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THE EFFECT OF GROSS DOMESTIC PRODUCT AND INTEREST RATES ON CREDIT DEMAND

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Abstract

In Indonesia, bank banking is very meaningful for example in terms of development. This is because banks can influence the overall economic cycle. The increase in demand for bank credit has resulted in increased purchasing power, increased business enthusiasm and an investment bonus. Which in conclusion will produce the Multiplier Effect. The multiplier effects include the addition of new business establishments, additional workforce, increased demand for raw materials, increased production output and increased purchasing power which will affect future economic growth. The research has the objective of explaining the Effect of Gross Domestic Product and Interest Rates on Credit Demand. This research uses descriptive quantitative research methods and uses multiple regression which can see the effect of Gross Domestic Product and Interest Rates on Credit Demand. In this study, it was found that the Gross Domestic Product has an influence on the demand for credit, while the interest rate has no influence on the demand for credit.

Abstrak

Di Indonesia kedudukan bank sangat berarti misalnya dalam hal pembangunan. Ini dikarenakan bank sanggup mempengaruhi siklus perekonomian secara keseluruhan. Peningkatan permintaan kredit perbankan menyebabkan bertambanya daya beli masyarakat, bertambahnya gairah usaha serta bonus investasi. Yang pada kesimpulannya akan menghasilkan Multiplier Effect. Dampak pengganda tersebut antara lain penambahan pendirian pebrik baru, penambahan penyerapan tenaga kerja, peningkatan permintaan bahan baku, peningkatan hasil produksi serta peningkatan daya beli yang nantinya akan mempengaruhi pertumbuhan ekonomi di masa depan. riset memiliki tujuan menjelaskan Pengaruh Produk Domestik Bruto serta Suku Bunga atas Permintaan Kredit. Riset ini memakai metode penelitian kuantitatif deskripif dan menggunakan regresi berganda yang bertujuan mengetahui pengaruh Produk Domestik Bruto serta Suku Bunga atas Permintaan Kredit. Pada penelitian ini ditemukan bahwa Produk Domestik Bruto memiliki pengaruh atas permintaan kredit, sedangkan suku bunga tidak memiliki pengaruh atas permintaan kredit.

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INTRODUCTION

Due to the covid-19 pandemic in 2020, the first quarter of the world economy contracted. This is also felt by the Indonesian state. Indonesia's economic growth in 2020 quarter 1 amounted to 3.0% indonesia's economic growth is still able to record positive growth although much lower than the previous period, which amounted to 4.97%. The efforts made by the government to respond to the risk of economic slowdown by pursuing an accommodative global monetary policy easing are by lowering policy rates. Throughout 2020 bank indonesia (BI) has lowered the BI-7 Day Repo Rate by 2 times each by 25 bps to the level of 4.5%. But even though BI has lowered its benchmark interest rate, demand for credit continues to decline.

For developing countries, especially in Indonesia, the position of banks tends to mean in development because banks play a role not only as a source of financing but banks can also influence the economic cycle in totality. This is because banks are better than other financial institutions. In experiencing balanced data and high budget in carrying out the role of third parties. When the banking zone is down until the national economy also declines. Conversely, if the economy faces stagnation the banking zone is also affected by the consequences where for third parties not to run reasonable. (Kiryanto R., 2007)

In its role as a financial intermediary institution (Financial Intermediary) from parties who have excess funds (surplus units) and parties need funds (deficit units), banks receive deposits from residents after which the bank distributes back in the form of credit to those who need funds. This includes providing benefits for both parties, namely for the population and for the corporation itself. For residents who receive, credit can be useful for business capital or procurement of goods and services. Conversely, for the corporation itself, the provision of credit wants to provide benefits obtained from debtors in the form of interest that has been charged to the debtor.

