Do Internal Bank Factors or Macroeconomic Indices Hinder Loan Growth in Malaysian Commercial Banks?

Salwani Affandi, Nabilah Abdul Shukur, Fadli Fizari Abu Hassan Asari & Alia Farhana Masod

Do Internal Bank Factors or Macroeconomic Indices Hinder Loan Growth in Malaysian Commercial Banks?

[1]Salwani Affandi, [2]Nabilah Abdul Shukur, [3]Fadli Fizari Abu Hassan Asari & [4]Alia Farhana Masod

[1]Department of Finance, Faculty of Business and Management, Universiti Teknologi MARA Cawangan Terengganu, Malaysia, [2]Department of Business and Management, Universiti Teknologi MARA Cawangan Negeri Sembilan, Malaysia, [3]Faculty of Business and Management, Universiti Teknologi MARA Cawangan Perlis, Malaysia, [4]CIMB Auto Finance, Kuala Lumpur, Malaysia
Email: salwaniaffandi@gmail.com

Abstract
This article shed some light on the role between bank-specific factors and loan growth in Malaysia using an unbalanced panel analysis of 80 bank-year observations obtained from Eikon Thompson Reuters. Analyzing loan growth is essential to comprehend the expansion of the money supply caused by the creation of credit through new bank loans. Employing the Pooled Ordinary Least Square (POLS) method, the key finding of this study revealed that the capital adequacy ratio had a detrimental impact on the growth of loans at Malaysian commercial banks. Denoting that credit growth and non-performing loans fluctuate over time, particularly before the start of the financial crisis, we discovered a positive correlation between NPL on loan growth. The size of the bank also has a significant impact on how Malaysian commercial banks behave when it comes to lending. The procyclical nature of Asian banks' non-discretionary loan loss reserves is demonstrated by the negative association between credit risk and lending growth. As we reported opposing effects of NPL and GDP on loan growth, thus further study is needed to confirm these conditions.
Keywords: Loan Growth, Bank-Specific Factors, Macroeconomic Variables, Commercial Banks in Malaysia, POLS.

Introduction

The primary functions of banks are deposit collection and lending to borrowers, which generates interest income. Increasing lending operations can help banks increase market share, earnings, and overall business performance. In virtually all types of economies, banks play a significant role in economic growth. Through sound lending practices, banks contribute to the expansion of agriculture, infrastructure, industry, and the general quality of life. Additionally, poor lending practices can hurt the economy. Massive amounts of cash flowing

via state-controlled banks into the economy lead to a credit growth rate that is regarded as the most accurate national indicator (Vo, 2018).

Bank lending behavior includes non-performing loan transactions that the economy encounters. Non-performing loans distort the outlook for the economy and the market. It has the potential to impact the decisions of numerous economic stakeholders, including the total earnings of banking institutions. Banking crises are commonly recognized as harmful to economic growth. While crises typically occur during economic downturns, difficulties in the banking sector can have an independent detrimental impact on the real economy (Cubillas and Suarez, 2018). Numerous worldwide studies and academics documented macro-level bank lending behavior, but only a handful specifically addressed the Malaysian experience with how lending operations are carried out in Malaysia. (Hossain et al., 2022; Affandi et al., 2021; Abdul Adzis et al., 2018).

