EARNINGS AND CAPITAL MANAGEMENT THROUGH LOAN LOSS PROVISIONS IN INDONESIAN BANKS AFTER IFRS 9 IMPLEMENTATION

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Abstract

This study aims to examine whether Indonesian banks perform earnings and capital management through loan loss provisions and whether IFRS 9 implementation improves accounting quality by focussing on those practices. The analysis is conducted with a sample of 28 banks in Indonesia selected from the Indonesian Stock Exchange from 2012 – 2021. This study adopts a model modified from previous studies (Ahmed et al. 1999; Anandarajan et al. 2003; Anandarajan et al. 2006; Leventis et al. 2011). Using the model, this study finds that Indonesian banks perform earnings management but do not perform capital management through loan loss provisions. Although IFRS 9 implementation increases loan loss provisions, it does not affect earnings and capital management practices.

Keywords: earnings management, capital management, loan loss provisions, IFRS 9

Abstrak

Studi ini bertujuan untuk mengetahui apakah bank-bank di Indonesia melakukan manajemen laba dan kapital melalui cadangan piutang tak tertagih dan apakah implementasi IFRS 9 dapat meningkatkan kualitas akuntansi yang berfokus pada praktik akuntansi tersebut. Analisis dilakukan dengan menggunakan sampel dari 28 bank di Indonesia yang terdaftar di Bursa Efek Indoenesia pada tahun 2012 – 2021. Studi ini mengadopsi model yang dimodifikasi dari studi-studi sebelumnya (Ahmed et al. 1999; Anandarajan et al. 2003; Anandarajan et al. 2006; Leventis et al. 2011). Dengan menggunakan model tersebut, hasil yang didapatkan adalah bank-bank di Indonesia melakukan manajemen pendapatan tetapi tidak melakukan manajemen kapital melalui cadangan piutang tak tertagih. Setelah implementasi IFRS 9, cadangan penghapusan piutang tak tertagih pada bank-bank di Indonesia mengalami kenaikan, tetapi kenaikan tersebut tidak mengubah praktik manajemen laba dan kapital.

Kata kunci: *earnings management, capital management, loan loss provisions, IFRS 9*

INTRODUCTION

A financial report is a tool to provide information to the shareholder and other stakeholders as the user to decide the best decision regarding a company in the future (IASB 2018). It provides information about the company's performance and financial position for a particular period. However, some managers perform earnings and capital management by distorting the financial report to achieve their objectives (Ronen 2008). These practices reduce the accounting quality and mislead the users.

IFRS has been developed by IASB to improve accounting quality and is portrayed as the better solution to provide relevant information in financial reports (Soderstrom and Sun 2007; Ahmed et al. 2013). Barth et al. (2008) find that the IFRS reduces the earnings smoothing and earnings management and increases the timeliness of loss recognition and accounting amount association after adoption. Improvements in accounting quality can be achieved if managers have discretion limitations to determining accounting amount.

After the financial crisis of 2008, as an effort to improve financial stability and accounting quality, IASB issued IFRS 9 on 24 July 2015. The crisis led many financial sectors to be damaged severely by the tremendous rapid increase in loss of financial assets because many customers failed to pay their loans (BOE 2008). The banks' capital could not absorb this sudden increase in loss. Therefore, the IASB does not want this turmoil to happen again in the future and has issued a new accounting policy for financial instruments.

Banks that hold many financial instruments are affected by the change of IFRS 9. The natural business of the banks that collect funds from customers and lend or invest those funds to vast financial instruments requires many loan loss provisions compared to other businesses. Banks generate loan loss provisions

expecting the risk of loan default in the future. In IFRS 9, the new expected credit loss model is intended to improve financial stability and decrease the "cliff effect" (Gadanecz and Jayaram 2008; Hakkio and Keeton 2009). Kim et al. (2021) state that the move to expected credit loss results in increased loan loss timeliness.

The IFRS 9 is expected to influence the loan loss provisions for earnings and capital management. Kund and Rugilo (2018) show that although the forward-looking model of loss provision in IFRS 9 will increase the bank's financial stability, Europe bank impairment increases excessively at the beginning of the adverse scenario. The forward-looking model of IFRS 9 offers more chances to managers to make loan loss provisions discretionary behaviour. This discretionary behaviour describes the intention of bank managers to perform earnings and capital management (Beaver and Engel 1996; Caporale et al. 2018; Wahlen 1994).

The high discretion of the managers for expecting banks' credit loss may increase their intention to benefit themselves using earnings and capital management. Although the change from IAS 39 to IFRS 9 has marginalised these opportunities to meet the regulator's capital requirement (Kund and Neitzert 2020), the flexibility in the accounting can be used to manipulate the earnings (Greenawalt and Sinkey 1988). The ample opportunities come from the managers' discretion to pick only specific data while making an expected credit loss model which profits the managers. These opportunities will be contrary to the effectiveness of the whole IFRS in reducing earnings and capital management.

Earnings and capital management can be performed separately. As IFRS 9 permits managers to use discretionary to expect credit loss, IFRS 9 will affect earnings directly that are used to assess the operational performance of the banks. This is different from capital which is classified in the financial position, determining the

banks' strength to fulfil their obligation to customers. Managers can perform capital management through loan loss provisions to increase their capital to meet the capital requirement from the regulation.

This study will examine whether Indonesian banks perform earnings and capital management through loan loss provisions. Studies focused on loan loss provisions of Indonesian banks after IFRS 9 have not been conducted yet because IFRS 9 has just been effective for years beginning on or after 1 January 2020 with earlier adoption permitted. Therefore, this study will present a new insight into IFRS 9 implementation in Indonesia.

Research Aim

The main aim of this study is to examine whether Indonesian banks perform earnings and capital management through loan loss provisions and whether IFRS 9 implementation improves accounting quality by focusing on those practices. This study also aims to contribute to the authority and other stakeholders in supervising the potential future issues regarding earnings and capital management opportunities from a new model of loan loss provisions regulated by IFRS 9 while reducing the probability of a future financial crisis. It is important because IFRS 9 is still new and has a look-forward model. Therefore, its implementation has to be supervised and evaluated.

