



MODERATING EFFECT OF BOARD GENDER DIVERSITY ON THE RELATIONSHIP BETWEEN OPERATIONAL AND LIQUIDITY RISK DISCLOSURE ON VALUE OF LISTED FINANCIAL COMPANIES IN NIGERIA

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Abstract

The study examined the moderating effect of board gender diversity on the relationship between operational and liquidity risk disclosure and value of listed financial companies in Nigeria from 2014 to 2023. Utilizing a Generalized Method of Moments (GMM) approach, data was collected from 540 firm-year observations, covering operational risk disclosure, liquidity risk disclosure, and board gender diversity attribute. The findings indicate that board gender diversity significantly moderates the relationship between operational risk disclosure and firm value, enhancing firm performance. However, board gender diversity negatively moderates the relationship between liquidity risk disclosure and firm value, suggesting complexities in how diverse boards manage liquidity risk communications. The study concludes that board gender diversity plays a significant role in influencing how risk disclosures affect firm value. Specifically, while board gender diversity positively moderates the relationship between operational risk disclosure and firm value, it has a negative moderating effect on the relationship between liquidity risk disclosure and firm value. Therefore, the study recommends that to leverage the benefits of board gender diversity effectively, firms should invest in training programs that equip board members with the necessary skills to communicate risk disclosures clearly. These programs should emphasize effective decision-making processes and the importance of cohesive communication strategies, particularly in relation to liquidity risk management.

Keywords: Board gender diversity, Operational Risk Disclosure, Liquidity risk Disclosure, Firm Value.



Introduction

In recent years, corporate governance and risk management have garnered significant attention, especially in the financial sector, where proper risk management and transparent disclosure are critical for maintaining market confidence and corporate stability. The importance of operational and liquidity risk disclosure cannot be overstated, as it plays a vital role in informing stakeholders about the potential risks a firm faces and its ability to manage them. Operational risk encompasses failures in internal processes, systems, or external events, while liquidity risk involves a firm's ability to meet its short-term obligations. When properly disclosed, these risks provide investors and stakeholders with valuable insights into a firm's health and resilience (Chen et al., 2021). However, the effectiveness of these disclosures largely depends on the governance structures in place, particularly the composition of the board of directors. Board gender diversity, which includes aspects such as gender, ethnicity, experience, and educational background, has been identified as a key factor influencing decision-making and overall governance quality. A diverse board is believed to bring a broader range of perspectives and expertise, which may lead to more balanced and comprehensive risk management strategies. This, in turn, could improve how risk information is disclosed to the market, influencing how investors perceive the firm's future performance (Adelegan, 2022).

In the context of Nigeria, where the financial sector is a major driver of economic development, the corporate governance structure has been under scrutiny, particularly about how it addresses operational and liquidity risks. The Nigerian financial sector has experienced significant challenges in recent years, including the 2008 global financial crisis and the subsequent regulatory reforms. These events highlighted the need for improved risk disclosure and transparency, as well as better governance practices (Otusanya, 2022). Despite these regulatory efforts, gaps remain in how firms disclose operational and liquidity risks, and how these disclosures are perceived by the market. The moderating role of board gender diversity is critical in this setting. Research suggests that diverse boards are more likely to advocate for transparent and robust risk disclosures, which can positively affect firm value. Diverse boards are less likely to suffer from groupthink, and they are more likely to encourage a culture of transparency and accountability. For example, Ishak et al. (2020) found that firms with higher levels of board gender diversity disclosed more comprehensive risk information, which, in turn, had a positive impact on their firm value. Similarly, Elamer et al. (2020) noted that diverse boards are better at mitigating the negative effects of risk on firm performance by implementing more effective risk management strategies.

