e-ISSN: 2686-6331, p-ISSN: 2686-6358
DOI: https://doi.org/10.31933/dijemss.v4i1
Received: 23 October 2022, Revised: 25 November 2022, Publish: 30 November

DIJEMSS
DINASTI INTERNATIONAL JOURNAL OF EDUCATION MANAGEMENT AND SOCIAL SCIENCE
https://dinastipub.org/DIJEMSS
editor@dinastipub.org
0811 7401 455

The Effect of Interest Rates and Inflation on Loan Growth and Non Performing Loan (Literature Review of Financial Management)

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Abstract: Literature Article Review of the Effect of Interest Rates and Inflation on Loan growth and Non-Performing Loans in Loan Companies is a scientific article that aims to build a research hypothesis of the influence between variables that will be used in future research, within the scope of Financial Management. The method of writing this Literature Review article is the library research method, which is sourced from online media such as Google Scholar, Mendeley and other academic online media. The results of this Literature Review article are: 1) interest rates affect loan growth; 2) inflation affects loan growth; 3) interest rates affect Non-Performing Loans 4) inflation affects Non-Performing Loans and 5) Loan growth affects Non-Performing Loans Apart from these 2 exogen variables that affect endogenous variables p loan growth and Non-Performing Loans There are many other factors, including banking policy variables , economic growth and credit analysis.

Keyword: Interest Rates, Inflation, Loan Growth and *Non-Performing Loans*

INTRODUCTION

Every undergraduate student, both undergraduate and graduate, is required to conduct research in the form of theses, theses and dissertations. Likewise, lecturers, researchers and other functional staff are active in conducting research and writing scientific articles for publication in scientific journals. Based on the empirical experience of many students and young lecturers as well as other researchers, it is difficult to find supporting articles in research as previous research or as relevant research. Articles as relevant researchers are needed to strengthen the theory being researched, to see the relationship between variables and build hypotheses, also very necessary in the discussion of research results. This article discusses the effect of interest rates and inflation on loan growth and non-performing loans (a financial management literature study).

Based on the background, the problems that will be discussed in order to build hypotheses for further research can be formulated, namely:

1. Does interest rate affect loan growth?
2. Does inflation affect loan growth?
3. Does interest rate affect Non Performing Loan?.
4. Does inflation affect Non Performing Loan?.
5. Does loan growth affect Non Performing Loan ?.

LITERATURE REVIEW

Interest Rate

Bank lending interest rate or commonly known as Prime Lending Rate is the lowest interest rate used as the basis for banks in determining the lending rate charged to bank customers (Bank Indonesia, 2013). The dimensions or indicators of interest rates are the amount of lending, macro and microeconomic conditions (Bank Indonesia, 2013).

Interest rates are the price of using investment funds (loanable funds). The interest rate is one of the indicators in determining whether someone will invest or save (Boediono, 2014). The dimensions or indicators of interest rates are credit and investment (Boediono, 2014).

Interest rates are the price of a loan (Sunaryah, 2013). Dimensions or indicators of loan growth are loans or credit (Sunarya, 2013).

This interest rate has been widely researched by previous researchers including Barus and Erick (2016), Anjom and Karim (2016), and Messai and Jouini (2013).

Inflation

Inflation is an increase in prices prevailing in an economy that is calculated by the price index of consumers (Central Bureau of Statistics, 2013). The dimensions or indicators of inflation are the increase in the price index of goods and services and economic stability (Central Bureau of Stastistics, 2013).

Inflation can be defined as a general and sustained increase in prices that shows the price movement of a number of goods and services consumed by society (bi.go.id, 2017). The dimension or indicator of inflation is the overall price increase in the macro economy (bi.go.id, 2017).

Theories of inflation :

a. Quantity Theory
   The essence of the quantity theory is that inflation can only occur if there is an increase in the volume of money in circulation, both currency and demand deposits. Where the rate of inflation is determined by the rate of increase in the money supply and psychology or people's expectations about rising prices.
b. Keynes Theory
   The inflation process according to Keynes is a process of struggle among social groups who want a larger share than society can provide. These social groups include people from the government itself, the private sector or even labor unions trying to get an increase in salaries or wages, which will have an impact on the demand for goods and services, which in turn will increase prices.
c. Structuralist Theory
   This theory is also known as the long-term inflation theory, as it highlights the causes of inflation that stem from the rigidity of the economic structure, particularly the availability of food supply and export goods. Due to these structural causes, the increase of goods production is slower than the increase of people's needs. As a result, the supply of goods is less than what people need, so the prices of goods and services increase.

