

Does the Implementation of SFAS 71 Affect Banks' Loan Loss Provisioning Behavior and Equity Valuation?

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ABSTRACT

Objective – It has been several reporting years since the implementation of SFAS 71, which became effective on January 1, 2020. This study aims to investigate the effect of adopting SFAS 71 on banks' loan loss provisioning behavior, as well as on the value relevance of SFAS 71 in assessing the quality of banks' loan portfolios.

Design/Methodology – A moderated generalized least squares regression method is used to analyze the panel data from a sample of 40 publicly traded commercial banking companies from 2016 to 2022.

Results – SFAS 71 provides unintended opportunities for bank managers to engage in strategic income smoothing practices through loan loss provisioning. However, the loan loss provisions calculated under the SFAS 71 appear to give more useful information for capital market participants in assessing banks' loan portfolio quality and risk. Therefore, adopting SFAS 71 has a favorable impact on bank equity valuation.

Research limitations/implications – The study period relating to the implementation of SFAS 71 coincides with the COVID-19 pandemic era. Therefore, the results obtained in this study may be attributed to the combined effect of SFAS 71 and the pandemic. Future studies using banking data post-COVID-19 are strongly recommended.

Novelty/Originality – This paper is the first to empirically investigate the effect of the adoption of SFAS 71 on banks' loan loss provisioning behavior as well as its value relevance relating to the quality and riskiness of banks' loan portfolios. This study contributes to the understanding of both the benefits and the potential misuse of SFAS 71.

Keywords: SFAS 71, earnings management, equity valuation

1. Introduction

This study investigates the effect of the recently implemented SFAS (PSAK/*Pernyataan Standar Akuntansi Keuangan*) 71 – Financial Instruments, which is the adoption of International Financial Reporting Standard (IFRS) 9 Financial Instruments, on banks' loan loss provisioning behavior relating to the managerial intention to strategically manage reported income to meet certain objectives, as well as on the usefulness of the said accounting standards for banks' equity valuation purposes by capital markets investors through the assessment of the quality of banks' loan portfolios reported under the SFAS 71 regime. It has been several reporting years since the effective implementation date of the said accounting standards in early January 2020. Therefore, it would be interesting to investigate how the aforementioned new financial accounting standards have affected the banking firms' practices in reporting their loan loss provisions to manage reported income, and how the informativeness of the reported loan loss provisions under the SFAS 71 regime affects banks' equity valuation.

Current literature suggests that the "expected loss" method used in IFRS 9 and SFAS 71 provides more information about the quality and riskiness of banks' loan portfolios than the "incurred loss" method (Bushman & Williams, 2012; López-Espinosa et al., 2021; Suriawinata, 2023). Under the "incurred credit loss" method, banks recognize loan losses only when there is sufficient evidence indicating a loss on the loan or credit provided. On the other hand, under the "expected credit loss" method, banks are required to estimate their periodic loan loss provisions based on historical loan loss experiences, current conditions, and anticipated future changes in the loan's credit risk during its contractual duration.

As a consequence, switching from the "incurred credit loss" method to the "expected credit loss" method causes higher loan loss provisions (Gomaa et al., 2019). Additionally, Suriawinata (2023) provides evidence that the initial implementation of the newly adopted SFAS 71 results in a reduction of banks' retained earnings. While the adoption of the SFAS 71 is believed to provide more information on the quality of banks' loan portfolio, there is an unintended adverse consequence that the new accounting standards also provide bank managers with opportunities to exercise more earnings management or income smoothing practices (Brüggemann et al., 2013; Gomaa et al., 2019) to meet targeted net earnings objectives. However, as

asserted by Gomaa et al. (2019), higher loan loss allowances increase banks' loan loss-absorbing capacity. Also, López-Espinoza et al. (2021) show that "expected credit loss" provisions have more predictive power compared to "incurred credit loss" provisions. As a result, the "expected credit loss" method provides more useful information in assessing the riskiness of banks' loan portfolios. Last but not least, Suriawinata (2023) also finds compelling evidence that the initial implementation of the "expected credit loss" method (i.e. SFAS 71) has provided more useful information about the quality and riskiness of banks' loan portfolios as shown by the positive and statistically significant impact of the retained earnings adjustments (due to the initial implementation of SFAS 71) on bank equity valuation. Additionally, Suriawinata (2023) asserts that there are two opposing effects relating to the impact of the initial implementation of SFAS 71 on bank equity valuation, i.e., (i) disclosure effect, and (ii) substantive effect¹. Due to the opaqueness of banks' loan portfolios, the initial implementation of SFAS 71 on bank equity valuation has a positive "disclosure effect" on bank equity valuation. However, the negative "substantive effect" will dominate the positive "disclosure effect" if the downward retained earnings adjustments relating to the initial implementation of SFAS 71 are much beyond capital market investors' expectations. To summarize, Suriawinata (2023) provides evidence of an inverted U-shaped or a concave association between the initial implementation of the "expected credit loss" method under SFAS 71 and the equity valuation of banking firms. This finding indicates that at lower retained earnings adjustments, the initial implementation of SFAS 71 provides a positive "disclosure effect"; while at much larger retained earnings adjustments, it provides a negative "substantive effect".

