International Journal of Applied Economics, Finance and Accounting
ISSN 2577-767X
Vol. 19, No. 2, pp. 271-283
2024
DOI: 10.33094/ijaefa.v19i2.1699

Factors affecting the financial reporting quality in commercial banks: Evidence in Vietnam

Nguyen Thi Phuong Hong

School of Accounting, University of Economics Ho Chi Minh City, Vietnam.
Email: hongntp@ueh.edu.vn

Keywords:
Financial reporting quality
Joint stock commercial bank
Qualitative characteristics.

JEL Classification:
G30; M00; M41.

Received: *18 March 2024*
Revised: *14 May2024*
Accepted: *3 June 2024*
Published: *12 July 2024*

Abstract

The research aims to investigate the factors affecting the financial reporting quality (FRQ) of Vietnam's commercial banks. These factors include board size, board independence, bank size, operating time, and the bank's profit. The data for this study were collected from financial reports and annual reports of Vietnamese joint-stock commercial banks for the period 2019-2022. The author made a comparison of 3 models-Pooled Ordinary Least Square (Pooled OLS), Rem Effects Model (REM), and Fixed Effects Model (FEM) to select the best model. The results indicated that FEM was the most appropriate model. However, the model appeared heteroscedastic, so Feasible Generalized Least Squares (FGLS) was applied to test these hypotheses. FRQ was measured by qualitative characteristics approach, which was clarified by the International Financial Reporting Standard (IFRS) Framework. The research results found two factors significantly influencing the FRQ in Vietnam Joint Stock Commercial Banks. They were bank size and operating time. However, the remaining factors, such as board size, board independence, and bank's profit, did not affect the FRQ in Vietnam Joint Stock Commercial Banks. Our findings have some implications for relevant stakeholders, such as regulators, joint stock commercial banks, shareholders, etc., in making effective economic decisions.

Funding: This research is supported by the University of Economics Ho Chi Minh City (Grant number: 2023-12-21-2026).
Institutional Review Board Statement: Not applicable.
Transparency: The author confirms that the manuscript is an honest, accurate, and transparent account of the study; that no vital features of the study have been omitted; and that any discrepancies from the study as planned have been explained. This study followed all ethical practices during writing.
Data Availability Statement: Nguyen Thi Phuong Hong may provide study data upon reasonable request.
Competing Interests: The author declares that there are no conflicts of interests regarding the publication of this paper.

1. Introduction

Financial institutions, like commercial banks, provide various financial services. Furthermore, they offer a wide range of other services to meet the demand also for businesses' products and services. FRQ is important for both internal and external users, especially in the banking sector. For insiders, such as managers, financial reporting information assists them in making business decisions and building and adjusting the bank's operational strategy. For external parties (e.g., investors, the state bank...), financial reporting is one of the important sources of information to help them perform analysis and make decisions. For investors, financial reporting provides them with useful information for the decision-making process of holding, buying, or selling the bank's shares. For the state bank, financial reporting provides them with information to make decisions related to their management role. Especially, it is a much more critical topic in the current Vietnam's context when the state bank is encouraging the joint-stock commercial banks to list on the stock market and to restructure. Therefore, the issue of improving bank's FRQ is crucialand urgent. Although there have been numerous studies on the FRQ, it mainly focused on the enterprises's. Only few studies have investigated these factors in the context of banking sector. Therefore, this study was conducted to investigate the factors affecting the FRQ of Vietnam joint stock commercial banks.

2. Theoretical Frameworks

2.1. Agency Theory

Ross (1973) founded Agency Theory, Jensen and Meckling (1976) and later developed it. The theory is about how the board of a company deals with conflicts of interest between the shareholders, managers, and finance providers. Each group has its own interests and objectives. According to Jensen and Meckling (1976) the agency relationship is considered a contract between a business's owners and its managers. The owners (as principals) assign an agent (as managers) to govern the business on their behalf. The owners have to delegate decision-making authority to the managers and expect them to act in their best interests.

In the banking sector, there are always conflicts between the principal and the agent. Contrary to the expectations of the principal to maximize his interests, the agent – usually the bank manager, sometimes has his own purposes. Therefore, the managers, in turn, adjust accounting figures. Such actions may affect the FRQ. Hence, it does not provide useful information for users such as shareholders, investors, creditors, financial analysts, etc. This theory provides the basis for discussing the impact of board independence on the FRQ of Vietnam joint stock commercial banks.

2.2. Resource Dependency Theory

Resource Dependency Theory provides a theoretical foundation for the board of directors' resource role. This theory focuses on the director's role in providing access to company's necessary resources (Abdullah &Valentine, 2009). For example, an external board member who is also the chief executive officer of a financial institution can assist in ensuring a favorable credit cycle (Stearns & Mizruchi, 1993). The provision of resources will strengthen the company's organizational function, operations, and survival. It focuses on the exercise of power, control, and mutual bargaining to ensure a steady flow of resources and reduce environmental uncertainty (Carpenter & Feroz, 2001; Modell, 2001; Oliver, 1991).

The resource dependency theory clearly shows the important role of the director board, as well as the bank's resource characteristics in the bank's performance. The theory provides a research basis to analyze the factors of bank governance in the bank's FRQ, specifically the independence and size of the director board.

2.3. Political Cost Theory

Political costs are one of the most important company expenses and payments. They are considered non-contractual expenses, so companies always look for ways to reduce them. According to the political cost theory of Watts and Zimmerman (1978) politicians have the right to use policies to redistribute wealth (such as taxes, subsidies, contributions, and insurance) of companies under their influence. Political cost theory expects a firm with high political costs to disclose more information to the market to reduce its political costs.

As analyzed above, according to the explanation of the political cost theory, larger banks tend to pay more attention to financial reporting quality in order to minimize their political costs.

2.4. Useful Information Theory

Useful information theory, born in the 1960s, started the period oriented to the use of useful accounting information for appropriate decision-making. In 1973, this theory was widely considered in the United States, with the financial reporting objective for providing useful information for decision-making rather than satisfying just legal requirements. For commercial banks, in addition to conforming to the minimum legal requirements and society's expectations, the financial reporting quality must also be built on the basis of the usefulness of financial information to stakeholders, such as the state bank, investors, auditors, the public, etc.

