JURNAL PENDIDIKAN EKONOMI, PERKANTORAN DAN AKUNTANSI
http://pub.unj.ac.id/index.php/jpepa

THE RELATIONSHIP BETWEEN BI7DRR POLICY CAUSALITY AND INFLATION RATE ON CREDIT DISTRIBUTION FOR COMMERCIAL BANKS (April 2016-November 2020)

Ade Nurhidayah[1], Herlitah, S.Sos., M.Ec.Dev[2], Dr, Siti Nurjanah, SE., M.Si[3]

[1] *Universitas Negeri Jakarta, Indonesia*
[2] *Universitas Negeri Jakarta, Indonesia*
[3] *Universitas Negeri Jakarta, Indonesia*

Article Info

Article history:
Received: August 6, 2021
Accepted:
Published:

Keywords:
Credit Distribution,BI7DRR, Inflation

Abstract

This study aims to determine the causality effect of the BI7DRR policy and the inflation rate on commercial bank credit distribution. The data used are secondary data obtained from Bank Indonesia and Indonesian Banking Statistic by the Financial Services Authority. This study uses time series data which is processed using software eviews with the Vector Error Correction Model (VECM) method. The result of the study show that in the causality test, the BI7DRR and inflation variables don't have a causality effect, but in the long term, the BI7DRR and inflation variables have a negative and significant effect on lending. Then in the short term, goodness of fit BI7DRR and inflation are 72.67% and 87.72%, which means that these variables can explain credit distribution variables well.

Abstrak

Penelitian ini bertujuan untuk mengetahui hubungan kausalitas kebijakan BI7DRR dan inflasi terhadap penyaluran kredit. Data yang digunakan merupakan data sekunder yang diperoleh dari bank indonesia dan statistik perbankan indonesia oleh otoritas jasa keuangan. Penelitian ini menggunakan data time series yang diolah menggunakan software eviews 10 dengan metode Vector Error Correction Model (VECM). Hasil penelitian menunjukan pada uji kausalitas, variabel BI7DRR dan inflasi tidak memiliki hubungan kausalitas, akan tetapi pada jangka panjang variabel BI7DRR dan inflasi memiliki pengaruh negatif dan signifikan terhadap penyaluran kredit. Kemudian pada jangka pendek, *goodness of fit* BI7DRR dan inflasi sebesar 72.67% dan 87.72%, yang artinya variabel tersebut dapat menjelaskan variabel penyaluran kredit dengan baik.

How to Cite:
Author. (2019). Article title. *Jurnal Pendidikan Ekonomi, Perkantoran dan Akuntansi s*, 7(2), 101-111. https://doi.org/10.21009/**J**PEPA.007.x.x

* Corresponding Author.
adenurhidayah18@gmail.com Ade Nurhidayah

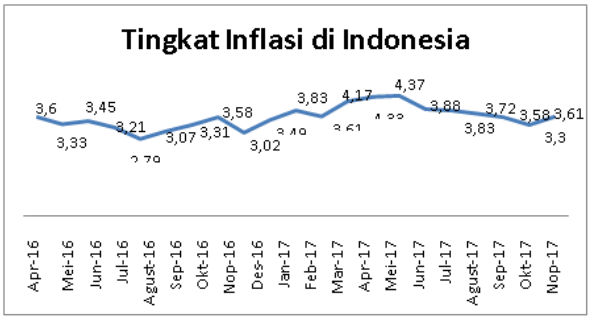
ISSN
2302-2663 (online)
DOI: doi.org/10.21009/JPEPA.007.x.x

INTRODUCTION

The banking industry is one of the financial institutions that plays an important role in the development and economic growth of a country. The role of capable banking affect the business cycle in the economy, marked by the unavoidable turbulence and financial risk, especially when inflation and high interest rates occur, of course this is related to the banking intermediation function (Oktaviani & Pangestuti, 2012). In this function, banks have a major contribution in lending. This has been reflected since 2015, when there was great pressure on emerging market financial markets (Alamsyah et al., 2005). The national banking industry shows a good growth trend with the resilience of the banking industry and maintained credit and liquidity risks (Financial Services Authority, 2015). As for Several factors affect lending, including inflation and interest rates. In this case, the nominal interest rate that has been set since April 2016 is the Bank Indonesia 7 Days (Reserve) Repo Rate (BI7DRR) which will affect the interest rate for deposits or commercial bank loans. On the other hand, the determination of interest rates by Bank Indonesia will certainly pay attention to future inflation conditions.

Historically, the current condition of inflation has been more controlled and stable since the implementation of BI7DRR. In April 2016 the inflation rate was only 3.60%, this reflects a fairly good inflation rate compared to the first quarter of 2016. In January inflation reached 4.14%, then in February 4.42%, and in March 2016 the inflation rate rose to 4.45%. . In line with the implementation of the BI7DRR benchmark interest rate, which is aimed at maintaining a stable economy. In addition, the implementation of BI7DRR is consistent in supporting the recovery of the domestic economy, because since 2014-2015, when the economy experienced a downturn, which was marked by a sharp decline in commodity prices, as well as trading volume.

