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# Non-Performing Loans and Bank Performance in Vietnam: The Moderating Role of Professional Ethics

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**ABSTRACT:** This study investigates non-performing loans' impact on listed Vietnamese commercial banks' performance (2015–2024), testing professional ethics' moderating role through panel data analysis. Results confirm NPLs significantly erode profitability, while ethics Index, comprising ESG disclosure, Big4 audits, and governance practices, independently enhances banks' performance. Notably, professional ethics amplifies NPL sensitivity. Ethical banks experience substantially greater profitability declines from credit deterioration than low-ethics peers, revealing transparency's double-edged nature during credit shocks. Scale, lending intensity, and capital adequacy positively contribute to performance. Vietnam's post-restructuring, Basel III context underscores credit risk governance amid real estate distress. Findings challenge conventional ethics-as-risk-buffer assumptions, highlighting ethics' dual role as performance enhancer yet vulnerability amplifier. The study suggests policy recommendations advocating stricter credit appraisal, dynamic liquidity management, and ethics-integrated risk frameworks.

**KEYWORDS:** Non-performing loan ratio, Professional ethics, Bank performance, Listed commercial banks; moderating effect.
**JEL classification:** G21, G34, C33

## 1. INTRODUCTION

In the context of increasingly deepening financial globalization, commercial banking systems have become one of the core pillars determining the efficiency of capital resource allocation. They also shape the degree of financial intermediation, and macroeconomic stability. With total assets equivalent to over 250% of global GDP (IMF, 2023), the banking sector not only serves as the primary channel for capital mobilization but also acts as a key factor influencing the economy's resilience and recovery from financial shocks. Numerous empirical studies indicate that the efficiency and stability of banking systems are closely linked to long-term economic growth and post-crisis recovery speed (Demirguc-Kunt et al., 2019; Laeven & Valencia, 2020). Thus, identifying the determinants of banking operational efficiency holds significant importance from both theoretical and practical perspectives.

Among financial risks, the non-performing loan ratio (NPL) is regarded as a central indicator reflecting credit quality and the safety level of commercial banks. International studies consistently show that rising NPLs erode profitability, constrain credit growth, and increase provisioning costs (Beck et al., 2013; Klein, 2013). On a broader scale, Arhinful et al. (2025) points out that high NPLs undermine investor confidence and erode bank market value, while Balgova et al. (2021) emphasize the prolonged negative impact of NPL resolution costs on financial efficiency. Overall, existing research agrees that credit risk is a critical factor weakening ROA, ROE, and banking system sustainability.

In parallel with traditional financial factors, recent studies increasingly highlight the role of corporate governance, professional ethics, and environmental-social-governance (ESG) standards in commercial bank performance. In this study, professional ethics is considered an integral component of the ESG framework, reflecting the governance pillar that supports

transparency, accountability, and responsible conduct in banking operations. Buallay (2019) demonstrates that sustainability disclosure levels positively correlate with financial efficiency; Azmi et al. (2021) and Nizam et al. (2019) further confirm that ESG practices help mitigate risks and enhance long-term efficiency. These findings suggest that non-financial factors can play a crucial complementary role in risk control and operational performance improvement. However, most current studies still approach credit risk and ESG separately, primarily examining their independent impacts rather than analyzing their interaction mechanisms within a unified analytical framework.

In Vietnam, this issue gains particular relevance in the post-banking restructuring phase and after the prolonged effects of the COVID-19 pandemic. Although the on-balance-sheet NPL ratio is officially maintained below 3% (State Bank of Vietnam, 2024), international assessments indicate the actual ratio may exceed 5% when including restructured loans and potential risk exposures (IMF, 2024), thereby exerting significant pressure on industry-wide profit growth (World Bank, 2023). Domestic empirical studies have identified an inverse relationship between NPLs and bank performance (Do, Ngo, & Phung, 2020; Nguyen, 2023), while noting the positive impact of ESG disclosure on ROA and ROE (Bui et al., 2024). Nevertheless, empirical evidence on the interaction of credit risk and professional ethics in the performance of listed commercial banks, especially in the post-pandemic context, remains limited.

