



Financial Accelerator in National Private Banks During COVID-19 Pandemic

Dennis Berhan^{1*}, Zamruddin Hasid², Wirasmi Wardhani³
Mulawarman University

Corresponding Author: Dennis Berhan dennisberhan97@gmail.com

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ABSTRACT

This research aims to investigate the effect of liquidity, credit risk, and bank size on the financial accelerator in National Private Banks registered with the Indonesian Financial Services Authority during the period of 2019-2022. The research design uses a causal approach. The population of this study is National Private Banks in Indonesia that are registered by Indonesian Financial Services Authority throughout the research period, 2019-2022, with the total population of 68 banks. This study uses purposive sampling method. There are 56 companies as samples of this study, resulting 224 financial statement data. The data is analyzed by using the Generalized Method of Moments (GMM). The research findings indicate that liquidity has a negative and significant impact on the financial accelerator effect in National Private Banks registered with the Indonesian Financial Services Authority during the period 2019-2022 (significance value $0.041 < \alpha = 0.05$). Credit risk also has a negative and significant impact on the financial accelerator effect in these banks during the same period (significance value $0.015 < \alpha = 0.05$). Bank size shows a negative but statistically insignificant influence on the financial accelerator effect in National Private Banks registered with the OJK during the period 2019-2022 (significance value $0.865 > \alpha = 0.05$).

INTRODUCTION

During the crisis caused by the COVID-19 pandemic, the banking sector in Indonesia tended to experience a phenomenon called the financial accelerator. Financial accelerator is a deviation from banking behavior during a crisis by holding back loan disbursement and increasing loan costs at high interest rates, thus pushing up bank price-cost margin income. However, this will ultimately have a negative impact on the economy and will further weaken banking financial activities. So that the fluctuations that occur closely related to the financial accelerator mechanism (Jin Cao, 2021).

Table 1. Loan to Deposit Ratio (LDR) Growth in Conventional Banks in Indonesia 2019-2022

No	Year	LDR	Growth (%)
1	2019	94,43%	-
2	2020	82,54%	-11,89%
3	2021	77,13%	-5,41%
4	2022	78,78%	1,65%

Source: *Indonesian Financial Services Authority (2023)*

Table 1 shows that credit distribution experienced a decline during the COVID-19 pandemic, in 2020 the banking Loan to Deposit Ratio (LDR) position grew negatively by -11.89%, in which the economic activity was decreasing due to the lockdown policy. This makes banks tend to be careful in giving loans to avoid declining banking credit quality and an increase in Non-Performing Loans (NPL). Then in 2021 the LDR still grew negatively at -5.41%, at that time the Large-Scale Social Restrictions policy was being implemented. Banking LDR has only started to grow positively at 1.65% in 2022 right after the COVID-19 pandemic. In that year, activity in the financial sector began to stabilize again but was still overshadowed by the crisis. Therefore, it can be said that although banking liquidity conditions are still quite good, banks tend to restrain their credit distribution with the aim to maintain bank margin income. This can give rise to the financial accelerator phenomenon which can affect the performance of the banking financial sector and ultimately make the crisis worse.

The negative growth of banking industry credit distribution is dominated by slowing credit distribution at national private commercial banks (Almayanti et al., 2020). National private commercial bank credit distribution as of September 2020 contracted 2.61% in a year, if calculated from the beginning of January to September 2020, credit distribution grew negatively 3.69%. Credit contraction occurred due to a decrease in the working capital credit debit balance from the corporate credit segment. In fact, this segment is the mainstay of the national private banking group. The decline in economic activity has also made corporate customers reluctant to expand. This decline was due to a decline in business activity during the pandemic so that the national private banking sector was still careful in responding to the future outlook. This is done by National Private Banks so that they can maintain their margin income. In line with the study which found that behavior arising from the activities of

National Private Banks by withholding loan disbursement may lead to financial accelerator (Jin Cao, 2021).

Banks tend to accelerate their income through the intermediation called loan also known as a financial accelerator. Financial accelerator is related to credit distribution and is directly related to the liquidity and assets owned by the bank. Apart from that, financial accelerators are also related to investment decision making and liquidity management (Barbara Casu et al., 2022). An understanding of financial accelerators helps banking management in planning effective liquidity management strategies to ensure the availability of sufficient funds to carry out bank operations. Then, financial accelerators can help to identify risks related to the bank's financial condition. For example, a declining liquidity or an increase of credit risk may impact financial performance negatively (Turgutlu, 2010).

