Vol. 11 No. 2 , Year 2025, 131 – 142

JIAFE (Jurnal Ilmiah Akuntansi Fakultas Ekonomi)
https://journal.unpak.ac.id/index.php/jiafe/index
E-ISSN: 2502-4159; P-ISSN: 2502-3020

THE EFFECT OF DISCRETIONARY AND NON-DISCRETIONARY INCOME SMOOTHING AND CAPITAL BUFFER ON CREDIT GROWTH: MODERATED BY LIQUIDITY RISK

Yudi[1], Sistya Rachmawati[2]
[1]Universitas Trisakti, Jakarta, Indonesia
[2]Sekolah Tinggi Ilmu Ekonomi Tri Bhakti, Bekasi, Indonesia
Correspondence email: [2]sistya.rachmawati@stietribakti.ac.id

Article history:
Submitted:
October 03, 2025
Revised:
December 23, 2025
Accepted:
December 24, 2025

Klasifikasi JEL:
G32

Keywords:
capital buffer; credit growth; credit policies; income smoothing; liquidity risk.

Kata kunci:
modal penyangga; pertumbuhan kredit; kebijakan kredit; perataan laba; risiko likuiditas;

How to cite:
Yudi, Y., Rachmawati, S. (2025). The effect of discretionary and non-discretionary income smoothing and capital buffer on credit growth: moderated by liquidity risk. *JIAFE (Jurnal Ilmiah Akuntansi Fakultas Ekonomi), 11*(2),.....https://doi.org/10.34204/jiafe.v%vi%i.12806

ABSTRACT

This study aims to examine the effect of discretionary and non-discretionary income smoothing and capital buffers on credit growth, moderated by liquidity risk. This study uses data regression analysis with a fixed-effects model. The study sample consisted of 170 respondents, consisting of 36 banking companies listed on the Indonesia Stock Exchange from 2020 to 2024. The results of this study show a significant positive effect of discretionary and non-discretionary income smoothing and capital buffers on credit growth. Liquidity risk has no effect on credit growth, and the interaction with discretionary income smoothing has been proven to strengthen this effect, indicating as quasi-moderation. However, when liquidity risk interacts with non-discretionary income smoothing and capital buffers, the interaction is proven not to strengthen the effect, indicating as predictor moderation. Originality this study offers important insights for regulators and practitioners regarding the impact of income smoothing and capital buffers in controlling credit growth during the COVID-19 pandemic.

ABSTRAK

Penelitian ini bertujuan untuk menguji pengaruh perataan laba diskresioner, dan non-diskresioner dan modal penyangga terhadap pertumbuhan kredit bank yang dimoderasi oleh risiko likuiditas. Penelitian ini menggunakan analisis regresi data dengan fixed effect model. Sampel penelitian ini sebanyak 170 terdiri dari 36 perusahaan perbankan yang terdaftar di Bursa Efek Indonesia dari tahun 2020 hingga 2024. Hasil studi ini membuktikan adanya pengaruh positif signifikan perataan laba diskresioner dan non-diskresioner dan modal penyangga terhadap pertumbuhan kredit. Risiko likuiditas tidak berpengaruh terhadap pertumbuhan kredit, namun setelah diinteraksikan dengan perataan laba diskresioner, terbukti memperkuat, yang disebut sebagai kuasi moderasi. Risiko likuiditas diinteraksikan dengan perataan laba non-diskresioner dan penyangga modal, terbukti tidak memperkuat, yang disebut sebagai moderasi prediktor. Orisinalitas studi ini menawarkan wawasan penting bagi regulator dan praktisi tentang dampak perataan laba dan modal penyangga dalam mengendalikan pertumbuhan kredit masa pandemic covid-19.

INTRODUCTION

Financial institutions, particularly banks, act as agents of development in a country. Banks play a crucial role in connecting the investment credit and working capital needs of businesses and the public in the economy. Excessive loan growth can be analyzed by examining the standard deviation of the long-term trend in credit growth using Hodric Prescott Filter (HPF) model following the approach proposed by the Basel Committee on Banking Supervision (BCBS). The standard deviation limit for HPF according to Bank Indonesia is 1 stdev (Utari et al., 2012). The results of banking credit growth for the period 2020 to 2024 using the HPF model indicate the potential for excessive credit with a standard deviation of 1 and meet Bank Indonesia's standard deviation regarding excessive credit growth.

