

Integrated reporting quality and the value relevance of environmental, social and governance information

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Abstract

This study examines the value relevance of integrated reporting quality (IRQ) for financial performance among listed non-financial firms in Nigeria. IRQ is a composite index combining environmental and social sustainability disclosure (ESGD), corporate social responsibility disclosure (CSR), and corporate governance disclosure (CGD), normalised to 0-1 and averaged into one score. Using 31 firms on the Nigerian Exchange Group, 2015-2024 (310 firm-year observations, stratified from 46 firms), the study estimates IRQ's effect on earnings per share (EPS), controlling for market capitalisation, firm size, profitability, leverage and growth. EPS, IRQ and market capitalisation are non-stationary in levels but stationary after differencing; the model is estimated on differenced data using Stata-verified panel-corrected standard errors. IRQ shows no significant association with EPS across six specifications ($\beta=1.849$, $p=0.822$ contemporaneously; $\beta=-1.544$, $p=0.841$ with year fixed effects; $\beta=-0.378$, $p=0.933$ lagged; $\beta=1.350$, $p=0.858$ with full controls; $\beta=-0.935$, $p=0.916$ fully combined), nor does market capitalisation in any specification ($R^2=0.023-0.078$). Year effects are significant in 2019, 2022 and 2024, and profitability is significantly positive under PCSE in the full-control ($p=0.011$) and combined models ($p=0.026$), though not under cluster-robust errors ($p=0.388$). A Ramsey RESET test on the combined model suggests functional-form misspecification ($F=28.76$, $p<0.0001$), and firm size's differenced series shows an anomalous unit-root result, both reported as limitations. Endogeneity correction is partial: fixed effects and a predetermined regressor address self-selection and reverse causality, but no instrumental-variable or Heckman correction is implemented. The study offers a reproducible IRQ-construction method and cautions against over-interpreting null coefficients.

Keywords: Integrated Reporting Quality, Composite Disclosure Index, Value Relevance, Earnings Per Share, Nigeria.

1. Introduction

In recent years, the demand for transparent, comprehensive, and decision-useful corporate reporting has increased among investors, regulators, and other stakeholders. Integrated reporting has emerged as a framework that combines financial information with non-financial disclosures, particularly in the areas of environmental, social, and governance (ESG) performance, to provide a holistic view of organisational value creation. Barth

et al. (2023) argue that the evolution of value relevance research underscores the importance of extending traditional accounting information to include sustainability and governance elements in order to capture firm value more effectively. Related evidence from Nigeria further shows that firm characteristics, performance, and capital structure dynamics shape financial outcomes and

reporting incentives (Moses, 2021; Sinebe, 2023).

Sustainability disclosures have been widely examined in both developed and emerging economies, with growing evidence of their association with firm performance (Aliyu et al., 2025; Awotomilusi et al., 2025). These disclosures often highlight corporate responsibility towards environmental stewardship, social engagement, and ethical governance practices, aligning with stakeholder expectations (Freeman, 1984). Empirical studies from Nigeria also indicate that corporate performance significantly influences sustainability reporting practices, particularly among non-financial firms (Bereprebofa & Sinebe, 2022). Moreover, integrated reporting is considered a mechanism for addressing information asymmetry in capital markets by enhancing the quality of disclosures (Erin & Adegboye, 2022; El-Deeb & Mohamed, 2024).

A growing body of recent work treats integrated reporting quality (IRQ) as a single, composite construct rather than as separate disclosure streams. Zennaro et al. (2024), in a meta-analytic review, synthesise the effects of IRQ across capital-market outcomes and find the evidence base itself divided: some studies report significant capital-market benefits from higher-quality integrated reporting, while others, including Barth, Cahan, Chen and Venter's (2017) study of firms on the Johannesburg Stock Exchange, find no significant relationship. This inconsistency is echoed in more recent single-country studies: Bellucci et al. (2024), examining South African firms, link integrated reporting quality to reduced negative ESG media coverage but caution that the relationship is sensitive to model specification and endogeneity correction; Iqbal, Rouf Sarkar, Alharthi, Ebn Jalal and Rahman (2025), studying Australian and New Zealand firms, find a significant negative relationship between IRQ and the

cost of equity capital, but only once corporate governance quality is modelled as a moderator; and Ayem, Kusuma and Arifin (2024), studying firms reporting between 2013 and 2022, find that IRQ's effect on firm value and forecast accuracy is itself negative once profitability is allowed to moderate the relationship. Taken together, this recent literature does not converge on a single expected sign or magnitude for the IRQ–performance relationship, it converges only on the finding that the relationship is highly sensitive to context, construct measurement, and model specification, which is itself the gap this study addresses for the Nigerian non-financial sector.

Empirical studies show that environmental and social responsibility reporting can improve transparency, thereby influencing financial performance indicators such as earnings per share (EPS) (Akinleye & Orimogunje, 2024; Olaitan & Azeez, 2025). Corporate governance disclosures also play a critical role in ensuring accountability and sustainable decision-making (Ludwig & Sassen, 2022; Boakye et al., 2025). Integrating these dimensions into a single report offers investors a comprehensive perspective on firm performance and long-term value creation (Omran et al., 2021; Hristov & Searcy, 2025).

Despite the growing adoption of integrated reporting across global capital markets, its value relevance in developing countries such as Nigeria remains underexplored, and the regulatory environment in which Nigerian firms now operate has shifted materially since most of the studies cited above were conducted. The International Sustainability Standards Board (ISSB) issued its inaugural sustainability disclosure standards, IFRS S1 (general requirements) and IFRS S2 (climate-related disclosures), in June 2023, effective for reporting periods beginning on or after 1 January 2024 (IFRS Foundation, 2023). Nigeria's Financial Reporting Council has since embedded IFRS S1 and S2 into the domestic

regulatory framework, placing the country among the earlier African adopters of the ISSB baseline alongside Ghana, Kenya, Tanzania and Zambia (Grant Thornton, 2025). This tightening of the disclosure environment strengthens, rather than weakens, the case for re-examining whether disclosure quality is priced by the market: if IRQ is to become value relevant in the way regulators intend, the period immediately preceding mandatory ISSB-aligned reporting is a natural baseline against which to measure it. This study seeks to fill that gap by examining the effect of integrated reporting quality, operationalised as a composite index combining ESG sustainability disclosure, corporate social responsibility disclosure, and corporate governance disclosure, on earnings per share of listed firms, with market capitalisation serving as a control variable.

1.2 Statement of the Problem

The growing emphasis on sustainability, accountability, and transparency has elevated the role of integrated reporting in corporate disclosure practices. Integrated reporting is designed to enhance decision-making by combining financial data with non-financial information, including environmental, social, and governance (ESG) disclosures. Despite its theoretical potential to improve capital market efficiency, evidence on its value relevance remains inconclusive. In advanced economies, empirical findings suggest that sustainability and governance disclosures improve financial performance and shareholder value (Omran et al., 2021; Barth et al., 2023), while other recent work in comparable institutional settings finds no such relationship, or one contingent on a moderating governance variable (Iqbal et al., 2025; Ayem et al., 2024). In emerging economies such as Nigeria, findings remain similarly inconsistent, with some studies reporting positive relationships (Taiwo et al., 2022; Aliyu et al., 2025) and others indicating insignificant or even negative

effects (Nnedu, 2025; Awotomilusi et al., 2025).

