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Accounting Conservatism in Indonesian Banks: Evidence from Loan Loss Provisions

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ABSTRACT
The study attempts to investigate the relationship between the recent concepts of prudence in banking literature on the provisioning behaviour in Indonesian banks. We use a mixed exploratory design, including literature review of recent conservatism research with panel evidence from 6 Indonesian banks for years 2021–2024 and preliminary 2025 data. From the results, it is suggested that recent research has repeatedly shown linking accounting conservatism with early recognition of the loss, veracity in financial reports, plus the practice of loan loss provisioning. A negative relationship between credit growth and discretionary loan loss provisions indicated that discretionary provisioning decreased during credit expansion. Although the relations are non-statistically significant due to very small samples taken, the direction of the coefficient suggests some risk of weakening conditional conservatism in an expansion of credit. This study adds to the literature by linking prudence-related constructs with observed effect of provisioning behaviour of Indonesian banks in the IFRS 9. Results offer early insights into the impact of credit growth dynamics on the conservative reporting behaviour. The study also emphasizes the need for public-facing disclosure of provisioning assumptions and macroeconomic scenarios for regulators, investors, and banking professionals.

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INTRODUCTION

Prudence is essential for ensuring the stability and reliability of financial statements in the banking sector, where informational risk is high and public trust is critical (Balakrishnan et al., 2016; Zhao et al., 2014). It emphasises the timely recognition of potential losses and the delayed recognition of gains until realisation, thereby promoting a cautious representation of financial conditions. Conservative risk management practices further reduce lender exposure by enabling banks to respond effectively to changes in financing conditions and risk profiles (Zhao et al., 2014). In this context, timely loss recognition contributes to financial stability by mitigating the risk of sudden depositor withdrawals that could disrupt liquidity and reduce the value of loan assets (Lu & Ruan, 2024).

Conditional conservatism operates within specific legal and regulatory frameworks. Prior

research indicates that its effects are stronger in countries with mature legal systems, transparency-oriented policies, and limited government intervention (Zhao et al., 2014). In banking, accurate and timely financial reporting is fundamental, as information uncertainty can exacerbate systemic instability and increase the likelihood of bank runs (Lu & Ruan, 2024). Consequently, conservative accounting serves as an informational mechanism that reduces asymmetry, strengthens depositor and investor confidence, and supports regulatory oversight (Díaz-Sánchez et al., 2023).

The relevance of accounting conservatism has increased following the adoption of IFRS 9 and its Expected Credit Loss (ECL) framework. IFRS 9 replaces the incurred loss model with a forward-looking provisioning approach based on macroeconomic expectations and credit risk forecasts. This shift introduces greater managerial discretion in provisioning decisions, which may influence conditional conservatism, particularly in loan loss provisioning (LLP) behaviour.

Empirical studies commonly operationalise accounting conservatism using earnings-based, balance sheet-based, and LLP-based indicators (Zhang et al., 2022; Zhong & Li, 2017). In banking research, proxy selection requires careful consideration because prudence is closely related to credit risk recognition and managerial judgment in estimating losses. Although prior studies suggest that conservatism enhances reporting quality and reduces information asymmetry, many rely on generalised proxies without explicitly linking them to prudence-based constructs. This limitation becomes more pronounced under IFRS 9, where expected loss estimation depends on forward-looking assessments and discretionary judgment.

To address this issue, this study employs Natural Language Processing (NLP)-based Latent Topic Modelling (LTM) to extract dominant conceptual patterns in banking conservatism literature. The mapping identifies prudence as being associated with timely loss recognition, reporting credibility, and lending-related risk conditions. These constructs support the empirical use of discretionary LLP as a proxy for prudential loss recognition. Loan growth is included to capture lending expansion dynamics that may influence conservative reporting in Indonesian banks.

Empirical evidence on accounting conservatism in emerging banking systems remains limited, particularly after IFRS 9 adoption. LLP serves as a key accounting mechanism for reflecting prudence in financial reporting in the Indonesian banking sector. Recent studies have begun to examine IFRS 9 adoption in emerging contexts such as Chinese regional banks (Yu et al., 2025) and African banking systems (Taylor et al., 2025), but they tend to focus on specific outcomes such as procyclicality, value relevance, and performance, rather than conceptual foundations. More broadly, empirical literature shows that IFRS 9 adoption significantly affects LLP behaviour and bank risk dynamics (Mies & Menk, 2023; Salazar et al., 2023). However, limited attention has been given to how prudence-related constructs, particularly accounting conservatism, are conceptually defined and operationalised through LLP mechanisms in emerging banking contexts. This gap raises questions about how conservatism manifests in bank-level provisioning practices.

This study addresses the gap by integrating NLP-based literature analysis with empirical investigation. NLP techniques enable systematic extraction of recurring conceptual structures from academic text (Bozyiğit & Kılınç, 2022; Fisher et al., 2016; Jagdale & Deshmukh, 2025). The analysis identifies three key constructs: timely loss recognition, managerial discretion, and lending-related risk dynamics. These constructs are translated into measurable variables, where LLP represents timely loss recognition, discretionary provisions capture managerial discretion, and loan growth reflects lending dynamics.