Excessive credit growth will increase access to the financial sector and can support economic growth. However, on the other hand, this condition can create financial sector vulnerabilities through prudent lending standards and excessive credit growth, which can lead to non-performing loans (Pramono, 2021; Utari et al., 2012). Unhealthy and reckless credit growth can lead to the risk of non-performing loans, often known as bad debts, when the economy contracts or worsens. Bad debts are one of the triggers of financial market turmoil, which in turn can lead to bank failures, which can have a domino effect on the entire economic and banking system (Farook et al., 2014). To maintain healthy and prudent credit growth, income smoothing through discretionary and non-discretionary measures is a macroprudential policy instrument that can be used for early detection of banking credit growth risks, which will then be used to cover any credit risks that arise (Agung et al., 2021; Bouvatier & Lepetit, 2013). Banks that have a larger amount of capital and are involved in more credit distribution are more likely to utilize credit loss provisions as a means of income smoothing (Pramono et al., 2019). Banks have an interest in complying with accounting and regulatory standards as a non-discretionary income smoothing measure, but on the other hand, bank managers have an incentive to establish loan provisions as a discretionary income smoothing measure. Various previous studies examining the effect of income smoothing on credit growth have consistently shown that discretionary income smoothing positive influence (Pramono et al., 2019; Soedarmono et al., 2017), while other studies show negative effects (Shala et al., 2020; Wang et al., 2019; Caporale et al., 2018). For non-discretionary income smoothing, previous research has shown a positive influence (Wang et al., 2019; Caporale et al., 2018; Soedarmono et al., 2017), while other studies show negative effects (Shala et al., 2020; Pramono et al., 2019).

Bank credit growth can be driven by several factors, one of which is high capital inflows. Capital inflows will increase the supply of banking funds, which in turn will boost credit growth. Bank capital is a key concern for investors and regulators, prompting bank managers to take the necessary actions to increase capital. Several previous studies have examined this.the positive influence of capital buffer on credit growth (Behncke, 2023; Dursun-de Neef et al., 2023; Hessou & Lai, 2018), while other studies show a negative impact of capital buffers (Akbar & Wibowo, 2021; Ben Maatoug et al., 2019; Durafe & Jha, 2018; Sakti et al., 2018).

Given the varying effects of previous research findings on income smoothing and capital buffers on credit growth, this study further adds liquidity risk as a moderating variable. Selecting liquidity risk as a moderating variable is important and relevant to strengthen the influence of income smoothing and capital buffers on bank credit growth. Liquidity risk, using the loan-to-deposit ratio as a proxy, aims to mitigate the risk of excessive credit growth by performing the bank's intermediary function. Several previous studies have examinedpositive influence of liquidity risk on credit growth (Kaban & Hanggraeni, 2024; Audya et al., 2023; Lorenčič & Festić, 2021), while other studies show a negative impact of liquidity risk (gozali et al., 2023).

Empirical and theoretical literature shows that many control variables can influence credit growth. This study uses Bank Age, Bank Size, and Leverage as a control variable. Bank age is used as a control variable that influences credit growth referring to (Pasaribu & Mindosa, 2021) because the age of the

bank is associated with the bank's establishment. The longer a credit institution has existed, as experience in risk management increases, its benefits also increase (Hessou & Lai, 2018). Previous studies have shown a correlation between bank size and credit growth (Jasman et al., 2021; Shala & Toçi, 2021; Pramono et al., 2019). Large banks with significant commercial transaction volumes require substantial reserves for credit growth. Previous studies have shown a correlation between leverage and credit growth, as increased credit and debt-to-asset ratios signal a higher risk of default, necessitating increased credit reserves and impacting credit growth (Lorencic & Festic, 2022; Jasman et al., 2021).

Based on the agency theory and signalling theory, this study aims to first examine the effect of discretionary and non-discretionary income smoothing and capital buffers on credit growth. Second, to examine the moderation of liquidity risk in the effect of discretionary and non-discretionary income smoothing and capital buffers on credit growth. Originality this study offers important insights for regulators and practitioners on the impact of discretionary and non-discretionary income smoothing and capital buffers in controlling credit growth during the Covid-19 pandemic.

LITERATURE REVIEW AND HYPOTHESIS DEVELOPMENT

Discretionary Income Smoothing and Credit Growth

Discretionary income smoothing is a bank great concern because it determines the bank's ability to implement a dynamic reserve system that requires the formation of provisions from income smoothing and signaling strategies. In line with agency theory, discretionary income smoothing is a mechanism for company managers who want to signal the bank's strength to investors and outsiders in achieving healthy credit growth (Pramono et al., 2019; Adzis et al., 2015; Bouvatier & Lepetit, 2013). Based on signalling theory, income smoothing driven by incentives owned by banks to adjust bank performance in a certain period so that it can be compared with the average performance of other banks. Previous research shows the positive influence of discretionary income smoothing on credit growth (Pramono et al., 2019; Soedarmono et al., 2017). The hypothesis proposed is as follow.

H_1: discretionary income smoothing has a positive effect on credit growth.

