Analysis of The Credit Crunch Phenomenon during the Covid-19 Period in Indonesia: Demand, Supply, and Monetary Policy Approach

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Abstract. Credit crunch is a phenomenon marked by banks' reluctance to extend credit, impacting both the real sector and financial stability. Therefore, this study aims to analyze whether there are cases of credit crunch due to the Covid-19 pandemic with a panel data method of 33 provinces in Indonesia from June 2019 to May 2021. This study uses the Random Effect Model with the General Least Square (GLS) method. From the demand side, interest rates during the pandemic have a positive relationship with lending. Meanwhile, the supply side shows that banks are increasingly cautious (risk aversion) in lending, which can be seen from the NPL and third-party funds variable during the pandemic has a negative effect. Lastly, the BI7DRR as the monetary policy has a negative impact. These findings reveal a decline in credit supply during the Covid-19 period that needs to be concerned with the risk management of lending to debtors.

Keywords: Banking, BI7DRR, Covid-19 pandemic, Credit crunch, NPL

1 Introduction

It is undeniable that the banking sector plays a strategic role in economic growth. The development of the formal financial sector and the allocation of credit distribution positively impact economic growth [1]. Banks have a function to distribute money from the public and then will be given in the form of lending to companies or the public for productive or consumption purposes [2]. The ease of obtaining funds as business capital can provide a multiplier effect on the real sector. Consumption and investment increase in line with the increase in productive activities by business actors, which then impact output aggregate.

The credit crunch or the reluctance of banks to extend credit is a crucial problem in times of crisis. This decline in supply-side credit can certainly hamper economic recovery because most real sector financing comes from bank credit [3]. In the 1980s, Texas was allegedly experiencing a credit crunch due to falling oil prices and economic recession in several oil-importing countries [4]. The fall in oil prices for the second time dealt a heavy blow to the banking and real estate in Texas. The high Non-Performing Loans and the decline in bank capital due to the

increase in non-performing assets (in the property sector) have made bank supervisors, and even the board of directors hinder and prohibit lending to the public.

In addition, there are implications for the occurrence of a credit crunch in Indonesia, Thailand, and Korea at the end of 1997 which was marked by a decrease in supply credit [5]. The decline in supply was motivated by the Asian financial crisis triggered by the Thai Baht crisis. In Indonesia, these problems continued until the end of 2000. Furthermore, banking perceptions of high credit risk were one of the reasons why banks were reluctant to extend credit to the real sector [3]. As a result, Indonesia's economy recovery is slower than in Korea and Thailand.

In the case of America in 2007, the credit crunch occurred in two stages [6]. First is the occurrence of subprime mortgages, where banks provide credit facilities for customers who are not eligible to get credit. This is driven by high speculation in the property/housing sector. Second, the bursting of the housing bubble results from declining demand for the housing sector, while the housing supply is still very high. This causes property prices to drop sharply, increasing the risk of default and non-performing assets. In the end, it will adversely affect the condition of banking capital and trigger a credit crunch. Some factors that determine a credit crunch are a decrease in bank capital, an overreaction to bank supervision, a renewal of credit standards by banks, and regulatory burdens [4]. In addition, loans that continue to be extended (evergreen loans) can also cause a credit crunch [3]. The high number of loans that continue to be extended makes it difficult for banks to allocate credit to fund new projects.

The unexpected presence of the covid-19 pandemic had a tremendous impact on global economic conditions. The economic crisis and disruption of financial stability occurred in almost all countries. During the pandemic, there was the deepest economic contraction in Indonesia in the second quarter of 2020 by 5.3 percent (year-on-year). Bank Indonesia provides stimulus, including easing macroprudential policies, injection of liquidity, and a reduction in Bank Indonesia-7 Day Reverse Repo Rate (BI7DRR) [7]. The decrease in BI7DRR is expected to increase the demand for bank credit. However, is the increase in demand for credit in line with the high supply of credit? Especially in the highly vulnerable covid-19 pandemic situation and high fluctuations in the financial and real sectors can increase the risk of default and increase non-performing assets. Will this lead to a credit crunch during the covid-19 pandemic?

Based on the explanation above, research related to the credit crunch is very important to be done more deeply. However, the majority of previous studies analyzed credit crunch separately from the supply side of credit [8], the demand and supply side of credit [5, 9–11], the supply side originating from foreign loans [12], and banking restructuring[13]. However, we believe further analyses on all aspects of credit crunch are needed to get a more convincing policy recommendation. Therefore, we initiate to develop more comprehensive empirical research from the supply side of credit, credit demand, and monetary policy. By doing research from these three aspects, it can be seen which side is a significant cause of the credit crunch phenomenon. Finally, empirical-based policy recommendations will be provided to solve the credit crunch in Indonesia.This Word document can be used as a template for papers to be published in EAI Core Proceedings. Follow the text for further instructions on text formating, tables, figures, citations and references.