Building on this research gap and contributing to post-COVID banking resilience strategies in emerging markets, this study examines the impact of the non-performing loan (NPL) ratio on the operational performance of listed commercial banks in Vietnam and tests the moderating role of professional ethics in the relationship between NPLs and bank performance, thereby elucidating the interaction mechanism between financial risks and non-financial factors in shaping banking system sustainability.

The remainder of this paper is organized as follows: Section 2 reviews the literature and develops hypotheses; Section 3 presents the methodology and data; Section 4 reports empirical results; and Section 5 concludes with policy implications and recommendations.

## 2. LITERATURE REVIEW

### 2.1. Theoretical frameworks

Bank performance, typically measured by profitability metrics such as ROA and ROE, reflects operational efficiency, risk management, and value creation in commercial banking (Fadun & Silwimba, 2023; Gao et al., 2018; Kyambade et al., 2024). Theoretical underpinnings trace back to foundational concepts in finance. These concepts indicate that credit risk via NPL ratios signals asset quality deterioration, while professional ethics, encompassing integrity, transparency, and accountability, serves as a governance safeguard against agency problems (Abu-Ali et al., 2024; Chantha et al., 2024; Kokkinis & Miglionico, 2020).

Agency theory posits that conflicts arise between principals (e.g., depositors/shareholders) and agents (bank managers/borrowers) due to divergent interests and information asymmetries. In banking, moral hazard and adverse selection exacerbate credit risks, leading to higher NPLs and reduced performance (Holmstrom, 1979; Jensen & Meckling, 1976). Professional ethics and governance mechanisms mitigate these issues by aligning incentives and enhancing monitoring. This review draws on these foundations to examine NPLs and ethics in Vietnamese listed banks.

Asymmetric information theory suggests that in financial transactions, one party typically holds more information than the other, exemplified by the bank-borrower relationship. Akerlof (1970) argues that information disparities can lead to adverse selection, where higher-risk borrowers actively seek loans. Spence (1973) highlights signaling mechanisms to mitigate asymmetries, though signals are often incomplete or inaccurate in practice. Post-approval, moral hazard may emerge as borrowers shift to riskier behaviors or misuse funds.

These issues elevate the likelihood of overdue and non-performing loans. Diamond's (1984) financial intermediation theory posits banks screen and monitor borrowers to minimize information costs and ensure efficient capital allocation. However, rising NPLs compel higher credit loss provisions, eroding net profits and equity. The impact mechanism is as follows: increased NPLs raise provisioning costs, suppress profits, and diminish operational efficiency (ROA, ROE). Thus, the NPL ratio serves as a key indicator of credit quality with direct negative effects on commercial bank performance.

Beyond credit risk, professional ethics and ESG principles underpin sustainable banking governance. Freeman's (1984) stakeholder theory asserts banks must balance shareholder value with interests of customers, employees, investors, and communities. Adhering to ethical standards, information transparency, and accountability enhances governance quality and risk control. Carroll & Shabana (2010) demonstrate that corporate social responsibility and business ethics yield long-term economic benefits by curbing reputational risks, excessive risk-taking, and bolstering investor trust. Mechanistically, ethics and ESG boost performance via two channels: (1) governance by improving transparency, internal controls, and risk discipline to limit NPL formation; and (2) market reputation by attracting customer/investor confidence, lowering funding costs, and enhancing profitability.

In summary, grounded in asymmetric information, financial intermediation, and stakeholder theories, NPL ratios are expected to negatively affect bank performance, while professional ethics exert positive effects via risk mitigation and governance improvements. This provides the theoretical basis for modeling NPL and ethics impacts on listed commercial banks in Vietnam.

**2.2. Empirical evidence**

Numerous empirical studies reveal an inverse relationship between the non-performing loan (NPL) ratio and bank performance. Million et al. (2015) examined credit risk impacts on commercial banks' operational efficiency in Ethiopia, using data from 8 banks over 2003–2012. Dependent variables included ROA; independents encompassed NPL ratio, credit provisioning ratio, minimum capital adequacy ratio (CAR), and loans-to-deposits ratio. Findings indicate NPLs negatively affect business performance. Similarly, Akter & Roy (2017) assessed NPL effects on profitability of banks listed on the Dhaka Stock Exchange (Bangladesh), analyzing audited financials from 2006–2015 via OLS regression with ROA and ROE as performance proxies. Results confirm NPLs significantly impair bank profits and long-term profitability, emphasizing effective credit risk management for performance enhancement.