The study adopts a mixed-methods design combining NLP mapping and exploratory panel analysis. The first phase identifies conceptual constructs, while the second tests their presence in observed provisioning practices. The empirical analysis examines the effect of loan growth on discretionary LLP using panel data from Indonesian listed banks during 2021–2024 with

preliminary 2025 observations. This research contributes by clarifying the linkage between prudence-related constructs and empirical proxies, introducing an NLP-based methodological approach, and providing exploratory evidence on discretionary LLP behaviour under IFRS 9. It highlights how credit growth dynamics may influence provisioning discretion and forward-looking reporting practices (Jin & Wu, 2023; Qiang & Wang, 2024), and underscores the importance of transparent disclosure for interpreting credit risk signals.

LITERATURE REVIEW

Prudence is a fundamental principle in financial reporting that emphasises the earlier recognition of losses relative to gains, thereby enhancing the reliability of information for investors and regulators (Xie, 2015; Zhong & Li, 2017). This principle is closely associated with accounting conservatism, which operationalises prudence through asymmetric verification of losses and gains, particularly under conditional conservatism. In the banking sector, conditional conservatism is especially relevant due to high credit risk and estimation uncertainty, particularly in the recognition of loan loss provisions (LLP) under forward-looking frameworks such as IFRS 9 (Qiang & Wang, 2024).

Accounting conservatism is commonly measured using balance sheet-based, earnings-based, and earnings-return approaches. Each approach offers complementary insights but also presents limitations, including statistical bias, reliance on market efficiency assumptions, and difficulty in isolating conservatism from other reporting incentives (Jarva & Lof, 2024; Zhong & Li, 2017). In banking research, LLP is often selected as the primary proxy because it directly reflects managerial discretion in recognising expected credit losses. Conservatism plays a critical role in banking because balance sheets are dominated by financial assets that introduce significant credit risk. LLP serves as a key mechanism for timely loss recognition, improving transparency and supporting risk control (Zhang et al., 2022). Regulatory and supervisory frameworks further influence conservatism by shaping provisioning behaviour and disclosure discipline, thereby supporting macro-financial stability (Andreou et al., 2017). Conservatism is also linked to governance and risk-taking behaviour, as timely recognition of losses can reduce excessive risk-taking and improve loan portfolio quality (Ha, 2021).

This study focuses on conditional conservatism as the relevant form in banking, operationalized through the discretionary component of LLP (Malik et al., 2022; Qiang & Wang, 2024). Loan growth is introduced as the key explanatory variable representing credit expansion and risk dynamics, as prior studies indicate that rapid loan growth can influence provisioning behavior and the timing of loss recognition (Salazar et al., 2023). Recent advances in Natural Language Processing (NLP) enable systematic analysis of textual data in academic literature to identify recurring conceptual patterns j (Jagdale & Deshmukh, 2025)a. NLP-based approaches have been used to uncover reporting patterns and disclosure signals in accounting studies (Fisher et al., 2016; Ho & Shahid, 2022). In this study, NLP is applied to map key constructs such as timely loss recognition, managerial discretion, and credit risk dynamics. These constructs are then translated into empirical variables, where discretionary LLP represents conservatism and loan growth captures lending dynamics.

Empirical evidence suggests that discretionary LLP is associated with bank characteristics, profitability, size, and credit growth, reflecting the interaction between managerial incentives and regulatory pressures. Conservatism has also been shown to reduce information asymmetry, enhance transparency, and lower external financing costs (Chen & Zhu, 2013; Kim et al., 2023). Furthermore, it contributes to operational efficiency and risk management through timely loss recognition (Aladwan et al., 2024) and may reduce bankruptcy risk by limiting aggressive reporting behavior (Biddle et al., 2022).

However, empirical findings vary across contexts, as conservatism reflects a combination of managerial discretion, regulatory environments, and economic conditions. This variation highlights the need for context-specific studies, particularly in emerging markets. Although interdisciplinary research integrating NLP and accounting has expanded (Fotova Čiković et al., 2025; Jagdale & Deshmukh, 2025), studies linking NLP-based conceptual mapping with empirical analysis under the Expected Credit Loss framework remain limited, especially in emerging banking systems (Mies & Menk, 2023; Salazar et al., 2023; Taylor et al., 2025).

This study addresses this gap by integrating NLP-based literature mapping with empirical analysis to examine how prudence-related constructs are reflected in bank provisioning practices. Grounded in agency theory and information asymmetry theory, accounting conservatism functions as a governance mechanism that promotes timely loss recognition and reduces conflicts between managers and stakeholders. Under IFRS 9, forward-looking estimation increases managerial discretion, which may influence conservatism behavior. Therefore, this study investigates the relationship between loan growth and discretionary LLP to assess whether credit expansion affects prudence-oriented reporting in the banking sector.