Inflation is an event that shows an increase in the general price level and takes place continuously (M. Natsir, 2014). Dimensions or indicators are the increase in the price of goods, the decline in the value of the currency and the money supply (M. Natsir, 2014).

Inflation has been studied by many previous researchers including (Beaton et all, 2016), (Ahmad and Bashir, 2013) and (Firmansyah, 2014).

Loan Growth

Loan growth is a description of the level of development of the volume of credit disbursed to third parties in a certain period (Firdaus, 2014). The dimensions or indicators of loan growth are credit volume and interest rates (Firdaus, 2014).

Loan growth is a description of the increase or decrease in the amount of credit disbursed over a period of time or in percentage form (Sastrawan, 2014). The dimensions or indicators of loan growth are the amount of credit disbursement, the volume of credit bookkeeping and credit repayment (Sastrawan, 2014).

Loan growth is a normal phenomenon as a result of the increase in financial deepening that occurs in the economy, especially in increasing the volume of credit (Dewi, 2015). The dimensions or indicators of loan growth are economic conditions, public consumption and the increase in the volume of bank credit (Dewi, 2015).

This loan growth has been studied by many previous researchers including (Firdaus, 2014), (Rokhim and Yanti 2014). and (Firmanysah 2014).

Non Performing Loan

Credit risk is the risk arising from the failure of debtors to fulfill their obligations to banks (Indonesian Bankers Association and Banking Professional Certification Institute, 2013). In anticipating credit risk early, banks determine the collectibility of each loan that has been granted into five categories namely; Collectibility 1 (Current), Collectibility 2 (Under Special Attention), Collectibility 3 (Substandard), Collectibility 4 (Doubtful) and Collectibility 5 (Bad Debt) (Indonesian Bankers Association and Banking Professional Certification Institute, 2013).

Non Performing Loan is a credit with substandard, doubtful and bad quality which also refers to a condition where the debtor cannot pay his obligations to the bank, namely the obligation to pay installments that have been promised at the beginning (Bank Indonesia, 2021). The dimensions or indicators of Non Performing Loan are the condition of the debtor's inability and the quality of the debtor's receivables (Bank Indonesia, 2021).

Non Performing Loan is a ratio used to measure the bank's ability to cover the risk of failure to return credit by the debtor. The greater the amount of credit provided, the greater the consequence of the risk that must be borne by the bank concerned (Maramis, 2017). The dimensions or indicators of Non Performing Loan are the risk of debtor default and the measurement of the debtor's payment ability on loans (Maramis, 2017).

Non-performing loan is one of the measurements of the bank's business risk ratio which shows the amount of non-performing credit risk that exists in a bank (Bioshop, 2018). The dimensions or indicators of Non Performing Loan are the risk of debtor default and non-performing loans (Bioshop, 2018).

The NPL formula according to Wangsawidjaja (2012) is as follows:

$$\text{NPL} = \frac{\text{Prpblem loan } (S,\ D,\ BD) \text{ x } 100\%}{\text{Total Loan}}$$

This Non Performing Loan has been researched by many previous researchers including (Fahmi, 2014), (Rokhim and Yanti 2014) and (Firmanysah 2014).

