# INTEGRATED REPORTING QUALITY AND COMMERCIAL BANK VALUATION UNDER INFORMATION OPACITY AND COMPLEXITY: A SIGNALING PERSPECTIVE

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**Abstract:** ***Commercial banks operate under high information opacity and complex risk structures, making valuation heavily dependent on reported information. In this context, reporting quality, rather than quantity, is critical. Integrated Reporting Quality (IRQ) enhances interpretability by linking financial and non-financial information within a coherent value-creation framework. However, existing studies on the IRQ-firm value relationship mainly focus on non-financial firms and developed markets, with limited attention to banks. This paper conducts a structured literature review, applying signaling theory to view IRQ as a signal of governance and risk management quality. It identifies gaps in theory, measurement, emerging-market contexts and proposes directions for future research and policy development.***

• Keywords: *integrated reporting quality; commercial bank valuation; information opacity; information complexity; connectivity; signaling theory.*

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## 1. Introduction

### *1.1. Background and Research Motivation*

Commercial banks play a key role in financial intermediation but differ from non-financial firms due to their complex and opaque asset structures, including long-term loans, derivatives, and Level 3 fair value assets. These features intensify information asymmetry, as asset quality and risk exposure rely heavily on internal models and managerial judgment, making external evaluation difficult.

Opacity in banking is structural, with key elements such as loan loss provisions and risk-weighted assets depending on discretionary assumptions. As a result, investors rely not only on financial figures but also on the quality of disclosures to assess performance and risk. At the same time, the interconnected nature of banking systems means that reduced transparency can undermine market confidence, increase funding costs, and amplify systemic risk.

From an information economics perspective, high asymmetry raises perceived risk and lowers firm value, while transparent and credible disclosure improves monitoring and capital allocation. Given banks' systemic importance and regulatory environment, disclosure quality is crucial, directly influencing investor perceptions of risk, governance, and valuation..

### *1.2. Integrated Reporting under Opacity and Information Overload*

Disclosure is typically seen as a tool to reduce information asymmetry, but in commercial banking, high reporting volume does not necessarily improve clarity. Despite extensive disclosures, key drivers of bank value such as credit risk, capital resilience, and risk governance remain difficult to interpret. This creates a paradox where investors face abundant but complex information, limiting their ability to assess true risk-return profiles. Integrated Reporting (IR) addresses this by structuring financial and non-financial data into a coherent value-creation narrative. Accordingly, a key question arises: whether higher Integrated Reporting Quality (IRQ) improves investors' ability to evaluate risk and long-term sustainability under conditions of opacity.

### *1.3. Research Gaps and Objectives*

Existing studies generally find that transparency reduces cost of capital and increases firm value, but most evidence focuses on non-financial firms in developed markets, with limited attention to commercial banks. This gap is more evident in emerging economies like Vietnam, where bank-based systems, ownership concentration, and evolving disclosure practices shape the credibility

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and impact of reporting. A second gap concerns measurement. Many studies rely on simple proxies or checklists, failing to capture the structural connectivity of Integrated Reporting Quality (IRQ), which limits its role as a meaningful signal and reduces comparability. A third gap relates to methodology, as prior research often examines direct relationships without considering mediating mechanisms or addressing endogeneity, especially in banking contexts with high opacity. This study reviews the literature on IRQ and firm value in commercial banks, focusing on measurement, economic impacts, and empirical evidence, and proposes directions for future research, particularly for listed banks in Vietnam.

## 2. Theoretical foundations

### *2.1. Integrated Reporting*

Integrated Reporting can be conceptualized as a reporting architecture that restructures corporate disclosure around a coherent value-creation logic rather than isolated reporting segments. Instead of treating financial performance, governance, sustainability, and risk disclosures as parallel streams, IR integrates them within a cause-and-effect framework linking strategy, business model, capital allocation, risk management, and performance outcomes. Connectivity and forward-looking orientation are therefore its defining structural attributes.

In commercial banking, this architectural shift is economically meaningful. Commercial bank valuation depends heavily on the articulation of credit risk, capital adequacy, liquidity management, and long-term strategic positioning. When financial outcomes are explicitly linked to risk appetite and regulatory capital strategy, disclosure moves beyond compliance and begins to operate as a potential signal of governance coherence and risk integration. The relevant question is not whether IR is adopted, but whether reporting reflects substantive integration capable of informing capital market assessments.

