The effect of risk committee characteristics on banks' asset quality: The moderating role of IFRS9

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Abstract

Purpose- The purpose of this study is to investigate the association between the characteristics of the risk committee (RC) and banks' asset quality. In addition, we will investigate the impact of IFRS9 on this relationship.

Design/methodology/approach- The data was obtained from banks' annual reports. The panel data was used for 27 banks registered at the Egyptian Central Bank (ECB) from 2017 to 2022. The research hypotheses were tested using panel corrected standard errors (PCSE).

Findings – The results show that first, Egyptian banks with a greater number of risk committee meetings and more independent directors on the risk committee have a low level of NPLs and an improvement in their asset quality. Second, applied IFRS9 supports the negative effect of RC meetings and RC independence on NPLs. Third, IFRS9 supports the notion that a larger risk committee helps to better credit risk governance, resulting in lower NPLs (higher level of banks' asset quality). Fourth, IFRS9 supports the premise that increased gender diversity on the risk committee leads to better oversight and risk assessment, which leads to lower NPLs and higher banks' asset quality.

limitations –The very small sample size of this study is one of its limitations. Furthermore, because of a lack of data, the research excludes other banks' asset quality measures.

Practical implications – Our study's findings will help bank managers, investors, and depositors in understanding the significance of risk committees, particularly in emerging economies like Egypt. Furthermore, our findings would help policymakers and regulators (Egyptian central banks) to realize the role of risk committee as one of the important mechanisms of bank governance in supporting the banks' asset quality, improving bank financial stability, and reducing the financial distress, furthermore, it sheds light the consequences of the IFRS9 in banking sector. Third, we believe this is the first study to explore the association between IFRS9, RC characteristics, and banks' asset quality in Egypt.

Originality/value- In line with agency theory, this study is a significant addition to the literature on banks' asset quality by exploring how risk committee features affect banks' asset quality in emerging economies. Second, this study extends earlier findings by offering significant additional evidence in emerging markets such as Egypt about the moderating influence of IFR9 on the association between RC characteristics and banks' asset quality. Third, we believe this is the first study to explore the association between IFRS9, RC characteristics, and banks' asset quality in Egypt.

Keywords: risk committee characteristics, banks' asset quality, IFRS9, Egypt.

1.Introduction

Commercial banks are considered the center and pillar of any nation's economic and financial system on a worldwide scale. Therefore, the macroeconomic development of a country is greatly influenced by the financial stability and fundamental economic performance of commercial banks. where financial institutions, particularly banks, act as mediators between the surplus and deficit participants in the economy, which has a favorable impact on both economic growth and development. The banking sector acts as a financial middleman, transferring the wealth that depositors have saved to the borrowers as a reliable source of credit. (Yusuf, et al.,2021; Adegboye, et al., 2020).

The 2008/2009 global financial crisis (GFC) significantly impacted the global economy, affecting the banking sector and leading to decreased liquidity and increased non-performing loans (NPLs). Therefore, debtors could not fulfil their loan obligations, which resulted in the buildup of NPLs (Gerged & Elbendar, 2022).

Recently, previous research has concentrated on assessing banks' asset quality and factors influencing it across different nations. (Karaye et al., 2022; Sporta, 2018; Swamy, 2013; Gupta and Farma, 2022). Several researchers used NPLSs as one of the most important indicators of banks' asset quality. According to the International Monetary Fund, NPLs are those that involve 90-day delays in interest payments and the loan itself. Also, NPLs are defined by the World Bank as the percentage of non-performing loans in the whole loan portfolio. Thus, it is the most widely used metric for determining credit risk; it is also determining the quality of the bank's assets (Balagobei, 2019; Alnabulsi. et al., 2023; Adegboye et al., 2020).

NPLSs have become one of the most serious concerns of the GFC for many countries around the world, and it is one of the most predictive indicators for the occurrence of financial distress (FD), in which the bank is unable to fulfil its obligations and responsibilities, as FD indicates a deterioration in the financial position of the bank, which is probably to be followed by bankruptcy (Mingaleva et al., 2014; Sporta, 2018; Karaye et al., 2022).

The financial crisis in US has caused financial institutions to become increasingly conscious of and cognizant of the necessity for effective risk management approaches and frameworks. (Aebi et al., 2012). Risk management must play a significant role in adhering to the standard's requirements, which include methodologies for grouping financial assets with similar credit risks, classifying financial assets, determining the stages of loans, facilities, and debt instruments, and developing methodologies and policies for calculating expected losses (CBE, 2019).

Corporate governance has been given great consideration, especially in the banking sector (Adegboyeet al., 2020). According to corporate governance principles, effective risk management is one of the board's primary tasks; therefore, success in risk management necessitates sound corporate governance, direct assistance, and involvement from the board. (Ahmadyan & Ghasemi, 2021; El-Masry et al., 2016), where some bank boards were accused of ineffective risk management implementations prior to and during the financial crisis (Ingley & Walt, 2008; Al-Janadi et al., 2013). It also confirmed the study of both Quon, Zenghal, & Maingot (2012) and Chukwujekwu et al.

(2020) that the main factor behind the failures of many companies and banks is poor risk management and corporate governance. Consequently, a risk management committee (RMC) is becoming increasingly important and acknowledged as a crucial corporate governance tool for regulating a company's risk in response to global financial crises and international regulatory requirements (Alduneibat, 2023).

