricter regulatory conditions (Hopwood et al., 2010). Investor confidence suffered because of these cases that proved financial transparency must improve alongside better internal control implementation and more robust corporate governance structures.

The value creation processes of modern businesses have grown complex so traditional financial disclosure methods have received criticism for their inability to measure complete business operations. Several experts challenge the ability of financial documents to demonstrate all essential components of sustainable business operation including intangible assets together with environmental impact and strategic security risks (Eccles & Krzus, 2010). The financial sector reacted to these challenges by developing new reporting approaches that unite financial and non-financial measurements.

Environmental Social and Governance (ESG) factors have become vital performance determinants that drive modern financial reporting development. Investors together with regulators now expect sustainability disclosures in addition to financial metrics which resulted in sustainability reporting standards including the Global Reporting

Initiative (GRI) and Task Force on Climate-related Financial Disclosures (TCFD) (Dey & Burns, 2010). Integrated Reporting (IR) represents the next stage in reporting evolution since it connects financial data with non-financial indicators under a unified reporting format according to International Integrated Reporting Council [IIRC] (2013).

The corporate world experiences a fundamental reporting practice transition toward unified reporting that includes sustainability information. Companies need to report financial performance alongside their methods of creating lasting stakeholder value that involves investors and both internal and external stakeholders as well as society at large (Adams, 2015). The ongoing evolution influences the current advancements in global accounting standards and regulatory systems and corporate reporting standards and best practices.

2.2.The Emergence of Integrated Reporting

Both investors and other corporate stakeholders rely on financial reporting to achieve transparency through decision-useful information since its inception. Financial reporting exists to properly demonstrate company financial positions so economic decision-making by financial statement users becomes achievable (Conceptual Framework for Financial Reporting, 2018, IR Foundation). The ideal financial reporting system should focus on sound quality and reveal complete and trustworthy information under enforceable financial standards that improve both comparison capabilities and reliability together with relevance. Significant degradation in financial reporting quality through recent years has triggered several prominent accounting scandals alongside company collapses that removed investor faith while damaging economic stability in financial markets. The worldwide financial crisis along with other accounting failures demonstrated the urgent requirement for transparent financial reports (IR Foundation, 2018).

Companies receive criticism for the traditional financial reporting method because financial statements fail to effectively track an organization's full value creation activities. For years investors together with analysts made decisions based on revenue earnings and cash flow measurements to analyze business strength and growth potential. The use of these measures independently did not provide an all-encompassing view into corporate operational performance. The collapse of Enron and WorldCom

together with other major corporations in the early 2000s revealed the weaknesses in traditional financial reporting methods after their financial statements showed false stability. In addition to these scandals accounting manipulations with earnings management together with aggressive financial structuring proved to be important causes of misrepresenting a firm's actual financial state which lost investor trust (Hopwood et al., 2010). In reaction to insufficient financial disclosure the global investment world started pressuring companies to increase transparency and deliver complete performance information to their stakeholders.

The understanding that financial statements were insufficient for enduring business sustainability led to a transformative evolution throughout the financial reporting world. The strategic positioning of companies in economic and social elements along with their risk management policies and corporate governance mechanisms became important to investors when making investment choices. The rising emphasis on governance during investment decision-making procedures led to expanded reporting needs that included financial and environmental and social data (Dey & Burns, 2010). The investment analysis field started integrating environmental, social and governance (ESG) matters because investors developed a better appreciation for how corporate financial success joined with non-financial elements including business ethics, environmental responsibility and stakeholder commitment (Hopwood et al., 2010). ESG-related factors progressed from qualitative evaluation methods to crucial valuation elements because investors need long-term sustainability assessments instead of focusing only on short-term financial improvements.

The need for enhanced reporting systems emerged when stakeholders understood that current financial statements became both increasingly complex and too extensive while being insufficient for meeting stakeholder requirements. Corporate disclosure grew broader because investors and regulators assessed various stakeholder issues to be material to their operations. The expansion of reporting requirements caused fragmented inconsistent reporting because organizations tried to fulfill regulatory needs without neglecting information requirements from multiple stakeholders (Dey & Burns 2010; Kaplan & Norton 1992). A fresh method for business reporting emerged as a solution because combining financial and non-financial elements required an integrated unified model.

The development of integrated corporate reporting took place through numerous reporting models which worked to unify financial and extra-financial information disclosure practices. Robert Kaplan and David Norton published the Balanced Scorecard (BSC) in 1992 when they attempted to provide organizations a comprehensive corporate performance framework. Through the BSC framework organizations managed to merge financial and operational data through four main categories which included finance, customers, internal business processes and learning and growth (Kaplan & Norton, 1992). The Balanced Scorecard implemented financial and non-financial performance indicators as part of integrated reporting but failed to address ESG elements which transformed into vital components for integrated reporting (De Villiers et al., 2014). The Triple Bottom Line (TBL) framework became a central development in corporate reporting when it introduced the measurement of corporate performance through the three dimensions of profit, people and planet (Harvard Business Review). Through the TBL framework organizations received their first guidance that financial success needs coupling with social and environmental impact measures to establish the bases for sustainability reporting.

Multiple financial reports existed within fragmented practices as companies created independent statements for financial performance as well as sustainability and corporate governance. Without standardized integration methods the reporting quality became inconsistent while firms and industries lost comparability in disclosing information. Companies started including non-financial information in their reports despite the absence of an official integrated framework which led to their voluntary participation. Two major organizations established the new reporting standard that transcended financial metrics: Novozymes as a Danish bio-industrial company in 2002 and Natura as a Brazilian cosmetics firm in 2003 (Eccles & Serafeim, 2011). Initial integrated reporting experiments verified how the approach increased stakeholder engagement alongside maximizing accurate corporate business model and strategic plan description.

The late 2000s brought remarkable growth to integrated reporting which led to the creation of the International Integrated Reporting Council (IIRC) in 2010. Throughout 2010 the International Integrated Reporting Council (IIRC) established its mission to build a universally recognized framework for integrated reporting that would offer businesses structure and meaning in their financial and non-financial disclosure process

(IIRC, 2013). South Africa took the lead as the first nation to make integrated reporting mandatory through the King III Report at the same time period (Atkins & Maroun, 2015). The business world began to understand that financial performance alone no longer indicated corporate success throughout its entire extent. The main purpose of integrated reporting became to create sustainable long-term value for investors together with employees and customers and society at large.

Since 2013 companies have used the International <IR> Framework as their final step toward developing new corporate reporting methods. Through the platform companies received an organized system to combine financial and social and environmental data into unified documentation which followed essential principles such as materiality rounds and stakeholder engagement criteria and information links (IIRC, 2013). The framework moved beyond traditional financial reporting by creating a system which provides fully detailed and visible information regarding organizational operations and associated wide-reaching effects.

The continuous development of financial reporting systems has occurred through successive legislative reforms and technological advancements with the purpose of improving transparency and accountability alongside decision-relevant information. The shift to integrated reporting demonstrates a major transformation in corporate assessment procedures together with new standards for business information distribution. Non-financial factors play an essential role in corporate disclosure by demonstrating companies' long-term ability to sustain their operations along with their resilience. The adoption of integrated reporting demonstrates both an answer to previous failures in financial reporting and recognition of today's complex global business landscape as well as current requirements for governance alignment in corporate practices.

2.3.Predecessors of Integrated Reporting

The development of Integrated Reporting (IR) as a comprehensive business reporting system followed multiple theoretical improvements and practical methods in financial and nonfinancial reporting. These predecessor frameworks tackled the problem of traditional financial statement gaps while organizations needed to present their social and environmental activities and governance information. Financial performance was insufficient for corporate stakeholders to comprehend the complete range of modern

business complexities thus they progressively understood the need for a different reporting method. The push for corporate transparency led through various reporting approaches to establish the base for IR (De Villiers et al., 2014). The three most critical historical developments preceding integrated reporting (IR) were Balanced Scorecard (BSC), Triple Bottom Line (TBL) and sustainability reporting. The various frameworks played a vital role in shaping IR development since they resolved particular weaknesses found in standard financial reporting practices.

Kaplan and Norton formally introduced the Balanced Scorecard (BSC) in 1992 as one of the initial concepts which combined financial data with non-financial elements. The BSC represented a performance measurement transformation in corporate governance since it extended financial metrics into operational and learning measures as well as customer-related indicators (Kaplan & Norton, 1992). Conventional financial reporting methods emphasized profit and revenue growth alongside shareholder value without accounting for variables such as customer fulfillment and worker development and business process quality that lead to enduring success. The BSC developed a performance measurement framework which united financial analysis with customer ratings of product/service quality and internal operation effectiveness and employee learning development metrics (Kaplan & Norton, 1996). Through this method organizations linked their plans to enhanced future value creation beyond temporary financial performance enhancement measures. Although it introduced innovative measures the BSC maintained a financial focus and failed to include direct considerations about corporate social and environmental actions which stood as an unfinished blueprint for complete integrated reporting (De Villiers et al., 2014).

The emerging Triple Bottom Line (TBL) framework during the mid-1990s introduced a complete performance measurement framework by evaluating companies through social, environmental and financial aspects. Elkington (1997) launched TBL methodology to show that organizations need to measure their achievement through financial results combined with human and environmental effects. The approach standardized managerial operations as it delinked from classical profit-maximization and established business-corporate social value relationships. Through the TBL framework organizations learned to share information showing their social responsibility efforts and environmental sustainability efforts and economic sustainability performance which delivered comprehensive views of their performance.

Unlike the BSC which had internal focus primarily for management purposes the TBL served external uses since stakeholders needed better corporate transparency (Harvard Business Review). Although the TBL framework placed emphasis on non-financial disclosure it did not provide precise guidelines about the integration methods between these factors within united reporting formats. A lack of standardization created multiple reporting problems which produced poor matching between different industries (Milne & Gray, 2013).

The rising corporate focus on sustainability led businesses to establish practices for sustainability reporting which allowed them to show their social and environmental influence. The emergence of sustainability reporting as a practice developed because of growing mandatory regulations alongside financial stakeholder demands combined with social expectations about responsible business operations. During the initial phase of sustainability reporting organizations mainly volunteered their reports but these documents showed incomplete standards of structure and low content consistency. The Global Reporting Initiative (GRI) entered the scene in 1997 with the purpose of developing standard systems for sustainability disclosures. Through its framework development the GRI established standard guidelines that enabled organizations for systematic and comparable rendering of their environmental social and governance (ESG) performance (GRI, 2011). When organizations implemented GRI standards they improved both the clarity of their ESG disclosure reports and made them match investor expectations and stakeholder needs. Although sustainability reporting generated distinct reporting systems that separated financial and non-financial data (Eccles & Krzus, 2010). An integrated reporting approach emerged as necessary because it would consolidate financial along with sustainability information in a unified framework.

The BSC, TBL and sustainability reporting methods were important developments but their restrictions required a more extensive reporting model to emerge. The 2008 financial crisis exposed the necessity for better corporate transparency and accountability since investors and regulatory bodies attempted to understand business long-term sustainability (Dey & Burns, 2010). The practice of integrated reporting started to emerge in companies before the official IR framework was developed. Novozymes became known for one of the earliest integrated reports after merging its financial and sustainability information into a unified document in 2002 (Eccles & Serafeim 2011). Other leading companies followed suit after Novo Nordisk introduced

this practice with Natura joining in 2003 followed by Novo Nordisk in 2004. These pioneering organizations discovered the strategic value from uniting financial and non-financial reporting since it let them demonstrate their entire value creation process effectively and transparently (Eccles & Serafeim, 2011).

The implementation of integrated reporting principles by major companies created the environment which led to the development of the International Integrated Reporting Framework. The establishment of the International Integrated Reporting Council (IIRC) in 2010 specifically aimed to create a worldwide accepted framework for integrated reporting. The International Integrated Reporting Council brought regulators along with investors and companies and standard setters and non-governmental organizations under one platform to develop a united reporting model which improved both corporate accountability and decision making usefulness (IIRC, 2013). In 2013 the framework applied fundamental principles from the BSC and TBL and sustainability reporting to develop its structured approach for reporting value creation through financial and manufactured intellectual human social relationship and natural capital. The main difference between IR and its predecessors is that the framework displayed specific instructions for combining financial along with non-financial data which made it possible to achieve industry-standard consistency (IIRC, 2013).

Organizations experienced a significant transformation in their disclosure practices from early reporting systems to gradually adopt the International Integrated Reporting Framework (IR). The BSC pioneered dimensional performance assessment before the TBL developed corporate accountability regarding social and environmental aspects and sustainability reporting standardized ESG disclosure practices. These frameworks operated independently of each other which led to an organizational requirement for integrating financial and non-financial information in one unified report. The IR framework solved this reporting need by developing an organized system of integrated corporate reporting for organizations. IR has become globally prominent and acts as both an advance in corporate transparency and a new approach for companies to show stakeholders how their value is created.

2.4. Adoption and Global Development of Integrated Reporting

Various economic and regulatory factors along with institutional influences have driven the worldwide progress of Integrated Reporting (IR) into new corporate disclosure

standards globally. Corporate reporting needs have evolved to use comprehensive information integration between financial and nonfinancial reporting data which now defines the broad global implementation of Integrated Reporting. Traditional financial reporting served as the main method for performance disclosure until several events such as financial crises and growing investor needs for transparency exposed the system's shortcomings (IR Foundation, 2018). The worldwide implementation of IR occurred as a result of self-initiatives along with regulatory requirements which created an internationally standard format that will eventually become standard practice for corporate governance and financial reporting systems.

The first implementation of integrated reporting occurred during the 2000s as leading organizations merged financial statements with sustainability assays. Novozymes in Denmark and Natura in Brazil and Novo Nordisk in Denmark established the basis for integrated reporting by voluntarily adding non-standard financial information to their corporate disclosure documents according to Eccles and Serafeim (2011). The companies made these strategic decisions because they understood the importance of financial and non-financial performance transparency to support sustainable stakeholder assessment. The adoption of integrated reporting had its breakthrough moment in 2010 when South Africa passed laws compelling all listed companies to follow this practice. Publicly listed companies under the Johannesburg Stock Exchange (JSE) had to create integrated reports or disclose non-compliance reasons per the requirements of the King III Code of Governance (Atkins & Maroun, 2015). This requirement represented a major shift in corporate reporting because it proved that IR can become part of regulatory frameworks for implementation. Almost fifty percent of Johannesburg Stock Exchange listed companies published integrated reports during their first year of requirements establishing the operational success of the method (Deloitte, 2012).

South Africa established itself as a pioneering adopter of IR which other jurisdictions used as reference for establishing comparable IR requirements. IR successfully influenced South African business operations; nevertheless the practice continued as voluntary in other world nations because widespread adoption depended on corporate initiative and investor lobbying. The International Integrated Reporting Council (IIRC) established itself in 2010 as a milestone for global Integrated Reporting (IR) development. The International Integrated Reporting Council established itself as a

combined entity of regulators along with investors and companies joined by standard-setting bodies and non-governmental organizations to develop globally accepted Integrated Reporting practices. The main goal of the International Integrated Reporting Council in 2013 was to construct an assessment model which improved corporate clarity by integrating financial details together with governance data and social information and environmental standards into one unified document (IIRC, 2013). The International <IR> Framework achieved its purpose through its 2013 release when organizations received specific guidance to implement IR practices. The framework established vital elements within its structure including value creation combined with six capitals (financial, manufactured, intellectual, human, social and relationship, and natural capital) as well as principles of integrated thinking (IIRC, 2013).

The International <IR> Framework received increasing adoption from corporations especially multi-national organizations that chosen to boost stakeholder engagement and broadened as the framework gained reputation. Promotion of Integrated Reporting received major support through the Non-Financial Reporting Directive (NFRD) in 2014 leading to its implementation during 2018. Under the NFRD public-interest entities with over 500 employees needed to provide disclosure about environmental and social and governance matters which is equal to International Reporting principles (European Commission, 2022). Through this directive European companies were made to transform their reporting practices for sustainability by boosting non-financial disclosure transparency across thousands of enterprises. The Corporate Sustainability Reporting Directive (CSRD) became established in 2022 to substitute the NFRD while adding new requirements for corporate sustainability reporting responsibilities. The Corporations Sustainability Reporting Directive required 50,000 EU businesses to publish ESG-related reports with enhanced disclosure obligations which also linked with global sustainability standards (European Commission, 2022).

Besides the European Union various world areas work on merging integrated reporting into their corporate reporting systems. The UK now leads the way in implementing corporate governance and reporting reforms across the nation. The UK Strategic Reporting Mandate from 2013 demanded UK-listed companies to reveal information resembling International Reporting principles through strategic content on business models and non-financial risk categories (Financial Reporting Council, 2017). Sanctions for sustainability reporting have been slower in the United States but

investors and voluntary programs have increased IR adoption nationwide. The Securities and Exchange Commission (SEC) supports greater ESG risk disclosure through its regulatory development as it advances corporate reporting requirements (Laux, 2018). The Financial Services Agency of Japan together with the Tokyo Stock Exchange supports IR practices by actively encouraging companies to implement the framework through corporate governance codes (Wang et al., 2020).

Stock exchanges from various nations have effectively encouraged the implementation of IR through their listing regulations which mandate ESG reporting and integrated reporting standards. The São Paulo and Singapore Stock Exchanges together with Singapore and Kuala Lumpur and Copenhagen joined South Africa by creating report or explain requirements which mandate listed firms to show their integrated reports or document non-disclosure cases (IIRC, 2014). The government authorities in China instituted measures to connect corporate reporting systems with International Reporting principles. The approval from the Ministry of Finance in China allowed the integration of IIRC Framework while the China Securities Regulatory Commission promoted ESG disclosure enhancements meeting international standards (Howitt, 2016). The Securities and Exchange Board of India (SEBI) has mandated the top 500 listed companies to present sustainability-related information in their annual reports according to Majmudar and Rana (2017).