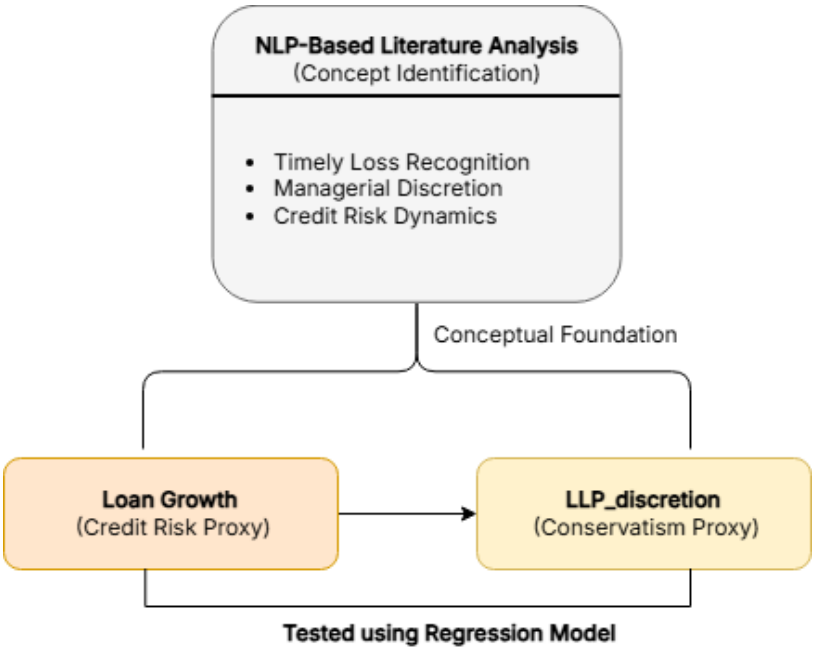


Figure 1. Conceptual Framework
Source: Processed Data, 2026

RESEARCH METHOD

A sequential exploratory mixed-method approach is taken in this study. The qualitative analysis using Natural Language Processing (NLP) guides the later quantitative model specification in the study. This is because accounting conservatism operates both as a conceptual reporting principle and as an empirical construct, while prior literature often lacks an explicit linkage between theoretical definitions and measurable proxies. NLP-based literature mapping is applied to identify recurrent prudence-related constructs, timely loss recognition, managerial discretion, and credit risk dynamics, which form the conceptual basis for choosing variables. Next, the empirical analysis examines if these constructs are incorporated into bank-level conduct by examining the relationship between loan growth and the discretionary component of LLP discretion. The use of LLP discretion as a proxy for conditional conservatism is justified by extant

banking literature that understands provisioning discretion to embed forward-looking credit risk into financial reporting. This design enhances the coherence between conceptual constructs and their empirical operationalization.

Data

Literature Data for NLP

The study constructs its literature corpus from the Scopus database using the keywords "accounting conservatism" and "bank" in the title, abstract, and keyword fields. The search covers English-language journal articles published from 2021 to 2024, with preliminary records from 2025. It initially identified 57 articles, which were screened by abstract for relevance to banking conservatism and prudence-oriented financial reporting. This process produced a final corpus of 19 Scopus-indexed articles. The selected articles were stored in a structured directory to support consistent and repeatable text processing. Text was extracted from PDF files using the PDFplumber library through automated iteration across all files and pages. The extracted content from each document was then combined and stored in a structured dictionary using document identifiers as keys. PDF extraction can introduce noise, especially from headers, footers, tables, references, and multi-column layouts, so the study applied preprocessing to improve NLP quality. This stage included lowercasing, removing punctuation and numbers, stopword removal, and normalization through lemmatization or stemming. The NLP component was used to map prudence-related constructs and recurring themes in banking conservatism research, thereby supporting conceptual consistency in the empirical analysis, particularly in justifying LLP as a proxy for conditional conservatism.

Quantitative Data

The quantitative data are taken from the Indonesia Stock Exchange official site on which the financial statements and annual reports for the period 2021–2025 are provided. We analyze the main Indonesian banks which represent substantial asset scale and market activities; namely Bank Rakyat Indonesia, Bank Central Asia, Bank Mandiri, Bank Negara Indonesia, Bank Tabungan Negara and Bank Danamon. This sampling approach is consistent with dominant banking institutions who tend to be visibly showing provisioning habits and reporting patterns in the Indonesian banking industry.

Numerical data of financial reports are structured into data and converted to the panel format. The panel structure includes data of six bank entities with annual observations from 2021 to 2024 and preliminary observations for 2025. We clean and standardize the variables so that they reflect the same data for all reporting formats and all reporting years. The final panel dataset (panel df) contains bank-level observations at the annual level, as well as key indicators used in the empirical specification, including the proxy for accounting conservatism and control variables associated with bank conditions and credit cycle dynamics.