Research Question

The research question helps to develop this study's protocol and direction to focus on achieving its aims. This study is led by the questions as follows.
1. Do the banks perform earnings and capital management through loan loss provisions for their incentive?
2. Does IFRS 9 implementation increase the accounting quality by reducing the earnings and capital management practices through loan loss provisions?

LITERATURE REVIEW

Agency Theory

This study is based on agency theory, the seminal work of Jensen and Meckling (1976). They define the agency relationship between principal and agent as a contract in which the agent has the authority to perform some work on behalf of the principal because the principal has delegated the authority to the agent. However, the relationship does not achieve fairness because the agent does not always have the same motivation and information as the principal.

Agency theory captures the different objectives and risk preferences between the agent and principal that caused the problem (Eisenhardt 1989). The managers as the agent tend to get high benefits from the firm's source, reducing the value of the firm and shareholders.

The problem rises the agency costs for the principal or the agent: monitoring costs, bonding costs, and residual loss Jensen and Meckling (1976). Monitoring costs reflect the expenditure to monitor and control the agent's performance such as the cost of an audit, drafting a manager contract, or hiring and firing managers. To minimise the monitoring cost that is borne by the agent, the agent will act in the principal's interest by establishing structures, systems, and mechanisms. These costs are known as bonding costs. When the monitoring costs and bonding costs can not unite the principal and the agent objectives, the principal bear the residual losses from the agency problem. The residual losses are the cost of establishing a contract of principal and agent outweigh the advantage of doing so.

In banks, agency costs can arise from the managers in the form of earnings and capital management using accounting. Managers decide on the accounting choice allowed to smooth the financial report (Anandarajan et al. 2006). For that reason, managers generate loan loss provisions

earlier or delay them until too late. It helps managers perform earnings and capital management to achieve the performance objective and adequate capital using financial reporting discretion (Healy and Wahlen 1999).

Earnings Management

Earnings management occurs when managers manipulate judgment or discretionary to distort the financial reports to mislead stakeholders and achieve outcomes that rely on accounting numbers (Healy and Wahlen 1999). It is the method of misrepresenting and reducing the financial report's transparency that can involve fraud. Earnings management can be more harmless if the report's users can identify the underlying truth (Ronen 2008). Because of aggressive earnings management, the users do not obtain the relevant information and react appropriately.

However, earnings management can be advantageous. For example, it conveys forward-looking, value-relevant information by removing part of the noise from a report of short-term earnings that tells the truth (Ronen 2008). Earnings management can also enhance managers' transparency of financial reports. Managers can perform earnings management to inform investors about their future cash flow expectations for the firm (Beneish 2001). Srinidhi et al. (2010) discovered that managers of organisations with more investment prospects perform earnings management to advertise future growth opportunities.

Earnings management often focuses on discretionary accrual utilised by the managers. In the financial report, many methods that demand judgment from the managers are performed to manage earnings. For the basic example, managers have to judge the economic life of an asset and forecast its salvage value in the future to calculate its periodic depreciation. After that, managers must determine what depreciation method they apply, either the straight line or the declining method. Managers also select when the firms need to buy an asset or delay it until a specific time.

The accounting principles relate to economic motive management (Gordon 1964). Healy and Wahlen (1999) find that managers use earnings management for many reasons, such as to influence the market, to increase their compensation, to reduce the probability of violating the lending agreement, and to avoid intervention from regulators. They also provide convincing evidence that managers do earnings management to anticipate reporting loss, declining profit, or not meeting shareholder expectations.

Managers utilise various accrual accounts to perform earnings management based on their business firm. Teoh et al. (1998) find that managers increase their firm income using deprecation policies and bad debt allowance when they are in the IPO year and several years after. They find that 62% of firms undertaking initial public offerings had larger unanticipated accruals than a matched sample of control firms. Banking and insurance companies use loan loss provisions for earnings management for stock market purposes (Beaver and Engel 1996). Even though this accrual account is highly related to their most critical asset and liabilities, it depends on the managers' judgment (Healy and Wahlen 1999). Other studies found that earnings management is performed through deferred tax valuation allowances. Christensen et al. (2008) find that the firm with poorer performance in the next period creates a larger-than-expected deferred tax valuation allowance. Miller and Skinner (1998) also find little evidence that managers utilise the valuation allowance for deferred tax assets to manage earnings.

Capital Management

Capital is one of the vital structures of company accounts. For manufacturing and trading industries, capital is often called

Table 1
Minimum Regulatory Capital (Basel Committee on Banking Supervision 2010)

Capital Type	Requirement
Tier 1 Capital	> 6%
- Common Equity Tier 1	> 4.5%
- Common Equity Tier 1 + Additional Tier 1	> 6%
Tier 1 Capital + Tier 2 Capital	> 8%

working capital, which shows the firms' capabilities to run and expand their business during good and bad economic situations. Some studies show that working capital management relates to a firm's profitability. Deloof (2003) finds a negative relationship between income and account receivable collection, inventories, and accounts payable (cash conversion cycle), meaning profitability increases by reducing investment in working capital. The study uses the sample of the 2000 most important Belgian firms from 1991 to 1996. The cash conversion cycle is the most popular measure of working capital management to calculate profitability (Singh and Kumar 2014). It is necessary to ensure effective working capital since investment in the working capital is often a high proportion of total assets (Padachi et al. 2012).

Meanwhile, in the banking industry, capital has a different component from other industries. The international standard regulation, Basel III, which was issued by the Basel Committee on Banking Supervision, Bank for International Settlements, in response to the deficiencies in financial regulation revealed by the financial crisis of 2008, has regulated the minimum capital adequacy ratio or regulatory capital for banks. In Indonesia, the authority has released Financial Services Authority Regulation Number 011/POJK.03/2016 and 034/POJK.03/2016 to adopt the Basel regulation.

