The shift from actual loan loss provision to expected credit loss is a pivotal concept in this research, underscoring its importance in understanding the financial sector's response to the 2007 crisis.

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ABSTRACT

After the 2007 financial crisis, protecting the stability and resilience of the financial system is still a matter of concern in academic literature and the industry. The crisis highlighted the shortcomings in the accounting of financial instruments. As a response to the deficiencies, the International Accounting Standards Committee (IASB) developed and published International Financial Reporting Standard 9 (IFRS 9) on financial instruments. The standard was published in 2014 and came into force on January 1, 2018. One of the main reasons for the adoption of IFRS 9 was to address the negative impact of inappropriate credit losses in financial statements. IFRS 9 provided a complete change in the accounting of loan loss provisions, introducing an expected credit loss model compared to the previous loss model based on International Accounting Standards 39. This study examines whether the implementation of the accounting change from loan loss provisions to expected loan loss provisions provides space for compensation of revenues. The study used a quantitative study design, monthly data from all 19 commercial banks in Zambia registered with the Bank of Zambia at the time of the study was analyzed by regression. The results do not show any evidence of a smoothing of revenues both before and during the period of implementation. This research contributes to the current debate between accounting professionals and researchers on whether IFRS 9 contributes to smoothing of the company's revenues.

Keywords: Loan loss, earnings smoothing, expected credit loss

INTRODUCTION

The 2007 financial crisis caused instability in the financial sector. During this economic and monetary crisis, the security and stability the financial sector is a significant concern in academic literature and the world of enterprises. The crisis highlighted deficiencies in accounting for financial instruments. The Incurred loan loss (ILL) model has been widely criticized as being "too little, too late" in recognition of credit losses. This resulted in an excessive surplus of financial losses, partly resulting in the 2007 financial crisis

(Financial Stability Forum 2009; BCBS, 2009). The current literature points out that the loan loss model suffered under IAS 39 was procyclical, a tendency of financial variables to fluctuate on a trend during the economic cycle, which may hurt financial stability. (BCBS 2009; Financial Stability Forum 2009). The 2007 monetary crisis led to implementing a more robust accounting standard for financial instruments incorporating forward-looking information for credit loss assessments and recognition. The "too little, too late" approach to provisions has been widely criticised, and new standards are needed for more forward-looking information in credit loss estimation (ECB, 2017). In 2014, the International Accounting Standards Board (IASB) developed and published IFRS 9. This accounting standard entered into force on 1 January 2018.The reason for this standard was to address the adverse consequences of the incorrect recognition of credit losses in banks' financial statements, as the financial crisis showed. According to the IFRS 9 requirement, the Zambian Bank issued secular guidelines requiring all financial institutions in Zambia to implement the new IFRS 9 requirements within three years. However, this provision was later extended to 2022. (Boz CB Circular No. 11/ 2017).

Due to its restrictive nature, the Incurred Loss Model (ILL) under IAS 39 tends to limit the scope of subjective judgment, which limits management's opportunistic behaviour. On the other hand, the main feature of IFRS 9 is the prospect-oriented nature of the expected credit loss model (ECL), which gives much room for discretion. However, this raised concerns about possible profits. Profit easing is the planned time of revenue, expenditure, losses and gains to smooth income (Kieso, 2019). Jeanjean and Stolowy (2008) argue that the flexibility and subjectivity of accounting standards provide greater discretion and can trigger profits without adequate control of the expected loss model.

Based on actual losses. Whether this opens up management to a large number of revenue smoothing is a question to be answered. Following the implementation of IFRS 9 on 1 January 2018, much debate was held on the impact of expected financial statements. The critical impact and potential consequences generally highlighted are the expected increase in the number of loans for losses, income management, particularly income management, and the potential impact of financial stability (Krüger et al., 2018; Novotny-Farkas, 2016). Greenawalt and Sinkey (1988) believe that loan loss forecasting is the good tool for generating income, not only because it is the most over-accumulation item but also because it provides essential incentives for discretionary behaviour. Kruger et al. (2018) and Ozili (2017) propose that IFRS 9 may affect earnings management based on credit losses when the lending loss provisions guidelines change. Following the implementation of IFRS 9 on 1 January 2018, the debate on the expected impact continues. This study is a preliminary assessment of whether the income management during the mandatory adoption period of IFRS 9 is significantly higher than during the previous adoption period. The findings of this study are relevant to the current debate between accounting experts and researchers as to whether IFRS 9 helps companies smooth income.