Its thus panel structure produces a relatively small effective sample size. Thus, we consider the empirical analysis as exploratory, putting an emphasis on transparent reporting of model specification, fixed-effects structure, and robustness procedures to avoid over-interpretation of statistical outcomes. The panel evidence is employed to assess directional consistency between credit growth dynamics and conditional conservatism expressed in terms of the discretionary component of LLP in the Indonesian banking setting.

Analytical Approach

NLP Analysis

This study uses NLP-based literature mapping to identify prudence-related constructs in

recent banking conservatism research. The analysis draws from extracted text in Scopus indexed articles and applies a preprocessing pipeline to improve text consistency and remove PDF extraction noise which can distort frequency-based outputs. Textual preprocessing is employed to standardize the corpus and reduce format noise caused by document structures such as headers, tables, and reference (Mahyoub et al., 2019; Praveen et al., 2025; Widyassari et al., 2022). The preprocessing stage includes normalization, removal of non-substantive terms, and tokenization—in order to yield a consistent set of textual units for analysis.

Frequency analysis and n-gram extraction are later undertaken to detect recurring accounting concepts and multi-word phrases linked to prudence-oriented financial reporting practices. The intent behind the textual analysis is not to make a causal inference from the literature corpus. Rather, the analysis singles out recurring prudence-related constructs which frequently emerge in research on banking conservatism. These constructs lay the conceptual foundation for interpretation of accounting conservatism and for steering the empirical operationalization employed in the quantitative analysis.

Quantitative Analysis

Experimental quantitative analysis is conducted to provide exploratory evidence on conditional accounting conservatism in the Indonesian banking sector. The study uses annual financial statements and reports from the Indonesia Stock Exchange for 2021–2024, with preliminary observations for 2025. The sample includes six major banks: Bank Rakyat Indonesia, Bank Central Asia, Bank Mandiri, Bank Negara Indonesia, Bank Tabungan Negara, and Bank Danamon. These banks are selected due to their systemic importance and consistent financial disclosures. The dataset is structured as bank-level panel data, allowing observations across banks and time.

Variable selection is guided by prior literature on accounting conservatism and bank provisioning behaviour. Key variables include loan loss provisions (LLP), credit risk indicators, and bank-level characteristics relevant to timely loss recognition. Empirical studies highlight the role of LLP and provisioning discretion under modern credit loss frameworks (Bischof & Rudolf, 2025; Ozili, 2024; Qiang & Wang, 2024). The dataset includes bank identity, time indicators, total assets as a proxy for size, balance sheet accounts reflecting lending exposure and capital position, and LLP accounts indicating expected credit losses. Additional controls capture operating conditions, such as net interest margin, efficiency, and income composition. Data consistency is ensured through checks on variable types, missing values, and descriptive statistics.

Derived variables are constructed to support econometric analysis. Observations are ordered by bank and year to enable lag-based calculations. Earnings before provisions and tax are used to represent pre-provision operating performance (Ozili, 2024). Loan growth is measured as the percentage change in gross loans to ensure comparability. Observations with missing values due to lag construction are excluded. LLP is widely used to capture managerial discretion in recognising expected credit losses and serves as a proxy for conditional conservatism (Qiang & Wang, 2024). The study estimates a benchmark LLP model based on operating earnings, loan growth, and bank size (Bischof & Rudolf, 2025). The fitted values represent the nondiscretionary component, while the residuals define LLP_discretion. This residual measure is used as the empirical proxy for conditional accounting conservatism, reflecting prudence-oriented reporting behaviour in Indonesian banks.

To measure whether provisioning discretion changes with credit expansion dynamics, the empirical model assesses the relationship between credit growth and LLP_discretion. The model is estimated through Ordinary Least Squares (OLS) and bank and year fixed effects are introduced into the model to adjust for time invariant bank characteristics and general macroeconomic

conditions. Similar panel regression structures are widely adopted in empirical banking studies studying provisioning tendency and credit cycle characteristics (Bischof & Rudolf, 2025; Ozili, 2024; Qiang & Wang, 2024). To isolate discretionary provisioning, we first estimate a baseline model which assumes the normal scope of LLP. The benchmark specification is stated as follows:

$$LLP_{it} = \beta_0 + \beta_1 EBPT_{it} + \beta_2 LoanGrowth_{it} + \beta_3 Size_{it} + \varepsilon_{it} \quad (1)$$

In Equation 1, LLP for bank i in year t are explained by earnings before provisions and taxes (EBPT), loan growth (LoanGrowth), and bank size (Size). EBPT reflects operating performance prior to provisioning decisions and captures potential income-smoothing incentives, while LoanGrowth represents changes in lending exposure and credit risk dynamics. Bank size controls for structural differences in scale that may influence provisioning behaviour. The residual term ε_{it} represents deviations from expected provisioning levels based on these observable determinants. The discretionary component of LLP is then defined as the residual from the benchmark model:

$$LLP_discretion_{it} = LLP_{it} - \widehat{LLP_{it}} \quad (2)$$

Equation (2) represents managerial discretion in provisioning and is treated as a surrogate for conditional accounting conservatism, where a larger figure indicates more timely loss recognition. A key empirical specification is given as follows:

$$LLP_discretion_{it} = \alpha_0 + \alpha_1 LoanGrowth_{it} + \alpha_2 Size_{it} + \alpha_3 NIM_{it} + \mu_i + \lambda_t + \epsilon_{it} \quad (3)$$