The primary objective of this study is to research the effect of SFAS 71 on the bank's loan loss provisioning behavior between the periods before and after the implementation of SFAS 71. As the secondary objective, this study also examines whether the loan loss provisioning under the "expected credit loss" method (i.e., SFAS 71) provides more useful information for capital markets investors in evaluating banks' assets' riskiness as well as valuing banks' equity prices.

This study is the first to empirically investigate the effect of the adoption of SFAS 71 on banks' loan loss provisioning behavior as well as its value relevance relating to the quality and riskiness of banks' loan portfolios. Unlike Suriawinata (2023) who investigates the effect of the initial implementation of SFAS 71 on publicly traded banks' stock prices and valuation, our study explores banks' loan loss provisioning behavior as well as the value relevance of loan loss provisions estimated and reported since the inception of the SFAS 71 regime. In conducting this study, we employ a total of 280 firm-year observations collected from a sample of 40 Indonesia-listed commercial banks over the seven-year period from 2016 to 2022, where the years 2016-2019 and 2020-2022 represent the periods before and after the implementation of SFAS 71, respectively.

This study reveals two important findings. Firstly, while the implementation of SFAS 71 tends to reduce banks' loan loss provisioning behavior, unintentionally - the implementation of SFAS 71 also provides some discretion for bank managers to opportunistically manage their banks' reported earnings by setting the amount of loan loss provisions to meet certain objectives. Secondly, in addition to the previously noted negative outcome, the results of this study also indicate that loan loss provisions estimated under the SFAS 71 regime have provided more useful information for capital market investors in evaluating the level of risk associated with the banks' loan portfolios. Therefore, the implementation of SFAS 71 to estimate and report banks' loan loss provisions has a beneficial effect on the capital market valuation of bank equity.

The structure of the paper is as follows. Section 2 presents the theoretical background, empirical literature, and the development of the hypotheses. Section 3 describes the research methodology, consisting of the sample employed, variable definitions and measurements, and the specification of the empirical model. Section 4 presents the empirical results and provides a relevant discussion of those results. Finally, Section 5 concludes the paper.

2. Literature Review and Hypotheses Development

2.1. Banks' Loan Loss Provisioning Behavior, Income Smoothing, and the Impact of SFAS 71

According to the agency theory proposed by Jensen & Meckling (1976), there are potential conflicts between principals (i.e., shareholders) and agents (i.e., managers) due to the divergence of interests, differences in goals or priorities, as well as information asymmetry. Managers are supposed to act on behalf and for the best interest of shareholders. However, because humans are inherently self-interested by nature, managers might pursue their own personal goals at the expense of shareholders. Actually, financial reporting is one of the many tools used by shareholders to monitor managerial activities and performance. However, due to information asymmetry, managers have more information about the company's financial condition and performance than shareholders, and they have personal motivations to engage in reported income smoothing activities to achieve specific personal goals.

Prior research reports considerable evidence of banks' income smoothing practices by strategically utilizing loan loss provisions to opportunistically manage banks' reported income (e.g., Kilic et al., 2013; Beatty & Liao, 2014; Balla & Rose, 2015; Ozili & Arun, 2018; Ozili, 2022; Vo et al., 2022). A loan loss provision (LLP) is an allowance periodically created by banks to cover future problem loans that are unlikely to be paid by debtors. The charge of a loan loss provision (LLP) of a bank appears as an expense on the periodic statement of income, while the accumulation of the periodic LLPs is recorded on the bank's statement of financial position as a loan loss allowance (LLA), and it is a deduction from gross loan assets to obtain net loan assets. When the bank writes off a loan of a defaulted debtor, the amount written off is deducted from the balance of loan loss allowance (LLA) reported on the bank's statement of financial position, rather than being recorded as an expense on the bank's statement of income. In determining the amount of LLPs, bank managers exercise their judgment concerning the present condition as well as changes in the expected future loan losses. If the amount of the future loan losses is expected to increase, the bank manager will increase the amount of the periodic LLP, and vice versa when the amount of the future loan losses is expected to decrease. This accounting practice relating to the measurement and recognition of loan losses has provided bank managers with the discretion to manage banks' reported earnings by practicing strategic and opportunistic earnings management using LLPs.

