

THE EFFECT OF IFRS 9 ADOPTION ON LOAN LOSS PROVISIONS

Febriani Cristina Susianti Magdalena ^{1*}, and Dwi Martani ²

¹ Faculty of Economic and Business, University of Indonesia

² Faculty of Economic and Business, University of Indonesia

Abstract. IFRS 9 brings significant changes in banking industries. IFRS 9 introduces an expected credit loss model that has an impact on loan loss provisions. This study examines loan loss provisions and discretionary loan loss provisions before and after the adoption of IFRS 9. This study uses a sample of banks in European countries and employs univariate analysis to test developed hypotheses. Our results suggest there is no significant difference in loan loss provisions and discretionary loan loss provisions after the adoption of IFRS 9. The findings of this study help standard setters and regulatory for the future development standard by showing the effect of IFRS 9 on loan loss provisions.

Keywords: IFRS 9, Loan Loss Provisions, Discretionary, Banks, Europe

1. INTRODUCTION

The banking industry plays an important role in the economic growth of a country. Giving credit to companies and individuals by banks is one of the drivers of the country's economy. Increasing credit distribution can have a positive impact on the country's economic growth and increase the bank's main income, but this increase in credit can also increase risks, especially credit losses in the future which can lead to the global financial crisis.

Loan loss provisions are one of the solution to overcome the risk of future credit losses in bank. Beaver & Engel (1996), Marton & Runesson (2017), Nicoletti (2018), and Wahlen (1994) finds evidence that loan loss provisions have the ability to predict losses in the future so that bank managers can make decisions to reduce the potential credit losses. This loan loss provisions information will also help investors to monitor credit management by bank managers in each period and assess the cash flows obtained in the future so that investors can make the right decisions for their investments.

Previous literature suggest that the estimation of loan loss provisions is influenced by three other factors, namely the economic cycle, non-discretionary behaviour and discretionary bank managers. Non-discretionary behaviour is a behaviour of bank managers when estimating loan loss provisions by considering credit risk to anticipate expected credit losses in the future. Discretionary behaviour is the behaviour of bank managers that reflects the motivation of bank managers for capital management, income smoothing, and signalling (Beaver & Engel, 1996; Caporale et al., 2018; Wahlen, 1994). International Accounting Standard Board (IASB) has issued a standard for loan loss provisions, namely the International Accounting Standards (IAS 39) implemented in 2005. The financial crisis has made the G20, investors, regulators, and prudential authorities call for increasing standards and implementation of loan loss provisions to standard setters and as a response, the IASB issued IFRS 9 financial instruments in 2014 which included new standards for loan loss provisions and became effective in 2018 (Cohen & Edward, 2017). IFRS 9 brings significant changes in banking industry, especially in the calculation of loan loss provisions.

* Corresponding Author, Email: febianicristina@gmail.com

IAS 39 recognize loan loss provisions if there was an evidence of impairment losses. IFRS 9 requires a loan loss provisions for all exposures since the beginning of loan based on a decrease in credit risk since initial recognition (EY, 2018a).

This study will provide empirical evidence regarding the effect of IFRS 9 adoption on loan loss provisions, specifically this study will examine whether there are significant increases in loan loss provisions and discretionary loan loss provisions after IFRS 9 adoption. This research is based on a survey from Gea-carraso (2015) for the calculation and assessment of credit impairment which indicates that IFRS 9 will make banks re-evaluate how economic changes will affect business models, capital plans and provision rates. A survey from Deloitte in September 2015 which showed that most banks estimated an increase in loan loss provisions until 50% and loan loss provisions would be higher than what the regulator required after IFRS 9 adoption (Deloitte, 2015). In addition, IFRS 9 requires more judgment from the bank manager (Huian, 2012) thus opening the opportunity to conduct discretionary loan loss provisions.

This study uses a sample of 113 banks from 30 European countries for years 2017-2018 and employ univariate analysis to test the research hypothesis. Before conducting univariate analysis, this study regresses the loan loss provisions to all normal determinants to get a residual value which will be a discretionary loan loss provisions (Hamadi et al., 2016; Kanagaretnam et al., 2009; Wahlen, 1994). After obtaining discretionary loan loss provisions, this study employ univariate analysis with paired sample t tests to test the value of loan loss provisions and discretionary loan loss provisions before and after IFRS 9.