The Loan Growth in Equation (3) is the primary variable of interest, and Size and NIM are added as controls. Bank fixed effects (μ_i) control for unobserved heterogeneity across banks, and year fixed effects (λ_t) capture macroeconomic conditions common to all banks within a given period. This two-step approach distinguishes between normal and discretionary provisioning over time and offers an empirical interpretation of conditional accounting conservatism under IFRS 9.

The experimental findings are interpreted mainly from trend observation rather than statistical inference since the effective sample size is limited. A positive relationship between loan growth and LLP_discretion is possibly to be interpreted as more timely recognition of anticipated credit losses during credit expansion, reflective of prudence-driven conditional conservatism (Guo et al., 2024; Jin & Wu, 2023). On the other hand, however, a negative association would mean that discretionary provisioning is probably comparatively more moderate during times of credit expansion, which suggests that conditional conservatism may be weaker in the observed sample (Pugachev et al., 2026). Both interpretations are considered exploratory and context-bound.

Comparability is enhanced and sensitivity to extreme values is reduced through several adjustments. Nominal variables are harmonised, loan growth is measured as percentage change, and bank size is expressed in logarithmic form. Winsorization at the 1st and 99th percentiles is applied to limit outlier effects. The model reports HC3 heteroskedasticity-robust standard errors, includes bank and year fixed effects, and considers bank-clustered standard errors as a robustness check. The initial panel covers six banks over five years, producing 30 bank-year observations. After lag construction and data alignment, 19 complete observations remain. Given the small sample size, the analysis is treated as exploratory and focuses on directional patterns rather than strong statistical inference.

RESULT AND DISCUSSION

The n-gram analysis synthesises repeated terms from the literature corpus after preprocessing. Figure 2 presents the top 20 banking-related bigrams and highlights core concepts such as "accounting conservatism," "conditional conservatism," and "earnings management," alongside banking-related expressions including "financial reporting" and "bank loan." These patterns indicate that conservatism is primarily discussed within reporting and lending contexts. Figure 3 presents the most frequent trigrams and further reinforces this focus through recurring phrases such as "level accounting conservatism," "firm accounting conservatism," and "policy accounting conservatism," confirming that the literature explicitly addresses conservatism constructs in banking research.

The observed bigram and trigram patterns suggest that discussions of conservatism converge around several thematic areas, namely financial reporting credibility, managerial judgment in earnings recognition, and lending-related risk considerations. These themes reflect the central role of prudence in banking, particularly in relation to timely loss recognition, managerial decision making, and credit risk management.