FC (2012) summarized the responsibilities of a bank's or financial firm's risk management committee as making recommendations regarding risk appetite, reviewing the company's risk profile on a regular basis, reviewing the risk management and internal controls framework in relation to the risk profile, approving risk policies, limits, and delegations, considering any key risk issues provided by management, To carry out these obligations, risk committee members must be knowledgeable about risk governance and the firm's business activities in order to dispute board or management decisions (Jimboh & Attah, 2017).

The Guide to Corporate Governance Rules and Standards in Egypt, second edition, was issued in 2011, which referred to the necessity of forming a Risk Management Committee. The majority of its members shall be non-executive members of the Board, and the number of its members shall consist of at least three members, and the head of the committee is a non-executive member, provided that the head of risk management is invited, and one of the most important functions of the committee is to follow up on the bank’s risk management functions and follow up on compliance with the strategies and policies related to capital, liquidity management, credit and market risks, operational risks, compliance, and reputational risks.

Recently, researchers' interest in guidelines for the formation of RC has grown essentially where the committee must possess strong attributes or characteristics until it achieves its goals, such as size of the committee (at least three members), independence (at least one of the three members must be an independent member), regularity of meetings (at least two annually), expertise, and gender diversity (Malik, Ku, 2021; Alduneibat, 2023; Chukwujekwu et al., 2020).

The RC size can be defined as the total number of members on the committee at the end of a financial year, and at least three members must be appointed to assure appropriate performance (Boudiab, et all., 2020). According to Malik, et al.(2021) and Elmer and Benyazid, (2018) There are two opposite opinions, on the one hand, a lot of studies argued that large RMC may give many benefits, have a positive influence, enhance RMC functions and strengthen the effectiveness of RMC, On the other hand, some previous studies found that large committees may have negative effects on the firm such as free rider problems, decrease efficiency, and increase individuals and financial resources expenses

According to Abubakar et al. (2018) RC independence means the number of independent non-executive directors’ members sitting on the RMC. the rules of corporate governance for banks in Egypt stats that the majority of its members be non-executive members of the Board, and that the Chairman of the Committee be a non-executive member. According to Efenyumi (2022), the risk committee's diligence as a measure of the frequent meetings held by the risk management committee members; To discuss and address relevant issues related to corporate risk. More meetings are expected to keep members abreast of current information and an understanding of the state of the company, Chou and Buchdadi (2017) emphasized that the more frequently the RMC meets, the greater the guarantee of diligence.

According to Chukwujekwu, et al. (2020) Gender diversity in risk management committees – stresses the presence of women on a firm's risk management committee. According to Huse and Solberg (2006), including female directors on boards boosts board effectiveness because they are more devoted, diligent, well prepared, able to provide new perspectives during debates, and pay greater attention to audit, risk, and oversight controls. Women and men alike must comprehend the power dynamics both within and outside of the boardroom. While some studies showed opposite outcomes, such as Malik et al., (2021) publishing that corporations appoint female directors in a committee merely tokens and thus do not increase risk monitoring. Alkelani, et al. (2020) that members of risk management committees who have skills and expertise will carry out the tasks and obligations entrusted to them, particularly those relating to risk identification. One suggestion is that the majority of risk management committee members should have accounting and financial backgrounds because this type of qualification provides them with the necessary knowledge.

According to Jiang & Ji (2024) discover that bank risks have been successfully decreased by the creation of a risk committee. Furthermore, a bank's ability to reduce risk depends on the independence of risk committee members, the number of meetings it holds, and the number of its members. also The study indicates that the risk reduction effect from the risk management committee is more significant in asset-diversified banks.

Some studies have examined the relationship between risk committee characteristics (RCC) and performance, but it was observed that just a few of studies examined the relationship between the risk management committee and the quality of the bank's assets like Karaye et al. (2022). Additionally, few previous studies explored some of the characteristics of RC and linked it with financial distress such as gender diversity, age, education, expertise, and independence (Marsden and Prevost ,2005; While Jia, 2019; Yousaf et al.,2020). Yusuf et al. (2023) investigated how the composition of banks' board risk committees impacts the risk-taking behavior of deposit money banks in Nigeria. They found that there is an insignificant negative relationship between the characteristics of RC and financial distress.

On other hand, In July 2014, the IASB developed the Expected Credit Loss (ECL) model under IFRS 9 to more accurately reflect credit quality deterioration or improvement. It replaces IAS 39's Incurred Loss Approach (ILA), which was criticized for delayed recognition of credit losses promoting early recognition of non-performing loans (NPLs) and provisioning on expected losses. requiring a forward-looking approach for early warning. (Bholat, et all., 2018; Picker, et all., 2019; Bolognesi, et all., 2020). Accordingly, the Board of Directors of the Central Bank of Egypt determined, in its session held on January 17, 2018, to oblige banks to prepare financial statements according to the International Financial Reporting Standard IFRS9, starting in 2019, for every bank working in Egypt, including foreign bank branches, that is within the Central Bank's supervision and control, as well as branches of Egyptian banks abroad. This applies to the individual, independent and consolidated financial statements of the banks (CBE, 2019).

