The Relationship between Corporate Governance and Internal Control in Banks: A Literature Review

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Abstract

This systematic literature review examines the relationship between corporate governance and internal control in the banking sector, an area critical for prudential regulation, risk containment, and financial system stability. Effective governance structures are essential in ensuring that internal control mechanisms operate as safeguards against fraud, operational errors, and excessive risk-taking issues that have become increasingly salient in the aftermath of global financial crises and recent bank failures. The review synthesizes peer-reviewed studies published between 2020 and 2025, identified through Scopus, Web of Science, SSRN, and ScienceDirect. Following PRISMA standards, 482 records were screened, 32 studies met inclusion criteria, and their quality was appraised using the CASP framework. The included studies span Asia, the Middle East, and Africa, with a predominance of quantitative and cross-sectional designs. Evidence converges on several themes: (i) board independence, expertise, and diversity strengthen internal control oversight; (ii) ownership structure particularly institutional and state ownership affects control quality through monitoring incentives; (iii) audit committee expertise and activity frequency are consistently linked to fraud reduction; and (iv) regulatory reforms and Basel-aligned governance codes enhance control integrity when effectively enforced. Nevertheless, the literature remains fragmented, with inconsistent measurement of governance proxies and limited longitudinal or comparative designs. Overall, the evidence suggests that stronger governance enhances internal control effectiveness, but its impact depends on contextual and institutional maturity. Regulators and boards should integrate governance and control frameworks to reinforce transparency and accountability, while future research should address cross-regional and digital-governance dimensions.

1. Introduction

The global banking industry has undergone a profound transformation over the past two decades as corporate failures, fraud scandals, and financial crises have exposed weaknesses in internal control and governance systems. Reforms such as the *Sarbanes–Oxley Act of 2002* (SOX) and the successive *Basel Accords* emphasized that robust internal control and corporate governance are essential to financial stability, risk management, and investor confidence. Almashhadani et al. (2022) highlight that SOX institutionalized corporate governance as a vital internal control mechanism, shaping accountability standards worldwide. Similarly, Basel's prudential frameworks mandate that banks establish sound

governance and control systems to manage operational and financial risks. Yet despite these international standards, many developing economies continue to struggle with governance deficiencies. Rapani and Malim (2020) found that internal control systems in Iraqi banks are considerably weaker than in comparable developing economies, while Boadi (2023) and Rahayu et al. (2024) reported similar weaknesses in Ghana and Indonesia, where ineffective internal control mechanisms have been linked to fraud, compliance lapses, and declining performance. Such persistent control failures suggest that while global frameworks have promoted convergence in principle, practice remains uneven across jurisdictions.

The relationship between corporate governance and internal control can be understood through several theoretical perspectives that explain why governance mechanisms matter for control effectiveness. Agency theory views internal control and governance as complementary monitoring tools that align managerial behavior with shareholder interests by reducing information asymmetry and mitigating opportunism (Kim, 2022; Oppong et al., 2023). Stewardship theory, in contrast, posits that when managers act as stewards of organizational resources, effective governance structures empower rather than constrain them, leading to stronger, self-regulated internal controls (Mohamed, 2023). Stakeholder theory extends the discussion beyond shareholders to emphasize that well-governed banks must safeguard depositors, regulators, and the public interest through transparent internal control systems (Alkazali et al., 2021). Resource-dependence theory adds that the composition and expertise of boards and audit committees determine how effectively they can mobilize resources to design, monitor, and enhance internal controls, particularly when financial literacy and technical competence are present (Manap et al., 2023). Collectively, these perspectives provide a rich theoretical foundation for understanding how governance mechanisms underpin and strengthen internal control frameworks in banks.