Vo (2018) concurred with Qian et al (2015) that, over the past several decades, developing countries have poured huge amounts of cash into government banks to spur economic growth. This results in significant credit growth by banks in emerging economies. The bank loans boost the economy in these nations, where bank lending is extensively directed by the legislature and there are several banking system problems.
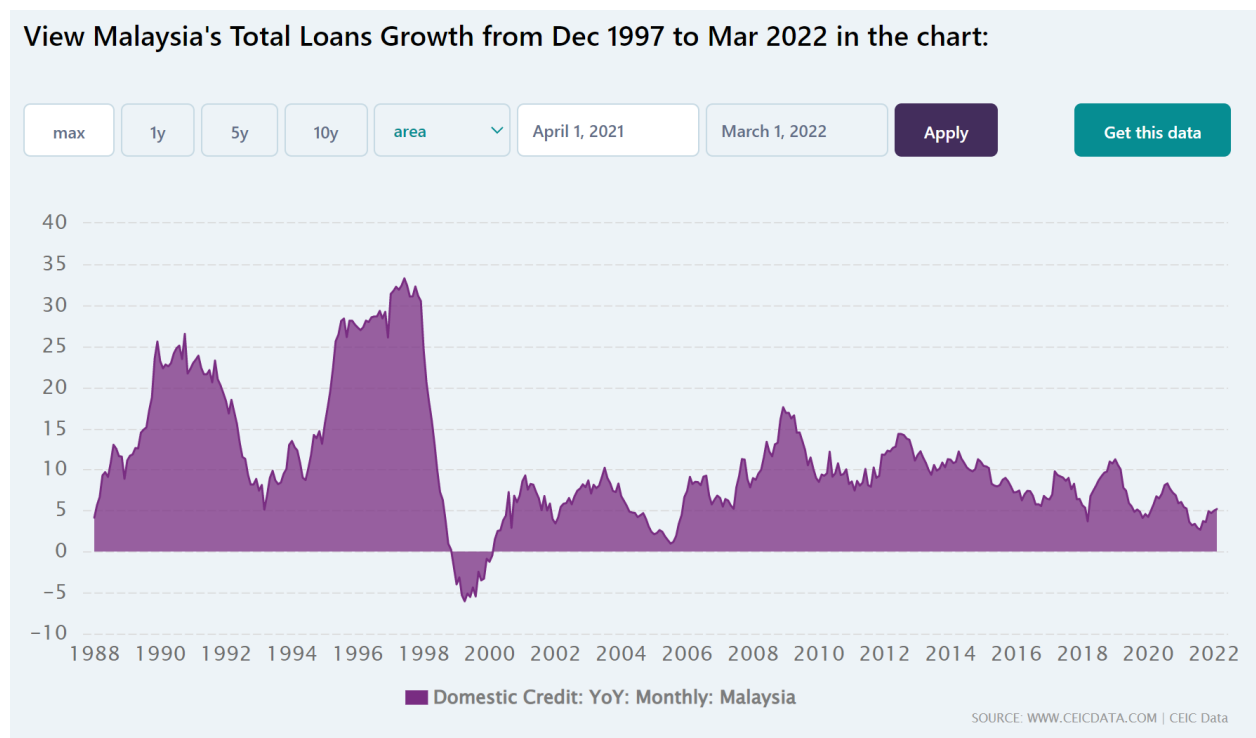
Source: www.ceicdata.com
Figure 1: Total Loans Growth in Malaysia from 1988 to 2022

Figure 1 depicts the rise of total loans in Malaysia from 1988 to 2022. The peak of loan growth in Malaysia happened between 1997 and 1998, shortly prior to the global financial crisis. Since that crisis, the lending growth has significantly slowed, falling to -5% in 1999. In the year 2000, loan growth began to stabilize regardless of economic conditions. We are aware that Covid19 has spread globally and that a significant number of Malaysians lost their jobs as a result of

the Movement Control Order (MCO). On the other hand, Khalid (2022) wrote in theedgemarket.com that Rating Agency Malaysia (RAM) predicted that credit growth will be healthier in 2022 than it was during the financial crisis of 1998. The progressive reopening of the economy is expected to support the predicted 4.5 percent to 5 percent full-year loan growth in 2022, despite rising interest rates. Consequently, the objective of this study is to identify the factors that influence bank lending behavior, as assessed by loan growth.

Literature Review
Loan growth as a proxy for bank lending behavior
The loan growth is an important indicator of banks' lending activities. Some studies investigate bank lending behavior using bank loan growth as the explanatory variable (Vo, 2018; Kim and Sohn, 2017; Dang, 2019). Vo (2018) examines the bank lending behavior in Vietnam, a rapidly growing economy in which bank lending plays an increasingly important role given that the vast majority of firm financings are bank credit. According to his research, the lending behavior of banks in Vietnam is heavily influenced by bank-specific characteristics and macroeconomic circumstances. Kim and Sohn (2017) examined if the effect of capital adequacy on lending varies with liquidity level. They discovered that reserve requirement has a considerable positive influence on lending only once large banks have adequate cash reserves.