The component of the bank capital consists of Tier 1 and Tier 2 capital. Tier 1 capital is the total of Common Equity Tier 1 and Additional Tier 1 Capital. Tier 1 includes the total of common shares (or non-joint stock firms' equivalents) and stock surplus, retained earnings, other comprehensive income, qualifying minority interest, and regulatory adjustments with additional Tier 1 (Basel Committee on Banking Supervision 2010). Tier 2 capital includes loan loss provisions, revaluation reserves, hybrid capital instruments, subordinated term debt, and undisclosed reserves. The characteristic of Tier 2 capital is more difficult to calculate accurately and liquidate. Table 1 shows the minimum requirement of each capital element.

Bank capital is required to guarantee that banks are able to fulfil their customers' withdrawals. It measures how reliable the banks are and build the trust to deposit or save money in banks. The fall of the Lehman Brothers in the financial crisis of 2008 has shown the importance of capital in the banking industry. It only had a debt-to-equity ratio of 30-60 to 1, which was very risky to get exposure to bad loans and reduced interest (Berman and Knight 2009). The drops in the value of assets underlying investment lead to bankruptcy. Thus, the banks must actively maintain their capital to avoid the same mistake. The higher capital, the higher chance of the banks avoiding bankruptcy when economic conditions are in bad situations.

Many methods are performed regarding capital management in banks. At a considerably slower rate, bank capital management vitally depends on whether the bank is over- or undercapitalised (De Jonghe and Öztekin 2015). Overcapitalised banks accomplish leverage through asset development and earnings retention, and undercapitalised banks deleverage using external capital. Banks are more likely to utilise capital management at the lower capital because they are regulated strictly about their minimum capital adequacy ratio.

Loan Loss Provisions

The loan loss provisions account for the high possible loss in the future that accrue in the present period. It mechanically connects to loans, assets and earnings, making it associated with capital. Loan loss provisions in the banks are estimated in line with the inherent risk of giving the customer credit (Wahlen 1994). Due to their contribution to bank profitability and capital levels, which impact banks' ability to lend money to the economy, loan loss provisions are essential for evaluating the soundness of the financial system (Beatty and Liao 2009).

Loan loss provisions likely reflect predicted bank manager losses. Central banks and securities regulators recognise that the provisions cannot precisely match actual losses and may include an imprecision margin (Montgomery 2003). Managers have exploited this error allowance's discretionary component to perform earnings and capital management.

IFRS 9

Lloyd (2014) states that IFRS 9 was issued because of the global financial crisis of 2008. Previous accounting standards regarding loan loss provisions had been criticised too late and little (Laeven and Majnoni 2003). The loan loss provisions are limited by IAS 39, paragraph 59, if a specific historical incident will influence future cash flow. However, it does not recognise any future event as a reason to generate loan loss provisions. During the financial crisis of 2008, the restriction contributed to the severity of the abrupt surge in losses (cliff effect) and enhanced procyclicality (Kund and Rugilo 2018). To improve the weakness, IFRS 9 enables the entities to estimate the likely future impairment from when a financial instrument is recognised (IFRS 9 paragraph 5.5). The loan loss provisions under IFRS 9 require the expected credit loss model, which is anticipated to promote financial stability and lessen the "cliff effect"

(Gadanecz and Jayaram 2008; Hakkio and Keeton 2009).

On the other hand, Kund and Rugilo (2018) find that although the forward-looking model of loss provisions in IFRS 9 will strengthen the bank's financial stability, Europe bank impairment grows significantly at the start of an adverse scenario. With the forward-looking approach, IFRS 9 enables managers to set discretionary loan loss provisions. It is utilised as a tool to do capital management and earnings management (Beaver and Engel (1996); Caporale et al. (2018); Wahlen (1994)).

The expected credit loss in IFRS 9 is calculated using a general and simplified approach. A general approach consists of three stage model since initial recognition is used. Stage 1, the time scope of expected credit loss is 12 months after reporting date. It is calculated by expecting default events that possibly happen in the next 12 months after reporting date. The interest income is recorded on the gross carrying amount at this stage. Stage 2 includes financial instruments that will be defaulted because of significant risk, but the objective evidence of impairment cannot be gathered. At this stage, the time scope of expected credit loss is a lifetime. The managers should forecast the future related conditions for whole lifetime loans and calculate the expected credit loss. Since there is no objective evidence to impair, the interest income is still recorded on the gross amount. Stage 3 includes the financial asset that already has objective evidence to impair. The interest revenue is calculated on the net carrying amount following the calculation of the impairment of the loan.

IFRS does not provide detailed guidance to calculate expected credit loss. Each bank expected a credit loss model would be different from the others. The bank managers can build the model using their historical data. The model could include the internal data of customers, receivable details, or external data such as external ratings and macroeconomic data.

The common model to calculate ECL is using the probability of default (PD), loss given default (LGD), and exposure at default (EAD).

$$ECL = PD \times LGD \times EAD$$

The expected credit loss is recorded in the financial report through profit and loss when the financial asset is initially recognised. This expected credit loss must be updated on every reporting date. Adopted from IFRS 9, the Indonesian Financial Accounting Standards Board released a new accounting standard, PSAK 71, on 1 January 2017. It is intended to replace the previous standard PSAK 55 adopted from IAS 39. The new standard has been effective for years beginning on or after 1 January 2020 with earlier adoption permitted. All listed companies are regulated to follow PSAK 71 for their financial instrument accounting, except the companies that used Islamic law in their operation due to different business characteristics.

Previous Study
Loan Loss Provisions and Earnings Management

Ozili and Outa (2017) summarise reasons that motivate managers to perform earnings management regarding loan loss provisions. First, it reduces earnings volatility, reducing stock volatility that many investors prefer. Second, it avoids thorough supervisory from the regulator and commentators. Third, the banks can take advantage of loophole regulation using the loan loss provisions. Fourth, some economic events can make an incentive for earnings management. Fifth, based on national culture, the bank sector is a high-risk business that can record low loan loss provisions in good economic conditions and higher loan loss provisions in bad economic conditions.