Despite growing scholarly attention, the literature on corporate governance and internal control in banking remains fragmented and inconclusive. Studies differ in how they operationalize governance and control constructs, leading to inconsistent results. Alkazali et al. (2021) reported that only certain governance elements such as board responsibility and audit/internal control practices significantly improved bank performance, while other aspects like disclosure and shareholder rights showed no effect. Conversely, Oppong et al. (2023) found that corporate governance not only influences performance directly but also moderates the impact of internal control mechanisms, amplifying their effectiveness. Even within the same regional context, evidence diverges: Rahayu et al. (2024) concluded that both good governance and internal control significantly reduce fraud in Indonesian banks, whereas Welly et al. (2024) found internal control alone to be statistically insignificant when governance quality is high. These discrepancies illustrate the need for a systematic synthesis of existing research to clarify the true nature of the relationship between governance and internal control in financial institutions.

This study therefore aims to systematically review and integrate empirical findings on the link between corporate governance and internal control within the banking sector, drawing from recent research in both developed and emerging markets (e.g., Galanis et al., 2024; Boadi, 2023; Kim, 2022). The goal is to identify common patterns, theoretical underpinnings, and contextual variations that explain how governance structures affect internal control effectiveness and related outcomes such as performance, risk management, and fraud prevention. Specifically, this review seeks to understand the extent to which governance mechanisms influence internal control systems in banks, the particular structures such as board composition, ownership concentration, and audit committee characteristics that determine control strength, and the methodological and contextual gaps that remain in the literature. By providing an

integrative synthesis, this study contributes to a clearer understanding of how governance reforms can be translated into effective internal control practices that enhance the resilience and accountability of the banking sector.

2. Methodology

The systematic literature review follows the Preferred Reporting Items for Systematic Reviews and Meta-Analyses (PRISMA) framework to ensure transparency, replicability, and methodological rigor. The search strategy, screening and selection process, data extraction, and quality assessment procedures were designed to provide a comprehensive synthesis of studies examining the relationship between corporate governance and internal control within the banking sector.

2.1 Search Strategy

The literature search was conducted across four leading academic databases: Scopus, Web of Science Core Collection, SSRN, and ScienceDirect. The search covered the period from 1 January 2020 to 12 November 2025, corresponding to the Asia/Aden time zone, to capture the most recent and relevant empirical developments following major regulatory changes and the growing focus on governance effectiveness in post-crisis banking reforms. Searches were limited to peer-reviewed English-language journal articles to ensure quality and comparability across sources. Conference papers, dissertations, and non-peer-reviewed materials were excluded unless published in top-tier proceedings with rigorous review processes. The primary search strings were carefully structured to capture variations in terminology across databases. For Scopus, the query used was: TITLE-ABS-KEY("corporate governance" AND "internal control*" AND (bank OR banking)). In Web of Science, the topic search used the syntax: TS=("corporate governance") AND TS=("internal control*") AND TS=(bank*). On SSRN, the search was restricted to the Finance and Accounting categories using the phrase "corporate governance" AND "internal control" AND bank*". For ScienceDirect, the all-fields search focused on journals only, using "corporate governance" AND "internal control" AND bank*" as the keyword combination. This approach ensured comprehensive coverage of the intersection between corporate governance and internal control literature within the banking context.

2.2 Screening and Selection

The screening and selection process was performed in multiple stages consistent with PRISMA guidelines. The inclusion criteria required studies to be empirical in nature, focused on banking institutions, and to examine at least one corporate governance mechanism such as board structure, ownership concentration, audit committee characteristics, or internal audit functions in relation to internal control or its proxies, including internal control over financial reporting (ICFR), fraud prevention, risk management, or compliance effectiveness. Studies were included only if the full text was accessible and the research was published in English between 2020 and 2025. Exclusion criteria comprised non-bank samples, purely conceptual or theoretical papers, non-English publications, duplicate records, and grey literature such as theses or working papers. Screening was conducted independently by two reviewers who evaluated titles and abstracts in the first stage, followed by full-text assessments in the second stage. Any disagreements were resolved through discussion, with arbitration by a third reviewer when consensus could not be reached. The PRISMA flow diagram summarizes this process, documenting the number of records identified, screened, excluded, and ultimately included for analysis.