The results of this study indicate that there was no significant increase in loan loss provisions and discretionary loan loss provisions after IFRS 9 adoption, even though both showed even lower mean values that were not much different using IAS 39. This study contributed to accounting literature and banking, providing insight to investors for making investment decisions, as well as evaluating standards makers and policy makers regarding the implementation of IFRS 9, especially those that have not implemented IFRS 9 in their countries.

The remainder of this study is structured as follows. In Section 2, this study describe the hypothesis developed in this study. This study present empirical methodology in section 3 and sample selection in section 4. In section 5, this study discuss the results of this study and the conclusions of the study in section 6.

2. HYPOTHESES DEVELOPMENT

The loan loss provisions aim to adjust bank loan loss reserves to reflect future loss estimates on their loan portfolios and loan loss provisions are relatively large accruals for banks so that they have a significant impact on bank income (Ahmed et al., 1999). In general, bank managers estimate loan loss provisions each period based on their consideration of information related to the risks inherent in the credit given to their customers (Wahlen, 1994).

IFRS 9 is one of the standards of IFRS which regulates the loan loss provisions and became effective in 2018, replacing the IAS 39 standard. The difference between IAS 39 and IFRS 9 is the approach in determining loan loss provisions. IAS 39 concerning Financial Instruments: Recognition and Measurement uses an incurred loss approach where value loss is recognized only if there is objective evidence of impairment as a result of one or more events that occur after the initial recognition of the asset. This means that banks are not allowed to make provisions based on the possibility that credit might loss, but only on objective evidence that they will default. The advantage of implementing this standard is IAS 39 can limit the actions of bank managers to conduct discretionary loan loss provisions specifically by manipulating accounting numbers and

regulations in bank financial statements. The disadvantage of implementing IAS 39 is that IAS 39 can exacerbate procyclical behaviour of bank loan loss provisions, because IAS 39 forces banks to recognize loan losses later, leading to increased provision during the economic downturn (Adzis et al., 2016).

Unlike IAS 39, which uses an incurred loss approach, IFRS 9 uses forward looking approach to determine loan loss provisions. IFRS 9 requires loan loss provisions for all exposures since the beginning of loan based on a decrease in credit risk since initial recognition. If credit risk does not increase significantly (stage 1), IFRS 9 requires an allowance based on losses estimated at 12 months. If the credit risk has increased significantly, it will be transferred to stage 2 and if the loan is reduced the risk can be transferred back to stage 1. Transfers from stage 2 to stage 3 are carried out if there are objective facts in accordance with the standards that indicate an impairment in value. Depending on the stage, there is a difference in the use of the annual effective interest rate for calculating future cash flows (is that the basis for the calculation of gross or net book value) (EY, 2018b; Gornjak, 2017). In contrast to IAS 39 which requires the best estimation approach, IFRS 9 requires several macro-economic scenarios and workouts for the expected credit losses (EY, 2018b).

IFRS 9 can reduce complexity in classification and measurement, make accounting in line with business strategies, detect losses more precisely, and improve consistency and transparency in reporting. However, the application of IFRS 9 requires more professional considerations, less comparable with US GAAP, implementation costs are difficult to calculate, and the number of accounting systems that must be adjusted and improved for this new calculation (Huian, 2012).

IFRS 9 brings significant changes to loan loss provisions. Novotny-farkas (2015) revealed that the change from IAS 39 to IFRS 9 would lead to earlier and higher recognition of loan loss provisions. A survey conducted by EY also showed IFRS 9 would result in an increase in loan loss provisions of banks more than 10% in loan loss provisions. Most banks in France have increased with a lower range with a maximum increase only up to 15%, whereas all banks in the UK will rise above 15% and some report that they will increase to 30-40%. (EY, 2018a). Based on the previous explanation, this study expects an increase in loan loss provisions which leads to the first hypothesis

Hypothesis 1. Loan loss provisions are increased after the adoption of IFRS 9.

IFRS 9 will not only produce earlier losses, but also a more comprehensive acknowledgment of expected credit losses and an increase in loan loss provisions depending on management judgment (Gebhardt, 2016). Gornjak (2017) and Huian (2012) also revealed that the determination of loan loss provisions with IFRS 9 requires more professional judgment. This can open up opportunities for managers to conduct discretionary loan loss provisions, so it is expected that there will be an increase in discretionary loan loss provisions after the adoption of IFRS 9.