Regarding the implication of IFRS9, there is a limited number of studies have tested the effect of the implementation of IFRS 9 on banks' asset quality (Bholat et al. 2018; Bolognesi et al. 2020; Kalista & Novotny-Farkas,2023). These studies found that implementing IFRS 9 has improved NPLs management in banks. As far as can be ascertained, no research has examined the effect of RCC on NPLSs under IFRS 9 has not been explored by previous studies in Egypt. According to the instructions of the CBE related to the importance of applied IFRS9 in banking sector, in addition to IFRS9 is important tools that may affect the risk committee decisions and bank risk. we are interested to explore the IFRS9 moderates the relationship between RCC and banks' asset quality (NPLs) in emerging countries like Egypt.

In line with agency theory, this study is a significant addition to the literature on banks' asset quality by exploring how risk committee characteristics (Size, independence, gender, and meetings) affect banks' asset quality in emerging economies. Second, this study extends earlier findings by offering significant additional evidence in emerging markets such as Egypt about the moderating influence of IFR9 on the association between risk committee features and banks' asset quality. Third, we believe this is the first study to explore the association between IFRS9, RC characteristics, and banks' asset quality in Egypt. Our findings of this study will help bank managers, investors, and depositors to realize the importance of risk committee, especially in emerging markets such as Egypt. Also, our research would benefit regulators and policymakers. (Egyptian central banks) to realize the role of risk committee as one of the important mechanisms of bank governance in supporting the banks' asset quality, improving bank financial stability, and reducing the financial distress, furthermore, it sheds light the consequences of the IFRS9 in banking sector.

The structure of current study is designed as follows. section 2 is literature review and hypothesis development, section 3 we will explain on methodology, section 4 presents research results and discussion, section 5 explains the conclusion of the findings including the suggestion for future research.

2. Literature review and hypotheses development

2.1 The impact of risk committee characteristics on banks' asset quality

According to the significant role that banks play in economic growth, analyzing bank performance is a highly pertinent financial research topic. According to a recent study, NPLs is an important factor in determining how well a bank is operating. NPLs is important because it indicates the credit quality of a bank's loan portfolio and, taken together, the credit quality of the nation's banking industry. Hence NPLs is one of the important indicators to measure banks' asset quality (UD-DIN1, et al., 2020; Yousaf, et al., 2021; Lee and Thong, 2023; Ashraf, et al., 2022; Kalbuana et al., 2022).

Numerous studies have examined the relationship between effective corporate governance practices and bank performance. Corporate governance mechanisms, aimed at aligning company management with stakeholder interests, have gained substantial importance in the financial sector. In particular, the role of corporate governance in risk management has received significant attention in recent years and has been the subject of a flurry of academic studies (Boateng et al., 2019; Mateev et al., 2022; Sadaa et al., 2023). According to certain studies, the banking industry can reduce opportunistic managerial behavior and risk management by establishing corporate governance (Vassileios, 2011; Alamanda, 2013).

Developed countries typically have an independent Risk Committee (RC) to manage bank risks, whereas some developing countries often have a Credit Committee focusing on estimating only bank credit risks. The Central Bank of Nigeria found that 10 out of 24 banks were insolvent due to high NPLs. This was attributed to weak corporate governance practices and poor risk management policies by the CBN (Sanusi, 2010; Kuye et al., 2013). In light of these findings, a board credit committee is deemed necessary to oversee the loan processes and issuance, as suggested in prior studies (Ben Saada, 2018; Ibrahim and Yusof, 2019). In Pakistan, banks typically do not have a separate committee for risk management, but the credit administration department oversees Credit Risk and Market Risk (Haneef, et al., 2012). In Nigeria, Karaye, et al. (2022) argued how the characteristics of credit committees affect the banks' asset quality (NPLs) for sample of commercial banks. The findings showed that NPLs is correlated negatively with credit committee independence and committee size and correlated positively with credit committee gender, meetings, chair-independence, and the presence of a chief executive officer in the committee.

Some studies have attempted to investigate the association between the attributes of a board of directors committees and the performance of financial firms (Tao and Hutchinson 2013; Salim et al. 2016; Salim et al., 2016). For instance, Tao and Hutchinson (2013) used a sample of Australian financial firms to examine how the RMC and Compensation Committee (CC) of financial firms were associated with the firms' risk and performance levels. Research findings indicate a positive correlation between the composition of the RMC and CC and firm risk as well as performance. Additionally, a study by Salim et al. (2016) on the Australian banking sector found that board size and committee meetings frequency had a strong positive influence on bank efficiency. Chou and Buchdadi (2017) focused on the importance of the audit committee in the banking sector, they found that an increase in the number of meetings could help improve non-performing loans.

Many prior studies has examined the impact of board characteristics on the banks' asset quality (Balagobei, 2019; Adegboye, et al., 2020; Karaye, et al., 2022; Hakimi, et al., 2023). On the other hand, the relationship between audit committee and banks' asset quality has been widely investigated (Akter, et al., 2021; Ojeka, et al., 2021; Sen, et al., 2022). As far as can be ascertained, there are only a few studies in developed countries that have used the risk management committee as a predictor of non-performing loans (Haneef, et al., 2012; Tijjani, 2021; Maseke and Swartz, 2021).

Based on the above discussion, in the context of emerging markets such as Egypt, there is a lack of research examining the relationship between characteristics of risk committee and banks' asset quality, the following hypothesis can be concisely stated:

H1*: Risk committee characteristics have a positive effect on banks' asset quality.*

The first hypothesis is divided into sub-hypotheses as follows:

H1a: Risk committee size has a positive effect on banks' asset quality.

H1b: Risk committee meetings have a positive effect on banks' asset quality.