Liquidity is a key for banks in accelerating their margin income (Barbara Casu et al., 2022) . However, the problematic issue that arises is whether the bank's liquid assets that are stored accelerate banking income or burden their income from the bank's margin obtained. Study states that credit risk is the risk that arises when debtors are unable to pay their loans according to the period of their loans. Credit risk can impact interest margin income. Banks that distribute more loans will have higher credit risks and must carry out more supervision. This makes banks have to charge higher interest costs to anticipate credit risks in the form of potential default by debtors (Angbazo, 1997).

Moreover, research also found that bank size can also influence banking financial performance. Bank size is the size of the assets owned by the bank in carrying out its business scale. The bigger the assets owned by a bank, the higher the risk of the bank experiencing bankruptcy (Barbara Casu et al., 2022). Larger banks typically have better access to financial resources and markets, which can enhance their capabilities in managing risk and optimizing financial performance. However, banks that are too large can also face challenges in managing risk effectively and maintaining operational flexibility (Fang et al., 2019).

Previous study found that credit risk has negative impact on banking margins and has an impact on a country's economy, especially during a financial crisis. Therefore, it is necessary to strictly monitor the quality of credit provided by banks, so that credit risk can be managed well and financial stability can be maintained (Pham et al., 2019) . However, another study states that credit risk has a positive effect on banking price-cost margins. This happens because banks set higher provision fees to mitigate non-performing loans, thereby potentially providing banks with margin revenue benefits (Kutum, 2017). Furthermore, previous study also states that bank size has a negative influence on bank margins. This is because managing large banks is quite difficult, causing costs to increase and ultimately reducing bank margins (Fang et al., 2019). It is in line with the finding in which it states the larger the size of a bank the lower the margin is (Altunbaş et al., 2016).

There are still quite a few studies discussing financial accelerators in the banking sector. Previous study only focused on banks in Europe (Altunbaş et

al., 2016). Another study only focused on single countries in Vietnam (Nguyen et al., 2020). Likewise, another previous research focused on banks in the United States (Aliaga-Díaz & Olivero, 2010). Research related to financial accelerators in the Asian banking is still rarely found. There are inconsistent results among researchers who explain the influence of liquidity, credit risk, and bank size on financial accelerators in the banking sector (Altunbaş et al., 2016) (Aliaga-Díaz & Olivero, 2010) (Nguyen et al., 2020). Therefore, this research contributes to re-analyze the condition of bank financial management factors towards financial accelerators in Indonesian banking.

In this research, financial accelerator will be proxied by price-cost margin. In the banking context, price cost margin can reflect the operational efficiency of banks as well as the pricing strategies implemented in selling their products and services. Previous research only focuses on net interest margin (Dewi & Triaryati, 2017), no one has discussed the external financial premium, which is price-cost margin, so this research will cover the gap in previous research. Furthermore, this research also investigates credit risk which is considered important in banking. Credit risks that can occur in the banking business affect bank margins (Pham et al., 2019). This research uses credit risk which is proxied by Non-Performing Loans. Based on the problem it can be concluded that this study eagers to find out the effect of liquidity, credit risk, and bank size on the price-cost margin at Indonesian National Private Banks registered by the Indonesian Financial Services Authority during the period of 2019-2022.

LITERATURE REVIEW

Financial Accelerator

According to Jin Cao, (2022; 340) states that the financial accelerator is a behavioral deviation from banks during a crisis by restraining lending and increasing the price of loan capital at high interest rates so as to encourage bank price-cost margin income which can strengthen or weaken the effect of economic changes on bank financial performance.

The results of research by Altunbas et al. (2016) state that there is a relationship between the price-cost margin of banks in European banking on bank liquidity. Research conducted by Altunbas et al. (2016) shows empirical evidence that supports the financial accelerator theory. In the study, a number of banks in Europe were analyzed during the crisis period. The results showed a significant relationship between bank liquidity and their financial performance related to the financial accelerator.

The study found that banks with low liquidity will experience a more significant decline in financial performance during the crisis. In contrast, banks with good liquidity and effective risk management exhibit a better level of financial performance in the face of challenges caused by economic turmoil. The findings of this study support the financial accelerator theory which states that the financial condition of banks can strengthen or weaken the effect of economic changes on the financial performance of banks. This indicates that banks' financial management needs to pay close attention to their financial conditions

and take appropriate measures to manage risks and maintain healthy financial performance.

Price-Cost Margin

Bank price-cost margin is a concept that reflects the profit margin between interest income and interest expense generated by a bank. This concept is important in understanding the pricing strategy and operational efficiency of banks in generating profits. Price-cost margin can be calculated by comparing the difference between the revenue earned by the bank and the costs charged to customers or related operating costs.