The financial sector in Nigeria plays an important role in the country's economic development, yet it remains vulnerable to various forms of risk, particularly operational and liquidity risks. Operational risk, which arises from internal process failures, and liquidity risk, which concerns a firm's ability to meet short-term obligations, are critical to the stability and performance of financial institutions. Inadequate disclosure of these risks can lead to misinformed decision-making by investors and stakeholders, potentially undermining market confidence and



adversely affecting firm value (Adelegan, 2022). Despite regulatory requirements for firms to disclose risk information, the quality and comprehensiveness of these disclosures vary significantly across listed companies in Nigeria, raising concerns about the transparency and effectiveness of risk management practices (Otusanya, 2022). In addition to this, corporate governance practices, particularly board gender diversity, have been identified as potential drivers of improved risk disclosure. Diverse boards, composed of individuals with different gender, ethnicity, professional backgrounds, and experience, are believed to enhance decision-making and reduce information asymmetry. However, the extent to which board gender diversity influences the relationship between risk disclosure and firm value remains underexplored in Nigeria's financial sector (Wang et al., 2022). While previous studies have highlighted the positive impact of board gender diversity on general governance practices, there is limited empirical evidence on how it moderates the relationship between specific risk disclosures such as operational and liquidity risks and market performance (Elamer et al., 2020).

Given the regulatory reforms and the economic volatility faced by Nigeria's financial institutions, there is an urgent need to understand how firms can enhance their risk disclosure practices, particularly in the areas of operational and liquidity risks. Furthermore, it is crucial to investigate whether board gender diversity can play a moderating role in this relationship, potentially improving firm performance by fostering more transparent and effective governance. Failure to address these issues may result in poor risk management, reduced market confidence, and weakened financial stability, all of which can have far-reaching consequences for Nigeria's financial system and the broader economy. Hence, the study examined the extent board gender diversity moderate the relationship between operational and liquidity risk disclosure and firm value in Nigeria's financial sector?

Hypotheses

H₀1: Operational risk disclosure has no significant effect on firm value of listed companies in financial sector of Nigeria.

H₀2: Liquidity risk disclosure has no significant effect on firm value of listed companies in financial sector of Nigeria

H₀3: Board gender diversity has no significant moderating effect on the relationship between Operational risk disclosure and firm value of listed companies in financial sector of Nigeria.

H₀4: Board gender diversity has no significant moderating effect on the relationship between Liquidity risk disclosure and firm value of listed companies in financial sector of Nigeria.



Literature Review

Concept of Firm value

Firm value serves as a significant measure of a firm's financial health and performance, reflecting investor sentiment and the company's perceived growth potential. It is important to note that firm value can fluctuate based on various factors, including market trends, investor behavior, and broader economic conditions (Mishra, 2020). As such, it is not always a direct reflection of the intrinsic value of a firm, which is determined by its fundamentals, such as revenue, earnings, and asset values. According to Borad (2022), a firm's firm value is an economic concept that reflects the worth of company in market. The investor's assessment of a company's success is reflected in its firm value. Firm value can increase or decrease because of investors' perception of the vulnerability of the company to risks and potential threats. In general, every investor uses available information to make investment decisions. When convinced to invest in the stock of such companies, investors respond favourably to accessible information. Investors, on the other hand, respond negatively when public information allows them to avoid investing in such enterprises. Furthermore, investors are usually cautious to avoid investing in stocks that would result in losses (Okpo & Aruwa, 2021).

Concept of Financial risk disclosure

Financial risk disclosure refers to the process by which companies communicate the potential risks that may affect their financial performance, operational stability, or overall firm value. Financial risk disclosure plays a crucial role in enhancing transparency and reducing information asymmetry between firms and their stakeholders. Through risk disclosures, companies provide stakeholders with detailed insights into the various risks they face, including market, credit, liquidity, and operational risks (Mishra, 2020; Hassan & Ibrahim, 2020). These disclosures are essential for fostering investor confidence and helping stakeholders make informed decisions, particularly in sectors like finance where risk exposure can significantly impact performance (Chen et al., 2021; Adelegan, 2022).

Operational Risk Disclosure

Operational risk refers to the potential losses resulting from inadequate or failed internal processes, people, systems, or external events. In financial institutions, operational risks can stem from a variety of sources, such as fraud, legal risks, system failures, and external disruptions (Ishak et al., 2020; Owolabi, 2023). The disclosure of operational risk information is critical for stakeholders, as it provides them with insights into how effectively a firm identifies, manages, and mitigates such risks. It enhances transparency, enabling investors, regulators, and other stakeholders to assess the firm's risk profile and governance structures (Chung, et al., 2022; Ahmad et al., 2022).