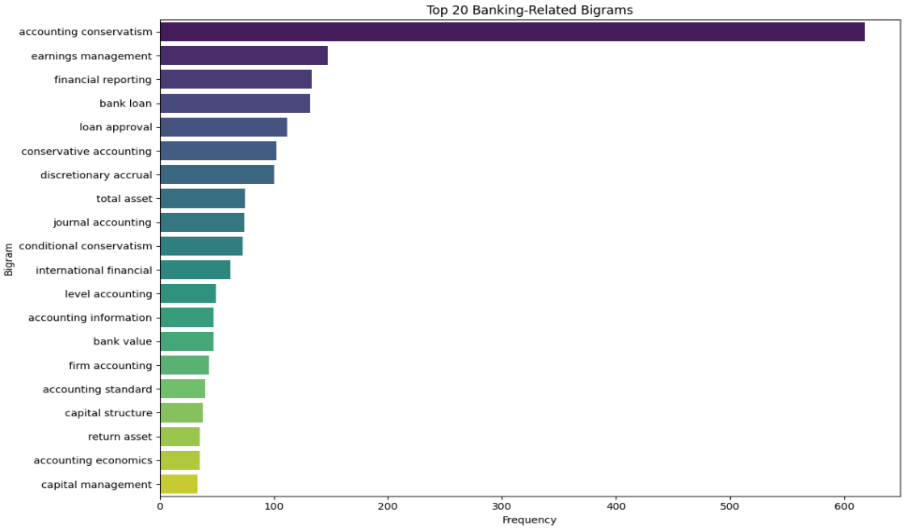


Figure 2. Top 20 Banking-Related Bigram
Source: Processed Data, 2026

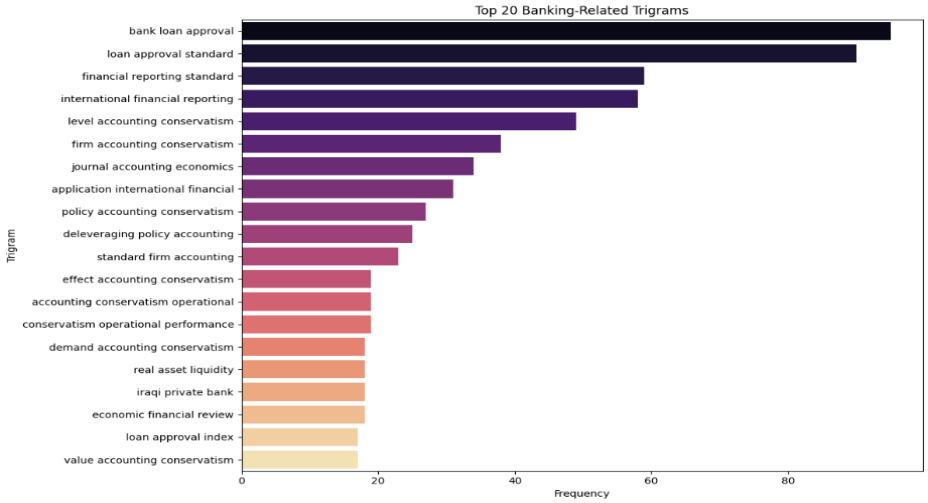


Figure 3. Average Disclosure in Each Monitoring Period
Source: Processed Data, 2026

The NLP-based analysis identifies consistent conceptual patterns across the literature,

focusing on timely loss recognition, managerial discretion, and credit risk dynamics. This approach reduces subjectivity in variable selection by grounding empirical specification in recurring patterns derived from the literature, thereby addressing limitations in prior studies where proxies for conservatism are often implicit or weakly defined.

The empirical analysis evaluates whether these constructs are reflected in bank-level financial reporting behaviour. Loan loss provisions (LLP) are used to capture expected credit loss recognition and managerial discretion under IFRS 9. The model examines the relationship between credit growth and discretionary LLP to assess how prudence-related constructs are manifested in practice. The integration of NLP-based literature mapping with panel regression strengthens the analytical framework by linking theoretical constructs with empirical measurement. Prior studies often treat conservatism either as a theoretical concept or as an empirical variable in isolation. This study combines both perspectives within a unified design, enabling a more coherent and methodologically grounded understanding of prudence-oriented financial reporting in banking.

Descriptive Statistics

Descriptive statistics for the crucial variables of the discretionary component of LLP are given in Table 1. The mean value of llp_ratio is 0.115, which suggests that sample banks report LLP that average 11.5% of the scaling base used in this study during the observation period. The llp_ratio distribution looks rather dispersed, between 0.023 and 0.473 points, indicating potential heterogeneity among banks and by years in provisioning intensity. The predicted nondiscretionary component llp_normal_hat (produced from the benchmark provisioning model) is also presented in Table 1. The table demonstrates that llp_normal_hat has almost zero variation across observations. Given this pattern, it seems that the benchmark model used for both this sample and specification produces fitted values that remain the same across bank year observations. This study interprets llp_normal_hat as a model-based baseline in such a constrained sample and therefore considers the residual component to be the most significant source of variance in the empirical measure.

This limitation indicates that the benchmark model may be under-identified in this constrained panel and should not be interpreted as a validated decomposition of discretionary versus nondiscretionary provisioning. Accordingly, the study treats LLP_discretion as an exploratory proxy and emphasizes coefficient direction rather than statistical inference. LLP_discretion as the discretionary component is defined as llp_ratio minus llp_normal_hat. LLP_discretion exhibits a mean of −0.036 and a standard deviation of 0.144, with values ranging from −0.145 to 0.306. The negative mean reflects that the observed provisions are lower on average than the benchmark fitted level in this sample; however, the study approaches this pattern as descriptive evidence rather than as a definitive indicator of income-increasing behaviour. The dispersion across the distribution suggests meaningful variation in provisioning discretion across banks and periods, which is used in the subsequent panel analysis while acknowledging the small effective sample size.

Table 1. Descriptive Statistics of LLP Discretionary Variables

Variabel	Mean	Std. Dev.	Min	25%	Median	75%	Max
llp_ratio	0.115	0.128	0.023	0.049	0.068	0.094	0.473
llp_normal_hat	0.167	5.7×10^{-17}	0.167	0.167	0.167	0.167	0.167
LLP_discretion	−0.036	0.144	−0.145	−0.126	−0.099	−0.032	0.306

Source: *Processed data from Indonesia Stock Exchange 2021–2025.*

Basic Regression Results

Table 2 reports the OLS regression results with LLP_discretion as the dependent variable.

The model uses heteroskedasticity robust standard errors based on the HC3 estimator to address potential heteroskedasticity. The estimates show that none of the explanatory variables is statistically significant at conventional levels, which indicates limited statistical precision in this sample. The coefficient on growth_loans is negative at −0.0077, and the estimate is associated with a t-statistic of −1.071 and a p-value of 0.301. The negative sign suggests that higher loan growth is directionally associated with lower discretionary provisioning in the sample, which is consistent with a potential weakening of conditional conservatism during credit expansion periods. However, the lack of statistical significance prevents strong inference regarding this relationship, and the study therefore treats the estimate as exploratory.