According to Altunbas et al. (2016), bank price-cost margin is an important measure in evaluating banking efficiency. In their study, it was concluded that banks with high price-cost margins tend to have better operational efficiency. This is due to the bank's ability to generate profits that are greater than the revenue and expense margins generated, which in turn can improve their financial performance.

A bank's price-cost margin has significant implications in the financial management of the bank. An increase in price-cost margin can contribute to an increase in bank profits and overall financial performance. This helps banks in meeting capital requirements, enhancing competitiveness, and providing better financial stability. In the context of risk, price-cost margin also has relevant implications. A high margin can provide a bank with a larger profit buffer to handle risks and weather economic fluctuations. Banks with low price-cost margins may be more vulnerable to risks and changes in market conditions.

Liquidity

According to Casu et al., (2020: 295) states that liquidity is the ability of banks to have liquid assets to fulfill their obligations and to meet loan requests. Basically, banks must always be able to meet cash flow shortages in both normal and abnormal conditions. Liquidity is a factor for banks in accelerating their margin income. The problem that arises is when banks have to see the liquid assets they hold that generate or actually charge their income.

Michail (2021: 86) states that liquidity also affects bank behavior when obtaining high deposits. When banks receive a sizable flow of deposits, it substantially improves their liquidity position. However, more deposits mean higher costs as interest has to be paid to them. So to absorb this cost, the bank has to utilize these deposits to the maximum extent possible so as not to incur spread costs that lead to costs rather than income. Using these deposits for loss reserves is not an effective and efficient way as the interest income derived from placing funds at the central bank will always be less than the interest paid by the deposits. So that banking decisions depend on the interest earned on deposits, whether banks are better off buying government bonds or providing more loans that have more risks for the economy. if the distribution of too many loans can consequently create bubbles or loan explosions.

According to Moyer et al., (2015) poor liquidity management makes banks bankrupt. High bank liquidity may indicate a lack of suitable investment opportunities and can lead to poor bank performance.

According to Nainggolan (2016), liquidity is seen based on the loan to deposit ratio (LDR) which consists of loans given to third parties consisting of site deposits, savings, and time deposits (excluding interbank loans). Then, the loans provided in this LDR assessment have not been deducted from the loss reserves formed by the bank (total amount). So the higher this ratio, the more likely the bank is in trouble.

Research conducted by Altunbas et al. (2016) shows that liquidity has a negative effect on bank price-cost margins. This shows that the more liquid the bank is, the lower the bank's price-cost margin will be. Then Adelopo et al.'s research (2018) states that liquidity has a negative effect on bank profitability during the crisis. This indicates that when the economy experiences a shock, high bank liquidity makes the bank's price-cost margin decline. This is due to banks' concerns about the risk of default so that banks must maintain their very high liquidity to meet the demands of debtors and customers. So that banks will increase high interest rates to minimize the risk.

Credit Risk

Research conducted by Pham et al., (2019) shows that credit risk has an effect but is not significant on margins in Vietnamese banking. When banks increase the amount of lending without strict control, there will be consequences such as affecting the stability of the banking industry and can increase the potential for a decline in banking financial performance. To avoid this, banks must ensure that lending follows the rules and regulations of the regulator. Research conducted by Tarus et al. (2012) states that credit risk has a positive effect on banking price-cost margins. Banks that provide risky loans may set higher provisions. Thus, this can force them to set higher margins to compensate for the higher risk of default, naturally leading to a positive relationship for banks.

Then research conducted by Dewi & Triayati (2017) states that credit risk has a negative effect on banking price-cost margins. This negative effect means that the higher the Non Performing Loan ratio, the price-cost margin will decrease. This negative result can explain that the more non-performing loans, the bank's interest income will decrease because there is a tendency for debtors to fail to pay their obligations so that the interest margin received by the bank will decrease. The decrease in the margin received by the bank has an impact on the decrease in the price-cost margin earned by the bank.

This indicates that when there is economic turmoil, credit risk affects the price-cost margin of banks. This can happen due to banks' concerns about the risk of loan defaults by debtors which causes the bank's margin received to decrease. So that banks will set a higher amount of provisions to compensate for credit risk that might occur.

Size of Bank

According to Casu et al (2022: 489) states that bank size is the size or size of assets owned by banks in the scale of their business, the greater the assets of the bank owned, the higher the risk of the bank experiencing "too big to fail" during the crisis and economic recession.

According to Michail (2021: 90), one of the causes of bank failure is the size of the bank. When a bank has assets that are too large and are not used effectively and efficiently, it will cause large costs to arise for the bank.