Furthermore, throughout the study by Kosak, Li, Loncarski, and Marinc (2015), the correlation between a high tier 1 ratio among competitive banks and a decline in lending activities during the global financial crisis drove banks to restrict lending activities even further. This shows that during an economic meltdown, a bank's performance is enhanced by holding high-quality capital. Kosak et al (2015) confirm and extend the findings of Berger and Bouwman (2013), who examined the U.S. banking industry in a global framework. Berger and Bouwman (2013) illustrate that a bank's chances of survival and market cap can increase with additional capital. During banking crises, the effect is perpetually experienced by small, medium, and large institutions. Small banks would lend greater if they could have significant concentrations of bank capital, while large banks loaned more before the credit crunch (but less during quiet periods) provided potential peers had small amounts of capital requirements. Small banks receive support with bank capital during a crisis, while large banks enjoy a competitive advantage over competitors with insufficient capital.

Non-performing Loans and Bank Lending Behavior
Non-performing loans (NPLs) are loans that are not repaid in full and on time, as opposed to the vast majority of loans that are repaid in full and on time. In recent years, it has been the focus of European regulators' attention, as many banks continue to struggle to rid their balance sheets of toxic assets that developed during the financial crisis. (Bellotti et al., 2020). In other words, a non-performing loan is a loan that has defaulted or whose time to default has expired. Vo (2018) also noted that Serrano's (2021) research revealed that, generally, higher percentages of non-performing loans, in conjunction with other factors, are associated with poorer growth rates of performing loans. This effect persists over a multitude of econometric characteristics and is more pronounced for banks with low rates of growth of performing loans. In addition, the study found that banks experiencing larger declines in their nonperforming loan rate are likely to provide more credit in the financial sector.

Tolo and Viren's (2021) findings demonstrate that non-performing loans (NPLs) are detrimental to lending growth, validating the conclusions of the great majority of previous studies. They underlined that the sluggish increase in lending throughout the study shows a transmission channel whereby the NPLs diminish profitability, increase bank financing costs, and deplete capital adequacy. They have emphasized that a bank's core lending increase is more susceptible to nonperforming loans through its portfolio of commercial loans, whereas loan to the government body and consumers and is particularly attentive to NPLs in each particular asset. The discovery that the impact of nonperforming loans on loan growth is stronger at lesser NPL numbers ought to encourage banking authorities and institutions to decrease Europe's NPL problems.

Capital Adequacy Ratio (CAR) and Bank Lending Behavior
Berger and Udell (1994) pointed to banks' reluctance to lend as a shortage of supply, in which financial institutions are unwilling to offer loans due to a fall in loan supply caused by capital losses. It is consequently predicted that deposits and borrowing will respond to an increase in capital. Abdul Karim (2014) examines bank behavior, namely the lending and deposit transactions of Islamic and conventional banks in 14 OIC countries from 1999 to 2009. The results indicated that bank capital requirements influence the lending and deposit patterns of the 186 conventional banks and 52 Islamic banks that were surveyed. Both IBs and CBs indicate a significant positive relationship between bank capital and the increase of deposits and loans.
In the other study, Riadi (2018) discovered that one of the crucial bank-specific characteristics that favorably affect bank lending behavior in Indonesia is the capital adequacy ratio. In other words, there is a connection between CAR and credit, and a higher CAR number would increase banks' confidence in extending credit. However, Vo (2018) finds that financial institutions with a lower initial capital ratio are linked to a greater rate of credit growth.

Credit risk and bank lending behavior
Kim and Sohn (2017) remark that several numbers of banking research underline the significance of looking at the connection between bank capital and bank lending. According to Diamond and Rajan (2000); Thakor (1996); Zelenyuk et al (2017); Vo (2018), there is a strong correlation between capital requirements, credit risk, and total bank lending. Ivashina and Scharfstein (2010) asserted, however, that banks with easier access to liquidity limit financing somewhat. Previously, Soedarmono et al (2015) investigated the impact of loan loss provisions on the lending behavior of banks by analyzing the impact of credit information sharing and borrower legal rights. Higher non-discretionary loan loss provisions are significantly associated with a reduction in bank loan growth, indicating that non-discretionary loan loss provisions of Asian banks are procyclical. Cornett et al (2011) contend that during a financial crisis, banks with higher capital ratios can sustain bank lending better than other banks.