Non-Discretionary Income Smoothing and Credit Growth

Banks are interested in meeting accounting standards and regulatory standards from regulators as non-discretionary income smoothing. In line with agency theory, non-discretionary income smoothing measures are taken by bank managers to cover estimated credit risks and regulatory compliance in achieving credit growth (Pramono et al., 2019; Soedarmono et al., 2017). Previous research shows the positive influence of non-discretionary income smoothing on credit growth (Wang et al., 2019; Caporale et al., 2018; Soedarmono et al., 2017). The hypothesis proposed is:

H_2: non-discretionary income smoothing has a positive effect on credit growth.

Capital Buffer and Credit Growth

The implementation of a capital buffer is expected to suppress credit growth during periods of economic expansion due to the need for banks to increase their capital reserves to cover credit risks from excessive credit growth. In accordance with agency theory, capital strengthening is a strategy used by company managers who want to show a signal of the bank's strength to investors and external parties in absorbing risks arising from unhealthy credit growth (Pramono et al., 2019; Adzis et al., 2015; Ibáñez-Hernández et al., 2015; Bouvatier & Lepetit, 2013). Various previous studies have examined positive influence of liquidity risk on credit growth (Kaban & Hanggraeni, 2024; Audya et al., 2023; Lorenčič & Festić, 2021). The hypothesis proposed is:

H_3: capital buffer has a positive effect on credit growth.

Liquidity Risk Moderating the Effect of Discretionary and Non-Discretionary Income Smoothing on Credit Growth

In line with agency theory, bank managers take action income smoothing to adjust the bank's performance in a certain period so that it can be compared with the average performance of other banks. One of the strategies chosen is liquidity risk management through credit intermediation management for deposits, which will have an impact on healthy credit growth (Agung et al., 2021). Various previous studies have shownpositive influence of liquidity risk on credit growth (Kaban & Hanggraeni, 2024; Audya et al., 2023; Lorenčič & Festić, 2021) so that it is hoped that it can strengthen the influence income smoothing on credit growth. The hypothesis proposed is:

H_4: liquidity risk strengthens the positive effect of discretionary income smoothing on credit growth.

H_5: liquidity risk strengthens the positive effect of non-discretionary income smoothing on credit growth.

Liquidity Risk Moderating the Effect of Capital Buffer on Credit Growth

Liquidity risk through prudential intermediation (LDR) can promote healthy bank credit growth. The influence of capital buffers on credit growth can be amplified by liquidity risk. In line with agency theory, bank managers will implement the necessary liquidity risk management to improve capital. The liquidity risk strategy that bank managers respond to is to maximize their portfolio of low-risk loans (Agung et al., 2021). Minimizing credit risk will result in healthy credit growth and ultimately increase the bank's core capital. The hypothesis proposed is:

H_6: liquidity risk strengthens the positive influence of Capital buffer on credit growth.

RESEARCH METHOD

This study uses secondary data from annual reports from the financial sector, banking subsector code classification G111, listed on the Indonesia Stock Exchange from 2020 to 2024. The data comes from 46 companies selected using a purposive sampling approach, resulting in a final sample of 36 banking companies with a final sample of 170. This study uses panel regression using the Fixed Effect (FE) model with the Eviews application

In relation to the proposed hypothesis, the research presents a conceptual framework in Figure 1.

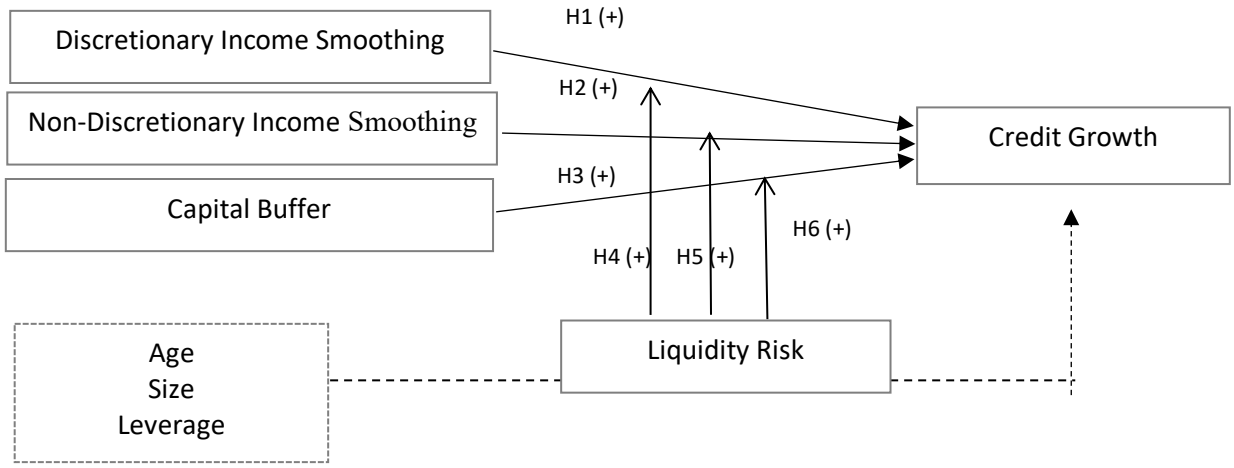

Figure 1. Framework

The equations in this study refer to Shala & Toçi (2021); Pramono et al. (2019); Soedarmono et al. (2012); Bouvatier & Lepetit (2013).