In Penabad et al's research (2021) analyzed the relationship between bank size and price-cost margin. The results showed that bank size has a negative effect on bank profitability. A larger bank size will present a lower level of profitability. Banks that have a larger share of wholesale funding and diversify their funding sources, have lower price-cost margin income.

Then, research conducted by Fang et al. (2019) shows the results that bank size has a negative influence on bank price-cost margins. This is because banks with large sizes are more difficult to manage, causing an increase in costs to overcome this and consequently reducing the bank's price-cost margin.

This is in line with the theory that one of the causes of bank failure is bank size. When a bank has assets that are too large and are not used effectively and efficiently, it will cause large costs to arise for the bank. This proves that bank size affects the bank's price-cost margin. This is because banks with larger sizes tend to have greater costs arising from operational aspects, larger banks can also incur higher costs in terms of infrastructure, risk management, and regulatory compliance which causes the bank's price-cost margin received to decrease. Therefore, banks with larger size will continue to strive for efficiency from the operational and business side to maximize the bank's price-cost margin income.

METHODOLOGY

The design of this study is quantitative. This study eagers to find the relationship between two or more variables which aims to find cause and effect between one variable and another variable. The dependent variable in this study is financial accelerator proxied as price-cost margin while the independent variable is liquidity, credit risk and size bank. The population in this research is National Private Banks registered by Indonesian Financial Services Authority during the period of 2019-2022, with the total population of 68 national private banks. This study uses purposive sampling technique with some criteria such as Conventional Banks classified as National Private Banks registered by Indonesian Financial Services Authority during the 2019-2022 period, the bank is not a Sharia Bank, the bank consistently submits annual reports during the research period, data regarding the variables to be studied are available in the annual financial reports published during the 2019-2022 period.

Table 2. Number of Conventional National Private Banks in Indonesia

Criteria	Total numbers
Conventional Banks classified as National Private Banks registered by the Indonesian Financial Services Authority during the 2019-2022 period	68
Bank is not classified as sharia bank	58
Data regarding the variables to be studied is available in the annual financial reports published for the 2019-2022 period	56
Consistently submit annual reports during the research period	56
Total sample	56

In Table 2 it can be concluded that there are 56 Conventional Banks classified as National Private Banks which are registered by the Indonesian Financial Services Authority and meet the research sample criteria, while 12 banks do not meet the criteria, so the sample in this research can be seen in the Table 3.

Table 3. Sample of the study

No	Sample
1	PT BANK DANAMON INDONESIA, TBK
2	PT BANK PERMATA, TBK
3	PT BANK CENTRAL ASIA, TBK
4	PT BANK MAYBANK INDONESIA, TBK
5	PT PAN INDONESIA BANK, TBK
6	PT BANK CIMB NIAGA, TBK
7	PT BANK UOB INDONESIA
8	PT BANK OCBC NISP, TBK
9	PT BANK ARTHA GRAHA INTERNASIONAL, TBK
10	PT BANK BUMI ARTA, TBK
11	PT BANK HSBC INDONESIA
12	PT BANK JTRUST INDONESIA, TBK
13	PT BANK MAYAPADA INTERNATIONAL, TBK
14	PT BANK OF INDIA INDONESIA, TBK
15	PT BANK MESTIKA DHARMA
16	PT BANK SHINHAN INDONESIA
17	PT BANK SINARMAS, TBK
18	PT BANK MASPION INDONESIA
19	PT BANK GANESHA
20	PT BANK ICBC INDONESIA
21	PT BANK QNB INDONESIA, TBK

No	Sample
22	PT BANK WOORI SAUDARA INDONESIA 1906, TBK
23	PT BANK MEGA, TBK
24	PT BANK KB BUKOPIN, TBK
25	PT BANK KEB HANA INDONESIA
26	PT BANK MNC INTERNASIONAL, TBK
27	PT BANK RAYA INDONESIA TBK
28	PT BANK SBI INDONESIA
29	PT BANK INDEX SELINDO
30	PT BANK CHINA CONSTRUCTION BANK INDONESIA, TBK
31	PT BANK DBS INDONESIA
32	PT BANK RESONA PERDANIA
33	PT BANK MIZUHO INDONESIA
34	PT BANK CAPITAL INDONESIA, TBK
35	PT BANK BNP PARIBAS INDONESIA
36	PT BANK ANZ INDONESIA
37	PT BANK IBK INDONESIA TBK
38	PT BANK CTBC INDONESIA
39	PT BANK COMMONWEALTH
40	PT BANK BTPN, TBK
41	PT BANK BISNIS INTERNASIONAL
42	PT BANK JASA JAKARTA
43	PT BANK NEO COMMERCE TBK
44	PT BANK DIGITAL BCA
45	PT BANK NATIONALNOBU
46	PT BANK INA PERDANA
47	PT PRIMA MASTER BANK
48	PT BANK SAHABAT SAMPOERNA
49	PT BANK OKE INDONESIA TBK
50	PT BANK AMAR INDONESIA
51	PT BANK SEABANK INDONESIA
52	PT BANK JAGO TBK
53	PT BANK MULTIARTA SENTOSA
54	PT BANK MANDIRI TASPEN
55	PT BANK VICTORIA INTERNATIONAL, TBK
56	PT ALLO BANK INDONESIA TBK