2 Objectives

Based on the urgency and description of the background above, this study aims to:
1. Analyze whether there is a credit crunch phenomenon during the covid-19 pandemic.
2. Provide solutions in the form of policy recommendations to Bank Indonesia as the monetary authority and related stakeholders to overcome credit crunch problems.

3 Literature Review

3.1 Credit

Investment in the country cannot be separated from the word funding, where funding is still dominated by credit provided by commercial banks to households or at the corporate level, both native and foreign. According to Law Number 10 of 1998 concerning Banking, credit is the provision of money or equivalent claims based on an agreement or loan agreement between a bank and another party that requires the borrower to repay the debt after a certain period of time with interest. With credit being one of the transmission mechanisms of monetary policy, it will certainly have implications for real economic activity and prices [14]. Credit is offered by commercial banks to the public. In the economic system, commercial bank's credit refers to the Bank Indonesia as a Central Bank. Types of credit are divided into three major parts such as; types of credit seen from the purpose of use such as consumer credit, productive credit, and trade, types of credit in terms of use such as investment credit and working capital credit, and types of credit from periods such as short-term credit and long-term credit [15].

The more people who make credit to commercial banks will certainly increase credit growth with the final result, namely economic growth. The increase in bank credit will increase the spending component of the economy, which will increase GDP [16]. Credit growth is also inseparable from the distribution of credit provided by commercial banks.

3.2 Credit Crunch

Credit crunch is a decline or reluctance of banks to provide credit to the business world due to the sharp decline in credit supply in banking [3]. Furthermore, credit rationing results in a credit crunch when conditions are extreme. Then, banks are reluctant to extend credit to customers or most customers at any interest rate. This will hamper capital financing in the real sector and ultimately slow economic growth. The decline in credit disbursed by banks was also influenced by the supply and demand sides of credit. On the supply side of credit, this is influenced by credit rationing to optimize the prevailing interest rates [17]. While on the demand side of credit, this is influenced by external bank factors, such as inflation, public income, and others [18].

3.3 Credit Supply

On the supply side of bank credit, a credit crunch can be caused by the reluctance of credit providers, namely banks, either due to external or internal factors of the bank. the credit crunch on the supply side is caused by the reluctance of banks to extend credit to households and companies. This is based on the bank's inadequate liquidity in providing credit. In addition, several internal factors influence credit disbursement, namely Third Party Funds and Non-Performing Loans (NPL).

3.3.1 Third-Party Funds

Third-Party Funds are funds provided by debtors such as the public to be channeled to banks to obtain returns based on the prevailing interest rates. Third-Party Funds are funds collected from individuals in the community, either as individuals, companies, governments, households, cooperatives, foundations, and others, in the form of rupiah and foreign currencies.22 The number of funds distributed by the community will increase the amount of credit disbursement. This is in line with research conducted by [19]. There is a positive relationship between third-party funds and loans disbursed. However, low Third Party Funds can also cause a credit crunch.

3.3.2 Non-Performing Loans

Non-Performing Loans are the ratio between poor, doubtful, and bad loans with the total loans granted [20]. Uncertainty in the returns that will be given by customers, of course, makes banks decide to be reluctant to provide loans. High NPLs can affect bank policies in channeling credit since banks become more careful [21]. A high NPL, of course, will reduce the financial health of banks that provide credit.

3.3.3 Credit Eligibility Level.

In the external factor of credit supply, the reluctance of banks to disburse credit is based on the company's health. This can be measured through the level of creditworthiness (creditworthiness). The bank's credit supply is weakening due to a decrease in the creditworthiness of debtors due to the company's poor financial condition [22]. Therefore, a reduction in the level of creditworthiness will reduce the volume of credit from the bank.

3.4 Demand for Credit

On the demand side for bank credit, a credit crunch is caused by the development of economic growth in a country, including Indonesia. The decline in economic growth can be caused by global events, such as the covid-19 pandemic. The covid-19 pandemic has made Indonesia experience a continuous economic recession and several countries worldwide. Thus, a decline in economic growth will lead to a decline in credit. This is in line with the case in the country of Montenegro studied by [23]. The existence of positive economic development will increase economic growth. During the economic crisis, the low demand for credit made creditors from public and companies reluctant to lend to banks. This is due to the low demand for goods and services and the fear of not being able to return the loans that have been borrowed. In addition, income, credit interest rates, and inflation affect the demand for credit by the public [18].