This theory elucidates various legal measures to enhance FRQ, including mandatory independent audits, strengthening the internal control system, accountability, etc., to confirm that the information provided in financial reporting is useful for decision-making.

2.5. Signaling Theory

Signaling theory is based on the contributions of two studies by Arrow (1972) and Schipper (1981). The emerging signaling theory solves the information asymmetry problem between firms and investors. This indicates that companies voluntarily disclose the important information to their users, and provide signals to investors as well as others to help them make their decisions. Moreover, companies with low levels of earning management (EM) will opt for accounting methods and policies showing their high effectiveness, while companies with high levels of EM will deliberately cover up their defects.

When applying signaling theory to the research, the author expected that banks with longer operating times, larger sizes, and higher profit would show a higher FRQ. Because of their positive qualities and characteristics, these banks want to send signals to stakeholders to increase their credibility and trust.

3. Literature Review

3.1. Studies in the World

The FRQ is not an indicator easily quantified because it cannot be seen directly, based on the users' financial information perception. This is due to the fact that every user has their own expectations and

perceptions related to what information will be useful and of good quality. Recent studies in the fields of economics and accounting have been examining the concept of FQR.

The IASB (2018) and IFRS framework state that there are six qualitative characteristics (QC) of accounting information, two of which are fundamental, while the remaining are enhanced. The two fundamental QCs of financial reports are (1) relevance and (2) faithful representation, while the other four enhancing QC are (1) understandability, (2) comparability, (3) timeliness, and (4) verifiability.

Numerous previous studies have used the above QC approach to measure FRQ. They revolved around issues like assessing QC, and factors affecting QC from the perspectives of users, accountants, investors, etc. Van Beest, Braam, and Boelens (2009) built a compound measurement tool to assess the FRQ relating to the underlying fundamental QC, and the enhanced QC in "An Improved Conceptual Framework for Financial Reporting" of IASB (2018). Applying 231 annual reports from businesses listed in the US, UK, and Dutch stock markets from 2005 to 2007, they tested measurement tools on internal validity, inter-rater reliability, and internal consistency. The result proves that the measurement tool is a valid and reliable approach to assessing the FRQ. As a result, the measurement tool develops the quality assessment of financial reporting information, responding to a request from Instruments (2010) and IASB (2018) to make the QC operationally measurable.

Salehi and Nassir Zadeh (2012) indicated the differences among the viewpoints on characteristics in FRQ, including financial position, performance, and changes in the financial position of a business. Current research results illustrate differences existing between accountants and non-accountants related to the completeness of financial statements.

Braam and Van Beest (2013) researched QC. The authors created a 33-item index with the goal of operationalizing decision usefulness in terms of the fundamental QC and enhancing QC in the conceptual framework (CF) of the Instruments (2010). These research findings supply the existing literature on the empirical evaluation of international accounting standard effects, indicating that, as compared with 10-K reports, UK annual reports provide more information on topics such as corporate social responsibility (CSR), corporate governance (CG), and annual bonus schemes. On the contrary, US reports outperform UK reports regarding the content of fair value information, cash flow statements, off-balance financing, and audit reporting.

Nyor (2013) evaluated Nigerian banks' annual report quality and accounts from the users' perspective of such accounting information. The study applied the QC of accounting information in terms of understandability, relevance, consistency, comparability, reliability, objectivity, and completeness. Research results showed that the quality of annual reports and financial statements of Nigerian banks was not very high. Therefore, the research recommends that Nigerian banks strive for higher FRQ.

Onuorah and Imene (2016) researched corporate governance affecting the FRQ of businesses in the fields of commodities, banking, brewing, oil and gas, and beverages in Nigeria. They collected data from 2006 to 2015. Research results show that board size, board experience, and external audit quality have a positive influence on FRQ. Board independence and audit committee size, however, have a negative impact on FRQ. Guarantee Trust Bank Plc., among the five selected businesses in Nigeria, has better financial reporting performance based on board structure and audit committee size.

Almaqtari, Hashed, Shamim, and Al-Ahdal (2021) study how corporate governance impacts FRQ under Indian Accounting Standards and Indian GAAP. The research sample consists of 97 businesses listed on the Bombay Stock Exchange. The research results found that the board characteristics (board size, independence, and expertise, and the characteristics of the audit committee, including size, independence, and expertise) positively affect FRQ. Nevertheless, board and committee diligence have a negative impact on the quality of financial reporting. Additionally, foreign ownership has no contribution to FRQ, but audit quality has a significant effect.

Hsu and Yang (2022) studied how COVID-19 affected FRQ, and how corporate governance affected FRQ during the pandemic. The research data was collected from listed businesses in the United Kingdom. The research findings revealed a lower FRQ. In addition, large board sizes minimized the negative impact of COVID-19 on FRQ; however, the research results found no mitigating effect for board independence or CEO duality.

Hasan, Aly, and Hussainey (2022) analyzed the impact of corporate governance on the FRQ of Pakistani and UK businesses. Research results show that board size negatively impacts the FRQ of businesses in Pakistan and the UK. Furthermore, board independence has a positive impact on Pakistan's business FRQ. However, the frequency of board meetings and the composition of independent audit committee negatively impact the FRQ of businesses, especially in Pakistan, whereas in the UK, these three factors do not impact FRQ. In addition, gender diversity and ownership concentration negatively impact the FRQ of businesses in the UK, while in Pakistan; two of these factors do not impact FRQ.

3.2. Studies in Viet Nam

In Vietnam, studies on the factors affecting the FRQ are increasingly interesting. Nguyen and Nguyen (2014) conducted research on the factors affecting the level of financial information disclosure by listed

companies. These research results showed that the level of information disclosure by listed companies is not high. In addition, they showed that there are five factors affecting the level of disclosure: company size, ownership rate of foreign shareholders, audit firm, profitability, and listing time.

A related study recently conducted is the study of Le (2015) on assessing the status of financial information transparency and the factors affecting the transparency of company's financial information listed on the Vietnam stock market. This research showed that the information transparency of companies listed on Vietnam's stock market is not high. Accordingly, the results showed that there are four factors impacting financial information transparency, including, financial leverage, profit, audit firm, and independence of the board. The remaining factors, including the size of the board and the duality of the chairman of the board and the director, do not affect the transparency of financial information.