Increased demand for banking credit, consumption, working capital, and investment will spur increased purchasing power, increase business passion, and additional investment, namely direct investment. This activity will in conclusion produce a multiplier effect, namely the addition of new factory establishments, the addition of labor absorption, the addition of raw material demand, increased production output, encouraging purchasing power, and increasing tax payments. This cycle will eventually drive economic development. Furthermore, economic development wants to spur new investment. The new investment will stimulate the addition of new credit demand, then will encourage consumption which will further increase people's purchasing power. The impact of this multiplier is what shares the impact of rembetan on economic development.

The speed of credit transmission and its effect on economic development depends heavily on economic characteristics and the comparison of the business scale of financial zones in a certain way with the amount of GDP of a country.

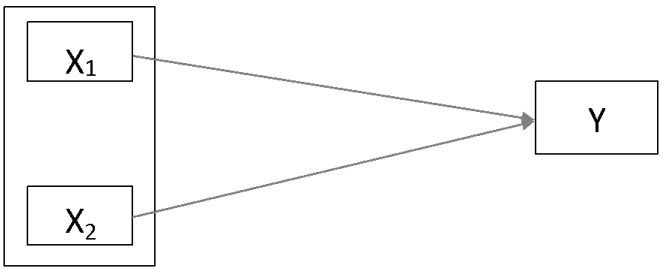
The greater the comparison of credit to GDP until it continues to be a large influence on the development of a country. But that does not mean the smaller the comparison of credit to GDP until the effect becomes insignificant. In the long run, credit development and economic development will stimulate.

Sourced from explanations related to the concepts to be examined and the identification of theories used as a basis for thinking can be put forward the basic

assumption is (1) There is an influence between GDP on Credit Demand; (2) There is an influence between interest rates on creditrequests.

Constellation of relationships between variables

information:



information:

X1 = GDP (Free variable)

X2 = Interest Rate (Free variable)

Y = Credit request (Variable bound)

→ = direction of relationship

The newness of this study is that there is a different view of the results of variable interest rates on credit. According to research conducted by Ida Ayu (2017) variable interest rates have a positive effect on credit (purnawati, 2017). According to research conducted by Yuliana (2015) variable loan interest rates have a significant positive effect on MSME credit demand (Yuliana, 2015). According to research conducted by Sinta Rahayu (2017) variable investment loan interest rates have a significant negative effect on credit. as well as variable interest rates on consumption loans have an insignificant negative effect on consumption credit (Sinta rahayu, 2017).

Because there are differences in results with regard to the interest rate variable, the author is interested in retesting the truth. And as an intermediary for differences in research results, the authors used an additional variable, namely GDP. It is also written in the research conducted by Janet Aprilia (2019) in the written advice section that for further research researchers want to increase the number of other independent variables that can measure the performance of the banking system that are expected to affect credit demand (Janet Aprilia Siwi, 2019).

The hypotheses in this study are; (1) There is an influence between GDP on Credit Demand, and (2) There is an influence between interest rates on credit demand. The purpose of this study is to find out the magnitude of the influence of GDP on credit demand and to find out the magnitude of the influence of interest rates on credit demand. Some of the variables used in this study are GDP, interest rates, and credit demand. The scope of this study researchers use gdp variable data by business with constituency prices, interest rate variables using BI Rate data, and for credit demand variables using bank working capital credit position data. The type of data used in this study is secondary data, which is sourced from: Central Statistics Agency (BPS).

This research uses Quantitative Research Methods, using a descriptive approach to Data Analysis time series. (Sugiyono, 2014) The technique used in this study is a time series data multiple regression analysis technique to determine how much influence each variable affects credit demand variables. (n., 2004) The results of this study can be taken into consideration in the improvement of policies that can encourage credit demand growth.

METHOD

Researchers analyzed the effect of Gross Domestic Product and Interest Rates on Credit Demand. The objects in this study are Gross Domestic Product, interest rates and credit demand. This research has two variables that are the object of research while the demand for credit as a bound variable (Y), while the free variable is GDP (X1) and interest rate (X2). The scope of this study researchers used GDP variable data by business with constituency prices, interest rate variables using BI Rate data, and for credit demand variables using bank working capital credit position data.