Earnings per share (EPS) is one of the most critical measures of financial performance and market value, often used by investors to assess profitability and growth potential. While integrated reporting quality should logically enhance EPS through improved transparency and accountability, there is limited empirical research that explicitly tests this relationship using a single, unified IRQ construct rather than its disaggregated components. Existing studies on environmental, social, and governance disclosures in Nigeria have often focused on either firm value (Onoh et al., 2022; Olaitan et al., 2025) or financial reporting quality and transparency (Oyewobi, 2024; Falana et al., 2025), with little emphasis on their joint role, combined into a single IRQ measure, in explaining EPS. This creates a significant gap in the literature, particularly as integrated reporting becomes increasingly mandated or encouraged by regulators under the ISSB's IFRS S1/S2 baseline.

Moreover, firms in Nigeria and other African economies continue to face challenges of information asymmetry, weak governance structures, and limited enforcement of disclosure regulations (Erin et al., 2022; Madaki & Mohammed, 2024). These factors may undermine the potential value relevance of integrated reporting, leaving investors uncertain about the reliability and usefulness of reported information. Consequently, there is a pressing need to examine whether integrated reporting quality, measured as a single composite construct, meaningfully influences EPS within the Nigerian context. The study aims to achieve this guided by the following objective.

1.3 Objective of the Study

The primary objective of this study is to examine the effect of integrated reporting quality (IRQ), a composite index combining ESG sustainability disclosure, corporate social responsibility disclosure, and

corporate governance disclosure, on the earnings per share (EPS) of listed non-financial firms in Nigeria, controlling for market capitalisation. The disaggregated relationships between each of the three underlying disclosure dimensions and EPS are reported as supplementary, diagnostic results (Table 6, Section 4.6), consistent with the study's original data collection, but the composite IRQ construct is the primary construct through which the study's hypothesis is tested, for the reasons set out in Section 3.1.

2. Literature Review

2.1 Concept of Integrated Reporting and Its Evolution

Integrated reporting is a corporate reporting framework that seeks to combine financial and non-financial information in a single, coherent document to provide a comprehensive account of how organisations create value over time. Unlike traditional financial reporting, which primarily emphasises historical financial performance, integrated reporting highlights a broader range of factors, including environmental, social, and governance (ESG) dimensions, strategy, and resource allocation. The International Integrated Reporting Council (IIRC) has been instrumental in promoting this framework, defining it as a process founded on integrated thinking that communicates an organisation's strategy, governance, performance, and prospects in the context of its external environment (Omran et al., 2021).

The evolution of integrated reporting reflects the growing recognition that financial information alone is insufficient for stakeholders to evaluate corporate sustainability and long-term viability. Early corporate reporting practices were limited to financial statements aimed at shareholders. Over time, the rise of corporate social responsibility (CSR) and sustainability reporting in the 1980s and

1990s expanded the scope of disclosures to include non-financial aspects (Karwowski & Raulinajtys-Grzybek, 2021; Lombardi & Secundo, 2021). However, these reports were often fragmented, lacking integration with financial outcomes.

2.2 Value Relevance Theory and Its Application in Accounting Research

Value relevance theory explains the extent to which accounting information is useful in equity valuation and investment decisions. It is grounded in the idea that financial statements should provide information capable of influencing the market value of firms by reducing information asymmetry between managers and investors. Barth et al. (2023) argue that the evolution of accounting information reflects increasing demand for relevance, moving beyond traditional measures such as earnings and book value to include non-financial disclosures. In accounting research, value relevance has been applied to test whether specific disclosures are associated with stock prices, returns, or earnings per share, and more recent research incorporates ESG factors into valuation models directly (Serafeim & Yoon, 2023). Thus, value relevance theory provides a robust framework for assessing integrated reporting, as it links the usefulness of combined financial and non-financial disclosures with firm value and performance outcomes such as earnings per share.

2.3 Concept of Financial Information Disclosure and Firm Performance

Financial information disclosure refers to the communication of an organisation's financial position, performance, and prospects through publicly available reports. Traditionally, such disclosures include statements of profit or loss, balance sheets, cash flow statements, and explanatory notes that provide insights into earnings, liquidity, solvency, and overall financial health. These disclosures are essential for decision-making by investors,

creditors, regulators, and other stakeholders, as they reduce information asymmetry and enhance the efficiency of capital markets (Cormier et al., 2022).

Firm performance is often assessed using financial ratios and indicators such as return on assets (ROA), return on equity (ROE), and earnings per share (EPS). Studies have consistently shown that transparent and reliable financial reporting improves firm performance by enhancing investor confidence and reducing the cost of capital (Falana et al., 2025; Sinebe, 2022). Integrated reporting strengthens this relationship by linking financial outcomes to environmental, social, and governance considerations, providing a more holistic measure of firm value (Barth et al., 2023).

2.4 Concept of Environmental and Social Sustainability Disclosures

Environmental and social sustainability disclosures represent the communication of a firm's activities, policies, and outcomes related to its environmental stewardship and social responsibility. Environmental disclosures typically cover issues such as energy use, carbon emissions, waste management, and biodiversity protection, while social disclosures focus on employee welfare, community development, diversity, and human rights. Together, these disclosures serve as indicators of a company's commitment to sustainable development and long-term stakeholder value creation (Aliyu et al., 2025; Awotomilusi et al., 2025). Caputo et al. (2021) argue that environmental and social reporting improves transparency and helps firms align with global sustainability frameworks, such as the Sustainable Development Goals (SDGs).

2.5 Concept of Corporate Governance Disclosure Practices

Corporate governance disclosure refers to the communication of structures, processes, and practices through which companies are directed and controlled. These disclosures typically include information on board

composition, independence, gender diversity, audit committee activities, risk management systems, executive compensation, and shareholder rights. Effective governance disclosure enhances transparency and ensures that management decisions align with the interests of shareholders and other stakeholders (Ludwig & Sassen, 2022; Osemene et al., 2024).

Governance reporting has become increasingly important due to corporate scandals and the growing demand for accountability in business practices. Boakye et al. (2025) argue that corporate governance mechanisms, when disclosed effectively, mitigate agency conflicts and earnings management, thereby improving financial reporting quality. Within integrated reporting, governance disclosures provide the foundation for explaining how sustainability initiatives are embedded into strategic decisions, thereby reinforcing long-term value creation.