Novotny-farkas (2015) suggest that IFRS 9 would increase discretionary loan loss provisions. The combination of the high minimum regulatory capital required in the Capital Requirements Regulation (CRR) and the high loan loss provisions will increase the likelihood of violating certain regulatory thresholds that can limit dividend and bonus payments, so managers may get greater incentives if the acknowledgment of the loan loss provisions is delayed. Novotny-farkas (2015) also mentioned that the biggest discretionary potential is delaying the change from stage 1 to stage 2, which means that the change from 12 (twelve months) expected credit loss to lifetime losses. Therefore this study expects an increase in discretionary loan loss provisions which leads to the second hypothesis

Hypothesis 2 Discretionary loan loss provisions are increased after IFRS 9 adoption.

3. MEASUREMENT OF DISCRETIONARY LOAN LOSS PROVISIONS

This study will examine whether there is an increase in loan loss provisions and discretionary loan loss provisions after IFRS adoption 9. Discretionary loan loss provisions variables are measured based on residual values from the regression results of non-discretionary loan loss provisions (Adzis et al., 2016; Bratten et al., 2019; Hamadi et al., 2016; Kanagaretnam et al., 2010; Wahlen, 1994). Following this regression model,

$$LLP_{ict} = \alpha_0 + \alpha_1 NPL_{ict} + \alpha_2 \Delta NPL_{ict} + \alpha_3 Loan_{ict} + \alpha_4 \Delta Loan_{ict} + \alpha_5 NCO_{ict} + \epsilon_{ict}$$

Where, for banks i , year t , and Country c . LLP is a Loan loss provisions divided by initial total assets, NPL is a non-performing loan divided by initial total assets and ΔNPL is a change in non-performing loans divided by initial total assets. The loan is the total outstanding loan divided by the initial total assets and $\Delta Loan$ is the change in the total loan divided by the initial total assets. NCO is a Net charge off divided by initial total assets.

Furthermore, this study will test hypotheses using paired sample t-test with loan loss provisions and discretionary loan loss provisions in 2017 for prior application of IFRS 9, then of loan loss provisions and discretionary loan loss provisions in 2018 for after application IFRS 9.

4. SAMPLE SELECTION

This study uses the annual report of banks in Europe for 2017-2018 and retrieves data from Thomson Reuters. This study uses banks in Europe because loans are the main asset of the bank so that the implementation of IFRS 9 has a large impact on banks and Europeans are chosen because banks in Europe have implemented IFRS 9 since January 1 2018. Based on a list from Thomson Reuters, this study begins with 236 bank samples from 35 countries in Europe and using a final sample of 113 companies from 30 countries in Europe, because annual reports were not found and limitations in interpreting annual report because of the language used.

5. RESULT

5.1 Descriptive Statistics

Table 1 shows descriptive statistics of the variables in this study. The average loan loss provisions are only 0.39% with the highest value of 4% of the initial total assets. Loans have means of 65% of total beginning assets, meaning that loans are the main asset of the average bank in Europe and there are even banks that have loans reaching 96% of their beginning total assets. This shows that proper credit management and credit risk management are needed to maintain bank stability. IFRS 9 is expected to be one of the right standard for managing the right credit risk.

Table 1

| Variabel | Descriptive statistics | | | |
|---------------|------------------------|----------|---------|---------|
| | Mean | Std. Dev | Minimum | Maximum |
| LLP | 0,0039 | 0,0067 | -0,0067 | 0,0444 |
| DLLP | 0,0007 | 0,0068 | -0,0388 | 0,0291 |
| NPL | 0,0422 | 0,0538 | 0,0001 | 0,3192 |
| ΔNPL | 0,0161 | 0,0284 | 0,0000 | 0,1786 |
| Loan | 0,6508 | 0,1694 | 0,0001 | 0,9593 |
| $\Delta loan$ | 0,0586 | 0,0760 | 0,0001 | 0,5872 |

| | | | | |
|-----|--------|--------|--------|--------|
| NCO | 0,0121 | 0,0270 | 0,0000 | 0,1918 |
|-----|--------|--------|--------|--------|

This table report descriptive statistics of variables used. LLP is loan loss provisions divided by beginning total assets; DLLP is discretionary loan loss provisions, computed as the residuals of the regression of Eq. (1); NPL is non-performing loans divided by beginning total assets; Δ NPL is the change in non-performing loans divided by beginning total assets; Loan is loans divided by beginning total assets; Δ Loan is loans divided by beginning total assets; NCO is net charge-offs divided by beginning total assets.