The type of data used in this study is secondary data, which is sourced from the Central Statistics Agency (BPS). This study uses time series data from 2015 quarter I to 2020 quarter II. This research uses quantitative research methods, using a descriptive approach to time series data analysis. The technique used in this study is a multiple regression analysis technique that aims to determine how much influence each free variable affects the bound variable. The equation model of time series regression can be written as follows:

$$Y\hat{} = a + b1X1 + b2X2 + e$$

Y^ is the demand for credit by the working capital loan position data of banks. b1X1 is Gross Domestic Product by Gross Domestic Product data based on business field at constant price, b2X2 is interest rate by BI Rate interest rate data, a is a constant while e is a dummy variable.

In this study hypothesis testing will be done by means of regression testing, while according to the firdaus to use regression models need to be fulfilled several assumptions, namely: (1) normal distributed data; (2) no autocorrelation issues (applicable to serie time data); (3) there is no problem of hesteroskedastisity; and (4) there is no multicollinearity problem. Therefore, the classical assumption testing conducted in this study includes testing; (1) normality; (2) multicolonierity; (3) heteroskedasticity; and (4) autocorrelation. The steps used to test the hypothesis are; (1) time series regression analysis; (2) test the significance of the regression coefficient (test t); (3) regression significance test (test F); and (4) coefficient of determination (R2). (Ariyanti, 2004)

In general, this study has conducted several stages of data analysis, namely; (1) describe each of the research variables; (2) perform the requirements of testing the time series data regression model; (3) analysis of estimates; (4) interpret with the estimation of results; (5) discussion.

RESULTS AND DISCUSSION

Classic Assumption Test

Normality Test

Table 4. 1 Kolmogrov-Smirnov Normality Test

One-Sample Kolmogorov-Smirnov Test

		Unstandardized Residual
N		22
Normal Parameters[a,b]	Mean	,0000000
	Std. Deviation	73215,16810491
Most Extreme Differences	Absolute	,117
	Positive	,117
	Negative	-,092
Test Statistic		,117
Asymp. Sig. (2-tailed)		,200[c,d]

a. Test distribution is Normal.

b. Calculated from data.

c. Lilliefors Significance Correction.

d. This is a lower bound of the true significance.

Source: Data processed by researchers

Normality tests are used to ensure the data in the study is normal distribution. In this study, researchers used the Kolmogrov-Smirnov One Sample test. Data is called normal when the significance value is greater than 0.05. (fitriani ismail, 2018) When viewed from the table in the asymp.sig column the significance value of the three variables is 0.200, meaning that the value of this significance is greater than 0.05 then the data is normal.

Multicollinearity Test

Table 4. 2 Multicollinearity Tests

Coefficients[a]

Type		Unstandardized Coefficients		Standardized Coefficients			Collinearity Statistics	
		B	Std. Error	Beta	t	Sig.	Tolerance	VIF
1	(Constant)	-1553644,440	380489,598		-4,083	,001		
	Interest	51907,356	98577,489	,037	,527	,605	,720	1,390
	GDP	1,463	,105	,984	13,899	,000	,720	1,390

a. Dependent Variable: credit

Source: Data processed by researchers

A multicollinearity test is a state in which between two or more free variables in a

regression model a linear relationship is perfect or near perfect. The requirement that there is no multicollinearity problem is if the Tolerance value is greater than 0.1 and the VIF value is less than 10. If viewed in the table it can be known that the tollerance value of 0.720 means that the value of the tollerance is greater than 0.1 and the VIF value of 1.390 which means the VALUE OF VIF is less than 10. Then it can be concluded in this data there is no problem of mutikolinearity.