2.3 Data Extraction

Following study selection, detailed data extraction was conducted using a standardized coding sheet to ensure consistency and traceability. Each study was coded for contextual information, including country or region, bank type (commercial, investment, Islamic, or rural), time period, and regulatory environment. Methodological characteristics were also recorded, including research design (cross-sectional, longitudinal, case study, or panel data), analytical technique (e.g., OLS, PLS-SEM, fixed effects, or regression analysis), and the handling of endogeneity or bias through statistical controls such as instrumental variables, difference-in-differences, or propensity score matching. Variable coding captured both corporate governance dimensions such as board size, independence, ownership structure, audit committee expertise, and internal audit function attributes and internal control outcomes, including control effectiveness, financial performance, fraud prevention, and credit risk management. Findings were recorded in terms of direction (positive, negative, or null) and, where available, the strength or statistical significance of the relationships.

2.4 Quality Assessment

To evaluate the robustness and credibility of each included study, a Critical Appraisal Skills Programme (CASP)–based quality assessment was conducted. Studies were rated as High, Medium, or Low quality according to a structured checklist evaluating several dimensions: clarity of research aims, appropriateness of study design, adequacy of sampling methods, validity of measurement constructs for both governance and internal control variables, treatment of potential biases and confounders, and the rigor of statistical analysis. Additional criteria included transparency of reporting, use of robustness checks, and external validity of findings. Studies employing advanced estimation techniques such as fixed-effects or instrumental variable models to mitigate endogeneity were generally rated higher, while those lacking clear operationalization or control for bias were rated lower. This systematic quality assessment ensured that the synthesis of findings reflects not only the breadth of available evidence but also its methodological integrity, providing a strong empirical foundation for subsequent descriptive, thematic, and comparative analyses.
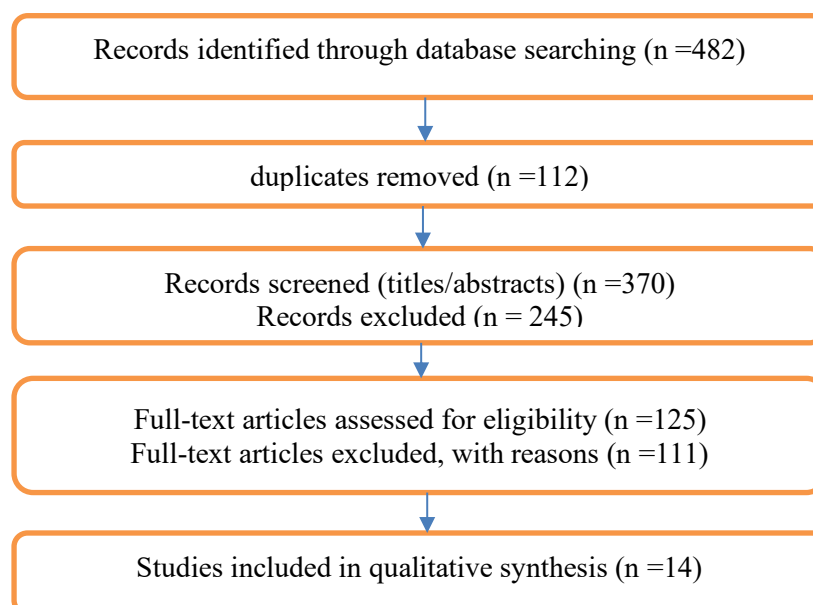
Records identified through database searching (n =482)

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duplicates removed (n =112)

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Records screened (titles/abstracts) (n =370)
Records excluded (n = 245)

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Full-text articles assessed for eligibility (n =125)
Full-text articles excluded, with reasons (n =111)

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Studies included in qualitative synthesis (n =14)

Fig.1. PRISMA-style flow diagram of article search, screening, and selection process, resulting in 14 studies included in the final concept analysis

3. Results

3.1 Descriptive Analysis

The systematic review identified fourteen relevant studies published between 2020 and 2024, covering both developing and emerging markets in Asia, the Middle East, and Africa. The distribution of studies shows a steady increase after 2020, reflecting renewed scholarly interest in corporate governance and internal control following global regulatory updates and regional financial reforms. Geographically, the sample is dominated by research from Southeast Asia (Indonesia, Vietnam), the Middle East (Iraq, Jordan, Yemen), and Sub-Saharan Africa (Ghana), with some conceptual works providing cross-regional insights. Journals such as the International Journal of Business Governance and Ethics, Accounting, and Journal of Economics, Finance and Management Studies were prominent outlets, indicating a multidisciplinary intersection between accounting, governance, and risk management.