The research instrument used in this study is financial report data from the sample of the study during research period (2019-2022). With the calculation as follows, 56 (sample of this study) \times 4 (year 2019 -2022) = 224 financial report data. The data is collected by Field Work Research and library research by collecting relevant financial report and articles related to the topic discussed especially financial accelerator, price-cost margin, liquidity, credit risk and bank size. The data is analyzed by using Generalized Method of Moment (GMM),

GMM is considered has consistency and used widely by previous studies (Altunbaş et al., 2016) (Turgutlu, 2010). The GMM is described as follows

$$PCM1i,t = \beta_0 + \beta_1 PCM1i-1,t + \beta_2Liq + \beta_3Credit Risk + \beta_4Size + \varepsilon_{i,t}$$

Note :

$PCM1i,t$: Price-cost Margin 1 Bank i in year t

$PCM1i-1,t$: Price-cost Margin 1 in year t-1

Liq : Liquidity

$Credit Risk$: Credit risk

$Size$: Bank size

$\beta_0, \beta_1, \beta_2, \beta_3, \beta_4, \beta_5, \beta_6$: Regression coefficients

$\varepsilon_{i,t}$: Residual (error)

There are three criteria to determine GMM method, they are reliability, validity and consistency. A good GMM model is a model that is valid, consistent and reliable. Several studies conducted a correlation matrix test to determine the existence of a relationship between independent variables. The research results say that there is no multicollinearity if the VIF is below a value of 0.9 or more. Furthermore, the GMM model is said to be a dynamic model if it meets several requirements (Santoso et al., 2021)(Altunbaş et al., 2016):

Lagged Dependent Variable p value <0.10

The AR 1 test has a p value <0.05

The AR 2 test has a p value > 0.05

The Hansen test has a p value > 0.05

The Sargan test has a p value i> 0.05

Hypothesis testing in decision making regarding hypotheses is stated as follows:

If the independent variable has a p value <0.05 then the hypothesis is accepted

If the independent variable has a p value > 0.05 then the hypothesis is rejected

RESULT AND DISCUSSION

Descriptive Statistics

Table 4. Descriptive Statistics of Price-cost margin (PCM), Liquidity, Credit risk, bank size at Indonesian National Private Banks registered by the Indonesian Financial Services Authority during the period of 2019-2022

No	Variable	Mean	Min	Max	Standard deviation
1	Price-cost margin (PCM)	13,597	9,350	17,913	1,518
2	Liquidity	92,98	0,00	6,878	71,47
3	Credit risk	3,11	0,00	2,457	2,24
4	Bank size	17,021	13,768	20,972	1,395

Table 4 shows the statistical distribution of PCM with a mean of 13.597, a minimum value of 9.350, a maximum value of 17.913 and a standard deviation of 1.518. Liquidity with a mean of 92.98, a minimum value of 0.00, a maximum value of 6.878, and a standard deviation of 71.47. Credit Risk with a mean of 3.11, a minimum value of 0.00, a maximum value of 2.457, and a standard deviation of 2.24. Bank Size Data with a mean of 17.021, a minimum value of 13.768, a maximum value of 20.972, and a standard deviation of 1.395. In this research, to overcome outlier data, winsorization was carried out at a level of 5% on the dependent variable, namely the price-cost margin variable.

Generalized Method Moment (GMM) Testing

Generalized Method Moment (GMM) testing in this research includes the correlation matrix, AR1 test, AR2 test, Hansen test and Sargan test. This study uses the Stata® version.