Nguyen (2015) studied the impact of corporate governance on the financial reporting quality of listed companies in Vietnam. In this study, the quality of financial statement information is measured through the quality characteristics of Instruments (2010) and IASB (2018). The research results showed that the financial reporting quality of listed companies in Vietnam is below average. Accordingly, the study pointed out the factors affecting the quality of financial reporting information including the independence of the director board, the level of board's financial accounting expertise, the number of meetings, the level of expertise in financial accounting, and the existence of an internal audit. Furthermore, the research findings revealed differences in financial reporting quality between companies of varying sizes and proportions of state capital.

It examined the factors affecting the financial reporting quality, within the scope of Vietnamese enterprises. The research results showed that there are eight factors affecting the financial reporting quality, including EM behavior, tax pressure, support from managers, staff training, accounting software quality, the effectiveness of the internal control system, staff capacity, and an independent audit.

The research by Nguyen and Cao (2016) explored corporate governance characteristics affecting EM at commercial banks: evidence from Vietnam. The EM usage in this study is also one of the ways to measure the financial reporting quality through EM quality. However, this study also analyzes factors related to corporate governance characteristics.

Research by Le, Vo, and Nguyen (2020) explored the factors affecting the financial reporting quality of listed companies in Ho Chi Minh City. The research results showed that there are four factors affecting the financial reporting quality of listed companies, including accounting apparatus, managers, accounting documents, and taxes.

Recently, Tran, Ngo, and Tran (2021) conducted a study on the factors affecting the financial reporting quality at joint stock commercial banks in Ho Chi Minh City. The research results provided evidence of the positive impact of the level of accountants, the legal environment, the accounting process, the level of information disclosure, and the application of information technology on information quality. However, the study mainly focuses on factors directly related to the bank's accounting department and is limited to the research scope for only joint-stock commercial banks in Ho Chi Minh City.

Tran et al. (2021) studied the influence of factors on the financial reporting quality of Agribank branches in Ho Chi Minh City. The research results show that there are seven influencing factors, in which the organization of the accounting information system, the legal environment, and the cultural environment are the important factors that determine the financial reporting quality of Agribank in Ho Chi Minh City. However, this study only focuses on the scope of Agribank branches in Ho Chi Minh City.

Tran (2022) investigated the factors affecting the financial reporting quality of commercial banks in Vietnam. The research findings revealed that five factors have an impact, including bank administration, quality of accounting software, staff training, accounting staff capacity, andtax pressure. This study takes into account both the sample size and the influencing factors. However, these factors mainly focus on accounting in banks. In addition, the information collected from subjects with different positions in the bank is also likely to affect the validity of the research results.

Indeed, research topics related to financial statements in general and information published on financial statements in particular have long attracted the attention of many scholars around the world as well as researchers in Vietnam. These studies have raised problems about assessing quality characteristics, factors affecting quality characteristics, or quality characteristics, based on many different points of view of financial statement users, accountants, investors, etc.

However, in author's opinion and the above research overview, the analysis of factors affecting the financial reporting quality of banks in general and joint-stock commercial banks in Vietnam in particular is still very limited. According to the author's knowledge, in Vietnam, there are very few studies on the factors affecting the financial reporting quality of banks in general and joint-stock commercial banks in particular, especially when the approach to using secondary data is primary. Therefore, this study was conducted to understand and analyze the factors affecting the FRQ of Vietnamese joint-stock commercial banks.

4. Research Model and Hypothesis

Based on the relevant literature reviews above, we found some factors impacting the bank's FRQ. However, these impact results have not been consistent. Table 1 summarizes these factors and their impact results.

Table1. Some studies' results on factors affecting the bank's FRQ.

Factor	Research	Result
Board size	Xie, Davidson III, and DaDalt (2003); Houqe, Zijil, Dunstan, and Karim (2010); Habbash Murya (2010); Abed, Al-Attar, and Suwaidan (2012); Soliman and Ragab (2013) and Aygun, Ic, and Sayim (2014)	+
	Qinghua, Pingxin, and Junming (2007); Jamaluddin, Mastuki, and Elmiza Ahmad (2009); Alkdai and Hanefah (2012) and Chalaki, Didar, and Riahinezhad (2012)	0
	Kao and Chen (2004); Liu (2012) and González and García-Meca (2013)	-
Board independence	DeZoort and Salterio (2001); Xie et al. (2003); Kao and Chen (2004); Qinghua et al. (2007); Habbash Murya (2010); Roodposhti and Chashmi (2011); Waweru and Riro (2013); Hassan (2013) and González and García-Meca (2013)	+
	Jamaluddin et al. (2009); Chalaki et al. (2012); Abed et al. (2012); Alkdai and Hanefah (2012) and Soliman and Ragab (2013)	0
	Liu (2012) and Alves (2014)	-
Bank size	Qinghua et al. (2007); Alkdai and Hanefah (2012); Alves (2014) and González and García-Meca (2013)	+
	Chalaki et al. (2012); Abed et al. (2012); Waweru and Riro (2013) and Aygun et al. (2014)	0
	Klai and Omri (2011); Roodposhti and Chashmi (2011) and Soliman and Ragab (2013)	-
Operating time	Hassan (2012) and Liu (2012)	+
	Chalaki et al. (2012)	0
Bank's profit	Alkdai and Hanefah (2012) and Alves (2014)	+
	Qinghua et al. (2007); Aygun et al. (2014) and González and García-Meca (2013)	-

Note: (+) Positive effect, (-) Negative effect, (0) No effect.

From the above research overview, the author proposed a research model including five research hypotheses, corresponding to five factors assumed to have an impact on the FRQ of Vietnam joint-stock commercial banks, as follows:

$$FRQ_{it} = \beta_0 + \beta_1 BOS_{it} + \beta_2 BOI_{it} + \beta_3 BAS_{it} + \beta_4 OPT_{it} + \beta_5 ROE_{it} + \varepsilon_{it}$$

Where FRQ: Financial reporting quality; BOS: Board size, BOI: Board independence; BAS: Bank size, OPT: Operating time, BP: Bank's profit,β_0: Intercept coefficient; β_1, β_2 ..., β_6: Coefficients,ε_{it}: residuals.

The five related research hypotheses are:

Hypothesis 1 (H_1): Board size has positive effect on the financial reporting quality.

Hypothesis 2 (H_2): Board independence has positive effect on the financial reporting quality.