Several previous studies find a positive correlation between loan loss provisions and earnings. Managers utilise their discretionary loan loss provisions to smooth the bank income. Kanagaretnam et al. (2003) find that bank managers save earnings through loan loss provisions if the earnings before tax and provision are in good condition and borrow the earnings through loan loss provisions if the banks are in bad condition. They also find a positive and significant difference between loan loss provisions for the bank from good to poor condition and from poor to good condition.

Taylor and Aubert (2022) study earnings management through loan loss provisions after IFRS 9 in Europe and Sub-Saharan Africa and find that IFRS 9 reduces earnings management through loan loss provisions. The study uses a sample of 104 commercial banks in 22 countries from 2016 to 2019. However, the study does not combine the earnings and capital management associated with loan loss provisions after IFRS 9 implementation. Their finding is similar to studies conducted by Greenawalt and Sinkey (1988) and Collins et al. (1995), stating that managers have a motive to do earnings management. Greenawalt and Sinkey (1988) find that bank managers engage in earnings management without considering market efficiency. The phenomenon is more aggressive in regional banks rather than money-centre banks because regional banks are not supervised closely by their investor and security analyst. Collins et al. (1995) studied if loan charge-offs and securities issuances were utilised in addition to loan loss provisions for earnings management. They found only a positive association between loan loss provisions and earnings management, indicating that the majority of the other strategies were used for capital management.

Ma (1988) discover that banks utilise loan loss provisions and loan charge-offs to manage earnings. His results indicate that bank management tends to raise (lower) bank loan loss provisions in periods of high (low) operating income, thus using loan loss provisions as a pure tool for earnings management. Bhat (1996) finds that small

banks with high risk and bad financial conditions are likely to do earnings management. The characteristics of the banks are low four years growth, book-to-value ratio, small assets, and ROA, but they have high loan-to-deposit ratios and debt-to-asset ratios.

In contrast, some studies show contrary evidence. Beatty et al. (1995) and Ahmed et al. (1999) find no evidence of earnings management through loan loss provisions. Beatty et al. (1995) conducted a study using 145 bank samples over the period 1985-1989, resulting in loan loss provisions only getting a small estimated coefficient, implying that loan loss provisions do not contribute to earning management. Ahmed et al. (1999) do not find empirical evidence of earnings management through loan loss provisions using 113 bank companies from 1986 to 1995. The change in earnings management because of Basel I implementation is not significant too.

In Indonesia, Diantimala and Baridwan (2012) examine how loan loss provisions related to earnings management using data from 2008 – 2011. They focus on post-implementation IAS 39. The result is that the managers utilise loan loss provisions to perform earnings management even in a quarterly financial report. It shows that IAS 39 do not significantly reduce the earnings management of Indonesian bank.

Loan Loss Provisions and Capital Management

The bank must maintain capital as a cushion or buffer to absorb unforeseen losses (Berger et al. 1995). Regulatory capital is widely forced into practice in many countries (Ahmad et al. 2008). It ensures that banks can deal with operational and customer needs when difficult situations come and comply with other government guarantees. Given the spreadable nature of bank failure, bank capital should not be allowed to deplete, making it a controlled asset.

Several studies find that many banks use loan loss provisions to manage and maintain regulatory capital. Scholes et al. (1990) show that banks choose to defer losses to increase their regulatory capital and reduce regulatory costs, even though the tax that occurs will be higher. Banks are willing to sacrifice tax benefits to raise their regulatory capital. If the regulatory capital is low, the banks sell the increased securities or defer the sale of loss security to maintain their regulatory capital. On the contrary, if banks have high regulatory capital, banks adjourn to sell the profit security or accelerate the loss security to ease the tax.

Moyer (1990) shows that some managers change their banks' loan loss provisions and have discretion over whether to notify them to get around regulatory capital restrictions. Managers make accounting adjustments when the capital adequacy ratio falls near the minimum. Moyer (1990) used the data from 845 sample bank years from 1981 – 1986 in the US and regressed them with weighted least square regressions. Managers raise loan loss provisions to increase the primary capital adequacy ratio. The manager also can control the primary capital adequacy ratio from bank security losses and security gains.

Collins et al. (1995) investigate heterogeneity across banks' capital-raising decisions using the sample data of 160 banks from 1971-1991. They find a positive relationship between capital and loan loss provisions, indicating that managers are more likely to decrease than raise loan loss provisions when bank capital is low. They also demonstrate that banks utilise write-offs rather than loan loss provisions to control capital ratios

Kim and Kross (1998) find that low-capital banks tended to decrease loan loss provisions to increase regulatory capital ratios. In contrast, banks with high capital ratios did not utilise any relevant change in their loan loss provisioning. Ahmed et al. (1999) find evidence that provisioning

decisions are driven not only by changes in the expected quality of loan portfolio but also by managers' incentives to manage capital adequacy ratios. Anandarajan et al. (2006), analysing a sample of Australian commercial banks, find evidence that the lower the capital ratio, the higher the loan loss provisions, indicating a negative relationship. Bouvatier and Lepetit (2008), investigating banks' procyclical behaviour for a sample of 186 European banks, show that poorly capitalised banks use loan loss provisions to manage regulatory capital.

On the contrary, some studies do not find evidence of capital management using loan loss provisions. Anandarajan et al. (2003) find that loan loss provisions are not tools for managing capital adequacy regulations. The study used a sample of Spain banks to examine how loan loss provisions were used before and after the capital adequacy regulation in 1992. The findings are that managers do not increase loan loss provisions after capital adequacy regulation, even when the capital adequacy ratio is low. In contrast, the loan loss provisions had turned to decrease. It supports the relationship between loan loss provisions decreases under the new regulation. Leventis et al. (2011) examine the effects of IFRS implementation on the usage of loan loss provisions to manage bank capital and finds no evidence to support the capital management hypothesis. The study focussed on 91 European listed banks from 1999 to 2008, while the banks had to comply with IFRS effective in 2005.

Research Gap

The previous study regarding earnings and capital management through loan loss provisions has not discussed the IFRS 9 implementation. Some studies only focus on financial stability that can be built with the new expected credit loss. However, IFRS 9 has high discretionary for managers to build a unique model of expected credit loss for the loan for each bank. If the model is strong enough to forecast the expected model, it will reduce

earnings and capital management through loan loss provisions.