$$LON = \alpha + \beta 1DIS1 + \beta 2NDS2 + \beta 3CPB3 + \beta 4DIS*RIL4 + \beta 5NDS*RIL5 + \beta 6CPB*RIL6 + \beta 7AGE7 + \beta 8SIZ8 + \beta 9LEV9 + \varepsilon \quad (1)$$

Note:LON=Credit Growth, DIS=Discretionary Income Smoothing, NDS=Non-Discretionary Income Smoothing, CPB=Capital Buffer, RIL=Liquidity Risk, AGE=Bank Age, SIZ=Bank Size, LEV=Leverage.

This study uses operational definitions to define its variables, namely: credit growth (LON) refers to research (Pramono et al., 2019) by using the proxy of year-end credit minus year-end credit compared to total assets. Income smoothing refers to research (Pramono et al., 2019) with discretionary proxies (DIS) consisting of earnings before tax and provision, equity to total assets, and signals. For non-discretionary (NDS), with proxies consisting of non-performing loans, loans to total assets, and gross domestic product. Capital buffer (CPB) refers to research (Sakti et al., 2018) calculated based on the actual %CAR minus the target %CAR (8%). Liquidity Risk (RIL) refers to research (Lorenčič & Festić, 2021) by measuring the loan to deposit ratio. Bank Age (AGE) as a control variable refers to research (Pasaribu & Mindosa, 2021) with the proxy being the age of the bank since its inception. Bank size (SIZ) refers to research (Shala & Toçi, 2021) by proxy total assets. Leverage (LEV) refers to research (Lorencic & Festic, 2022) by measuring debt against total assets.

RESULT AND DISCUSSIONS

Result

The Mahalanobis outlier test results for this study revealed 10 outliers, which had to be removed from the study. After removing these 10 outliers, the total number of samples from the previous study, from 180 to 170, remained unchanged. Table 1 displays the descriptive statistical findings of the dependent variable, specifically the credit growth range (LON), which has a minimum value of 0,390 and a maximum of 0,920. The average value obtained from 170 observations is 0.734, with a standard deviation of 0,063. The calculated average value of the credit distribution rate in the banking sector throughout the 2020-2024 period is considered high (average>standard deviation), as are the other variables discretionary income smoothing (DIS), non-discretionary income smoothing (NDS), capital buffer (CPB), liquidity risk (RIL), bank size (SIZ), leverage (LEV) indicates that the banking sector has recovered after the COVID-19 pandemic, having passed the new normal period. The standard deviation values for each variable are smaller than the average, indicating that the data used in this study is homogeneous and therefore can be considered good.

Table 1. Descriptive Statistics Results

Variables	Observation	Minimum	Maximum	Mean	Dev Standards
LON	170	0,390	0,920	0,734	0,063
DIS	170	3,110	4,380	3,748	0,284
NDS	170	0,300	0,860	0,630	0,124
CPB	170	0,030	1,180	0,225	0,166
RIL	170	0,856	2,378	1,165	0,231
AGE	170	1,220	11,160	6,770	1,796
SIZ	170	3,830	4,680	4,307	0,189
LEV	170	0,300	0,940	0,813	0,096

Notes: LON=Credit Growth, DIS=Discretionary Income Smoothing, NDS=Non-Discretionary Income Smoothing, CPB=Capital Buffer, RIL=Liquidity Risk, AGE=Bank Age, SIZ=Bank Size, LEV=Leverage

This study examines the effect model testing to select the best model using the Chow, Hausmann, and Lagrange Multiplier tests. The results of this study determine that the fixed effect model is the best based on several indicators. First, the Chow test probability, which serves as an indicator of the fixed effect model, is 0,000<0,05, the Hausmann test probability is 0,035<0,05, and the LM test value is 0,000<0,05.

The multicollinearity test results indicate that the correlation between the independent variables is no greater than 0,80. Therefore, it can be concluded that there is no evidence of multicollinearity between the independent variables during the regression test. The heteroscedasticity test results show a value of 0,528, which is above 0,05, indicating that this research model does not experience heteroscedasticity. Meanwhile, the autocorrelation test shows a value of 2,204, which, according to the Durbin-Watson provisions, is still between the lower limit of 1,758 and the upper limit of 2,242, indicating the absence of autocorrelation.