The theoretical and Conceptual Framework

Increased earnings could be explained by agency theory. This theory began when the company owner could not manage his company, and signing contracts with the executives was necessary to operate the company. As agents, managers are responsible for improving the benefits of principals. As a result, they will receive adequate compensation. The theory of agency describes the relationship between the principal and the agent. Jensen and Mecling (1976) defined relationships as a contract in which the Principal Authority takes action, and the agent decides. In such companies, the capital structure is based on shares and debts and shares, and other stakeholders are the owners, and the board of directors and managers are their representatives. The Board

of Directors strives to ensure the importance of the stakeholders. Executives can participate in income smoothing to report good results to the boss.

Revenue smoothing is the planned time of income, expenses, gains and losses to level income (Kieso, 2019). This is even a practice that reports profits over time so that the profits are never too high or too low. Stakeholders and investor analysts often view bank profits and income fluctuations as negative indicators of a bank's future performance. They do not like surprises in revenue (or abnormal revenues), meaning investors prefer stable revenue over time (Watts & Zimmerman, 1986). In addition, abnormal fluctuations in bank profits (or losses) may require regulators to investigate bank financial records due to the operation of the banking industry's regulation (Ozili, 2017a). Consequently, bank managers' awareness of these expectations would encourage revenue easing and not send negative signals about bank prospects to investors and regulators. The extent to which bank managers achieve income smoothing depends on existing accounting regulations and numbers (Leventis et al., 2011; Ahmed et al., 2013; Balla et al., 2015). For example, loan loss provisions are well documented in the literature as instruments banks use to smooth income; however, earnings smoothing is also influenced by disclosure rules. In this study, the revenue smoothing variable is the ratio of bank accounts prior to tax and allowances to total assets. This is widely used in literature (Anandarajan (2007), Peterson (2007)). (2018), Curcini and Hasan (2015), Saka (2015) and Ozia Outa (2018).

A lender provides a loan loss or loan loss provision to cover the expected losses in the lending institution's loan portfolio. Banks must make provisions for the loss of loans because bank loans often pose credit risks if borrowers cannot repay the principal and interest on loans issued due to favourable economic conditions and related factors (Ozili & Outa, 2017). In order to mitigate credit risks, banks reserve funds as cushions to absorb expected losses in their loan portfolios,

such as loan losses (LLP) or bad debt provisions, so loan loss estimates are a credit risk management tool used by banks to mitigate the anticipated losses in bank loans (Wall & Koch, 2000). However, it is worrying that banks may affect bank provisions for other contractual reasons rather than for credit risk management, as the loan loss provisions directly impact banks' interest income. Therefore, a preliminary assessment of the effect of the transition from an actual loan loss provision to a projected credit loss model on the smoothness of Zambian income is needed. Similar to other studies (Anandarajan et al. (2007), Peterson et al. This study measures credit loss provision as the ratio of credit loss provision to total assets at the time of T.

LITERATURE REVIEW

The evaluation of accounting standards and their impact on smoothing revenues has attracted significant attention from financial sector researchers and policymakers. Zambia has recently moved from the actual model of loss of loans (ALLP) to the expected model of loss of loans (ECL), raising questions about its potential impact on financial institutions' revenues. This literature review examines existing scientific research on this topic, focusing on the preliminary effects of this transition on the smoothing of income in other countries. Accounting standards play a crucial role in financial reporting by providing guidelines for recognising and measuring financial instruments, including provisions for loan losses. Previous studies have highlighted the potential impact of accounting standards on smoothing financial institutions' incomes, including those of Ahmed et al. (2018) and DeFond et al. (2015). These studies emphasise the importance of understanding how the transition from ALLP to ECL affects income-smoothing behaviour. For example, Dib and Feghali (2021) examined whether the increase in the provision based on the new ECL was strongly and positively related to the average credit Losses in Lebanese banks. By applying linear regression, they found that the increase in the ECL model's provision is positively associated with investment