Table 2 shows the value of the pearson correlations of the variables in this study. The correlation value of each variable indicates that there is no correlation between the research variables.

Table 2

| Correlations | | | | | | | |
|--------------------------------|--------|--------|--------------|--------|---------------|--------|--------|
| | LLP | NPL | Δ NPL | Loan | Δ Loan | NCO | IFRS 9 |
| LLP | 1,0000 | | | | | | |
| NPL | 0,5018 | 1,0000 | | | | | |
| ΔNPL | 0,2805 | 0,5155 | 1,0000 | | | | |
| Loan | 0,0146 | 0,0467 | 0,0473 | 1,0000 | | | |
| ΔLoan | 0,2516 | 0,2359 | 0,0558 | 0,0051 | 1,0000 | | |
| NCO | 0,0786 | 0,0968 | 0,0128 | 0,0907 | 0,1064 | 1,0000 | |
| IFRS 9 | - | - | - | - | - | - | 1,0000 |
| | 0,0534 | 0,0498 | 0,0820 | 0,0668 | 0,1578 | 0,0097 | 1,0000 |

This table report correlations of each variables used. LLP is loan loss provisions divided by beginning total assets; NPL is non-performing loans divided by beginning total assets; Δ NPL is the change in non-performing loans divided by beginning total assets; Loan is loans divided by beginning total assets; Δ Loan is loans divided by beginning total assets; NCO is net charge-offs divided by beginning total assets; IFRS9 is a dummy variable that equals 1 for the period after the bank adopt IFRS 9 and 0 otherwise.

5.2 Univariate Analysis Result

Table 3 shows the results of testing loan loss provisions before and after IFRS adoption 9. Value of sign. in the paired sample test table shows a value of 0.1280, which means that there is no significant difference in Loan loss provisions after IFRS adoption 9. The mean of loan loss provisions before and after IFRS 9 also do not differ greatly, even showing a mean value lower after IFRS adoption 9. The findings in this study do not support the first hypothesis.

The results of this study are consistent with Seitz et al (2018) who conducted a simulation of loan loss provisions before and after IFRS 9 which was also carried out at banks in Europe. Seitz et al (2018) revealed that in general the loan loss provisions with the model used IFRS 9 are not higher when compared to IAS 39. IAS 39 which recognizes loan loss provisions when perceived or found evidence of losses so that the value of loan loss provisions becomes larger at the time of recognition.

IFRS 9 recognizes the loan loss provisions at the beginning of a loan for all loan exposures and involves manager's judgment making the value smaller (Gebhardt, 2016) even though in this study the difference is not too significant with loan loss provisions with IAS 39. IFRS 9 is more sensitive to volatile conditions so that significant increases can occur in times of crisis (Seitz et al., 2018) and for IFRS 9 in this study carried out in 2018 whose economic conditions tended to be stable so there is no significant increase after IFRS 9 adoption.

Table 3

Paired sample t-test for LLP

| Paired Sample Statistics | | | | | | | |
|--------------------------|--------|----------|-----------|-----------|--------|-----|--------|
| | N | Mean | Std. Dev. | Std. Err. | | | |
| LLPpre | 113 | 0,0042 | 0,0071 | 0,0007 | | | |
| LLPpost | 113 | 0,0035 | 0,0063 | 0,0006 | | | |
| Paired Sample test | | | | | | | |
| | Mean | Std. Dev | Lower | Upper | t | df | Sign. |
| LLPpre/LLPpost | 0,0007 | 0,0050 | -0,0002 | 0,0016 | 1,5334 | 112 | 0,1280 |

This table presents whether loan loss provisions are significantly different after IFRS 9 adoption. LLPpre is loan loss provisions divided by beginning total assets before IFRS 9 Adoption and LLPpost is loan loss provisions divided by beginning total assets after IFRS 9 Adoption

Table 4 shows the results of discretionary loan loss provisions before and after IFRS adoption 9. Value sign. of discretionary loan loss provisions of 0.75, this also proves that there is no significant difference in discretionary loan loss provisions after IFRS adoption 9. The mean of discretionary loan loss provisions are also lower after IFRS adoption 9. Findings in the study this also does not support the second hypothesis. The results of this study indicate that an increase in transparency and quality of reporting after IFRS 9 adoption even though it is not much different from IAS 39. In addition, reduced discretion after IFRS 9 adoption makes the detection of losses more proper and timely. The results of this study are consistent with the analysis carried out by Gornjak (2017) and Huian (2012).