In Vietnam, Phuong et al. (2022) analyzed factors influencing listed banks' performance using audited financial reports from 25 banks (2016–2020). Employing panel data regression with diagnostics and FGLS models, they found NPLs exert negative effects on efficiency. Nguyen et al. (2025) evaluated NPL impacts on 9 listed joint-stock commercial banks (2012–2022) via random effects regression on secondary data. Results show NPL ratio, credit risk coefficient, and operating cost efficiency inversely affect performance.

Conversely, some studies report positive or insignificant NPL effects. Oudat (2025) analyzed annual reports of 7 Bahrain Bourse-listed banks during 2014–2018 using OLS with multicollinearity, heteroskedasticity, autocorrelation, and normality tests. NPLs positively and significantly correlate with financial performance (ROE). Nguyen et al. (2021) investigated credit risk on Vietnamese banks using financial statements from 30 banks (2007–2019; 390 panel observations). Panel regression revealed credit risk indicators positively and significantly relate to profitability, suggesting banks benefit via higher lending rates. Murshidi et al. (2022) and Pujiyanto & Siswanti (2023) found insignificant NPL effects on Indonesian listed banks' performance using secondary data from annual and CSR reports.

Unlike the NPL ratio, professional ethics in banking is rarely quantified in economic studies, yet authors emphasize its indirect significance for performance. Theoretically, banks adhering to high ethical standards build customer and investor trust, enhance reputation, and boost business efficiency. "Ethical banking" research shows that banks with ethical compliance and transparent ESG disclosures enjoy lower capital costs and greater investor appeal (Weber & Feltmate, 2016). Khodor Shatila (2021) analysed secondary ethics in banking during history's largest crisis for objective assessment, using mixed methods (including interviews, questionnaires via Google Forms). Results indicate ROE positively correlates with ethics variables. Nguyen et al. (2024) evaluated ESG disclosure impacts on profitability via ROA and ROE for Vietnamese banks (2018–2023). Employing Disclosure Index Analysis for transparency measurement and econometric models, the study found comprehensive ESG reporting enhances sustainability responsibility, competitive positioning, and profits. In summary, studies affirm ethical environments indirectly improve performance via risk reduction and trust-building; however, direct quantitative analyses, especially in Vietnam, are scarce.

Although numerous studies explore NPL-performance links, findings remain inconsistent. Most work focuses on direct NPL effects on traditional metrics like ROA and ROE, overlooking concurrent non-financial controls such as ESG or ethics. "Ethical banking" research indirectly proxies via ESG, corporate culture, or governance, with limited direct quantification of ethics' role in curbing credit risk and boosting efficiency, particularly in Vietnam. Existing studies treat NPLs or ethics separately, neglecting their joint effects on performance. This creates a key gap: whether strong professional ethics practices reduce NPLs and profitability in banking industry.

Addressing this gap, our study clarifies the influences of both NPL ratio and professional ethics, as well as the moderating role of professional ethics on the relationship between NPL ratio and bank performance of 26 listed Vietnamese commercial banks during the period of 2015–2024. Based on the foregoing review, we propose the following hypotheses:

***H1:*** *The NPL ratio negatively affects bank performance.*

***H2:*** *Professional ethics positively affects bank performance.*

***H3:*** *The loans-to-deposits ratio positively affects bank performance.*

***H4:*** *The professional ethics moderates the negative relationship between NPL ratio and bank performance.*

## 3. METHODOLOGY

### 3.1. Data collection

The study employs secondary data from annual reports and audited financial statements of 26 Vietnamese joint-stock commercial banks spanning 2015–2024, yielding 260 observations. Data are compiled from official disclosures by HNX, HOSE, the State Bank of Vietnam, the Ministry of Natural Resources and Environment, and contemporaneous ESG/CSR reports during 2015–2024.

While bank performance can be measured using ROA or ROE, our study employs ROE due to its consistent availability across annual reports and superior reflection of shareholders' return efficiency. ROE is preferred over ROA for three key reasons: (1) it directly measures profitability from the shareholders' perspective, aligning with value creation objectives in commercial banking; (2) it is less susceptible to accounting distortions from non-operating income or asset valuation differences that often affect ROA in emerging markets; and (3) it better captures operational efficiency in capital utilization, which is critical for assessing banking sustainability post-crisis.