Bank Size and Lending Behavior
Vo (2018) investigated the relationship between bank size and Vietnamese bank lending rates, and the results indicated that bank size coefficients are negative and statistically significant in most regressions. This suggests that large banks are typically more conservative in their lending practices. Conversely, smaller banks have a higher loan growth rate. This is significant since smaller banks tend to engage in riskier lending practices. Furthermore, the

discovery has significant implications for the management of system risk by supervisory bodies, as smaller banks tend to lend more amid financial crises. During this moment of economic difficulty, smaller banks are more likely to increase their lending volume to compensate for the decline in bank profitability. However, Nguyen et al (2019) discovered a favorable association between bank size and bank lending growth. They investigated whether bank culture affects a particular risk-taking procedure, namely bank lending decisions. Nguyen et al (2019) concluded that competing dominant banks display larger loan growth during normal times and more loan losses during periods of economic distress.

Macroeconomic Indicators and Bank Lending Behavior
According to Kim and Sohn (2017), the relationship between GDP growth and bank lending behavior is often positive. As per their findings, major banks typically exhibit greater magnitudes and statistical significance. Unlike the small bank, the coefficients are low and even slightly negative. Vo (2018) established a significant and positive relationship between economic growth and bank lending. The results are consistent with his expectations because the correlation between the increase in economic growth and the increase in economic activity is positive. This demonstrates that bank credit remains a vital source of funding for Vietnamese businesses and a driver of economic growth. However, Cubillas and Suarez (2018) discovered that there is a negative sign between GDP and loan lending. It was suggested that countries with significant economic growth should offer a greater discount on bank credit loans. Consequently, this could be a solution to stop the nation's recession.
Vo (2018) demonstrated a negative link between inflation and bank lending and concluded the conclusion that Vietnamese banks would be more inclined to support the country's strategy to lower inflation by reducing their credit facilities in an environment of increasing inflation. The central bank may implement monetary policy through financial intermediaries by pressuring banks to increase or decrease loans (Apergis and Christou, 2015). This finding is surprising for Vietnam since prior research suggests that monetary policy shocks have a lesser impact on bank lending in advanced economies than they do in Vietnam (Mishra et al., 2014).

Data and Methodology
We analyzed an unbalanced panel of 80 bank-year observations extracted from Eikon Thompson Reuters to examine the connection between bank-specific factors and loan growth. Besides, we also collected macroeconomics data from World Bank from 2009 to 2018. Eight commercial banks listed on Bursa Malaysia comprise the sample. The multiple regression analysis was performed on the data using the Stata 14 program, and the correlation coefficient was verified for this objective. Table 1 lists the variables employed in this analysis, their related measurements, and the expected indications based on prior research.

Table 1

Variables Used, Measurements, and expected sign

Variable Used	Measurement	Literature followed	Expected Sign
Bank loan growth (Proxy of bank lending behavior)	(Net loan previous year – Net loan current year) / Net loan previous year	(Vo, 2018; Kim and Sohn, 2017; Dang, 2019)	
Non-performing loan (NPL)	Percentage of a total of non-performing loan	(Bellotti et al, 2020; Serrano, 2021; Tolo and Viren, 2021)	-
Capital adequacy ratio (CAR)	(Tier 1 capital + Tier 2 capital) / Risk-weighted Asset	(Berger and Udell, 1994; Abdul Karim, 2014; Riadi, 2018; Vo, 2018)	+/-
Loan loss provision (Proxy of credit risk)	Percentage of loan loss provision	(Diamond and Rajan, 2000; Thakor, 1996; Zelenyuk et al., 2017; Vo, 2018)	-
Bank size	Log of total assets	(Vo, 2018; Nguyen et al., 2019)	-/+
Inflation (INF)	Consumer price index	(Vo, 2018; Apergis and Christou, 2015)	-
Gross Domestic Product (GDP)	Annual Real Growth Rate	(Kim and Sohn, 2017; Vo, 2018; Cubillas and Suarez 2018)	+