The following are the results of the correlation matrix test analysis in this research to show the results of the relationship between independent variables, namely liquidity, credit risk and bank size with the following results

Table 5. Correlation matrix test

	Liquidity	Credit Risk	Bank size
Liquidity	1.0000		
Credit risk	-0.0853	1.0000	
Bank size	-0.0767	-0,0838	1.0000

Table 5 shows that the values of the liquidity, credit risk and bank size are below the significance level. If the correlation value between two variables is 0.05 or greater, then there is a multicollinearity problem in the model (Yusgiantoro et al., 2019). Therefore, Table 3.2 reports the correlations between the independent variables, which do not exceed the minimum level, thus indicating that multicollinearity is not a problem in this study.

The following are the results of the dynamic panel analysis in this research to show the effect of liquidity, credit risk and bank size variables on the financial accelerator as proxied by price cost margin as well as dynamic panel specification tests.

1. Gender of the Respondents

Group variable: bank_num		Number of obs	=	213	
Time variable : Tahun		Number of groups	=	56	
Number of instruments = 8		Obs per group: min	=	1	
Wald chi2(3)	=	47.88	avg	=	3.80
Prob > chi2	=	0.000	max	=	4

	Coef.	Corrected Std. Err.	z	P> z	[95% Conf. Interval]	
lPCM						
lPCM L1.	.9410931	.2884703	3.26	0.001	.3757018	1.506484
lLikuiditas	-.0011683	.0530903	2.04	0.041	.004312	.212422
lResikoKredit	-.0896403	.0370028	-2.42	0.015	-.1621646	-.0171161
lUkuranBank	-.0029374	.2834934	0.17	0.865	-.5075012	.6037727
_cons	-.2205513	1.1128	-0.20	0.843	-2.401599	1.960496

Arellano-Bond test for AR(1) in first differences: z = **-1.11** Pr > z = **0.036**
 Arellano-Bond test for AR(2) in first differences: z = **-1.82** Pr > z = **0.069**

Sargan test of overid. restrictions: chi2(3) = **8.53** Prob > chi2 = **0.223**
 (Not robust, but not weakened by many instruments.)
 Hansen test of overid. restrictions: chi2(3) = **5.72** Prob > chi2 = **0.126**
 (Robust, but weakened by many instruments.)

Figure 1. Generalized method moment (GMM) Output

Figure 1 shows the results of the dynamic panel GMM test which shows the feasibility of the dynamic panel model, including:

- The AR1 test has a p value of $0.036 < 0.05$, so the AR1 test instrument is accepted
- The AR2 test has a p value of $0.069 > 0.05$, so the AR2 test instrument is accepted
- The Hansen J test has a p value of $0.126 > 0.05$, so the Hansen J test instrument is accepted
- The Sargan test has a p value of $0.223 > 0.05$, so the Sargan test instrument is accepted

These results indicate that this research has met the requirements of the dynamic panel specification test, so the feasibility of the model in this research is said to be dynamic (Yusgiantoro et al., n.d.). Then the results in Figure 1 show the results of the influence of the independent variable on the dependent variable which will be explained in the equation below:

$$PCM = -.2205513 + .9410931 lPCM + -.0011683 lLikuiditas + -.0896403 lResiko Kredit + -.0029374 lUkuran bank + \epsilon_{l,t}$$

Note: Likuiditas means liquidity, Resiko Kredit means Credit risk, Ukuran Bank means Bank Size

Hypothesis Testing

Hypothesis testing in this research was carried out on a dynamic panel which shows the influence of independent variables on dependent variables.

Hypothesis testing is based on a significance value of 5% (Yusgiantoro et al., n.d.)(Turgutlu, 2010)(Altunbaş et al., 2016). Result hypothesis testing can be seen in Table 6.

Table 6. Result hypothesis testing

Hypothesis	Effect	Decision
H1	The Effect of Liquidity on Financial Accelerator	Accepted
H2	Credit Risk on Financial Accelerator	Accepted
H3	Bank Size on Financial Accelerator	Rejected

A. Hypothesis 1 is accepted

The effect of liquidity (X1) on price-cost margin (Y) has a negative coefficient value of $-.0011683$, which means that every 1 percent increase in liquidity value will cause a decrease in the price-cost margin of national private banking in Indonesia by $-.0011683$. Then the significance value is 0.041 which shows that the influence of liquidity on price-cost margin has a p value <0.05 , so the effect is significant. This shows that liquidity has a negative and significant effect on price-cost margins in Indonesian national private banking. Therefore, Hypothesis 1 (H1) is accepted.