A classical work by Greenawalt & Sinkey (1988) on the income-smoothing hypothesis of banks' loan loss provisioning behavior proposes several motivations on why bank managers smooth their banks' reported earnings. Greenawalt & Sinkey (1988) assert that banks smooth their reported income to create reserves needed during economic or business downturns. That is, when actual profit increases, banks set aside a portion of their profits by increasing the loan loss provisions; but when the actual profit

¹ In fact, we assert that every new accounting standard is expected to have both disclosure and substantive effects on equity valuation because capital market investors will adjust their valuations based on the new information revealed as well as the expected changes in future earnings and cashflows caused by the new accounting standard. However, the directions of both the disclosure and the substantive effects depend on the nature of the said new accounting standard.

decreases, they release their reserves to cover actual losses. Other alternative motivations suggested by Greenawalt & Sinkey (1988) are bank managers' efforts to: (1) reduce their banks' perceived risk by reducing reported earnings volatility, (2) comply with bank regulatory requirements, (3) fulfill the capital market investors' expectations relating to their principal-agent relationships, and finally (4) maximize their earnings-related compensations. Based on their study sample, Greenawalt & Sinkey (1988) find evidence of banks' income-smoothing behavior using provisions for loan losses.

A much later study by Bushman & Williams (2012) also reports that banks opportunistically utilize discretionary LLPs practices to smooth or manage reported earnings. A recent study by Ozili (2022) finds evidence that banks conduct earnings management using LLPs, and the study also finds that there is an increase in earnings management practices by banks during the Fintech era. Similar to Greenawalt & Sinkey (1988), in testing the bank income-smoothing hypothesis using LLPs, Ozili (2022) employs banks' pre-managed earnings as proxied by earnings before loan loss provision and taxes (EBLPT). Employing 375 observations from 35 countries covering the sample period of 1998 to 2016, Ozili, (2022) provides evidence of a significant positive association between EBLPTs and LLPs. Lastly, Vo et al. (2022) use discretionary LLPs to measure bank earnings management, and they find a significant positive association between banks' earnings management practices, as proxied by the reported LLPs, and their risk-taking actions.

Our study asserts that the introduction of SFAS 71 - which stipulates the application of the ECL method – in the banking sector has given bank managers more discretion in estimating and reporting the amount of LLPs in the bank's financial statements. Under the pretext of “*forward-looking*” future changes in the quality and riskiness of banks' loan portfolios, it is alleged that bank managers have some sort of “*free hand*” to discretionarily determine the amount of LLPs in line with their banks' reported income targets. Based on the above discussions and analyses, it is hypothesized that:

H1. Banks' income smoothing using loan loss provisions after the implementation of SFAS 71 is greater compared to that before the implementation of the said accounting standards.

2.2. The Informativeness of Banks' Loan Loss Provision under the SFAS 71 Regime

In the banking literature, bank loan portfolios are widely recognized as having a lack of transparency (i.e., informationally opaque), which means that capital market investors do not exactly know the quality and riskiness of bank loan portfolios (Cao & Juelsrud, 2022; Flannery et al., 2013; Fosu et al., 2018; Morgan, 2002). Bank loan portfolios' opacity arises from the asymmetry of information between the bank's insiders (i.e., managers) and outsiders (i.e., investors, depositors, and creditors). The greater the information gap between the bank's insiders and outsiders, the larger the degree of bank opacity. The magnitude of the information gap is also affected by the quality of the banks' financial information (Avdjiev & Jager, 2022; Flannery et al., 2013; Jones et al., 2013). Therefore, adequate disclosure is necessary if the information gap relating to the quality and riskiness of bank loan portfolios is to be eliminated, or at least substantially reduced.

To assess the quality of bank loan portfolios, capital market investors rely on financial statements furnished by banks, especially relating to the amount and adequacy of LLPs and LLAs associated with the respective banks' loan portfolios. According to DeFond (2019), accounting disclosure increases transparency and makes accounting figures relevant for investors, in the sense that it enables investors to make well-informed investment decisions in the capital market. Then the question is whether the reported LLPs and LLAs in the banks' financial statements help capital market investors to properly assess the quality and riskiness of the banks' loan portfolios. It is argued that if capital market investors view that adequate financial disclosure on banks' loan portfolios is lacking, which makes it difficult for them to monitor and correctly value banks' loan portfolios, then they will charge higher valuation discounts to value bank equity prices (Jones et al., 2013).