Studies focused on loan loss provisions of Indonesian banks after IFRS 9 have not been conducted yet. Many studies only focus on the banks in well-developed countries such as the United States and Europe that have fully implemented Basel III regulations and different economic conditions. However, banks in Indonesia have not fully implemented Basel III regulations. This study will focus on earnings and capital management through loan loss provisions and the effect of IFRS 9 on those practices in Indonesian banks.

Hypothesis

Based on the literature review above, these hypotheses are synthesised:

H$_{1a}$: Managers perform earnings management through loan loss provisions.

As the managers' objectives do not align in all points with the principal, the agency problem arises. The managers perform earnings management to anticipate reporting a loss, declining profit, or not meeting shareholder expectations (Healy and Wahlen 1999).

H$_{1b}$: Managers perform capital management through loan loss provisions.

Banks choose to defer losses to increase their capital and reduce regulatory costs (Scholes et al. 1990). This agency problem occurs because the shareholders want the banks to have a strong capital structure and avoid bankruptcy.

H$_{2a}$: Due to higher discretionary to calculate loan loss provisions, IFRS 9 increases earnings management through loan loss provisions.

H$_{2b}$: Managers are more aggressive in capital management through loan loss provisions to ensure their minimum regulatory capital after IFRS 9 implementation.

IFRS 9 has a forward-looking approach that enables managers to set discretionary loan

loss provisions. Agency problems can increase as the managers have the discretion to forecast future conditions and align them to their objectives. The discretion can be utilised to increase earnings and capital management (Beaver and Engel (1996); Caporale et al. (2018); Wahlen (1994)).

RESEARCH METHOD

Data Source

The financial report data are primarily collected from Bloomberg. Manual checks and filling are carried out to verify and complete the missing data in Bloomberg. The data sources are financial reports downloaded from the banks or the Indonesia Stock Exchange website. The financial reports are also sources of data when the IFRS 9 adoption in each bank since early adoption is allowed. The macroeconomics data is gathered from the World Bank website.

Data Analysis Method

This study uses a quantitative methodology following the philosophical assumption and past empirical studies. The hypotheses are tested by performing regression in some related variables. Many regression methods can be used to deal with panel data, such as Ordinary Least Square (OLS), Fixed Effect Model (FEM), and Random Effect Model (REM) (Wooldridge 2010). This study runs several tests to crosscheck whether the FEM is still relevant. F-test is performed to determine OLS or FEM. LM test is used to pick REM or OLS. The Hausman test selects the best regression model if the data indicate that both FEM and REM are preferred.

Statistic Method

To test H_{1a} and H_{1b}, this study uses the modified model (1) from the previous studies (Ahmed et al. 1999; Anandarajan et al. 2003; Anandarajan et al. 2006; Leventis et al. 2011).

$$LLP_{it} = \alpha + \beta_1 EBTP_{it} + \beta_2 CAP_{it} + \beta_3 IFRS_{it} + \beta_4 NPL_{it} + \beta_5 LLR_{it} + \beta_6 LNTA_{it} + \beta_7 GDPG_{it} + B_8 IR_{it} + \mu_{it} \quad (1)$$

To test H_{2a} and H_{2b}, this study use model (2) modified from Model (1) with the addition of interaction $IFRS_{it}$ to $EBTP_{it}$ and CAP.

$$LLP_{it} = \alpha + \beta_1 EBTP_{it} + \beta_2 CAP_{it} + \beta_3 IFRS_{it} + \beta_4 EBTP_{it}*IFRS + \beta_5 CAP_{it}*IFRS + \beta_6 NPL_{it} + \beta_7 LLR_{it} + B_8 LNTA_{it} + \beta_9 GDPG_{it} + \beta_{10} IR_{it} + \mu_{it} \quad (2)$$

The dependent variable is LLP_{it}, the ratio of loan loss provisions to total loans. Based on the hypotheses that has been constructed, the explanatory variables are $EBTP_{it}$, CAP_{it}, and $IFRS_{it}$. $EBTP_{it}$ is earnings before tax and loan loss provisions to total assets, representing the earnings management in the model. The loan loss provisions are excluded from calculating earnings since the loan loss provisions are tested as a proxy for earnings management. The tax is also excluded due to possible different tax tariffs between banks. CAP is the regulatory capital, which includes Tier 1 and Tier 2 without maximum loan loss reserve to the total risk-weighted assets (RWA), representing the capital management in the model. The IFRS implementation is shown with dummy variables, number 1 for the year after the banks implemented the IFRS 9 and 0 otherwise. The interaction variables, $EBTP_{it}*IFRS$ and $CAP_{it}*IFRS$, describe the earnings and capital management change after IFRS 9 implementation.

The control variables are as follows:
NPL_{it} = non-performing loans to total assets
LLR_{it} = loan loss reserve before loan loss provisions to total assets before loan loss provisions
$LNTA_{it}$ = natural logarithm of total assets
$GDPG_{it}$ = gross domestic product growth
IR_{it} = yearly inflation rate

The non-performing loans, loan loss reserves, and total assets variables are used to examine the change in loan loss

Table 2
Descriptive Statistics

Variable	Mean	Std. dev.	Min	Max	Observations	
LLP	0.0146	0.0299	-0.0259	0.3290	N =	280
EBTP	0.0202	0.0176	-0.0641	0.0527	N =	280
CAP	0.2061	0.0881	0.0698	0.9797	N =	280
IFRS	0.2000	0.4007	0.0000	1.0000	N =	280
NPL	0.0184	0.0157	0.0012	0.1581	N =	280
LLR	0.0096	0.0153	-0.0940	0.1489	N =	280
LNTA	31.7623	1.6765	27.9690	35.0844	N =	280
GDPG	0.0434	0.0221	-0.0207	0.0603	N =	280
IR	0.0405	0.0172	0.0156	0.0641	N =	280

provisions regarding internal conditions and performance. Kanagaretnam et al. (2004) used these variables to control the discretionary loan loss provisions. Non-performing loans lead the banks to create loan loss provisions to record losses from some customers who do not repay the loan as much as the contract. Banks with high loan loss reserve record lower loan loss provisions than banks with low loan loss reserves. The total assets determine how well the banks can utilise their assets to manage loan loss provisions.