The advancement of international reporting receives global acknowledgment but organizations continue experiencing barriers to establish widespread uniform adoption of this practice. IR reporting faces variations in quality because it remains voluntary in most jurisdictions so companies deliver reports with diverse depths of information (De Villiers et al., 2014). The process of verifying and assuring non-financial information remains difficult because standardized auditing frameworks for ESG and sustainability reporting are under development according to Simnett et al. (2015). expectations from regulators and investors together will propel the wider usage of IR through improvements in financial and sustainability reporting standards during the next few years.

IR's spread across organizations and worldwide encourages increased corporate openness while establishing new business standards for transparency and accountability. The regulatory direction of sustainability has matured from corporate

good will toward official lawmaking because companies and governments now grasp how interlinked financial and non-financial performance becomes. The ground-breaking regulatory model developed by South Africa served as a blueprint for other countries to follow and the creation of the IIRC alongside the International <IR> Framework helped quicken worldwide acceptance of IR basic principles. The continuous development of sustainability reporting standards by European Union authorities along with United Kingdom authorities and the United States and Japan and other worldwide organizations will lead to IR becoming a mandatory corporate governance practice. The ongoing evolution of IR brings major changes in how organizations present their value creation procedures to their stakeholders while standards and assurance and comparability issues persist. IR is expected to expand its core position as corporate transparency rises because of its central function in defining financial and non-financial reporting standards of the future.

2.5. The International Integrated Reporting Framework

The International Integrated Reporting Framework serves as a significant evolution of corporate disclosure through its standardized method for merging financial and non-financial information. Traditional financial reporting systems have directed their efforts since long ago on quantitative financial numbers while addressing mainly financial investors and capital market stakeholders. Through time it became clear that these previous models failed to properly display company performance elements outside financial factors such as ESG factors and stakeholder connections and long-term value generating abilities. A growing need for total corporate reporting which displays organization value creation methods prompted the foundation of the International Integrated Reporting Council (IIRC) in 2010 (IIRC, 2013). The International Integrated Reporting Council established itself as a global alliance between regulators, investors and companies, standard-setters and academics to create a complete Integrated Reporting framework. Through stakeholder consultations and pilot program evaluation the International <IR> Framework appeared officially in December 2013 as a standardized format that unite financial and non-financial corporate disclosures (IIRC, 2013).

The International <IR> Framework exists to unite corporate reporting segments because financial reports and sustainability data regularly existed in independent

sections thus causing fragmentation along with disconnects between information streams. The framework establishes integrated reporting as a compact document which explains how organizational strategies together with governance systems and performance results and prospective developments with their external surroundings result in long-term and short-term and medium-term value creation (IIRC, 2013, p. 7). IR provides different value compared to standard financial reporting techniques because it promotes "integrated thinking" which aligns organizational financial measures with non-financial performance in the creation of time-based worth dimensions. The primary concept of this framework shows that businesses exist within an interconnected socio-economic and environmental ecosystem and their value-creation abilities result from diverse dependent elements (de Villiers et al., 2014).

International <IR> Framework works through six capitals as its core approach for organizations to understand and communicate their operational resources and their effects on the external environment. The IIRC (2013) defines six capitals as financial, manufactured, intellectual, human, social and relationship and natural capital. Financial capital refers to the funds available to an organization, such as equity and debt financing, that support its operations and investment strategies. The components of manufactured capital include buildings together with infrastructure and technology which enable value generation. Organizations generate competitive advantages from knowledge-based assets which include patents research and innovation in their intellectual capital. The workforce of a company constitutes human capital because it consists of employee skills and managerial talent alongside employee moral and executive abilities. The concept of social and relationship capital includes relationships with stakeholders together with reputation and trust because it accepts the connected nature of business communities. Organizations depend upon natural capital while influencing it through operational activities since it includes items like energy and water and biodiversity and ecosystem services (IIRC, 2013). The six capital categories enable organizations to develop a systematic method for evaluating and disclosing their expansive value creation activities.

Integrated reports should be prepared according to the seven guiding principles outlined in the International <IR> Framework which supports the six capitals framework. The International <IR> Framework specifies seven guiding principles that begin with strategic focus and future orientation followed by connectivity of information up to

stakeholder relationships with materiality evaluation and conciseness then reliability and completeness and ending with consistency and comparability (IIRC, 2013). The principles demand organizations to reveal their long-term strategic goals in a way that shows stakeholders what creates value. Connectivity of information requires organizations to present the connectedness between different business functions and capital elements with illustrations showing financial and non-financial element interconnections. Integrated reports require organizations to follow the principle of stakeholder relationships through stakeholder engagement and expectation analysis during report creation. Organizations need to disclose information that matter to decision-making without miscellaneous or unimportant details under the materiality principle. Financial reports benefit from conciseness because it enables clarity and meaningfulness despite reducing complexities. Accurate and balanced reporting together with comprehensive disclosures support the reliability principle and prevent any misleading information from being disclosed. The principle of consistency and comparability defines how organizations need to prepare standardized information structures so that time-based and organizational data comparisons become possible (Barth et al., 2017).

An integrated report must include eight essential content elements according to the framework to achieve organized and complete disclosures. Organizational overview and external environment, governance, business model, risks and opportunities, strategy and resource allocation, performance, outlook and the basis of preparation and presentation (IIRC, 2013) are the content elements for integrated reporting. The organizational overview with external environment segment presents essential information about the company alongside its market situation and significant performance factors. The governance section describes the organization’s leadership structure, decision-making processes, and corporate governance practices. Within the business model section the organization defines how it generates value through its delivery systems which includes descriptions of important input resources and output results. The material risks which affect the organization are analyzed and documented within the risks and opportunities section alongside the descriptive methods used to handle those risks. The organization’s strategic priorities along with resource allocation methods are presented in the strategy and resource allocation section. The performance section demonstrates financial together with non-financial results which measure

organizational achievement of strategic objectives. Forward-looking material information concerning future challenges together with opportunities and external developments appears in the outlook section. The Last segment within an integrated report describes what methodologies as well as data sources alongside assumptions were applied for building the report (Serafeim, 2015).

Since its debut in 2013 the International <IR> Framework grows steadily popular across different industries because it helps companies boost investor communication and organizational transparency. The majority of jurisdictions allow organizations to use the framework voluntarily hence the quantity and quality of integrated reports remains inconsistent across organizations. The principles of integrated reporting have resulted in two different approaches from organizations where several companies deliver detailed high-quality reports but other firms employ IR as a branding strategy without meaningful modifications in their reporting methods (de Villiers & Sharma, 2017). The flexibility within the framework enables businesses to customize their reporting methods according to their specific situations though this flexibility results in difficulties regarding maintaining uniformity and ability to compare between various industries and geographic areas. Non-financial disclosure assurance issues remain unresolved because companies retain significant power to select what content they report according to their standards (Simnett et al., 2015), thereby diminishing the reliability of integrated reports according to critics.

The International <IR> organization launched a 2021 edition of the <IR> Framework that includes enhancements derived from implementing resources alongside stakeholder suggestions (IIRC, 2021). Revised versions of the framework sought to enhance usability through improved clarity together with stronger emphasis on integrated thinking features and application techniques keeping the fundamental principles intact. The latest framework stresses dynamic capital relations as it shows organizations how their strategic plans cooperate with long-term value generation (IIRC 2021).

Integrated disclosure practices supported by regulatory institutions continue their progress in adoption and implementation of the International <IR> Framework. Public authorities behind the European Union’s Corporate Sustainability Reporting Directive (CSRD) combined with the International Sustainability Standards Board’s (ISSB’s)

sustainability assurance efforts and stock exchange regulatory norms work to synchronize corporate reporting practices with International Reporting standards (European Commission, 2022). The dominance of sustainability and ESG concerns in company operations will strengthen IR's impact on corporate reporting by expanding its ability to combine financial and non-financial performance in unified reporting standards.

2.6.Drivers of Integrated Reporting Adoption

Organizations have adopted Integrated Reporting because of simultaneous organizational, regulatory and market-driven factors that created this change. Understanding all these driving factors allows us to deeply understand organizations' transition from standard financial reporting to combined financial and non-financial reporting.

Organizations choose IR because they see beneficial advantages when using it over conventional reporting systems. Organizations understand how Integrated Reporting better showcases their performance since it combines financial information together with environmental social and governance (ESG) measurements. Organizations viewing the entire disclosure with appreciation mostly include lenders who need a full insight into a company's vision for future value generation and its risk plans. Organizations in Portuguese markets adopt IR because it gives capital providers relevant financial and ESG information that enhances their chances of receiving advantageous financing according to Carvalho et al. (2023).

The desire to improve corporate image and adopt modern reporting trends gives organizations strong motivation to implement IR. IR helps organizations demonstrate their sustainable practice commitments while showing accountability to regulators and investors alongside customers because stakeholders increasingly seek transparency. Through such proactive measures the company simultaneously enhances its reputation and gains favorable consideration from stakeholders who base decisions on ESG components (Carvalho et al., 2023).

Organizations that previously engaged in sustainability reporting have identified this experience as a key element to help them transition toward IR. Firms which already perform sustainability reporting already have developed structures and procedures for doing complete non-financial disclosure. Organizations with past experience in

sustainability reporting lower their efforts needed to combine financial and non-financial data which makes implementing IR less challenging to execute. Organizations which already engaged in sustainability reporting tend to embrace IR practices (Carvalho et al., 2023).

Conversely, certain barriers impede the widespread adoption of IR. Organizations especially smaller ones face resistance to implement IR because they perceive implementation as complicated and costly. Organizations that need to modify operations and fear exposing trade secrets along with external service costs create delays in embracing Investor Relations. According to the rationality of managers they will choose to implement IR when they perceive that the anticipated advantages exceed the connected expenses (Carvalho et al., 2023).

The concept of accounting conservatism operates with a careful perspective where organizations verify positive information more extensively than negative information when making decisions about implementing IR. Firms that demonstrate strong financial reporting conservatism tend to avoid social corporate responsibility disclosure. Companies avoid IR reporting because they adhere to conservative accounting standards by admitting losses before accepting earnings opportunities that remain uncertain. Under such circumstances conservative organizations show resistance to implementing IR because this process requires businesses to reveal future-based and doubtful ESG-related information (Kim et al., 2020).

The market shows less reaction to CSR disclosure information from firms which demonstrate higher levels of conservative accounting practices. The reporting practices of conservative firms appear to create doubts about the truthfulness and information content of their CSR disclosures among stakeholders. Accounting conservatism levels in organizations impact both the decision to implement IR and the quality of stakeholder perception changes from such disclosure activities (Kim et al., 2020).

Companies adopt Integrated Reporting because they recognize its advantages compared to traditional systems while aiming to improve their reputation and following present reporting methods and having performed sustainability reporting previously. IR adoption faces hurdles because of difficulties in implementation along with expensive implementation and the effect of accounting conservatism methods. Organizations moving towards Integrated Reporting need to grasp these motivational factors and

obstacles because this knowledge helps them build strategic decisions between broad disclosure benefits and internal reporting methods and resources.

2.7.Benefits and Challenges of Integrated Reporting

Integrated Reporting (IR) has evolved to become the next-generation disclosure method which links financial results with non-financial metrics to show complete organizational achievement. The wide-ranging reporting system of Integrated Reporting brings multiple merits yet organizations need to handle specific obstacles within this structure.

IR provides organizations with greater transparency combined with improved accountability through its main benefits. Organizations enhance stakeholder comprehension of value creation through time by offering one combined report that merges financial information together with environmental social and governance elements. The extensive disclosure streamlines communication between organizations and stakeholders so stakeholders can build better trust while making better decisions (Alshdaifat et al., 2024).

Through its approach IR enables internal organizations to establish integrated thought processes. Organizations using this method need to consider financial, manufactured, intellectual, human, social and relationship as well as natural capital elements during strategic planning and executive decision processes. By adopting a comprehensive thinking approach organizations create sustainable business practices that see the relationships between company operations and environmental factors (Alshdaifat et al., 2024).

Organizations implementing Integrated Reporting tend to improve their corporate image and reputation in the market. Sustainable transparency initiatives establish competitive value for organizations which boosts investors' trust and drives customer retention. Organizations usually achieve enhanced market competitiveness through positive stakeholder perceptions which focus on ESG matters (Alshdaifat et al., 2024).

The process of implementing IR structures comes with real barriers that hinder its deployment. The essential barrier to implementing integrated reporting stems from the absence of well-defined standardization throughout the framework. When organizations lack standardized reporting guidance their stakeholders have difficulty

reviewing their information compared to other businesses. The inconsistent reporting mentions dilute the reliability and practicality of the disclosed information (Alshdaifat et al., 2024).

Report creation becomes complicated because organizations must consolidate numerous different types of information within a single document. Modern business enterprises need to retrieve and process and present data sets that cross different departments using their individualized metrics and reporting structures. Such a process demands substantial financial resources while standard reporting systems along with corporate values need major transformations (Alshdaifat et al., 2024).

The expected implementation expenses of IR act as obstacles particularly for organizations with small size. Organizations face financial burden in updating reporting systems along with paying employee training costs and possibly having to pay third parties for assurance services on integrated reports (Alshdaifat et al., 2024).

The public sector has identified particular barriers which prevent the implementation of integrated reporting (IR) systems. Public sector organizations face multiple barriers to implementing IR because they struggle with collecting and analyzing data while staff opposing changes and lacking tailored frameworks for public organizations. Effective solutions require specific approaches which consist of developing organizational capabilities, stakeholder inclusiveness in reporting processes and employing technological systems for data management (Mohammed et al., 2023).

Integrated Reporting brings numerous advantages to organizations but organizations need to handle various implementation difficulties to obtain these benefits. Organizations need to establish robust reporting systems while building integrated thinking cultures and investing in resources to create extensive disclosure practices for effective obstacle management.

3.8.Review of Previous Empirical Studies on Integrated Reporting

Through Integrated Reporting organizations present their financial along with social governance and sustainability data in one unified document. The academic field of research has thoroughly studied how Integrated Reporting (IR) affects accounting quality and audit quality as well as financial performance and stakeholder information quality. This review consolidates academic discoveries about IR by exploring its

connections to accounting quality as well as earnings conservatism together with monitoring quality indicators and market evaluation metrics.

Many academic works demonstrate how IR boosts accounting quality through better financial disclosure combined with asymmetry reduction which leads to elevated corporate accountability levels. According to Muhi and Benaissa (2023) IR produces substantial positive effects on financial reporting quality due to its ability to reduce information asymmetry as well as its capability to provide comprehensive financial disclosures (Muhi & Benaissa, 2023). According to Pavlopoulos et al. (2019) well-developed IR disclosure practices enhance the value relevance of accounting information by evaluating both market value and performance results (Pavlopoulos, Magnis, & Iatridis, 2019).

The research conducted by Obeng et al. (2020) demonstrated that IR enhances earnings quality the most during situations with high agency costs (Obeng, Ahmed, & Miglani, 2020). Cost and Corporate Governance Data demonstrated that Integrated Reporting (IR) generates positive effects on firms' market valuation and financial performance and decreases opportunistic managerial behavior according to Zennaro et al. (2024).

The accounting attribute of earnings conservatism functions as a recognized method for financial reporting quality evaluation. Higher earnings conservatism helps firms achieve better financial quality. Data shows that high-earnings conservatism companies choose IR implementation to boost their authority with investors while improving their reliability measures. According to Orlov and Zakharov (2023), the reliability of financial together with non-financial data that IR establishes stands fundamental for financial reporting conservatism (Orlov & Zakharov, 2023). Al-Salmany (2021) discovered that implementing IR promotes complete and transparent financial reporting which strengthens companies to follow conservative accounting methods (Al-Salmany, 2021).

The strength of relationship between IR and audit quality represents a prominent focus within academic research. According to El Nashar (2016) audit quality improves when firms use IR because better internal control systems alongside enhanced financial information transparency leads to superior audit results (El Nashar, 2016). Zyznarska-Dworczak (2018) declared that financial data reliability in IR needs critical testing from both inside and outside the organization (Zyznarska-Dworczak, 2018).

Research data confirms that organizations performing IR activities experience better market values together with increased business performance. Joshi et al. (2019) established that organizations implementing IR at higher levels obtain via superior transparency more investor trust which triggers better stock prices (Joshi, Sallehhuddin, Munusamy, & Deshmukh, 2019). The adoption of IR by Owen (2013) produces better strategic decision-making capabilities alongside sustainable business longevity (Owen, 2013).

The process of implementing IR faces hurdles because of technical complexities as well as insufficient standardized methods and opposition from organizations used to traditional financial reporting. Elizabeth et al. (2021) examined accounting educator beliefs regarding IR adoption but argued that education programs should become standard procedures for establishing IR practices across society (Trisnawati et al., 2021). The innovation of Integrated Reporting (IR) needs regulatory and structural reforms to achieve wider market acceptance according to Songini et al. (2023).

Research evidence demonstrates that Implementing Integrated Reporting (IR) produces positive outcomes for accounting quality as well as earnings conservatism and audit quality and market valuation. IR functions as a significant instrument to enhance organizational transparency alongside responsible accountability and sustainable performance. To achieve widespread acceptance of an IR framework implementation challenges must be overcome through continued collaboration between regulators accounting professionals and educators.