According to the Basel Committee on Banking Supervision, operational risk disclosure is essential for improving risk management practices and for allowing market participants to better understand a company's exposure to potential disruptions (Gyapong, et al., 2021). As operational risks can be highly unpredictable, consistent and detailed reporting is necessary to build stakeholder confidence, especially in financial institutions that are vulnerable to operational disruptions (Elamer et al., 2020).

Liquidity risk disclosure

Liquidity risk refers to the risk that a company will not be able to meet its short-term financial obligations due to an inability to convert assets into cash without incurring significant losses (Hassan & Ibrahim, 2020). In the financial sector, liquidity risk is particularly critical as banks and other financial institutions rely heavily on short-term liabilities to fund long-term assets. Therefore, effective management and disclosure of liquidity risks are vital to ensure the stability of these institutions and maintain investor confidence (Chung, et al., 2022). Liquidity risk disclosure involves reporting on a company's exposure to liquidity risks, its policies for managing those risks, and its ability to access liquid assets during periods of financial stress (Elamer et al., 2020). The disclosure of such information provides stakeholders with essential insights into how well a firm is positioned to handle liquidity crises. It also reflects the company's transparency and its adherence to regulatory standards, such as the Basel III liquidity coverage ratio (LCR) and net stable funding ratio (NSFR) requirements (Ahmad et al., 2022; Wang et al., 2022).

The importance of liquidity risk disclosure has grown significantly in the aftermath of the 2008 global financial crisis. During the crisis, many financial institutions faced liquidity shortages, which contributed to systemic failures and economic downturns. As a result, regulators and investors have since demanded greater transparency around liquidity management practices (Mishra, 2020). In response, financial institutions worldwide, including those in Nigeria, have been required to enhance their liquidity risk disclosures (Otusanya, 2022; Owolabi, 2023).

Concept of Board gender diversity

Board gender diversity refers to the inclusion of individuals from various backgrounds, experiences, and perspectives within a company's board of directors. This diversity can manifest in several forms, including gender, ethnicity, age, education, professional experience, and functional expertise. The concept of board gender diversity has gained significant attention in corporate governance literature and practice, as it is believed to enhance decision-making processes, improve corporate performance, and foster innovation (Hassan & Ibrahim, 2020; Chen et al., 2021). Board gender diversity is considered crucial for improving corporate governance by fostering a broader range of viewpoints, reducing groupthink, and increasing the ability to address complex business challenges. It has been linked to better risk management, improved financial performance, and stronger corporate social responsibility (Mishra, 2020).



The modality of managing corporate entities in Nigeria can be said to be rooted in her legal system as the company law in the country recognises the two main organs of business organisation (the board of directors and general meetings) before the emergence of the first code of corporate governance (CG) in the country. The concept of CG simply pays more attention on how a company should be manned by those charged with governance. In other words, the first code issued in 2003 was expected to be used in conjunction to relevant sections of the legislation known as the Companies and Allied Matter Act of 1990, hereafter CAMA by the Nigerian companies, most especially the quoted ones.

Empirical Review

Hassan and Ibrahim (2020) examine the impact of risk disclosure on firm value, focusing on the moderating role of board gender diversity. Period from 2010–2018. The study employed panel data regression analysis, using data from 50 listed firms in Nigeria's financial sector. Board gender diversity was measured using gender and professional background diversity, while risk disclosure was proxied by operational and liquidity risk metrics. The study found that firms with diverse boards disclosed more comprehensive risk information. It further revealed that board gender diversity had a positive and significant moderating effect on the relationship between liquidity risk disclosure and firm value but not on operational risk disclosure. While the study provided useful insights into board gender diversity's impact on liquidity risk disclosure, it lacked a robust assessment of other forms of diversity such as age or ethnicity. Additionally, the study's focus on Nigerian firms limits the generalizability of the findings to other regions.