Heteroskedasticity Test

Table 4. 3 Test heteroskedastisitas Spearman's rho

Correlations

			GDP	Interest	Unstandardized Residual
Spearman's rho	GDP	Correlation Coefficient	1,000	-,419	-,039
		Sig. (2-tailed)	.	,052	,863
		N	22	22	22
	Interest	Correlation Coefficient	-,419	1,000	,040
		Sig. (2-tailed)	,052	.	,860
		N	22	22	22
	Unstandardized Residual	Correlation Coefficient	-,039	,040	1,000
		Sig. (2-tailed)	,863	,860	.
		N	22	22	22

Source: Data processed by researchers

Heteroskedasticity is a state in which there is a variant inequality of residual regression models. In this study, researchers used spearman's rho test. The requirement that there is no problem of hesterocedastisity is if the value of significance is greater than 0.05. When viewed in the sig column table. It can be known that the significance value of the Gross Domestic Product variable is 0.863 and the significance value of the interest rate variable is 0.860 which means the significance value of these two variables is greater than 0.05. It can be concluded that there is no problem of heteroskedastisity. (Gujarati, 2007)

Autocorrelation Test

Table 4. 4 Durbin Watson autocorrelation test method cochrane orcutt

Model Summary[b]

Type	R	R Square	Adjusted R Square	Std. Error of the Estimate	Durbin-Watson
1	,932[a]	,869	,854	76629,04688	1,569

Predictors: (Constant), LAG_X2, LAG_X1

b. Dependent Variable: LAG_y

Source: Data processed by researchers

The autocorrelation test is used to test whether in one linear regression model there is a correlation between a nuisance error in the t period and a nuisance error in the t-1 period (the previous period). The requirement that there is no autocorrelation problem is if the DW value is located between du and 4du. In this study, researchers used the Durbin Watson test of the cochrane orcutt method. When viewed in the table it can be known that the DW value is 1,569. The DU value is 1.5408. And the value (4-DU) of 2.4592 if notated then the DW value is located between DU and 4DU. So it can be concluded in this study there is no autocorrelation problem.

Multiple Regression Test

Table 4. 5 Multiple regression tests

Coefficients[a]

Type		Unstandardized Coefficients		Standardized Coefficients		
		B	Std. Error	Beta	t	Sig.
1	(Constant)	-1553644,440	380489,598		-4,083	,001
	GDP	1,463	,105	,984	13,899	,000
	Interest	51907,356	98577,489	,037	,527	,605

a. Dependent Variable: credit

Source: data processed by researchers

Based on the table obtained the following multiple regression equations:

$Y' = -1553644,440 + 1,463\ X1 + 51907,356\ X2$

From the table is known the constant value of -1,553,644,440 which means that if gross domestic product (X1) and interest rate (X2) is zero (0), then the amount of credit demand value (Y) is -1,553,644,440. The positive regression coefficient value of variable X1 (GDP) is 1,463 meaning that if the VARIABLE GDP (X1) increases by 1% assuming the variable interest rate (X2) and constant (a) is 0 (zero), then the demand for credit increases by 1,463. The positive regression coefficient value of variable X2 (interest rate) is 51907,356 meaning that if the variable interest rate (X2) increases by 1% assuming the variable GDP (X1) and constant (a) is 0 (zero), then the demand for credit increases by 51,907,356.

Hypothesis Test

Partial Test or T Test

Table 4. 6 Partial Test (test t)

Coefficients[a]

Type		Unstandardized Coefficients		Standardized Coefficients		
		B	Std. Error	Beta	t	Sig.
1	(Constant)	-1553644,440	380489,598		-4,083	,001
	GDP	1,463	,105	,984	13,899	,000
	Interest	51907,356	98577,489	,037	,527	,605

a. Dependent Variable: credit

Source: Data processed by researchers

Effect of VARIABLE GDP on Credit Demand

GDP variables partially affect credit demand. This is because based on the results of the t test in table IV.15, thitung values of 13,899 are greater than the value of 2.09302. Or it can also be seen from the significance value (sig) of 0.000 which means that the sig value is less than 0.05, it can be concluded that partially GDP affects credit demand.