### *2.2. Integrated Reporting Quality*

A distinction must be made between IR adoption and IRQ. Issuing an integrated report does not guarantee true integration; IRQ reflects the quality of disclosure rather than mere compliance.

IRQ encompasses materiality, reliability, and consistency, but its core feature is connectivity the alignment between strategy, business model, risk, capital, and financial outcomes within a coherent framework.

In commercial banking, where asset opacity is high, fragmented disclosures increase information risk. By linking key elements such as credit risk, provisioning, and performance, high IRQ enhances clarity and credibility, improving the usefulness of reporting under complex conditions.

### *2.3. Theoretical Perspectives on IRQ and Bank Value*

The relationship between IRQ and commercial bank value is grounded in information economics and corporate finance. In commercial banking, information asymmetry is structural. Loan portfolios, expected credit loss estimates, and regulatory capital calculations rely heavily on internal models and managerial judgment. As a result, the economic relevance of disclosure depends less on quantity than on structural credibility.

This study positions signaling theory as the primary explanation for the direct IRQ valuation link, while agency theory and economic limits of disclosure define important transmission channels and boundary conditions.

#### *2.3.1. Signaling Theory*

Under asymmetric information, high-quality firms distinguish themselves through signals that are costly to produce and difficult to imitate. Commercial banking provides an ideal setting for such signaling. Valuation depends on largely unobservable attributes credit risk quality, loan loss provisioning discipline, internal control robustness, and capital resilience.

When integrated reporting is voluntary, achieving high IRQ requires investment in data infrastructure, risk integration systems, and governance coordination across functional units. These organizational capabilities are embedded and not easily replicated. IRQ therefore operates as a costly-to-imitate signal of integrated risk governance.

Connectivity is central to signal credibility. Commercial banking disclosures are frequently siloed across credit, risk, capital, and performance segments. When reporting explicitly links strategic objectives to risk appetite, regulatory capital management, and realized financial outcomes, investors can form a coherent valuation model. Connectivity transforms dispersed technical disclosures into structured evidence.

If markets interpret high IRQ as indicative of disciplined risk governance, perceived information

risk declines. Discount rates may adjust through cost-of-capital and liquidity channels, leading to higher market valuation.

*2.3.2. Agency Theory*

While signaling theory explains market pricing, agency theory clarifies the internal channel. In commercial banking, managerial discretion is substantial, particularly in loan loss provisions (LLP), expected credit loss estimation, and capital management. Information opacity weakens monitoring and expands the scope for discretionary reporting.

High IRQ - especially strong connectivity - imposes alignment between strategic commitments, risk disclosures, and reported financial outcomes. Integrated articulation of credit policy, provisioning behavior, and capital adequacy increases the detectability of opportunistic earnings management. In this sense, IRQ functions as a monitoring mechanism.

Under this channel, IRQ affects firm value indirectly through earnings credibility. Reduced discretionary distortion strengthens investor confidence and lowers perceived agency risk.

*2.3.3. Information Overload and Proprietary Costs*

Transparency has economic limits. In commercial banking, the coexistence of opacity and technical complexity creates a risk of information overload. Excessively detailed reporting may exceed investors' processing capacity, weakening marginal transparency benefits.

Proprietary cost considerations further constrain disclosure. Detailed revelation of risk exposures or capital allocation strategies may impose competitive or compliance costs, particularly under evolving regulatory regimes.

Accordingly, the IRQ valuation relationship may be non-linear. Beyond an optimal threshold, incremental disclosure quality may generate diminishing returns.

**3. Research methodology for literature review**

This study uses a structured narrative review to synthesize research on IRQ and firm value, focusing on banking contexts. Data were collected from Scopus and Google Scholar using keywords related to integrated reporting, disclosure, bank transparency, firm value, and information opacity for the period 2016-2024.

Only peer-reviewed journal articles were included. Studies were selected based on their relevance to theory, empirical evidence, measurement of IRQ (especially connectivity), and banking-specific contexts. The selected articles were systematically coded and reviewed to identify key themes, measurement issues, and research gaps in the IRQ-valuation literature.