This result of this study is in line with the previous study showing that liquidity has a negative effect on bank price-cost margins (Altunbaş et al., 2016). This shows that the more liquid a bank is, the more it reduces bank margins, thus indicating that liquidity encourages countercyclical bank margins in bank declines. When economic conditions are bad, the higher bank liquidity, the more bank margins will decrease. This is caused by banking concerns about the risk of default so that banks must maintain very high liquidity to meet depositors' demands. Therefore, banks increase high interest rates to cover additional risks that might occur. These results prove that banks always increase liquidity in order to reduce the bank's price-cost margin, this is because the more banks increase liquidity during a declining business cycle, it actually increases costs and suppress the bank's margin.

B. Hypothesis 2 is accepted

The effect of credit risk (X2) on price-cost margin (Y) has a negative coefficient value of $-.0896403$, which means that an increase in the credit risk value every 1 percent will cause a decrease in the price-cost margin of national private banking in Indonesia by $-.0896403$. The significance value is 0.015 which shows that the influence of credit risk on price-cost margin has a p value <0.05 , so the effect is significant. This shows that credit risk has a negative and significant effect on price-cost margins in Indonesian national private banking, so that Hypothesis 2 (H2) is accepted.

The results of this study is in line with the previous study which shows that credit has a significant negative influence on price-cost margins in European banking (Altunbaş et al., 2016). This indicates that credit has an opposite cycle to banks' price-cost margins, when credit begins to decline due to weak demand for credit caused by the economic downturn, banks actually

increase their price-cost margins. So this research supports the financial accelerator framework in European banking. The results of this research are also in line with other study which shows that credit has a significant negative effect on price-cost margin (Turgutlu, 2010). The results of this research indicate that credit experienced a decline when experiencing the effects of the global financial crisis, but price-cost margins in Turkish banks actually increased. This is because banks increase costs to mitigate the risk of default by debtors.

The results of this research are in accordance with the previous research which reveals that credit has a negative influence on bank margins (Jordà et al., 2013). When demand for credit experiences an extreme decline during a crisis, banks will increase fees on new debtors or withhold their funds to avoid default risk. Similar to the another results which shows that credit has a negative effect on price-cost margins in American banking (Aliaga-Díaz & Olivero, 2010). This indicates that when the economy experiences a sharp decline due to events such as the financial crisis, banks actually increase loan prices more expensively than during normal economic times so that companies are likely to postpone investment and production, thereby exacerbating the shock of the financial crisis.

The results of this research shows that during the crisis national private banking in Indonesia tend to be more careful in disbursing loans, this is to overcome the problem of high levels of default risk during the crisis, but banks tend to disburse their loans at the interest rate. This indicates a negative relationship between credit risk and price-cost margin. This shows that there is a financial accelerator mechanism in Indonesian national private banking. These results indicate that when the economy is in a period of crisis, banks react to withhold loans in order to obtain high interest rates.

C. Hypothesis 3 is rejected

The effect of bank size (X3) on price-cost margin (Y) has a negative coefficient value of -0.0029374 , which means that an increase in the value of bank size every 1 percent will cause a decrease in the price-cost margin of national private banking in Indonesia by 0.0481357 . The significance value is 0.865 which shows that the effect of bank size on price-cost margin has a p value > 0.05 , so the effect is not significant. This shows that bank size has a negative and insignificant effect on price-cost margins in Indonesian national private banking. Based on this result Hypothesis 3 (H3) is rejected.

The study shows that bank size has a negative influence on bank margin income. This indicates that larger banks present lower levels of profitability. Previous research shows that bank size has a negative effect on bank margins. This is because large banks are difficult to manage which causes increased costs to deal with them thereby reducing bank margins (Fang et al., 2019).

However, the influence of bank size on price-cost margin in this study is not significant. This proves that differences in bank size are not strong enough to predict significant changes in the Price-cost Margin of National Private Banks in Indonesia. There are other factors that can also play a role in determining the Price-cost Margin of National Private Banks in Indonesia. The results of this

research prove that the size of the assets owned by banks does not affect the margins obtained by banks during the business cycle. This happens because the greater the total assets owned by banks in Indonesia, the greater the costs for managing their assets, which can reduce the bank's price-cost margin.

CONCLUSIONS AND RECOMMENDATIONS

Based on the results of the analysis and discussion that has been carried out regarding the influence of Liquidity, Credit Risk and Bank Size on the Financial Accelerator in Indonesian National Private Banking it can be concluded that first, liquidity has a negative and significant effect on price-cost margins in national private banking in Indonesia. These results show that high liquidity creates costs that can put pressure on bank margins. Second, the influence of credit risk has a negative and significant effect on price-cost margins in national private banking in Indonesia. These results show that when the banking business experiences a decline due to the crisis, banks actually increase their margins. Third, the effect of bank size has a negative effect but not significant on price-cost margins in national private banking in Indonesia. These results show that the "too big too fail" effect during times of business fluctuation can reduce bank margins.