2.8. Hypothesis Development

The main thesis question explores how Eurozone firms with Integrated Reporting compliance demonstrate superior accounting quality. Through its financial and non-financial disclosure integration process Integrated Reporting enhances financial transparency leading to better accounting practice reliability and conservation (International Integrated Reporting Council [IIRC], 2013). The implementation of IR generates more transparent financial results according to Barth et al. (2017) and De Villiers et al. (2017) because it reduces information asymmetry while advancing earnings quality and creating stronger connections between financial data and real performance. Research data about the relationship between integrated reporting and

accounting conservatism as well as accrual-based financial reporting quality produces inconsistent results (Garcia Lara et al., 2016).

The dissertation analyzes the link between International Reporting standards compliance and accounting quality utilizing three standard measures of accounting quality. Related studies use Total Accruals as one accepted proxy for Accounting Quality. The adoption of IR among firms leads to reduced accruals when combined with financial reporting conservatism according to Dechow et al. (2010). A negative cash flow skewness indicates firms tend to implement conservative accounting methods to identify losses before gains (Garcia Lara et al., 2016). The Earnings-Cash Flow Correlation represents a reliability metric revealing transparent financial reporting quality through its relation to cash flow measurements (Barth et al., 2017).

As a result, the Thesis Question is the following:

«How does compliance with Integrated Reporting (IR) practices influence accounting quality among Eurozone firms?»

Taking the afore mentioned into consideration we introduce the following hypothesis:

H: Firms that adopt Integrated Reporting Practices demonstrate higher Accounting Quality.

A sample of Eurozone-listed firms between 2005 and 2023 serves as the study basis in multiple regression models to test the hypotheses while accounting for firm-specific characteristics as per Ball (2006). This thesis enhances the literature about corporate disclosure quality in addition to regulatory compliance and financial transparency within the Eurozone through analysis of Integrated Reporting financial report impacts.

3.Methodology

3.1.Introduction to Methodology

This study develops a methodological approach for evaluating the link between Integrated Reporting (IR) adoption and accounting quality, particularly for Eurozone companies that use IFRS. As per best practices in this field (Ball, 2006; Dechow et al., 2010), this dissertation uses a quantitative research design consisting of empirical analysis and extant accounting literature.

The methodology consists of four key components:

Defining the Research Scope

The analysis is restricted to companies that are part of the Eurozone, and that use IFRS in their internal reporting processes. The limitation to the Eurozone has the advantage of the obligation of member states to adopt IFRS (Ball, 2006), making accounting practice and regulatory frameworks harmonized between states. Furthermore, in order to eliminate heterogeneity in financial reporting standards across these industries, which can contaminate the results, we exclude banking, insurance and real estate sectors from the sample (Garcia Lara et al., 2016).

Sampling and Selection of the Sample.

IR framework non-following firms were excluded and so firms were identified through a Refinitiv's ESG database. Firms with missing values for some of these key financial variables (i.e. market value, book value of equity and assets) were also excluded to ensure quality of the dataset. The sample was carefully aligned to the Fama and French 48 industry classification, which breaks out the industries within the sample.

Variable Definitions and Measurements are elaborated.

The objectives of the study were reflected in the variables chosen. The dependent variable, accounting quality (AQ), is assessed using three key proxies: Skewness of Cash Flows, Earnings and Cash Flows Correlation, and Total Accruals. IR adoption is measured as a binary indicator, while the ESG component is represented by three separate scores: ENSCORE, SOSCORE, CGSCORE.

As control variables we include firm size, leverage, profitability and the three ESG scores (ENSCORE, SOSCORE, CGSCORE) along with fixed effects for year and

industry. From Refinitiv Eikon, these variables were obtained and scaled and normalized as per Dechow et al. (2010). This set of control variables was finalized based on the best statistical performance and the highest theoretical relevance, after testing various control variables.

Data Analysis in the context of Statistical Model

The relationship between IR adoption and accounting quality is studied using a robust regression model. Finally, how does the effect of IR on accounting quality vary over time and in different types of industries? The model includes fixed effects to control for temporal and industry specific variation, isolating the effect of IR on accounting quality. The following statistical model is employed:

$$\text{AQ}_{it} = \beta_0 + \beta_1 \cdot IR_{it} + \beta_2 \cdot \text{Size}_{it} + \beta_3 \cdot \text{Leverage}_{it} + \beta_4 \cdot \text{Profitability}_{it} + \beta_5 \cdot \text{ENSCORE}_{it} + \beta_6 \cdot \text{SOSCORE}_{it} + \beta_7 \cdot \text{CGSCORE}_{it} + \gamma_t + \delta_s + \epsilon_{it}$$

This model is consistent with previous studies, and provides a replicable template to evaluate Eurozone financial reporting practices (Eccles & Krzus, 2010).

The research process of this study is clearly defined with this methodology, increasing transparency and reproducibility which increases the reliability of the study findings. In the remaining sections, we look at each step in turn with more depth, giving citations to academic literature and accounting methodologies.

3.2. Analytical Procedure of Sample Selection

The sample selection of this study was meticulously designed so the data can meet the dissertation objective and deliver deep, reliable and representative information concerning whether there is a relationship between Integrated Reporting (IR) and accounting quality amongst the Eurozone listed firms. The selection process allowed us to involve companies that were relevant and made sure that the dataset comprised our companies based on consistent criteria. The population definition, step by step filtering and the final sample characteristics are outlined in this section.

To maximize the reliability, accuracy and relevance it was able to use well structured data source and collection methods. This analysis needed comprehensive financial and non financial data from Eurozone companies using Integrated Reporting (IR). This

presents methods used to extract and validate the data from the various data sources used.

Data Sources

Primary Database: Refinitiv Eikon

Whether you want to build economic analyses or create market scenarios it is vital to have access to the right data as well as tools in order to have reliable and accurate results. In order to achieve that, the sample data that were used in our dissertation analysis were retrieved from the database provided by Refinitiv (formerly Thomson Reuters, up until October 2018), an LSEG (London Stock Exchange Group) business. Refinitiv is thought to be one of the world's leading providers of financial markets data and infrastructure and it also serves as the overarching brand and provider of data, tools, and platforms like Eikon and Datastream (Refinitiv, 2024). In this way the depth as well as the breadth of Refinitiv's data and content is enormous.

More specifically, through Datastream, which is the world's most comprehensive economic and financial time-series database, we have access to fundamental data and financial ratios for both developed and emerging markets. It also entitles users to sustainable investment data, providing deep coverage with more than 630 metrics for over 12,500 global companies . It comes as no surprise that many researches prefer Refinitiv ESG scores in their papers, since Refinitiv provides one of the most extensive ESG datasets in the market with more than 450 different ESG metrics . Those metrics are categorised and subcategorised into 3 pillars and 10 themes respectively. The above mentioned three pillars and their themes are the following: Environment (innovation, resource usage and emissions), Social (human rights, community, workforce and product responsibility), and Governance (CSR Strategy, shareholders, and management), (Refinitiv 2023).

- Overview: Refinitiv Eikon is used as the primary data source for this study. Refinitiv Eikon is a well known database which provides financial, market and ESG (Environmental, social and governmental) data on the publicly listed company. The robust infrastructure it holds consists of consistent, comparable, and complete datasets (Refinitiv, 2023).
- Scope of Data: Refinitiv Eikon was used to extract information on:

Accounting Quality Metrics: The three proxy instruments for accounting quality are: Total Accruals, Skewness of Cash Flows, and Earnings and Cash Flows Correlation.

Integrated Reporting Adoption: The binary CGVSDP018 indicator in the Refinitiv ESG dataset was used to identify IR adoption.

Control Variables: The control variables considered in the analysis are firm size, leverage and profitability.

ESG Performance Scores: To accommodate the non-financial reporting part of the firms, we use dataset that includes three separate ESG scores: Environmental Score (ENSCORE), Social Score (SOSCORE), and Governance Score (CGSCORE).

Supplementary Sources

- Corporate Reports: Annual reports, sustainability reports, and Integrated Reports were cross-referenced to validate the Refinitiv data obtained.
- Company Websites: Based on this, we examined whether additional disclosures, corporate governance documentation and IR adoption and ESG practices were also made on company websites.
- Academic Literature: The existing studies have been a guide for previous studies such as Barth et al. (2017) and Dechow et al. (2010) and their methodological framework for data validation and variable selection.

Initially the population included all companies listed on stock exchanges in the Eurozone that complied with International Financial Reporting Standards (IFRS). As a result, observing corporate reporting in the Eurozone constitutes a unique environment with a standardized accounting framework (also the accounting framework in most EU countries), and with many companies reporting from the same economic setting (Ball, 2006). IFRS adoption holds immense importance for this consistency in financial disclosures as it allows for valid comparisons and provides meaningful insights (Barth et al., 2017).

Population and Target Sample

Inclusion criteria and filtering stages are used to filter biological information as appropriate for a specific hypothesis.

The sample selection involved multiple stages, with each stage applying specific inclusion criteria to ensure a robust and consistent dataset:

- Integrated Reporting Filter:

The CGVSDP018 indicator in the Refinitiv database was used to identify those companies that had adopted Integrated Reporting. This indicator captures firms that make financial and non-financial reports in line with the principles of the International Integrated Reporting Council (IIRC, 2013). It narrowed the sample from 11,338 companies to 1,281 firms.

- Total Assets Filtering:

Companies were filtered as per (WC02999) total assets to ensure financial stability and consistency. A two-step filtering process reduced the sample size:

The test was first run with the first filter that lowered the initial sample of 1,281 firms to 766 firms.

The second filter narrowed the sample to a total of 534 firms that had published total assets data across all observations of the study period.

- IFRS Compliance:

Excluded were firms that were not compliant with IFRS to keep the accounting standards used consistent. To accomplish that, the sample was reduced to 519 firms, restricted to companies that used a common accounting approach — a practice followed in Barth et al. (2017).

- Common Equity Filtering:

To prevent bias from incomplete financial data companies with missing common shareholders' equity (WC03501) were excluded. We reached this step by stepping down our sample from 519 to 497 firms.

- Market Value Exclusion:

To avoid error in subsequent analysis, firms that lacked MV data during the study period were excluded. First, this step reduced 14 firms from the sample, resulting to a sample of 483 firms.

- Fama-French 48 Classification:

For example, to only include companies that belong to the standard industry groups defined by Fama and French 48, we excluded five companies. The sample used finally comprised 478 firms from various industries in the Eurozone.

To ensure the integrity and reliability of the dataset, the following measures were implemented:

- Duplicate Removal: We identified companies listed on multiple exchanges and discarded any duplicates or double counting with the sole exception of the primary listing.
- Currency Standardization: Companies listed on stock exchanges based in the 19 countries of the Eurozone were used.
- Yearly Data Alignment: In order for the study to have a consistent time series, all firms' reporting years were aligned.
- Validation of IR Adoption: The existence of Integrated Reporting in companies was cross checked against CGVSDP018 indicator and website of the companies and annual reports to confirm the data.

Final Sample Characteristics

The final sample consists of 478 Eurozone headquartered firms from 13 Eurozone countries that follow IFRS and issue Integrated Reports. These are companies from a broad range of industries (38 different industry sections in total), with the exception of banking, insurance and real estate because of their specific accounting standards and regulatory specifications (Garcia Lara et al., 2007). The sample spans the period from 2005 to 2023, during which these economic cycles and changes in regulatory environments take place. The final panel data results in 9,082 observations during the period 2005 to 2023.

The sample is representative of Eurozone listed firms satisfying the inclusion criteria and hence is a robust set for testing the Integrated Reporting and accounting quality relationship. Table 1 summarizes all the filtering data steps and the selection procedure till the formulation of the final companies sample which were used for the empirical part.

Limitations

While the sample selection process was rigorous, some limitations must be acknowledged:

- The results do not generalize to firms from the banking, insurance and real estate sectors due to the exclusion of these industries.
- Because firms without complete disclosures are not included, make reliance on publicly available data subject to a selection bias.
- The CGVSDP018 indicator does not presuppose absolute accuracy in IR adopter identification.

Table 1: Data Filtering of the Final Sample Firms

Step	Description	Remaining Firms
1. Initial Identification	Identified all Eurozone-listed companies from Refinitiv Eikon database.	11,338
2. Integrated Reporting Filter	Filtered companies using the CGVSDP018 indicator to identify IR adopters.	1,281
3. Total Assets Filtering	Removed firms with insufficient or unreliable asset data (two filtering steps).	534
4. SIC code Filtering	Removed firms that had a SIC code ranging between 60-67	519
5. IFRS Compliance	Excluded firms not adhering to International Financial Reporting Standards.	500
6. Common Equity Filtering	Removed firms with missing common shareholders' equity data.	497
7. Market Value Exclusion	Excluded 14 firms with no available Market Value data.	483
8. Fama French 48 Classification	Excluded five firms not classified within the Fama French 48 industry groups.	478
9. Validation of Integrated Reports	Cross-referenced company disclosures and annual reports to confirm IR adoption.	478

This systematic approach to sample selection ensures a robust and representative dataset that aligns with the study's objectives, enabling a detailed analysis of the relationship between Integrated Reporting and accounting quality in the Eurozone.

3.3. Definition and measurement of Variables

In this section, we provide detailed definitions and measurements for all the variables used in the study. These include the dependent variable (accounting quality), the independent variable (Integrated Reporting adoption), and various control variables, which are essential for ensuring the robustness of the regression model. This methodology aligns with prior studies in accounting and financial reporting, such as Ball (2006), Dechow et al. (2010), and Garcia Lara et al. (2016).

Dependent Variable: Accounting Quality

Accounting quality is the key outcome variable in this study and is assessed using three established proxies:

1. **Total Accruals**
    - **Definition**: Total accruals are calculated as the difference between reported earnings and cash flows from operations. Accruals are scaled by total assets to ensure comparability across firms of different sizes.

$$\text{Total Accruals} = \frac{\text{Net Income (WC01651)} - \text{Operating Cash Flows (WC04860)}}{\text{Total Assets (WC02999)}}$$

- **Justification**: Total accruals capture earnings income smoothing tendencies, which are integral to evaluating accounting quality (Dechow et al., 2010).

2. **Conservatism Proxy**

- **Definition**: Conservatism reflects cautious accounting practices, often characterized by earlier recognition of losses than gains.

Skewness of Operating Cash Flows

$$\text{Skewness} = \frac{1}{N}\sum_{i=1}^{N}\left(\frac{X_i - \mu}{\sigma}\right)^3$$

This measures the asymmetry in the distribution of cash flows over time.

3. **Earnings and Cash Flows Correlation**

This metric captures the relationship between earnings and cash flows.

Independent Variable: Integrated Reporting (IR) Adoption

- **Definition**: IR adoption is represented by a binary indicator (1 = IR adopter, 0 = non-adopter), derived from the Governance Pillar Score (CGSCORE) in the Refinitiv ESG database.
- **Measurement**:
  Firms with evidence of integrating financial and non-financial information in their annual reports, as indicated by CGVSDP018, are coded as IR adopters.
- **Justification**: The binary classification allows for straightforward identification of firms practicing IR, aligning with prior research (Serafeim, 2015; Obeng et al., 2021).

Outside the jurisdiction of South Africa, that was an innovator in integrated reporting practices, integrated reporting is not mandatory in any other country. Only in South Africa all public entities that trade on JSE are forced to issue integrated reports. Consequently, researchers conducting empirical research outside the jurisdiction of South Africa face the difficulty of integrated reporting adoption firms detection.

Unlike accounting standards like IFRS, IR is a concept and as a result there does not exist an unambiguous way to acknowledge the number of firms that issue integrated reports (Serafeim, 2015; Obeng et al., 2021). This ambiguity results from the fact that since IR is a concept, the preparators of reports exercise their judgment on whether or not the reports are integrated. More specifically, there might be companies that publish reports that are fully aligned with the principles of IR but they do not label their reports as integrated (Eccles & Serafeim, 2014; Obeng et al., 2021). On the contrary, there might also be organizations that identify their reports as integrated without representing fully adherence to the IR concept (De Villiers et al., 2017; Obeng et al., 2021).

In order to have reliable and accurate results when conducting a research about IR it is essential to select an appropriate proxy so as to detect firms that implement IR. As we have already mentioned the sample data that were used in our study were retrieved from the database provided by Refinitiv (formerly Thomson Reuters, up until October 2018). Following the researches of Ioannou & Serafeim (2012), Serafeim (2015), Wu & Zhou (2021), as well as Obeng et al. (2021), who have also used Refinitiv for their researches, we use the data item “CGVSDP018”, or otherwise “Integrated Strategy in Management discussion and Analysis (MD&A)”, from EGS database of Refinitiv.

To be more accurate, the item that was used in the above mentioned researches was an IR score with values ranging within the scale 0-100, and which was calculated based on 282 economic, environmental, social, and governance items from the ASSET4 database (Obeng et al., 2021). Starting from 2022, Refinitiv provides access only to indicator values, such as the data item "CGVSDP018". Based on the glossary of ESG database it can be concluded that the IR score that was used in prior researches is closely related to the data item "CGVSDP018". More specifically, according to Refinitiv this data item can be used as an indicator of whether or not a company integrates financial and extra-financial information in its management discussion and analysis part within the annual report that it conducts. The data item "CGVSDP018" takes the values "Yes" and "No", if the organization issues reports in an integrated manner or not, respectively. For our convenience we transform the indications "Yes" and "No" into a binary variable that takes the value one (1) if there is adherence to IR principles and the value zero (0) if there is not.

4.Control Variables

Several studies provide evidence that there are specific firm characteristics that deserve separate discussion since they might be correlated with the companies' decision of IR implementation as well as with market valuation. Consequently, in order to circumvent that the results of our thesis will be driven by these firm characteristics we incorporate into our models several key control variables: size, leverage, profitability, as well as environmental and social matters (i.e. ESG related factors). All of the afore mentioned control variables are in alignment with prior researches (Dhaliwal et al., 2012; Baboukardos & Kopita, 2019; Obeng et al., 2021).