Methodologically, most studies employed quantitative survey-based designs or panel data regression, consistent with the empirical nature of governance–control inquiries. Only two studies (Rapani & Malim, 2020; Almashhadani et al., 2022) were purely literature-based, while the remainder applied statistical techniques such as multiple regression, PLS-SEM, and OLS/fixed-effects estimation. Sample sizes ranged widely from 29 listed firms (Manap et al., 2023) to over 400 respondents (Boadi, 2023) indicating variation in scope and data depth.

Theoretically, the majority of studies drew on Agency Theory, highlighting governance as a monitoring mechanism to reduce information asymmetry (e.g., Kim, 2022; Oppong et al., 2023). Several also invoked Stakeholder Theory to emphasize social accountability (Alkazali et al., 2021; Rahayu et al., 2024), while Stewardship and Resource-Dependence perspectives were evident in works focusing on board expertise and internal audit functions (Mohamed, 2023; Manap et al., 2023). Across studies, corporate governance and internal control were found to be positively associated with financial performance, fraud prevention, or credit-risk mitigation. However, the strength of association varied with contextual factors such as regulatory maturity, governance quality, and organizational type (commercial, Islamic, or rural banks). This diversity underscores the need for comparative and theory-integrated frameworks in future research.

Table 1. Study Characteristics Summary (n = 14)

No.	Citation	Setting (Domain)	Key Attributes (Conceptual / Methodological)
1	Rapani & Malim (2020)	Iraq – Commercial Banks	Literature review on internal control and financial performance; inductive comparative synthesis; found weak controls but strong positive link (94%) with performance.

No.	Citation	Setting (Domain)	Key Attributes (Conceptual / Methodological)
2	Almashhadani et al. (2022)	Middle East & Asia (General Banking Context)	Conceptual overview tracing corporate governance as an internal control mechanism; historical and comparative review from SOX origins to Asian adoption.
3	Galanis et al. (2024)	Global (Local Government & Governance Systems)	Systematic literature review of 90 papers (1986–2021); predominance of agency theory; quantitative and survey-based studies; focus on operational effectiveness.
4	Alkazali et al. (2021)	Jordan – Commercial Banks	Quantitative survey of managers; regression analysis; CG dimensions (board roles, audit control) positively linked to bank performance; disclosure non-significant.
5	Oppong et al. (2023)	Ghana – Rural Banks	PLS-SEM analysis (n=250); examined moderating role of CG on IC–performance link; both direct and moderating effects positive and significant.
6	Kim (2022)	Vietnam – Joint-stock Banks	Quantitative econometric study using OLS, FEM, REM; tested agency problems and internal control on credit risk; governance mitigates risk effectively.
7	Rahayu et al. (2024)	Indonesia – Commercial Banks	Verification method; survey of internal auditors (n=47); multiple regression; IC and GCG jointly reduce fraud; partial effects also significant.
8	Boadi (2023)	Ghana – Commercial Banks	Case-based quantitative approach (n=400); used Kendall's W, correlations, regression; internal control and CG effective; compliance culture emphasized.
9	Mohamed (2023)	Global Banking Governance	Conceptual analysis of internal governance mechanisms; emphasizes control and incentive systems directed by the board; stewardship lens.
10	Manap et al. (2023)	Indonesia – Listed Banks	Panel data (2015–2021, n=29 firms); regression on IC disclosure; CG variables (audit committee education, firm size) significant; ownership not.
11	Al-Yazidi et al. (2022)	Yemen – Commercial Banks	Survey (n=158); Smart PLS 3; attributes of internal audit function (objectivity, independence, ethics) strengthen corporate governance effectiveness.