Table 4

Paired sample t-test for DLLP

Paired Sample Statistics

| | N | Mean | Std. Dev. | Std. Err. | | | |
|--------------------|--------|----------|-----------|-----------|--------|-----|--------|
| DLLPpre | 113 | 0,0008 | 0,0061 | 0,0006 | | | |
| DLLPpost | 113 | 0,0006 | 0,0074 | 0,0007 | | | |
| Paired Sample test | | | | | | | |
| | Mean | Std. Dev | Lower | Upper | t | Df | Sign. |
| DLLPpre/DLLPpost | 0,0002 | 0,0084 | -0,0013 | 0,0018 | 0,3095 | 112 | 0,7575 |

This table presents whether discretionary loan loss provisions are significantly different after IFRS 9 adoption. DLLPpre is discretionary loan loss provisions before IFRS 9 Adoption and DLLPpost is discretionary loan loss provisions after IFRS 9 Adoption

6. CONCLUSION

This study aims to examine whether there are increases in loan loss provisions and discretionary loan loss provisions after IFRS adoption 9. This study cannot prove an increase in loan loss provisions and discretionary loan loss provisions after IFRS 9 adoption, even smaller in value than before IFRS 9 adoption.

The expected credit loss model in IFRS 9 requires bank management to recognize loan loss provisions at the beginning of loan. This makes the estimation smaller even on the entire loan, the value still lower than using the incurred loss model on IAS 39 even though it is not far different. Financial conditions in 2018 that did not indicate a financial crisis, made the value of loan loss provisions not significantly increased. Adoption of IFRS 9 can be one step to prevent the recognition on a large number suddenly during a crisis (Novotny-farkas, 2016). The adoption of IFRS 9 also requires management to monitor loans on a regular basis making management more able to anticipate loan losses. In addition, IFRS 9 will make it easy for investors to monitor credit management carried out by banks and make the right decisions for their investments.

Adoption of IFRS 9 has been proven to reduce the discretionary value of loan loss provisions even though it is not much different from IAS 39. Adoption of IFRS 9 can encourage recognition of credit losses in the right amount and more timely. Future studies are expected to be able to test the strength of predictions of loan loss provisions with IFRS 9 in estimating future losses. This study only assesses the adoption of IFRS 9 by using dummy variable 1 for the period after IFRS 9 and 0 adoption otherwise. Future studies are expected to use other indicators that can capture discretionary on each stage, because discretionary of each stage may vary and will increase significantly at certain stages.

REFERENCE

- Adzis, A. A., Tripe, D. W. L., & Dunmore, P. (2016). IAS 39, income smoothing, and pro-cyclicality: evidence from Hong Kong banks. *Journal of Financial Economic Policy*, 8(1), 80–94.
- Ahmed, A. S., Takeda, C., & Thomas, S. (1999). Bank loan loss provisions: a reexamination of capital management, earnings management and signaling effects. *Journal of Accounting and Economics*, 28(1), 1–25.
- Beaver, W. H., & Engel, E. E. (1996). Discretionary behavior with respect to allowances for loan losses and the behavior of security prices. *Journal of Accounting and Economics*, 22(1–3), 177–206.
- Bratten, B., Causholli, M., & Omer, T. C. (2019). Audit Firm Tenure, Bank Complexity, and Financial Reporting Quality. *Contemporary Accounting Research*, 36(1), 295–325.
- Caporale, G. M., Alessi, M., Colli, S. Di, & Lopez, J. S. (2018). Loan loss provisions and macroeconomic shocks: Some empirical evidence for Italian banks during the crisis. *Finance Research Letters*, 25, 239–243.
- Cohen, B. H., & Edward, G. A. J. (2017). The new era of expected credit loss provisioning. *BIS Quarterly Review*. Retrieved from https://www.bis.org/publ/qtrpdf/r_qt1703f.pdf
- Deloitte. (2015). Fifth global IFRS banking survey finding your way. Retrieved from <https://www2.deloitte.com/content/dam/Deloitte/global/Documents/Financial-Services/gx-fsi-fifth-banking-ifrs-survey-full.pdf>
- EY. (2018a). EY IFRS 9 Impairment Banking Survey. Retrieved from <https://eyfinancialservicesthoughtgallery.ie/wp-content/uploads/2018/08/EY-IFRS-9-impairment-banking-survey-2018-FINAL.pdf>
- EY. (2018b). IFRS 9 expected credit loss making sense of the transition impact. Retrieved from [https://www.ey.com/Publication/vwLUAssets/ey-ifrs-9-expected-credit-loss/\\$File/ey-ifrs-9-expected-credit-loss.pdf](https://www.ey.com/Publication/vwLUAssets/ey-ifrs-9-expected-credit-loss/$File/ey-ifrs-9-expected-credit-loss.pdf)