The regression test results in Table 2 show that the coefficient for discretionary income smoothing is positive at 0,186, the t-statistic is 2,028, and the probability is 0,043, indicating that discretionary income smoothing has a positive effect on credit growth. The coefficient for non-discretionary income smoothing is positive at 0,214, the t-statistic is 4,319, and the probability is 0,000, indicating that non-discretionary income smoothing has a positive effect on credit growth. The coefficient for capital buffer positive 0,172, t-statistic 3,162 and prob of 0,002 indicates that the capital buffer has a positive effect on credit growth. The adjusted r-squared value obtained is 0,416, meaning that income smoothing, capital buffers, bank age, bank size, and leverage can explain 41,6% of the variation in credit growth behavior. The remaining 58,4% is due to variations in other independent variables that influence credit growth but are not included in this study.

Table 2. Moderated Regression Analysis

Variables	Sign	Coefficient	t-Statistic	Std. Error	Prob.	Decision
C		-0,523	-0,898	0,582	0,369	
DIS	+	0,186	2,028	0,092	0,043**	Accepted
NDS	+	0,214	4,319	0,050	0,000*	Accepted
CPB	+	0,172	3,162	0,054	0,002*	Accepted
DIS*RIL	+	0,223	2,249	0,099	0,025**	Accepted[a]
NDS*RIL	+	0,106	1,637	0,065	0,102***	Rejected[a]
CPB*RIL	+	-0,025	-0,895	0,028	0,371	Rejected[b]
RIL		0,765	1,618	0,473	0,104***	Rejected[b]
AGE		-0,003	-0,958	0,003	0,338	
SIZ		0,017	0,584	0,030	0,559	
LEV		0,210	2,031	0,103	0,042**	
R-Squared			0,571			
Adjusted R-Squared			0,416			

[a]Quasi Moderation: Liquidity risk acts as a moderator and independent variable in the effect of discretionary and non-discretionary income smoothing on credit growth.

[b]Predictor Moderation: Liquidity risk only acts as an independent variable and not as a moderator in the influence of capital buffer on credit growth.

Notes: DIS=Discretionary Income Smoothing, NDS=Non-Discretionary Income Smoothing, CPB=Capital Buffer, RIL=Liquidity Risk, AGE=Bank Age, SIZ=Bank Size, LEV=Leverage

*significant 1%, **significant 5%, ***significant 10%

The results of moderation show that liquidity risk has a quasi-moderation effect on the influence of discretionary income smoothing on credit growth with a moderation coefficient of 0,223, t-statistic 2,249, prob 0,025, if liquidity risk is increased it will strengthen the influence discretionary income smoothing on credit growth. On the other hand, liquidity risk has a predictor moderation effect on the influence of non-discretionary income smoothing and capital buffer on credit growth with a moderation coefficient of -0,106, a t-statistic of 1,637, a probability of 0,102 and coefficient of -0,025, a t-statistic of -0,895, a probability of 0,371, liquidity risk only acts as an independent variable on credit growth.

The coefficient for the liquidity risk variable is 0,765, the t-statistic is 1,618 and the probability is 0,104 indicating that liquidity risk does not affect credit growth. The coefficient for the bank age variable as a control variable is -0,003, the t-statistic is -0,958 and the probability is 0,338 indicating that bank age does not affect credit growth. The coefficient for the bank size variable is 0,017, the t-statistic is 0,584 and the probability is 0,559 indicating that bank size does not affect credit growth. The coefficient for the bank leverage variable is 0,210, the t-statistic is 2,031 and the probability is 0,042 indicating that bank leverage has a positive effect on credit growth.

Discussion

The results of testing hypothesis 1 indicate that discretionary income smoothing has a positive effect on credit growth. This finding aligns with previous research (Pramono et al., 2019; Soedarmono et al., 2017). The results of the study show that banks carry out discretionary income smoothing for managerial purposes smoothing profits and signaling the perception of the bank's power to external parties in controlling credit growth. The findings of this study confirm agency theory that discretionary income smoothing is a mechanism for company managers who want to show a signal of the bank's strength to investors and external parties in achieving healthy credit growth (Pramono et al., 2019; Adzis et al., 2015; Bouvatier & Lepetit, 2013). On the other hand, it can be seen that bank management exercises discretion (policy) income smoothing for dynamic loss reserves that can curb unhealthy credit growth (bad loans) so that it can show good performance every year. In line with signalling theory, income smoothing driven by incentives owned by banks to adjust bank performance in a certain period so that it can be compared with the average performance of other banks.