The Effect of Variable Interest Rates on Credit Demand

Variable interest rates partially have no effect on credit demand. This is because based on the results of the t test in table IV.15 is seen thitung of 0.527 which means the value of thitung is smaller than the value of ttabel 2.09302. Or it can also be seen from the significance value (sig) of 0.605 which means that the sig value greater than 0.05 can be concluded that partially interest rates have no effect on credit demand.

Simultaneous Test or F Test

Table 4. 7 Simultaneous test (test F)

ANOVA[a]

Type		Sum of Squares	Df	Mean Square	F	Sig.
1	Regression	1529033343185,746	2	764516671592,873	129,038	,000[b]
	Residual	112569677653,244	19	5924719876,487		
	Total	1641603020838,990	21			

a. Dependent Variable: credit

b. Predictors: (Constant), interest rates, GDP

Data sources are processed by researchers

Based on the table above it can be known that the value of F calculates 129.038. While the value of F table is 3.52. This means that F-count 129,038 > F table 3.52 it can

be concluded that the variables of GDP (X1) and interest rates (X2) relate simultaneously to the Credit Demand variable (Y). (Ghozali, 2009)

Determination Coefficient Testing$^{(R2)}$

Table 4. 18 Coefficient of determination

Model Summary

Type	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	,965[a]	,931	,924	76972,20197

a. Predictors: (Constant), interest rates, GDP

Sumber:data processed by researchers

Based on the output of the summary model table above, it can be known that the value of R Square (R2) or the influence between GDP (X1) and interest rate (X2) on credit demand (Y) of 0.931 means that independent variables are able to explain dependent variables by 93.10% and the remaining 6.9% is influenced by other factors. (Sarwoko, 2005)

DISCUSSION

Effect of GDP on Demand for Credit

Based on the results of the t test on the GDP variable, thitung of 13,899 is greater than the ttabel of 2.09302 in addition to the significance value (Sig) of 0.000 smaller than the significance of alpha 0.05 which means a significant relationship occurs. So that it can be partially concluded that GDP variables have a significant positive influence on credit demand.

As we know GDP is the total output of goods and services of a country as well as the total income of that country. Methods in microeconomic theory of the demand for a commodity are influenced by individual income. The higher the income, the higher the demand for a commodity will also be higher. In the input market, the production process is carried out for a reason, namely because of the demand for the output produced. Alfred Marshall called the demand for this output as selfves demand. The demand for output itself is often regarded as genuine demand because it arises directly from the presence of human needs. Working capital loans are loans given to business actors both MSMEs and corporations in the framework of financing working capital or business capital. This credit is indicated to buy capital goods which is one of the factors of production as revealed by Cobb Douglas in the theory of production function. Based on this theory, production is determined by two main factors of production, namely labor and capital. The capital production factor can be obtained from the demand for credit.

The law of demand actually says that if prices rise, fixed incomes will lower demand for goods, and if prices fall but demand remains, demand for goods will increase. (Mishkin, The Economics of Money, Banking, and Financial Markets, 2007, p. Furthermore, economic actors will try to expand their business by asking for credit applications through financial institutions. This means that GDP has a positive influence on credit demand. This is also written in research conducted by (Putra A.M., 2018) the increase in GDP is a positive signal for the rill sector.

Rising GDP will increase demand for credit. This is in accordance with what is stated by widyatsari who states that GDP has a positive relationship to the demand for credit on this subject is suitable for the theory of the law of demand in this theory mentioned that demand is influenced by the income and price of the goods. The law of demand basically says if the price of goods goes up but income is fixed then the demand for the goods falls, and if the price of the goods falls but the income remains then the demand for the goods will go up. (Mishkin, The Economics of Money, Banking, and Financial Markets, 2007)

The idea put forward by (sukirno, 2005) in (siagian, 2017) states that the income of the main factor that influences demand, in fact this is a basic assumption that assumes the greater the income will be higher the demand for the object.