Elamer et al. (2020) investigate the influence of corporate governance, particularly board gender diversity, on the quality of risk disclosure and its subsequent effect on firm performance 2008–2017. Using a mixed-method approach, the study combined quantitative panel data analysis and qualitative case studies from listed UK financial firms. A fixed-effects regression model was used to determine the relationship between risk disclosure, board gender diversity, and firm performance. The findings showed that board gender diversity, particularly gender diversity, positively moderated the relationship between both operational and liquidity risk disclosures and firm value. The study indicated that firms with greater diversity in their boardrooms were better equipped to communicate risks to shareholders. This study offered a comprehensive examination of board gender diversity across multiple dimensions. However, its limitation was the sole focus on financial firms in the UK, leaving a gap in its applicability to develop economies like Nigeria, where the corporate governance environment is distinct.

Otusanya (2022) assess the effectiveness of corporate governance mechanisms, especially board gender diversity, in moderating the effects of risk disclosure on corporate performance in the Nigerian financial sector from 2012–2020. This study applied structural equation modeling (SEM) to analyze data from 60 listed financial institutions. It focused on board gender diversity's moderating role on the relationship between risk disclosure (operational and liquidity) and firm value. The analysis revealed that operational risk disclosure had a significant



negative impact on firm value, but this relationship was weakened in companies with higher board gender diversity. For liquidity risk disclosure, board gender diversity strengthened the positive relationship with firm value. The study contributed significantly to the discourse on risk disclosure in Nigeria's financial sector. However, it did not explore other potential moderating factors, such as ownership structure, that could further explain variations in firm value.

Wang et al. (2022) examine how risk management disclosures influence firm value, considering the moderating effect of board gender diversity. Period of Study: 2015–2020. Methodology: This study employed a Generalized Method of Moments (GMM) estimation technique to account for endogeneity in panel data from Chinese financial institutions. Board gender diversity was measured across multiple dimensions, including gender, nationality, and professional expertise. Results: Board gender diversity was found to significantly moderate the relationship between operational and liquidity risk disclosures and firm value. Specifically, firms with more diverse boards experienced better market performance when disclosing both types of risks. Although this study presented strong empirical evidence for the moderating effect of board gender diversity, its reliance on financial firms from a single country raises concerns about the applicability of the findings to different corporate governance settings, such as those in emerging markets like Nigeria.

Adelegan (2022) explore the relationship between risk disclosure practices and corporate performance, with board gender diversity acting as a moderating variable. Period of Study: 2010–2019. Methodology: A dynamic panel data model was used, focusing on 40 listed firms in Nigeria. The study utilized GMM to assess the moderating role of board gender diversity in the relationship between operational and liquidity risk disclosure and firm value. Results: The results indicated that board gender diversity, particularly in terms of gender and professional expertise, positively moderated the relationship between liquidity risk disclosure and firm value. However, operational risk disclosure was found to negatively impact firm value, even with diverse boards. The study offered valuable insights into the Nigerian context. However, it fell short in addressing why operational risk disclosure remained negatively associated with firm performance, even when board gender diversity was high. This points to the need for further investigation into how firms manage operational risks internally.

Theoretical Framework

Signaling Theory: Signaling theory, first introduced by Michael Spence in 1973, explains how one party (the sender) credibly conveys information to another party (the receiver) when there is an asymmetry of information. The theory initially arose from Spence's work on job market signaling, where job applicants signal their qualifications to potential employers through education or credentials. The theory has since been adapted to various fields, including corporate finance and governance, where firms signal their quality to investors through disclosures, such as financial statements, risk disclosures, and corporate governance practices. In the context of corporate governance, signaling theory suggests that companies can use



disclosures to signal their risk management practices and the quality of their board to external stakeholders. Investors, analysts, and other market participants view the disclosure of critical information, such as credit risk and liquidity risk, as signals of the firm's commitment to transparency and sound governance. These signals reduce information asymmetry and increase confidence in the firm's management, which can enhance the company's firm value (Connelly et al., 2011).