**4. Literature review**

***4.1. Disclosure and Firm Value***

Research shows that better disclosure reduces information asymmetry, lowers information risk, and decreases the cost of capital. Firms with more credible transparency tend to have lower equity costs, higher liquidity, and improved market valuation. Disclosure also enhances price informativeness by helping investors better assess future cash flows. However, traditional studies assume that disclosed information is easily processed. In practice, increasing reporting volume reduces clarity, making structure more important than quantity. This shift highlights the importance of how information is organized, forming the basis for integrated reporting and the focus on IRQ.

***4.2. IR/IRQ and Firm Value: Evidence and Transmission Channels***

The development of IR has reoriented corporate disclosure toward a value-creation architecture linking financial and non-financial capitals. Early empirical evidence indicates that IR adoption is generally associated with higher market valuation, particularly in institutional environments characterized by stronger transparency norms and investor protection.

Subsequent research shifts attention from adoption to IRQ as a substantive signaling attribute. A growing body of evidence documents a positive IRQ-valuation nexus, especially in firms characterized by organizational complexity and substantial external financing needs (Lee & Yeo, 2016). These findings are consistent with the broader information-environment perspective articulated by Barth et al. (2017), who argue that structured and integrated disclosure yields greater marginal benefits when valuation uncertainty and information asymmetry are elevated. In such settings, the economic relevance of connectivity becomes more pronounced.

Two principal transmission channels are identified. First, an information environment channel suggests that high-quality integrated disclosure enhances risk pricing and cash flow predictability, thereby reducing the cost of equity

(Barth et al., 2017; Zhou et al., 2017). Second, a real effects channel positions IRQ as a manifestation of internal management discipline. By aligning strategy, risk governance, capital allocation, and performance within a cause-and-effect structure, IRQ signals integrated thinking rather than incremental disclosure expansion (Barth et al., 2017). More recent evidence identifies mediation mechanisms such as earnings quality and analyst forecast accuracy, reinforcing the monitoring and credibility dimensions of valuation effects (Radwan & Xiongyuan, 2024).

Notwithstanding broadly supportive findings, empirical inconsistencies persist. These variations often stem from measurement heterogeneity. Checklist-based proxies tend to capture formal compliance rather than the structural connectivity that capital markets appear to price, thereby obscuring economically meaningful associations.

Importantly, the consolidation of the IIRC into the International Sustainability Standards Board (ISSB) and the issuance of IFRS S1 and IFRS S2 represent more than institutional restructuring. These standards operationalize the financial-sustainability nexus by requiring entities to disclose sustainability-related risks and opportunities in a manner connected to strategy, risk management, and financial performance across reporting periods. In this sense, ISSB standards codify both cross-sectional connectivity and inter-period connectivity within the global financial reporting architecture. What began as a voluntary integrated reporting philosophy is progressively embedded in enforceable disclosure requirements. This transition strengthens the theoretical and empirical relevance of IRQ by institutionalizing connectivity as a core dimension of capital market reporting.

### *4.3. Disclosure in the Banking Sector and Information Opacity*

Opacity in banking is structural rather than incidental. It originates from the economic nature of bank assets. Unlike publicly traded securities, loan portfolios are relationship-specific, heterogeneous, and rarely priced in transparent secondary markets. Morgan (2002) documents that banks are systematically more difficult to evaluate than non-financial firms because the value of their core assets is privately assessed and idiosyncratic. Flannery (2004) further argues that such asset opacity constrains the effectiveness of market discipline, as external investors cannot independently verify credit quality or concentration risk.

This opacity is amplified by accounting discretion. Loan loss provisions, expected credit loss (ECL) estimations, and internal risk-weight calculations under regulatory capital frameworks rely heavily on managerial judgment and proprietary risk models. Even under extensive disclosure regimes, outside stakeholders face inherent limits in reconstructing a bank's true solvency position and loss-absorption capacity. Valuation uncertainty is therefore embedded in the accounting architecture of banking.