Following Suriawinata (2023), while the implementation of SFAS 71 increases LLPs that reduce bank equity value, it is claimed that the implementation of SFAS 71, which adopted the ECL method, has a positive “*disclosure effect*” on the condition, quality, and riskiness of bank loan portfolios. As a consequence, its implementation in the banking industry reduces the opacity of bank loans. In other words, the implementation of SFAS 71 in reporting the amount of LLPs reduces information asymmetry about the condition, quality, and riskiness of bank loan portfolios, providing capital market investors with more useful financial information for properly analyzing and determining bank equity value. To make it clear, the positive “*disclosure effect*” brought by the SFAS 71 helps capital market investors to correctly value bank loan portfolios, and adjust their valuation of bank equity prices by eliminating, or at least reducing, their valuation discounts due to bank loans' opacity. As a consequence, the implementation of SFAS 71 in determining and reporting the amount of LLPs has a positive impact on the valuation process of bank equity in the capital market.

Therefore, based on the previous discussions and analyses, it is hypothesized that:

H2. The disclosure effect of the reported loan loss provisions under the SFAS 71 regime positively affects bank equity valuation.

2.3. Control Variables

To avoid potential biases resulting from omitted variables, this study also incorporates other important variables that are empirically known to have affected banks' LLPs and equity valuation. In modeling the LLPs, we follow Vo et al. (2022) by including non-performing loans and changes in total loan outstanding as control variables. While for modeling bank equity value, we use non-performing loans (Bogdanova & Fender, 2018; Simoens & Vennet, 2021), net interest margin (Suriawinata, 2023), and bank size (Sakawa et al., 2020; Simoens & Vennet, 2021; Suriawinata, 2023) as control variables.

Non-performing loans (NPL) are expected to positively affect LLP because a higher NPL will drive a bank to create a higher LLP. However, the effect of changes in total loan outstanding on LLP might not be as clear-cut as the impact of NPL on LLP. If the change in total loan outstanding increases credit risk, then the LLP will increase. However, if the change in total loan outstanding decreases credit risk, then the LLP will decrease.

It is argued that non-performing loans (NPLs) negatively affect bank profitability, and as a result, NPLs are predicted to have a negative effect on bank equity valuation. Both Bogdanova & Fender (2018) and Simoens & Vennet (2021) find that NPL has a statistically significant negative association with bank equity value, which is proxied by the market-to-book value ratio (i.e., price-to-book value). An increase in net interest margin (NIM) potentially increases bank profitability, and therefore, NIM is predicted to positively affect bank valuation (Simoens & Vennet, 2021; Suriawinata, 2023). Finally, to control for size-related effects, this study also includes the natural log of total assets (Sakawa et al., 2020; Simoens & Vennet, 2021; Suriawinata, 2023).

3. Research Method

The population for this study comprises all banking companies that are publicly listed on the Indonesia Stock Exchange between the years 2016 and 2022. In order to be included in the final sample, based on purposive sampling, the bank must meet two criteria: (i) it must be continuously listed throughout the whole study period, without any suspensions, and (ii) it must have a comprehensive set of audited financial statements, including the accompanying notes.

Applying the aforementioned criteria yields a sample size of 40 banking firms, encompassing 280 firm-year observations over the 7-year timeframe from 2016 to 2022. The data pertaining to the variables under investigation are acquired from the pertinent accounts in the financial statements and the associated notes to the financial statements.

3.1. Variable Definitions and Measurements

To measure banks' loan loss provisions (LLP), which reflect earnings management practices by banks (e.g. Brüggemann et al., 2013; Gomaa et al., 2019), this study employs the loan loss provision-to-total gross loans (Ozili, 2022). Additionally, this study utilizes earnings before provision for loan losses and tax divided by the total of bank assets (EBPLLT) as a proxy for pre-managed income variable that drives bank managers to conduct income smoothing through LLP (Bushman & Williams, 2012; Ozili, 2022). To measure bank equity value, as in Bertsatos et al. (2017), Simoens & Vennet (2021), and Suriawinata (2023), this study uses the ratio of bank stock price divided by the book value of equity per share (PBV).