Log_assets and nim_proxy are also non-significant. The estimates suggest that the model does not find a strong relationship between bank size and profitability and LLP_discretion in this data set. The model shows poor explanatory power of the regression data, with an R squared of 0.102 and an adjusted R-squared of −0.077. The low fit indicating LLP_discretion variation being poorly explained by the small set of regressors in the baseline specification also accords with a sample size reduction contributing to low estimation stability. In summary, the initial OLS specification provides information describing variable direction and fit, nevertheless, the empirical results should be interpreted with caution in light of the small sample size and resulting limitations in statistics.

Table 2. OLS Regression Results (Dependent Variable: LLP_discretion)

Variable	Coefficient	Std. Error	t-statistik	p-value	95% Lower CI	95% Top CI
Constanta	−0.0387	0.107	−0.363	0.722	−0.266	0.189
log_assets	-5.26×10^{-12}	4.61×10^{-11}	−0.114	0.911	-1.03×10^{-10}	9.29×10^{-11}
nim_proxy	0.9208	2.299	0.401	0.694	−3.979	5.820
growth_loans	−0.0077	0.007	−1.071	0.301	−0.023	0.008

Source: Processed Data, 2026

Statistics	Value
R-squared	0.102
Adjusted R-squared	−0.077
F-statistic	0.5699
Prob (F-statistic)	0.643
Number of Observations	19

Source: Processed Data, 2026

Note: The financial variables are reported as nominal units in the study and the ratio variables expressed as percentages. The paper uses winsorization for the 1st and 99th percentiles. The HC3 robust standard errors are reported for the OLS specification. The panel comprises six banks recorded between 2021 and 2024 with preliminary 2025 data, and the effective sample size decreases after lag construction and data alignment. Coefficients are defined as changes in LLP_discretion relative to changes in the explanatory variables as expressed in the regression model.

Fixed Effects Model (Bank and Year)

In order to control for time-invariant differences across banks and common year-specific conditions, the study estimates a fixed effects model. The specification includes bank fixed effects and year fixed effects, focusing on within-bank variation over time. Fixed effects estimate with LLP_discretion as the dependent variable are shown in Table 3. The growth_loans coefficient remains negative, −0.008, the estimate has a t statistic of −1.140, and a p value of 0.275. The negative sign is directionally consistent with the baseline OLS specification and suggests that higher credit growth is associated with lower discretionary provisioning within banks over time. Since the coefficient is not statistically significant, the association is interpreted as exploratory in the study.

The log_assets and nim_proxy coefficients remain statistically insignificant. In this sample, the fixed effects model does not provide evidence of a robust association between bank size, profitability, and LLP_discretion. The fixed effects specification improves model comparability by absorbing bank specific and year specific factors, but the small effective sample size limits the precision of the estimates and constrains statistical inference.

Table 3. Fixed Effects Regression Results (Dependent Variable: LLP_discretion)

Variable	Coefficient	Std. Error	t-statistik	p-value
Constanta	−0.037	0.101	−0.366	0.718
log_assets	−0.005	0.045	−0.110	0.914
nim_proxy	0.900	2.300	0.390	0.701
growth_loans	−0.008	0.007	−1.140	0.275
Bank Fixed Effect	Including	—	—	—
Fixed Effect Year	Including	—	—	—
Adjusted R^2	Slightly improved from the base model	—	—	—
Number of Observations	19			

Note: The fixed effects specification includes bank and year dummies. The study reports HC3 heteroskedasticity robust standard errors.
Source: Processed Data, 2026

Discussion

The proposed study is an integrative study where NLP based literature mapping is combined with exploratory panel analysis to investigate conditional accounting conservatism in Indonesian banks. The NLP findings do not just describe the textual frequency patterns, but provide a more intuitive view of how financial prudence has been conceptually positioned in the banking accounting literature. The observed co-occurrence between conservatism-related expressions, LLP, and financial reporting themes suggests prudence is mostly taken as a mechanism that supports timely loss recognition and strengthens the credibility of reporting under financial uncertainty (Guo et al., 2024; Pugachev et al., 2026). This interpretation echoes the literature that illustrates conditional conservatism as an asymmetric reporting response to economic risk and information asymmetry (Giner et al., 2013).

The estimates from regression results should be interpreted cautiously as their statistical precision is limited. However, the direction of the coefficients is an informative exploratory signal. The negative association between credit growth and discretionary provisioning suggests that provisioning behaviour may become less conservative during periods of loan expansion (Jin & Wu, 2023). Such a pattern is conceptually consistent with research that has found associations between rapid credit growth and weaker prudential discipline and delayed recognition of credit losses. Because the estimated coefficients are not statistically significant, the results cannot be interpreted as confirmatory evidence. Rather, this analysis should be treated as an exploratory indication of how provisioning discretion may interact with lending dynamics in the context of a small bank level panel.