This study uses the gross domestic product growth and yearly inflation rate to control the macroeconomic effects of the loan loss provisions (Demirgüç-Kunt and Huizinga 1999). These variables are necessary because macroeconomic indicators affect the customers' ability to pay their loans. Maudos et al. (2002) and Pasiouras and Kosmidou (2007) show the gross domestic product growth rate as a variable expected to affect profitability positively. Whether inflation is expected or unexpected determines how it will affect bank profits (Perry 1992). Moreover, in 2020 and 2021, banks had to adapt to Covid-19 situations that decreased economic activity, affecting the banks' performance (Kozak 2021). During the bad condition of macroeconomics, more customers are unable to pay their loans, raising the loan loss provisions.

DATA ANALYSIS AND DISCUSSION

Data Description

This study examines the sample data of banks listed on the Indonesia Stock Exchange collected through Bloomberg. The data collection scope is ten years between 2012 and 2021. The sample year started in 2012 because it was the starting date of the revision of PSAK 55 (IAS 39 adoption) in Indonesia. Therefore, it is possible to distinguish between IAS 39 and IFRS 9 exposure to loan loss provisions. Most of the largest banks in Indonesia are listed on Indonesia Stock Exchange, contributing at least 60% of the total asset of all banks and 44% of the total 107 commercial banks in Indonesia (OJK 2022).

To obtain the sample data that is eligible enough to represent the population, a purposive sampling technique based on specific examination criteria to collect the sample is performed (Etikan et al. 2016). In the first step, there are 48 banks that list on Indonesia Stock Exchange. Next step, due to the incomplete data and some banks listed after 2012, 18 banks are excluded, reducing the sample data to 30 banks. Two Islamic banks are also excluded due to different characteristics from regular banks, resulting in 28 banks to examine. With ten years of data observations, the total observations in this study are 280 observations. The non-IFRS 9 implemented

Table 3
Panel Data Regression Test

Test	Result	Value	Probability
Chow	F statistic	5.78	0.0000
Breusch and Pagan Lagrange Multiplier	Chibar Square	92.67	0.0000
Hausman	Chi-Square	20.35	0.0011

Table 4
Normality Test

Variable	Obs	Pr(skewness)	Pr(kurtosis)	Joint test -- Adj chi2(2)	Prob>chi2
LLP	280	0.0000	0.0000	314.43	0.0000
EBTP	280	0.0000	0.0000	52.72	0.0000
CAP	280	0.0000	0.0000	188.47	0.0000
IFRS	280	0.0000	0.3175	48.85	0.0000
NPL	280	0.0000	0.0000	183.43	0.0000
LNTA	280	0.5782	0.0000	20.51	0.0000
LLR	280	0.0000	0.0000	107.16	0.0000
GDPG	280	0.0000	0.0000	103.96	0.0000
IR	280	0.1099	0.0000	146.89	0.0000

observations are 224, while the IFRS 9 implemented observations are 56.

Descriptive Statistics

Table 2 shows the descriptive statistics of the data. The standard deviation explains how the data spread around the mean. The higher the standard deviation, the closer all data are to the mean of the data. The standard deviation of the sample data of LLP is 2.99%. The standard deviation percentage is 204% of the mean, which implies that the data is spread widely to the mean.

The mean, minimum, and maximum values of EBTP are 2.02%, -6.41%, and 5.27%, respectively. The mean, minimum, and maximum CAP are 20.61, 6.98%, and 97.97%, respectively.

Panel Data Regression Test

Because this study uses panel data, the Chow test, Hausman test, and Breusch and Pagan Lagrange Multiplier test are performed to determine the most appropriate statistical model. Table 3 shows the result of those tests. The F statistic of the Chow test is 5.78, more than F critical,

which implies that FEM is better to use than OLS. The Breusch and Pagan Lagrange Multiplier results have significant probability, indicating that REM is better than OLS. Then, the Hausman test with Sigmamore is performed to estimate between FEM and REM. The Chi-Square of the Hausman test is 20.35, indicating that the FEM is over REM.

Test of Difference

This test examines the difference between LLP before and after IFRS 9 implementation to check whether there is an increase in LLP after IFRS 9 implementation. Based on the financial statement, none of the banks started to implement IFRS 9 before 1 January 2020. Therefore, 1 January 2020 is used to perform a test of difference. Firstly, the normality test of LLP is performed to check that the data is normally distributed. It is necessary because it determines the following normality test that can be performed.

Table 4 shows the result of the Skewness and Kurtosis test to check the normality of the variable. The adjusted chi-

Table 5
Test of Difference

Test	Result	Value	p
Wilcoxon (Mann–Whitney)	Z	-2.030	0.0423
Kruskal–Wallis	Chi Square with ties	4.119	0.0424

Table 6
Regression Model 1

	LLP
EBTP	0.269^{*}
	(0.099)
CAP	0.00313
	(0.818)
IFRS	0.0170^{**}
	(0.020)
NPL	1.379^{***}
	(0.000)
LLR	-1.877^{***}
	(0.000)
LNTA	-0.00222
	(0.428)
GDPG	0.0256
	(0.666)
IR	-0.178^{*}
	(0.071)
Constant	0.0743
	(0.406)
Observations	280
R^2	0.695
Adjusted R^2	0.686
F	6.239

p-values in parentheses
$^{*}\ p < 0.10,\ ^{**}\ p < 0.05,\ ^{***}\ p < 0.01$

squares are over the adj chi2 critical. The p-value of the chi-square of all variables is 0.0000. It means that the normally distributed data of all variables are rejected.

Secondly, because the data is not distributed normally, the Wilcoxon and Kruskal-Wallis tests are performed instead of an unpaired t-test to compare the difference between LLP before and after IFRS 9 implementation. If the p-values of the results are less than 5%, the LLP before and after implementation is significantly different.