To identify the effect of the implementation of SFAS 71 on banks' loan loss provisioning behavior and equity valuation, this study uses a binary or dummy variable (D_SFAS71) that shall take the value of one (1) during the reporting periods of 2020–2022, which represents the periods of the SFAS 71 regime; and take the value of zero (0) for the reporting periods of 2016–2019, which represents the periods before the SFAS 71 regime.

As mentioned in the previous section, to control for other important variables that are empirically known to have affected banks' LLPs and equity valuation, this study also includes: (i) non-performing loans (NPL) as measured by the ratio of net NPLs - as defined in the Indonesian Financial Services Authority (OJK/*Otoritas Jasa Keuangan*) Regulation No. 40/POJK.03/2019 (Financial Services Authority, 2019) – to the total gross loans, (ii) change in total loan outstanding divided by the total gross loans (CHLOAN), (iii) net interest margin (NIM) as measured by the percentage of the net interest income divided by the total earning assets, and (iv) bank size (SIZE) as proxied by the bank's total assets. Banks' total assets data are transformed into natural logarithms to reduce the skewness of a measurement variable.

3.2. Model Specification

To examine the effect of the implementation of SFAS 71 on banks' loan loss provisioning behavior and equity valuation, the following moderated regression models using panel data are employed:

Loan Loss Provision (LLP) Equation

$$LLP_{it} = \alpha + \beta_1 EBPLLT_{it} + \beta_2 D_SFAS71_{it} + \beta_3 (D_SFAS71_{it} * EBPLLT_{it}) + \beta_4 NPL_{it} + \beta_5 CHLOAN_{it} + \beta_6 (D_SFAS71_{it} * CHLOAN_{it}) + \beta_7 SIZE_{it} + \varepsilon_{it} \quad (1)$$

Bank Equity Valuation (PBV) Equation

$$PBV_{it} = \alpha + \beta_1 D_SFAS71_{it} + \beta_2 LLP_{it} + \beta_3 (D_SFAS71_{it} * LLP_{it}) + \beta_4 NPL_{it} + \beta_5 NIM_{it} + \beta_6 SIZE_{it} + \varepsilon_{it} \quad (2)$$

where all the variable definitions and calculations have been described in the preceding section.

4. Results and Discussion

4.1. Descriptive Statistics

Table 1 displays the descriptive statistics of all the variables, which consist of dependent, independent, and control variables. Table 1 shows that the mean value of LLP is 0.0191 for LLP, indicating that banks typically charge 1.91% of the total gross loans as periodic LLP on their income statements. The average observed market values of equity for the sample banking firms surpass their book values of equity, as indicated by the mean value of PBV of 1.9625. The pre-managed earnings, as proxied by EBPLLT, have a mean value of 0.0169 or 1.69% of the total bank assets. The average value of non-performing loans (NPL) is 2.1989%, indicating that, on average, 2.1989% of the total gross loans are non-performing. The average change in total loans outstanding (CHLOAN) is 0.0571, which indicates that, on average, the increase in bank loan balance is 5.71% of the current period's loans outstanding. The average net interest margin (NIM) is 4.3574%, and the average natural logarithm of bank size (SIZE) is 31.3583.

Table 1: Descriptive Statistics

Variables	Mean	Max	Min	Std. Dev.
LLP	0.0191	0.3335	-0.0651	0.0334
PBV	1.9625	35.4091	0.2093	3.4846
EBPLLT	0.0169	0.0708	-0.0742	0.0202
D_SFAS71	0.4286	1.0000	0.0000	0.4958
NPL	2.1989	19.8192	0.0000	2.0290
CHLOAN	0.0571	0.8309	-1.7685	0.2147
NIM	4.3574	11.4136	-5.3405	2.0885
SIZE	31.3583	35.2282	27.2226	1.7630

Table 2 presents the correlation matrix of all the variables being investigated, whereas Panel A shows the coefficients of Pearson correlations among variables in the LLP Equation, while Panel B shows the coefficients of Pearson correlations among variables in the PBV Equation. LLP is positively correlated with pre-managed income (EBPLLT) at the 10% significance level,

indicating that LLP is higher in a bank with a higher pre-managed income (EBPLLT). On the other hand, LLP is negatively correlated with the change in loans outstanding (CHLOAN) at the 1% significance level. This indicates that new loans have a relatively higher credit quality and, consequently, require less loan loss provisioning. Consistent with the correlation between LLP and CHLOAN, the non-performing loan (NPL) is also negatively correlated with the change in loans outstanding (CHLOAN), but at the 5% significance level. This indicates that banks that experience credit expansion have relatively fewer bad loans.