2.6 Integrated Reporting Quality as a Composite Construct and Capital Market Outcomes

Integrated reporting quality refers to the extent to which corporate reports provide comprehensive, consistent, and decision-useful information that combines financial and non-financial dimensions. High-quality integrated reports are characterised by clarity, materiality, reliability, and connectivity of information across financial, environmental, social, and governance areas (Erin et al., 2022). Such reports help firms demonstrate how their resources and strategies contribute to sustainable value creation over time.

Critically, the mechanism by which IRQ is theorised to affect EPS runs through information asymmetry reduction, not through a direct accounting effect. Higher-quality integrated disclosure is theorised to lower investors' estimation risk about a firm's future cash flows (Cormier et al., 2022), which in turn should lower the firm's

cost of capital and, over a sufficiently long horizon, support higher reported and market-anticipated earnings. This is an indirect, capital-market-mediated channel, not a mechanical link between disclosure and current-period accounting earnings; the theoretical expectation of an EPS effect within a single fiscal year is therefore weaker than the expectation of an effect on market-based measures such as share price or cost of equity, a distinction that becomes important for interpreting this study's results in Section 4.7.

The empirical record on whether this channel is strong enough to show up in practice is genuinely mixed rather than one-directional. Studies finding a significant capital-market benefit from IRQ include Iqbal et al. (2025), who report a significant negative IRQ–cost-of-equity relationship in Australian and New Zealand firms once corporate governance quality is included as a moderator, and Bellucci et al. (2024), who find that higher IRQ is associated with reduced negative ESG media coverage in South African firms. Against this, Barth et al. (2017), studying Johannesburg Stock Exchange firms, an African market with a comparably long history of integrated reporting mandate, find no significant relationship between IRQ and capital market outcomes, and Zennaro et al.'s (2024) meta-analytic review concludes that the direction and significance of IRQ's effects vary substantially by outcome variable, institutional setting, and how IRQ itself is measured. This divergence in findings, even within comparable African and Australasian institutional contexts, is itself the empirical gap this study addresses for the Nigerian non-financial sector using EPS specifically as the value-relevance proxy.

2.7 Theoretical Framework

This study is underpinned by stakeholder theory and relevance theory, both of which provide a strong rationale for examining the value relevance of integrated reporting.

Stakeholder theory, advanced by Freeman (1984), posits that firms are accountable not only to shareholders but also to a wide range of stakeholders, including employees, customers, regulators, and society. From this perspective, the disclosure of environmental, social, and governance (ESG) information demonstrates responsiveness to stakeholder expectations, thereby enhancing trust, legitimacy, and long-term value creation (Broccardo et al., 2025; Hristov & Searcy, 2025).

Relevance theory (Wilson & Sperber, 2004) emphasises that communication is effective when information is meaningful and decision-useful to its audience. Applied to corporate reporting, the theory suggests that financial and non-financial disclosures must provide relevant insights that reduce information asymmetry and support economic decision-making (Cormier et al., 2022). By integrating ESG, CSR, and governance disclosures with financial information into a single IRQ construct, integrated reporting enhances the relevance of reported data, making earnings per share a more reliable indicator of firm performance, to the extent the composite construct genuinely captures decision-useful information beyond what its individual components already convey, a question this study returns to empirically in Section 4.7.

2.8 Empirical Review

Olayinka and Owolabi (2021) examined the effect of corporate governance on economic sustainability reporting among quoted companies in Nigeria. Using an ex-post facto design, data from 42 firms over 10 years (2010–2019) were analysed with descriptive and inferential statistics. Results showed that board size, female directors, and board ownership significantly enhanced sustainability reporting, while CEO duality had a negative effect and independent directors were insignificant.

Lee and Suh (2022) examined the ambiguous relationship between ESG

conduct and financial performance. Despite extensive studies, the connection remained inconclusive, prompting the authors to propose an integrated modelling approach to explain causality, emphasising mediating and moderating variables and introducing “greenwashing” as a factor explaining weak returns despite strong ESG practices.

Serafeim and Yoon (2023) investigated how ESG ratings influence stock price reactions to future ESG news, finding that consensus among rating agencies enhanced the predictive power of ESG ratings, while significant disagreement among raters weakened this relationship.

Akinleye and Orimogunje (2024) examined how environmental disclosure practices affect the financial performance of manufacturing companies listed on the Nigerian Exchange Group, finding that energy conservation, emission reduction, and pollution control positively influenced profitability and market perception, while waste management showed a negative relationship.

Zennaro, Corazza and Zanin (2024), in a meta-analytic review of the IRQ literature, find that the effects of integrated reporting quality on capital-market outcomes vary substantially with how IRQ is measured and with institutional context, reinforcing the case for transparency in construct measurement.

Bellucci, Crovini, Di Fabio and Simoni (2024) examine South African firms and find that higher IRQ is associated with reduced negative ESG media coverage, with results robust to firm-fixed-effects and instrumental-variable checks for endogeneity.

Ayem, Kusuma and Arifin (2024) examine integrated reporting, ESG disclosure, forecast accuracy and firm value, finding that IRQ’s effect on forecast accuracy and firm value is negative once profitability is modelled as a moderating variable, while ESG disclosure alone has a positive effect, a finding that itself illustrates how sensitive

the IRQ–performance relationship is to whether IRQ is treated as a standalone predictor or as embedded within a moderated model.

Iqbal, Rouf Sarkar, Alharthi, Ebn Jalal and Rahman (2025) examine 174 firms in Australia and New Zealand (2018–2022) and find a significant negative relationship between IRQ disclosure and the implied cost of equity capital, strengthened when corporate governance quality is included as a moderator, using system-GMM and IV2SLS specifically to address the endogeneity of IRQ, an approach this study was unable to replicate given its smaller cross-section (Section 3.3).

2.9 Regulatory Developments: The ISSB Baseline and Its Relevance to Nigeria

The empirical literature reviewed above largely predates a material shift in the global sustainability-disclosure regime. The ISSB issued IFRS S1 (General Requirements for Disclosure of Sustainability-related Financial Information) and IFRS S2 (Climate-related Disclosures) in June 2023, effective for annual reporting periods beginning on or after 1 January 2024 (IFRS Foundation, 2023). By mid-2025, more than 30 jurisdictions had adopted, were using, or were finalising alignment with the ISSB standards. Nigeria’s Financial Reporting Council has embedded IFRS S1 and S2 into the domestic regulatory framework, placing Nigeria among the earlier African adopters alongside Ghana, Kenya, Tanzania and Zambia (Grant Thornton, 2025).

This regulatory shift is directly relevant to the present study for two reasons. First, the 2015–2024 sample period studied here predates full mandatory ISSB-aligned reporting in Nigeria, meaning the disclosure practices captured by ESGD, CSRD and CGD reflect a largely voluntary or partially-enforced regime; the null value relevance finding reported in Section 4 should be read as a baseline against which the effect of mandatory ISSB-aligned disclosure can later be assessed, rather than as a permanent

verdict on IRQ's value relevance in Nigeria. Second, the shift strengthens the case, raised in Section 3.3, for future research to exploit the staggered introduction of mandatory disclosure requirements as a quasi-natural experiment and a potential source of instrumental variation that the present, pre-mandate sample cannot provide.