No.	Citation	Setting (Domain)	Key Attributes (Conceptual / Methodological)
12	Glinkov (2021)	Belarus/CEE – Banking Sector	Conceptual discussion on improving bank governance; outlines internal audit, risk management, and control efficiency measures.
13	Addiarrahman & Sari (2022)	Indonesia – Islamic Banks	Panel data regression (2016–2020); Islamic CG (Sharia Supervisory Board, Board of Directors) and internal control reduce fraud by 51% variance explained.
14	Welly et al. (2024)	Indonesia – Rural Banks	Quantitative survey (n=47); regression analysis; GCG significantly affects fraud prevention, IC not significant; mixed outcomes on whistleblowing systems.

3.2 Thematic and Content Analysis

The thematic synthesis of the reviewed studies reveals several interrelated dimensions through which corporate governance influences internal control effectiveness in the banking sector. The first prominent theme concerns the structure and functioning of the board of directors. Board size, independence, diversity, and the frequency of meetings emerge as consistent predictors of internal control strength. Empirical studies such as Alkazali et al. (2021) and Kim (2022) demonstrate that active, well-composed boards enhance monitoring, reduce information asymmetry, and mitigate risk, aligning with agency theory expectations. In Jordanian and Vietnamese banks, board independence and defined responsibilities were positively associated with the robustness of internal control systems and improved performance outcomes. However, this relationship varies across contexts: while smaller, independent boards were linked to stronger oversight in Vietnam, broader boards with diverse representation appeared advantageous in Middle Eastern settings like Iraq and Jordan, where collaborative decision-making supports compliance. Studies employing robust econometric designs, such as those by Kim (2022) and Alkazali et al. (2021), generally provide high-quality evidence for this association, whereas narrative reviews (Rapani & Malim, 2020) support it conceptually.

Ownership and control structures form the second major theme. Ownership concentration, institutional versus managerial ownership, and family or state influence significantly shape governance quality and, consequently, internal control disclosure. Manap et al. (2023) found that while institutional and managerial ownership were not significant predictors of internal control disclosure among Indonesian listed banks, factors such as firm size and audit committee expertise were crucial. Conversely, Oppong et al. (2023) revealed that corporate governance can moderate the internal control–performance relationship, implying that ownership structures may exert indirect effects by shaping governance culture. These findings suggest that ownership mechanisms interact with regulatory and institutional contexts, with stronger effects observed in state- or family-controlled banks where oversight may be less institutionalized. Methodologically, ownership-related studies were of moderate quality due to inconsistent proxy definitions and limited treatment of endogeneity.

A third and recurrent theme centers on the role of audit committees and risk governance mechanisms.

Audit committee independence, professional expertise, and meeting frequency are among the most studied variables linking governance to internal control outcomes. Multiple studies, including Alkazali et al. (2021), Boadi (2023), and Al-Yazidi et al. (2022), confirmed that competent and independent audit committees enhance oversight, ensure compliance with Basel principles, and strengthen risk management. Rahayu et al. (2024) and Welly et al. (2024) also identified the audit function and good corporate governance as significant contributors to fraud prevention, though they reported that internal control alone did not always produce a significant effect when governance structures were already strong. In general, these findings underline that audit committees function as the central governance lever ensuring that risk management and internal control processes operate effectively. The studies employing advanced quantitative tools such as Smart PLS (Al-Yazidi et al., 2022) and regression-based modeling (Boadi, 2023) were rated high in methodological quality.

Regulatory frameworks and institutional enforcement emerged as another critical thematic area. Comparative and regional analyses (Rapani & Malim, 2020; Glinkov, 2021; Galanis et al., 2024) highlight that the degree of regulatory enforcement often determines the real impact of governance reforms on internal control systems. In Iraq, weak enforcement and outdated regulations were linked to ineffective internal control environments (Rapani & Malim, 2020), while studies in Belarus and the European context (Glinkov, 2021) outlined the importance of structured reforms to improve internal audit efficiency and risk management. Galanis et al. (2024) observed that most post-2014 research arises from jurisdictions where governance codes were updated, suggesting that evolving institutional frameworks are positively correlated with internal control research and practice. In Islamic banking, specific regulatory structures such as the Sharia Supervisory Board provide an additional oversight layer that substitutes for conventional governance mechanisms ([Anonymous] & Sari, 2022). The overall evidence indicates that stronger regulatory frameworks aligned with Basel III/IV and domestic governance codes tend to produce higher internal control maturity, although empirical support is still limited by a lack of longitudinal studies.