The presence of diverse boards can strengthen the credibility of the signal, as board gender diversity is often associated with better decision-making, improved risk management, and broader perspectives (Ahmad et al., 2022). Gender, educational, and professional diversity are signals that a firm is committed to progressive and inclusive governance practices, which are viewed favorably by the market. In this way, firms with diverse boards that disclose comprehensive risk information are likely to be seen as lower-risk and better managed, thus enhancing their firm value (Elamer et al., 2020). This study examines the moderating role of board gender diversity on the relationship between operational and liquidity risk disclosures and firm value in Nigeria's financial sector. According to signaling theory, the firm's risk disclosures serve as a signal of its risk management practices to investors. However, these signals may be stronger or more credible when the firm's board is diverse.

The theory suggests that a diverse board comprising individuals of different genders, educational backgrounds, and professional experiences enhances the credibility of the firm's risk disclosures. When a firm with a diverse board discloses operational or liquidity risk information, the market is likely to perceive these disclosures as more reliable and reflective of well-considered governance practices. This perception, in turn, should positively influence the firm's firm value. Several studies (e.g., Wang et al., 2022; Gyapong, et al., 2021) have supported the role of signaling theory in explaining the relationship between corporate disclosures and firm value, particularly in the context of board gender diversity. Therefore, signaling theory provides a framework to understand how board gender diversity moderates the impact of risk disclosure on firm value, making it a suitable underpinning for this study. By applying this theory, the study posits that firms with diverse boards are better able to signal the quality of their risk management through operational and liquidity risk disclosures, which in turn enhances their firm value.

Methodology

The study adopted an expo facto research design as the study relied on the existing data to evaluate relationship existing between an independent variable (financial risk disclosures) and a dependent or outcome variable (firm value). The population of the study is all the listed firms in the financial sector of Nigeria. Given the nature of the present study, secondary sources were utilized for data collection. The data for the variables was gathered from the annual reports and accounts of the sampled companies. Additionally, companies' annual reports, accounts of the sampled firms, and relevant publications from the Nigeria Exchange Group (NXG). All market-



related data was extracted from the archives and other relevant publications of the NXG/SEC of Nigeria covering the period from 2014 to 2023.

Stochastically, the models are written as follows:

$$FV_{it} = \beta_0 + \beta_1 FV_{it-1} + \beta_2 BGD_{it} + \beta_3 OPRD_{it} * BGD_{it} + \beta_4 LQRD_{it} * BGD_{it} + \epsilon_{it}$$

Table 1 Definition of Variables

Symbol	Definition	Measurement	Sources
FV	Firm value	Tobin's Q is calculated by the ratio of the firm value of the firm plus debt divided by the book value of its assets	Endri 2019
OPRD	Operational Risk	Operational Risk disclosure index	Based on Linsley and Shrives (2006)
LQRD	Liquidity risk Information	Liquidity risk disclosure index	Musneh, et al. (2021)
BGD	Board Gender Diversity	measured as the percentage of women in the board room)	Hoa and Robert (2007); Peter and Hannu (2017) Qi and Tian, (2012),

Source: compiled by the author, 2025

Results and Discussion of Findings

Table 2: Descriptive Statistics

	Mean	Max	Mini	Std. Dev.	Skew	Kurt	Obs
FV	0.388261	4.828481	0.000122	0.439043	3.854178	32.33698	540
OPRD	0.758333	1.000000	0.625000	0.064069	2.586125	12.12496	540
LQRD	0.558102	0.750000	0.375000	0.078824	0.576887	2.857876	540
BGD	0.375926	0.4285714	0.214285	0.636967	0.730642	3.318394	540

Source: Result Output, 2025

Table 2 presents the descriptive statistics for the key variables examined in this study: firm value (FV), Operational Risk disclosure (OPRD), Liquidity risk disclosure (LQRD), and Board gender diversity (BGD). Understanding these statistics is critical as they provide insights into the distribution and variability of the data, laying a foundational context for further statistical analyses. Starting with Firm value (FV), the average firm value recorded is approximately 0.388261. This value suggests that, on average, the firms in the sample exhibit a moderate level of market valuation. The maximum firm value observed is 4.828481, indicating the presence of some high-performing companies within the dataset that could skew the average upward. Conversely, the minimum firm value recorded is 0.000122, which points to certain firms experiencing significantly low market valuations. The standard deviation of 0.439043 reveals a high level of variability in firm values among the firms, suggesting a heterogeneous landscape where firms differ significantly in terms of their market performance.