2.10 Identified Gaps in the Literature

Although prior studies have examined the link between sustainability disclosure and firm performance, significant gaps remain. Much of the existing evidence is fragmented, focusing either on environmental disclosure (Akinleye & Orimogunje, 2024; Aliyu et al., 2025) or social responsibility reporting (Olaitan & Azeez, 2025), without combining these with governance disclosure into a single, transparently constructed IRQ measure. Where a composite IRQ construct is used internationally (Zennaro et al., 2024; Iqbal et al., 2025), findings remain inconsistent across institutional settings, and no Nigerian study to date has tested a composite IRQ index's direct effect on EPS specifically, as distinct from firm value or cost of capital more broadly.

Another gap concerns geographic scope. Many studies concentrate on developed economies or on South Africa, Australia and New Zealand (Barth et al., 2017; Iqbal et al., 2025), leaving Nigeria, despite its distinct regulatory trajectory toward ISSB alignment, comparatively underexplored using a composite IRQ construct.

3. Research Methodology

The study adopted an *ex-post facto* research design, relying on secondary data to examine the relationship between integrated reporting quality and firm performance. The population comprised the forty-six (46) non-financial manufacturing firms listed on the Nigerian Exchange, from which thirty-one (31) firms were selected using a stratified sampling technique. Data covering 2015–2024 were extracted from

annual reports, sustainability disclosures, and relevant financial databases. Diagnostic tests ensured robustness against multicollinearity, heteroskedasticity, and non-stationarity.

3.1 Model Specification

The model is specified as:

$$\text{IRQ}_{it} = (\text{ESGD}_{n_it} + \text{CSR}_{n_it} + \text{CGD}_{n_it}) / 3$$

$$\text{EPS}_{it} = \alpha_0 + \beta_1 \text{IRQ}_{it} + \beta_2 \text{MARC}_{it} + \varepsilon_{it} \dots \text{eq. } i$$

Where ESGD_n, CSR_n and CGD_n are the min–max normalised (0–1) versions of the Environmentally Sustainable Disclosure index, Corporate Social Responsibility Disclosure index and Corporate Governance Disclosure index respectively. Normalisation is necessary before averaging because ESGD, as originally constructed, is not bounded to [0,1] (sample range: –0.981 to 3.485), whereas CSR and CGD are bounded percentage indices (0 to 0.83); averaging the raw indices would allow ESGD to dominate the composite purely as an artefact of scale, not of substantive disclosure quality.

EPS retains its original definition (net profit after tax divided by the total number of outstanding ordinary shares). MARCAP is retained as a control, measured as the natural log of ordinary shares outstanding multiplied by year-end closing share price. *i* denotes the firm identifier (31 firms) and *t* the year (2015–2024). β_1 and β_2 are the coefficients of interest; the a priori expectation is that β_1 is greater than zero, consistent with value relevance theory's prediction that higher-quality, more comprehensive disclosure is priced positively by the market.

IRQ is specified as a direct predictor of EPS rather than as a moderator of the individual disclosure dimensions. Because IRQ is constructed as a linear combination of ESGD, CSR and CGD, an interaction model of IRQ with any of its own components would be collinear by construction and would not identify an

interpretable moderation effect; a genuine moderation test would require IRQ to be measured independently of the variables it is hypothesised to moderate (for example, from a separate IIRC-framework content-analysis instrument, as in Iqbal et al., 2025), which is not available in the current dataset. This constraint is stated explicitly here so that the modelling choice is transparent to reviewers, rather than left implicit.

Corporate governance is already embedded within the composite IRQ construct (via CGD), and industry (sector: Consumer Goods, Healthcare, Conglomerate, Agriculture) is available in the underlying dataset but is not entered as a separate regressor: because sector does not vary over time for a given firm, and the estimating equation is specified in first differences (Section 3.2), any time-invariant firm characteristic, including sector, is already differenced out of the model. Year fixed effects, which do vary over time, are added as an extension model (eq. ii, Section 4.6) to control for common macroeconomic shocks.

The full control set requested in peer review, firm size, profitability, leverage, and growth, is now included, using firm-level financial-statement data supplied by the author after the initial submission of this revision. The extended model is:

$$\Delta \text{EPS}_{it} = \alpha_0 + \beta_1 \Delta \text{IRQ}_{it} + \beta_2 \Delta \text{MARCAP}_{it} + \beta_3 \Delta \text{FSIZE}_{it} + \beta_4 \Delta \text{PROFITABILITY}_{it} + \beta_5 \Delta \text{LEV}_{it} + \beta_6 \Delta \text{FGROWTH}_{it} + \varepsilon_{it} \dots \text{eq. iii}$$

Where FSIZE is firm size (log-scale, independent of MARCAP), PROFITABILITY is a profitability ratio, LEV is a leverage ratio (total debt/liabilities to total assets, expressed as a percentage), and FGROWTH is a firm growth rate (percentage change in a size-related base, e.g. total assets or revenue). This specification is reported as Table 6e (Section 4.6).

The complete econometric model for the study, combining every element established

above, the composite IRQ construct, the full firm-level control set, and year fixed effects for common macroeconomic shocks, is:

$$\Delta \text{EPS}_{it} = \alpha_0 + \beta_1 \Delta \text{IRQ}_{it} + \beta_2 \Delta \text{MARCAP}_{it} + \beta_3 \Delta \text{FSIZE}_{it} + \beta_4 \Delta \text{PROFITABILITY}_{it} + \beta_5 \Delta \text{LEV}_{it} + \beta_6 \Delta \text{FGROWTH}_{it} + \sum_{\tau=2017}^{2024} \gamma_{\tau} \text{Year}_{\tau,it} + \varepsilon_{it} \dots \text{eq. iv}$$

Where all Δ -prefixed variables are first differences (period t minus period $t-1$) of the corresponding levels variable, taken because EPS, IRQ, MARCAP and FSIZE are non-stationary in levels (Section 4.5; FGROWTH, PROFITABILITY and LEV are also differenced for internal consistency, even though individually closer to stationary in levels); $\text{Year}_{\tau,it}$ is a set of year dummies for 2017–2024 (2016 is the omitted reference year, since 2015 has no first-differenced observation); and the model is estimated using panel-corrected standard errors (PCSE, Beck and Katz, 1995), the estimator used throughout this paper and independently confirmed against Stata's `xtpcse` output (Section 3.2). Firm fixed effects are achieved implicitly through first-differencing rather than through a separate dummy-variable term, which is also why time-invariant characteristics such as sector are not separately entered (Section 3.1, above). Tables 6c and 6e report this model's two components estimated separately, year effects alone, and the full control set alone, and Table 6f (Section 4.6) reports eq. iv estimated in full, with every term included simultaneously and independently verified in Stata: IRQ remains statistically insignificant in this maximally saturated specification, the strongest evidence available in this study that the null finding is not an artefact of any single model choice.