The loan interest rate is the interest rate offered by commercial banks based on the reference interest rate set by the Central Bank [24]. There is a positive relationship between credit interest rates and lending to the public and the business world, which can be described as an increase in credit supply due to a rise in loan interest rates. Still, on the demand side, there is a decrease in the amount of credit demanded due to a rise in loan interest rates [20].

3.5 Monetary Policy

Monetary policy can be divided into 2 parts: rule and discretionary policy. In its application to the economy, rule monetary policy is better than discretionary monetary policy because the time

is consistent [25]. In this study, to respond to the decline in economic growth as a result of the Covid-19 pandemic, Bank Indonesia can implement a credit line transmission mechanism through the BI7DRR interest rate. Bank Indonesia rate is an instrument used by Bank Indonesia to control interest rates in achieving monetary policy objectives, both initial and intermediate targets and final targets [26]. The benchmark interest rate determined by the monetary policymakers, namely Bank Indonesia, adjusts to the economic cycle that occurs in Indonesia.

3.6.Research Framework

Figure 1 shows the research framework. Through this study, the authors will analyze the condition of lending in Indonesia and whether there is a credit crunch due to the economic crisis in the covid-19 period. The analysis is carried out both from the supply side, demand side, and monetary policy side. The empirical findings are used in the formulation of policy recommendations at the end of the writing.
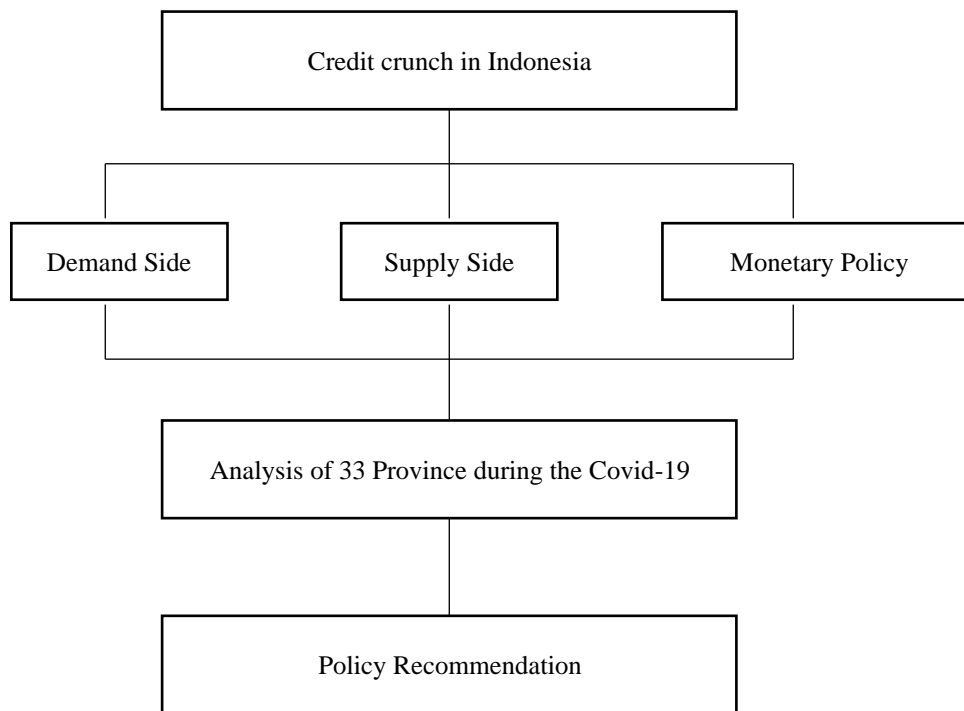

Fig. 1. Research Framework

4 Methodology and Data

4.1 Data Description

In this study, we use secondary data in the form of panel data for 33 provinces in Indonesia. The monthly data is used from June 2019 to May 2021. This research attempts to capture the

phenomenon of the credit crunch with the regional data in all provinces in Indonesia. The Province of North Kalimantan is excluded because of the limited data from this province. The variables used in this study are described in table 1 below.

Table 1. The type and source of data used in the study

Variable	Unit	Source
Distribution of the loan	IDR Billion	Financial Services Authority
Third party funds (DPK)	IDR Billion	Financial Services Authority
Non-performing loan (NPL)	%	CEIC Data
BI7DRR	%	Bank Indonesia
Loan interest rate	%	Bank Indonesia
Dummy Covid	0 = non-Covid period	
	1 = Covid period	

Next, we divide the data into two major groups: the data distribution of the loan as the dependent variable, while the data of third-party funds, NPL, BI7DRR, and the loan interest rate as independent variables. In addition, we also include a dummy of the pandemic covid-19 (1 = period of pandemic covid-19 was first discovered in Indonesia in March 2020; 0 = period before the discovery of cases of covid-19 from June 2019 to February 2020.