The results of testing hypothesis 2 indicate that non-discretionary income smoothing has a positive effect on credit growth. This finding aligns with previous research (Wang et al., 2019; Caporale et al., 2018; Soedarmono et al., 2017). The results of the study show that banks do non-discretionary income smoothing to cover the risk of credit quality decline in controlling credit growth. This finding confirms the agency theory that non-discretionary income smoothing measures are taken by bank managers to cover estimated credit risks and regulatory compliance in achieving credit growth (Pramono et al., 2019; Soedarmono et al., 2017). Non-discretionary income smoothing may be caused by higher risk aversion by banks, especially when banks experience relatively limited demand for bank credit during economic crises (Pramono et al., 2019; Soedarmono et al., 2017). This research data includes the Covid-19 pandemic period, resulting in a significant decline in credit quality. The government, through Otoritas Jasa Keuangan, issued OJK Regulation No. 48/POJK.03/2020 concerning economic stimulus in the form of a credit restructuring policy, which provides an incentive for bank managers to implement non-discretionary income smoothing by establishing a credit provision for Covid-19 restructuring. Credit restructuring is a contributing factor to credit loss events, and banks must consider this event when deciding how to resolve credit losses (Valdiansyah et al., 2023).

The results of testing hypothesis 3 show that capital buffer has a positive effect on credit growth. This finding is in line with previous studies (Behncke, 2023; Dursun-de Neef et al., 2023; Hessou & Lai, 2018). The results of the study show that banks do capital buffer management in controlling credit growth. High bank capital buffer ratio is an indication to investors that the bank has sufficient capital to face the

risks associated with non-performing loans. Based on agency theory, bank management will make efforts to increase capital by increasing capital buffer to anticipate possible losses if there is excessive growth in banking credit, which has the potential to disrupt the stability of the financial system (Agung et al., 2021).

The results of testing hypotheses 4 indicate that liquidity risk strengthens the positive influence of discretionary income smoothing on credit growth. This result indicate that banks are taking strategic actions liquidity risk management through credit intermediation management of deposits. Thus, the liquidity risk variable is included in the type of quasi moderation, which means liquidity risk acts as a moderator and independent variable in the effect of discretionary income smoothing on credit growth. Prudent credit intermediation management generates income that provides additional incentives for discretionary income smoothing, which can achieve managerial objectives and cover the risk of excessive credit growth. In line with agency theory, bank managers engage in discretionary income smoothing through liquidity risk management with credit intermediation management which will have an impact on improving the quality of bank assets and bank credit growth (Agung et al., 2021).

The results of testing hypothesis 5 show that liquidity risk does not moderate the positive effect of non-discretionary income smoothing on credit growth. The interaction is proven not to strengthen the effect, indicating a type of predictor moderation, which means liquidity risk only acts as an independent variable and not as a moderator. This could be in line with the the COVID-19 pandemic situation, where the data fell during the COVID-19 pandemic. Consequently, the decline in credit quality during the COVID-19 pandemic resulted in a decrease in liquidity risk in the current year, leaving bank managers with no incentive to establish credit provisions for non-discretionary income smoothing purposes. On the other hand, the increase in non-performing loans during the COVID-19 pandemic eroded bank profits, reducing banks' ability to establish asset loss reserves, causing banks to have very tight liquidity.

The results of testing hypothesis 6 show that liquidity risk does not moderate the positive effect of capital buffers on credit growth. Thus, the liquidity risk variable is included in the type of predictor moderation, which means liquidity risk only acts as an independent variable and not as a moderator in the influence of capital buffer on credit growth. The banking intermediation function is highly dependent on the availability of sufficient funds. Research data is still available during the COVID-19 pandemic, resulting in a decline in credit in the current year, leaving banks with little incentive to build capital buffers. The banking sector liquidity has been impacted by the Covid-19 pandemic, resulting in reduced profits and consequently reduced additional capital buffers.

The results of testing liquidity risk has no effect on credit growth. The increase in non-performing loans causes a decline in credit quality, thus impacting credit growth. The results of testing the control variables in this study show that bank age and bank size do not have an effect on credit growth. This occurs because the age and size of the banks in this study vary widely, with some banks being long-established and others newly established through acquisitions. Furthermore, the varying size of banks leads to differences in their capabilities and experience in income smoothing and capital buffer management, which impacts credit growth control. Leverage has an impact oncredit growth, in line with previous research (Lorencic & Festic, 2022; Jasman et al., 2021). Leverage plays a significant role in this study, supported by government stimulus policies such as credit restructuring, which impact banking sector leverage.

The regression test results indicate that the variable most strongly influencing credit growth is non-discretionary income. This is likely due to OJK Regulation No. 48/POJK.03/2020 concerning economic stimulus in the form of a credit restructuring policy, which provides incentives for bank managers to implement non-discretionary income smoothing by establishing credit provisions for Covid-19 restructuring. On the other hand, the strongest interaction occurs between liquidity risk and discretionary income on credit growth, driven by prudent credit intermediation management, resulting in income that

provides additional incentives for discretionary income smoothing, which can achieve managerial objectives and offset the risk of excessive credit growth.