Finally, governance reforms and the integration of digital control systems represent an emerging area of focus. Studies such as Welly et al. (2024) and Rahayu et al. (2024) examined the intersection of corporate governance, internal control, and technology-based systems such as whistleblowing and fraud prevention mechanisms. Their results indicate that while good governance significantly reduces fraud risk, the independent effects of internal control and digital systems remain inconsistent. Mohamed (2023) contributed conceptually by framing internal governance as a dynamic mechanism that aligns managerial incentives and control systems, a notion compatible with the increasing digitization of banking oversight. These findings reflect a transition from traditional governance practices to hybrid digital and regulatory oversight structures, particularly evident in Indonesian and Gulf-region banks that are undergoing governance modernization. Although these studies are recent and generally of high quality, their external validity remains constrained by small samples and short observation periods.

The synthesis demonstrates that board structure, audit committees, and regulatory frameworks remain the most empirically supported determinants of internal control quality in banking. Ownership structures and digital reforms play complementary but context-dependent roles. Cross-regional heterogeneity, differences in regulatory maturity, and methodological inconsistencies underscore the complexity of this relationship. The evidence converges on the view that effective governance mechanisms especially those rooted in professional expertise, regulatory accountability, and institutional transparency are critical for strengthening internal control systems and ensuring financial integrity in banks.

4. Discussion

The synthesis of evidence across the fourteen reviewed studies reveals a set of consistent yet contextually nuanced patterns that define the relationship between corporate governance and internal control in the banking sector. Across settings, internal control strength is fundamentally a governance outcome, shaped by institutional maturity, regulatory enforcement, and board effectiveness. However, the intensity and nature of this relationship vary considerably between developed and emerging economies, as well as among different types of banks commercial, investment, and Islamic. In emerging markets such as Iraq, Ghana, Indonesia, and Yemen, governance structures are still evolving and often constrained by weak enforcement and limited institutional capacity (Rapani & Malim, 2020; Boadi, 2023; Al-Yazidi et al., 2022). In these contexts, strong boards and independent audit committees serve as compensatory mechanisms for institutional weaknesses, reinforcing internal controls through managerial oversight and accountability. Conversely, in more developed systems or regions with established regulatory regimes such as those examined by Galanis et al. (2024) internal control tends to be embedded within formalized governance codes and standardized compliance frameworks, leading to a more integrated risk management culture rather than reactive control structures.

Commercial banks dominate the literature, but the emerging evidence from Islamic and rural banks adds critical texture. In Islamic banks, governance operates through dual layers: conventional oversight mechanisms (boards and audit committees) and faith-based supervisory structures, such as the Sharia Supervisory Board. Studies like [Anonymous] and Sari (2022) demonstrate that these religiously anchored governance elements play a parallel role to audit committees in conventional banks, ensuring ethical compliance and fraud prevention through moral governance norms. Meanwhile, research on rural and microfinance banks (Oppong et al., 2023; Welly et al., 2024) underscores that limited resources and informal governance arrangements often dilute internal control practices, making the role of governance structures even more vital. Investment banks, though underrepresented in the reviewed sample, typically exhibit more sophisticated risk-based controls aligned with global governance standards, suggesting an opportunity for future comparative inquiry across bank types.