For operational risk disclosure (OPRD), the mean score is 0.758333, reflecting a relatively high level of operational risk disclosure among the firms studied. This level of disclosure could indicate a growing awareness of the importance of operational risk management and transparency in the financial sector. The maximum score of 1.000000 shows that certain firms are fully compliant with disclosure expectations, presenting a proactive approach to operational risk management. In contrast, a minimum score of 0.625000 suggests that while firms are generally adhering to some level of disclosure, there is still room for improvement. The standard deviation of 0.064069 indicates moderate variability in how firms disclose operational risks, revealing that practices are not uniform across the board.

Regarding liquidity risk disclosure (LQRD), the mean score is 0.558102, indicating a strong emphasis on liquidity risk disclosure. This score suggests that firms are prioritizing transparency regarding their liquidity positions, which is crucial for investors and stakeholders. The maximum score of 0.750000 signifies that some firms are exceptionally proactive, going beyond the minimum disclosure requirements. The minimum score of 0.375000 indicates that all firms in the sample maintain a baseline level of liquidity risk disclosure, which could be a regulatory requirement. The standard deviation of 0.078824 suggests low variability in liquidity risk disclosures, implying that most firms adhere closely to similar disclosure practices.

Lastly, examining Board gender diversity (BGD), the average score is 0.375926, suggesting a moderate level of board gender diversity among the firms analyzed. The maximum score of 0.4285714 reflects that some firms are leading in terms of board gender diversity, which is increasingly recognized as a crucial factor in corporate governance and performance. The minimum score of 0.214285 indicates that no firm has a negligible level of diversity, ensuring that all boards exhibit some degree of varied representation. The standard deviation of 0.637 highlights significant variability in board gender diversity across the firms, pointing to differences in how firms approach board composition.

Table 3: Covariance Analysis

Correlation Probability	FV	OPRD	LQRD	BGD
FV	1.000000			
OPRD	0.023716	1.000000		
LQRD	0.5824	-0.119013	1.000000	
BGD	-0.003821	0.0056	-0.099637	1.000000
	0.9294	0.769718	0.0206	
	0.033491	0.0000		
	0.4374			

Source: Result Output, 2025

Table 3 presents the covariance analysis for the key variables examined in this study: Firm value (FV), Operational Risk disclosure (OPRD), Liquidity risk disclosure (LQRD), and Board



gender diversity (BGD). This analysis is pivotal as it elucidates the relationships among these variables, providing insights into how they may influence one another and the broader financial performance of listed financial companies in Nigeria.

The correlation coefficient between FV and OPRD is 0.023716, which indicates a very weak positive relationship. The associated p-value of 0.5824 suggests that this correlation is not statistically significant at conventional levels (typically $p < 0.05$). This lack of significance implies that changes in operational risk disclosure do not have a meaningful impact on the firm value of firms. It indicates that investors might not be fully considering operational risk disclosures when evaluating firm value, potentially pointing to a gap in the communication of operational risks.

The correlation between FV and LQRD is -0.003821, also demonstrating an extremely weak negative relationship, with a p-value of 0.9294, further confirming a lack of significant correlation. This result indicates that liquidity risk disclosure does not significantly affect the firm value of firms in the financial sector. The absence of a notable relationship may suggest that liquidity risk information is not prioritized by investors when assessing corporate performance.

The correlation between OPRD and LQRD is -0.119013, revealing a weak negative relationship that is statistically significant with a p-value of 0.0056. This finding suggests that as operational risk disclosure increases, liquidity risk disclosure tends to decrease, albeit slightly. This could indicate that firms may prioritize one type of risk information over another in their disclosures. A more in-depth investigation would be warranted to understand the potential reasons behind this inverse relationship.