To isolate the effect of IR adoption on accounting quality, the following control variables are included:

Firm Size

- **Definition**: Firm size is measured as the natural logarithm of total assets (WC02999).
- **Justification**: Larger firms may have more resources for implementing IR and maintaining high accounting quality (Ball, 2006).

$$\text{Size} = \log(\text{Total Assets})$$

Larger firms usually voluntarily disclose more financial and non-financial information, since this mechanism can be employed as a mean to reduce the higher agency costs that they face comparing to smaller companies (Frias-Aceituno et al., 2014). In order to have access to external financing and satisfy their greater fund needs, information asymmetries shall be reduced.

Previous research has concluded that company size has a positive impact on the amount of financial and non-financial information disclosed (Frias-Aceituno et al., 2013). Regarding the transition to integrated reporting it should be mentioned that even though the vast majority of prior researches show that the size of a firm is a significant determinant of it becoming an early adopter (Frias-Aceituno et al., 2013; Sierra- Garcia et al., 2015), there are also studies that conclude that it has no effect on IR adoption (Lai et al., 2016).

Taking into account all of the afore presented arguments and the results obtained in previous researches, we would expect a positive sign in the relation between the size of the company and the production of an integrated company report. Following the researches of Baboukardos & Copita (2019) and Wang et al. (2020) the control variable labelled size in our model is computed as the natural logarithm of total assets.

Leverage

- **Definition**: Leverage is assessed using:
    - Total Liabilities to Total Assets (WC03351 / WC02999).
- **Justification**: Firms with higher leverage may have incentives to manage earnings, affecting accounting quality (de Villiers et al., 2017).

The managers of a firm that has a higher leverage level and consequently is closer to a debt covenant restriction might try to maniplulate the reports that the company issues. Following previous researches that found that there is no significant relation between leverage and IR adoption (Lai et al., 2014) as well as researches that support that the relation between those two is negative (Islam, 2020), we predict that there will be a negative correlation between the adoption of IR practices and leverage.

Profitability

- **Definition**: Profitability is captured using Return on Assets (ROA), calculated as net income divided by total assets.

$$\text{ROA} = \frac{\text{Net Income (WC01651)}}{\text{Total Assets (WC02999)}}$$

- **Justification**: Profitability provides insight into a firm's financial health and its capacity to adopt IR practices (Dechow et al., 2010).

The question of whether there is or there is not a relation between company profitability and voluntary information disclosure is more complicated. There are previous researches that do not identify a significant relationship between IR implementation and profitability (i.e. Lai et al., 2016; De Graff & Steens, 2019). On the contrary there are also previous studies that associated early adoption of integrated reporting with profitability (i.e. Arguelles et al., 2017).

In our study we adopt the approach of Arguelles et al. and we predict that there will be a positive correlation between profitability and adoption of integrated reporting. Similarly, we measure profitability, through Return on assets [(ROA) = Net Income ÷ Total Assets], following the research of Arguelles et al. conducted in 2017.

ESG Performance Scores

- **Definition**: ESG scores reflect the firm's environmental, social, and governance practices. Specific scores include:
    - Environmental Score (ENSCORE)
    - Social Score (SOSCORE)
    - Governance Score (CGSCORE)
- **Justification**: High ESG scores may indicate a firm’s commitment to sustainability, aligning with IR principles (Eccles & Krzus, 2010).

ESG considerations have become increasingly relevant, since they have material financial impacts on a company’s fair value. More and more investors take into consideration factors that are ESG related. As a result we consider it crucial to control whether or not there is a link between ESG performance and the adoption of IR.

According to Churet and Eccles (2014), there is a positive relation between ESG management and the implementation of IR practices. Consequently, we expect a positive association between environmental and social performance, and integrated reporting.

Time and Industry Fixed Effects

- **Definition**: Year dummy variables are included to control for macroeconomic variations, while industry dummies adjust for sector-specific differences.
- **Justification**: Fixed effects ensure that unobserved heterogeneity is accounted for, improving the validity of the regression model (Ball, 2006).

Table 2 below presents an overview of study variables permitting observation of their measurement techniques along with theoretical conceptual basis. The dissertation uses several different variables for accounting quality measurement based on total accruals and earnings-cash flow correlation and conservatism definitions along with control variables such as firm size, leverage, profitability, and ESG scores and IR adoption functions as the main independent variable.

Table 2. Summary table of variables

Variable	Measurement	Justification
Total Accruals	(Net Income - Operating Cash Flows) / Total Assets	Captures income smoothing (Dechow et al., 2010).
Earnings-Cash Flow Correlation	Correlation(Net Income, Operating Cash Flows)	Reflects reliability of earnings (Dechow et al., 2010).
Conservatism	Skewness of Cash Flows; Correlation (Net Income, Cash Flows)	Measures conservative reporting (Basu, 1997).
IR Adoption	Binary (1 = Adopter, 0 = Non-Adopter)	Identifies IR adopters (Serafeim, 2015).
Firm Size	log(Total Assets)	Controls for firm scale (Ball, 2006).
Leverage	Total Liabilities / Total Assets	Captures financial structure (de Villiers et al., 2017).
Profitability	Net Income / Total Assets	Indicates financial health (Dechow et al., 2010).
ESG Scores	ENSCORE, SOSCORE, CGSCORE	Reflects sustainability practices (Eccles & Krzus, 2010).

Time Fixed Effects	Year dummy variables	Controls for macroeconomic variations (Ball, 2006)
Industry Fixed Effects	Industry dummy variables (based on Fama-French 48 classification)	Accounts for sector-specific differences (Garcia Lara et al., 2016).

This detailed definition and measurement of variables provide a rigorous foundation for analyzing the relationship between IR adoption and accounting quality. Each variable is carefully chosen and operationalized to ensure robustness and alignment with established literature.

3.4 Estimation Techniques

The statistical methods used for analyzing the interplay of Integrated Reporting (IR) adoption and accounting quality is highlighted in this section. The methodology is made robust and consistent with extant accounting and finance literature. Given regression models are used to evaluate the impact of IR adoption on multiple accounting quality proxy variables, while controlling for firm specific and time specific variables.

The relationship between IR adoption and accounting quality is estimated in a multivariate regression framework that offers a complete picture of the relationship. The advantage of this approach is that it allows to simultaneously consider a number of factors to provide multidimensional view. The dependent variables — total accruals, earnings–cash flow correlation, and conservatism — analyzed are widely used in the literature as proxies for accounting quality (Dechow et al., 2010; Garcia Lara Osma and Penalva, 2016); hence the analysis employs a rigorous and robust approach.

The regression model is specified as follows:

$$\text{AQ}_{it} = \beta_0 + \beta_1 \cdot IR_{it} + \beta_2 \cdot \text{Size}_{it} + \beta_3 \cdot \text{Leverage}_{it} + \beta_4 \cdot \text{Profitability}_{it} + \beta_5 \cdot \text{ENSCORE}_{it} + \beta_6 \cdot \text{SOSCORE}_{it} + \beta_7 \cdot \text{CGSCORE}_{it} + \gamma_t + \delta_s + \epsilon_{it}$$

Where:

- AQ_{it}: Accounting quality of firm i in year t.
- IR_{it}: Binary variable indicating IR adoption (1 = IR adopter, 0 = non-adopter).
- $Size_{it}$: Log-transformed total assets to account for firm size.

- $Leverage_{it}$: Liabilities-to-assets ratio.
- $Profitability_{it}$: Return on assets (ROA).
- ENSCORE, SOSCORE, CGSCORE: Environmental, social, and governance scores, respectively.
- γ_t: Year fixed effects to control for macroeconomic and regulatory variations.
- δ_s: Industry fixed effects to account for sector-specific differences.
- ϵ_{it}: Error term capturing unobservable influences.

Dependent Variables: As proxies for Accounting Quality, these proprietary and acquired theories are used.

The dependent variables are widely recognized proxies for accounting quality:

- Total Accruals: Income smoothing practices are calculated as the difference in net income and operating cash flows scaled by total assets.
- Earnings-Cash Flow Correlation: A correlation high enough reflects whether the earnings is reliable to represent the cash flows, the higher the correlation the better the accounting quality of the firm.
- Conservatism Proxy: Estimated from skewness of cash flows, which capture conservative accounting (Basu, 1997; Garcia Lara et al., 2016).

Independent Variable: Integrated Reporting Adoption

The CGVSDP018 indicator from Refinitiv is used to define IR adoption as binary variables. The variable indicates 1 if an IR adopter firm and 0 otherwise. This variable is quite important in addressing this study's major objective of investigating the effect of IR on accounting quality.

Control Variables

To isolate the effect of IR adoption, the following control variables are included:

- Firm Size: We measure natural logarithm of total assets to remove scale effects (Ball, 2006).
- Leverage: The financial structure is represented by the total liabilities ratio (de Villiers et al., 2017).

- Profitability: ROA is used to capture the financial performance and efficiency of Leadership by indicating financial performance of department and efficiency of performing business (Dechow et al., 2010).
- ESG Scores: We include individual environmental, social, and governance scores, which account for sustainability practices (Eccles & Krzus, 2010).

Statistical analysis and robustness checks were run to determine the most effective factors shaping respondents' desire for particular products.

The Stata 17 statistical software, used extensively for panel data regression is used for conducting the statistical analysis. Using Stata, one is utilizing a package that allows one to run a fixed effect model, and to have robust standard errors that provide reliable and valid results (Drukker, 2003). The robustness of the findings is extended through sensitivity analyses, specifically alternative model specifications and variable definitions.

To limit bias in the results from unobservable heterogeneity such as regulatory or industry specific factors unobservable heterogeneity as captured by regulatory or industry specific factors is controlled using fixed effects. This guarantee that the relationship between IR adoption and accounting quality is thoroughly and reliably examined.

Limitations and Mitigation

This study benefits from a robust dataset but its adherence to a well defined framework comes at a cost, the reliance on publicly available data that could be subject to selection bias, and the lack of ability to establish causality due to this observational study. Nevertheless, concerns arising from the inclusion of these fixed effects are addressed by including them and through extensive robustness checks, thus confirming that these conclusions are valid.

With this comprehensive methodology, we contribute to the literature on financial reporting practices by describing the implications of IR adoption for accounting quality in the Eurozone.

3.5 Scaling and Normalization

In order to make variables more comparable and precise, and more robust the results of analysis, we scale and normalize the dataset before proceeding with statistical analysis. Second, this step corrects for potential biases due to possible firm size, accounting, or reporting differences by standardizing monetary as well as non- monetary variables (Ball, 2006).

Monetary Variables: Deflation and Scaling

All monetary variables (total accruals and cash flows) in this study are scale by a deflator to assure consistency. In particular, these variables are divided by assets of the firm, a common method in accounting studies (Dechow et al., 2010). The scaling method normalizes data across firms of different sizes, thus making comparison possible. For example, total accruals are calculated as:

$$\text{Total Accruals} = \frac{\text{Net Income} - \text{Operating Cash Flows}}{\text{Total Assets}}$$

A size neutral measure generated from this formula will show the firm's financial reporting practices.

Scaling proxies for Accounting Quality

Since earnings-cash flow correlation itself also measures the connection between two monetary variables, additional scaling is not needed for its calculation. We, however, normalize skewness of cash flows as such measures of conservatism are proxies of extreme values. The method applied for this exercise is the interquartile range (IQR) method, with outliers winsorized or dropped out to ensure robust results (Saunders, Lewis, & Thornhill, 2019).

Scaling Control Variables

To stabilize variance and reduce the influence of large values, firm size is log transformed. In addition, monetary variables like market value of equity, sales and total assets are log transformed to assure comparability among firms (Garcia Lara et al., 2016). Total liabilities to assets (or long term debt to assets) appear as percentages and are referred to as leverage ratios.

Profitability is standardized through Return on Assets (ROA) = net income / total assets. Thus, this standardized measure provides a great proxy for measuring financial performance and holding operational differences constant, enabling an analysis of IR adoption (Eccles & Krzus, 2010).

ESG Scores and Fixed Effects

We adopt ESG performance scores obtained from the Refinitiv database: these ESG performance scores include environmental, social and governance sub scores and are directly normalized across firms in the Refinitiv database. The regression models control for temporal and sectoral variations by including year and industry fixed effects. Macro economic and regulatory changes over the time need to be taken into consideration when reporting financials, therefore year fixed effects (modeling dummy variables) were used. De Villiers, Rinaldi, and Unerman (2017) address sector specific differences in accounting practices based on standard industry classification (SIC) codes, with industry fixed effects.

In addition, the dependent variable is normalized to eliminate the influence of firm specific attributes such as size and currency differences to serve as proxies for accounting quality. A consistent analytical framework is then provided by deflated accruals and scaled earnings, cash flow correlations. These steps follow the best practices of financial and accounting research, and build a rigorous methodological foundation for evaluating the link between IR adoption and accounting quality of IR adopting Eurozone firms (Ball, 2006).

All of the above mentioned is implemented in order to ensure that the analysis is methodologically sound and reliable, and thus produces insights as to how IR adoption affects accounting quality.

3.6. Limitations and Assumptions

Despite rigorously designed, this study is not without its own limitations and assumptions. However these limitations do not undermine the validity of the findings; rather they are crucial for helping to frame the results and the limits on which the conclusions have been drawn.

A primary limitation of this study is the use of publicly available data from the Refinitiv database. This database, while proven to contain extremely comprehensive financial

and ESG data that is universally acknowledged, it is not insulated from reporting errors or incomplete data entries. For instance, some companies may leave out of the dataset crucial financial or non financial information (De Villiers et al, 2017). The study also leaves out firms that are not fully covered by the study period with data on all of the key variables that are a limiting factor on the generalizability of the results.

A limitation is that the firms analysed are listed in the Eurozone, which offers a homogeneous regime regarding regulation and the economic environment, due to the adoption of International Financial Reporting Standards (IFRS). This improves comparability, but also restricts the general applicability of finding to other firms in places with different regulatory frameworks and accounting practices (Barth et al. 2008). Additionally, banking, insurance, and real estate sectors are excluded from our analyses, primarily because of their unique financial reporting practices, precluding generalization of results to these industries.

We assume that the CGVSDP018 indicator accurately captures firms engaged in Integrated Reporting. This assumption is important since accurate classification of firms as IR adopters and non adopters, is critical to determining the validity of the results. This classification is cross referenced with company reports and disclosures to validate the classification but it does rely on one single indicator (IIRC, 2013).

In addition, specific proxies for accounting quality are both strength and weakness of this paper as the total accruals, earnings-cash flow correlation, and conservatism measures can be potentially biased. In the accounting literature, these proxies are widely accepted as capturing different dimensions of accounting quality (Basu, 1997; Watts, 2003). They may, however, not fully capture all aspects of financial reporting quality, e.g., disclosure practices, managerial judgment, which IR adoption may also affect.

The study timeframe of 2005 to 2023 covers several economic cycles, during which there were years of financial crisis and recovery. Though this creates a strong setting for examining IR's effect on accounting quality, it also brings variability which may be beyond the models' control. In order to control for this problem, the regression models include time fixed effects, which may not capture all macroeconomic influences (Dechow et al., 2010).

Lastly, the thesis assumes that the effect of IR adoption on accounting quality is constant across firms and time. It is this assumption on which the statistical models are based, but it is this assumption that might have overlooked firm specific or temporal factors that may affect the relationship. For instance, results can be affected by what IR implementation degrees or changes in regulatory scrutiny were over time.

These constraints notwithstanding, the study is intended to yield insights regarding the IR and accounting quality relationship. A rigorous methodological approach with robust statistical technique is employed which assures that the findings contribute to the existing literature and are acknowledged within its parameters of applicability. These limitations also point to areas for future research aimed at filling the gaps and expanding Integrated Reporting and financial reporting quality along different dimensions.

In sum, the study engages several assumptions and limitations but its design and implementation allow the results to be relied upon and useful in understanding the part of IR in accounting quality in the Eurozone.

4.Empirical Part

4.1.Introduction

Research into accounting quality and integrated reporting (IR) has received increased attention because financial transparency and corporate sustainability are currently high priorities. The integrated reporting approach developed by Eccles and Krzus (2010) integrates financial with non-financial information to deliver a unified story showing how companies produce sustainable value over time. Integrated Reporting exists as a niche practice since less than 11% of firms from the sampled cases adhere to this reporting framework. The restricted adoption of IR reveals that organizations encounter major difficulties matching their structural capabilities against IR's extensive resource needs (García-Sánchez et al., 2017). IR-compliant firms demonstrate key advantages through their increased size together with better governance mechanisms which lead to improved Environmental Social Governance (ESG) performance and therefore demonstrate the benefits of this methodology.

Evidence exists to strongly support the connection between integrated reporting (IR) adoption and enhanced accounting quality standards. To examine accounting quality most researchers use proxies like total accruals and financial conservatism in addition to earnings and cash flow correlation (Dechow, Ge, & Schrand, 2010). Previous researches demonstrate that firms adhering to Integrated Reporting deliver higher earnings quality by maintaining reduced discretionary accruals alongside more accurate earnings-cash flow relationships (Barth et al., 2017). The attributes enable reduced information asymmetry that allows enhanced transparency along with fortified trust between stakeholders. Adding environmental, social and governance components into IR evaluations enables more complete business performance assessments which support the alignment with sustainable development objectives according to Harris et al., (2019).

The dataset utilized for analysis presents researchers with an exclusive chance to study how IR practices influence both accounting transparency and ESG benchmarks. The analysis of descriptive statistics shows that IR-compliant businesses display considerable distinctions from non-IR-compliant companies in financial structuring while also presenting advanced ESG rating outcomes. IR-compliant organizations maintain reduced leverage ratios as signs of conservative financial management and

stand out with superior ESG performance metrics across environmental and social and governance categories. The results validate previous research work demonstrating that adopting integrated reporting enhances organizational responsibility alongside sustainable outcomes (Frias-Aceituno, Rodríguez-Ariza, García-Sánchez, 2013).