Table 1: Relevant previous research

No	Author (Year)	Results of Previous Research	Similarities with This Article	Differences with This Article
1	Ramandhana, D.Y, Jayawarsa, A, A, Aziz, I,S,A (2018)	Simultaneously Inflation, BI Rate, NPL and Capital Adequacy Ratio (CAR) significantly affect the growth of lending.	Inflation and interest rates affect loan growth.	NPL is a variable that is influenced by inflation and interest rates.
2	Darmawan (2017)	Lending intersest rates have a positive effect on the NPL ratio Interest rates have a positive effect on NPLs.	Interest rates have a positive effect on NPLs.	Interest rates have a negative effect on loan growth.
3	Hendrawati (2015)	NPL is influenced by loan growth, efficiency and capital adequacy.	NPL is influenced by efficiency in analyzing credit distribution.	Loan growth can partially affect NPLs.
.4	Linda, M. R Megawati, Deflinawati (2015)	Inflation has a significant effect on NPLs, interest rates have a significant effect on NPLs.	Inflation and interest rates have a significant effect on NPLs.	Inflation and interest rates have a significant effect on NPLs and loan growth.
5	Priyaninggar (2016)	Inflation is proven to have no significant effect on loan growth, interest rates have a positive effect on lending growth, non-performing loan variables have a negative effect on lending growth.	Interest rates and inflation affect loan growth.	NPL variables and loan growth are influenced by interest rates and inflation.
6	Agusningtyas, Menik (2018)	Inflation variables partially have no effect on NPL, CAR and BOPO variables partially affect NPL.	There are other variables CAR that affect NPL.	Inflation varibale has a positive effect on NPL.
7	Saputro, A. R., Sarumpaet, S., Prasetyo, T. J. (2019).	Bank loan interest rates have a positive effect on non-performing loans, while inflation has a negative effect on non-performing loans.	Bank interest rates have a positive effect on NPLs.	Inflation has a positive effect on NPLs.
8	Dondo, W. (2013)	Lending interest rates and inflation rates simultaneously have a significant effect on the amount of credit allocation.	Lending interest rates and inflation simultaneously have a significant effect on loan growth.	Lending interest rates and inflation simultaneously have a significant effect on loan growth and NPLs.
9	Tuwonusa, W., Rotinsulu T.O, Mandeij, D. (2016)	Investment lending interest rates have a negative influence on investment lending Inflation variables have a positive influence on lending.	Inflation has a positive effect on loan growth.	Interest rates have a positive effect on loan growth and NPLs.
10	Rachmansyah, M. I. (2021)	Interest rates and inflation have a positive and significant effect on loan growth.	Inflation affects loan growth.	Interest rates affect loan growth.

WRITING METHOD

The method of writing this Literature Review article is with Descriptive Qualitative method and Library Research, sourced from Google Scholar, Mendeley and other online applications. This Literature Review article is in the field of Financial Management.

In qualitative research, literature review must be used consistently with methodological assumptions. This means that it must be used inductively so that it does not direct the questions asked by the researcher. One of the main reasons for conducting qualitative research is that the research is exploratory (Ali & Limakrisna, 2013).

DISCUSSION

Based on the formulation of the problem, theoretical studies and relevant previous research, the discussion of this literature review article is:

1. The effect of interest rates on loan growth

Interest rates affect loan growth, where the dimensions or indicators of interest rates on the amount of lending, macro and microeconomic conditions affect the dimensions or indicators of loan growth, credit volume and interest rates set, (Firdaus, 2014).

That interest rate policy is one of the policies that can be used to prevent crises and downswings, therefore interest rates do not have to have an expansionary impact on credit, but can be an instrument to keep credit conditions from getting worse (Kallian, 2020).

Table 2: BI rate and loan growth in 2009-2019

Year	BI Rate	Loan Growth
2009	7,12%	10,00%
2010	7,58%	22,80%
2011	7,43%	24,60%
2012	7,58%	23,90%
2013	7,58%	21,80%
2014	7,45%	11,60%
2015	7,58%	10,40%
2016	7,00%	7,90%
2017	7,45%	8,30%
2018	6,65%	12,00%
2019	7,00%	6,10%

Source: www.OJK.go.id , www.BI.go.id, data processed 2021

Based on the table above, it can be seen that although there was a decrease in the BI Rate, as happened in 2016, there was still a slowdown in loan growth. So it can be concluded that interest rates do not have a significant influence on loan growth.

The effect of interest rates on loan growth is in line with research conducted by: Djati & Kamal (2017), Putra (2018) and Hasnir (2016).

2. The effect of inflation on loan growth.

Inflation has a close impact on loan growth in a region or country. This can be explained by the quantity of money theory expressed by Keynes, where in this theory it is stated that an increase in inflation can directly affect the increase in interest rates, thereby reducing public interest in credit. (Rachmansyah, 2021).

Table 3: Inflation Rate and Loan Growth in 2009-2019

Year	Inflation	Loan Growth
2009	2,78%	10,00%
2010	6,96%	22,80%
2011	3,79%	24,60%
2012	4,30%	23,90%
2013	8,38%	21,80%
2014	8,36%	11,60%

2015	3,35%	10,40%
2016	3,02%	7,90%
2017	3,61%	8,30%
2018	3,13%	12,00%
2019	2,72%	6,10%

Source: www.OJK.go.id , www.BI.go.id, data processed 2021

Based on the table above, it can be seen that the phenomenon that occurred in 2011, 2012, 2013, 2017 and 2018 is in accordance with the results of this study, where there is a negative relationship between inflation and loan growth.