portfolios and negatively associated with historical credit loss ratios. Another similar study (Ozili & Outa, 2018) used panel regression methods to estimate the relationship between loan loss provisions (LLPs) and bank profits. The findings showed that the mandatory adoption of IFRS was associated with a reduction in earnings between Nigerian banks, which meant that Nigerian banks did not use LLP to reduce earnings during the mandatory adoption of IFRS 9. Taylor and Aubert (2222) compared the effect of IFRS 9 on the profitability stability of banks in sub-Saharan Africa and Europe after its adoption. The authors used samples of commercial banks listed in sub-Saharan Africa and Europe to investigate hypotheses using different economic tests and regressions. The results show the loss of profitability throughout the sample after IFRS 9 was reduced. Muhammad Mahdi (2021) and Taylor and Aubert (2022) also found that after IFRS9 was implemented, the extent of earnings in the banking sector of the European Union increased. As evidenced by the review of the empirical literature, the results on ECL's impact on the smoothing of revenues are mixed, which highlights the need for further research to evaluate the preliminary impact on the smoothing of revenues by Zambian financial institutions from ALLP to ECL. Although existing research has studied the impact of accounting standards on the smoothness of income and the transition to the ECL model in other areas, only limited research has been focused mainly on Zambia. This study fills this empirical gap.

METHODOLOGY

Research Design, Data and sample

The study used data from 19 Zambian commercial banks registered with the Zambian Bank for the quantitative study. The Bank of Zambia obtained monthly data for the consolidated financial statements of the commercial banks from 2014 to 2022. During this sample period, the author could focus effectively on the bank's reporting behaviour before and during the compulsory adoption

period. Data analysis is done using multiple regressions.

Model specification and estimation

The following model is similar to that used by Anandarajan and colleagues to estimate the relationship between bank revenues and loan loss (LLP) provisions. (2007) Peterson et al. The following are used: (2018), Curco and Hassan (2015), Sara (2015) and Ossia (2018),

$$LLP_{i,t} = \beta_{0i,t} + \beta_1 EBTP_{i,t} + \beta_2 LOAN_{i,t} + \beta_3 NPL_{i,t} + \cdots \ldots \ldots e_{i,t}$$

Where:

LLP is the ratio of Loan Loss Provisions to total assets at time t

β_0 is the intercept.

$EBTP_{i,t}$ is the ratio of Earnings Before Taxes and Provisions to total assets at time t; (this is the earnings smoothing variable.)

$LOAN_{i,t}$ is the change in gross loan outstanding at time t.

NPL_i is the ratio of non-performing loans to gross loans at the time t

The dependent variable is the ratio of the LLP to the total asset. Explanatory variables include EBTP, non-performing loans (NPL) and LOANs (growth loan changes). EBTP is a variable of income smoothing between income before tax and provision and total assets. NPL and LOAN are intermediaries that capture the risk of banking loan portfolios and current credit risks. The NPL reflects the credit quality of the bank's loan portfolio, and if banks expect high credit defaults, they are expected to increase LLPs (Beaver & Engel, 1996). Loan growth (LOAN) is a proxy for current credit risk (Lobo & Yang, 2001; Laeven & Majnoni, 2003), and positive signs of LOAN co-efficiency indicate that bank supplies are increasing as credit risk concerns increase, while negative signs indicate that credit risk concerns increase.

The LOAN coefficient shows an improvement in the quality of incremental loans (Lobo et al.,

2001). In order to test the smoothing of revenues, a significant positive sign in the smoothing variable (EBTP) indicates the smoothing of revenues by LLP. On the other hand, a negative signal on the EBTP coefficient would result in the rejection of the payout, indicating that banks did not use the LLP to pay the payout during the audit period. (Ozili and Outa, 2018)

RESULTS AND DISCUSSION

Descriptive statistics

Table 1 presents descriptive statistics. The average LLP before the adoption was 0.005, which increased to 0.006 during the adoption, which indicates that the provision for loan loss on the total assets before the adoption was higher. The average value of the EBTP before adoption was 0.0024, but after adoption, it was reduced to 0.00159, meaning that the bank earned more cash before adoption than during the adoption period. This can be explained by adopting IFRS 9 Expected Credit Loss (ECL), where the NPL rose to 0.1015, compared to 0.0852 before the adoption, showing an increase in underperforming loans.