Hypothesis 3 (H_3): Bank size has positive effect on the financial reporting quality.

Hypothesis 4 (H_4): Operating time has positive effect on the financial reporting quality.

Hypothesis 5 (H_5): Bank's profit has positive effect on the financial reporting quality.

The research model includes 1 dependent variable (financial reporting quality–FRQ) and 5 independent variables (board size–BOS, board independence–BOI, bank size–BAS, operating time–OPT, and bank's profits–BP). In this research models, some independent variables were mentioned in most of the previous related studies. In addition, some new independent variables suitable for the context of Vietnamese joint-stock commercial banks are also proposed and included in the model. Specifically, Figure 1 illustrates the research model. We used the following model to test the research hypothesis.

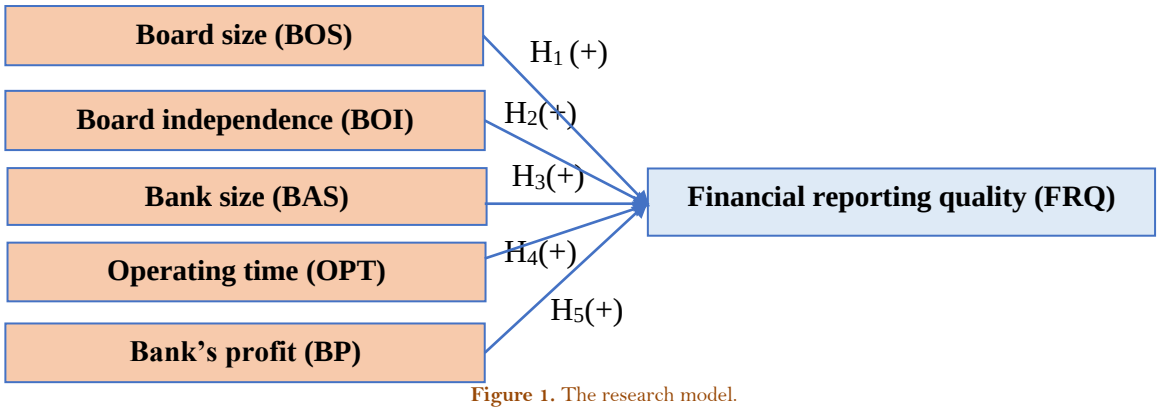

Figure 1. The research model.

5. Variable Measurement

In the period of 2019-2022, Vietnam had 31 joint-stock commercial banks. Among them, 24 banks had sufficient data for measuring the variables in the research model. The sample size thus was 96 observations (24 banks in four years from 2019 to 2022). The financial statements and annual reports of these banks were used to collect data pertaining to the dependent variable (FRQ) and the five independent variables (BOS, BOI, BAS, OPT, BP) to test the five research hypotheses.

5.1. Dependent Variable

FRQ was measured by the QC approach in work of Braam and Van Beest (2013); Jonas and Blanchet (2000), and Van Beest et al. (2009). The FRQ index contains both financial and non-financial data in the annual report introduced by Core, Guay, and Verdi (2008) and Jonas and Blanchet (2000) in the IFRS Framework 2018 (IASB, 2018). Accordingly, FRQ was evaluated based on the following QC: (1) relevance, (2) faithful representation, (3) understandability, (2) comparability, (3) timeliness and (4) verifiability.

5.2. Independent Variables

The five independent variables of this research model include board size, board independence, bank size, operating time and bank's profits. The measurements of these independent variables are summarized in Table 2 below.

Table 2. Measurement of the independent variables.

Variable' s name	Symbol	Measurement	Source
Board size	BOS	Total number of members in the board of directors	Houqe et al. (2010); Klai and Omri (2011); Chalaki et al. (2012) and Abed et al. (2012)
Board independence	BOI	Percentage of non-concurrent BOD members in the board of directors	Houqe et al. (2010) and Alves (2014)
Bank size	BAS	Natural logarithm of total wealth	Houqe et al. (2010); Klai and Omri (2011); Abed et al. (2012); Chalaki et al. (2012); Bahmani (2014) and Alves (2014)
Bank operating time	OPT	Logarithm of the number of years from the date the bank was established	Chalaki et al. (2012) and Hassan (2012)
Bank' s profit	BP	After-tax return on equity	Houqe et al. (2010)

6. Results and Discussions

6.1. Choosing the Appropriate Model

6.1.1. Estimation with the Pooled OLS

The OLS estimation results are shown in Table 3 adjusted coefficient $R^2 = 26\%$, and statistical value F = 7.76, Prob > F = 0.0000. It shows that the OLS estimate can be a suitable estimator.

Table 3. The Pooled OLS regression results.

Source	SS	df	MS	Number of obs	=	96
Model	4.2249	5	0.8450	F(5, 90)	=	7.76
Residual	9.8010	90	0.1089	Prob > F	=	0.0000
Total	14.0259	95	0.1476	Prob > F	=	0.0000
				R-squared	=	0.3012
				Adj R-squared	=	0.2624
				Root MSE	=	0.33

FRQ	Coefficient	Std. err.	t	P>t	[95% conf.	interval]
BOS	0.0198	0.0249	0.80	0.427	-0.0296	0.0693
BOI	0.5121	0.3309	1.55	0.125	-0.1454	1.1695
BAS	0.2036	0.0885	2.30	0.024	0.0279	0.3795
OPT	0.0078	0.0037	2.10	0.039	0.0004	0.0152
BP	0.0006	0.0007	0.77	0.445	-0.0009	0.0020
_cons	0.5347	0.6282	0.85	0.397	-0.7132	1.7827

6.1.2. Compare the Pooled OLS with the FEM

The results of Table 4 show the statistical results F (23, 67) = 4.85 and Prob>F= 0.0000, indicating that the null hypothesis H_0 can be rejected, giving that all coefficients u_i= 0. It means there is a difference among the subjects (banks). As a result, FEM is more suitable than Pooled OLS.

Table 4. Comparison results between the Pooled OLS and the FEM regression.