Model Estimation

The estimated model (1) is considered when determining the magnitude of the impact of bank-specific factors and macroeconomic variables on bank lending behavior, as measured by total loan growth. We utilized the Pooled Ordinary Least Square (POLS) method of multiple regression to investigate the variables influencing bank lending behavior in Malaysia. We replicated Vo (2018); Kim (2017); Sohn (2017), who measure bank lending behavior based on the growth of total loans. The structure of the estimating model for bank lending is as follows:

$$TLG_{i,t} = \beta_0 + \beta_1 NPL_{i,t} + \beta_2 CAR_{i,t} + \beta_3 LLP_{i,t} + \beta_4 SZE_{i,t} + \beta_5 GDP_{i,t} + \beta_6 INF_{i,t} + \varepsilon_{i,t} \quad (1)$$

$TLG_{i,t}$: Loans growth for bank i time t;
$NPL_{i,t}$: Non-performing loan for bank i time t;
$CAR_{i,t}$: Capital adequacy ratio for bank i time t;
$LLP_{i,t}$: Loan loss provision for bank i time t;
$SZE_{i,t}$: Bank size (Logarithm of total assets) for bank i time t;
$GDP_{i,t}$: Gross Domestic Product (Annual growth of GDP) for bank i time t;
$INF_{i,t}$: Inflation rate for bank i time t;
B : The Coefficient Representing the Independent Variables.
$\varepsilon_{i,t}$: Error Terms for bank i time t.

Empirical Results
Descriptive statistics

Table 2
Descriptive statistics

Stats	Obs	TLG	CAR	LLP	SZE	NPL	GDP	INF
Max	80	1.16	0.1646	0.0097	8.07e+08	0.0666	682250	0.0351
Min	80	-0.09	0	-0.0021	3.17e+07	0	309169	0.00165
Mean	80	0.102275	0.0322061	0.0026487	2.35e+08	0.02135	505989	0.021336
Std. dev	80	0.1327027	0.0322061	0.002891	1.91e+08	0.0137595	108943.7	0.0102666

Table 2 presents a summary of the eight commercial bank data compiled by Thomson Eikon Reuters. The mean or average value of the total loan growth (TLG) ratio is 10.23%, indicating an increase in the supply of money made accessible to borrowers and an expansion of the credit supply. The eight Malaysian commercial banks created an average cash reverse of 0.0265 percent from 2008 to 2018 to cover troubled loans that are unlikely to be repaid. Additionally, an average non-performing loan (NPL) is a loan for which the customer is in arrears and has been missing principle and interest payments regularly for a certain amount of time. This loan represents 2.135% of the NPL average. The survey reveals that the largest commercial bank in Malaysia has total assets of over RM800 million, while the smallest bank has assets exceeding RM30 million. During the period covered by this study, the average GDP was greater than RM500 million.

Correlation Analysis
Table 3
Correlation Analysis

	TLG	CAR	LLP	SZE	NPL	GDP	INF
TLG	1.0000						
CAR	-0.4553	1.0000					
LLP	0.1989	-0.1686	1.0000				
SZE	-0.0432	0.3401	0.0465	1.0000			
NPL	0.3625	-0.0899	0.5786	-0.1212	1.0000		
GDP	-0.4996	0.4770	-0.5226	0.3343	-0.5485	1.0000	
INF	-0.0251	-0.1096	-0.0098	0.1441	-0.0761	0.0404	1.0000

Table 3 indicates that the gross domestic product (GDP) and the capital adequacy ratio (CAR) have the greatest impact on bank lending behavior. Similarly, both independent factors have a negative relationship with bank lending. As the impact of both factors increases, bank lending, as measured by total loan growth, will decline. Additionally, a negative association between inflation and bank lending practices is shown by the correlation study. The two additional variables are credit risk, which is represented by loan loss provision (LLP), and non-performing loans (NPL), which are positively correlated with overall bank lending.

Multiple Regression

Table 4

Pooled Ordinary Least Square (POLS) Regression

TLG	Coef	Std Error	t-stat	P-value
NPL	21.50016***	8.543455	2.52	0.014
LGSZE	0.257354**	0.1242753	2.007	0.042
CAR	-2.416307***	0.7748206	-3.12	0.003
LLP	-77.54768*	42.10526	-1.84	0.070
LGGDP	-1.244***	0.5640608	-2.21	0.031
INF	-5.311389	8.181694	-0.60	0.553
R-Squared	0.3826			
Adj R^2	0.3265			
Prob> F	0.0000			

*Notes: ***Significant at 1%, ** Significant at 5%, * Significant at 10%*

Table 5 suggests that the capital adequacy ratio (CAR) is significant at 1 percent and that a negative correlation exists between capital ratio and total loan growth. This result is consistent with Vo's (2018) assertion that the prudential norm must be strictly implemented in bank management. During the transition to global regulatory standards, banks must increase their capital requirements and decrease their lending activities. This result is similar to previous findings that the consequences of increases in capital requirements during the transition to higher global regulator standards may be distinct (Bridges et al., 2014).