Table 2: Correlation Matrix

Panel A – LLP Equation Variables						
Variables	(1)	(2)	(3)	(4)	(5)	(6)
(1) LLP	1.000					
(2) EBPLLT	0.099*	1.000				
(3) D_SFAS71	0.013	-0.092	1.000			
(4) NPL	-0.046	-0.417***	0.047***	1.000		
(5) CHLOAN	-0.242***	0.054	-0.054	-0.142**	1.000	
(6) SIZE	-0.035	0.548***	0.113*	-0.218***	0.016	1.000

Panel B – PBV Equation Variables						
Variables	(1)	(2)	(3)	(4)	(5)	(6)
(1) PBV	1.000					
(2) D_SFAS71	0.150**	1.000				
(3) LLP	0.141**	0.013	1.000			
(4) NPL	-0.122**	0.047	-0.046	1.000		
(5) NIM	0.051	-0.210***	0.111*	-0.281***	1.000	
(6) SIZE	-0.130**	0.113*	-0.035	-0.218***	0.266***	1.000

***, **, and * indicate statistical significance at the 1%, 5% and 10% levels respectively

D_SFAS71 is positively correlated with PBV at the 5% significance level, indicating that banks have higher PBVs after the inception of the SFAS71 regime. LLP is positively correlated with PBV at the 5% significance level, while NPL is negatively correlated with PBV at the 5% significance level. The statistically significant positive correlation between LLP and PBV is interesting. Indeed, a higher LLP causes lower accounting profitability, but note that in general, LLP is merely a provision that does not necessarily directly affect expected future cash flows. A bank with a higher LLP charge might indicate a higher degree of bank readiness to absorb future potential losses arising from deteriorating loan quality, and this might be regarded as a positive signal by the capital market. As a consequence, banks with higher LLPs have higher PBVs. On the other hand, although they also determine the amount of LLP charges, non-performing loans (NPL) are factual conditions of bad loans. NPLs potentially affect future cash flows; thus, in turn, affecting bank equity valuation. Therefore, a negative correlation between NPL and PBV is observed. Also, SIZE is negatively correlated with PBV at the 5% significance level, and this might suggest that larger banks are perceived as being less efficient and offering more complex and opaque banking products in comparison to smaller banks. SIZE and NPL are negatively correlated at the 1% significance level, indicating larger banks' ability to manage credit risk. Finally, SIZE is positively correlated with NIM at the 1% significance level, indicating larger banks' ability to generate larger NIM compared to smaller banks.

By examining the coefficients of Pearson's correlations among the independent variables within each respective regression model (i.e., LLP and PBV regression models) - which are all below the threshold value of 0.8 (Gujarati & Porter, 2009) - it can be concluded that there is no concern about the problem of multicollinearity. As an additional testing procedure, Table 3 presents the outcomes of the multicollinearity test, which utilizes the variance inflation factor (VIF) metric. The results indicate that all independent variables present in the two regression models to be estimated possess VIF values below the threshold value of 10 (Gujarati & Porter, 2009), which indicates that no multicollinearity problem exists.

Table 3: Variance Inflation Factor

Variable	Coefficient Variance	Centered VIF
LLP Equation		
EBPLLT	0.0154	1.6972
D_SFAS71	0.0000	1.0509
NPL	0.0000	1.2325
CHLOAN	0.0001	1.0229
SIZE	0.0000	1.4853
PBV Equation		
D_SFAS71	0.1769	1.0838
LLP	36.7528	1.0205
NPL	0.0109	1.1136
NIM	0.0113	1.2298
SIZE	0.0148	1.1460

4.2. Regression Results

As explained in the previous section, to test the hypothesized effect of the implementation of SFAS 71 on banks' loan loss provisioning behavior as well as on bank equity valuation, we employ two moderated regression models, i.e. (i) loan loss provision

equation with LLP as the dependent variable (Equation 1), and (ii) bank equity value equation with PBV as the dependent variable (Equation 2).

The fixed-effect models (FEM) are determined to be the most suitable panel regression models based on the Chow, LM, and Hausman tests. Furthermore, to address the issues of autocorrelation, cross-section dependence, and cross-section heteroskedasticity, the empirical models described in equations (1) and (2) are subjected to regression analyses using the estimated generalized least squares (EGLS) method, as proposed by Greene (2018). Therefore, these two regression analyses incorporate cross-section weights and white-corrected robust standard errors. To save space, all the above statistical tests are not reported here. Table 4 displays the results of the two moderated regression models, and the following describes the findings of the hypotheses being tested.