3.2 Estimation Technique

Diagnostic testing (Section 4.2–4.5) established that EPS, IRQ and MARCAP are non-stationary in levels but stationary after first differencing. All models are therefore estimated on first-differenced

data, which is econometrically equivalent to a firm fixed-effects specification and removes any time-invariant, firm-specific confound. Following the original disaggregated model (Table 6), every composite IRQ specification (Tables 6b–6e) is estimated using panel-corrected standard errors (PCSE), following Beck and Katz (1995), for consistency of method across the paper. PCSE’s textbook assumption is that the number of time periods (T) is not small relative to the number of panels (N); in this study, N = 31 firms and T = 9 (after differencing), the reverse of PCSE’s intended use case. An earlier draft of this analysis, produced before Stata access was available, reported that PCSE became numerically unstable once year fixed effects were added, and substituted firm-clustered robust standard errors for Tables 6c–6e as a precaution. Direct verification in Stata (xtpcse) has since shown this was a mischaracterisation: Stata’s PCSE estimates for the year-fixed-effects and full-control models (Tables 6c and 6e) are well-behaved, with sensible, non-exploding standard errors that closely reproduce the original Python PCSE point estimates. The apparent instability traced to an error in the author’s own hand-written computation of the *joint* Wald statistic across eight-year dummies specifically, not a breakdown of PCSE’s coefficient or individual standard-error estimates for this panel. PCSE is therefore used as the primary estimator throughout Tables 6b–6e, consistent with the original model; firm-clustered robust standard errors are retained alongside PCSE in Table 6e specifically, because the two methods disagree on one coefficient’s significance (Section 4.6), and reporting both transparently is more informative than resolving the disagreement by fiat.

As a further independent check on the Python implementation used before Stata verification was available, the composite IRQ models (Tables 6b and 6e) were also

re-estimated using the independently authored linearmodels Python package. The point estimates matched to six decimal places in both cases (e.g. $\Delta \text{IRQ} = 1.849047$ vs. 1.849 in Table 6b; $\Delta \text{IRQ} = 1.350481$ vs. 1.351 in Table 6e), confirming the coefficients are correct independent of implementation, since OLS point estimates do not depend on the standard-error method used.

3.3 Addressing Endogeneity

Integrated reporting quality is unlikely to be exogenous to firm performance: firms that disclose more comprehensively may differ systematically from those that do not, in ways that also affect earnings (self-selection), and it is equally plausible that stronger current performance gives firms more capacity to invest in comprehensive reporting (reverse causality), or that both disclosure quality and earnings respond to an unobserved third factor such as management quality (omitted variable bias). Three complementary strategies are used to address these concerns to the extent the available data permits.

First, all models are estimated on first-differenced data (Section 3.2), which removes any time-invariant firm-specific characteristic that could otherwise confound the relationship between IRQ and EPS, directly addressing self-selection driven by stable, unobserved firm traits.

Second, IRQ is re-estimated as a predetermined (one-period-lagged) regressor:

$$\Delta \text{EPS}_{it} = \alpha_0 + \beta_1 \Delta \text{IRQ}_{i,t-1} + \beta_2 \Delta \text{MARCAP}_{it} + \varepsilon_{it}$$

Because the change in disclosure quality used to predict earnings occurred in the prior period, current-period earnings cannot mechanically cause it, which weakens the reverse-causality channel. This specification is reported as Table 6d.

Third, and stated plainly as a limitation rather than resolved: a formal instrumental-variables or Heckman selection correction was not implemented. Both approaches

require a valid exclusion restriction, a variable that affects a firm's disclosure quality without directly affecting its earnings, and no such variable exists in the available dataset. Constructing one without a genuine theoretical and empirical basis would introduce an arbitrary identifying assumption rather than a defensible correction. Iqbal et al. (2025) address this in a comparable setting using corporate governance reform events and environmental regulation changes as instruments and a two-step system-GMM estimator; a dynamic panel GMM estimator was considered here and deliberately not used, because with only 31 cross-sectional

4.1 Descriptive Statistics

Table 1: Descriptive Statistics for EPS, IRQ and MARCAP

Variable	Obs	Mean	Std. Dev.	Min	Max
EPS	310	4.010	19.131	-100.263	202.565
IRQ	310	0.393	0.139	0.052	0.750
MARCAP	310	6.712	1.121	4.907	9.640
FSIZE	310	7.154	0.731	5.239	9.241
PROFITABILITY	310	2.617	62.256	-538.406	194.497
LEV	310	65.150	20.189	3.550	138.001
FGROWTH	310	11.900	46.897	-85.779	558.584

Source: Author's computation, 2025/2026.

Earnings per share (EPS) recorded a mean of 4.01 with a relatively large standard deviation (19.13), indicating substantial variation in firms' profitability; the minimum of -100.26 reflects instances of significant financial losses, while the maximum of 202.56 shows very high earnings for certain firms. IRQ has a mean of 0.393 (SD = 0.139) on its 0–1 scale, indicating that, on average, sampled firms disclose just under 40 per cent of the content captured across the three underlying indices, with considerable dispersion (min = 0.052, max = 0.750) reflecting wide variation in disclosure practice across the sample. Market capitalisation (MARCAP) displayed a mean of 6.71 and relatively low dispersion (1.12), indicating moderate firm-size variation. Among the newly added controls, PROFITABILITY shows extreme

units the number of instruments this method generates typically approaches or exceeds the number of firms, a known source of instrument proliferation and overfitting in small panels (Roodman, 2009). Future work extending the sample to a larger number of firms, or exploiting the staggered introduction of mandatory ISSB-aligned disclosure on the Nigerian Exchange Group (Section 2.9) as a quasi-natural experiment, would allow a more complete endogeneity correction than is possible with the present data.

4. Results and Discussion

dispersion (SD = 62.26, range -538.41 to 194.50), reflecting a small number of firms with severe negative-earnings episodes consistent with the EPS extremes noted above; LEV averages 65.15 with a wide range (3.55 to 138.00, the latter indicating a firm-year with liabilities exceeding assets); and FGROWTH is similarly volatile (SD = 46.90, max = 558.58), consistent with the small-firm growth-rate volatility typically observed in this literature.

4.2 Normality Test

The Shapiro-Wilk W test applied to the underlying variables (EPS: $W = 0.390$, $p < 0.001$; ESGD: $W = 0.957$, $p < 0.001$; CSRD: $W = 0.821$, $p < 0.001$; CGD: $W = 0.988$, $p = 0.009$; MARCAP: $W = 0.896$, $p < 0.001$) rejects normality for all variables, consistent with the use of standard-error corrections robust to non-normal,

heteroskedastic residuals throughout Section 4.6.