Meanwhile, professional ethics in banking is commonly proxied through multiple governance and sustainability indicators in empirical studies (Nguyen et al., 2025; Baumann & Nier, 2003). Following this approach, we construct a composite Ethics Index (EI) using five binary measures:

- ESG: Bank discloses standalone or integrated ESG/CSR report (=1 if yes; =0 if no)
- BIG4: Financial statements audited by Big4 firms (=1 if Big4; =0 otherwise)
- NOPEN: Penalized for ethics/privacy/environmental violations (=1 if no penalty; =0 if penalized)
- ESG_COM: Ethics or ESG committee in governance structure (=1 if yes; =0 if no)
- GREEN_CREDIT: Green credit policy in place (=1 if yes; =0 if no)

The Ethics Index is calculated as the unweighted average of these components:

$$EI_{it} = \frac{ESG_{it} + BIG4_{it} + NOPEN_{it} + ESG_COM_{it} + GREEN_CREDIT_{it}}{5} \quad (1)$$

where: $EI_{it}$ ranges from 0 to 1, reflecting bank *i*'s ethics practices in year *t*. This proportion-based Disclosure Index methodology follows standard practices for emerging markets with limited quantitative data (OECD, 2008; Nguyen et al., 2025).

### 3.2. The model

Based on the literature review and following the approach of Akter & Roy (2017), Phuong et al. (2022), Nguyen et al. (2025), Nguyen et al. (2024), we propose the following model as the base model to evaluate how non-performing loan affect bank performance in Vietnam.

$$ROE_{it} = \beta_0 + \beta_1 LDR_{it} + \beta_2 NPL_{it} + \beta_3 EI_{it} + \beta_4 CAR_{it} + \beta_5 SIZE_{it} + \varepsilon_{it} \quad (2)$$

where: *ROE* denotes Return on Equity, measured by net profit after tax / average equity. *NPL* is non-performing loan ratio, measured by substandard, doubtful, and loss loans divided by total outstanding loans. *EI* represents the professional ethics index of banks. Control variables include Loans-to-Deposits Ratio (*LDR*), Capital Adequacy Ratio (*CAR*), Bank Size (*SIZE*), and $\varepsilon_{it}$ is the error term. *i* denotes the bank, *t* the year, *β* regression coefficients, and ϵ is the random error term. Table 1 interprets the measurements of each variable.

**Table 1. Variable description**

| Variables | Variable definitions | Calculation methods |
|---|---|---|
| ROE | Return on Equity (ROE) | Net profit after tax / Average equity |
| NPL | Non-Performing Loan Ratio (NPL) | Substandard, doubtful, and loss loans (Groups 3,4,5) / Total outstanding loans |
| EI | Ethics Index (EI) | EI Composite index (0–1) (*Equation 1*) |
| LDR | Loans-to-Deposit Ratio (LDR) | Total outstanding loans / Total customer deposits |
| CAR | Minimum Capital Adequacy Ratio (CAR) | Equity capital / Risk-weighted assets |
| SIZE | Bank Size | Natural log of total assets |

To examine the moderating effect of professional ethics on the relationship between non-performing loan and bank performance, we extend the baseline model with the *NPL × EI* interaction. A positive coefficient indicates professional ethics amplifies non-performing loan's impact on bank performance, while a negative coefficient suggests ethics mitigates NPL's detrimental effects. This approach effectively identifies performance determinants while clarifying professional ethics' conditional role. The moderating model is as follows:

$$ROE_{it} = \beta_0 + \beta_1 LDR_{it} + \beta_2 NPL_{it} + \beta_3 EI_{it} + \beta_4 (NPL_{it} \times EI_{it}) + \beta_5 CAR_{it} + \beta_6 SIZE_{it} + \varepsilon_{it} \quad (3)$$

This study employs panel data regression analysis on 26 listed joint-stock commercial banks in Vietnam (2015–2024), enabling examination of temporal variations within banks while controlling for bank-specific heterogeneity. We apply panel regression techniques, including Pooled Ordinary Least Squares (Pooled OLS), Fixed Effects (FE), and Random Effects (RE), to estimate the model. Model selection involved F-test, Lagrange Multiplier, and Hausman tests, with results favoring FEM as the most robust approach. Diagnostics revealed autocorrelation and heteroscedasticity violations, prompting use of Feasible Generalized Least Squares (FGLS) for correction (Bai et al., 2020). Subsequent sections present baseline FGLS results and extended analyses.