ADVANCED RESEARCH

This research still has limitations so it is necessary to carry out Advanced Research related to the topic "Financial Accelerator in National Private Banks During COVID-19 Pandemic" to perfect this research, as well as increase insight for readers.

REFERENCES

- Aliaga-Díaz, R., & Olivero, M. P. (2010). Is there a financial accelerator in US banking?. Evidence from the cyclicalities of banks' price-cost margins. *Economics Letters*, 108(2), 167-171.
<https://doi.org/10.1016/j.econlet.2010.04.037>
- Almayanti, H., Ismawanto, T., & Kusno, H. S. (2020). Pengaruh Dana Pihak Ketiga (DPK), Capital Adequacy Ratio (CAR), Dan Non Performing Loan (NPL) Terhadap Penyaluran Kredit Pada Bank Umum Swasta Nasional Devisa (Periode 2015-2019). *JMAP: Jurnal Tugas Akhir Mahasiswa Akuntansi Poltekba*, 2, 302-311.
- Altunbaş, Y., Tommaso, C. Di, & Thornton, J. (2016). Is there a financial accelerator in European banking? *Finance Research Letters*, 17, 218-221.
<https://doi.org/10.1016/j.frl.2016.03.020>
- Angbazo, L. (1997). Commercial bank net interest margins, default risk, interest-rate risk, and off-balance sheet banking. In *FINANCE ELSEVIER Journal of Banking & Finance* (Vol. 21).

- Barbara Casu, Claudia Giradone, & Philip Molyneux. (2022). *Introduction to Banking* (3rd, illustrated ed.). Pearson.
- Dewi, I. L., & Triaryati, N. (2017). PENGARUH FAKTOR INTERNAL DAN EKSTERNAL BANK TERHADAP NET INTEREST MARGIN DI INDONESIA. *6*(6), 3051–3079.
- Fachriyan, H. A., Jamhari, Irham, & Rahayu Waluyati, L. (2021). Perubahan Traditional Marketing Mix (4P) Di Dalam E-Marketplace Dan Dampaknya Pada Keunggulan Posisional Bersaing UMKM Pangan. *AKSES: Jurnal Ekonomi Dan Bisnis*, *16*(2), 167–177.
- Fang, J., Lau, C. K. M., Lu, Z., Tan, Y., & Zhang, H. (2019). Bank performance in China: A Perspective from Bank efficiency, risk-taking and market competition. *Pacific Basin Finance Journal*, *56*, 290–309.
<https://doi.org/10.1016/j.pacfin.2019.06.011>
- Jin Cao. (2021). *The Economics of Banking* (1st ed.). Routledge.
- Kutum, I. (2017). The Impact of Credit Risk on the Profitability of Banks Listed on the Palestine Exchange. In *Research Journal of Finance and Accounting* www.iiste.org ISSN (Vol. 8, Issue 8). Online. www.iiste.org
- Nguyen, T. V. H., Pham, T. T. T., Nguyen, C. P., Nguyen, T. C., & Nguyen, B. T. (2020). Excess liquidity and net interest margins: Evidence from Vietnamese banks. *Journal of Economics and Business*, *110*.
<https://doi.org/10.1016/j.jeconbus.2020.105893>
- Pham, A. H., Tran, C. K. Q., & Vo, L. K. T. (2019). Determinants of net interest margins in Vietnam banking industry. *Studies in Computational Intelligence*, *809*, 417–426. https://doi.org/10.1007/978-3-030-04200-4_30
- Santoso, W., Yusgiantoro, I., Soedarmono, W., & Prasetyantoko, A. (2021). The bright side of market power in Asian banking: Implications of bank capitalization and financial freedom. *Research in International Business and Finance*, *56*. <https://doi.org/10.1016/j.ribaf.2020.101358>
- Sofyan, D. (2022). *Teori serta implementasi dalam komitmen dan anggaran waktu* (H. Aulia, Ed.; Pertama). CV Pena Persada.
- Turgutlu, E. (2010). Cyclical behavior of price-cost margins in the Turkish banking industry. *Economic Modelling*, *27*(1), 368–374.
<https://doi.org/10.1016/j.econmod.2009.09.016>
- Yusgiantoro, I., Soedarmono, W., & Tarazi, A. (2019). Bank consolidation and financial stability in Indonesia. *International Economics*, *159*, 94–104.
<https://doi.org/10.1016/j.inteco.2019.06.002>