Studies from BI and the Financial Services Authority (OJK) in various time periods, research results show that banking credit has a positive impact on indonesia's economic development, the results of research from OJK also show that banking credit has a positive influence on economic development in a short period of time if the quality of physical capital and infrastructure quality have reached a certain level to be able to cause productivity and competitiveness in the zone. rill. The multiplier impact will be greater when supported by reducing the interest rate on credit. (Bank indonesia)

Research conducted by Njo Anastasia and Fabian Hidayat (2017) with the theme "Relation of Residential Property Price Index of Gross Domestic Product, Mortgage Interest Rate, and Banking Credit The result of this research is that the GDP Variable shows a positive relationship with banking credit. (N., 2017) (Bank indonesia)

Research conducted by Susi Ramelda (2017) with the theme "Influence of Credit Interest Rates and Gross Domestic Product on The Distribution of Government Commercial Bank Banking Credit in Indonesia" The result of this research is that GDP variables have a positive and significant effect on credit distribution. (Ramelda, 2017)

The results of this study are also supported by research conducted by (yuryska tomi sumaryo, 2016), (susilowati, 2017) (hismendi, 2015) and (rakhmawati, 2011) which states that GDP has a significant positive effect on credit demand. This means that increased GDP will encourage the increase in demand for credit in the community. In principle, people can use credit to carry out economic activities in accordance with income that can be obtained. This shows that the increase in people's income will encourage people to dare to lend credit.

Effect of interest rates on credit demand

Based on the results of the t test against variable interest rates resulted in a thitung of 0.527 smaller than the ttabel 2.09302. In addition, the value of significance (sig) of 0.605 more than > 0.05 it can be concluded that partially interest rates have no effect on credit demand.

The results of this study are in accordance with research conducted by Ida Ayu

Aishwarya Rail and Ni Ketut Purnawati with the theme "Factors That Affect Credit in National Private Commercial Banks (BSN) Foreign Exchange" in the study explained that variable interest rates have a positive and insignificant effect on the credit demand of the National Private Commercial Bank. (Retired, 2017) (Retired, 2017)

Meanwhile, according to research conducted by Aditya Martha Putra (2018) with this research entitled "The Effect of Inflation, Gross Domestic Product (GDP) and Credit Interest Rates on The Distribution of Commercial Bank Credit in Indonesia (2007-2016)". The result in this study is that variable interest rates on commercial bank loans have no effect on the distribution of commercial bank credit in Indonesia. (Son of A.M., 2018)

The results of this study are supported by research conducted by (Badaruddin, 2012), (Roring, 2013) and (sari, 2016) which states that interest rates have a positive effect on credit demand. This indicates that currently the interest rate rises, customers will still credit to the bank on the grounds of meeting daily needs. So that the demand for credit made by the community is not affected by high interest rates. The results of this study contradict research conducted by (yoga, 2013), (Esti, 2012) and (Runtalalo, 2015) which stated that interest rates negatively and significantly affect credit.

Researchers argue that the difference in results is because credit demand is not only influenced by interest rates but there are other influences that are used as a benchmark for debtors such as community income and other socioeconomic factors. In addition, this difference in results is also due to differences in the use of interest rate data. In this study used BI Rate interest rate data while in previous research used variable interest rates on consumption credits.

Researchers argue that the hypothesis rejected is suspected because credit requests are not sufficiently influenced by interest rates but there are other influences that serve as a benchmark for debtors such as political situation, public income, external factors, security, bureaucratic ease, and other socioeconomic factors. In addition, researchers have limitations in retrieving working capital loan interest rate data that should be sumer research data. But using bi rate obtained from BPS. Maybe the results obtained will be different if the researcher uses the data.