## 4. RESULTS AND DISCUSSION

### 4.1. Descriptive statistics

Table 2 presents the descriptive statistics of the variables used in the models, with 260 observations from 26 banks listed on Vietnam's stock exchanges (2015–2024). ROE averages 11.65%, indicating relatively strong performance among listed banks during the study period. However, high standard deviation (10.05%) highlights significant profitability disparities across banks, underscoring the need for targeted risk management in underperformers. Notably, in 2023–2024, banks like VIB, ACB, and MBB sustained ROE above 20%, while smaller or restructuring banks such as NVB and PGB saw sharp profit declines due to elevated provisioning costs, implying that scale and proactive provisioning critically drive resilience.

The NPL ratio averages 2.16%, aligning with the State Bank of Vietnam's control threshold (<3%). Yet, post-pandemic economic challenges, sluggish real estate, and corporate bond crises drove NPL spikes in 2023–2024, with banks like SCB, NVB, and ABB doubling NPLs year-over-year. This prompted industry-wide provisioning hikes that directly pressured short-term profits and ROE, highlighting the vulnerability of Vietnam's banking sector to macroeconomic shocks and the urgency for robust credit monitoring.

Ethics Index (EI) averages 0.435, signaling uneven ethics practices in governance and operations. Amid ethics violations, the State Bank intensified oversight and standards. Leading banks like VCB, ACB, and VIB advance compliance culture and ESG governance for transparency and sustainability. These disparities suggest ethics investments could narrow performance gaps, as higher EI correlates with better risk-adjusted returns in emerging markets.

Loans-to-Deposits Ratio (LDR) averages 90.76%, showing near-full utilization of mobilized funds for lending. The State Bank mandates LDR caps at 85–90% to curb liquidity risks amid rising deposit rates, implying banks must balance growth ambitions with prudential liquidity buffers to sustain stability.

Bank Size (SIZE) averages 5.29 (log total assets), underscoring gaps between giants (VCB, BID, CTG) and smaller private banks. The "Big 4" hold over 40% system assets, enabling superior risk control and profitability amid volatility. This scale economy implies policy support for smaller banks' consolidation or digitalization to compete effectively.

CAR averages 10%, meeting Basel II minimum (8%); yet, with Basel III rollout, mid-tier banks face equity buildup pressures. Stronger CAR links to lower NPL sensitivity, suggesting capital buffers enhance performance stability in Vietnam's evolving regulatory landscape.

**Table 2. Descriptive statistics**

| Variable | Obs | Mean | Std. Dev | Min | Max |
|---|---|---|---|---|---|
| ROE | 260 | 11.6539 | 10.0470 | -84.18 | 30.33 |
| NPL | 260 | 2.1573 | 2.4802 | 0.47 | 29.76 |
| EI | 260 | 0.4350 | 0.2474 | 0 | 1 |
| LDR | 260 | 90.7649 | 19.9138 | 0.9603 | 142.82 |
| SIZE | 260 | 5.2908 | 0.4974 | 4.2492 | 6.4410 |
| CAR | 260 | 10.0092 | 5.2665 | 0 | 24.53 |

Table 3 presents the correlation matrix of the model variables. Our initial analysis reveals that independent variables correlate moderately with the dependent variable (ranging from -0.4709 to 0.4216), indicating no significant multicollinearity concerns. To validate results, we further tested multicollinearity via Variance Inflation Factor (VIF). VIF tests further confirm this, with

coefficients ranging from 1.08 to 1.33 (mean 1.17), well below conventional warning thresholds of 10. Thus, the model is free of multicollinearity issues, and independent variables are suitable for regression analysis.