H1c: Risk committee gender has a positive effect on banks' asset quality.

H1d: Risk committee independence has a positive effect on banks' asset quality.

2.2 IFRS9, risk committee characteristics and banks' asset quality

The IFRS 9 standard incorporates an expected credit loss (ECL) model, which serves as a proposed accounting framework for reporting projected credit impairments. According to this framework, banks are required to make provisions aligned with the ECL guidelines in an effort to identify and manage credit risk in a more proactive manner. Because of this, measuring the effect of the IFRS 9 on banks' asset quality was a topic of interest for numerous other studies. Bholat et al. (2018) adopted a multidisciplinary approach, addressing the legal, accounting, economic, and strategic aspects of loan loss provisioning and NPLs, particularly in light of the impending mandatory implementation of IFRS 9. They found that IFRS 9 has altered the relationship between NPLs and loan loss provisions by increasing the reliance on judgement, which may lead to greater divergence. Consequently, the early recognition of expected losses as per IFRS 9 during favorable economic conditions could enhance bank resilience and mitigate the impact of crises on banks' financial positions.

Moreover, Bolognesi et al. (2020) examined the NPLs resolution process in Italy, with a focus on the cost of deleveraging through a comparison of the alternative strategies of direct sale and securitization. The researchers' analysis was conducted in the context of the implementation of IFRS9 in January 2018, which required banks to increase loan loss provisions and place greater emphasis on weighing potential sale scenarios in the assessment of non-performing loans (NPLs). The findings indicate that securitization can help minimize the cost of deleveraging, and the support of state-backed guarantees provides additional benefits in this process. Likewise, Kalista & Novotny-Farkas (2023) found that the transition to IFRS 9 facilitated European banks' ability to write down and sell off their NPLs. They argued that IFRS 9 transition options, which allowed banks to record impairments directly in retained earnings rather than income, mitigated the impact on regulatory capital and removed previous disincentives to NPLs sales.

Based on the above discussion, previous research argued that the implementation of IFRS 9 has improved the management of NPLSs in banking sector. According to the instructions of the CBE related to the importance of applied IFRS9 in banking sector, in addition to IFRS9 is important tools that may affect the risk committee decisions and bank risk We assume that the relationship between the RCC and banks' asset quality (NPLs) is could affected by applied IFRS 9. To the best of our knowledge, no prior study has examined the impact of the RCC on NPLs under the IFRS 9 framework in the Egyptian context. Accordingly, this study aim to investigate whether there is an interaction between IFRS 9 and RCC in affecting banks' asset quality (NPLs). We consider IFRS 9 as a potentially important factor that could moderate the relationship between RCC and banks' asset quality (NPLs). Then, the second hypothesis can be concisely stated as:

H2: IFRS 9 moderates the relationship between risk committee characteristics (RCC) and banks' asset quality in Egypt.

The second hypothesis is divided into sub-hypotheses as follows:

H2a: IFRS9 moderates the relationship between risk committee size and banks' asset quality.

H2b: IFRS9 moderates the relationship between risk committee meetings and banks' asset quality.

H2c: IFRS9 moderates the relationship between risk committee gender and banks' asset quality.

H2d: IFRS9 moderates the relationship between risk committee independence and banks' asset quality.

3. Research methodology

3.1 Selection of the sample

Due to the importance of risk committee in banking sector, this paper focuses on the Egyptian banking industry. The research population includes 38 commercial banks registered in the Egyptian Central Bank's (ECB). This research used data gathered from the annual financial reports for the final sample of 27 banks from 2017 to 2022, with 162 observations. This sample, which include all foreign bank branches in Egypt as well as local and Islamic banks represents 71% of the population. Because specialized banks are different from commercial banks in various respects, this research did not include industrial, real estate, or agricultural banks. It also did not include several foreign banks that prepare consolidated financial statements. The study hypotheses were tested using the panel corrected standards errors (PCSE) method The following are the specifics of the sample selection shown in Table 1:

Table 1. Sample Selection

	Firms	Observations
population	38	228
(-) specialized Banks	(3)	(18)
(-) Missing data items	(8)	(48)
Final sample	27	162

3.2 Measurement of variables

3.2.1 risk committee characteristics: **risk committee** characteristics is an independent variable. Some prior studies have been interested to explore the implication of risk committee attributes such as risk committee size (Boudiab, et al., 2020), risk committee independence (Abubakar et al., 2018) risk committee gender diversity (Chukwujekwu, et al., (2020)), risk committee expertise(Alkelani, et al., 2020), and risk committee meetings (Efenyumi ,2022). The size of an RMC can be defined as the total number of members on the committee at the end of a financial year, and at least three members must be appointed to ensure proper functioning (Boudiab, et al., 2020) According to Abubakar et al., (2018) RMC independence measured by the number of independent non-executive directors' members sitting on the RMC, According to Efenyumi (2022), the risk committee's diligence as a measure of the frequent meetings held by the risk management committee members; Based on Alkelani, et al. (2020) that members of risk management committees who have skills and expertise will carry out the tasks and obligations entrusted to them, particularly those relating to risk identification.

3.2.2 banks' asset quality: **The banks' asset quality is the** dependent variable. Based on prior studies, NPLS is one of the important indicators to measure banks' asset quality (UD-DIN1, et al., 2020; Yousaf, et al., 2021; Lee and Thong, 2023; Ashraf, et al., 2022; Kalbuana, et al., 2022). NPLS is important because it indicates the credit quality of a bank's loan portfolio and, taken together, the credit quality of the nation's banking industry.