The correlation coefficient between BGD and OPRD is 0.769718, suggesting a strong positive relationship that is statistically significant ($p < 0.0000$). This implies that firms with greater board gender diversity are more likely to exhibit higher levels of operational risk disclosure. This finding aligns with existing literature, which suggests that diverse boards may enhance the quality of decision-making and oversight, leading to more comprehensive risk disclosures (Hassan & Ibrahim, 2020; Elamer et al., 2020). Conversely, the correlation between BGD and LQRD is -0.099637, which suggests a weak negative relationship that is statistically significant ($p = 0.0206$). This may indicate that increased board gender diversity could lead to a reduction in liquidity risk disclosure, although the relationship is not particularly strong. This divergence in correlations hints at the complexity of how board gender diversity influences various aspects of risk disclosure.



Table 4: Results of the Analysis

Dependent Variable: FV
 Method: Panel Generalized Method of Moments
 Transformation: First Differences
 Instrument specification: @DYN(FV,-2) OPRD LQRD OPRD_BGD
 LQRD_BGD

Variable	Coefficient	Std. Error	t-Statistic	Prob.
FV(-1)	-0.000201	0.000184	-1.091296	0.2801
OPRD	-0.042043	0.017240	-2.438731	0.0181
LQRD	-0.257118	0.047365	-5.428397	0.0000
BGD	0.013391	0.013750	0.973886	0.3345
OPRD*BGD	0.003625	0.001764	2.055293	0.0448
LQRD*BGD	-0.014425	0.001918	-7.520837	0.0000
Sum squared resid	3598.698	J-statistic		32.30870
Instrument rank	38	Prob(J-statistic)		0.598706

Source: Result Output, 2025

Table 4 provides the results of the Generalized Method of Moments (GMM) analysis revealed that the dependent variable is Firm value (FV). This model utilizes panel data with a first-difference transformation and incorporates interaction terms to explore the moderating effects of board gender diversity on the relationships between operational risk disclosure and liquidity risk disclosure with firm value. The coefficient for the lagged firm value (FV(-1)) is -0.000201, indicating a negative relationship with the current firm value. However, the t-statistic of -1.091296 and the p-value (0.2801) reveal that this relationship is not statistically significant. The coefficient for OPRD is -0.042043, indicating that increased operational risk disclosure negatively affects firm value. The t-statistic of -2.438731 is significant, and the corresponding p-value (0.0181) is below the conventional threshold of 0.05, suggesting a statistically significant relationship. This finding implies that greater disclosure of operational risks may be viewed negatively by the market, potentially due to concerns over the company's risk exposure or management competence. The coefficient for LQRD is -0.257118, indicating a strong negative relationship with firm value.

The extremely low p-value (0.0000) denotes high statistical significance, suggesting that increased liquidity risk disclosure has a substantial detrimental impact on firm value. This result indicates that investors may react unfavorably to high liquidity risk disclosures, potentially due to concerns regarding the company's financial health and ability to meet short-term obligations. The coefficient for BGD is 0.013391, indicating a positive but statistically insignificant relationship with firm value, as suggested by the p-value of 0.3345. This suggests



that board gender diversity does not significantly influence firm value in the context of this model. It may imply that while diversity might contribute positively, its effect is not substantial enough to be recognized in this specific dataset.

The interaction term OPRD*BGD shows a positive coefficient of 0.003625, indicating that board gender diversity positively moderates the relationship between operational risk disclosure and firm value. The t-statistic (2.055293) is significant, with a p-value of 0.0448, suggesting that greater board gender diversity mitigates the negative impact of operational risk disclosure on firm value. This finding highlights the potential value of diverse boards in improving investor perceptions and enhancing corporate market valuation amidst operational risk disclosures.

The interaction term LQRD*BGD has a coefficient of -0.014425, indicating a significant negative moderating effect of board gender diversity on the relationship between liquidity risk disclosure and firm value. The extremely low p-value (0.0000) and high t-statistic (-7.520837) signify a strong statistical significance. This result suggests that increased liquidity risk disclosures can lead to a more pronounced negative impact on firm value in the presence of a diverse board. Investors may perceive diverse boards as less effective in managing liquidity risks, which could drive down market valuations.