4.2 Analysis Methods

This research uses the method of panel data to analyze is there a credit crunch in Indonesia, especially in times of covid-19. As for the model equations in our research are as follows:

$$\text{credit}_{it}^{c} = \alpha_1 + \alpha_2 r_{it} + \alpha_3 (r^c \times \text{covid})_{it} + \alpha_4 \text{dpk}_{it} + \alpha_5 (\text{dpk}^c \times \text{covid})_t + \alpha_6 (\text{npl}^c \times \text{covid})_{it} + \alpha_7 \text{bi7drr}_{it} + \alpha8 (\text{bi7drr}c \times \text{covid})t + \varepsilon it \qquad (1)$$

Where i and t identify each province and period, it is a white noise error. The model consists of four essential variables. First, the dependent variable accumulated loan disbursement per province (credit$_{it}$). Second, a set of main independent variables related to credit crunch from the demand side is the loan interest rate (r_i), ($r^c \times$ covid)$_{it.}$ Third, we analyze from supply side variables as well as NPL(dpk$_{it}$), (dpk$^c \times$ covid)$_{it}$, dan (npl$^c \times$ d covid)$_{it}$. Fourth, the independent variable in terms of monetary policy, namely the influence of the determination of the bi7drr (bi7drr$_{it}$) dan (bi7drr$^c \times$ dummy covid)$_{it.}$

5 Analysis and Discussion

5.1 Credit Crunch Phenomenon

Loan to Deposit Ratio (LDR) is an indicator that can measure the ability of banks to channel funds to the creditor. LDR is the ability of the bank to provide the funds back given to the debtor, in this case, the public based on the amount of funds disbursed to the bank[27]. With the good ability of banks to give credit certainly will increase the growth of credit. The increasing number of loans disbursed by the bank to the community will certainly increase the bank's profits based on the percentage of the interest rate offered.

The presence of LDR in the bank is also influenced by external factors, namely the economic crisis. Based on Indonesian Banking Statistics published by the Financial Services Authority (FSA) in 2021, there is a decrease in the bank's LDR due to the Pandemic covid-19. Before the Pandemic covid-19 hit Indonesia in the period of 2018-2019, the level of LDR on conventional banks, on average by 90 percent. However, when the Pandemic covid-19 hit Indonesia, there was a significant decrease from March 2020 to March 2021 by 85.7 percent. The decline of the LDR can indicate the occurrence of a credit crunch.
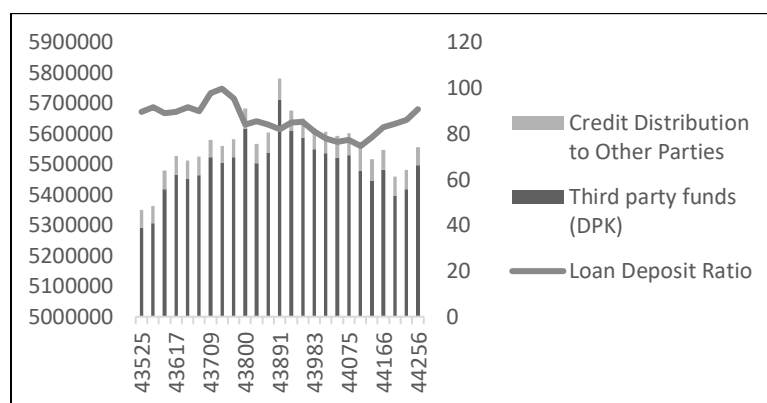

Fig. 2. Lending to Others Parties, Third Parties and the Lefel of Loan-to-Deposit Ratio.
Source: Financial Services Authority (2021)

5.2 Result Analysis

The panel data analysis was conducted to analyze whether there is a credit crunch in Indonesia, especially during the covid-19 period, with regional data of 33 provinces in Indonesia. The results of the test and estimation of the parameters of the panel data regression model are the output of STATA software. However, before doing the estimation, it is necessary to choose the regression method. In accordance with the purpose of the study to compare loan disbursements during the covid-19 period and before the covid-19 period, a dummy variable is needed. While the Fixed Effect Model (FEM) has the disadvantage of assuming the influence of explanatory variables (independent) is the same for each individual[28]. Therefore, this study uses the Random effect Model with General least Square (GLS) method. The GLS method also has the advantage of avoiding heteroscedastic problems[29]. If Random effect Model with General least Square (GLS) method, then the model is BLUE (Best Linear Unbiased Estimators)[30].