Nonperforming loans (NPL) appear to be a second key variable influencing total loan growth (TLG) among Malaysian commercial banks. The study indicated that NPL and TLG have a positive association, which is contrary to our assumptions. According to Serrano (2021), in general, higher rates of non-performing loans correlate with lower loan growth rates. Nonetheless, this correlation is consistent with the findings of Vithessonthi (2016), who examined the relationship between bank credit growth and non-performing loan using a sample of 82 publicly traded Japanese commercial banks from 1993 to 2013. Vinthessonthi (2016) proposed that bank credit growth was favorably connected with non-performing loans before the commencement of the global financial crisis in 2007 but inversely correlated with non-performing loans after the onset of the global financial crisis. This analysis indicates that the relationship between banks' credit growth and non-performing loans varies over time and is unrelated to banks' profitability. His findings addressing the time-varying relationship between credit growth and non-performing loans in Japan fill a gap in the existing research regarding the purpose of bank loans in a deflationary economy.

We find that the LGGDP-measured gross domestic product is significant at 1 percent and has a negative coefficient with total loan growth. However, this result does not match our expectations. We recognize that the association between economic growth and a rise in lending activity is generally positive. Braslin (2013) investigated GDP and bank lending in Baltic state economies and discovered inverse direction causality between GDP and loan growth. He noted that predictions of better productivity, as measured by future GDP, entail higher individual income forecasts and, subsequently, an increase in credit demand. Both outcomes demonstrate the need of monitoring the economy as a whole and the financial sector. The

relationship between credit booms and financial instability, with the ensuing deterioration of asset quality and bank crises, bolsters the need for financial regulation to ensure economic productivity (Tecles and Tabak, 2008). In addition, Braslin (2013) noted that Favara (2003)'s IMF report reexamines the empirical connection between financial development and economic growth. Favara uncovered two groups of findings. First, contrary to the recent findings of Levine et al (2000), cross-sectional and panel data instrumental factors regressions demonstrate a poor link between financial development and economic growth. Second, he grounded his argument on nonlinearities in the data, indicating that finance is only relevant for growth at intermediate levels of financial development. In addition, when he utilized a method developed to evaluate long-run correlations in a panel with varied slope coefficients, he could not obtain clear evidence that finance stimulates economic growth. Contrary to expectations, the relationship was puzzlingly negative in certain respects.

Bank size proxied by the logarithm of total assets also appeared to be significant at 5 percent with the positive coefficient implying that larger banks will have a higher percentage of loan growth. This result appears to be consistent with Vo's (2018) assertion that large banks are typically more conservative in their lending practices. Smaller banks, on the other hand, have a higher loan growth rate. This is significant since the lending practices of smaller banks are typically riskier. Moreover, the discovery has profound consequences for the supervisory body's management of system risk, as smaller banks are more likely to increase their lending amid financial turbulence.

The credit risk that is quantified by loan loss provision LLP is also significant at a 10 percent level and exhibits a negative association between credit risk and lending growth. Similar to this finding, Soedarmono et al (2015) analyzed the influence of credit information sharing and borrower legal rights on the impact of loan loss provisions on banks' lending behavior. Higher non-discretionary loan loss provisions are highly correlated with a decline in bank loan growth, demonstrating that Asian banks' non-discretionary loan loss provisions are procyclical. The inflation rate nevertheless is not significant at any level in determining the lending behavior of commercial banks in Malaysia.