Table 5 shows the distribution of LLP before and after IFRS 9 implementation in Indonesian banks. The distribution of LLP after IFRS 9 implementation is higher than before IFRS 9 implementation. Z score of Wilcoxon and chi-square with ties score of Kruskal-Wallis tests are more than the

critical value. Both Wilcoxon and Kruskal-Wallis test result p-value is less than the 5% significance level, implying that the distribution of LLP before and after IFRS 9 differs at a 5% significance level.

Finding

All regression models are performed with a robust standard error function to deal with the already tested heteroscedasticity symptom. Table 6 shows the result of regression model 1 using the FEM. To draw findings, the 10% significance level is used. The model excludes the time-fixed effect variables (i.year) since the result joint test of time-fixed effect variables is equal to zero (the F statistic = 1.19, p-value = 0.3398).

The model is fit enough to estimate the dependent variable of the observation. The F statistics of FEM is 6.239, which is

Table 7
Regression Model 2

	LLP
EBTP	0.280*
	(0.093)
IFRS	0.0264**
	(0.010)
IFRS * EBTP	-0.0208
	(0.922)
CAP	0.0230
	(0.329)
IFRS * CAP	-0.0345
	(0.153)
NPL	1.366***
	(0.000)
LLR	-1.872***
	(0.000)
LNTA	-0.00230
	(0.389)
GDPG	0.0414
	(0.475)
IR	-0.157*
	(0.099)
Constant	0.0711
	(0.404)
Observations	280
R^2	0.698
Adjusted R^2	0.686
F	5.549

p-values in parentheses
$^* p < 0.10,\ ^{**} p < 0.05,\ ^{***} p < 0.01$

higher than F critical value and significant at a 1% significance level, indicating that all independent variables are jointly significant. The model obtains a high R-squared (69.5%) and adjusted R-squared value (68.6%), indicating that my model can explain more than 50% variation of LLP.

The result shows that EBTP positively relates to the LLP at a 10% significance level. A 1% increase in the EBTP of the banks will increase the LLP by 0.269%. IFRS positively relates to LLP and has a significant level of less than 5%. It concludes that the result supports H_{1a}. However, although CAP negatively relates to LLP, it does not have a significant probability value at a 10% significance level. It concludes that the result does not support H_{1b}.

Among the control variables, NPL and LLR are highly associated with LLP. LLR has the highest coefficient in the model. It has a negative coefficient of 1.877, which implies that for every 1% increase (decrease) of LLR, LLP decreases (increase) by 1.877%. The second highest coefficient variable is NPL. They also have a significant probability value at a 1% significance level, implying that the LLP of Indonesian banks is mainly affected by LLR and NPL.

Table 7 shows the result of model 2, which examines the interaction between IFRS and EBTP and IFRS and CAP. The adjusted R-square in model 2 is not different from model 1, indicating the model has a high fitted value of the observation. The interaction between EBTP and IFRS is negative. However, the probability value is not significant. The insignificant coefficient result is also found in the interaction between CAP and IFRS. It concludes that the result does not support H_{2a} and H_{2b}.

Discussion

Earnings Management

This study finds that the Indonesian bank performs earnings management through loan loss provisions over the entire analysis period, supporting H_{1a}. The finding is consistent with prior studies (Beatty et al. 1995; Ahmed et al. 1999; Anandarajan et al. 2003; Anandarajan et al. 2006; Leventis et al. 2011).

The findings prove that there is an agency problem between the principal and the agent. Banks with higher earnings have high loan loss provisions for performing earnings management more aggressively. If the banks only get lower earnings, the managers reduce the loan loss provisions for that year and tend to delay them to the subsequent year when the company has better earnings. The contract between the principal and the agent forces the agent to have good performance that encourages the managers to perform earnings management to get better performance in the financial report. If banks have better performance, the managers can get more perquisites that benefit them in the short term.Prudent risk management of loan loss provisions is a possible explanation based on the positive coefficient of earnings to loan loss provisions (Leventis et al. 2011). IAS 39 only permits the loan loss provision based on incurred evidence. A good economic condition is the best time to increase the loan loss provision. When the economic condition is good, banks generate more loans and profit than when in bad economic conditions. When the economy turns to worse conditions and many customers fail to pay the loan, banks already have a sufficient buffer to absorb the increased loan loss. However, before IFRS 9, the discretionary loan loss provisions depend on past transactions that limit the managers to increase the loan loss provisions base on future estimation.

IFRS 9 provides significant changes to the increase of loan loss provisions. IFRS 9 has a greater opportunity for banks to capture expected credit loss in the future.

As shown in Table 5, loan loss provisions increased after 1 January 2020 and IFRS 9 implementation has contributed to that increase. The loan loss provisions in 2020 increased due to the adjustment of loan loss provisions from incurred loss to expected credit loss. Banks had to recognise the expected credit loss under the new model that had never been recorded before.

Although IFRS 9 increases the loan loss provisions, IFRS 9 does not provide a significant change to influence earnings management behaviour. The result is consistent with Firmansyah et al. (2022). IFRS 9 does not reduce the agency problem between the principal and managers as the agent. Managers still perform earnings management to ensure that the banks have good performance and satisfy the principal with the same level as before IFRS 9 implementation.

Another reason the IFRS 9 does not affect earnings management is that the shareholders could spend higher monitoring costs to review the managers' discretionary loan loss provisions. It helps the shareholders to review that the managers forecast the future with the correct professional judgment. Consequently, the managers do not have more room to increase the loan loss provisions for their earnings management.

When IFRS 9 was implemented for Indonesian banks, Indonesia dealt with the Covid-19 situation by restricting many economic activities. The customers' ability to pay their loans decreases. Many customers could not pay the loan, causing an increase in NPL, which strongly impacts loan loss provisions. The banks with lower LLR have more opportunities to create more loan loss provisions in that situation, reflecting their future scenarios. However, banks prioritise providing strong evidence of accounting quality because of the enhanced requirement of supervision from the authorities in that situation (Ozili 2022).