Fixed-effects (Within) regression			Number of obs.	=	96
Group variable: FIRM			Number of groups	=	24
R-squared:			Obs. per group:		
Within	=	0.3451	Min.	=	4
Between	=	0.1505	Avg.	=	4.0
Overall	=	0.1155	Max.	=	4
corr(u_i, Xb)	=	-0.9673	F(5. 67)	=	7.06
Prob > F				=	0

FRQ	**Coefficient**	**Std. err.**	**t**	**P>t**	**[95% conf.**	**interval]**
BOS	-0.0818	0.0391	2.09	0.040	-0.1599	-0.0037
BOI	-0.0647	0.6276	0.10	0.918	-1.3173	1.1881
BAS	-0.3153	0.2853	1.10	0.273	-0.8848	0.2543
OPT	0.1234	0.0256	4.82	0.000	0.0722	0.1745
BP	0.0004	0.0006	0.73	0.466	-0.0008	0.0017
_cons	2.6939	1.9249	1.40	0.166	-1.1483	6.5361
Sigma_u	1.2145					
Sigma_e	0.2343					
rho	0.9641 (Fraction of variance due to u_i)					

Note: F test that all u_i=0: F(23, 67) = 4.85 Prob > F = 0.0000.

6.1.3. Compare the Pooled OLS with the REM

According to the results of Breusch and Pagan's test Table 5, Chibar2 value (01) = 8.27 and Prob>chibar2=0.0020, this result concludes that we can reject the hypothesis H_0 given that all coefficients u_i= 0. It shows that the estimate REM is more appropriate than the Pooled OLS.

Table 5. Comparison results between the Pooled OLS and the REM regression.

Random-effects GLS regression		Number of obs.	=	96	
Group variable: FIRM		Number of groups	=	24	
R-squared:		Obs. per group:			
Within = 0.1141		Min.	=	4	
Between = 0.3669		Avg.	=	4.0	
Overall = 0.2573		Max.	=	4	
		Wald chi2(5)	=	18.33	
Corr(u_i, X) = 0 (Assumed)		Prob > chi2	=	0.0026	

FRQ	**Coefficient**	**Std. err.**	**z**	**P>z**	**[95% conf.**	**interval]**
BOS	-0.0292	0.0311	0.94	0.349	-0.0902	0.0318
BOI	0.3834	0.4418	0.87	0.386	-0.4826	1.2493
BAS	0.2241	0.1322	1.70	0.090	-0.0349	0.4832
OPT	0.0124	0.0058	2.14	0.032	0.0011	0.0238
BP	0.0005	0.0007	0.83	0.409	-0.0007	0.0018
_cons	0.6880	0.9358	0.74	0.462	-1.146025	2.5221
Sigma_u	0.2051					
Sigma_e	0.2343					
Rho	0.4337 (Fraction of variance due to u_i)					

Breusch and Pagan Lagrangian multiplier test for random effects

FRQ[FIRM,t] = Xb + u[FIRM] + e[FIRM,t]

Estimated results:

	Var	**SD = Sqrt(Var)**
FRQ	0.1476	0.3842
e	0.0549	0.2343
u	0.0420	0.2051

Test: Var(u) = 0

chibar2(01) = 8.27

Prob > chibar2 = 0.0020

6.1.4. Compare the FEM with the REM

The author then makes estimates with FEM and REM using Hausman test with hypothesis H_0: Cov (X_{it}, u_i) = 0. According to the Table 6 the test result Prob>chi2=0.0002, which means we reject the hypothesis H_0. The FEM is thus more appropriate than the REM.

Table 6. Comparison results between FEM and REM regression.

------ Coefficients ----				
	(b) Fe	**(B) re**	**(b-B) Difference**	**Sqrt (diag(V_b V_B)) Std. err.**
BOS	-0.0818	-0.0291	-0.0526	0.0318
BOI	-0.0646	0.3834	-0.4480	0.5602
BAS	-0.3152	0.2241	-0.5394	0.2962
OPT	0.1234	0.0124	0.1109	0.0285
BP	0.0004	0.0005	-0.0001	0.0002

b = Consistent under H0 and Ha; obtained from xtreg.
B = Inconsistent under Ha, efficient under H0; obtained from xtreg.
Test of H0: Difference in coefficients not systematic

$$\text{chi2}(5) = (\text{b-B})'[(\text{V\_b-V\_B})^{(-1)}](\text{b-B}) = 24.23$$

$$\text{Prob} > \text{chi2} = 0.0002$$

In summary, the above results show that the estimation of FEM is the most suitable among Pooled OLS, FEM and REM models. Table 7 summarizes the model selection results.

Table7. Summary of comparison results among three models Pooled OLS, FEM and REM.

Test	**Pooled OLS & FEM**	**Pooled OLS & REM**	**FEM & REM**
F – test	F = (23, 67) = 4.85 Prob > F = 0.0000		
Breusch – Pagan test		Chibar2 (01) = 8.27 Prob>chibar2= 0.0020	
Hausman test			Chi2 (5) = 24.23 Prob>chi2 = 0.0002
Conclusion	Choose FEM	Choose REM	Choose FEM

6.2. Test For the Model's Defects Due to Assumptions Violation

6.2.1. The Independent Variables Do Not have Multicollinearity

The author used the VIF to determine the common multicollinearity. The larger variable's VIF, higher the collinearity of the variables with other variables in the model. If the VIF of any independent variable is greater than or equal to10, this variable is considered to have multicollinearity.Table 8 presents the VIF results.

Table 8. The VIF results.

Variable	**VIF**	**1/VIF**
BAS	1.68	0.5943
OPT	1.54	0.6489
BOS	1.42	0.7065
BOI	1.33	0.7520
BP	1.04	0.9640
Mean VIF	1.40	

The results in Table 8 show that all the VIF values are less than 4, which shows that there is no multicollinearity.