- Gea-carraso, C. (2015). IFRS 9 Will Impact Banks' Provisions and Financial Statements. Retrieved March 7, 2019, from <https://www.moodysanalytics.com/risk-perspectives-magazine/risk-data-management/regulatory-spotlight/ifrs-9-will-significantly-impact-banks-information>
- Gebhardt, G. (2016). Impairments of Greek Government Bonds under IAS 39 and IFRS 9: A Case Study. *Accounting in Europe*, 13(2), 169–196. <https://doi.org/10.1080/17449480.2016.1208833>
- Gornjak, M. (2017). Comparison of IAS 39 and IFRS 9: The analysis of replacement. *International Journal of Management, Knowledge and Learning*, 6(1), 115–130. Retrieved from https://www.researchgate.net/publication/319293533_Comparison_of_IAS_39_and_IFRS_9_The_Analysis_of_Replacement
- Hamadi, M., Heinen, A., Linder, S., & Porumb, V. A. (2016). Does Basel II affect the market valuation of discretionary loan loss provisions? *Journal of Banking and Finance*, 70, 177–192.
- Huian, M. C. (2012). Accounting for financial assets and financial liabilities according to IFRS 9. *Annals of the Alexandru Ioan Cuza University - Economics Sciences*, 59(1), 27–47. <https://doi.org/10.2478/v10316-012-0002-0>
- Kanagaretnam, K., Krishnan, G. V., & Lobo, G. J. (2009). Is the market valuation of banks' loan loss provision conditional on auditor reputation? *Journal of Banking and Finance*, 33(6), 1039–1047. <https://doi.org/10.1016/j.jbankfin.2008.10.013>
- Kanagaretnam, K., Lim, C. Y., & Lobo, G. J. (2010). Auditor reputation and earnings management: International evidence from the banking industry. *Journal of Banking and Finance*, 34(10), 2318–2327.
- Marton, J., & Runesson, E. (2017). The predictive ability of loan loss provisions in banks e Effects of accounting standards, enforcement and incentives. *The British Accounting Review*, 49, 162–180.
- Nicoletti, A. (2018). The effects of bank regulators and external auditors on loan loss provisions. *Journal of Accounting and Economics*, 66, 244–265.
- Novotny-farkas, Z. (2015). The significance of IFRS 9 for financial stability and supervisory rules. Retrieved from <http://www.europarl.europa.eu/studies>
- Novotny-farkas, Z. (2016). The interaction of the IFRS 9 expected loss approach with supervisory rules and implications for financial stability. *Accounting in Europe*, 13(2), 197–227. <https://doi.org/10.1080/17449480.2016.1210180>
- Seitz, B., Dinh, T., & Rathegeber, A. (2018). Understanding loan loss reserves under IFRS 9: a simulation-based approach. *Advances in Quantitative Analysis of Finance and Accounting*, 16, 311–357. Retrieved from https://www.researchgate.net/publication/322504991_Understanding_Loan_Loss_Reserves_under_IFRS_9_A_Simulation-Based_Approach
- Wahlen, J. M. (1994). The Nature of Information Bank Loan in Commercial Loss Disclosures. *The Accounting Review*, 69(3), 455–478.