4.2.1. Testing the Income Smoothing using the Loan Loss Provision under the SFAS 71 Regime Hypothesis

Table 4 shows that the coefficient of EBPLLT in the LLP regression model (Equation 1) is positive and significant (at the 1% level of significance), and this result supports the well-known hypothesis that banks use loan loss provisions to manage their reported earnings. This finding is similar to the findings of Bushman & Williams (2012), Ozili (2022), and Ozili & Arun (2018).

Regarding the impact of SFAS 71 on banks' income smoothing practices using loan loss provisions, the coefficient of the interaction variable D_SFAS71*EBPLLT is positive and significant at the 1% level. This finding indicates that income smoothing practices using loan loss provisions are greater under the SFAS 71 regime. Therefore, this study provides the first empirical evidence that banks' income smoothing using loan loss provisions after the implementation of SFAS 71 is greater compared to that before the implementation of the said accounting standards. Although the results of this study also show that SFAS 71 tends to reduce banks' loan loss provisioning behavior (the coefficient of D_SFAS71 is negative and significant at the 5% level), the unintended adverse consequence of increased earnings management practices by banks under the SFAS 71 regime seems to dominate the loan loss provisioning behavior of banks. This conclusion is obtained by comparing the magnitude of the coefficients of the variable D_SFAS71 and the interaction variable D_SFAS71*EBPLLT, which are negative (-) 0.004 and 0.285, respectively.

The followings discuss the results of the control variables. The NPL coefficient is positive and significant at the 5% level, and this result confirms that banks that have higher non-performing loans will create more loan loss provisions to absorb potential future loan write-offs. Change in total loan outstanding has a negative and significant (at the 1% level) relationship with loan loss provisions. It seems that additional loans extended by banks tend to be of higher credit quality compared to the existing ones. Thus, resulting in lower loan loss provisioning requirements. However, the finding of a positive and significant (at the 5% level) coefficient of the interaction variable D_SFAS 71*CHLOAN indicates that additional loans under the SFAS 71 regime require more loan loss provisioning. Lastly, the results show that bank size (SIZE) does not affect banks' loan loss provisioning behavior.

Table 4: Moderated Regression Results

Independent Variables	LLP Equation (LLP)		Valuation Equation (PBV)	
	Coefficient	Stand. Error	Coefficient	Standard Error
Constant	-0.024	0.060	-32.283***	7.833
EBPLLT	0.316***	0.093		
D_SFAS71	-0.005**	0.002	-0.215*	0.117
D_SFAS 71*EBPLLT	0.285***	0.061		
NPL	0.001**	0.000	-0.040	0.408
CHLOAN	-0.030***	0.006		
D_SFAS 71*CHLOAN	0.018**	0.008		
LLP			-0.076**	0.037
D_SFAS 71*LLP			0.146***	0.054
NIM			0.065**	0.028
SIZE	0.001	0.002	1.090***	0.025
Number of Observations		280		280
Number of Banks		40		40
DW-Statistic		1.8639		1.5967
R-squared		0.7518		0.8914
F-statistic		15.3429		42.7022
Prob.(F-statistic)		0.0000		0.0000

***, **, and * indicate statistical significance at the 1%, 5% and 10% levels respectively

4.2.2. Testing the Informativeness of Loan Loss Provisions under the SFAS 71 Regime Hypothesis

Table 4 shows that the coefficient of D_SFAS 71 in the PBV regression model (Equation 2) is negative and significant (at the 10% level of significance), and this finding indicates that SFAS 71 has a negative impact on bank equity valuation. This finding does not necessarily contradict the results of Suriawinata (2023) who finds an inverse U-shaped or concave relationship between the initial implementation of SFAS 71 and bank equity valuation. The following explanation will shed some light on these seemingly contradictory results.

Suriawinata (2023) examines merely the value impact of the initial implementation of SFAS 71 as reported in the Statement of Changes in Equity under the title of "Impact/Effect of implementation SFAS 71 – net". This study, however, investigates the effect of the subsequent implementation of SFAS 71 on bank equity valuation and focuses on the loan loss provisions that are calculated under the SFAS 71 regime and charged periodically to bank income statements to smooth reported income strategically. Therefore, though to some extent related, the object of our study differs from that of Suriawinata (2023).