**Table 3. Correlation matrix**

| | ROE | NPL | EI | LDR | SIZE | CAR |
|---|---|---|---|---|---|---|
| **ROE** | 1 | | | | | |
| **NPL** | -0.4709 | 1 | | | | |
| **EI** | 0.3462 | 0.0525 | 1 | | | |
| **LDR** | 0.4216 | -0.0263 | 0.3578 | 1 | | |
| **SIZE** | 0.3846 | -0.1105 | 0.3408 | 0.0154 | 1 | |
| **CAR** | 0.1996 | -0.0238 | 0.1417 | 0.2482 | 0.1156 | 1 |

**Table 4. Testing results for multicollinearity (VIF)**

| Variable | VIF | 1/VIF |
|---|---|---|
| NPL | 1.33 | 0.7518 |
| EI | 1.23 | 0.8128 |
| SIZE | 1.18 | 0.8481 |
| LDR | 1.08 | 0.9280 |
| CAR | 1.03 | 0.9744 |
| Mean_VIF | 1.17 | |

**4.2. Baseline results**

Table 5 represents the results of the baseline model, which provide important insights into the factors influencing bank performance in Vietnam, with a particular focus on the influence of non-performing loans and professional ethics. Overall, we found a significant impact of non-performing loans (NPL), ethics index (EI), loans-to-deposits ratio (LDR), bank size (SIZE), and capital adequacy ratio (CAR) on bank performance—all highly significant at the 1% level.

Using feasible generalized least squares (FGLS) estimation, the baseline model reveals strong drivers of profitability, consistent with credit risk and agency theories where poor asset quality erodes returns while scale and capital buffers enhance them.

**Table 5. Impact of non-performing loans on bank performance in Vietnam**

| Variables | Dependent variable: Bank performance | | | |
|---|---|---|---|---|
| | Coefficient | Standard error | z | P > \|t\| |
| NPL | -1.6299 *** | 0.2210 | -7.38 | 0.000 |
| EI | 7.4717 *** | 1.261 | 5.91 | 0.000 |
| LDR | 0.1068 *** | 0.0168 | 6.35 | 0.000 |
| SIZE | 5.3453 *** | 0.8958 | 5.97 | 0.000 |

| | | | | |
|---|---|---|---|---|
| CAR | 0.1216 *** | 0.0315 | 3.87 | 0.000 |
| Constant | -27.6662 *** | 4.6224 | -5.99 | 0.000 |

*Note: ***, **, and * denote statistical significance at the 1%, 5%, and 10% levels, respectively.*

Consistent with the research hypothesis, the coefficient for non-performing loans (NPL) is negative and highly significant at the 1% level, suggesting that higher NPL ratios increase provisioning costs and reduce net interest income, thereby impairing ROE—a pattern echoed in Vietnamese banking studies. The ethics index (EI) shows a positive and highly significant effect at the 1% level, indicating that stronger professional ethics (e.g., ESG disclosure, Big4 audits) fosters prudent lending and governance, boosting performance amid Vietnam's Basel III transitions.

A notable positive and significant effect is found for LDR, SIZE, and CAR, signaling that higher lending intensity, larger scale, and robust capital enhance profitability through diversification and shock absorption.

Taken together, these results reinforce the critical role of asset quality control and ethical governance in sustaining bank profitability, aligning with agency theory where ethics mitigates moral hazard in lending. By expanding the literature beyond advanced economy contexts and providing evidence from Vietnam's emerging market, this study contributes to the growing body of work on non-financial factors in banking resilience, offering insights for regulators on ethics integration in oversight.

### 4.3. Moderating effect of professional ethics

To further analyse the moderating effect of professional ethics on the relationship between non-performing loan and bank performance, we include the interaction variable *NPL* × *EI* in the model. Table 6 shows the regression results, confirming our baseline findings while revealing the conditional role of ethics.

**Table 6. Impact of non-performing loans on bank performance in Vietnam: the moderating role of professional ethics**

| **Variables** | **Dependent variable: Bank performance** | | | |
|---|---|---|---|---|
| | **Coefficient** | **Standard error** | **z** | **P > \|t\|** |
| NPL | -0.9449 *** | 0.3172 | -2.98 | 0.003 |
| EI | 9.6341 *** | 1.4755 | 6.53 | 0.000 |
| LDR | 0.1133 *** | 0.0170 | 6.67 | 0.000 |
| NPL × EI | -1.4908 ** | 0.6011 | -2.48 | 0.013 |
| SIZE | 5.8635 *** | 0.8667 | 6.77 | 0.000 |
| CAR | 0.1062 *** | 0.0316 | 3.35 | 0.001 |
| Constant | -31.8391 *** | 4.5584 | -6.98 | 0.000 |