Capital Management

This study measures capital management by computing regulatory capital without maximum loan loss reserve. Banks have more pressure to engage capital management if the amount is smaller and almost reaches the minimum regulatory capital. In order to pass the stress test and not be sanctioned by the regulators, banks must keep their regulatory capital higher than the minimum (Kund and Neitzert 2020).

The finding shows no significant evidence that Indonesian banks perform capital management through loan loss provisions. After IFRS 9 implementation, the banks do not utilise the new regulation to increase or decrease loan loss provisions as a part of capital management. In the literature review, researchers find different results regarding capital management. The result of this study is consistent with Anandarajan et al. (2003) and Collins et al. (1995). Anandarajan et al. (2003) find that capital management does not incentivise the banks after minimum regulatory capital is applied. Collins et al. (1995) stated that banks are not willing to sacrifice a 1$ decrease in earnings before tax to acquire 1$ increase in capital.

All Indonesian banks have a capital adequacy ratio higher than the minimum regulatory capital. The banks work to maintain the level of the capital adequacy ratio, avoiding a decrease of it near to minimal regulatory capital. In the data, the mean of Indonesian banks' capital is 20.61%, far higher than the minimum regulatory capital, which is only 8%. As the banks have an adequate amount of capital, banks do not engage in using loan loss provisions as a tool for capital management. Moreover, the shareholders do not prioritise the increase in capital of the banks as much as bank earnings.

The maximum amount of loan loss reserve also reduces the willingness of the bank to use loan loss provisions as a capital management tool. Basel III and Indonesia Financial Service Authority allow only a maximum of 1,25% of total risk-weighted assets to be calculated as part of Tier 2 regulatory capital. The data shows that only 65 of 280 observers (23.2%) have not maximised this amount to build their capital. However, the loan loss reserves are much larger than the maximum amount allowed. Increasing the loan loss provisions for capital management is not appealing to managers since the loan loss reserve is capped at 1.25%. On the other hand, reducing the capital with loan loss provisions does not sufficiently impact the regulatory capital since the amount is not material. It causes loan loss provisions that do not contribute much to regulatory capital changes.

This capital management finding differs from Ahmed et al. (1999), who discovered that although regulatory capital is negatively related to loan loss provisions, the relation is lower if the banks have recorded maximum loan loss reserve for regulatory capital. That different result occurred since the study used data during the transition of capital regulation. Old regulation allowed loan loss reserve as primary capital, but new regulation only allows capped loan loss reserve as capital at a maximum of 1.25%. This study uses data period only from 2012 when all banks were under the new regulation and already had sufficient regulatory capital.

The insignificant interaction of IFRS 9 with CAP shows that IFRS 9 does not associate with increasing or decreasing the capital management behaviour in Indonesian banks. Banks do not have to perform capital management through loan loss provisions to maintain their regulatory capital more than the minimum requirement. This situation can differ in other countries with lower capital structures in their banks.

Indonesian banks with lower capital have capped the loan loss reserve as part of their Tier 2, reducing the incentive of the banks to perform capital management after IFRS 9 implementation. All Indonesian banks have sufficient fundamental capital

even in the Covid-19 situation. Performing more aggressive capital management with more loan loss provisions after IFRS 9 does not give more incentive for them.

This result differs from what Kund and Neitzert (2020) studied in the IFRS 9 in European banks. They find a similar result to this study when the banks are in a baseline scenario. They find that IFRS does not associate with loan loss provisions in that situation. However, their result is contrary if the banks are in an adverse situation. It explains that banks only perform capital management after IFRS 9 during adverse conditions.

CONCLUSION

The implementation of IFRS 9 created many theoretical debates about its effectiveness in earnings and capital management to improve accounting quality. Earnings and capital are influential factors that provide information about the bank's performance. Jensen and Meckling (1976) argue that if managers have different objectives from shareholders, the agency problem occurs and creates costs for both of them. To acquire many incentives for good performance, managers are able to perform earnings and capital management using one of the accounting tools, loan loss provisions. The increase in loan loss provisions is one of the theoretical impacts that researchers most anticipate.

The earnings and capital management in Indonesian banks are examined by running FEM, which consists of earnings before tax and loan loss provisions and regulatory capital without loan loss reserves variables. This study uses the sample from 28 banks listed on Indonesia Stock Exchange from 2012 until 2021 and the primary data is extracted from Bloomberg.

In summary, the research discovers some findings. The earnings management practice through loan loss provisions exists in Indonesian banks. While this study generates evidence that IFRS 9

implementation forces banks to create an increase in loan loss provisions as an expected loss than before, it does not improve earnings management. Banks have incentives to create higher loan loss provisions when they have high earnings and delay the recognition to increase earnings when banks have low expected earnings. This practice benefits the banks willing to obtain stable earnings, even in the adverse economic situation, showing and attracting the market that the banks have great fundamentals (Ozili and Outa 2017).

On the other hand, banks do not use loan loss provisions as a tool to perform capital management. This condition is still the same even after IFRS 9 is implemented. The banks do not have an incentive in capital management through loan loss provisions. It occurs because most Indonesian banks already capped their loan loss reserve that accounted for regulatory capital. Increasing loan loss provisions does not give more incentives to the banks anymore. Moreover, since the loan loss reserves only contribute at a maximum of 1.25% to be part of Tier 2 capital, banks do not perform capital management through loan loss provisions.

The evidence that banks used loan loss provisions to manage their earnings solely outperforms capital management practice. Increasing loan loss provisions based on capital management reduces the earnings, creating a contrary effect on earnings management that prefers to reduce the loan loss provisions when banks have lower earnings. As the banks have far more than enough regulatory capital, the banks only focus on earnings management using loan loss provisions.

This study has several limitations. Firstly, the financial crisis of 2008 is not included in the data. This study could not examine the earnings and capital management during that financial crisis that became the reason for the IFRS 9 issuance. Bloomberg only provides data from 2012. Secondly, many data could not be captured because of incompleteness. Thirdly, this

study only focuses on listed banks and does not cover unlisted banks. It can be improved in future research to increase the result validity by covering unlisted banks with the longer time needed to acquire more data.

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