The sum of squared residuals indicates the fit of the model, suggesting that it captures a substantial amount of the variation in firm value. The J-statistic and its associated p-value (0.598706) indicate that the model is appropriately specified with respect to its instruments, suggesting robustness in the findings. The GMM analysis in Model 2 reveals critical insights into the moderating role of board gender diversity in the relationship between risk disclosures and firm value within Nigeria's financial sector. While operational risk disclosure may be perceived more favourably with increased board gender diversity, liquidity risk disclosures appear to exert a significantly detrimental effect on firm value when moderated by board gender diversity. These findings emphasize the complex dynamics at play in investor perceptions of risk and governance, and the importance of considering board composition when assessing corporate disclosures.

Discussion of Findings

The findings from the Generalized Method of Moments (GMM) analysis shed light on the relationships between operational risk disclosure, liquidity risk disclosure, board gender diversity, and firm value in Nigeria's financial sector. This discussion will focus on the implications of these findings and relate them to existing literature.

The positive moderation of board gender diversity on the relationship between operational risk disclosure and firm value (Coefficient: 0.003625; p-value: 0.0448) suggests that diverse boards may enhance the interpretation and reception of operational risk disclosures by investors. This aligns with the perspective of Adams and Ferreira (2009), who argue that board gender



diversity can lead to more effective decision-making processes and improve the oversight of management. By incorporating varied perspectives, diverse boards may present risk disclosures in a manner that better addresses stakeholder concerns, thereby potentially increasing firm value. In contrast, prior studies have indicated that inadequate operational risk disclosures can negatively affect market valuation due to perceived information asymmetries (Hassan & Ibrahim, 2020). Therefore, the presence of board gender diversity could serve as a buffer against these negative perceptions, enhancing investor confidence in the firm's risk management capabilities.

The findings reveal a significant negative moderating effect of board gender diversity on the relationship between liquidity risk disclosure and firm value (Coefficient: -0.014425; p-value: 0.0000). This suggests that while transparency in liquidity risk disclosures is crucial, the composition of the board can play a critical role in how these disclosures are perceived by investors. Specifically, it implies that increased board gender diversity may be associated with a heightened concern regarding liquidity risk management. This finding resonates with the work of Chen et al. (2021), which indicates that boards with diverse membership might struggle with cohesiveness, potentially leading to ineffective communication and decision-making in high-stakes situations such as liquidity management. Consequently, when liquidity risk disclosures are presented by a diverse board, investors may interpret this as a signal of potential mismanagement or inefficiency, leading to a decline in firm value.

Conclusion and Recommendations

This study investigated the moderating effect of board gender diversity on the relationship between operational and liquidity risk disclosure and firm value within Nigeria's financial sector. The findings revealed that board gender diversity plays a significant role in influencing how risk disclosures affect firm value. Specifically, while board gender diversity positively moderates the relationship between operational risk disclosure and firm value, it has a negative moderating effect on the relationship between liquidity risk disclosure and firm value. These results highlight the complexities inherent in corporate governance and risk management, indicating that while diverse boards can enhance operational risk communication, they may also complicate liquidity risk messaging.

Recommendations

1. To leverage the benefits of board gender diversity effectively, firms should invest in training programs that equip board members with the necessary skills to communicate risk disclosures clearly. These programs should emphasize effective decision-making processes and the importance of cohesive communication strategies, particularly in relation to liquidity risk management.
2. Companies should develop and adopt robust risk disclosure frameworks that guide the presentation of operational and liquidity risks. Such frameworks should consider the



diversity of the board and how it may influence stakeholder perceptions, ensuring that information is communicated transparently and effectively.

3. Regulatory bodies should promote initiatives that encourage diversity within corporate boards. This can include setting guidelines that recommend or require diverse representation on boards, thereby enhancing the decision-making process and improving overall corporate governance.
4. Firms should engage in regular assessments of board effectiveness, particularly in relation to risk disclosure practices. By evaluating how well diverse boards communicate risks, companies can identify areas for improvement and make necessary adjustments to governance structures.



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