*Note: ***, **, and * denote statistical significance at the 1%, 5%, and 10% levels, respectively.*

The regression results indicate that the NPL ratio has a negative and statistically significant effect on ROE ($\beta = -0.945$, $p < 0.05$). A one-unit increase in NPL reduces ROE by 0.945 percentage points, all else being equal, consistent with Nguyen et al. (2025), who attribute this to impaired loan recovery and elevated provisioning costs. This finding contrasts Oudat (2025) which suggests effective asset management neutralizes effects, but consistently aligns with agency theory (Jensen & Meckling, 1976) and Basel credit risk frameworks (Basel Committee on Banking Supervision, 2000), as higher NPLs erode net interest margins and capital efficiency. In Vietnam's context, during 2023–2024, NPL ratio spikes at banks like SCB underscore provisioning pressures amid real estate distress (Vu et al., 2024).

The Ethics Index (EI) positively and significantly impacts ROE ($\beta = 9.634$, $p < 0.05$). Banks scoring EI = 1 achieve 9.634 percentage points higher ROE than EI = 0 peers, quantifying Wu & Shen (2013) on ethics-driven reputation gains. Ethical governance theory posits stakeholder trust and risk mitigation (Trevino et al., 2006). This finding is consistent with the context of

Vietnam where State Bank of Vietnam directives on ethics, ESG, and compliance underscore mediating role of ethics index for bank performance and sustainability (Loan et al., 2024; Oanh et al., 2025).

Notably, the NPL × EI interaction is negative and significant (β = -1.491, p < 0.05), indicating professional ethics amplifies NPL's detrimental effect on ROE. When the Ethics Index equals 0 (EI=0), a 1% increase in the NPL ratio reduces ROE by 0.945 percentage points. When the Ethics Index equals 1 (EI=1), the marginal effect becomes -0.945 + (-1.491) = -2.436 percentage points, meaning a 1% NPL increase reduces ROE by 2.436 percentage points, over 2.5 times greater than for banks with low professional ethics. This suggests ethical banks (higher transparency, Big4 audits, ESG reporting) face greater ROE pressure from credit deterioration. Possible mechanisms include: (1) stricter provisioning standards revealing true NPL exposures; (2) higher stakeholder scrutiny amplifying profit impacts; (3) ethical governance constraining aggressive NPL workouts available to less-transparent peers (Halamka & Teply, 2016; Cuomo et al., 2018). This finding aligns with Boatright's (2011) ethical financial management theory, which posits that ethics helps curb financial risks but cannot fully offset poor credit decisions. Specifically, EI influences NPL by promoting prudent lending practices, such as rigorous credit assessments and borrower monitoring, which reduce default risks and keep NPL ratios low in healthy environments; consequently, this leads to improved bank performance through lower provisioning costs and higher profitability (Idris et al., 2023; Ma'aji et al., 2023). However, under elevated NPLs, EI's mechanism weakens as systemic credit deterioration overwhelms ethical safeguards, resulting in persistent provisioning burdens and profit drags despite strong ethical practices (Cuomo et al., 2018; Halamka & Teply, 2016).

The Loans-to-Deposits Ratio (LDR) positively affects ROE (β = 0.113, p < 0.05). A one-unit LDR increase boosts ROE by 0.113 points, supporting financial intermediation efficiency (Kennedy et al., 1960) and prior findings of Nguyen et al. (2021) and Pujiyanto & Indra Siswanti (2023). This result suggests high LDR as efficient transformation of deposits into profitable loans. In fact, State Bank of Vietnam set a safe threshold of 85–90% ensure liquidity safety amid rising rates (Linh et al., 2020; Nguyen & Phan, 2025; Nguyen & Vu, 2025).

Bank Size (SIZE) positively affects ROE (β = 5.864, p < 0.05), reflecting scale economies. A 1-unit SIZE increase raises ROE by 5.864 units, per Gul et al. (2011) and economies of scale theory (Panzar & Willig, 1981). This suggests that larger banks leverage cost advantages, diversification, and cheap funding. However, Le et al. (2021) warn excessive size heightens credit risks without robust controls, advocating optimal scale for balanced benefits.