Inflation affects loan growth, this is in line with research conducted by: Maiti et al. (2020), Putra (2018) and Megawati & Kesuma (2016).

3. The effect of interest rates on Non Performing Loan

So far, Bank Indonesia has implemented selective credit policies. This selectivity is evident from the provisions of different credit terms for various classes of credit use, credit interest rates levied by Bank Indonesia. Interest rates on loans to the credit and financing sector change based on the demands and objectives of monetary policy to be achieved. The greater the amount of credit provided, the higher the risk borne by the bank concerned. To find out the bank's ability to cover the risk of credit default by debtors can be calculated by Non Performing Loan (NPL). The higher the NPL level, the higher the credit risk level. The amount of NPL is one of the obstacles for banks to extend credit. In addition, with moral hazard and adverse selection problems that often occur, banks play an important role in allocating capital and monitoring that public funds are channeled into credit activities that provide benefits (Nindita, 2015).

Changes in interest rates can have an impact on Non Performing Loan where the dimensions or indicators of interest rates that can be influenced by economic growth factors and banking policies affect the dimensions or indicators of Non Performing Loan in the form of the debtor's ability to pay, where the higher the interest rate, the higher the obligation that must be paid by the debtor to the bank which can cause default constraints (Messai and Jouini, 2013).

The loan interest rate is the interest given to borrowers or the price that borrowing customers must pay to the bank. When a bank is short of reserve funds, the bank will increase deposit interest rates so that the bank's funding needs can be met immediately, the increase in deposit interest will automatically increase lending rates. If the loan interest rate rises, the debtor's installment burden will increase so that it can increase the risk of default which causes bad credit (Kasmir, 2008).

Interest rates affect Non Performing Loan is in line with research conducted by: Abadi, Achsani and Rachmina (2014), Darmawan (2017) and Ramandhana (2018).

4. The effect of inflation on Non Performing Loan

In general, inflation is caused by the amount of money in circulation being more than the amount of goods or services available, resulting in the value of money decreasing dramatically. Even though bank credit is running smoothly where principal and interest debts have been paid, over time the value of money still falls due to inflation, so that the purchasing power of money becomes lower than before, namely when credit was given. Especially if the credit is not running smoothly / problematic (Nophirin, 2000).

Inflation has a positive influence on NPL productive loans because the higher the inflation rate will reduce people's purchasing power so that it will reduce the demand for goods and services which causes a company's income to decrease and reduce the company's ability to pay its bills. In accordance with research conducted by Ahmad and Bashir (2013) which found that inflation has a positive effect on NPLs.

That inflation can occur due to excess demand for a number of products or services and encourage an increase in overall product prices, an increase in inflation will certainly be accompanied by an increase in interest rates for both savings and loans, as a result the value of Non Performing Loans owned by banks tends to increase, this condition occurs because the interest expense that must be paid by the debtor is relatively increasing. The relatively unchanged income value encourages debtors to find it difficult to pay their obligations to the bank. These results indicate that when inflation continues to increase, it will encourage an increase in Non Performing Loans owned by banks (Linda, 2015).

Inflation affects Non Performing Loan is in line with research conducted by : (Sholeh, 2012), (Wikutama, 2012) and (Ridwan, 2013).

5. Effect of loan growth on Non Performing Loan

In theory, loan growth should be able to increase bank opportunities in obtaining credit income and is expected to reduce the NPL ratio. This will happen if lending by banks is done selectively, so that the potential for non-performing loans can be minimized.

The faster loan growth will actually have implications for increasing credit losses. This can also happen because when banks increase their credit offerings, banks try to make concessions regarding credit standards, or commit various other frauds, so that even though it seems that the bank is able to carry out its intermediary function well because a lot of credit is channeled, incompetent debtors will only bring bad credit problems to the bank concerned Keeton (1999) in Ghosh (2015).