In this context, disclosure assumes both informational and monitoring roles. Increased transparency can strengthen risk sensitivity in capital markets and deposit funding. However, banking disclosures are predominantly prudential in orientation. Regulatory capital ratios, stress-testing outcomes, and asset-quality indicators are primarily designed for supervisory assessment rather than investor pricing. As a result, the translation of prudential data into market valuation inputs is not automatic.

IRQ may function as a complementary, market-oriented signal. By linking risk appetite, capital management, governance mechanisms, and financial performance within a structured narrative, high IRQ can transform fragmented prudential disclosures into analytically coherent information. IRQ does not eliminate structural opacity. Instead, it mitigates its valuation consequences by enhancing interpretability and internal consistency.

Empirical evidence illustrates this nuanced effect. Matemane and Wentzel (2019) find a positive association between IRQ and earnings per share among South African banks, while market-based indicators such as Tobin's Q exhibit weaker sensitivity. Ben Said (2025) shows that higher IRQ reduces debt costs in Islamic banks but is negatively associated with equity valuation, implying heterogeneous interpretation by creditors and shareholders.

Overall, in commercial banking, the economic relevance of IR/IRQ lies in its capacity to alleviate valuation uncertainty arising from structural asset opacity and accounting discretion. Yet its market impact remains contingent upon disclosure credibility, governance quality, and the institutional configuration of prudential supervision.

### *4.4. Divergent Empirical Findings*

Despite substantial supportive evidence, other studies report statistically insignificant or context-dependent results. Such divergences reflect systematic heterogeneity rather than theoretical contradiction.

*First,* institutional quality conditions valuation relevance. In jurisdictions with strong investor protection and effective enforcement, transparency is more likely to be capitalized into equity prices. By contrast, in markets where integrated reporting remains voluntary and informational efficiency is limited, integrated disclosures may not be fully impounded into valuation. Information-processing constraints and short-term trading horizons can attenuate pricing effects.

*Second,* ownership structure moderates disclosure sensitivity. State ownership, concentrated shareholding, or foreign strategic participation may influence managerial disclosure incentives and the perceived credibility of reporting signals, thereby shaping market reactions.

*Third,* measurement heterogeneity remains a central issue. Binary or checklist-based proxies capture disclosure presence but not structural integration. Metrics emphasizing connectivity, materiality, and strategic alignment are more likely to reflect economically meaningful reporting attributes. Measurement error can therefore obscure true associations.

*Finally,* sectoral information opacity shapes the marginal value of disclosure. In high-opacity industries such as banking, transparency may generate stronger valuation effects, but only when disclosures are credible and internally consistent. Evidence from Islamic banking suggests that debt markets and equity markets may respond differently to the same reporting signal.

Overall, the IR/IRQ-firm value nexus is conditional on institutional environment, measurement design, and sectoral characteristics. Future research should prioritize structurally grounded IRQ metrics and empirical strategies capable of addressing endogeneity within regulated, bank-dominated systems aligned with evolving ISSB standards.

**5. Research gaps**

***5.1. Research Gap in the Object of Analysis: Banking in a Bank-Based Financial System***

Most evidence on IRQ and firm value focuses on non-financial firms in market-based systems, where valuation is driven mainly by market discipline. In contrast, banks operate under high leverage, asset opacity, and strict prudential regulation. In bank-based systems like Vietnam, valuation reflects both investor perception and regulatory oversight. This dual governance creates a unique information environment, yet the interaction between regulatory supervision and voluntary disclosure quality remains underexplored. Therefore, banks require separate analysis rather than being treated like non-financial firms.

***5.2. Methodological Gap in Measuring Integrated Reporting Quality***

A second gap concerns the operationalization of IRQ. Many prior studies rely on checklist-based proxies, binary scoring systems, disclosure counts, page length, or keyword frequency. While such measures capture disclosure breadth, they do not adequately reflect content depth or structural integration.

Integrated reporting is not defined by disclosure volume but by the articulation of strategy, business model, risk governance, capital allocation, and performance within a coherent value-creation logic. In banking where credit risk, capital adequacy, and liquidity management are central to valuation IRQ measurement must capture materiality, connectivity, and internal consistency. Mere disclosure presence does not necessarily imply integrative coherence.