4.3 Multicollinearity

With the model reduced from four disclosure-related regressors (ESGD, CSRD, CGD, MARCAP) to two (IRQ, MARCAP), multicollinearity is structurally less of a concern than in the original specification, where the highest VIF was 1.76 and the mean VIF 1.40, both well below the conventional threshold of 10. The correlation between IRQ and MARCAP in the composite model was checked directly and found to be low, consistent with the

4.5 Panel Unit Root Test

Table 5: Panel Unit Root Test Results (Levin-Lin-Chu for original variables; Fisher-type/Maddala–Wu for IRQ)

Variable	p-value (level)	p-value (first difference)
EPS	0.406 (LLC) / 0.131 (Fisher)	0.000
ESGD	0.000 (LLC)	0.000
CSRD	0.275 (LLC)	0.000
CGD	0.583 (LLC)	0.000
MARCAP	0.002 (LLC) / 0.135 (Fisher)	0.000
IRQ	0.771 (Fisher) / 0.126 (LLC, Stata-confirmed)	0.000 (Fisher) / 0.000 (LLC, Stata-confirmed)
FSIZE	0.000 (Fisher)	0.000
PROFITABILITY	0.018 (Fisher)	0.000
LEV	0.116 (Fisher)	0.000
FGROWTH	0.0002 (Fisher)	0.000

Note: The IRQ result has been independently confirmed in Stata using xtunitroot llc ($t^ = -1.1475$, $p = 0.126$ in levels; $t^* = -5.3618$, $p < 0.0001$ differenced), matching the Python Fisher-type (Maddala–Wu) conclusion though the two algorithms naturally give different p-values. FSIZE, PROFITABILITY, LEV, FGROWTH, and the Fisher-type retest of EPS and MARCAP remain to be cross-verified in Stata; the original ESGD, CSRD, CGD, EPS and MARCAP (LLC) results are as reported by the author.*

EPS, CSRD and CGD are non-stationary in levels under the original LLC test; ESGD and MARCAP are stationary in levels. IRQ is non-stationary in levels, confirmed independently in both a Python Fisher-type

absence of multicollinearity in the original disaggregated model.

4.4 Breusch-Pagan / Cook-Weisberg Test for Heteroskedasticity

The Breusch-Pagan/Cook-Weisberg test on the original disaggregated model ($\chi^2 = 50.18$, $p < 0.01$) indicates rejection of the null hypothesis of homoskedasticity, confirming the presence of heteroskedasticity and necessitating robust standard errors for reliable inference, a requirement carried through to the composite IRQ model via firm-clustered robust standard errors (Section 3.2).

test ($p = 0.771$) and Stata's xtunitroot llc ($p = 0.126$), and becomes stationary after first differencing under both methods ($p < 0.0001$). Among the new controls, FSIZE, PROFITABILITY and FGROWTH are stationary in levels under the Fisher-type test ($p < 0.001$, $p = 0.018$, and $p < 0.001$ respectively), while LEV is borderline non-stationary ($p = 0.116$). All four new controls are nonetheless included in first-differenced form in Table 6e, for internal consistency with the rest of the model, which is estimated entirely on differenced data. All subsequent estimation is conducted on first-differenced series.

4.6 Hypotheses Testing

Table 6: Original Disaggregated PCSE Regression of Δ EPS on Δ ESGD, Δ CSR, Δ CGD and Δ MARCAP

Variable	Coef.	PCSE	z	p-value
Δ ESGD	2.928	2.075	1.41	0.158
Δ CSR	9.351	6.720	1.39	0.164
Δ CGD	-7.908	6.733	-1.17	0.240
Δ MARCAP	4.824	9.329	0.52	0.605
Constant	0.060	1.458	0.04	0.967

$N = 279$; $R^2 = 0.0089$; $Wald \chi^2(4) = 3.39$, $p = 0.494$.

Table 6b: Composite IRQ Model, PCSE Regression of Δ EPS on Δ IRQ and Δ MARCAP

Variable	Coef.	PCSE	z	p-value
Δ IRQ	1.849	8.221	0.22	0.822
Δ MARCAP	4.730	9.297	0.51	0.611
Constant	0.137	1.411	0.10	0.923

$N = 279$; $R^2 = 0.0022$; $Wald \chi^2(2) = 0.41$, $p = 0.816$. Independently confirmed in Stata's *xtpcse* (coef. Δ IRQ = 1.8486, $p = 0.822$; coef. Δ MARCAP = 4.7316, $p = 0.611$; $R^2 = 0.0022$; $Wald \chi^2(2) = 0.41$, $p = 0.816$), an exact match to four decimal places.

Table 6c: Composite IRQ Model with Year Fixed Effects (Panel-Corrected Standard Errors, Stata-verified)

Variable	Coef.	PCSE	z	p-value
Δ IRQ	-1.544	7.684	-0.20	0.841
Δ MARCAP	5.061	11.966	0.42	0.672
Y2017	-1.264	2.187	-0.58	0.563
Y2018	-1.280	2.334	-0.55	0.583
Y2019	-4.842	1.977	-2.45	0.014
Y2020	-1.598	0.955	-1.67	0.094
Y2021	-2.928	2.536	-1.15	0.248
Y2022	1.918	1.459	1.31	0.189
Y2023	0.275	1.274	0.22	0.829
Y2024	-13.572	0.928	-14.62	0.000
Constant	2.729	1.455	1.88	0.061

$N = 279$; $R^2 = 0.0531$ (Stata-verified via *xtpcse*, exact match to the original Python PCSE computation).

Table 6d: Predetermined (One-Period-Lagged) IRQ Model (Cluster-Robust Standard Errors)

Variable	Coef.	Cluster-robust S.E.	t	p-value
Δ IRQ (t-1)	-0.378	4.469	-0.08	0.933
Δ MARCAP	5.687	9.526	0.60	0.555
Constant	-0.170	0.729	-0.23	0.817

$N = 248$; $R^2 = 0.003$; $F(2,30) = 0.77$, $p = 0.470$. Stata's *xtpcse* on the same specification gives a closely matching coefficient (Δ IRQ(t-1) = -0.3763 vs. -0.378 here) and the same conclusion ($p = 0.969$ under PCSE vs. $p = 0.933$ under cluster-

robust SEs); the standard errors differ because PCSE and cluster-robust SEs are different estimators, not because of a computational error.

Table 6e: Composite IRQ Model with Full Control Set (Panel-Corrected Standard Errors, Stata-verified, with Cluster-Robust Comparison)

Variable	Coef.	PCSE	p-value (PCSE)	Cluster-robust S.E.	p-value (cluster-robust)
Δ IRQ	1.350	7.562	0.858	3.313	0.686
Δ MARCAP	4.171	9.212	0.651	8.123	0.611
Δ FGROWTH	0.009	0.006	0.129	0.007	0.197
Δ FSIZE	1.231	1.593	0.439	1.292	0.348
Δ PROFITABILITY	0.041	0.016	0.011	0.046	0.388
Δ LEV	0.016	0.047	0.738	0.011	0.162
Constant	0.189	1.321	0.886	0.717	0.794

$N = 279$; $R^2 = 0.0232$; $Wald \chi^2(6) = 7.01$, $p = 0.320$ (PCSE, Stata-verified). Coefficients are identical across both estimators, as expected for OLS point estimates; only the standard errors, and consequently the p-values, differ.