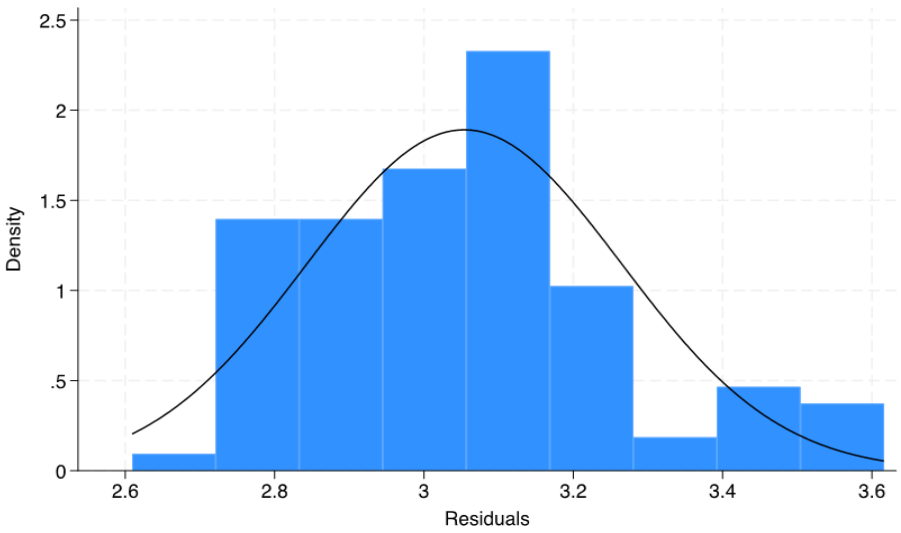

Figure 2. Regression standardized residual.

6.2.2. Assumption of the Normal Distribution of Residuals

Figure 2 indicates the shape of the residual distribution chart, meaning that the residuals in the research model have a normal distribution.

6.2.3. Assumption of the Variance of the Error is Constant

To detect if there is a heteroskedasticity in the model, the author conducted a constant variance test by using the modified Wald test.Table 9presents the results.

Table 9. Heteroskedasticity test result.

Modified Wald test for groupwise heteroskedasticity
in fixed effect regression model
H0: sigma(i)^2 = Sigma^2 for all i
chi2 (24) = 1862.51
Prob>chi2 = 0.0000

The result inTable 9 shows that Prob > chi2 = 0.0000, which means rejecting the null hypothesis H_0: Variance is constant.This model thus has variable variance phenomenon.

6.2.4. Assumption of Autocorrelation

To detect whether the model has autocorrelation phenomenon, the author used Breusch-Godfrey test.The results in Table 10 show that F(1, 23) = 9,933 and Prob > F = 0.0006. It means that we can reject the hypothesis H_0: No first order autocorrelation and the author conclude that the model has first-order autocorrelation.

Table 10. Autocorrelation test result.

Wooldridge test for autocorrelation in panel data
H0: No first order autocorrelation
F(1, 23) = 15.639
Prob > F = 0.0006

From the above test results, two assumptions are violated, including constant variance and autocorrelation. To overcome these assumption violations, the author must perform regression using a Feasible Generalized Least Squares (FGLS) estimate.

6.3. Hypothesis Test Results

The results from Table 11 show that among the five independent variables included, two variables have an impact on the bank's FRQ. These variables include bank size (P>z=0.032) and operating time (P>z=0.006). Furthermore, the resultsdemonstrate that these independent variables have a positive impact on the bank's FRQ. The other three variables, including board size, board independence, and bank's profit, have no impact on the bank's FRQ in terms of statistical significance.

Table 11. The FGLS estimate regression results.

Cross-sectional time-series FGLS regression						
Coefficients: Generalized least squares						
Panels: Heteroskedastic						
Correlation: Common AR(1) coefficient for all panels (0.3562)						
Correlation: Common AR(1) coefficient for all panels (0.3562)						
Estimated covariances = 24				Number of obs. = 96		
Estimated autocorrelations = 1				Number of groups = 24		
Estimated coefficients = 6				Time periods = 4		
				Wald chi2(5) = 38.27		
				Prob > chi2 = 0.0000		
FRQ	**Coefficient**	**Std. err.**	**z**	**P>z**	**[95% conf.**	**interval]**
BOS	0.0017	0.0190	0.09	0.929	-0.0356	0.0390
BOI	0.3864	0.2807	1.38	0.169	-0.1638	0.9366
BAS	0.1852	0.0863	2.15	0.032	0.0161	0.3543
OPT	0.0088	0.0032	2.78	0.006	0.0026	0.0150
BP	0.0003	0.0003	1.16	0.247	-0.0002	0.0009
_cons	0.9166	0.6341	1.45	0.148	-0.3263	2.1595

Based on the above analysis results, the hypothesis test results are summarized in Table 12 as follows:

Table12. The hypothesis test results.

Hypothesis	Content	Expectation	Result
H_1	Board size has a positive effect on the financial reporting quality.	+	0
H_2	Board independence has a positive effect on the financial reporting quality.	+	0
H_3	Bank size has a positive effect on the financial reporting quality.	+	+
H_4	Operating time has a positive effect on the financial reporting quality.	+	+
H_5	Bank's profit has a positive effect on the financial reporting quality.	+	0

7. Conclusion

7.1. General Comments

The main objective of this study is to investigate the factors affecting the bank's FRQ. That being said, the results suggest some related implications for stakeholders to help increase the bank's FRQ. These stakeholders include state management agencies, joint-stock commercial banks, capital owners, investors, and other users of financial statements.

The results indicated two factors, including bank size and bank operating time, have a positive effect on the bank's FRQ. In the research model, among the five factors tested, some results are consistent with the previous study's results, while others are not. Some analysis results give different conclusions compared to the studies of other countries in the world, as discussed. This is because the socio-economic characteristics of Vietnam are also different from those of other countries in the world.

7.2. Proposing some Recommendations Related to the FRQ of Vietnam Joint Stock Commercial Banks

7.2.1. For State Management Agencies

The study results are useful for state management agencies when using information on the financial statements of Vietnam joint stock commercial banks, especially tax authorities, when conducting tax inspections. Specifically, according to the study results, there are two of five factors tested at Vietnam joint stock commercial banks affecting the quality of the financial statements. Due to limited time for inspection at bank, the tax authorities can refer to the study results to assess the risks when performing the inspection. For example, the research results show that the larger the bank, the higher the bank's FRQ is. Similarly, the longer the operating period, the higher the bank's FRQ is. These are effective indicators for assessing bank's FRQ. In addition, the Ministry of Finance can also consult to issue legal provisions related to information disclosure in the financial statements of Vietnam joint-stock commercial banks.

7.2.2. For Vietnam Joint Stock Commercial Banks

According to the study results, the larger the bank, the higher the bank's FRQ is. In addition, the longer operating time is also an indicator of the higher bank's FRQ. Therefore, the banks with a larger size and

longer operating time should have policies to give these good signals to stakeholders to increase their credibility and trust intheir FRQ. For those banks with smaller sizes and shorter operating times, they should have other effective policies to improve users' trust.