Current proxies often approximate formal compliance rather than economic substance. Connectivity the alignment among strategic intent, risk exposure, regulatory capital management, and realized outcomes remains under-measured. This measurement limitation may contribute to inconsistent empirical findings. There is therefore a need for IRQ metrics capable of capturing substantive integration, particularly in sectors characterized by regulatory capital constraints and complex risk architectures.

***5.3. Gap in Transmission Mechanism and Endogeneity under Information Opacity***

Section 2.3.3 establishes that transparency is subject to economic limits. Information overload and proprietary costs imply that the IRQ-valuation relationship may exhibit non-linear or threshold effects. However, existing empirical studies have not identified how this optimal transparency boundary operates within structurally opaque banking environments.

Most prior research estimates a direct association between IRQ and firm value without explicitly modeling transmission mechanisms. In banking, where asset quality, loan loss provisioning, and regulatory capital are not fully observable, IRQ is likely to influence valuation indirectly through information risk reduction, earnings credibility,

or market discipline rather than through a simple linear channel. Empirical evidence rarely tests these mediation effects or examines potential non-linear responses. Moreover, the IRQ-valuation nexus remains vulnerable to endogeneity and reverse causality. Higher-valued banks may possess stronger governance systems and reporting capacity, leading to higher IRQ. Without addressing this econometric concern, observed associations may reflect underlying firm quality rather than causal disclosure effects.

Accordingly, future research should test mediation channels, explore potential threshold effects consistent with theoretical transparency limits, and employ identification strategies capable of mitigating endogeneity in opaque banking contexts.

### *5.4. Institutional and Standard-Transition Gap: The Case of Vietnam*

Vietnam represents a transitional economy characterized by a bank-dominated financial system and evolving capital markets. Integrated reporting remains voluntary, and disclosure practices vary across banks. Ownership structures frequently combine state participation and foreign strategic investors, influencing governance dynamics and disclosure incentives. Within this institutional environment, market-based pricing mechanisms may not fully incorporate non-financial or forward-looking information. Although prior domestic studies have examined financial transparency more broadly, systematic evidence on the relationship between IRQ and firm value in the Vietnamese banking sector remains limited.

An additional gap concerns international standard convergence. The consolidation of the IIRC into the International Sustainability Standards Board (ISSB) and the issuance of IFRS S1 and IFRS S2 signal a global transition toward harmonized sustainability-related financial disclosure standards. However, little empirical research evaluates the readiness of Vietnamese banks to align with these emerging standards or assesses how such standard transition may affect the valuation relevance of integrated disclosure.

Re-examining the IRQ-firm value relationship within Vietnam's institutional and regulatory context while accounting for prudential oversight, ownership structure, and evolving international standards may generate insights that differ materially from those observed in market-based systems. Without incorporating these contextual dynamics, conclusions regarding the economic consequences of IRQ risk remaining incomplete.

## Conclusion

This paper synthesizes the literature on corporate disclosure, integrated reporting, and Integrated Reporting Quality (IRQ) in relation to firm value. The review confirms that higher transparency and well-structured reporting can reduce the cost of capital, improve liquidity, and enhance firm valuation. However, most existing evidence is concentrated in non-financial firms and developed markets, limiting its applicability to banking contexts.

Four major research gaps are identified. First, the banking sector remains underexplored despite its high opacity, leverage, and systemic importance. Second, measurement issues persist, as many studies rely on simple proxies that fail to capture connectivity and value-creation logic in IRQ. Third, the mechanisms through which IRQ affects firm value such as earnings quality, risk perception, and cost of capital are insufficiently examined. Fourth, there is a lack of empirical evidence from emerging markets like Vietnam, where financial systems are bank-based and disclosure practices are still evolving.

To address these gaps, the study proposes developing a banking-specific IRQ framework that emphasizes connectivity among strategy, risk, capital, and performance. Future research should also focus on testing transmission mechanisms and applying more rigorous econometric approaches to address endogeneity and potential non-linear effects. From a policy perspective, improving the quality of integrated disclosure can strengthen investor confidence and enhance market efficiency, especially as Vietnam's banking sector advances toward Basel, IFRS, and ESG standards. Overall, the findings suggest that future research should move beyond disclosure quantity and focus on the quality, structure, and credibility of information in complex and opaque banking environments.

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