CONCLUSIONS AND SUGGESTIONS

Based on the results of this study, it can be concluded that; (1) Based on analysis conducted using the IBM SPSS Statistic 25 program with regression using the t test it can be concluded that partially Gross Domestic Product has an influence on credit demand; (2) Based on an analysis conducted using the IBM SPSS Statistic 25 program with regression using the t test it can be concluded that partially interest rates have no effect on credit demand.

(Alamsyah, 2005) In Indonesia, the position of banks plays a role not only as a source of financing but banks can also influence the economic cycle in totality. This is because banks are more powerful than other financial institutions. In experiencing balanced data and high budget in carrying out the role of third parties. When the banking zone is down until the national economy also declines. Conversely, if the economy faces stagnation the banking zone is also affected by the consequences where for third parties not to run reasonable. Because the role of finance is very important for the economy of a country, the government must maintain the financial climate in the bank to remain conducive and competitive so that the public is interested in applying for credit. In addition, the government is also obliged to maintain the economic climate because one of the important factors of the community is interested in applying for credit

is when the economy is stable. As for some policies that can be taken by the state, among others; (1) The value of the country's Gross Domestic Product must be improved through strategies to increase community productivity such as skills development and strengthening people's purchasing power; (2) Based on this research related to interest rates, the central bank as an institution that is authorized in setting interest rates in making policy related to interest rates does not need to worry about reducing credit demand.

REFERENCE

alamsyah, h. d. (2005). banking disintermediation and it's implication for monetary policy the case of indonesia. monetary and banking economics bulletin, 499-521.

Ariyanti, F. d. (2004). credit management of commercial banks. Bandung: Alfabeta.

Badaruddin. (2012). the effect of interest rates on consumptive credit distribution on pt. bank rakyat indonesia tbk sungguminasa branch. Economic journal.

Bank Indonesia. (n.d.). BI-7-Day (Reverse) Repo Rate. Bank Indonesia. From https://www.bi.go.id/id/moneter/bi-7day-RR/penjelasan/contents/default.aspx

Esti, R. H. (2012). analysis of factors that affect the distribution of investment credit of persero bank. Business and management journals.

fitriani ismail, f. (2018). influence of accounting information systems and internal controls on employee performance of pt beton persada elements. Audit accounting journal and accounting information system, 1-13. doi:10.1017/CB09781107415324.004

Ghozali, i. (2009). multivariate analysis application with spss program. Semarang: university dipenogoro.

Gujarati, D. (2007). The basics of econometrics volume 2. Jakarta: erlangga.

hismendi. (2015) the effect of gross domestic product (PDRB) inflation rate, and interest rate on credit demand at commercial banks in aceh province. 32-46.

Janet Aprilia Siwi, V. A. (2019). Analysis of the Effect of Interest Rates on Kredi Demand on Commercial Banks in Indonesia in 2011-2017. journal periodical scientific efficiency, 1-9.

Cashmere. (2008). Banking Management. Jakarta: PT. King Grafindo Persada.

Kiryanto, R. (2007). Step-Trobosan Encourages Credit Expansion. Economic Review.

Kiryanto, R. (2007). Step-Trobosan Encourages Credit Expansion. Economic Review, June.

Mishkin, F. S. (2007). The Economics of Money, Banking, and Financial Markets (8 ed.). Boston: Pearson Education Inc.

Mishkin, F. S. (2008). Money Economics, Banking, and Financial Markets (8 ed.). Jakarta: Salemba Four.

N., A. (2017). Relationship of Residential Property Price Index of Gross Domestic Product, Mortgage Interest Rate and Banking Credit. Journal of Economics and Finance, 499-521.

n., k.m. (2004). applied linear regression models. Jakarta: erlangga.