Banks in running their business will always be asked to continue to grow and develop, especially in terms of the loans they distribute. This is because credit will generate interest which will be the main source of income for the bank. Bank employees are always given targets so that the loans they distribute can always grow and contribute to the bank. However, if the growth of loans is too aggressive and uncontrolled, it can have a negative impact on the bank itself. The point of view of too fast loan growth causing non-performing loans cannot be ignored, but also cannot be accepted without question. If rapid loan growth occurs because banks want to extend credit by lowering their standards, it will encourage non-performing loans to increase. However, if high loan growth occurs due to a change in the perspective of business people with promising businesses (businesses) where they prefer to borrow from banks compared to getting additional funds from the capital market, then the growth in non-performing loans does not have to occur (Indonesian Bankers Association and Banking Professional Certification Institute, 2013).

So if we refer back to Berger de Young's "bad management hypothesis" (1997), there is a positive indication between Loan growth and NPL. This is consistent with Ekanayake and Azeez (2015) and Ghosh (2015).

Conceptual Framework

Based on the formulation of the problem, theoretical studies, relevant previous research and discussion of the influence between variables, the thinking framework of this article is as below:

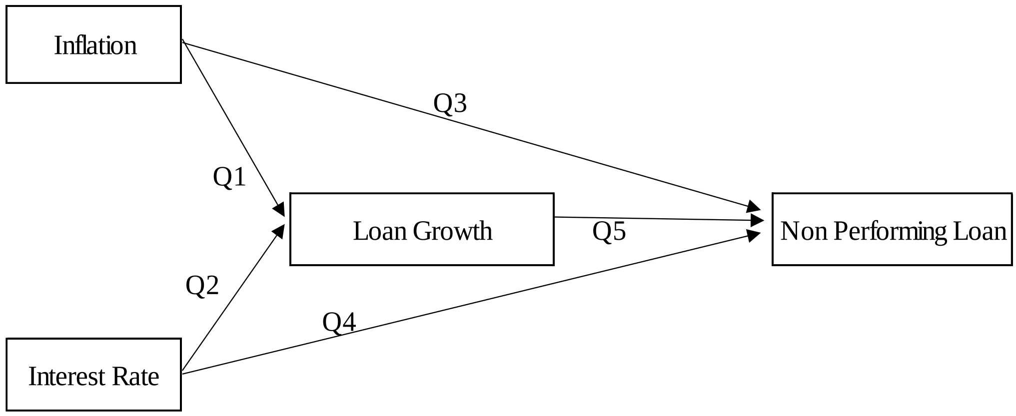

Figure 1: Framework of Thought

Based on the conceptual framework above, then: Interest rates and inflation affect loan growth and Non Performing Loan both directly and indirectly.

Apart from these three exogenous variables that affect loan growth and Non Performing Loan, there are still many other variables that influence, including:

1) Banking Policy: (Baskara, I. G. K, Novitayanti, N. L. A, 2012), (Suwardi, S., 2021) and (Dharma, R., 2015).
2) Macroeconomic Factors: (Haryati, S., 2009), (Ginting, A. M., 2017) and (Tjaru, I. P. B., 2021).
3) Credit Analysis: (Mubarok, A., Suherman, H. D., Ramdhani, Y., & Topiq, S., 2019), (Mewoh, F. C., Sumampouw, H. J., & Tamengkel, L. F. T. F., 2016) and (Saraswati, R. A., (2012).
4) Third Party Funds: (Megawati, I. A. P., & Kesuma, I. K. W., 2014), (Sangadji, M. R. I., & Yolanda, Y., 2022), (Sari, P. P., & Putra, A. P., 2020).
5) Bank size: (Pramudita, A., & Subekti, I., 2014), (Wulandari, B., Khetrin, K., & Seviyani, K., 2021), (Astrini, K. S., Suwendra, I. W., & Suwarna, I. K., 2018).
6) Quality of Receivables: (Chosyali, A., & Sartono, T., 2019), (Montororing, P. M., Sabijono, H., & Wokas, H. R., 2021), (Saputra, T. S., Isnurhadi, I., & Romli, H., 2019).

CONCLUSIONS AND SUGGESTIONS

Conclusion

Based on theory, relevant articles and discussion, hypotheses can be formulated for further research:

1. Interest rates affect loan growth.
2. Inflation affects loan growth.
3. Interest rates affect Non Performing Loan
4. Inflation affects Non Performing Loan
5. Loan growth affects Non Performing Loan

Suggestion

Based on the above conclusions, the suggestion in this article is that there are still many other factors that affect loan growth and Non Performing Loan in banking, therefore further studies are still needed to find what other factors can affect loan growth and Non Performing Loan other than those examined in this article such as: Banking Policy, Macroeconomic Factors and Credit Analysis.

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