These results can be seen in Table 2 below. In this model, there are four models of research, namely; (1) model by incorporating all the variables that affect the distribution of credit ; (2) model to see the influence of credit disbursement from the demand side with the main focus on the interest rates of credit; (3) the model by looking at the influence of the distribution of credit from the supply side with the main focus on the availability of Third-Party Funds (DPK) and Non-Performing Loan (NPL); and (4) model by looking at the influence of the distribution of credit in terms of monetary policy by proxy BI7DRR. However, this analysis focus on the model 1 because it is represent all of variables and the all of models are consistent.

Table 2. Credit Crunch in Indonesia

VARIABLES	Model 1 All Variables	Model 2 Supply Side	Model 3 Monetary Side	Model 4 Demand Side
r	-1.011***	-1.763***	-1.006***	-1.784***
	(0.140)	(0.0847)	(0.139)	(0.0831)
r x covid	0.318***	0.334***	0.294***	0.314***
	(0.0726)	(0.0317)	(0.0714)	(0.0309)
Lndpk	0.129*	0.170**		
	(0.0676)	(0.0689)		
Lndpk x covid	-0.0438***	-0.0433***		
	(0.0107)	(0.0110)		
Npl x covid	-0.928***	-1.139***	-0.955***	-1.177***
	(0.137)	(0.112)	(0.136)	(0.111)
bi7drr	-0.362***		-0.370***	
	(0.0598)		(0.0595)	
bi7drr x covid	-0.0784		-0.0759	
	(0.0903)		(0.0894)	
Constant	17.26***	22.78***	18.13***	24.13***
	(1.336)	(1.071)	(1.218)	(0.900)
Observations	699	699	699	699
Number of provinsi	33	33	33	33

Note: Dependent variable: the Accumulation of Lending. The method of estimation used is the Random Effect Model by the method of GLS. *, ** and *** respectively indicate a significant difference at the level of 10%, 5%, and 1%

5.2.1 Supply Factor Analysis

The first estimation assesses the influence of all independent variables on the dependent variable. Simultaneously, DPK, NPL, BI7DRR, and loan interest rates significantly affect lending in Indonesia. The first variable is third-party funds (DPK), DPK has a positive and significant effect on lending in Indonesia. When the third-party funds increased by 1%, the credit distribution of commercial banks in each province in Indonesia rose by 0.129%. This is in accordance with research conducted by [31] which states that the funds owned by the bank will increase due to the increase in the third-party funds and make the bank extend credit more to those who need funds. However, if seen in times of the pandemic covid-19, the influence of Third Party Funds on the lending fell by 0.043% ownership. It can be interpreted also, when the third-party funds rose by 1% to lending, each province in Indonesia only gained 0,086%. One of the factors is that during the covid-19 pandemic, banks are obliged to carry out health protocols that can interfere with banking activities so that credit distribution to the public decreases [32].

From the supply-side, when there is a rise in third-party funds by 1% in the bank, the lending rose about 0.1%. If seen in the pandemic, the influence of the deposits of the lending dropped significantly. There is a detention of third-party funds which will be distributed in the form of credit in the pandemic of 0.04%. If deposits increase by 1% in the period of covid-19, then the average lending will only increase by 0.06%. This result is in accordance with the research that

covid-19 makes economy into decline [33]. The impact on the velocity of money leads to banking more cautious (risk aversion) in lending.

In addition, the covid-19 pandemic also slowed business activity, so that demand for credit was also hampered. It can be seen from the reduction of demand for working capital credit, consumer credit, and investment credit, especially in areas that have a high level of risk of transmission [34]. Several factors are taken into consideration by the creditor in channeling funds to the debtor. There are three main factors that are taken into consideration. First one is the length of the debtor being a customer credit in the bank. Second is the performance of the debtor. The last one is the ability to pay of the debtor. In addition, there are also other factors into consideration, namely the factors of low risk of the business of borrowers [3]. In the pandemic's business activities have a high enough risk, so it takes a risk management process to each of the debtor so that the level of risk is sufficiently low, and can have an impact on the improvement of the distribution of credit [35].

In addition to Third-Party Funds, in model 1 in this study, the Non-Performing Loans (NPL) variable has negative and significant influences on the distribution of credit in Indonesia. When NPL rises by 1%, the lending decreases by 0,928%[36]. It is in accordance with the theory that when the Non-Performing Loans rise, the banks will reduce lending because banks have to set aside reserves due to high NPL. Many businesses affected by the covid-19 pandemic, business turnover decline sharply even to have no income, resulting in the inability to pay obligations [37]. This inability to pay debts caused the increase in NPLs during the COVID-19 pandemic, so banks are more cautious, and the number of credit disbursements to the community has decreased.