The overall results of this study indicate that liquidity risk does not strengthen non-discretionary income smoothing because the COVID-19 pandemic has resulted in a decline in credit quality, such as non-performing loans, which has left banks with no incentive to create non-discretionary income smoothing. Similarly, during the COVID-19 pandemic, bank profits declined along with worsening credit quality, leaving banks with no incentive to create capital buffers. Meanwhile, during the COVID-19 pandemic, banks shifted to government securities assets, which have a lower risk than credit.

CONCLUSION

The novelty of this research lies in the dual role of liquidity risk. The interaction between liquidity risk and discretionary income smoothing has been proven to strengthen this effect, indicating as quasi-moderation. However, when liquidity risk interacts with non-discretionary income smoothing and capital buffers, the interaction is proven not to strengthen the effect, indicating as predictor moderation. During the Covid-19 pandemic, there was a decline in current-year credit, resulting in banks lacking incentives to encourage the formation of non-discretionary income smoothing and capital buffers. The strongest interaction occurs between liquidity risk and discretionary income on credit growth, driven by prudent credit intermediation management. This investigation seeks to contribute to a minimum of empirical research and is expected to add literature and input to the theoretical fields related to the income smoothing and buffer capital for the credit growth. For banking, the findings of this research are essential for understanding the role of non-discretionary income smoothing and capital buffer that liquidity risk does not moderate the effect on credit growth should be a concern for banks and the government, as they manage stimulus policies that can increase liquidity during economic downturns. For the Government regarding to OJK and Bank Indonesia, the results of this research can add literature empirical evidence of the impact of credit restructuring policies as economic stimulus during the Covid-19 pandemic. In the future, research related to income smoothing on credit growth is expected to add other variables such as disponible credit to determine its impact in strengthening income smoothing on credit growth.

REFERENCES

Adzis, AA, Anuar, H., Shah Anuar, H., Shahieda, N., & Hishamuddin, M. (2015). Do Income Smoothing, Capital Management, Signaling, and Pro-Cyclicality Exist Through Loan Loss Provisions? *Journal of Economics, Finance and Management*, 4(2). http://www.ejournalofbusiness.org

Agung, J., Harun, CA, & Deriantino, E. (2021). *Macroprudential Policy in Indonesia*. 1st ed., Rajawali Pers

Akbar, MI, & Wibowo, MG (2021). The Effectiveness of Macroprudential Policies in Mitigating the Systemic Risk in Indonesia. *Airlangga International Journal of Islamic Economics and Finance*, 4(2), 91–109

Audya, PS, Kunci, K., Makoprudential, K., & Penulis, E. (2023). The Influence of Macroprudential Policy Instruments on Commercial Bank Credit Growth in Indonesia. *Parahyangan Economic Development Review* (PEDR), 2(2), 92–108

Behncke, S. (2023). Effects of Macroprudential Policies on Bank Lending and Credit Risks. *Journal of Financial Services Research*, 63(2), 175–199. https://doi.org/10.1007/s10693-022-00378-z

Ben Maatoug, A., Ben Ayed, W., & Ftiti, Z. (2019). Are MENA Banks' Capital Buffers Countercyclical? Evidence from The Islamic and Conventional Banking Systems. *Quarterly Review of Economics and Finance*, 74, 109–118. https://doi.org/10.1016/j.qref.2019.04.006

Bouvatier, V., & Lepetit, L. (2013). Effects of Loan Loss Provisions on Growth in Bank Lending: Some International Comparisons. *Economie Internationale*, 132(4), 91–116. https://doi.org/10.1016/s2110-7017(13)60059-1

Caporale, G.M., Alessi, M., Di Colli, S., & 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. https://doi.org/10.1016/j.frl.2017.10.031

Durafe, A., & Jha, A. (2018). Bank Capital Buffer, Bank Credit and Economic Growth: Evidence from India. *Afro-Asian J. Finance and Accounting*, Vol. 8, Issue 3

Dursun-de Neef, H. Ö., Schandlbauer, A., & Wittig, C. (2023). Countercyclical Capital Buffers and Credit Supply: Evidence from the COVID-19 Crisis. *Journal of Banking and Finance*, 154. https://doi.org/10.1016/j.jbankfin.2023.106930

Farook, S., Hassan, M. K., & Clinch, G. (2014). Islamic Bank Incentives and Discretionary Loan Loss Provisions. *Pacific Basin Finance Journal*, 28, 152–174. https://doi.org/10.1016/j.pacfin.2013.12.006

Ghozali, I., & Dwi, R. (2017). *Multivariate Analysis and Econometrics, Theory, Concepts, and Applications with Eviews 10*. Diponegoro University Publishing Agency

Gozali, V., Setiawan, R., Maruli, S., Ariesa, Y., & Meliza, J. (2023). The Influence of Non-Performing Loans, Loan to Deposit Ratio and Interest Rates on the Proportion of Micro, Small and Medium Business Credit (MSMEs) in Indonesia. *International Journal of Economics Development Research*, 4(2), 568–579