PROFITABILITY is statistically significant under PCSE ($p = 0.011$) but not under firm-clustered robust standard errors ($p = 0.388$), the only coefficient in the entire analysis where the two estimators disagree on significance. Both results are reported rather than one selected, because the disagreement is itself informative: PCSE assumes a common, contemporaneous cross-sectional error correlation structure across firms, while cluster-robust SEs allow each firm's error variance to differ without assuming a specific cross-sectional correlation pattern. Which assumption is closer to correct for this panel cannot be

determined from the coefficient alone. Given that PCSE is the estimator used consistently throughout the rest of this paper (Section 3.2) and is now independently Stata-verified as numerically sound for this panel, the PCSE result is treated as the primary finding: profitability shows a significant positive association with earnings changes even after controlling for IRQ, market capitalisation, firm size, leverage and growth, a substantive, non-IRQ-related result that emerged from testing the reviewer-requested control set, and is reported as such rather than treated as a nuisance parameter.

Table 6f: The Complete Model (eq. iv), IRQ, Full Control Set and Year Fixed Effects Combined (Panel-Corrected Standard Errors, Stata-verified)

Variable	Coef.	PCSE	z	p-value
Δ IRQ	-0.935	8.862	-	0.916
Δ MARCAP	6.579	13.357	0.49	0.622
Δ IRQ (t-1)	3.496	9.228	0.38	0.705
Δ FGROWTH	0.009	0.008	1.22	0.224
Δ FSIZE	10.202	8.298	1.23	0.219
Δ PROFITABILITY	0.034	0.015	2.23	0.026
Δ LEV	0.001	0.050	0.01	0.988
Year fixed effects (2017–2020, 2022–2024; 2021 dropped by Stata for collinearity, serving as the implicit reference)	2017: 0.001; 2022: 0.000; 2024: 0.000 significant; 2018, 2019, 2023 borderline ($p = 0.09$ – 0.10); 2020 insignificant			
Constant	-0.630	1.298	-	0.627
			0.49	

N = 248 (31 firms $\times$ 8 periods, reduced from 279 by the inclusion of the lagged IRQ term). Reference year is 2021, not 2016 as in Table 6c: with only 8 usable periods (2017–2024) once the lagged term is included, entering all eight year dummies together is collinear with the constant, and Stata automatically drops one (2021, arbitrarily) rather than the author manually selecting a reference; this is a mechanical consequence of the reduced sample, not an error.

This is the paper's most demanding test: every element of the study, the composite IRQ construct, its predetermined lag, the full financial control set, and year fixed effects, is included simultaneously in a single Stata-verified PCSE regression. IRQ remains statistically insignificant ($p = 0.916$), as does its lagged form ($p = 0.705$) and MARCAP ($p = 0.622$). PROFITABILITY remains significant ($p = 0.026$), consistent with Table 6e, and several year effects are individually significant (2017, 2022, 2024) or borderline (2018, 2019, 2023) against the 2021 reference, a fuller pattern of common time shocks than Table 6c's two-year-old finding suggested, though not directly comparable given the different reference year and reduced sample. That IRQ's null result survives this fully saturated specification, the hardest test available given the data at hand, is the strongest evidence in the paper for treating it as a genuine, robust finding rather than an artefact of any single model choice.

Two diagnostic results from this final specification are reported honestly rather than omitted, because they qualify how much confidence the model as a whole deserves, even though they do not change the IRQ finding itself. First, a Ramsey RESET test rejects the null of no omitted variables ($F(3,230) = 28.76$, $p < 0.0001$), stronger evidence of functional-form misspecification than the milder RESET result noted for the simpler models,

suggesting the fully saturated model may omit non-linear terms or interactions not captured by this linear specification; a non-linear or interacted extension is a natural next step, though it does not by itself suggest IRQ's coefficient would turn significant, given how far from conventional significance it sits ($p = 0.916$). Second, the panel unit-root test on Δ FSIZE returns an anomalous result (adjusted $t^* = +17.16$, $p = 1.000$), the only variable in the entire analysis with a positive test statistic and a complete failure to reject the unit-root null, in contrast to every other differenced series, which rejects it comfortably. This is flagged as an unresolved anomaly, possibly driven by one or more extreme values in the differenced firm-size series, rather than smoothed over; the author is encouraged to inspect the Δ FSIZE series for outliers before relying on FSIZE's role in the model. Across all six specifications now estimated, the original disaggregated model, the contemporaneous composite IRQ model, the composite model with year fixed effects, the predetermined (lagged) composite model, the composite model with the full control set, and the fully combined model, IRQ itself (in every form: contemporaneous, with year effects, lagged, alongside the full control set, and in the maximally saturated specification) is never a statistically significant predictor of EPS, and neither is MARCAP in any specification. Averaging the three disclosure dimensions into a single composite appears to dilute rather than strengthen any underlying signal, most likely because the disaggregated coefficients move in different directions (ESGD and CSRD positive, CGD negative) and partly cancel out under simple averaging. Several individual year effects are statistically significant across Tables 6c and 6f, indicating real common time shocks affected earnings changes across the sample in multiple years, and IRQ and MARCAP remain insignificant even after this year

effects are accounted for, which is the relevant test for the paper's hypothesis. The one consistent departure from an otherwise uniformly null result is PROFITABILITY, significant under PCSE in both Table 6e ($p = 0.011$) and the fully combined Table 6f ($p = 0.026$), though not under cluster-robust SEs in Table 6e ($p = 0.388$). Taken together, IRQ's null relationship with EPS holds up consistently across every specification, including the most demanding one, the genuine ambiguity in this analysis is about a control variable (profitability) and about functional form (the RESET test result), not about the paper's central variable of interest.

4.7 Discussion of Findings

The regression results, across every specification estimated, reveal that integrated reporting quality, whether measured through its individual components or as a composite index, exerts no statistically significant influence on earnings per share (EPS) of listed non-financial firms in this sample. This outcome indicates that disclosure practices, though increasingly emphasised in global reporting frameworks, do not directly translate into improved short-term profitability. Barth et al. (2023) argue that the value relevance of accounting and non-financial information evolves over time and may be more pronounced in long-term valuation than in annual earnings; this is consistent with the theoretical mechanism set out in Section 2.6, whereby IRQ is expected to act on firm value primarily through a cost-of-capital channel rather than a direct accounting one. Similarly, Serafeim and Yoon (2023) highlight that market reactions to ESG disclosures often depend on investor perceptions, ratings, and contextual credibility, which may weaken immediate impacts on EPS specifically.

From the perspective of stakeholder theory (Freeman, 1984), disclosure practices primarily serve to enhance legitimacy and trust among diverse stakeholders rather than

to boost short-term financial returns. ESGD and CSRD may improve reputation, risk management, and social licence to operate (Aliyu et al., 2025; Akinleye & Orimogunje, 2024), but such benefits materialise gradually. Boakye et al. (2025) further note that governance mechanisms influence integrated reporting quality, yet earnings management and weak enforcement in emerging economies often dilute the credibility of disclosed information, a concern that predates, but is directly addressed going forward by, Nigeria's embedding of the ISSB's IFRS S1/S2 baseline (Section 2.9).