Overall, this study proves that the Non-Performing Loan (NPL) has a negative effect on lending. This result is in accordance with the research that the level of NPLS in the future of this pandemic has increased[38]. One of them is caused by restrictions on people's mobility, thereby reducing the ability of debtors to pay their obligations to banks. Based on this, banks take risk mitigation steps by strictly selecting credit to debtors. In addition, banks should be more careful about the increase in NPL during this pandemic [39]. If it continues to occur, it will cause a variety of new problems, such as problems in operating expenses and operating income (BOPO). All these conditions are supported by macroeconomic conditions in Indonesia, ranging from slowing economic growth and an increasingly open unemployment rate during the pandemic [40].

5.2.2 Demand Factor Analysis

The analysis from the demand side assesses the behavior of the public and related parties as the borrowers. The primary variable is the interest rate of the loan. The model 1 in this study proves that the loan interest rate has a negative relationship and significant impact on lending in Indonesia, both in the period before the pandemic and the current pandemic of covid-19. Before the pandemic covid-19, when the loan interest rates rise by 1%, the lending falls 1,011%. This is supported by research conducted by Yoga & Yuliarmi (2013) which states that mortgage interest rates have a negative relationship and significant impact on the distribution of credit [41]. In the period of pandemic covid-19, if loan interest rates rise by 1%, then the lending falls by 0,693%. The declining influence of credit interest rate is due to reduced demand for credit from the public in the middle of the pandemic covid-19 [42].

Overall, the influence of interest rates on credits in the covid decline in the value of the coefficient of 0.29. When there is a rise in interest rates by 1% in the period of covid-19, then the credit disbursement decreases compared to when there was no covid-19. It is from 1.006% to 0.29%. This indicates a change in interest rates on credit during the pandemic does not have a major impact on the distribution of credit. However, the decline in interest rates credit alone is not enough to recover the National Economy. Pandemic covid-19 hit not only the health sector but also sectors of the economy, especially consumption. The level of purchasing power decreased drastically during the pandemic. Therefore, it takes a significant increase in the consumption sector so the economy can return to moving in a positive direction.

The positive movement of the economy will bring a credit distribution can increase [43]. However, suppose the reduction in lending rates is not carried out with a significant increase in the consumption sector. In that case, the recovery of the national economy will be challenging to achieve. Thus, strategic steps are needed to restore the consumption sector, plus the consumption sector supports economic growth in Indonesia. This will help companies that can survive with stable consumption conditions. Therefore, the results of a survey conducted by BPS, namely 69% of business actors in need of capital during the pandemic, are able to produce positive output for these businesses because of the demand for manufactured goods. However, if the capital obtained from the credit cannot create a return, then the balance sheet of the business actors will be weak. It makes the quality of the borrower vulnerable, and the risk level becomes higher. In this case, fiscal stimulus is the primary key for monetary stimulus to run. The purchasing power resulting from the fiscal stimulus will make the banks more optimistic about lending, while the level of risk can be minimized.

5.2.3 Monetary Policy Side Analysis

Our study also analyze the influence of monetary policy through the BI7DRR variable. As seen in model 1, the BI7DRR variable during pandemic covid-19 shows an insignificant effect on lending. Similar results of no significant effect from Bank Indonesia interest rates are also found by [44], [45]. When during the covid-19 pandemic, this study found that BI7DRR has a negative and insignificant effect on lending in Indonesia. This indicates that monetary policy with the benchmark interest rate instrument has a insignificant effect on lending in Indonesia during the covid-19 pandemic. BI7DRR is a reference for commercial banks to determine loan interest rates. Therefore, when BI7DRR increases, it causes credit interest rates to be high so that loans extended to the public also decline [31].

Meanwhile, in terms of monetary policy, BI7DRR during the covid-19 period had a negative and insignificant effect on credit distribution. It means that the central bank's benchmark interest rate policy does not significantly affect the amount of credit disbursement in the banking system. From the coefficient value, BI7DRR during the covid-19 period was smaller than the independent variable BI7DRR. During the covid-19 period, increasing 1% in BI7DRR, credit distribution will decrease by 0.07%. The results are supported by [36], she said the insignificant relationship was caused by the very small tenure given by BI7DRR. The market's response to the expansionary monetary measures taken by Bank Indonesia is still positive. However, the credit crunch during this pandemic is still an obstacle to the transmission of monetary policy, especially through the interest rate channel. Therefore, many companies are still experiencing unstable financial conditions. Monetary expansion through the interest rate channel does not necessarily increase their investment directly.