Purnawati, i. a. (2017). factors affecting credit at national private commercial banks (BSN) foreign exchange.

Son, A.M. (2018). Effect of Inflation, GDP, and Credit Interest Rates on General Credit Distribution in Indonesia (2007-2016). Scientific Journal.

Son, A.M. (2018). The Effect of Inflation, Gross Domestic Product (GDP) and Credit Interest Rates on The Distribution of Commercial Bank Credit in Indonesia (2007-2016). 1-11.

Son, A.M. (2018). Effect of Inflation, Gross Domestic Product (GDP) and Credit Interest Rates on The Distribution of Commercial Bank Credit in Indonesia (2007-2016). Scientific journal, 1-113.

rakhmawati, D. N. (2011). analysis of factors that affect the demand for home ownership loans (KPR) in commercial banks in Indonesia in 2003-3010. 1-113.

Ramelda, S. (2017, Feb. The Effect of Credit Interest Rates and Gross Domestic Product on the Distribution of Bank Banking Credit in Indonesia. JOM Fekom, 4, 828-842.

Roring, G. D. (2013). determinant analysis of credit distribution by the people's credit bank (bpr) in the city of Manado. journal EMBA, 1(3).

Runtalalo, A. (2015). analysis of factors affecting the distribution of investment credit to commercial banks in north Sulawesi period (2009.1-2013.4). Periodical journal efficiency, faculty of economics and business majoring in economics development university sam ratulangi 15(1).

samuelson paul, d. (2001). Macroeconomic science. jakarta: pt global media education.

Samuelson Paul, d. N. (1998). Economics.

sari, n.m. (2016). the influence of dpk, roa, inflation and sbi interest rates on the distribution of credit to commercial banks. e-journal management unud, 5(11).

Sarwoko. (2005). The basics of econometrics. yogyakarta: cv andi offfset.

setiani, s.m. (2015). influence of Credit Interest Rates, Inflation, and Gross Regional Domestic Product (PDRB) on Investment Credit Demand in Riau Provincial Banking Period 2002-2013.

Siagian, d. (2017). analysis the influence of interest rate and gross domestic bruto to demand of housing loan is asaving bank state (BTN) of indonesia period 2001-2014. JOM Fekom, 4, 967-978.

Siagian, D. H. (2017, Feb. Analysis The Influence of Interest Rate and Gross Domestic Bruto to Demand of Housing Loan is a Saving Bank State (BTN) of Indonesia Period 2001-2014. JOM Fekom, Vol. 4 No. 1 (February) periodical 2001-2014, pp. 967-978.

Sinta rahayu, &. i. (2017). Effect of Interest Rates and Per capita Income on Credit Demand in Indonesia. Student scientific journal, 472-480.

Sugiyono. (2014). quantitative, qualitative and r&d. bandung research methods: CV alfabeta.

sukirno, s. (2005). microeconomics, introductory theory. jakarta: grafindo persada.

Sukirno, S. (2005). Microeconomics, Introductory Theory. Jakarta: PT. King Grafindo

Persada.

Sukirno, S. (2006). Macroeconomics. Jakarta: PT. Raharja Grafindo Raharja.

Sukirno, S. (2006). Macroeconomics. Jakarta: PT. Raharja Grafindo Raharja.

susilowati, F. (2017). analysis of factors affecting credit demand at commercial banks listed on the Indonesia stock exchange for the period 2011-2015. 310-323.

Yoga, g. a. (2013). factors that affect the distribution of brp credit in bali province. journal of economics development faculty of economics udayana university.

Yuliana, A. H. (2015). Analysis of Factors Affecting Demand for Small and Medium Micro Enterprises at Commercial Banks in Banda Aceh City. Economics, 17-26.

yuryska tomi sumaryo, m. (2016). analysis of the effect of economic growth in inflation rates and interest rates on the distribution of credit to government banks listed on the Indonesia stock exchange for the period 2009-2016. 98-106.