To continue, the finding of a negative and significant (at the 10% level) impact of SFAS 71 on bank equity valuation might reflect the negative perception of capital market investors relating to the potential adverse consequence of SFAS 71 in increasing bank managers' opportunistic behavior in managing or smoothing earnings using loan loss provisions calculated based on the ECL method. Gomaa et al. (2019) contend that the forward-looking aspect of the ECL technique might motivate bank managers

to opportunistically utilize loan loss provisions to optimize their compensation and or reputation, which is directly tied to reported income. As a result, the negative consequences of opportunistic income smoothing practices could outweigh the benefits of implementing SFAS 71, which uses the ECL method to estimate periodic loan loss provisions. Thus, the finding of a negative impact of SFAS 71 on bank equity valuation in this study seems to support Gomaa et al. (2019) contention, albeit rather weakly (at the 10% level of significance).

Obviously, as shown by the results of this study, loan loss provision (LLP) has a negative impact on bank equity valuation (at the 5% level of significance). Similar results are found by Niu (2016), Simoens & Vennet (2021), and Suriawinata (2023). More interesting is the finding of a positive and significant (at the 1% level of significance) relationship between the interaction variable $D_SFAS\ 71 \times LLP$ and bank equity value as proxied by the market-to-book value of equity ratio (PBV). This finding supports our hypothesis that the disclosure effect of the reported LLPs under the SFAS 71 regime has a positive impact on bank equity valuation. Our results indicate that capital market investors gain more information on bank loan quality and riskiness from the reported LLPs after the implementation of SFAS 71. Therefore, they positively adjust their bank equity valuation by eliminating or reducing the valuation discounts previously imposed on bank equity prices before the implementation of SFAS 71.

4.3. Discussion

The adoption of SFAS 71 aims to provide users of financial statements with valuable information in the process of evaluating the amounts, timing, and uncertainty of the entity's future cash flows related to its financial assets and liabilities. Because the banking firms' assets and liabilities primarily consist of financial assets and liabilities, this sector is most affected by the new accounting standards. While the intention is well-appreciated, the unintended consequence of adopting SFAS 71 is its potential misuse by bank managers to aggressively manage or smooth reported income to meet specific personal objectives. The results of this study provide the first empirical evidence that, under the SFAS 71 regime, bank managers engage in income smoothing practices more aggressively than before the adoption of SFAS 71, which are based on the expected credit loss model. The implication is that bank regulators should rigorously examine the expected credit loss (ECL) models developed by banks, impose stringent data quality and validation standards, and perform comprehensive evaluations of the ECL assumptions and methodology developed and employed by banks.

However, despite the potential misuse of SFAS 71 by bank managers to aggressively manage reported earnings, this study also provides empirical evidence that the LLPs calculated under the SFAS 71 regime have a positive impact on bank equity valuation. In other words, the adoption of SFAS 71 reduces the opacity of banks' financial assets and liabilities, and therefore reduces the uncertainty of banks' future cash flows. As uncertainty decreases, the discount rates employed to value a bank's expected future cash flows decline, and consequently, bank equity value increases.

5. Conclusions and Recommendations

To conclude, the results of this study reveal two important findings. Firstly, while the implementation of SFAS 71 tends to reduce banks' loan loss provisioning behavior, the implementation of SFAS 71 also inadvertently creates opportunities for bank managers to strategically manipulate bank-reported income by adjusting loan loss provisioning to achieve specific objectives. Secondly, despite the negative finding mentioned above, this study demonstrates that the loan loss provisions estimated and reported under the SFAS 71 regime have provided more valuable information for investors in the capital market to assess the quality and riskiness of banks' loan portfolios. Therefore, it can be concluded that the implementation of SFAS 71 in reporting banks' loan loss provisions has a positive effect on the valuation of bank equity.

An important implication of the results of this study is the potential adverse effects from increased income smoothing or earnings management practices by bank managers arising from the forward-looking feature of the ECL method embedded in the SFAS 71 that could undermine gains achieved from the implementation of SFAS 71. This presents challenges for bank regulators to rigorously examine the ECL models employed by banks, to detect potential misuse of SFAS 71 by banks for the purpose of managing earnings.

However, it must be noted that the period relating to the implementation of SFAS 71 coincides with the COVID-19 pandemic era. The pandemic era is characterized by increased loan loss provisioning due to weakened corporate performance as businesses are slowing down, relaxation of credit risk assessment and loan restructuring prerequisites by the banking industry authorities, and increased government stimulus to maintain growth momentum. The impact of the COVID-19 pandemic on the validity of the results of this study is unknown. Therefore, the results of this study should be interpreted bearing in mind that the period of the subsequent implementation of SFAS 71 coincides with the COVID-19 pandemic era. Future research using banking data post-COVID-19 is strongly recommended.

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