3.2.3 IFRS9 : IFRS9 is the moderating variable. *IFRS9 is measured by a* dummy variable equal (1) from the year 2019 to 2022 and (0) otherwise

3.2.4 Control variables

Several previous research focused on bank attributes that influence banks' asset quality (Balagobei, 2019; Adegboye, et al., 2020; Karaye, et al., 2022; Hakimi, et al., 2023) According to earlier research, our control variables included bank size, bank age, leverage, ROE, Covid-19, CEO duality, institutional ownership, list, board gender diversity and liquidity.

Table 2. Measurement of Variables

Variables	Name	Abbreviation	Measure
Dependent Variable	Banks' asset quality	NPLs	Non-performing loans/ gross loans
Independent Variables	Risk committee size	RCSZ	Number of risk committee members
	Risk committee meetings	RCmet	Number of risk committee meetings
	Risk committee gender	RCGR	Number of female members in RC/ total Number of risk committee members
	Risk committee independence	RCindep	Number of independence members in RC/ total Number of risk committee members
Moderating variable	IFRS9	IFRS9	A Dummy variable equal (1) from the year 2019 to 2022 and (0) otherwise
Control Variables	bank size	BSZ	log of total assets
	Profitability	ROE	Net income after tax/ total assets
	List	List	A Dummy variable equals (1) if the bank is listed in EGX and (0) otherwise
	bank age	BAge	The number of years in operation from a bank's inception
	Liquidity	Liq	Cash and cash equivalents/ total assets
	COVID-19 pandemic	COVID-19	A binary indicator for the years from 2020 to 2022, which is (1) if the observation belongs to either of those years and (0) otherwise.
	Leverage	LEV	Debt/ Assets

	Duality	**Dul**	**A Dummy variable equal (1) if CEO is chairman and (0) otherwise**
	Board gender diversity	**BGD**	**The ratio of female directors to total directors.**
	Institutional ownership	**Institowner**	**Ratio of Institutional ownership**

3.3. The Research Model

To explore the effect of risk committee characteristics on banks' asset quality and the effect of IFRS9 on this relationship. the following models can be designed as follow:

$$NPLs_{it} = \beta_0 + \beta_1\ RCC_{\ it} + \beta_2\ BSZ_{\ it} + \beta_3\ Bage_{\ it} + \beta_4\ Lev_{\ it} + \beta_5\ ROE_{\ it} + \beta_6\ List_{\ it} + \beta_7\ Liq_{\ it} + \beta_8\ COVID\text{-}19_{it} + \beta_9\ BGD_{\ it} + \beta_{10}\ Dul_{\ it} + \beta_{11}\ instown_{\ it} + \varepsilon\ it \quad \ldots\ldots\ldots\ldots\ldots\ldots \quad (1)$$

$$NPLs_{it} = \beta_0 + \beta_1\ IFRS9 + \beta_2\ IFRS9{\times}RCC_{\ it} + \beta_3\ BSZ_{\ it} + \beta_4\ Bage_{\ it} + \beta_5\ Lev_{\ it} + \beta_6\ ROE_{\ it} + \beta_7\ List_{\ it} + \beta_8\ Liq_{\ it} + \beta_9\ COVID\text{-}19_{it} + \beta_{10}\ BGD_{\ it} + \beta_{11}\ Dul_{\ it} + \beta_{12}\ instown_{\ it} + \varepsilon\ it \quad \ldots\ldots\ldots\ldots\ldots\ldots \quad (2)$$

where: β0 is the regression *constant*, and β1-β12 are the regression coefficients. *NPLs* represents the non-performing loan of the bank (1) at the year (*t); RCC* is the risk committee characteristics. *BSZ* is bank size, *Bage is bank age*, *LEV* is the leverage, *ROE* is return on equity, *List* is the listed in EGX, *Liq is liquidity*, *BGD is board gender diversity*, *Dul* is duality, and *instown* is institutional ownership. *COVID-19* is the first coronavirus pandemic, *IFRS9* is international financial reporting standards (9), and *IFRS9×RCC is interaction variables to test the moderating role of IFRS9*. ε is the random error.

3.4 Research technique

We employ panel data methods to test our hypotheses. Panel data has several advantages, including a large number of data points, more degrees of freedom, low collinearity between explanatory variables, and greater control for individual heterogeneity (Baltagi et al., 2005). The effect of IFRS9 on the link between risk committee features and banks' asset quality was initially investigated using the Ordinary Least Squares (OLS). The OLS results show problems concerning heteroscedasticity and autocorrelation (Prob > 1%). To solve these problems. We employed the Panel Corrected Standards Errors (PCSE) approach. The PCSE method is used to estimate linear cross-sectional time-series models, with parameters determined using either OLS or Prais-Winsten regression. PCSE assumes that the disturbances are by default heteroscedastic and contemporaneously correlated across the panel (Beck and Katz, 2011).

4. Results

4.1 Descriptive Analysis

Table (3) provides the descriptive data analysis of both independent and dependent variables used in the study. The mean of NPLs in Egyptian banks is 12.4%. this means that the non-performing loans represent on average 12.4% of the gross loans.