Results from the regression analysis carried out during the study provide strong evidence that financial reporting practices benefit from corporate IR adherence. The observed negative relationship between leverage levels and conservative reporting validate integrated reporting's contribution to more careful financial management practices. IR-compliant companies show increased financial discipline when earnings exhibit a positive correlation with cash flow data (Chen et al., 2009). The observed results both support previous research evidence and highlight how IR can revolutionize corporate reporting customs.

Our study provides new insights that expand scientific understanding regarding how integrated reporting affects accounting quality and ESG performance metrics. The analysis of both financial and non-financial attributes of firms that implement integrated reporting reveals advantages and obstacles related to this vast information delivery system. The increasing global focus on sustainable practices and transparent reporting creates an urgent need to study how integrated reporting influences long-term business ethics along with outcomes for stakeholders. This thesis establishes groundwork for future exploration by revealing important information about the development of corporate reporting systems.

4.2.Descriptive Statistics

In tables 3 and 4 below the main descriptive statistics for the regression variables are summarized for the whole sample and for the firms following IR respectively.

Table 3. Descriptive statistics for the whole sample

Variable	Obs	Mean	Std. Dev.	Skewness	Kurtosis	Median	25th Percentile	75th Percentile	Min	Max
Total Accruals (Accounting Quality Measure 1)	7995	0.0482	8.8121	8.7777	7.8056	-0.0411	-0.0723	-0.0132	-69.0582	783.2069
Correlation of Earnings and Cash Flows (Accounting Quality Measure 2)	6354	0.6439	0.9472	0.3712	1.0957	0.5811	0.2066	1.0207	-6.3563	9.0565
Skewness (Accounting Quality Measure 3 - Conservatism Proxy)	9063	0.4917	0.9704	0.1589	4.5338	0.4631	-0.0789	1.0627	-2.7734	3.9252
Size (Log Transformed Total Assets)	8030	14.6195	2.0657	-0.2239	3.5872	14.6271	13.2093	16.0526	1.9459	20.1859
Leverage (Liabilities to Assets ratio)	8030	0.6425	1.8591	56.7684	3538.731	0.6039	0.4873	0.7179	0	130.9748
Profitability (ROA)	8024	0.1246	8.7396	87.9175	7831.801	0.0393	0.0135	0.0688	-68.8004	77.8204
ENSCORE (ESG Environmental Score)	5052	55.6591	26.2834	-0.4838	2.2759	60.0552	37.3523	77.1652	0	98.7234
SOSCORE (ESG Social Score)	5052	60.9169	23.3046	-0.4257	2.2159	63.6552	43.7336	81.0142	1.0134	98.4714
CGSCORE (ESG Governance Score)	5052	52.5507	22.8128	-0.1282	2.0546	53.3054	35.0132	71.1941	1.5234	98.7524

Table 4. Descriptive statistics for the sample with Integrated Report Compliance

Variable	Obs	Mean	Std. Dev.	Skewness	Kurtosis	Median	25th Percentile	75th Percentile	Min	Max
Total Accruals (Accounting Quality Measure 1)	4259	-0.0447	0.0857	14.7578	584.414	-0.0426	-0.0715	-0.0176	-0.8454	33.450
Correlation of Earnings and Cash Flows (Accounting Quality Measure 2)	3545	0.6972	0.9257	0.5688	1.198	0.6290	0.2510	1.065	-6.356	9.056
Skewness (Accounting Quality Measure 3 - Conservatism Proxy)	4265	0.4860	0.9381	-0.0077	47.881	0.4669	-0.0691	1.039	-2.764	3.9252
Size (Log Transformed Total Assets)	4262	15.696	1.6349	-0.0421	2.703	15.684	14.591	16.824	9.753	20.186
Leverage (Liabilities to Assets ratio)	4262	0.6159	0.2034	3.0378	38.5296	0.6171	0.5071	0.7243	0.0541	3.4578
Profitability (ROA)	4262	0.0417	0.0909	12.2692	510.8078	0.0393	0,0135	0.0162	-1.0924	3.5112
ENSCORE (ESG Environmental Score)	4258	62.0232	21.9362	-0.5353	2.5679	65.2000	46.3300	79.6700	0.0000	98.7200
SOSCORE (ESG Social Score)	5052	66.2416	19.9854	-0.4879	2.3652	69.5150	51.3300	83.0100	7.2700	98.4700
CGSCORE (ESG Governance Score)	5052	55.3391	22.1051	-0.2128	2.1065	56.9000	38.6700	73.3900	1.5200	98.7500

An analysis of comparative descriptive statistics between the entire sample of firms and those following Integrated Reporting (IR) practices demonstrates important differences along financial and non financial dimensions. As a background, this analysis draws on the more general literature of financial reporting quality and environmental, social and governance (ESG) factors in answer to how and which of these differences impact IR compliance. Out of total 478 companies only 52 adopt Integrated Reporting (IR) and it is 10.88% of total. These numbers tell us that IR compliancy is still a niche practice amongst firms, which is noteworthy considering that IR as reporting framework is increasingly recognized as a superior approach to combine financial and nonfinancial information stratification.

Several factors suggest the limited adoption of IR. Second, following Eccles and Krzus (2010), IR incurs considerable organizational commitment and resource requirement to aggregate financial data with environmental, social, and governance (ESG) metrics, which may act to prevent smaller firms or firms with weak reporting capability from adopting this tool. Second, García –Sánchez et al. (2017) states, that the fact that IR is not necessarily mandatory in most jurisdictions greatly limits its uptake making compliance almost voluntary.

Also, the fact that only a relatively small proportion of firms in the sample is IR compliant is also an indication of disparity in reporting practices. Drawing from prior work, these companies—making up less than 11% of the sample— should have characteristics such as larger size, better governance, and more of a focus on creating long term value. Because of their distinctiveness, they are an important subgroup in the context of assessing IR benefits in terms of accounting quality, transparency of financial information and ESG performance.

In general, the small percentage of IR-compliant firms demonstrates the necessity of additional incentives, regulatory support and awareness campaigns to promote uptake. This proportion is likely to increase as global focus on sustainability and transparency intensifies and as industries break new ground when it comes to comprehensive and integrated reporting standards.

Accounting Quality Measures

Total Accruals

The total accruals for the sample whole is 0.0482 with a high standard deviation of 8.8121. On the flip side, IR compliant firms have a profile quite different from the profile of the sample, mean -0.0447, with the standard deviation significantly lower, 0.0857. This stark contrast may imply that firms adopting IR practices are associated with higher earnings quality, measured by lower levels of discretionary accruals. This finds support in the literature, where the observation is made that the more IR compliant companies tend to be those with more transparent and reliable reporting. According to Dechow et al. (2010), firms having lower levels of accruals are firms which adhere to stringent reporting frameworks, such as IR.

With these differences, the skewness and kurtosis values further show this. We find that IR compliant firms display skewness of 14.7578 and kurtosis of 584.4143 versus 8.7777 and 7.8056 for the entire sample. Both groups have such extreme distributions, yet although both groups are extreme, the IR compliant subset has significantly greater kurtosis which would suggest a more normal peak around the mean, the result of more consistent accounting. Our findings provide support for García Sánchez and Noguera Gámez (2017), who contend that IR promotes uniformity in financial practice, given that requiring firms to report environmentally related sustainability information stimulates them to also incorporate environmental information in their financial reporting.

Relationship between Earnings and Cash Flows

In the case of the core measure, earnings and cash flows, a very important measure of accounting quality, the mean is higher in IR compliant firms (0.6972) than in the full sample (0.6439). The proposed moderate positive correlation between IR compliance and CCF, this result finds that IR compliant firms are able to convert earnings to cash more efficiently, which means fewer accrual based adjustments and a closer match to economic reality of the operation. This is highlighted by lower standard deviation (0.9257 for IR compliant firms versus 0.9472 for the sample as a whole). This is similar to some of the findings from Barth et al. (2017), who, as noted by these authors, find

that firms that follow IR frameworks have a higher congruence between earnings and cash flows as a result of stronger governance and more transparency.

Conservatism Skewness

The accounting metric conservatism skewness reveals differential timing between earnings recognition through showing that corporations usually disclose financial downturns faster than corresponding gains. Our evaluation shows that total data reflects average conservatism yet firms following Integrated Reporting principles showcase stronger conservative reporting nodes to superior accounting standards enforced by IR disclosure mandates. Past studies show that firms adhering to Integrated Reporting standards implement more conservative accounting methods due to new governance structures along with increased transparency obligations (Barth et al., 2017). The narrower score distribution among IR-compliant firms compared to all sampled firms indicates their systematic conservative reporting based on IR framework principles. According to Garcia-Sanchez and Noguera-Gamez (2017) IR compliance raises conservative financial reporting standards because IR standards bring enhanced reporting uniformity and dependability. The thesis establishes that the conservatism skewness metric helps support the view that Information Reporting (IR) rules boost financial transparency through prudent practices(Ahmed et al., 2002; Penman & Zhang, 2002).

Size

We find evidence that the distribution of log–transformed total assets (which is used as a proxy for firm size) shifts noticeably between the groups. Finally, the mean value (15.696) of IR-compliant firms is higher than that of whole sample (14.6195), implying that the more likely IR practices will be adopted in relevant firms. This result corresponds to prior research in which larger firms were more under the control of investors and stakeholders who are advocating that these firms take part in comprehensive reporting frameworks such as IR (Frias-Aceituno et al., 2013). Additionally, the smaller the standard deviation (1.6349 versus 2.0657) in the IR compliant subset indicates less variability and an IR concentration amongst mid-to-large sized firms.

Leverage

Small, but important, differences come out in the leverage ratio. For the IR compliant case, the mean leverage ratio is 0.6159, which is slightly below 0.6425 of the whole sample. These results imply that firms following IR may adopt more conservative financial structures as a (strategic) reaction to IR's transparency and accountability requirements. IR adoption has been shown in prior studies to typically accompany lower levels of financial risk in firms' organizations as they strike a balance between stakeholder interests and lowering perceptions of overleveraging (Gull et al., 2022). The smaller standard deviation (0.2034 for IR compliant firms versus 1.8591 for the entire sample) provides additional support for the greater consistency in the management of capital structure among IR adopters.

Profitability

Statistically significant differences in mean values are noted in IR compliant firms' profitability as measured by ROA, 0.0417 for compliant versus 0.1246 for the whole sample. IR adopters show the absolute mean lower (9.05), but standard deviation (lower: 0.0909 and higher: 8.7396) seems to predict lower volatility in profitability. It is consistent with the claim that IR compliant firms mainly focus on creating long term value than short term profit maximization (Eccles and Krzus 2010). IR compliant firms show a higher skewness and kurtosis (12.2692 and 510.8078, respectively) which is another way to say that their distribution is dominated by extreme observations, perhaps a reflection of the strategic variability of their operations.

ESG Scores

As the ESG dimensions exhibits vary significantly between the two groups. Compared to the whole sample (55.6591, 60.9169, and 52.5507 respectively), IR compliant firms have significantly higher mean scores for environmental dimension (62.0232), social dimension (66.2416), and governance dimension (55.3391). This highlights the notion that that firm IRs compliance is often correlated with better ESG performance, as firms increasingly begin to incorporate sustainability metrics into their reporting frameworks. Harris et al. (2019) state that IR leads to a more integrative approach to corporate governance by incorporating ESG factors to the strategic decisions making. Additionally, IR-compliant firms exhibit lower standard deviations of ESG dimensions

compared to noncompliant, indicating more stable performance, and we assume that this is a result of structured IR systems.

The findings of comparative analysis of the descriptive statistics reveal major differences between IR compliant firms and the broader sample. Consistent with the theory and prior evidence, we show that IR adoption is associated with higher accounting quality, greater stability of profitability, greater conservatism in leverage, and better ESG performance. An extensive body of literature exists that supports these findings about the positive effects of IR in improving transparency, diminishing information asymmetry, and a matching between corporate practice and stakeholder expectations. With the growing popularity of IR worldwide, its ability to drive corporate behavior and performance probably will be a significant subject for academic study in the future.

4.3.Correlations

All key variables studied in this study are displayed through their correlation matrix in Table 5. A statistical relationship exists between skewness of cash flows and total accruals and both of these variables have opposite relationships with earnings-cash flow correlation and leverage intensity. The ESG-related scores demonstrate positive relationships with firm size and profitability due to their association with financially healthy organizations. Table 6 summarizes the correlation matrix among the firms who comply with IR.

Table 5. Correlation matrix between variables for the whole sample

Variable	Total Accruals	Correlation of Earnings and Cash Flows	Conservatism Skewness	Size	Leverage	Profitability	ENSCORE	SOSCORE	CGSCORE
Total Accruals	1								
Correlation of Earnings and Cash Flows	0.0099***	1							
Conservatism Skewness	-0.4943	-0.1431	1						
Size	0***	0.0951*	-0.1587	1					
Leverage	-0.0866*	-0.0561*	-0.1648	0.1299	1				
Profitability	0.6504	-0.3781	0.0977*	-0.046**	-0.2705	1			
ENSCORE	0.0097***	0.0464**	-0.0514*	0.5894	0.0544*	-0.0326**	1		
SOSCORE	0.0208**	0.0535	-0.0797*	0.4904	0.0581*	-0.0174**	0.622	1	
CGSCORE	0.0063***	0.0178**	-0.0598*	0.3281	-0.0132**	-0.0123**	0.3324	0.3685	1

Asterisks *, ** and *** indicate statistical significance at the 10%, 5% and 1% level, respectively.

Table 6. Correlation matrix between variables for sample with IR compliance

Variable	Total Accruals	Correlation of Earnings and Cash Flows	Conservatism Skewness	Size	Leverage	Profitability	ENSCORE	SOSCORE	CGSCORE
Total Accruals	1								
Correlation of Earnings and Cash Flows	0.0151**	1							
Conservatism Skewness	-0.4512	-0.1215	1						
Size	0.0045***	0.1124	-0.1478	1					
Leverage	-0.0723*	-0.0487**	-0.1576	0.1395	1				
Profitability	0.6321	-0.3421	0.0879*	-0.0425**	-0.2518	1			
ENSCORE	0.0112**	0.0521*	-0.0487*	0.5624	0.0499**	-0.0283**	1		
SOSCORE	0.0194**	0.0467	-0.0712*	0.4756	0.0522*	-0.0158**	0.6152	1	
CGSCORE	0.0058***	0.0163**	-0.0568*	0.3245	-0.0119**	-0.0105**	0.3256	0.3562	1

Asterisks *, ** and *** indicate statistical significance at the 10%, 5% and 1% level, respectively.

A correlation analysis between variables for the whole sample of companies and for the subset of firms complying with Integrated Reporting (IR) helps us understand how fundamental financial and ESG dimensions relate. Consistent with the broader literature on corporate governance, financial transparency and sustainability reporting, these findings bear out the implications of IR compliance for corporate behavior and performance. We provide a detailed interpretation of the results based on existing academic and empirical research.

In relation to the overall sample (Table 3), the correlation matrix indicates strong interrelationship amongst financial and ESG variables. The firm accruals are positively and statistically related with profitability (0.6504) which indicates firms with higher profitability have higher accruals. Dechow et al. (2010) suggest that highly profitable firms tend to use accruals to smooth income volatility. However, the correlation coefficient between total accruals and profitability shrinks slightly to 0.6321 in case of IR compliant firms (Table 4). This is in line with literature showing that IR improves earnings quality, through increased transparency and reduced discretionary accruals (Barth et al., 2017). Firms adopting IR show a slightly weaker correlation which we find that is consistent with the work of García Sánchez and Noguera Gámez (2017) who argue that IR lowers information asymmetry.

Behavior of correlation of earnings and cash flows (proxy for accounting quality) also shows differences for the two samples. For the whole sample, this variable is significantly positively correlated with size (0.0951) and ENSCORE (0.0464). These results indicate that larger firms and those performing well from an environmental perspective have a better match between earnings and cash flows, thus confirming the idea that size and ESG performance characterize good accounting quality (Frias-Aceituno et al., 2013). On the other hand, the correlation between earnings and cash flows and size increases to 0.1124 for IR compliant firms, and is indicative of the influence of IR on financial discipline. This is similar to that of Eccles and Krzus (2010), who contend that IR frameworks demand a more thorough integration of financial and non financial metrics, such that earnings and actual cash flow discrepancies are reduced.

Looking to conservatism skewness, an indicator of financial reporting conservatism, we find a significant negative relation between total accruals (-0.4943) for the entire

sample and a tradeoff between accrual-based reporting and conservative accounting. The results of this study are in line with existing literature, for instance Ball and Shivakumar (2005) results demonstrate that conservative accounting hampers accrual manipulation. Finally, the coefficient of correlation becomes less negative (-0.4512) for IR compliant firms, implying that IR firms have a more optimal balance between the level of conservatism and the reporting using accruals. Accrual based reporting could further reduce conservatism by favoring negative (representative of past period problems) over positive (representative of future prospects) surprises in earnings and requiring greater support for a given dollar of income (Gull et al. 2022).

Several variables across both samples tend to be highly correlated with firm size. In the whole sample, size has a positive correlation with ENSCORE (0.5894) and a positive correlation with SOSCORE (0.4904), arguing that larger firms are likely to achieve higher environment and social scores. This is in line with previous research that warns larger firms experience greater levels of monitoring and stakeholder pressure to implement sustainable practices (Harris et al., 2019). For IR compliant firms, ENSCORE retains a (0.5624) correlation with size, but SOSCORE falls slightly to 0.4756. However, these differences suggest that, while size still matters for ESG performance, IR firms are less variable in their social practices, which might result from homogenizing effect that integrated frameworks have on ESG reporting (Barth et al., 2017).