Furthermore, every joint-stock commercial bank in Vietnam establishes an audit committee. This is similar to certain developed countries in which each business (basically, bank is also a company, but dealing in a special product, currency) must set up an audit committee in which members are not those responsible for management, administration, or chief accountant of the audited business. This audit committee should have at least one independent member with expertise in accounting or auditing. The audit committee must ensure that the auditors and the audit firm report material findings discovered during the audit process, in particular, significant weaknesses in the internal control system related to the audit process. Thus, the FRQ of joint-stock commercial banks will be improved.

7.2.3. For Users of Financial Statements

The users of financial statements may refer to the study results to assess the reliability of the financial statements of the Vietnam joint-stock commercial banks.When performing bank inspections; the tax authorities can refer to the study results to assess the risks. For example, the research results show that the larger the bank, the higher the bank's FRQ is. Similarly, the longer the operating period, the higher the bank's FRQ is. These are effective indicators for assessing bank's FRQ.

7.3. Limitations of the Study and Directions for Future Research

In this study, compared with studies in the world and studies in Vietnam, although the factors included in the model have been carefully considered, there may still be other factors that may also affect the FRQ of Vietnam joint-stock commercial banks. These factors mayrelate to the capital market, state policies, culture, politics, etc. However, unlike opinion survey research, the author has not included these factors in the research model because they require measurement and quantification.

Besides, in terms of the bank's FRQ, there may be other measurement models that need to be consulted and included in the study to diversify research methods.

Therefore, beyond those tested in this study, future studies should analyze more factors that may have an impact on the bank's FRQ. However, future research may also use other methods to measure the bank's FRQ.

References

Abdullah, H., & Valentine, B. (2009). Fundamental and ethics theories of corporate governance. *Middle Eastern Finance and Economics*, *4*(4), 88-96.

Abed, S., Al-Attar, A., & Suwaidan, M. (2012). Corporate governance and earnings management: Jordanian evidence. *International Business Research*, *5*(1), 216-225. https://doi.org/10.5539/ibr.v5n1p216

Alkdai, H. K., & Hanefah, M. M. (2012). Board of directors' characteristics and value relevance of accounting information in Malaysian shariah-compliant companies: A panel data analysis. *Economics and Finance Review*, *2*(6), 31-44.

Almaqtari, F. A., Hashed, A. A., Shamim, M., & Al-Ahdal, W. M. (2021). Impact of corporate governance mechanisms on financial reporting quality: A study of Indian GAAP and Indian accounting standards. *Problems and Perspectives in Management*, *18*(4), 1. https://search.proquest.com/openview/4b2771121a0ad42878803b136ca2c04e/1.pdf?pq-origsite=gscholar&cbl=4368393

Alves, S. (2014). The effect of board independence on the earnings quality: Evidence from Portuguese listed companies. *AABFJ*, *8*(3), 23-43. http://dx.doi.org/10.14453/aabfj.v8i3.3

Arrow, K. J. (1972). Some models of racial discrimination in the labor market in A. H. Pascal ed. Racial discrimination in economic life. In (pp. 187–204). Lexington, MA: Heath.

Aygun, M., Ic, S., & Sayim, M. (2014). The effects of corporate ownership structure and board size on earnings management: Evidence from Turkey. *International Journal of Business and Management*, *9*(12), 123-132. https://doi.org/10.5539/ijbm.v9n12p123

Bahmani, D. (2014). The relation between disclosure quality and information asymmetry: Empirical evidence from Iran. *International Journal of Financial Research*, *5*(2), 110-114. https://doi.org/10.5430/ijfr.v5n2p110

Braam, G., & Van Beest, F. (2013). Conceptually-based financial reporting quality assessment an empirical analysis on quality differences between UK annual reports and US 10-K reports. *Journal of Modern Accounting and Auditing*, *9*(10), 1281-1301.

Carpenter, V. L., & Feroz, E. H. (2001). Institutional theory and accounting rule choice: An analysis of four US state governments' decisions to adopt generally accepted accounting principles. *Accounting, Organizations and Society*, *26*(7-8), 565-596. https://doi.org/10.1016/s0361-3682(00)00038-6

Chalaki, P., Didar, H., & Riahinezhad, M. (2012). Corporate governance attributes and financial reporting quality: Empirical evidence from Iran. *International Journal of Business and Social Science*, *3*(15), 223-229.

Core, J. E., Guay, W. R., & Verdi, R. (2008). Is accruals quality a priced risk factor? *Journal of Accounting and Economics*, *46*(1), 2-22.

DeZoort, F. T., & Salterio, S. E. (2001). The effects of corporate governance experience and financial- reporting and audit knowledge on audit committee members' judgments. *Auditing: A Journal of Practice & Theory*, *20*(2), 31-47. https://doi.org/10.2308/aud.2001.20.2.31

González, J. S., & García-Meca, E. (2013). Does corporate governance influence earnings management in Latin American markets? *Journal of Business Ethics*, *121*(3), 419-440. https://doi.org/10.1007/s10551-013-1700-8

Habbash Murya. (2010). *The effecttiveness of corporate governance and external audit on constraining earnings management practice in the UK*. Ph.D Thesis, Durham University.

Hasan, A., Aly, D., & Hussainey, K. (2022). Corporate governance and financial reporting quality: A comparative study. *Corporate Governance: The International Journal of Business in Society*, *22*(6), 1308-1326. https://doi.org/10.1108/cg-08-2021-0298

Hassan, S. U. (2012). Determinants of financial reporting quality: An in-depth study of firm structute. *Journal of Modern Accounting and Auditing*, *8*(11), 1656-1672.

Hassan, S. U. (2013). Financial reporting quality does monitoring charateristics matter? An empirical analysis of Nigerian manufacturing sector. *The Business & Management Review*, *3*(2), 147-161.

Houqe, M. N., Zijil, T. V., Dunstan, K., & Karim, A. W. (2010). Does corporate governance affect earnings quality: Evidence from an emerging market. *Academy of Taiwan, Business Management Review*, *7*(3), 48-57.

Hsu, Y.-L., & Yang, Y.-C. (2022). Corporate governance and financial reporting quality during the COVID-19 pandemic. *Finance Research Letters*, *47*, 102778. https://doi.org/10.1016/j.frl.2022.102778

IASB. (2018). *Conceptual framework for financial reporting*. London, UK: International Accounting Standards Board.