The coupling of the NLP mapping with panel analysis elucidates the conceptual significance of the empirical proxy used in this study. Literature mapping revealed that conservatism is often mentioned as a joint issue that appears in banking research alongside LLP and capital-related topics. This trend aligns with the view that provisioning decisions are an important accounting channel through which prudential reporting behaviour manifests in banking (Guo et al., 2024). The fact that discretionary LLP is used as a proxy for conditional conservatism

therefore aligns to the premise that timely recognition of expected credit losses reflects conservative responsiveness with respect to credit risk (Jin & Wu, 2023). Conditional conservatism in this context works through its role to speed up the recognition of adverse economic information in financial reporting (Giner et al., 2013).

This study contributes to the accounting conservatism literature by clarifying how prudence related concepts are positioned within banking accounting research. The NLP based literature mapping shows that discussions of conservatism frequently appear alongside themes related to LLP, financial reporting credibility, and capital related considerations. This pattern provides a clearer conceptual structure for understanding how conditional conservatism is interpreted and operationalized in the banking context.

This study contributes to the literature on accounting conservatism by clarifying how prudence-related concepts are positioned within banking accounting research. The NLP based literature mapping shows that discussions of conservatism frequently appear alongside themes related to LLP, financial reporting credibility, and capital related considerations. This pattern provides a clearer conceptual structure for understanding how conditional conservatism is interpreted and operationalized in the banking context.

Additional empirical insight is provided through the exploratory panel analysis of Indonesian banks. Although the statistical precision of the estimates is limited, the regression results indicate a negative association between credit growth and discretionary LLP. This directional evidence suggests that provisioning behaviour may become less conservative during periods of loan expansion, which contributes to the ongoing discussion on how lending dynamics may interact with prudential reporting behaviour in banking institutions.

The study has a number of limitations that will limit inference. The effective sample size is small and the limited observations reduce statistical power and limit generalizability. The study is based on a specific operationalization of conservatism via LLP discretion that accounts for prudence-related action, as well as conservatism-based accounting discretion, which differs by institution. By continuing to do so, future research can further consolidate inferences from a wider bank sample, an extended duration of observation, and inclusion of more risk and regulatory variables directly linked with anticipated credit loss adoption under ECL and IFRS 9.

Some preliminary implications of the findings could be applied to accounting research and banking practice. On a research level, the implications demonstrated that exploratory strategies can combine computational text analysis with financial panel data to examine more theoretically focused accounting concepts. From the banking perspective, the directional evidence indicates that provisioning behaviour may fluctuate according to credit expansion dynamics and thereby, emphasizes the need for transparent loss recognition policy and sound risk assessment mechanisms during times of high loan growth.

CONCLUSIONS

This study investigates conditional accounting conservatism in Indonesian banking using an integrated NLP-based literature mapping process along with exploratory panel analysis. It found a negative relationship between credit growth and discretionary LLP. This conclusion suggests that provisioning behaviour is less conservative in times of credit expansion. Whilst not significant, the indication of the relationship provides exploratory evidence, with the direction of the relationship indicating how credit dynamics affect the timing of loss recognition in banking financial reporting. The results of this study are in alignment with agency theory and information asymmetry theory. Agency theory indicates that to maintain performance stability, managers have an incentive to delay loss recognition. Such delays can be interpreted as leading to a decrease in transparency and hence a weakening of the role of conservatism in mitigating information risk, as

per information asymmetry theory. Our findings substantiate the use of discretionary LLP as an empirical proxy for conservatism in the banking environment.

This study contributes both theoretically and empirically. Theoretically, by connecting literature mapping and operationalizing financial data, it clearly establishes the relationship between the construct of prudence and its empirical operationalization. Empirically, this study provides evidence regarding credit growth and provisioning behaviour within the context of the expected credit loss framework. The practical implications are that, especially in times of credit expansion, banks must exercise prudential discipline in preparing provisions. There is a need for banks to improve their risk evaluation practices and allow for timely loss recognition. At a policy level, there must be enhanced accountability by regulators to maintain practices aligned with the prudential principles of the IFRS 9 provisioning framework. There are limitations to this study that must be taken into account. The narrow sample size reduces its statistical power and thereby limits the generalizability of the findings. Additionally, discretionary LLP as a proxy might account for both prudential and opportunistic discretionary behaviour. This study also excluded variables that would have influenced provisioning decisions based on macroeconomic conditions and regulatory intensity. Future studies could use a larger sample size, longer duration of observation, and include variables of regulation, credit risk quality, and macroeconomic conditions. Further studies could also establish alternative indicators of conservatism and explore the interaction between regulatory pressure and managerial incentives for the determination of provisioning behaviour.

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Declaration of Generative AI in Scientific Writing

During the preparation of this work, the authors used ChatGPT to improve the clarity of the writing and Grammarly to enhance the readability of the English text. After using ChatGPT and Grammarly, the authors reviewed and edited the content as needed and take full responsibility for the publication's content.

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