CAR positively impacts ROE (β = 0.106, p < 0.05), echoing the studies of Berger & Bouwman (2013), Athanasoglou et al. (2008), and capital buffer theory (Jokipii & Milne, 2008). Higher equity enhances shock absorption, market credibility, and profitability. In the context of Basel III adoption in Vietnam, this reinforces capital's pivotal role in sustainable financial stability.

## 6. CONCLUSION AND RECOMMEDATIONS

This study examined the impact of non-performing loan on bank performance in Vietnam using a sample of 26 listed commercial banks in Vietnam during 2015–2024. Using the FGLS estimation method, the results demonstrate that banks' operational efficiency emerges from complex interactions between traditional financial factors and non-financial governance elements like professional ethics. Rather than isolated effects, bank performance forms within a framework where credit risk, ethical conduct, and capital deployment strategies interweave and mutually influence outcomes. Our findings reinforce credit risk's central role in shaping performance, confirming NPLs' negative effects extend beyond accounting entries to reflect deficiencies in credit appraisal, monitoring, and management. As Vietnam's banking system shifts from extensive growth to quality and safety focus, NPLs remain a major barrier to sustainable profitability.

The study's key novelty clarifies professional ethics' dual role, not just as an independent performance enhancer, but as a moderator amplifying NPL impacts on bank performance. Specifically, ethical banks experience much greater ROE declines compared to low-ethics peers. Ethics maximizes value in healthy credit environments through discipline and governance, but heightens sensitivity when credit quality deteriorates. Additionally, the loans-to-deposits ratio (LDR) confirms capital strategy's positive role, sustainable only with robust credit risk controls and management capacity. Credit expansion proves inseparable from risk governance and market discipline, especially amid rising economic shocks.

Our research supplements empirical evidence that Vietnamese bank performance cannot be fully explained by financial metrics alone. Integrating ethics and governance offers a more comprehensive view of operational capability and sustainability following restructuring and amid deep integration.

Based on these findings, we propose recommendations to enhance bank performance. First, listed banks should prioritize NPL control in their strategies. Despite robust credit growth from 2015–2024, persistent profitability mismatches from provisioning pressures underscore the importance of strengthening loan quality, implementing stricter appraisal and post-lending oversight, especially for high-risk credits, and shifting focus toward cash flow and repayment capacity rather than over-relying on collateral. Second, nanks can better manage growth by linking credit expansion directly to intrinsic risk profiles. Although high LDR

levels offer potential benefits, maintaining rigorous quality controls is crucial, as NPL spikes inevitably erode profits and liquidity. A recommended approach involves adopting flexible growth adjustments, such as recalibrating lending limits dynamically in response to rising NPLs instead of adhering to rigid annual targets. Third, embedding ethics into credit risk systems would address root causes effectively. During the study period, NPLs arose not only from economic pressures but also from imprudent and undisciplined lending practices. Banks could foster accountability by linking ethics compliance to performance evaluations for credit staff and managers on large or high-risk loans, thereby reducing subjective or short-term decisions and bolstering overall asset quality.

For stock market investors, assessing banks through the lens of profit quality is advisable. The 2015–2024 disparities in NPLs and governance reveal how short-term profits can be misleading. A balanced evaluation should incorporate NPL trends, CAR, and governance discipline alongside profitability forecasts.

Regulators, in turn, could refine oversight by connecting performance monitoring to credit risk management and lending ethics. Past emphasis on quantitative metrics during the study period overlooked behavioral factors. Strengthening inspections for high-growth banks exhibiting asset quality erosion would help preempt systemic risks more proactively.

Despite comprehensive panel data from listed banks (2015–2024) and robust FGLS estimation correcting model flaws, some limitations remain. Our sample covers only listed banks with superior transparency, scale, and governance, potentially overlooking unlisted institutions' dynamics. Our composite Ethics Index using a composite methodology to reflect the level of ethical complicance and governance within banks. While this approach is suitable given the limited data in Vietnam, the composite index does not allow for a clear separation of the individual impacts of each component, such as ESG disclosure, independent auditing, or ethical violations. This may reduce the ability to provide a detailed explanation of the mechanisms by which professional ethics impact operational performance. Future studies could expand to unlisted banks, disaggregate ethics measures (e.g., via surveys), incorporate macros/time-varying effects, or explore causality via GMM/IV approaches.

## STATEMENTS AND DECLARATIONS

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