During the covid-19 pandemic, aspects of macroeconomic variables were greatly affected, starting from the uncertainty of the exchange rate, which would later have an impact on export-import activities and various risks that might occur. When a crisis occurs, many companies take advantage of it by taking steps to restructure their financial condition [3]. Thus, their focus is on financial restructuring, not getting funding for investment. If we see from the structure of capital funding, majority of debtors will borrow from banks. This shows that the banking sector has a strategic role in monetary transmission efforts, apart from being an intermediary party. Therefore, when the credit crunch is allowed to continue in Indonesia, the investment and consumer sectors will get significant impacts. Thus, during the covid-19 period, changes to the expansionary monetary policy that occurred in BI7DRR must be reviewed because this study shows an insignificant effect of the policy on lending.

5.3 Policy Recommendations

After analyzing the credit crunch phenomenon described in the previous chapter, the authors attempt to provide policy recommendations to minimize the impact of credit crunch during the pandemic, which are as follows.

1. Our research shows that the monetary instrument, namely BI7DRR during Covid-19, is not significant to loan demand. This shows that business actors are reluctant to expand their business amid economic uncertainty during the Covid-19 pandemic. This was caused by a decrease in the demand for goods and services from the public. Therefore, the government needs to balance incentives against public demand as well as offers from business actors so that business expansion plans from business actors are balanced by increasing public demand.

2. To minimize the potential for a credit crunch, selective analysis and sound risk management are needed for lending to debtors. Selective analysis and credit risk management may include:

   a. Supervision of the risk management oversight team

      It requires a special team that is competent and directly elected by the board of commissioners and directors. The goal is to identify and control non-performing loans. This team also approves and reviews the disbursement of loans to minimize the risk of non-performing loans.

   b. Procedures, policies, and determination of credit risk limits

      To obtain healthy and minimal risk lending, banks must collect all information about debtors to properly analyze the risks of extending credit to customers. Furthermore, the bank must set a credit risk limit for the debtor in accordance with the results of the analysis of the debtor's information. After disbursing credit to debtors, banks must continue to monitor and assist debtors on loans by analyzing the profitability of loans.

   c. Identify and measure credit risk

      To identify a customer's credit risk, the bank needs to pay attention to the customer's financial condition and history of punctuality in paying customer credit. In addition, credit risk measurement can take into account the variables of the credit period, aspects of collateral, the potential for default, and the bank's ability to absorb the potential for failure. To identify and measure credit risk, banks need to develop a system that provides accurate information about the condition of each debtor in order to support every decision taken. More details can be seen through the following chart.
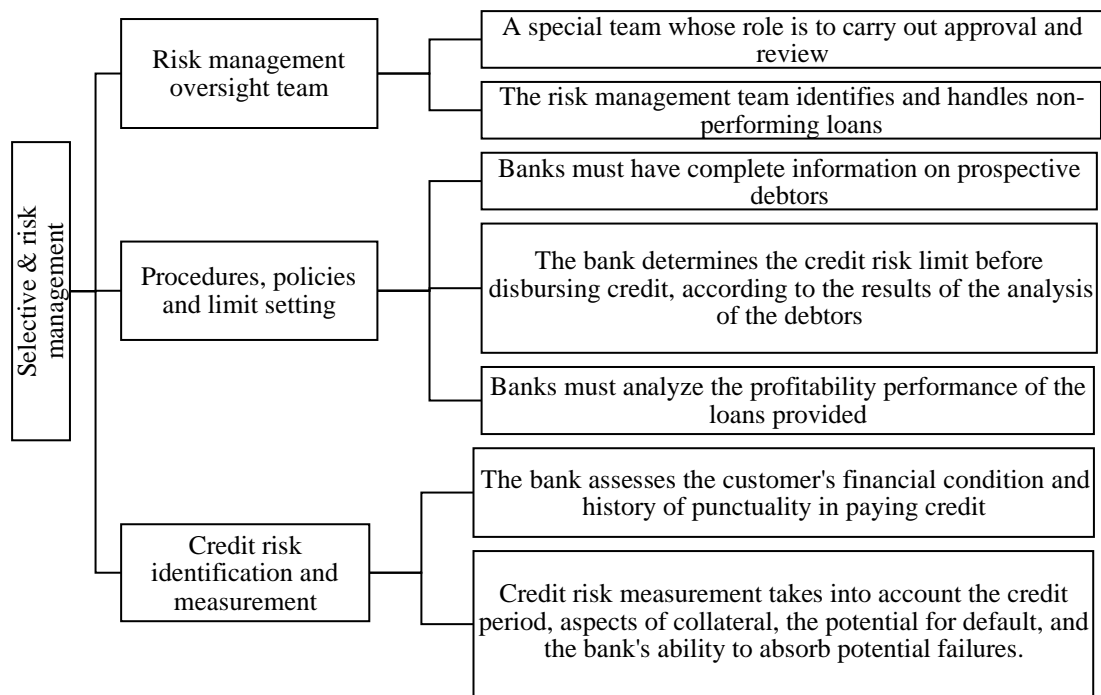
Fig. 3. Credit Risk Management Chart.