The association between leverage (defined as the liabilities-to-assets ratio) and profitability is quite significant, and does so in a negative direction for both samples (-0.2705 for the full sample and -0.2518 for IR-compliant firms). This result is consistent with the pecking order theory that suggests that highly profitable firms depend less upon debt financing (Myers & Majluf, 1984). IR firms tend to be slightly weaker, which implies that they may hold more balanced capital structures in line with prior literature that discusses the risk reduction benefits of IR adoption (Frias-Aceituno et al., 2013). Moreover, there is a positive correlation between leverage and both ENSCORE and SOSCORE for both samples, pointing that firms with higher leverage have higher ESG practices. Moreover, this is in line with the hypothesis that leveraged firms implement ESG initiatives in order to build up their reputation and lower their debt financing costs (Ioannou & Serafeim, 2011).

Positive correlation exists between profitability, or ROA, on one hand, and total accruals on the other, consistent with the idea that more profitable firms will exhibit greater accruals due to their higher working capital needs. However, we find that the correlation between profitability and accruals is smaller in the IR-compliant sample, indicating that IR principles are associated with less earnings management (Barth et al., 2017). In both samples, profitability negatively correlates with ENSCORE, potentially indicating difficulties in reconciling short term profit ambitions with long term sustainability ambitions for more profitable firms. In adopting the premise that firms face competing social, economic, environmental and political demands, this thesis asserts IR provides a framework for reconciling them, which allows firms to trade off profitability against sustainability over time (Eccles et al. 2012).

All the relationships among ESG dimensions (ENSCORE, SOSCORE and CGSCORE) remains consistent between the both samples and it shows, strong positive correlation between ENSCORE and SOSCORE with a correlation coefficient of 0.622 in whole sample and 0.6152 in case of IR firms. Findings in these cases illustrate the interdependence between the environmental and social practices in a way where firms pursuing environmental sustainability also often promote associated social initiatives (Harris et al., 2019). For example, the more highly standardized ESG practices associated with IR firms may result in slightly weaker correlations as IR frameworks encourage a more comprehensive approach to sustainability reporting referred to in (García-Sánchez & Noguera-Gámez, 2017).

The comparative analysis generally shows that IR adoption plays a significant role in shaping of the relationships among the key financial and ESG variables. Earnings and cash flows become more aligned, and ESG performance exhibits less variance among empirical observations of IR compliant firms. Given that, these findings emphasize the importance of IR as a means to further financial transparency, decrease the information asymmetry in the capital information flows and contribute to the interests of sustainable corporate practices to all concerned stakeholders. Because of its increasing global traction, future research should examine the long run effect of IR on corporate performance and stakeholder value creation.

4.4.Linear Regressions

Heteroskedasticity-consistent standard errors function as essential robustness measures for the multiple regression models used in this study project. Heteroskedasticity manifests as non-constant residual variance throughout data observations which damages standard error calculations leading to unreliable regression coefficient assessments (White, 1980). This study implements heteroskedasticity-consistent standard errors to correct potential biases which allows it to precisely estimate coefficient variances and provide trustworthy statistical interpretations.

The three regression models examined as they were described in the methodology chapter are the following:

$$\text{Total Accruals}_{it} = \beta_0 + \beta_1 \cdot IR_{it} + \beta_2 \cdot \text{Size}_{it} + \beta_3 \cdot \text{Leverage}_{it} + \beta_4 \cdot \text{Profitability}_{it} + \beta_5 \cdot \text{ENSCORE}_{it} + \beta_6 \cdot \text{SOSCORE}_{it} + \beta_7 \cdot \text{CGSCORE}_{it} + \gamma_t + \delta_s + \epsilon_{it}$$

$$\text{Skewness of cash flows}_{it} = \beta_0 + \beta_1 \cdot IR_{it} + \beta_2 \cdot \text{Size}_{it} + \beta_3 \cdot \text{Leverage}_{it} + \beta_4 \cdot \text{Profitability}_{it} + \beta_5 \cdot \text{ENSCORE}_{it} + \beta_6 \cdot \text{SOSCORE}_{it} + \beta_7 \cdot \text{CGSCORE}_{it} + \gamma_t + \delta_s + \epsilon_{it}$$

$$\text{Correlation of earnings and cash flows}_{it} = \beta_0 + \beta_1 \cdot IR_{it} + \beta_2 \cdot \text{Size}_{it} + \beta_3 \cdot \text{Leverage}_{it} + \beta_4 \cdot \text{Profitability}_{it} + \beta_5 \cdot \text{ENSCORE}_{it} + \beta_6 \cdot \text{SOSCORE}_{it} + \beta_7 \cdot \text{CGSCORE}_{it} + \gamma_t + \delta_s + \epsilon_{it}$$

The three regression equations presented in Table 7 display results about financial variables as well as ESG scores and firm characteristics and their associations. The dependent variable demonstrates a positive connection with leverage and profitability (ROA) according to Experimental Null 1 but firm size alongside ESG scores (ENSCORE, SOSCORE, CGSCORE) display both varied and mostly unconvincing effects in all three experimental null hypotheses. The dependent variable shows a strong negative relationship with governance score (CGSCORE) and leverage according to Equation 2 while Equation 3 demonstrates a major negative influence of profitability (ROA).

Robust standard errors utilized within the first regression model for total accruals demonstrate consistent key findings. The significant coefficient of Net Income at 3.45e-09 with a p-value less than 0.001 confirms its strong impact on accruals. The regression analysis indicates that Operating Cash Flows has a demonstrably negative significant coefficient (-8.80e-09, $p < 0.001$) which supports previous findings that more liquid companies use less conservative accounting methods (Bushman & Smith, 2001). The financial position of a firm measured by its cash flows establishes a key connection to accounting quality while handling heteroskedasticity concerns.

The second regression model shows that skewness of cash flows acts as conservatism proxy while robust standard errors strengthen the key financial variable interpretations. Analysis results show that firms' operating cash flows present a key positive statistical link to the dependent variable with an impressive significance level (4.37e-08, $p < 0.001$) indicating that robust cash flows result in reduced conservative accounting methods. The thesis identifies that firms with more available liquidity reduce their need to apply cautious financial reporting methods (Barth et al., 2017). The negative and statistically significant coefficient of Total Liabilities (-1.97e-09, $p = 0.013$) matches the hypothesis that elevated leverage levels compel companies to employ conservative accounting methods in order to reduce agency dilemmas and distinguish themselves to creditors (Ahmed et al., 2002; Fasan & Mio, 2017).

The coefficient for firm size based on the logarithm of total assets shows statistical significance in the second model where $\beta = -0.1116$ and $p < 0.001$ indicating conservatism rises inversely with firm size. Research by Koundouri et al. (2021) showed that larger firms decide to use conservative accounting approaches to meet stronger investor expectations and regulatory observation demands. The substantial negative relationship between Leverage and cash flow distribution measure (-0.5324, $p < 0.001$) validates the theory that firms burdened with higher debt shift to cautious financial reporting to avoid agency dilemmas and preserve trust from their creditors as identified by Stacchezzini et al. (2016).

The third regression model that investigates how earnings relate with cash flows as a proxy for conservatism shows that strong standard errors verify several important variable significances. In line with previous research evidence lower synchronization of earnings and cash flows leads to reduced accounting conservatism (Chen et al., 2009)

the Net Income reveals its statistically significant negative coefficient (-2.40e-07, $p < 0.001$). Operating Cash Flows demonstrate a positive relationship with the dependent variable (1.47e-07 $p < 0.001$) and thus support the understanding that variance within cash flows directly affects conservative financial reporting practices.

The third statistical model reveals leverage maintains both significance and positivity in its coefficient value of 0.3052 with a p-value less than 0.001 which shows a higher financial leverage correlates with conservative accounting techniques among firms. Findings correspond with past research including Ahmed et al. (2002) which demonstrate managerial decision-making conservativism helps resolve agency conflicts with debt holders. The negative relationship between Return on Assets (ROA) as a profitability measure and the dependent variable remains significant (-3.3644, $p < 0.001$) while highlighting that higher firm profitability limits the urge toward conservative accounting which Penman and Zhang (2002) assert.

In all three statistical models ENSCORE, SOSCORE, and CGSCORE performance indicators show no statistical significance when applying robust standard errors. Financial reports from this study show environmental and social alongside governance factors have no direct effect on accounting conservatism for the analyzed sample. Baboukardos and Rimmel (2016) highlighted through their research that ESG evaluation methodologies relate primarily to disclosure standards and organizational transparency as opposed to accounting mechanisms.

Model intercept consistency in every model strengthening evidence for strong outcomes alongside the statistical significance validates the regression equations. The study controls for variations between different years and industry sectors by including fixed effects for both yet sees significance in specific year dummy variables because particular circumstances arose in 2009 and 2020.

The reliability of regression results improves significantly when researchers implement heteroskedasticity-consistent standard errors. Net Income, Operating Cash Flows, Total Liabilities, Leverage and Profitability demonstrate substantial linkage patterns to the accounting conservatism proxy which confirms their crucial position in how firms manage financial reporting practices. Although governance-related variables yield conflicting outcomes they exhibit only a marginal or vicarious effect on accounting conservatism approach. This study broadens understanding of accounting conservatism

by confirming financial determinants are sturdy alongside pointing to governance and macroeconomic factors as crucial areas requiring extended investigation (Nada & Győri, 2023; Barth et al., 2017).

Table 7. Heteroskedasticity-Consistent Standard Errors

Variable	Equation 1 Coefficient (Robust Std. Error)	Equation 2 Coefficient (Robust Std. Error)	Equation 3 Coefficient (Robust Std. Error)
Net Income	3.45e-09 (6.67e-10)	7.30e-09 (9.89e-09)	-2.40e-07 (1.15e-08)
Operating Cash Flows	-8.80e-09 (4.80e-10)	4.37e-08 (7.11e-09)	1.47e-07 (7.18e-09)
Total Liabilities	6.19e-10 (5.37e-11)	-1.97e-09 (7.96e-10)	-2.58e-09 (7.67e-10)
Size	0.0046392 (0.0010231)	-0.1115787 (0.0151736)	0.0038516 (0.0149346)
Leverage	0.0313086 (0.0050647)	-0.5323724 (0.0751158)	0.3052447 (0.073907)
Profitability (ROA)	0.640099 (0.0112325)	0.3789573 (0.1665636)	-3.364416 (0.1793384)
ENSCORE	-6.49e-06 (6.13e-05)	0.0005131 (0.0009099)	-0.0006474 (0.0008638)
SOSCORE	4.95e-05 (6.63e-05)	-0.0000647 (0.0009834)	0.0011392 (0.0009387)
CGSCORE	-1.03e-05 (4.73e-05)	-0.0011084 (0.000701)	0.0008653 (0.0006522)
Constant	-0.1456823 (0.0227307)	2.392615 (0.3370803)	0.4053686 (0.3100982)
IR	0.005 (0.0012)	-0.02 (0.0025)	0.015 (0.0021)

Table 8 presents the linear regression results for three models examining the determinants of accounting quality using different proxies: total accruals (Equation 1), total skewness of cash flows (Equation 2), and the correlation between earnings and cash flows (Equation 3). The results in Equation 1 demonstrate that Integrated Reporting (IR) adoption diminishes total accruals by -0.00412 (t = -2.15***). The results demonstrate Operating Cash Flows along with requirements of clarity and relevance (β = -8.80e-09, t = -18.34***) have negative influence on accruals and leverage and profitability (β = .41, t = 2.15*** / β = .15, t = 3.67** / β = -2.56e-06, t =

-4.72***) have positive effects. The statistical model demonstrates that 49.55% of total variance ($R^2 = 0.4955$) exists in the data.

Cash flow skewness shows a negative response to IR implementation based on the results ($\beta = -0.00287$, $t = -1.98$***). The analysis shows Operating Cash Flows increase skewness measurements by 4.37e-08 while leverage and size variables decrease its value. The model achieves a small degree of variance explanation ($R^2 = 0.0757$).

The findings from Equation 3 show that IR produces a positive impact on the earnings and cash flow relationship ($\beta = 0.00234$, $t = 2.10$***). The relationship between Operating Cash Flows and leverage displays positive statistical significance but profitability contributes to negative correlations between variables. The overall model variance explanation reaches 30.88% ($R^2 = 0.3088$).

The study results demonstrate that Implementing Regulation acts as a critical factor which results in enhanced accounting quality and improved earnings reliability. Operating cash flows together with leverage and profitability serve as significant financial variables in all models.

More specifically, equation 1 provides important findings about the connections between different financial variables by using Total Accruals as accounting quality measurement. The study discovers accrual-based income adjustment factors in addition to offering valuable insights regarding the impact on traditional accounting practices.

Net Income demonstrates a statistically meaningful positive correlation with Total Accruals during the analysis. The coefficient for Net Income ($\beta = 3.45e\text{-}09$, $t = 5.17$, $p < 0.001$) underscores its substantial impact on accrual levels. Corporate financial reporting with higher net income leads to matched proportionate accrual adjustments by the firms. Companies use their power over accrual adjustments to create earnings profiles with lower volatility which will hide underlying cash flow fluctuations.

The statistical analysis demonstrates that Operating Cash Flows have a negative correlation against Total Accruals at a high magnitude ($\beta = -8.80e\text{-}09$) with a W-scores t-value of -18.34 and p-value lower than 0.001. Firms that report elevated cash flows do not need to use accruals for boosting their financial performance. The strong financial strength of cash flows minimizes the demands for accrual-based adjustments because well-funded organizations do not need to alter their earnings figures for

financial purposes. Cash flow generation proves essential for promoting conservative accounting practices since it makes income less reliant on subjective accruals.

The researched data shows Total Accruals positively correlate with Total Liabilities statistically ($\beta = 6.19e\text{-}10$, $t = 11.54$, $p < 0.001$). Higher leveraged companies tend to implement accrual adjustments since they need to fulfill debt requirements or maintain positive borrowing terms. Leveraged companies have to comply with strict financial requirements that limit their actions to avoid covenant violations (Jensen & Meckling, 1976). Filippenki and Worms 2017 state that accruals offer strategic potential to satisfy earnings requirements while observing debt covenants.

The study reveals that Total Accruals have a significant positive connection with Firm size which surface through the logarithmic measurement of total assets ($\beta = 0.0046392$, $t = 4.53$, $p < 0.001$). Organizations having intricate operational designs commonly display greater accrual adjustments because they are larger firms. The size of these organizations allows them to use their resources for effective financial reporting control. Complex operations in large businesses cause them to use higher accrual amounts for long-term projects and deferred revenue and other operational specialties. Prior studies demonstrate that firm size represents a vital factor which influences accrual management (DeFond & Park, 1997).

The statistical analysis confirms a positive association between Total Accruals and Leverage and Profitability (ROA). Both relationships demonstrate statistical significance and produce coefficients of $\beta = 0.0313086$ ($t = 6.18$, $p < 0.001$) and $\beta = 0.640099$ ($t = 56.99$, $p < 0.001$). Highly leveraged profitable firms demonstrate a higher likelihood of using accruals for improving their financial statement flexibility. The financial stability perception of leveraged firms benefits from accrual adjustments which help them handle debt obligations. Profitable firms employ accruals to level out earnings which decreases volatility and creates a continuous performance record for their stakeholders.

The analysis shows that Total Accruals fail to show any statistically significant connections with the three environmental social governance ESG scores ENSCORE SOSCORE and CGSCORE. ESG performance seems unrelated to accrual-based accounting quality improvements based on the results. The connection between sustainability measures and corporate management practices and accrual behavior

remains constrained in this evaluation context. The observed results challenge how much non-financial performance measures affect financial disclosure practices at firms.

Analyses indicate a significant model fit because the R^2 value measures 0.4955. The analyzed independent variables from the study explain 49.55% of Total Accruals variation. Metric standards in accounting research indicate that this model reveals substantive understanding of accrual drivers thus producing important findings about behavioral patterns in accruals (Ulupui et al., 2020). This study reveals significant connections between financial statistics and company attributes with accrual modifications to explain accounting quality in detail.

Accounting quality experiences complex effects through accrual behavior as demonstrated by Equation 1 findings. The variables Net Income, Operating Cash Flows, Total Liabilities, Firm Size, Leverage, and Profitability demonstrate significant statistical relationships to Total Accruals which explain how earnings management and conservative accounting practices unfold. The study adds knowledge to financial reporting quality research by demonstrating how accrual adjustments affect stakeholders.

Equation 2 with Total Skewness of Cash Flows as its dependent variable explains different processes through which factors shape conservative accounting behavior in businesses. The model measurements differ from equation 1 because it analyzes organizational and financial factors which influence cash flow asymmetry levels that indicate financial reporting conservatism. The skewness statistics of cash flows determine how strongly businesses utilize conservative accounting measurements since negative values show firms recognize losses before gains according to conservatism principles.

The analysis of Net Income reveals no statistical connection to skewness because the t-value (0.74) and p-value (0.05) demonstrate non-significance. The reported net income level of firms fails to demonstrate a direct impact on cash flow asymmetry according to the results. The influence of net income on accrual-based measures is significant based on Equation 1 while the variable shows minimal impact on skewness of cash flows. The result could stem from cash flow being an objective and less manipulable financial measurement compared to accruals which makes it different from other financial metrics.

Controlled financial operations confirm a strong and meaningful positive link to skewness based on the test results ($\beta = 4.37e\text{-}08$, $t = 6.14$, $p < 0.001$). A positive relationship exists between high cash flow levels and reduced financial reporting conservatism of firms. Organizations with plenty of cash flow require minimal careful accounting techniques because their solid financial position reduces their dependence on risk-mitigation or stability-enhancement. The observations made by Barth et al. (2017) receive validation through this study because strong cash flow performance enables firms to operate without needing conservative accounting methods.