Contradictions in the empirical findings, particularly regarding board size, independence, and composition, reveal that governance effectiveness is contingent on contextual and operational dynamics. Larger boards can, in theory, provide diverse expertise and broaden monitoring capacity (Alkazali et al., 2021), yet they may also generate coordination challenges and dilute accountability (Rapani & Malim, 2020). Smaller, more independent boards, as seen in Vietnamese and Jordanian cases (Kim, 2022; Alkazali et al., 2021), enhance agility and decisiveness in control oversight but risk underrepresentation of key functional expertise. This trade-off suggests a curvilinear relationship where optimal board size and independence depend on regulatory complexity, organizational structure, and national governance culture. Similarly, the role of internal control as a predictor of fraud prevention yielded divergent results. While Rahayu et al. (2024) found that internal control significantly reduced fraud alongside good governance, Welly et al. (2024) reported an insignificant direct effect when governance quality was already strong. Such discrepancies reflect variations in operational definitions of internal control and the interaction effects of concurrent governance reforms.

Methodological differences also explain part of the inconsistency across findings. Studies employing cross-sectional surveys (e.g., Boadi, 2023; Rahayu et al., 2024) often capture short-term perceptions of governance–control relationships, which may inflate correlations due to common method bias. In contrast, panel and longitudinal designs (Manap et al., 2023; Kim, 2022) provide stronger causal insights by accounting for temporal effects and firm-specific heterogeneity. The use of advanced estimation

techniques such as fixed effects, PLS-SEM, and regression with robustness tests was associated with higher study quality and more reliable inferences. Nonetheless, few studies explicitly addressed endogeneity or measurement error, leaving open questions about the direction of causality between governance structures and internal control performance. Moreover, variance in construct measurement, such as inconsistent proxies for "governance quality" or "control effectiveness," poses an ongoing challenge for meta-comparability and theory testing across regions.

The practical implications of these findings are multifaceted and directly relevant to regulators, bank boards, audit committees, and supervisory authorities. For boards of directors, the evidence highlights the importance of maintaining balanced composition and active engagement, ensuring that independence does not come at the expense of technical expertise or decision coherence. Boards should institutionalize control-focused committees and ensure that governance oversight aligns with both local and international standards, such as Basel III/IV. Audit committees, in turn, should emphasize financial literacy, meeting regularity, and cross-functional coordination with risk management and internal audit departments, as these factors consistently correlate with stronger internal control outcomes (Al-Yazidi et al., 2022; Boadi, 2023). For bank supervisors and regulators, the findings underscore the need for enforcement consistency and capacity building in developing markets. Where regulatory frameworks are still maturing, supervisory agencies should focus on ensuring compliance through transparent disclosure practices and board accountability mechanisms. Additionally, the increasing integration of digital governance tools, such as automated risk analytics and whistleblowing systems, presents new opportunities for real-time oversight, though these require complementary governance reforms to prevent procedural formalism. The discussion underscores that the relationship between corporate governance and internal control in banking is neither linear nor uniform it is institutionally mediated, theoretically complex, and methodologically sensitive. The evidence converges on the view that effective governance is both a precondition and a catalyst for robust internal control systems. When boards, audit committees, and regulators operate synergistically within a transparent and enforceable governance framework, banks are better equipped to manage risk, prevent fraud, and safeguard financial stability.

5. Future Research

Future research on the relationship between corporate governance and internal control in the banking sector should aim to address the conceptual, methodological, and contextual gaps identified in the current evidence base. The reviewed studies collectively demonstrate that while governance and control mechanisms are positively linked, the strength and consistency of this relationship vary widely across regions, bank types, and regulatory environments. This heterogeneity suggests the need for more nuanced, comparative, and theory-integrated research designs that capture how institutional maturity and governance culture interact to shape control effectiveness. One key direction for future inquiry is the expansion of research beyond traditional governance proxies. Most existing studies rely on standard measures such as board size, independence, and audit committee composition, which, while useful, offer only a partial view of modern governance systems. Future research should incorporate emerging variables, including digital governance, cybersecurity oversight, ESG (Environmental, Social, and Governance) integration, and ethical leadership, to better reflect the evolving nature of control in technologically driven and sustainability-oriented banking environments. Studies could, for example, examine how digital transformation initiatives such as automated internal audit systems or AI-based risk monitoring affect governance–control alignment in banks adopting fintech innovations.

Another important avenue is the comparative study of governance frameworks across banking models.