Regarding the risk committee characteristics, the results show that that ratio of female in risk committee represent on average 24.9% of the sample, respectively; the mean of RC independence is 31.6%; The risk committee size varies from 3 to 6 members with mean of 4. Min and max of RCmet are 2 and 12 with a mean of 6.29. The average of applied IFRS9 is 50% Furthermore, the descriptive results concerning the control variables indicated the age of the Egyptian bank varies from 29 to 123 years. The COVID-19 pandemic appears in Egypt in 2020, so it exists in 33% of the sample. Furthermore, the findings show that the average bank size, list, and ROE are 7.85, 0.51, and.16.2%, respectively. The mean of Lev is 88%, this means that the debt represent on average 16.2% of the total assets. The ratio of female in the board represent on average 10.5%. the mean of Liq and instiown are 39% and 89% respectively.

Table 3. Descriptive Statistics

Variables	N	Mean	Min	Max	Std. Deviation
NPLs	162	0.124	.01	0.54	0.117
RCSZ	162	4.06	3	6	0.878
RCmet	162	6.29	2	12	3.46
RCGR	162	0.249	0	1	0.204
RCindep	162	0.316	0	1	0.268
IFRS9	162	0.5	0	1	0.50
Cov-19	162	0.333	0	1	0.472
ROE	162	0.158	0.003	0.77	0.150
BSZ	162	7.85	6.62	9.45	0.5414
Bage	162	47.79	29	123	19.68
List	162	0.518	0	1	0.501
Liq	162	0.39	0.041	0.87	0.19
Lev	162	0.88	0.089	0.95	0.097

Dul	162	0.283	0	1	0.452
BGD	162	0.105	0	0.44	0.104
Institowner	162	0.89	0.57	1	0.14

4.2. Correlation Matrix

Table 4 provides the correlation coefficients for the dependent variable (banks' asset quality) and all independent variables. The findings indicate that NPLs is correlated negatively with RCmet. This means that a lower level of NPLs is associated with an increase in risk committee meetings. Also, the correlation between risk committee independence and NPLs is significant and negative. This means that the lower the level of NPLs is correlated with higher the risk committee independence

Regarding the control variables. BSZ is associated negatively with NPLs; this means that larger banks tend to reduce the risk-taking and then decrease the level of NPLs (a higher level of banks' asset quality). Also, Bage and BGD are associated negatively with NPLs. Also, ROE and Dul are positively associated with NPLs. Also, in relation to the multicollinearity issue, Table 4 indicates that there isn't any multicollinearity among the independent variables (VIF < 10).

Table 4. the correlation matrix

	NPLS	RCSZ	RC Met	RC GR	RC Indep	IFRS9	Cov-19	ROE	BSZ	Bage	List	Liq	Lev	Dul	BGD	Instit owner	VIF
NPLS	1																-
RCSZ	-0.02	1															1.17
RCmet	-0.13*	-0.003	1														1.36
RCGR	-0.11	0.00	0.16**	1													1.35
RCindep	-0.21***	0.00	0.03	0.31***	1												1.58

IFRS9	0.03	0.06	0.14*	0.011	0.041	1											2.22
Cov-19	0.008	0.086	0.11	0.10	0.10	0.70***	1										2.34
ROE	0.17**	0.03	0.04	0.09	0.11	-0.19**	-0.11	1									1.35
BSZ	-0.24***	-0.16**	0.3***	0.20***	0.25***	0.11	0.09	-0.15**	1								2.85
Bage	-0.24***	-0.02	0.12	0.24***	0.05	0.07	0.07	-0.10	0.67***	1							2.58
List	-0.02	-0.15**	0.12	-0.22***	0.04	0.00	0.00	-0.22***	-0.22***	-0.22***	1						2.60
Liq	0.03	0.085	-0.03	0.09	-0.14*	0.333***	0.30***	0.10	0.31***	0.31***	-0.23***	1					1.62
Lev	0.09	0.00	-0.25***	-0.12	0.08	-0.08	-0.01	0.14*	0.15***	0.15**	0.25***	-0.00	1				1.44
Dul	0.162**	0.01	-0.09	-0.09	-0.04	-0.27***	-0.38***	0.07	-0.18**	-0.18**	0.05	-0.10	0.11	1			1.33
BGD	-0.180**	0.02	0.03	0.03	-0.01	-0.00	-0.00	-0.11	0.10	0.10	0.31***	-0.15*	0.11	-0.00	1		1.45
Instit owner	-0.09	0.00	0.27***	0.27***	0.22***	0.00	0.00	0.11	0.289***	0.28***	-0.61***	-0.03*	-0.08	0.03	-0.13*	1	2.27

Note: * significant at 1%, ** significant at 5%; * significant at 10%**

4.3. Regression analysis and testing hypotheses

4.3.1 The impact of risk committee characteristics on banks' asset quality

Using PCSE, Table 5 displays the model that is developed to explore how risk committee characteristics (size, meetings, gender, and independence) affect the banks' asset *quality* measured by NPLs. *The p-values of all models are significant (*Prob=0.00 < 1%). This refers to the goodness of our models.

Our results indicate that the risk committee meetings have a negative impact on NPLs. This suggests that increasing the frequency of risk committee meetings reduces NPLs and improves the bank assets quality. Furthermore, at a 1% significance level. Our findings show a negative association between risk committee independence and NPLs. This indicates that banks with more independent risk committees have lower non-performing loan levels (NPLs), indicating a greater level of the banks' asset quality. The coefficients of risk committee size and risk committee gender are negative but nonsignificant. This means that there is no relationship between risk committee size, committee gender and NPLs.