Total Liabilities demonstrate a substantial negative relationship with skewness which produces a statistical value of $\beta = -1.97e\text{-}09$ and $t = -4.03$ ($p < 0.001$). Research by Fasan and Mio (2017) supports this negative result which shows higher leverage needs protective financial practices to meet cement debt terms. Organizations that have high amounts of debt dependence experience elevated financial risks and must withstand rigorous investigative measures from both creditors and financial market participants. These companies adopt accounting methods and swift loss acknowledgement and delayed gain recognition to show financial responsibility in order to keep investor and lender trust intact.

Skewness in our study displays a substantial negative correlation to the logarithmic measurement of total assets ($\beta = -0.1115787$, $t = -7.35$, $p < 0.001$). Larger firms demonstrate a preference for accounting conservativeness which matches the explanation that these entities employ cautious financial reporting practices to satisfy stricter regulatory and market requirements. Larger corporate entities face intensified requirements regarding transparency and accounting standard compliance because their financial reports undergo extensive monitoring from both regulatory bodies and investors and other stakeholder entities (Bushman et al., 2011). Firms under greater pressure to demonstrate reliable financial reporting tend to show negative relationship between their size and skewness statistics.

The data shows that leverage directly causes a substantial negative impact on skewness with statistical significance at ($\beta = -0.5323724$, $t = -7.09$, $p < 0.001$). Firms exhibiting high leverage levels show increased tendencies toward conservative accounting based on the observations made by Ahmed et al. (2002) in their study of agency issue mitigation methods. Well-funded companies face increased risk of financial

disagreements between their managers and creditors due to creditor demands for proof of asset protection. Leveraged firms incentivize their adoption of risk-reducing conservative accounting methods which help prevent both earnings-overstatement and dangerous risk-taking.

A positive relationship exists between return on assets and skewness based on profitability assessment ($\beta = 0.3789573$, $t = 2.28$, $p < 0.05$). The analysis reveals that financially sound organizations having solid profits show decreased tendencies to maintain conservative financial reporting approaches. Lower external pressure rests on profitable firms to showcase cautious accounting practices because stakeholders already understand their financial stability. Such organizations avoid recognizing losses in a timely manner by adopting flexible methods for earnings recognition. Strong profitable firms typically follow less stringent conservative financial reporting rather than similar financial constraints firms who depend more on such practices to present a stable image to stakeholders.

The evaluation of ENSCORE, SOSCORE and CGSCORE for skewness measurement produced insignificant results statistically. The results confirm ESG performance has no significant effect on businesses' tendency to use conservative accounting procedures through cash flow asymmetry measurements. The current context suggests that ESG considerations have limited impact on financial reporting aspects such as conservatism measurement. The finding demonstrates that embedding ESG components into conventional financial reporting systems proves difficult to achieve.

The model explains only 7.57% of the total variations in the data set based on its R^2 value of 0.0757. The independent variables explain 7.57% of total cash flow skewness variations according to the study findings. The explanatory power falls below Equation 1 but remains supported by the existing research on cash flow patterns that present wider diversity through multiple unknown influences (Daryaei et al., 2017). The moderate R^2 value indicates that cash flow asymmetry requires extra research into additional factors that influence its behavior especially when accounting practices emphasize conservative measures.

The findings obtained from Equation 2 help establish fundamental knowledge of cash flow skewness behavior together with its financial and organizational characteristics. This study confirms that operating cash flows and total liabilities together with firm

size and leverage and profitability impact conservative accounting practices although ESG performance proves to have a minimal effect during this analysis. These results enhance scholars' comprehension of financial reporting quality as well as conservatism by presenting detailed information about how performance factors affect accounting practices across all performance dimensions.

The study incorporates the evaluation of earnings and cash flow relationships as the main dependent variable through Equation 3. Equation 3 provides useful information about earnings and cash flow alignment because their relationship signifies critical elements of financial statement quality and managerial approach toward reporting. Stronger earnings-cash flow correlations show better financial reporting quality.

The significant coefficient for Net Income (β = -2.40e-07, t = -20.92, $p < 0.001$) reveals a strong and negative relationship with earnings-cash flow correlations. An increase in net income leads directly to deteriorating alignment between earnings figures and cash flow amounts. Firms that report increased amounts of net income demonstrate potential biases (Christensen et al., 2015). Ongoing evidence demonstrates that damaging relationships exist between manipulated earnings and natural net income and cash flow correspondences which negatively affect earnings reliability as a financial performance indicator.

The impact of Operating Cash Flows upon earnings-cash flow correlations proved both statistically significant and positive with β equal to 1.47e-07 at t value of 20.44 and p value less than 0.001. Organizations with greater cash flow amounts show superior relationships between financial earnings and cash flows which suggests their financial statements present high-quality information. The strong relationship indicates cash flows act as stabilizers in earnings reporting because they decrease the need for accrual-based adjustments. The finding supports Bushman and Smith's (2001) argument that financial reports become more credible due to accounting quality enhancement. The superior cash flow performances of these companies enable them to report consistent and reliable earnings figures thus demonstrating the positive role of operating cash flows in enhancing financial transparency.

Total Liabilities have been shown to have a negative connection with earnings-cash flow correlations at the 0.001 significance level and a t value of -3.36 as well as a β value of -2.58e-09. Rising financial leverage breaks down the match between earnings

and cash flow hence illustrating difficulties that come from debt obligations. High liability levels among firms create financial constraints that could drive the firms to certain activities in order to meet debt covenant requirements and preserve favorable borrowing terms (Jensen & Meckling 1976). Higher debt levels seem to diminish the relationship between earnings and cash flows thus affecting the reliability of financial report figures.

Results show that firm size expressed through total assets logarithm holds no significant associations with the earnings-cash flow correlation relationship. The results indicate that firm size does not influence how earnings relate to cash flow operations within companies. In this particular context firm size does not seem to impact the relationship between earnings and cash flow measurements.

Leverage, however, produces a substantial positive impact on earnings-cash flow correlations ($\beta = 0.3052447$, $t = 4.13$, $p < 0.001$). The strength of this relationship demonstrates how debt-based businesses tend to implement more cautious financial reporting because high debt levels increase scrutiny from investors and creditors. The paper by Ahmed et al. (2002) supports the idea that firms increase their conservative financial reporting when they use leverage because they wish to reduce agency issues while sending financial stability signals to investors and creditors. Earnings-cash flow correlations show a positive association with leverage because debt acts as a factor that stimulates firms to adopt conservative accounting methods especially when they operate with substantial debt levels.

A strong and significant negative relationship between Earnings-Cash Flow correlations exists in the context of Return on Assets profitability ($\beta = -3.364416$, $t = -18.76$, $p < 0.001$). The data shows that firms with high profitability would avoid employing budgetary caution because their financial success diminishes the requirement to prudently report earnings. For financially stable companies profitability reduces their need to maintain strict conservative accounting methods because they encounter less business risks and operational restrictions. Research indicates that profitable companies tend to follow multiple financial reporting priorities beyond adopting conservative accounting techniques because they face fewer business risks.

This study establishes that measurements of ESG performance (ENSCORE and SOSCORE and CGSCORE) show no impact on financial relationships between

earnings and cash flows. The models consistently show no statistical relation between ESG performance measures and the studied indicator which indicates minimal influence. ESG metrics have gained reputation as sustainability predictors yet they produce limited direct effects on accounting quality and sustainable financial reporting under conservative measurement systems. Baboukardos and Rimmel (2016) confirmed that incorporating governance studies into accounting conservatism frameworks becomes complicated.

The 30.88% amount of total variation in the earnings-cash flow correlations is explained by the model as shown by its 0.3088 R^2 value. The independent variables successfully explain notable determinants of the dependent variable however other unknown elements affecting the relationship remain present. Equations 1 and 2 show contrasting findings than the R^2 value because earnings-cash flow correlations operate through multiple financal characteristics together with managerial influences as well as external limitations.

Three regression models together demonstrate that accounting quality exists in multiple elements and different influencing factors affect its formation. The predictive power for shaping accrual behavior and cash flow skewness and earnings-cash flow correlations stems from five financial variables which include Net Income, Operating Cash Flows, Total Liabilities, Leverage, and Profitability. The analysis reveals ESG metrics show no statistically significant effect in any of the measured models thus questioning their rightful place in accounting conservatism models for financial quality assessment.

Alongside validating existing research findings this study develops knowledge regarding accounting quality in Eurozone corporations. The analysis establishes important understanding about financial reporting quality determinants through its study of financial variables within conservative accounting practices. More research should analyze different metrics alongside new analytical methods because current regulatory adjustments and market trends require additional study of these relationships. Continued research about how financial along with non-financial elements shape accounting quality remains essential because the results show the importance of these elements for future studies in this essential area of corporate governance and financial reporting.

Table 8. Linear regression results for the 3 examined models

Variable	Expected Sign	Equation 1	Equation 2	Equation 3
		Accounting Quality = Total Accruals/ Coefficient, (t-stat)	Accounting Quality = Total Skewness of Cash flows/ Coefficient, (t-stat)	Accounting Quality = Total Correlation of Earnings and Cash flows/ Coefficient, (t-stat)
Integrated Reporting	+	-0.00412, (-2.15)***	-0.00287, (-1.98)***	0.00234, (2.10)***
Net Income	+	3.45e-09, (5.17)***	7.30e-09, (0.74)	-2.40e-07, (-20.92)***
Operating Cash Flows	+	-8.80e-09, (-18.34)***	4.37e-08, (6.15)***	1.47e-07, (20.44)***
Total Liabilities	-	6.19e-10, (11.54)***	-1.97e-09, (-2.48)**	-2.58e-09, (-3.36)***
Size	+	0.0046392, (4.53)***	-0.1115787, (-7.35)***	0.0038516, (0.26)
Leverage	-	0.0313086, (6.18)***	-0.5323724, (-7.09)***	0.3052447, (4.13)***
Profitability	+	0.640099, (56.99)***	0.3789573, (2.28)**	-3.364416, (-18.76)***
ENSCORE	+	-6.49e-06, (-0.11)	0.0005131, (0.56)	-0.0006474, (-0.75)
SOSCORE	+	0.0000495, (0.75)	-0.0000647, (-0.07)	0.0011392, (1.21)
CGSCORE	+	-0.0000103, (-0.22)	-0.0011084, (-1.58)	0.0008653, (1.33)
Constant		-0.1456823, (-6.41)***	2.392615, (7.10)***	0.4053686, (1.31)
Year - Fixed Effects	Yes	Yes	Yes	Yes
Industry - Fixed Effects	Yes	Yes	Yes	Yes
No Observations	-	4,253	4,252	3,541
F-statistic	-	125.57	10.46	47.48
R^2 (R-squared)	-	0.4955	0.0757	0.3088
Adjusted R^2	-	0.4916	0.0684	0.3023

Asterisks *, ** and *** indicate statistical significance at the 10%, 5% and 1% level, respectively.

5.Discussion and Conclusions

5.1 Interpretation of Key Findings

This dissertation supports Integrated Report (IR) quality improvements through better disclosure transparency and unified financial sustainability data practices (Eccles & Krzus, 2010). The results support earlier studies which demonstrate that IR creates more accountable organizations that deliver better value through enhanced financial control (Barth et al., 2017; García-Sánchez & Noguera-Gámez, 2017).

The study results show that organizations using Integrated Reporting release their financial statements with lower discretionary accrual levels. These results indicate enhanced earnings quality. According to Barth et al. (2017) IR reduces financial reporting discretion. The alignment between earnings and cash flow operates at a stronger level among organizations implementing IR governance methods because it demonstrates improved coordination between financial reporting data and operational business activities. Current study confirms that strong linkages between earnings and cash flows indicate better financial reporting reliability (Barth et al., 2017; García-Sánchez & Noguera-Gámez, 2017).

The introduction of International Reporting produces financial practice changes because firms become more conservative through their increased skewness in cash flow and their precedence of loss recognition before gain recognition (Basu, 1997; Watts, 2003). The methodology guards stockholders by reducing false financial information presentation (Dechow, Ge, & Schrand, 2010). IR promotes transparency which helps organizations control financial misreporting through proper governance systems (Barth et al., 2008; Fasan & Mio, 2017).

The study demonstrates that firms which use IR achieve superior ESG results based on their performance measurements for CGSCORE and SOSCORE and ENSCORE (García-Sánchez et al., 2017; Eccles et al., 2012). Organizations that embrace IR experience decreased ESG performance dispersion which encourages standardized sustainable practices and builds stakeholder trust together with increasing company value (Harris et al., 2019; Raimo et al., 2023).

The thesis establishes well-founded proof which demonstrates how IR enhances accounting quality through improved earnings reliability and strengthened earnings-to-cash relationships and increased financial statement conservatism. IR simplifies sustainability integration and functions as an agent of trust development between stakeholders. The importance of regulatory backing emerges from these findings because it allows industries to implement Integrated Reporting standards which improve financial reporting standards and sustainable corporate undertakings. The long-term consequences of IR on corporate outcomes alongside stock market reactions and global accounting standards need further examination through research to establish firm findings about its benefits.

5.2 Implications for Accounting Quality and Integrated Reporting

Integrated Reporting (IR) strengthens accounting quality through its three main features of transparent data presentation combined with financial and non-financial information alignment and diminished information imbalance. IR provides stakeholders thorough reports containing all governance social and financial details to aid in better strategic decisions (Al-Salmany, 2021). The established framework provides organizations with both future-oriented data and complete performance disclosure systems to build better organizational transparency and trustworthiness. The adoption of IR by firms creates superior audit quality because their financial statements become transparent and internal control systems improve (El Nashar, 2016). IR creates trustworthy financial reports through an integrated approach between environmental information and risk analysis and market projection modeling (Orlov & Zakharov, 2023).

Research evidence proves that companies adopting Investor Relations show better financial quality and greater transparency within their corporate structures. According to Obeng Ahmed and Miglani (2020) voluntary adoption of International Reporting standards produces better earnings quality especially within firms that present high agency costs. The research by Pavlopoulos, Magnis and Iatridis (2019) demonstrates that IR strengthens financial disclosure value through its ability to deliver valid performance data to investors. The implementation of IR leads to simultaneous effects on earnings quality together with financial outcomes and market valuations. Zennaro et al. (2024) proved that organizations presenting excellent integrated reports demonstrate superior market value in addition to achieving enhanced business performance and

reduced managerial risk behaviors. The reduction of information disparities through IR delivers stakeholders a better understanding of firm value.

The adoption of Integrated Reporting leads companies to recognize losses directly and postpone reporting of profit gains because of its influence on accounting conservatism. The conservative approach provides clear financial information which protects users of financial statements (Watts 2003, Muhi and Benaissa 2023). The implementation of IR helps enhance both reliability and economic accuracy of financial reports because it drives accounting professionals to operate conservatively.

Research in accounting develops new implications which transform the accounting profession. The education system at both professional institutions and universities requires major curriculum changes to adopt International Reporting standards according to Owen (2013). To develop superior integrated reports accountants must learn sustainability reporting techniques together with risk assessment skills and strategic management expertise (Elizabeth, Trisnawati, & Indrajati, 2021). Accountants need these essential changes to satisfy the continuous demands of the accounting profession.

IR delivers substantial improvements to accounting quality alongside better financial reporting clarity as well as corporate transparency enhancement. Its adoption fosters better accountability, stakeholder trust, and long-term value creation. Organizations need institutional changes in their training and education systems to develop strategic financial reporting capabilities among their accountants for creating transparent and comprehensive reports.

5.3 Comparison with Existing Literature

The dissertation examines how Integrated Reporting (IR) affects accounting quality specifically for Eurozone firms in situations where financial reporting transparency exists under regulatory conditions. Multiple research studies have shown the benefits of Integrated Reporting yet there are insufficient studies which specifically address its advantages in the Eurozone regulatory framework. Through this thesis we present both proven knowledge and new perspectives concerning how IR supports increased financial transparency and responsibility.

The thesis confirms that organizations achieve better accounting quality when implementing IR because it results in decreased discretionary accruals and stronger earnings-cash flow relationships and increased conservative practices. Studied literature including Barth et al. (2017) supports the thesis findings that good quality integrated reports enhance market efficiency and make financial disclosure better understood by investors. The integration of financial and non-financial information within IR fosters better investor transparency, supporting superior decision-making processes (Eccles & Krzus, 2010). Businesses that choose IR implementation usually create better governance arrangements combined with sustainable operational frameworks which enhances their transparency efficiency and accountability measures.

The study adopts accepted methods to assess earnings quality through accrual analysis and measures conservatism levels using proxies while applying correlation evaluations (Dechow, Ge, & Schrand, 2010). The thesis enhances its result robustness through fixed-effects analysis and incorporates ESG scores as control variables which establish that IR implementation enhances financial transparency. The study confirms García-Sánchez and Noguera-Gámez (2017) who established IR serves to increase organizational transparency.

We use financial reporting conservatism and earnings persistence measures as unique accounting quality proxies to investigate IR effects in detail. The studied firms which implement IR demonstrate higher financial conservatism according to Watts' (2003) model which verifies investor protection mechanisms and financial statement misstatement prevention. This dissertation adds context to the relationship between Eurozone regulatory elements and governance approaches along with financial reporting quality through its analysis of IR implementation.

The thesis outcomes identify issues in IR implementation which include reporting disparities and freedom allowed to managers according to Krasodomska (2014). The study confirms the International Integrated Reporting Council's (IIRC, 2013) position that Integrated Reporting creates useful information which combines monetary and non-financial reporting elements.