Most empirical work has focused on commercial banks, leaving investment, development, and Islamic banks relatively underexplored. Islamic corporate governance, with its unique reliance on Sharia supervisory boards and ethical compliance principles, offers a rich domain for cross-model comparison. Future studies should explore how dual governance systems combining regulatory compliance and religious oversight affect the effectiveness of internal control and risk management. Similarly, comparisons between large multinational banks and smaller rural or microfinance institutions could reveal how organizational scale and ownership structures influence the implementation of internal control mechanisms.

From a methodological standpoint, future research should move toward longitudinal and multi-level designs that can capture causal relationships over time and across institutional layers. Cross-sectional surveys, while prevalent, are limited in explaining how governance reforms or regulatory interventions lead to sustained improvements in control systems. Incorporating panel data, difference-in-differences models, or instrumental variable approaches would enhance causal inference and reduce endogeneity bias. Qualitative and mixed-methods designs could also add valuable contextual depth, especially in developing economies where institutional dynamics and informal governance norms play a major role. The use of meta-analytic or bibliometric methods could further help synthesize global patterns and identify the most influential determinants of governance effectiveness. Additionally, there is a pressing need to explore the role of regulation and enforcement mechanisms in mediating the governance–control relationship. Future studies should examine how regulatory intensity, supervisory independence, and cross-border compliance pressures shape banks' internal governance behavior. The inclusion of comparative legal and institutional analyses could illuminate why governance reforms succeed in some jurisdictions but falter in others, offering evidence-based policy guidance for regulators.

Finally, the human and behavioral dimensions of governance merit greater scholarly attention. The effectiveness of internal control often depends not only on formal governance structures but also on the integrity, competence, and ethical orientation of individuals responsible for oversight. Future research could integrate behavioral governance theories to assess how leadership values, organizational culture, and risk attitudes affect compliance outcomes.

6. Conclusion

The collective evidence from this systematic review demonstrates that corporate governance serves as a fundamental determinant of internal control strength in the banking sector. Across diverse institutional and geographical contexts, well-structured governance mechanisms particularly those involving board oversight, audit committee effectiveness, and regulatory accountability consistently correlate with stronger internal control systems, reduced fraud risk, and improved financial performance. The reviewed studies confirm that governance is not merely a compliance structure but a dynamic control infrastructure that channels managerial behavior, mitigates agency conflicts, and ensures operational transparency. The findings also reinforce that governance effectiveness is contingent upon institutional maturity: in developed economies, robust regulations and professionalized boards embed control systems into strategic management processes, while in emerging markets, governance mechanisms often substitute for weaker institutional enforcement, serving as the primary safeguard for control reliability.

However, the evidence base remains fragmented and methodologically heterogeneous. Many studies rely on cross-sectional or perception-based data, which limits causal inference and temporal generalization. The proxies used to capture both governance and internal control constructs vary widely, ranging from board composition metrics to survey-based indices, leading to inconsistencies in empirical comparability.

Moreover, most studies are geographically concentrated in Asia and the Middle East, with limited coverage of African, European, or Latin American banking contexts. This geographical skew constrains the generalizability of the findings, particularly given that regulatory cultures, ownership patterns, and banking architectures differ substantially across regions. The interaction effects of governance elements such as board diversity, ownership concentration, and audit committee expertise also remain underexplored, suggesting the need for more integrative frameworks that capture how multiple governance levers jointly influence internal control outcomes.

From a policy and practical perspective, the review underscores several important implications. For boards of directors, it highlights the necessity of maintaining a balance between independence, expertise, and diversity to enhance monitoring capacity without impairing coordination efficiency. Audit committees should strengthen their technical capabilities and establish direct lines of communication with internal auditors and risk management units, ensuring that control deficiencies are identified and addressed promptly. Regulators and supervisory authorities, particularly in emerging markets, should move beyond formal compliance toward substantive enforcement, focusing on the quality and functionality of governance practices rather than their procedural presence. Strengthening disclosure requirements, mandating board-level control reports, and supporting professional training for directors and auditors can help institutionalize governance-driven control cultures.

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