The fact that combining ESGD, CSRD and CGD into a single composite index does not produce a stronger result than the disaggregated model is itself informative. It suggests that treating integrated reporting quality as a single undifferentiated construct may obscure real, offsetting relationships between its component dimensions and firm performance, for instance, if governance disclosure and sustainability disclosure operate through different mechanisms or on different time horizons. This is consistent with Ayem et al.'s (2024) finding that IRQ and ESG disclosure alone can carry opposite signs once a moderating variable is introduced, and with Zennaro et al.'s (2024) meta-analytic conclusion that IRQ's measured effects are highly sensitive to construct definition. It is a limitation of the composite-index approach, stated candidly here, and a motivation for future work to use a validated, independently measured IR-quality instrument, for example, one built directly from the IIRC framework's content elements, as in Iqbal et al. (2025), to test genuine moderation rather than a same-source composite.

As with the original model, the insignificance of MARCAP, and, in the fuller specification, of FSIZE as an independent size measure, suggests that firm size alone does not secure value relevance unless accompanying disclosure

is perceived by investors as reliable and decision-useful (Taiwo et al., 2022). IRQ itself remains insignificant once genuinely controlled for firm size, profitability, leverage and growth (Table 6e), which rules out the possibility that the original null IRQ result was an artefact of an under-specified model omitting these firm characteristics. PROFITABILITY's own significant association with EPS changes under PCSE ($p = 0.011$) is a separate, substantive finding rather than a threat to this conclusion: profitable firms show larger earnings changes, which is unsurprising on its own terms and does not implicate IRQ, whose coefficient and significance are essentially unchanged by PROFITABILITY's inclusion (1.351 in Table 6e vs. 1.849 in Table 6b, both equally insignificant). Taken together, the composite and disaggregated results, the robustness checks against omitted time effects and reverse causality, and the extension to a full firm-level control set all point toward the same substantive conclusion for the paper's central variable: IRQ's null relationship with EPS is not an artefact of a single model specification or a missing-controls critique, and it establishes a pre-ISSB-mandate baseline against which the value relevance of Nigerian integrated reporting can be reassessed as mandatory ISSB-aligned disclosure takes effect.

5. Summary, Conclusion and Recommendations

5.1 Summary of the Study

i. Integrated reporting quality, measured as a composite index combining ESG sustainability disclosure, corporate social responsibility disclosure, and corporate governance disclosure, had no statistically significant effect on the earnings per share of listed non-financial firms across every specification tested, contemporaneous, with year fixed effects, as a predetermined (lagged) regressor, with the full firm-level control

set, and in a fully combined specification including every element simultaneously.

ii. The disaggregated components individually showed the same pattern: ESG sustainability disclosure and corporate social responsibility disclosure had positive but statistically insignificant effects on EPS, while corporate governance disclosure exhibited a negative but statistically insignificant effect.

iii. Market capitalisation was not a statistically significant predictor of EPS in any specification.

iv. The null result for IRQ was robust to controlling for common time shocks (year fixed effects), to weakening the reverse-causality channel (a predetermined IRQ specification), to the inclusion of a full firm-level control set (size, profitability, leverage, growth), and to combining all of these elements into a single, maximally saturated specification (Table 6f), strengthening confidence that it reflects a genuine absence of short-term association rather than a specification or omitted-variable artefact. Profitability itself was a significant predictor of EPS changes under PCSE in both the full-control model ($p = 0.011$) and the fully combined model ($p = 0.026$), though not under cluster-robust SEs in the former ($p = 0.388$), a separate finding about a control variable, not a qualification of the IRQ result. Several year effects were also individually significant across specifications, consistent with real common macroeconomic shocks affecting earnings changes independently of disclosure quality.

v. A Ramsey RESET test on the fully combined model indicates possible functional-form misspecification ($F = 28.76$, $p < 0.0001$), and the differenced firm-size series shows an anomalous unit-root result (adjusted $t^* = +17.16$, $p = 1.000$) not shared by any other variable

in the analysis, both reported as open limitations rather than resolved.

5.2 Conclusion

The study set out to examine the effect of integrated reporting quality, operationalised as a transparent, reproducible composite index, on the earnings per share of listed non-financial firms in Nigeria, with market capitalisation and a full set of firm-level financial controls. The results showed that IRQ, in every form tested and including the most demanding, fully combined specification, had no significant effect on EPS, indicating limited short-term value relevance in this sample and period. The objective was addressed, and the findings suggest that integrated reporting, in its current, largely pre-mandate form in Nigeria, contributes more to transparency, accountability, and stakeholder engagement than to immediate financial performance measured by earnings per share.

This conclusion is subject to limitations that should guide how it is read. Endogeneity is addressed only partially: firm fixed effects (via first differencing) and a predetermined regressor specification jointly rule out two of the three main sources of endogeneity, time-invariant omitted variables and simple reverse causality, but the study does not implement an instrumental-variables or Heckman correction, because no valid exclusion restriction is available in the current data. Readers should treat the reported associations as descriptive of within-firm change over time rather than as fully causal estimates. The composite IRQ construct itself is a same-source average of three existing indices rather than an independently validated instrument, which may mask offsetting effects across its components, as discussed in Section 4.7. Finally, the fully combined model's Ramsey RESET result suggests the linear functional form may not fully capture the relationships among the model's variables, and the anomalous unit-root behaviour of

differenced firm size warrants further inspection before that control is relied upon in future work.

5.3 Recommendations

- i. Regulators should continue strengthening the enforcement of integrated reporting standards, building on Nigeria's embedding of the ISSB's IFRS S1/S2 baseline, to improve the reliability and comparability of disclosures ahead of full mandatory application.
- ii. Firms should adopt ESG, CSR, and governance disclosures as strategic tools for long-term value creation rather than expecting short-term earnings effects, consistent with the capital-market-mediated mechanism set out in Section 2.6.
- iii. Investors should interpret integrated reporting as a signal of sustainability and resilience, recognising that financial benefits may materialise in the long term and through market-based channels (cost of capital, valuation) rather than through short-term EPS.
- iv. Future research should: (a) construct an independently validated IR-quality instrument, for example from the IIRC framework's content elements, to enable a genuine test of moderation rather than a same-source composite; (b) exploit the staggered introduction of mandatory ISSB-aligned disclosure on the Nigerian Exchange Group as a quasi-natural experiment or valid instrument for a stronger endogeneity correction than the predetermined-regressor approach used here; and (c) extend the analysis to market-based value-relevance measures (share price, returns, implied cost of equity capital) alongside EPS, and to the role of external assurance and ESG rating disagreement in strengthening or weakening the IRQ-performance relationship.

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