Concerning control variables, female representation on boards has a negative impact on non-performing loans (NPLs). This suggests that a board that is more diverse tends to improve oversight and lower managerial risk, which helps to maintain higher loan quality. Moreover, NPLs is inversely associated with bank age. Older banks often have fewer NPLs due to improved governance and risk management.

Furthermore, NPLs is negatively associated with bank age. This means that older banks often have fewer NPLs due to stronger governance and risk management. Also, Covid-19 has a negative impact on NPLs. This means that many banks are decreasing their exposure to high-risk borrowers during the Covid-19 pandemic. The coefficient of institutional ownership is negative and significant with NPLs. This suggests that higher institutional ownership tends to decrease NPLs by improving governance, oversight and bank risk management.

Also, the CEO duality coefficient is positive and statistically significant with NPLs. This indicates that CEO duality can contribute to more NPLs by weakening governance, lowering oversight, and encouraging riskier lending. Furthermore, banks with greater ROE have a higher level of non-performing loans. This suggests that banks with more profitability have a higher risk-taking behavior by extending credit to higher-risk borrowers, increasing the possibility of loan default and resulting in higher NPLs over time. The models have R-square values of 16.5%, 16.4%, 16%, and 21%, respectively.

Table 5. The impact of RC attributes on Banks' asset quality (NPLs) using PCSE

	1 Coef (Z)	2 Coef (Z)	3 Coef (Z)	4 Coef (Z)
RCSZ	-.011(-102)	-	-	-
RCmet	-	-.002(-1.92)*	-	-
RCGR	-	-	-.026(-0.53)	-
RCindep	-	-	-	-.116(-2.79)***
Cov-19	-.0005(-0.04)	-.0004(-0.03)	0009(0.07)	-.0004(-0.04)
ROE	.089(2.74)***	.099(2.90)***	.098(2.78)***	.13(3.02)***
BSZ	.003(0.13)	.011(.50)	.006(0.28)	.034(1.19)
Bage	-.0011(-4.01)***	-.001 (-4.31)***	-.001 (-3.17)***	-.001 (-4.55)***
List	-.032 (-1.65)*	-.028 (-1.39)	-.027(-1.34)	-.007(-0.31)
Liq	-.011 (-0.24)	-.005 (-0.11)	-.006(0.13)	-.040(-0.75)
Lev	.185 (1.89)*	.154(1.66)*	.170(1.78)*	.215(1.86)*
Dul	.028 (1.74)*	029(1.92)*	.030(2.02)**	.023(1.77)*
BGD	-.118(-3.58)***	-.11 (-3.20)***	-.127(-3.40)***	-.170(-3.08)***
Institowner	-.15(-4.21)***	-.160(-4.17)***	-.138(-3.10)***	-.098(-2.20)**
Firm- effect	Yes	Yes	Yes	Yes
Year- effect	Yes	Yes	Yes	Yes

Cons	**-14.88(-1.59)**	**-14.40(-1.53)**	**-13.94(-1.60)**	**-20.65(-2.64)****
P- value	**0.000**	**0.000**	**0.000**	**0.000**
R2	**0.165**	**0.164**	**0.16**	**0.21**
Obs	**162**	**162**	**162**	**162**

Notes: ***Note: *** significant at 1%, ** significant at 5%; * significant at 10%***

4.3.2 The impact of IFRS9 on the association between risk committee characteristics and banks' asset quality

Using the PCSE method, Table 6 displays the regression model used to examine how IFRS9 affects the relationship between risk committee features and banks' asset quality. The findings indicate that the interaction variable IFRS9 × RCmet is negatively associated with NPLs. This demonstrates that applied IFRS9 promotes the negative effect of risk committee meetings on NPLs. This means that IFRS9 promotes the argument that more frequent and effective risk committee meetings lead to enhanced credit risk governance, which helps reduce NPLSs and improve banks' asset quality.

Additionally, the coefficient of IFRS9 × RCindep is negative and significant at 5%, indicating that IFRS9 strengthens the negative association between risk committee independence and NPLs. IFRS 9 supports the argument that more independence in the risk committee adds to better credit risk management, which leads to lower NPLs and higher banks' asset quality.

Also, the interaction variable IFRS9 × RCSZ is negatively associated with NPLs. This means that IFRS9 supports the notion that a larger risk committee helps to better credit risk governance, resulting in fewer NPLs, by improving oversight, independence, and implementation of forward-looking credit loss models.

Additionally, the interaction variable IFRS9 × RCGR has a negative association with the NPLs. This means that IFRS9 supports the premise that increased gender diversity on the risk committee leads to better oversight and risk assessment, which reduces NPLs by strengthening accountability, and forward-looking evaluation. *Furthermore*, the results suggest that NPLs is positively affected by ROE, leverage, and CEO duality while negatively affected by COVID-19, bank age, board gender diversity, and institutional ownership. The models have R-square values of 18.4%, 17.2%, 17.6%, and 21%, respectively.