Table 1-Descriptive statistics

	Before		During	
	Mean	Std. Deviation	Mean	Std. Deviation
LLP	0.0005	0.00057	0.0006	0.00050
EBTP	0.0020	0.00128	0.0024	0.00159
GL	0.0049	0.02886	0.0127	0.03445
NPL	0.0852	0.02098	0.1015	0.02220

LLP: Loan loss provisions to total assets; EBTP: earnings before tax and loss provision to total assets; GL change in gross loan outstanding for banks, NPL: non-performing loans to total assets

Diagnostic tests

Diagnostic tests include regular tests of dependent variables (LLPs) and multicollinear tests of three independent variables (EBTPs, GLs, NPLs). In this study, standard tests were performed using Kolmogorov-Smirnov and Shapiro-Wilk statistics. Suppose Kolmogorov-Smirnov and Shapiro-Wilk's probability tests are insignificant ($p > 0.05$). In this case, it

is found that the sample distribution does not differ significantly from a normal distribution (field 2005). Kolmogorov-Smirnov and Shapiro-Wilk statistics had probability values greater than 0.05 (0.292, 0.533) before and during IFRS 9, showing that the dependent variables (LLP) were normally distributed. The following table 2 shows the results of the normality test.

Table 2 Normality Tests Before Adoption

Before						
	Kolmogorov-Smirnov			Shapiro-Wilk		
	Statistic	Df	Sig.	Statistic	Df	Sig.
LLP	0.112	48	0.179	0.972	48	0.292

During						
	Kolmogorov-Smirnov			Shapiro-Wilk		
	Statistic	Df	Sig.	Statistic	Df	Sig.
LLP	0.077	51	0.200*	0.980	51	0.533

LLP: Loan loss provisions to total assets

The second diagnosis test is the multicollinearity test used to check for excessive correlations between independent variables. In order to have a standard error of the correct coefficient, there must be no significant correlation ($R > 0.9$) between the predictor and the independent variable (Field 2005). Table 3 below shows no excessive correlations between independent variables. The correlation matrix shows that LLP and EBTP have significant negative relationships before and during the implication. This indicates that loan loss provisions have significantly impacted Zambian banks' earnings during this period. This is comparable to Dib and Feghali (2021) and Ozili and Outa (2018), who have found comparable results in the banking sector in Lebanon and Nigeria. Significant negative relationships between GL, NPL and EBTP were also observed during the impact period. This may indicate an increase in non-performing loans during the period of implementation.

Table 3- correlation matrix

Before				
	LLP	EBBT	GL	NPL
LLP	1	-.839**	.012	.226
PBT	-.839**	1	.188	-.155
GL	.012	.188	1	-.157
NPL	.226	-.155	-.157	1

After				
	LLP	EBTP	GL	NPL
LLP	1	-.669**	.334*	.296*
EBTP	-.669**	1	-.346*	-.442**
GL	.334*	-.346*	1	.185
NPL	.296*	-.442**	.185	1

LLP: Loan loss provisions to total assets; EBTP: earnings before tax and loss provision to total assets; GL change in gross loan outstanding, NPL: non-performing loans to total assets
**. Correlation is significant at the 0.01
*. Correlation is significant at the 0.05

Regression results

After analysing the model data, the regression was carried out. LLP is a dependent variable, and GL, NPL, and EBTP are a predictor. Adjusted square R is the determination coefficient that explains the change in a dependent variable due to changes in an independent variable. The findings of the study are listed in Table 4 below. Before the implementation of IFRS 9, the value of the adjusted R square was 0.732, indicating that the dependent variable changed 73% due to changes in the independent variable. As a result, around 73% of the loan losses could be explained by gross loans, non-performing loans and income changes.