Instruments, F. (2010). *Accounting for financial instruments and revisions to the accounting for derivative instruments and hedging activities*. Retrieved from https://www.cs.trinity.edu/rjensen/temp/FASBMay2010.pdf

Jamaluddin, A., Mastuki, N. A., & Elmiza Ahmad, A. (2009). Corporate governance reform and the value relevance of equity book value and earnings in Malaysia. *Journal of Financial Reporting and Accounting*, *7*(2), 41-59. https://doi.org/10.1108/19852510980000003

Jensen, M. C., & Meckling, W. H. (1976). Theory of the firm: Managerial behaviour, agency costs and ownership structure. *Journal of Financial Economics*, *3*, 305-361. https://doi.org/10.1016/0304-405X(76)90026-X

Jonas, G. J., & Blanchet, J. (2000). Assessing quality of financial reporting. *Accounting Horizons*, *14*(3), 353–363. https://doi.org/10.1080/23311975.2022.2073628

Kao, L., & Chen, A. (2004). The effects of board characteristics on earnings management. *Corporate Ownership & Control*, *1*(3), 96-107. https://doi.org/10.22495/cocv1i3p9

Klai, N., & Omri, A. (2011). Corporate governance and financial reporting quality: The case of Tunisian firms. *International Business Research*, *4*(1), 158-166. https://doi.org/10.5539/ibr.v4n1p158

Le, H. V. T., Vo, V. H., & Nguyen, H. T. (2020). Factors affecting the quality of information on financial reports of listed companies in Ho Chi Minh city. *Tạp chí Khoa Học Đại học Mở Thành phố Hồ Chí Minh*, *15*(2), 159-175. https://doi.org/10.46223/hcmcoujs.econ.vi.15.2.246.2020

Le, T. M. H. (2015). *Transparency of financial information of companies listed on the Vietnam stock market*. Doctoral Thesis, University of Economics Ho Chi Minh City.

Liu, J. (2012). Board monitoring, management contracting and earnings management: An evidence from ASX listed companies. *International Journal of Economics and Finance*, *4*(12), 121-136. https://doi.org/10.5539/ijef.v4n12p121

Modell, S. (2001). Performance measurement and institutional processes: A study of managerial responses to public sector reform. *Management Accounting Research*, *12*(4), 437-464. https://doi.org/10.1006/mare.2001.0164

Nguyen, C. P., & Nguyen, T. T. P. (2014). Factors affecting the level of financial information disclosure of listed companies. *Journal of Economic Development*, *287*(9), 15-34.

Nguyen, T. N. (2015). *The impact of corporate governance on the quality of financial reporting information at listed companies in Vietnam*. Doctoral Thesis, University of Economics Ho Chi Minh City.

Nguyen, T. P. H., & Cao, T. T. T. (2016). *Corporate governance characteristics affect profit management at commercial banks - evidence in Vietnam*. Conference on Vietnamese Enterprises in TPP (ICYREB 2016).

Nyor, T. (2013). Financial reporting quality of Nigeria banks: Users' perception. *International Journal of Business and Social Science*, *4*(13), 273-280.

Oliver, C. (1991). Strategic responses to institutional processes. *Academy of Management Review*, *16*(1), 145-179. https://doi.org/10.5465/amr.1991.4279002

Onuorah, A.-C., & Imene, O. (2016). Corporate governance and financial reporting quality in selected Nigerian company. *International Journal of Management Science and Business Administration*, *2*(3), 7-16.

Qinghua, W., Pingxin, W., & Junming, Y. (2007). Audit committee, board characteristics and quality of financial reporting: An empirical research on Chinese securities market. *Frontiers of Business Research in China*, *1*(3), 385-400. https://doi.org/10.1007/s11782-007-0023-y

Roodposhti, F. R., & Chashmi, S. N. (2011). The impact of corporate governance mechanisms on earnings management. *African Journal of Business Management*, *5*(11), 4143.

Ross, S. A. (1973). The economic theory of agency: The principal's problem. *The American Economic Review*, *63*(2), 134-139.

Salehi, M., & Nassir Zadeh, F. (2012). Perceptions on qualitative characteristics in financial reporting: Iranian evidence. *Interdisciplinary Journal of Contemporary Research in Business*, *3*(12), 92-107.

Schipper, K. (1981). Discussion of voluntary corporate disclosure: The case of interim reporting. *Journal of Accounting Research*, *19*, 85–88. https://doi.org/10.2307/2490986

Soliman, M. M., & Ragab, A. A. (2013). *Board of director's attributes and earning management: Evidence from Egypt*. Paper presented at the Proceedings of 6th International Business and Social Sciences Research Conference, 3-4 January, Dubai, UAE.

Stearns, L. B., & Mizruchi, M. S. (1993). Board composition and corporate financing: The impact of financial institution representation on borrowing. *Academy of Management Journal*, *36*(3), 603-618. https://doi.org/10.5465/256594

Tran, T. K. T. (2022). *Factors affecting the quality of information on financial reports of commercial banks in Vietnam*. Doctoral Thesis, University of Economics Ho Chi Minh city.

Tran, V. T., Ngo, N. N. T., & Tran, P. H. (2021). Factors affecting the quality of information on financial reports of Agribank branches in city HCM. *Journal of Accounting and Auditing*, *211*(4), 42-46.

Van Beest, F., Braam, G., & Boelens, S. (2009). *Quality of financial reporting: Measuring qualitative characteristics. nijmegen cent. Econ. (NiCE), Work.* Retrieved from https://repository.ubn.ru.nl/bitstream/handle/2066/74896/74896.pdf

Watts, R. L., & Zimmerman, J. L. (1978). Towards a positive theory of the determination of accounting standards. *Accounting Review*, *53*(1), 112-134.

Waweru, N. M., & Riro, G. K. (2013). Corporate governance, firm characteristics and earnings management in an emerging economy. *Journal of Applied Management Accounting Research*, *11*(1), 43-64.

Xie, B., Davidson III, W. N., & DaDalt, P. J. (2003). Earnings management and corporate governance: The role of the board and the audit committee. *Journal of Corporate Finance*, *9*(3), 295-316. https://doi.org/10.1016/s0929-1199(02)00006-8