3. Furthermore, on the demand side, it needs to be done through assistance that can be spent directly or trigger an increase in consumption in the community, especially in the lower middle class. In addition, it aims to increase the industrial sector's demand for goods and services. The government has carried out many policies during the pandemic. Specifically, Indonesia has distributed a lot of social assistances through fiscal policy. However, the impact is not immediately felt, there is always a time lag. Therefore, one thing that needs to be done to achieve the right goals is budgeting with measurable and detailed targets. In addition, it is necessary to review the process of distributing these allocations into the hands of the community and monitoring to avoid fraudulent acts, such as corruption.

4. Finally, because many companies focus on financial restructuring during the pandemic, financial institutions must review the restructuring policies that have been carried out. The risk profile of each debtor and prospective debtor needs to be studied more deeply. In carrying out their intermediation function, banks need to continuously socialize all matters related to the restructuring from the requirements, incentives provided, and the mechanism for delivering restructuring. As a result, debtors no longer experience confusion and do not create asymmetric information that may be detrimental to both parties. Thus, a balance point is reached between debtors and banking capacity. The following chart can illustrate this.
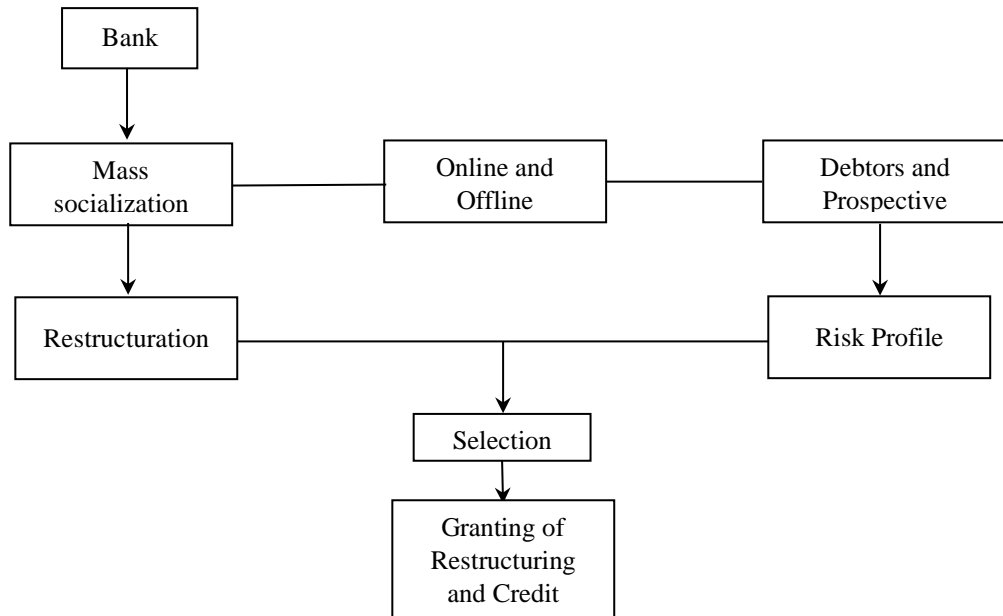
5.

Fig. 4. Financial Restructuring during the Pandemic.

6 Conclusion

The results of the study show that there is a credit crunch phenomenon in Indonesia during the crisis due to the COVID-19 pandemic, which is marked by the reluctance of banks to extend credit during the crisis. The evidence found regarding this phenomenon in this study is as follows.

1. From the supply side, there was a decrease in the influence of DPK on credit distribution during the pandemic by around 0.47%. NPLs during the pandemic also have a significant negative relationship with credit distribution. This shows that banks tend to be cautious (risk aversion) in lending.

2. From the demand side, the value of credit interest rates during the pandemic has decreased. This indicates that the role of credit interest rates during the pandemic has reduced its influence for creditors to take steps to commit debtors.

3. In terms of monetary policy, Bank Indonesia's policy in regulating BI7DRR has a negative effect, however, it does not significantly affect bank lending in Indonesia during the pandemic period.

This research is expected to provide major findings in analyzing Indonesia's credit crunch phenomenon. It is hoped that our study can be developed further to enrich the research area. For further research, we suggest exploring the credit crunch phenomenon from various factors, such

as the relationship between oil prices and the financial sector. In addition, it is also interesting to examine the credit crunch phenomenon in several countries, for example, by using inter-country panel data.

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