Hessou, H., & Lai, V. S. (2018). Basel III Capital Buffers and Canadian Credit Unions Lending: Impact of The Credit Cycle and The Business Cycle. *International Review of Financial Analysis*, 57, 23–39. https://doi.org/10.1016/j.irfa.2018.01.009

Ibáñez-Hernández, F.J., Peña-Cerezo, M., & Araujo, A. (2015). Countercyclical Capital Buffers: Credit-to-GDP Ratio Versus Credit Growth. *Applied Economics Letters*, 22(5), 385–390. https://doi.org/10.1080/13504851.2014.946174

Jasman, J., Murwaningsari, E., Mayangsari, S., & Mulyani, SD (2021). The Effect of Earnings Management and Signaling on Loss Loan Provision: The Role of Bank Capitalization. *Journal of Finance and Banking Review*, 6(1), 43–50. https://doi.org/10.35609/jfbr.2021.6.1(1)

Kaban, FF, & Hanggraeni, D. (2024). The Impact of Macroprudential Policies on MSME Credit Growth and Risk. *Dynasty International Journal of Educational Management & Social Science*, 278–288. https://doi.org/10.31933/dijemss.v5i3

Lorenčič, E., & Festić, M. (2021). The Impact of Seven Macroprudential Policy Instruments on Financial Stability in Six Euro Area Economies. *Review of Economic Perspectives*, 21(3), 259–290. https://doi.org/10.2478/revecp-2021-0012

Lorencic, E., & Festic, M. (2022). The Impact of Macroprudential Policy on Financial Stability in Selected EU Countries. *Public Sector Economics*, 46(1), 142–170. https://doi.org/10.3326/pse.46.1.5

Otoritas Jasa Keuangan. (2024, May 24). OJK Regulation Number 48/POJK.03/2020 dated December 3, 2020 concerning National Economic Stimulus as a Countercyclical Policy for the Impact of the Spread of Coronavirus Disease 2019. *Ojk.go.id*. Http://www.ojk.go.id

Pasaribu, P., & Mindosa, B. (2021). The Bank Specific Determinants of Loan Growth and Stability: Evidence from Indonesia. *Journal of Indonesian Economy and Business*, Vol. 36, Issue 2

Pramono, SE (2021). *Detecting Procyclical Effects. A Global Study on Islamic Banking*. CV. Amerta Media.

Pramono, SE, Rossieta, H., & Soedarmono, W. (2019). Income Smoothing Behavior and The Procyclical Effect of Loan Loss Provisions in Islamic Banks: Global Evidence. *Journal of Islamic Accounting and Business Research*, 10(1), 21–34. https://doi.org/10.1108/JIABR-09-2014-0032

Sakti, MRP, Thas Thaker, HBM, Qoyum, A., & Qizam, I. (2018). The Concept and Practice of Macroprudential Policy in Indonesia: Islamic and Conventional. *Al-Iqtishad: Journal of Islamic Economics*, 10(1). https://doi.org/10.15408/aiq.v10i1.5446

Shala, A., & Toçi, V. (2021). Bank Provisioning Behavior, Procyclicality and Capital Management in South-Eastern Europe. *Ekonomicky Casopis*, 69(1), 3–17. https://doi.org/10.31577/ekoncas.2021.01.01

Shala, A., Toçi, V., & Ahmeti, S. (2020). Income Smoothing Through Loan Loss Provisions in South and Eastern European Banks. *Zbornik Radova Ekonomskog Fakultet Au Rijeci*, 38(2), 429–452. https://doi.org/10.18045/zbefri.2020.2.429

Soedarmono, W., Pramono, SE, & Tarazi, A. (2017). The Procyclicality of Loan Loss Provisions in Islamic Banks. *Research in International Business and Finance*, 39, 911–919. https://doi.org/10.1016/j.ribaf.2016.05.003

Utari, GAD, Arimurti, T., & Kurniati, IN (2012). Optimal Credit Growth. *Bulletin of Monetary Economics and Banking*. https://doi.org/10.21098/bemp.v15i2.60

Valdiansyah, RH, Murwaningsari, E., & Mayangsari, S. (2023). Does IFRS 7 Disclosure Weaken Earnings Management? Evidence from Indonesian Conventional Commercial Banks. *Journal of Finance and Risk Perspectives*, 11(1), 158–174. https://doi.org/10.35944/jofrp.2022.11.1.009

Wang, Z., Xie, N., & Jin, Y. (2019). Do Loan Loss Provisions Affect the Credit Fluctuations in China's Banking System? *Emerging Markets Finance and Trade*, 55(11), 2425–2436. https://doi.org/10.1080/1540496X.2018.1553159