Conclusion
This study elaborates on the factors influencing banks' loan growth behavior. The key findings revealed that the capital adequacy ratio has a detrimental impact on the loan growth of Malaysian commercial banks. This result verifies Gambacorta and Mistrulli's (2004) that well-capitalized banks have less procyclical lending supply. According to Gambacorta and Mistrulli (2004), there are two possible explanations for this phenomenon: first, well-capitalized banks are more risk averse because their borrowers are less risky, and second, well-capitalized banks are better able to absorb their borrowers' temporary financial difficulties and maintain long-term relationships with them. Vo (2018) who also reported a negative association between CAR and lending behavior suggested that prudential requirements must be carefully applied in bank management. Furthermore, we found a positive coefficient of NPL on loan growth, indicating that credit growth and non-performing loans vary over time, particularly prior to the commencement of the financial crisis. According to Tecles and Tabak (2008), the negative relationship between GDP and loan growth suggests a connection between credit booms and financial instability, with the subsequent degradation of asset quality and bank crises, thereby boosting the need for banking regulation to ensure economic competitiveness.

The size of the bank is also an essential factor influencing the lending behavior of commercial banks in Malaysia. In times of financial turmoil, smaller banks are more likely to boost their lending activity than their larger rivals. The negative correlation between credit risk and lending growth shows that Asian banks' non-discretionary loan loss reserves are procyclical. Nonetheless, the inflation rate has almost no influence on the lending behavior of Malaysian commercial banks at any level of significance. Since we found contradictory effects of NPLs and GDP on the growth of Malaysian loans, extensive studies would shed light on this phenomenon.

References

Abdul Adzis, A., Sheng, L. E., & Abu Bakar, J. (2018). Bank lending determinants: Evidence from Malaysia commercial banks. *Journal of Banking and Finance Management*, *1*(3), 36-48.

Abdul Karim, M., Hassan, M. K., Hassan, T., & Mohamad, S. (2014). Capital adequacy and lending and deposit behaviors of conventional and Islamic banks. *Pacific-Basin Finance Journal*, *28*, 58–75. https://doi.org/10.1016/j.pacfin.2013.11.002

Affandi, S., Ja'afar, A. I., Ismail, F., & Abdul Shukur, N. (2021). Bank Lending Behavior: Evidence From Malaysian Dual Banking System. *Advanced International Journal of Banking, Accounting and Finance*, *3*(8), 65–75. https://doi.org/10.35631/aijbaf.38006

Apergis, N., & Christou, C. (2015). The behavior of the bank lending channel when interest rates approach the zero lower bound: Evidence from quantile regressions. *Economic Modelling*, *49*, 296-307.

Berger, A. N., & Udell, G. F. (1994). Did risk-based capital allocate bank credit and cause a" credit crunch" in the United States?. *Journal of Money, credit and Banking*, *26*(3), 585-628.

Berger, A. N., & Bouwman, C. H. (2013). How does capital affect bank performance during financial crises?. *Journal of financial economics*, *109*(1), 146-176.

Bridges, J., Gregory, D., Nielsen, M., Pezzini, S., Radia, A., & Spaltro, M. (2014). The impact of capital requirements on bank lending.

Bellotti, A., Brigo, D., Gambetti, P., & Vrins, F. (2021). Forecasting recovery rates on non-performing loans with machine learning. *International Journal of Forecasting*, *37*(1), 428–444. https://doi.org/10.1016/j.ijforecast.2020.06.009

Brasliņš, Ģ., Orlovs, A., Braukša, I., & Bulis, A. (2021). Gdp and Lending Behaviour: Empirical Evidence for Baltic States Economies. *Regional Formation and Development Studies*, *10*(2), 31–45. https://doi.org/10.15181/rfds.v10i2.139

CEIC Data. (2022). Malaysia Total Loans Growth. CEIC https://www.ceicdata.com/en/indicator/malaysia/total-loans-growth

Cornett, M. M., McNutt, J. J., Strahan, P. E., & Tehranian, H. (2011). Liquidity risk management and credit supply in the financial crisis. *Journal of financial economics*, *101*(2), 297-312.

Cubillas, E., & Suárez, N. (2018). Bank market power and lending during the global financial crisis. *Journal of International Money and Finance*, *89*, 1-22.

Dang, V. (2019). The effects of loan growth on bank performance: Evidence from Vietnam. *Management Science Letters*, *9*(6), 899-910.

Diamond, D. W., & Rajan, R. G. (2000). A theory of bank capital. *the Journal of Finance*, *55*(6), 2431-2465.