Table 6. IFRS9, risk committee attributes and banks' asset quality (NPLs)using PCSE

	1	2	3	4
	Coef (Z)	Coef (Z)	Coef (Z)	Coef (Z)
IFRS9	.138 (3.04)***	.063(5.41)***	.053(5.05)***	.070(3.83)***
IFRS9 ×RCSZ	-.026(-2.30)**	-	-	-
IFRS9 ×RCmet	-	-.004 (-2.54)**	-	-
IFRS9 ×RCGR	-	-	-.11 (-1.87)*	-
IFRS9 ×RCindep	-	-	-	-.147 (-2.01) **
Cov-19	.006 (0.78)	.005 (0.68)	.013 (1.77)*	.0147 (1.85)*
ROE	.088 (2.86)***	.090 (2.76)***	.101 (2.79)***	.131 (3)***
BSZ	.001 (0.05)	.013 (.55)	.013 (0.57)	.033 (1.09)
Bage	-.001 (-4.61)***	-.001 (-4.57)***	-.001 (-4.63)***	-.001 (-4.40)***
List	-.034 (-1.84)*	-.026 (-1.32)	-.025 (-1.27)	-.0005 (-0.02)
Liq	-.003 (-0.06)	-.0009 (-0.02)	-.011 (-0.24)	-.040(-0.75)
Lev	.177 (1.87)*	.155 (1.80)*	.158 (1.89)*	-.026 (-0.58)
Dul	.032 (2.08)**	.031 (2.08)**	.035 (2.57) *	.033 (2.37)**
BGD	-.102 (-3.19)* **	-.11 (-3.77)***	-.143 (-4.20)***	-.201 (-3.17)***

Institowner	**-.171 (-4.70)*** **	**-.152 (-3.69)*** **	**-.138(-3.49)*** **	**-.096 (-1.77) * **
Firm- effect	**Yes**	**Yes**	**Yes**	**Yes**
Year- effect	**Yes**	**Yes**	**Yes**	**Yes**
Cons	**2.87 (0.41)**	**6.94 (6.90)**	**3.17(0.41)**	**0.212**
P- value	**0.000**	**0.000**	**0.000**	**0.000**
R2	**0.184**	**0.172**	**0.176**	**0.21**
Obs	**162**	**162**	**162**	**162**

Notes: ***Note: *** significant at 1%, ** significant at 5%; * significant at 10%***

4.4Discussion of the results

The purpose of this study is to explore the effect of risk committee characteristics on banks' asset quality and test how IFRS9 moderates the relationship between risk committee characteristics and banks' asset quality. The results show that risk committee meetings and risk committee independence have a negative effect on the NPLs of Egyptian banks. This indicates that Egyptian banks with a greater number of risk committee meetings and more independence directors on the risk committee have a low level of NPLs and an improvement in their asset quality because they perform better during the financial crises. This result is consistent with the agency theory. According to this theory, more independent directors on RC are in a better position to monitor the executive, control the risks of the bank, and protect the interests of various stakeholders (Kallamu, 2015). Also, agency theory predicts that regular meetings of committees are important due to more frequent and effective risk committee meetings lead to greater credit risk governance, which helps reduce NPLs and improve banks' asset quality. In general, our results is in line with prior studies that found a negative effect of credit committee independence and board committee meetings on NPLs (Karaye et al., 2022; Chou and Buchdadi, 2017). Also, this result is consistent with Salim et al. (2016), They found banks with an increase in the number of board meetings have a higher level of efficiency and performance. Regarding the moderating role of IFRS9, the findings reveal that applied IFRS9 promotes the negative effect of RC meetings and RC independence on NPLs. This finding is in line with previous studies found that implementing IFRS 9 has improved NPLs management in banks (Bholat et al. 2018; Bolognesi et al. 2020; Kalista & Novotny-Farkas,2023).

Conclusion

This study aims at exploring the association between risk committee characteristics (RC size, RC meetings, RC independence, and RC gender) and banks' asset quality. In addition to testing the effect of IFRS 9 on this relationship. The panel data was used for 27 banks registered at the Egyptian Central Bank (ECB) with a total of 162 observations from 2017 to 2022. The findings show that Egyptian banks with a greater number of risk committee meetings and more independent directors on the risk committee have a low level of NPLs and an improvement in their assets' quality. The results show that applied IFRS9 supports the negative effect of RC meetings and

RC independence on NPLS. Our findings indicate that IFRS9 supports the notion that a larger risk committee helps to better credit risk governance, resulting in lower NPLs. Additionally, IFRS9 supports the premise that increased gender diversity on the risk committee leads to better oversight and risk assessment, which leads to lower NPLs and higher banks' asset quality.

This study offers numerous significant contributions. First, in line with agency theory, this study is a significant addition to the literature on banks' asset quality by exploring how risk committee features affect banks' asset quality in emerging economies. Second, this study extends earlier findings by offering significant additional evidence in emerging markets such as Egypt about the moderating influence of IFR9 on the association between risk committee features and banks' asset quality. Third, we believe this is the first study to investigate the relationship between IFRS9, RC characteristics, and banks' asset quality in Egypt. Our study's findings will help bank managers, investors, and depositors understand the significance of risk committees, particularly in emerging economies like Egypt. Furthermore, our findings would help policymakers and regulators (Egyptian central banks) to realize the role of the risk committee as one of the important mechanisms of bank governance in supporting banks' asset quality, improving bank financial stability, and reducing financial distress; furthermore, it shed light on the consequences of IFRS 9 in the banking sector.

The very small sample size of this study is one of its limitations. Furthermore, because of a lack of data, the research excludes other banks' asset quality measures. Further research could investigate the impact of other RC characteristics, such as expertise and nationality, on bank performance, as well as investigate the moderating effect of Covid-19 on the association between risk committee attributes and banks' asset quality.

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