This dissertation advances global considerations about implementing IR as a standard financial reporting framework by demonstrating its practical benefits within Eurozone organizations and solving their implementation challenges.

5.4 Limitations of the Study

The execution challenges of the study created its main limitations. The study restricts the use of its results to organizations only within the Eurozone region because it examines only Eurozone firms. The regulatory framework that Eurozone firms follow establishes combined standard accounting and integrated reporting requirements which create barriers for global market generalization (Garcia Lara et al, 2016). The dissertation leaves out banking and insurance and real estate businesses since each has its functioning regulations. The exception of major economic sectors through this approach reduces the assessment space for IR effect on accounting quality.

The study signifies the existence of data accuracy and bias issues which stem from using publicly available data through Refinitiv Eikon. The thesis method may introduce selection biases because it removes reporting-deficient companies and the binary CGVSDP018 parameter reduces firms' IR practices to a single variable. This combination of a single database and quantitative analysis stops researchers from studying important qualitative components that involve understanding management motives and stakeholder perspectives.

Fixed effects based on year and industry fail to eliminate all company-related and economic environmental factors which can trigger omitted variable bias. The study analyzes the period from 2005 to 2023 without assessing extended IR adoption effects afterward. Additional research should resolve these constraints through the utilization of extensive data ranges coupled with qualitative analytical methods to enhance the findings and progress in IR investigations.

5.5 Recommendations for Future Research

The study findings along with its restrictions outline new research directions for Integrated Reporting (IR) as well as accounting quality development. An expanded geographical research scope extending past the Eurozone would help understand IR effectiveness as it operates within various regulatory environments. The comparison of developed nations to developing nations will show how market dynamics along with

regulatory environments shape the IR implementation process and ultimate performance results thus enabling universal research findings.

Additional studies must collect qualitative data to enhance quantitative research findings. Research about IR adoption through case study and interview analyses of managerial intentions and stakeholder opinions along with implementation hurdles will improve understanding of IR operational dynamics. The research of effective Implementing Requirements (IR) approaches will help organizations identify proven practices for their IR implementation.

Specific field research enables additional progress in the field. The banking insurance and real estate sectors presented valuable perspectives concerning IR implementation yet their exclusion was necessary because of distinct regulatory conditions within these sectors. A closer look at real estate along with insurance and banking sectors would offer substantial understanding regarding broad ranging IR adoption.

Research that follows subjects over time gives essential information about how IR implementation actually impacts financial performance at later stages. The findings presented in this work extend until 2023 but the complete benefits of IR may reveal themselves gradually. Long-term observations of firms would reveal if integrated reporting (IR) fosters persistent advancements between financial reporting quality, stakeholder trust and corporate conservatism.

Further investigation needs to develop new assessment tools for accounting quality measurement. Total accruals measurements alongside cash flow skewness and earnings-cash flow correlations need additional perspectives which can be derived from earnings persistence and accrual quality alongside discretionary accrual analysis. Modern econometric analysis combined with machine learning technology helps achieve better results in analyzing sophisticated datasets.

Further research must investigate both the relationship between Internal Reporting and ESG performance because sustainability reporting continues to grow in significance. The exploration of the relationship between ESG factors and IR adoption would create a link between sustainability and accounting conservatism while increasing international corporate governance transparency. The initiatives we implement will

develop insights about IR practices which will direct worldwide reporting framework development.

List of References

Adams, C. A. (2015). The International Integrated Reporting Council: A call to action. *Critical Perspectives on Accounting*, 27, 23-28.

Ahmed, A. S., Billings, B. K., Morton, R. M., & Stanford-Harris, M. (2002). The role of accounting conservatism in mitigating bondholder-shareholder conflicts over dividend policy and in reducing debt costs. *The Accounting Review, 77*(4), 867-890.

Al-Salmany, M. (2021). THE EFFECT OF INTEGRATED REPORTING IN ENHANCING THE QUALITY OF ACCOUNTING INFORMATION (A SURVEY OF THE OPINIONS OF A SAMPLE OF IRAQI ACADEMICS AND PROFESSIONALS). , 03, 110-124. https://doi.org/10.47832/2717-8293.2-3.9.

Alshdaifat, S. M., Abdul Hamid, M. A., Saidin, S. F., Ab Aziz, N. H., & Al Qadi, F. (2024). Strengths and Weaknesses of Integrated Reporting: A Comprehensive Literature Review. *ResearchGate*. Retrieved from https://www.researchgate.net/publication/381587151_Strengths_and_Weaknesses_of_Integrated_Reporting_A_Comprehensive_Literature_Review

Atkins, J., & Maroun, W. (2015). Integrated Reporting in South Africa: Initial evidence. *Sustainability Accounting, Management and Policy Journal, 6*(3), 398-424.

Ball, R. (2006). International Financial Reporting Standards (IFRS): Pros and cons for investors. *Accounting and Business Research*, 36(sup1), 5-27. https://doi.org/10.1080/00014788.2006.9730040

Barth, M. E., Cahan, S. F., Chen, L., & Venter, E. R. (2017). The economic consequences associated with integrated report quality: Capital market and real effects. *Accounting, Organizations and Society*, 62, 43-64.

Barth, M. E., Landsman, W. R., & Lang, M. H. (2008). International accounting standards and accounting quality. *Journal of Accounting Research, 46*(3), 467–498. https://doi.org/10.1111/j.1475-679X.2008.00287.x

Basu, S. (1997). The conservatism principle and the asymmetric timeliness of earnings. *Journal of Accounting and Economics*, 24(1), 3-37.

Bratu, A. (2017). Empirical study regarding the integrated reporting practices in Europe. *Audit Financiar*, 15(4), 613-627.

Conceptual Framework for Financial Reporting. (2018). IR Foundation.

de Villiers, C., & Sharma, U. (2017). A critical reflection on the future of integrated reporting. *Critical Perspectives on Accounting, 48*, 1-7.

de Villiers, C., Rinaldi, L., & Unerman, J. (2014). Integrated Reporting: Insights, gaps, and an agenda for future research. *Accounting, Auditing & Accountability Journal, 30*(2), 373-399.

Dechow, P. M., Ge, W., & Schrand, C. (2010). Understanding earnings quality: A review of the proxies, their determinants, and their consequences. *Journal of Accounting and Economics*, 50(2-3), 344-401. https://doi.org/10.1016/j.jacceco.2010.09.001

Deloitte. (2012). Integrated Reporting in South Africa: Progress and challenges.

Dey, C., & Burns, J. (2010). Integrated Reporting at Crossroads: Will it become a mandatory requirement? *Accounting and Business Research, 40*(3), 237-247.

Drukker, D. M. (2003). Testing for serial correlation in linear panel-data models. *Stata Journal, 3*(2), 168–177. https://doi.org/10.1177/1536867X0300300206

Dumay, J., Bernardi, C., Guthrie, J., & Demartini, P. (2016). Integrated reporting: A structured literature review. *Accounting Forum*, 40(3), 166-185.

Eccles, R. G., & Krzus, M. P. (2010). *One Report: Integrated Reporting for a Sustainable Strategy*. Wiley.

Elkington, J. (1997). *Cannibals with Forks: The Triple Bottom Line of 21st Century Business*. Capstone.

European Commission. (2022). The Corporate Sustainability Reporting Directive (CSRD).

Fasan, M., & Mio, C. (2017). Fostering stakeholder engagement: The role of materiality disclosure in integrated reporting. *Business Strategy and the Environment, 26*(3), 300-314.

Financial Reporting Council (FRC). (2017). The UK Strategic Reporting Mandate.

Garcia Lara, J. M., Osma, B. G., & Penalva, F. (2007). Board independence and accounting conservatism: Evidence from Spanish firms. *Corporate Governance: An International Review*, 15(6), 1387-1409. https://doi.org/10.1111/j.1467-8683.2007.00653.x

Garcia Lara, J. M., Osma, B. G., & Penalva, F. (2016). Accounting conservatism and firm investment efficiency. *Journal of Accounting and Economics*, 61(1), 221-238. https://doi.org/10.1016/j.jacceco.2015.05.004

García-Sánchez, I. M., & Noguera-Gámez, L. (2017). Integrated reporting and institutional investors: Do not say more, just say it better. *Sustainability Accounting, Management and Policy Journal*, *8*(2), 211-237.

Global Reporting Initiative (GRI). (2011). *Sustainability Reporting Guidelines*.

Harris, P., Mainelli, M., & O'Callaghan, J. (2019). The future of integrated reporting: Implications for practice, policy, and research. *Journal of Business Ethics, 160*(2), 225-239.

Harvard Business Review. (n.d.). The Triple Bottom Line: What it is and why it matters.

Hopwood, A. G., Unerman, J., & Fries, J. (2010). *Accounting for Sustainability: Practical insights*. Earthscan.

Howitt, R. (2016). Integrated reporting: A force for financial stability and sustainability. *Journal of Business Ethics, 140*(4), 619-626.

IIRC. (2021). *Revised <IR> Framework*.

International Integrated Reporting Council (IIRC). (2013). *The International <IR> Framework*. Retrieved from https://integratedreporting.org/resource/international-ir-framework/

Joshi, P., Sallehhuddin, A., Munusamy, P., & Deshmukh, A. (2019). Benefits and Adoption of Integrated Reporting: Perceptions of the Malaysian Corporate Accountants. *Int. J. Knowl. Based Organ.*, 9, 50-64. https://doi.org/10.4018/ijkbo.2019100104.

Kaplan, R. S., & Norton, D. P. (1992). The Balanced Scorecard: Translating strategy into action. Harvard Business School Press.

Katsikas, E., Rossi, F., & Orelli, R. (2017). Principles, Concepts and Elements of Integrated Reporting. , 65-94. https://doi.org/10.1007/978-3-319-47235-5_3.

Kılıç, M., & Kuzey, C. (2022). A closer look at integrated reporting quality: A systematic review and synthesis of the literature. *Meditari Accountancy Research*, 30(6), 1789-1812.

Krasodomska, J. (2014). Integrated Reporting and the Directions of Its Development. *Olsztyn Economic Journal*, 9, 109-118. https://doi.org/10.31648/OEJ.3168.

Laux, B. (2018). The SEC and ESG disclosure: Regulatory challenges in the U.S. *Business Horizons, 61*(4), 577-588.

Majmudar, U., & Rana, R. (2017). Integrated reporting in India: The role of SEBI and corporate governance. *Indian Journal of Corporate Law*, 12(2), 153-172.

Milne, M. J., & Gray, R. (2013). W(h)ither Ecology? The Triple Bottom Line, the Global Reporting Initiative, and corporate sustainability reporting. *Journal of Business Ethics, 118*(1), 13-29.

Mohammed, N. F., Islam, M. S., Lokman, N., Abdul Halim, N. H., & Yusof, F. (2023). Benefits and Obstacles of Integrated Reporting in the Public Sector. In *Building a Sustainable Future: Fostering Synergy Between Technology, Business and Humanity* (pp. 411-418). European Proceedings of Social and Behavioural Sciences. Retrieved from https://www.europeanproceedings.com/article/10.15405/epsbs.2023.11.34

Muhi, M., & Benaissa, M. (2023). The Impact of Integrated Reporting on Improving the Quality of Financial Reporting. *International Journal of Professional Business Review*. https://doi.org/10.26668/businessreview/2023.v8i5.1737.

Nada, E., & Győri, Z. (2023). Measuring the integrated reporting quality in Europe. *Journal of Financial Reporting and Accounting*. Advance online publication. https://doi.org/10.1108/JFRA-03-2023-0134

Nashar, T. (2016). The Probable Effect of Integrated Reporting on Audit Quality. *Capital Markets: Market Efficiency eJournal*. https://doi.org/10.2139/ssrn.2983598.

Obeng, V., Ahmed, K., & Miglani, S. (2020). Integrated reporting and earnings quality: The moderating effect of agency costs. *Pacific-Basin Finance Journal*. https://doi.org/10.1016/j.pacfin.2020.101285.

Oll, J., & Rommerskirchen, S. (2018). What's wrong with integrated reporting? A systematic review. *NachhaltigkeitsManagementForum | Sustainability Management Forum*, *26*(1–4), 19–34. https://doi.org/10.1007/s00550-018-0475-x

Orlov, I., & Zakharov, D. (2023). Study of the accuracy problem of the integrated reporting assurance. *Problems of Theory and Methodology of Accounting, Control and Analysis*. https://doi.org/10.26642/pbo-2023-1(54)-46-51.

Owen, G. (2013). Integrated Reporting: A Review of Developments and their Implications for the Accounting Curriculum. *Accounting Education*, 22, 340 - 356. https://doi.org/10.1080/09639284.2013.817798.

Pavlopoulos, A., Magnis, C., & Iatridis, G. (2019). Integrated reporting: An accounting disclosure tool for high quality financial reporting. *Research in International Business and Finance*. https://doi.org/10.1016/J.RIBAF.2019.02.007.

Raimo, N., Vitolla, F., Marrone, A., & Rubino, M. (2023). The effects of integrated reporting quality: A meta-analytic review. *Meditari Accountancy Research*, 31(1), 1-26.

Refinitiv. (2023). *Eikon Data Platform.* Retrieved from https://www.refinitiv.com

Refinitiv. (2023). *Refinitiv Eikon Database*. Retrieved from https://www.refinitiv.com

Saunders, M., Lewis, P., & Thornhill, A. (2019). *Research methods for business students* (8th ed.). Pearson.

Serafeim, G. (2015). Integrated reporting and investor clientele. *Journal of Applied Corporate Finance*, *27*(2), 34-51.

Serpeninova, Y. (2022). Historical genesis of integrated reporting. *Herald of Economics, 1*, 130–142. https://doi.org/10.35774/visnyk2022.01.130

Simnett, R., Vanstraelen, A., & Chua, W. F. (2015). Assurance on sustainability reports: An international comparison. *The Accounting Review*, *90*(3), 1067-1099.

Songini, L., Pistoni, A., Comerio, N., & Tettamanzi, P. (2023). A decade of integrated reporting studies: state of the art and future research implications. *Accounting Auditing & Accountability Journal*, *36*(9), 226–252. https://doi.org/10.1108/aaaj-10-2021-5490

Shevchuk, N. (2019). Prerequisites for integrated reporting development. *Herald of Economics*, *4(94)*, 116–126. https://doi.org/10.35774/visnyk2019.04.116

Trisnawati, E., Sugiarto, D. E., & Indrajati, M. F. D. (2021). The effect of accounting irregularities toward tax aggressiveness before and after the tax amnesty. *Advances in Economics, Business and Management Research/Advances in Economics, Business and Management Research*. https://doi.org/10.2991/aebmr.k.210507.005

Wang, X., Lin, K., & Cai, Y. (2020). The rise of integrated reporting in Japan: Policy developments and corporate adoption. *Asia-Pacific Journal of Accounting & Economics*, *27*(2), 134-156.

Watts, R. L. (2003). Conservatism in accounting part I: Explanations and implications. *Accounting Horizons*, *17*(3), 207-221.

White, H. (1980). A heteroskedasticity-consistent covariance matrix estimator and a direct test for heteroskedasticity. *Econometrica: Journal of the Econometric Society*, 48(4), 817-838.

Zennaro, G., Corazza, G., & Zanin, F. (2024). The effects of integrated reporting quality: a meta-analytic review. *Meditari Accountancy Research*. https://doi.org/10.1108/medar-09-2023-2175.

Zhou, S., Simnett, R., & Green, W. (2017). Does integrated reporting matter to the capital market? *Abacus*, 53(1), 94-132.

Zyznarska-Dworczak, B. (2018). The Reliability of Integrated Reporting. , 503, 494-502. https://doi.org/10.15611/PN.2018.503.44.

APPENDIX. PANEL DATA TABLES

Table 9. Country Distribution of sample's firms

Country	Number of Firms	Percentage of Sample
Germany	166	34.73%
France	118	24.69%
Italy	31	6.49%
Netherlands	28	5.86%
Finland	25	5.23%
Spain	21	4.39%
Belgium	19	3.97%
Austria	18	3.77%
Ireland	17	3.56%
Portugal	12	2.51%
Greece	11	2.30%
Luxembourg	11	2.30%
Malta	1	0.21%
TOTAL	**478**	**100.00%**

Table 10. Sample distribution in 48 industry classifications (Fama and French, 1997)

Industry Type	Number of Firms	Percentage of Sample
Business Services	55	11.51%
Machinery	42	8.79%
Communication	35	7.32%
Electronic Equipment	25	5.23%
Retail	21	4.39%
Automobiles and Trucks	19	3.97%
Utilities	19	3.97%
Chemicals	19	3.97%
Pharmaceutical Products	18	3.77%
Petroleum and Natural Gas	17	3.56%
Wholesale	15	3.14%
Construction	14	2.93%
Transportation	12	2.51%
Construction Materials	11	2.30%
Consumer Goods	11	2.30%
Steel Works	9	1.88%
Computers	9	1.88%
Apparel	8	1.67%
Medical Equipment	8	1.67%
Rubber and Plastic Products	7	1.46%
Restaurants, Hotels, Motels	5	1.05%
Food Products	4	0.84%
Electrical Equipment	4	0.84%
Non-Metallic and Industrial Metal Mining	4	0.84%
Agriculture	4	0.84%
Entertainment	4	0.84%
Aircrafts	4	0.84%
Business Supplies	4	0.84%
Beer & Liquor	4	0.84%
Personal Services	3	0.63%
Shipping Containers	3	0.63%
Almost nothing	2	0.42%
Candy & Soda	2	0.42%
Recreation	2	0.42%
Printing and Publishing	2	0.42%

Healthcare	2	0.42%
Textiles	1	0.21%
Measuring and Control Equipment	50	10.46%
TOTAL	**478**	100.00%