Favara, M. G. (2003). *An empirical reassessment of the relationship between finance and growth*. International Monetary Fund.

Gambacorta, L., & Mistrulli, P. E. (2004). Does bank capital affect lending behavior?. *Journal*

of Financial intermediation, *13*(4), 436-457.

Hossain, M. S., Latiff, A. R. A., & Osman, M. N. H. B. (2022). Money creation and commercial banks' money lending activity through the accounting treatment: stakeholders' perceptions in Malaysia. *Qualitative Research in Financial Markets*.

Ivashina, V., & Scharfstein, D. (2010). Bank lending during the financial crisis of 2008. *Journal of Financial Economics*, *97*(3), 319-338.

Khalid, S. (2022, June 8). RAM Ratings sees 2022 loan growth at 4.5%-5% despite rising interest rates. *The Edge Markets*. https://www.theedgemarkets.com/article/ram-ratings-sees-2022-loan-growth-455-despite-rising-interest-rates

Kim, D., & Sohn, W. (2017). The effect of bank capital on lending: Does liquidity matter? *Journal of Banking and Finance*, *77*, 95–107.
https://doi.org/10.1016/j.jbankfin.2017.01.011

Kosak, M., Li, S., Loncarski, I., & Marinc, M. (2015). Quality of bank capital and bank lending behavior during the global financial crisis. *International review of financial analysis*, *37*, 168-183.

Levine, R., Loayza, N., & Beck, T. (2000). Financial intermediation and growth: Causality and causes. *Journal of Monetary Economics*, *46*(1), 31-77.

Mishra, P., Montiel, P., Pedroni, P., & Spilimbergo, A. (2014). Monetary policy and bank lending rates in low-income countries: Heterogeneous panel estimates. *Journal of Development Economics*, *111*, 117-131.

Nguyen, D. D., Nguyen, L., & Sila, V. (2019). Does corporate culture affect bank risk-taking? Evidence from loan-level data. *British Journal of Management*, *30*(1), 106-133.

Qian, J., Strahan, P. E., & Yang, Z. (2015). The impact of incentives and communication costs on information production and use: Evidence from bank lending. *The Journal of Finance*, *70*(4), 1457-1493.

Riadi, S. (2018). The effect of Third Parties Fund, Non-Performing Loan, Capital Adequacy Ratio, Loan to Deposit Ratio, Return On Assets, Net Interest Margin and Operating Expenses Operating Income on Lending (Study in Regional Development Banks in Indonesia). *Proceedings of the International Conference on Industrial Engineering and Operations Management*, *2018-March*, 1015–1026.

Serrano, S. A. (2021). The impact of non-performing loans on bank lending in Europe: An empirical analysis. *North American Journal of Economics and Finance*, *55*(October 2020). https://doi.org/10.1016/j.najef.2020.101312

Soedarmono, W., Tarazi, A., Agusman, A., Monroe, G. S., & Gasbarro, D. (2017). Loan Loss Provisions and Bank Lending Behavior: Do Information Sharing and Borrowers Legal Rights Matter? *SSRN Electronic Journal*, 1–42. https://doi.org/10.2139/ssrn.2782707

Tecles, P. L., & Tabak, B. M. (2008). Estimating the credit–GDP elasticity: the case of Brazil. *The Banco Central do Brasil Working*, (229).

Thakor, A. V. (1996). Capital requirements, monetary policy, and aggregate bank lending: theory and empirical evidence. *The Journal of Finance*, *51*(1), 279-324.

Tolo, E., & Viren, M. (2021). How much do non-performing loans hinder loan growth in Europe?. *European Economic Review*, *136*, 103773.

Vithessonthi, C. (2016). Deflation, bank credit growth, and non-performing loans: Evidence from Japan. *International Review of Financial Analysis*, *45*, 295–305. https://doi.org/10.1016/j.irfa.2016.04.003

Vo, X. V. (2018). Bank lending behavior in emerging markets. *Finance Research Letters*, *27*(January), 129–134. https://doi.org/10.1016/j.frl.2018.02.011

Zelenyuk, N., Faff, R. W., & Pathan, S. (2017). Voluntary Disclosure of Capital Adequacy and Bank Lending. *Available at SSRN 2988423*.