During implementation, changes were reduced to 42 percent. Before and during the implementation of IFRS9, the F statistic had a significant P value of 0.000, indicating that all independent variables jointly explain some variations of independent variables. More than 50 per cent of variable coefficients are significant, and models can, therefore, be used for forecasting. The regression model is shown in the equations (2) and (3) below.

$$LLP_{i,t} = 0.001 - 0.380EBTP + 0.004GL + \beta 0.003NPL + \cdots e_{i,t} \text{ (2)}$$

The regression in equation (2) above shows that, in implementing the expected credit loss model, if EBTP, GL, and NPL are kept constant at zero, the LPR will be reduced to 0.001. Furthermore, if GL and NLP are kept at constant zero, EBTP will decrease by 380 units. If the EBTP and GL are kept at a constant zero, the increase in the GL unit increases LLP by 0.004 units. If EBTL and NLP are kept at a constant zero, NLP units increase by 0.004 units, and LLP increases by 0.04. The model equation during implementation is shown in equation 3 below.

$$LLP_{i,t} = 0.001 - .198EBTP + 0.002GL + \beta 0.0001NPL + \cdots e_{i,t} \text{ (3)}$$

In the above regression equation (3), the LLP is 0.001 units before implementing the expected credit loss model, with EBTP, GL, and NPL at zero constant. Furthermore, if GL and NLP are maintained at a constant zero, the decrease in EBTP units would reduce LLP by -198. Keeping EBTP and GL constant at zero, an increase in GL units increases LLP by 0.002. When the EBTP and NLP remain at zero constants, the unit increase of the NLP will increase the LLP by 0.0001 units. The primary variable of interest, EBTP, has a negative coefficient of -0.380 before and -0.198 during implementation, with a statistical significance of 5 per cent. To test revenue smoothing, the significant positive symbols of revenue smoothing variables (EBTPs) usually indicate revenue smoothing through LLPs, and the negative symbols of revenue smoothing coefficients fail to use LLPs to smooth revenues (Ozili & Outa, 2018).

In this case, since the EBTP has a negative coefficient, Zambia's banks have not been shown to have smoothed their income before and during the mandatory adoption of IFRS 9, and there is no evidence that banks have smoothed their income. This is due to the level of implementation and regulation of the Central Bank after the mandatory adoption of IFRS9 (Ozili & Outa, 2018). Our findings are comparable to those of Taylor and Albert in

2022, who showed a reduced income in banks in sub-Saharan Africa. On the other hand, Mahammad Mahamahdi (2021) and Taylor and Aubert (2022) found that after the implementation of IFRS9, the profitability improvement in the banking sector of the European Union increased. Table 4 shows the results of the regression**.**

Table 4: Regression results

	Before		During	
	Coefficients	P. Value	Coefficients	P. Value
Intercept	0.001	0.000	0.001	0.003
EBTP	-0.380	0.000	-0.198	0.000
GL	0.004	0.018	0.002	0.315
NPL	0.003	0.118	0.0001	0.968
R2–adjusted	0.732		0.425	
F-static	43.696	0.000	13.301	0.000

LLP: Loan loss provisions to total assets; EBTP: earnings before tax and loss provision to total assets; GL change in gross loan outstanding for banks, NPL: non-performing loans to total assets

CONCLUSION

This research aims to assess whether implementing the change in accounting from the incurred loan loss provision model to the expected loan loss provision model provides room for earnings smoothing in financial institutions in developing countries like Zambia. The model by Anandarajan et al. (2007), Peterson et al. (2018), Curcio and Hasan (2015), Skała (2015) and Ozili (2018) was adopted to evaluate for earnings smoothing, unlike in developed countries where IFRS9 implementation is seen to increase earnings smoothing (Mahammadmahdi (2021)) and Taylor and Au-bert (2022). The findings of this research show no evidence of earnings smoothing both before and during the implementation period. As suggested by Ozili and Outa (2018), this

may be attributed to the level of enforcement and regulation by the Central bank following the mandatory adoption of IFRS9. This research is relevant to the current debate between accounting professionals and researchers on whether adopting IFRS9 increases the smoothness of earnings among companies. Implementing IFRS9 has helped banks in developed countries smooth their revenues, but there is no evidence of this in developing countries. However, more research is needed in developing and developing countries to confirm this claim. Further research is needed to determine whether the COVID-19 pandemic has influenced the results since the implementation coincides with the pandemic—finally, the implementation after IFRS9 needs to be carried out using panel data.

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