Figure 1. Inflation rate in Indonesia in April 2016 – December 2017



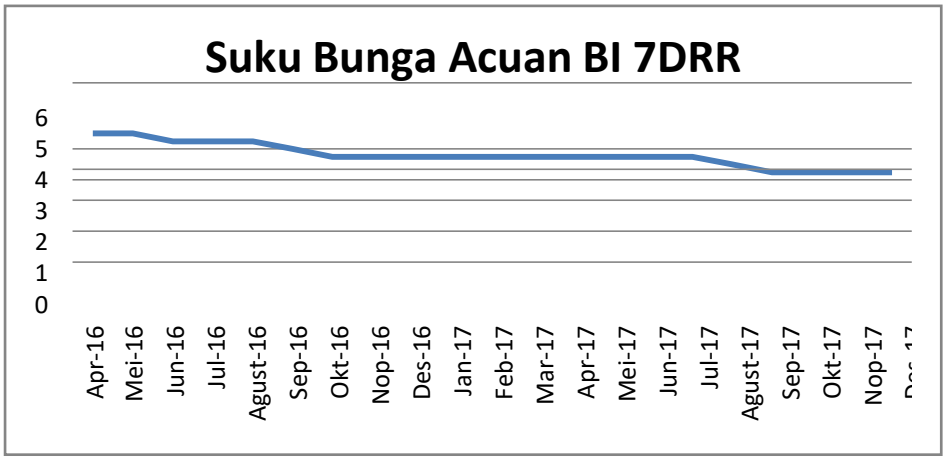
ISSN 2302-2663 (online)

DOI:

Based on inflation data released by Bank Indonesia, in June 2016 the inflation rate reached 3.45%, which is relatively lower when compared to the average inflation for the last four years. Although inflation improved in 2016, inflation rose again to 4.37% in 2017 due to increased demand for basic commodities, but financial conditions are still stable because they are supported by growth in credit, infrastructure, consumption and social services (Bank Indonesia, 2020).

Furthermore, for the data for the 2018-2020 period, in June 2018, 2019, and 2020, the inflation rate returned to stable at 3.12%, 3.28%, and 1.96% (Bank Indonesia, 2020). Bank Indonesia again adopted a policy of easing the transmission of monetary policy through the interest rate channel due to slowing credit growth. In November 2020, the inflation rate remained low at 1.59%, under these conditions Bank Indonesia was consistent in maintaining price stability and controlling inflation. The high rate of inflation will affect the high level of bank interest rates, when inflation increases and cannot be controlled, the banking efforts in raising public funds will be disrupted and create a domino effect on credit distribution which will decline and stagnate (Sari & Abundanti, 2016).

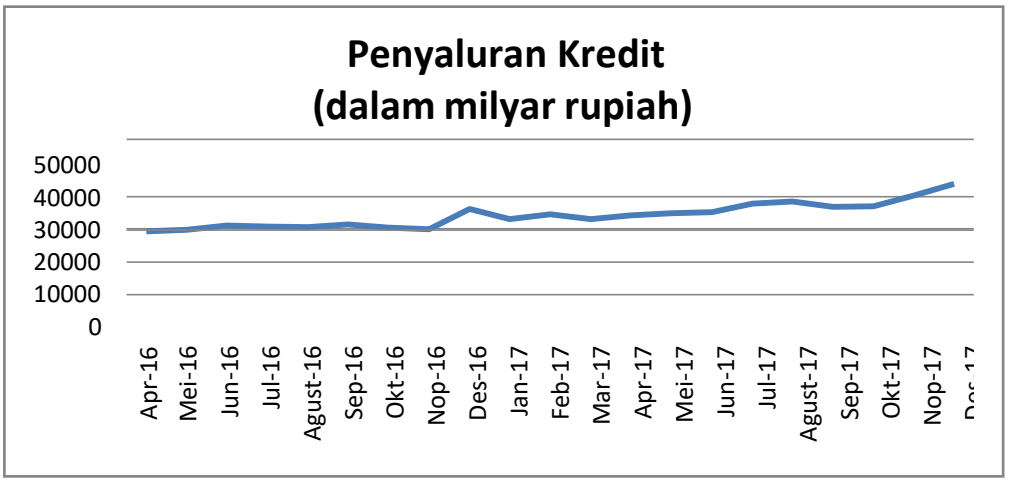
Figure 2. BI7DRR . Reference Interest Rate



Sumber: Bank Indonesia, data diolah

ISSN 2302-2663 (online)
DOI:

Figure 3. Commercial Bank Credit Distribution



Sumber: Bank Indonesia, data diolah

Based on data released by BI for BI 7DRR and OJK policies in Indonesian Banking Statistics, it can be seen that changes that occur in BI 7DRR have an influence on lending. Data for the November 2020 period, which is the 3rd quarter of 2020, credit disbursement decreased by almost 4 billion rupiah, which was caused by worsening economic conditions and allowed Indonesia to enter the brink of recession (Central Bureau of Statistics, 2020). Even though in the transmission scheme of monetary policy in the credit line, the BI 7DRR interest rate has an influence on the financial sector, especially on lending rates and bank deposits. So the BI 7DRR policy is expected to be able to control interest rates which will have an impact on bank lending and the risk of bad loans. However, this policy is considered not optimal, this is reflected in the transmission of monetary policy through the credit channel. Therefore, this study discusses the causal relationship between BI7DRR and the inflation rate on bank lending public (April 2016-November 2020).

METHOD

The method used in this research is descriptive quantitative method. Quantitative data is data that shows quantity, in the form of absolute numbers, so that the magnitude can be determined. This study uses the Vector Error Correction Model (VECM) approach, because it is known that the data is stationary at the level and there is cointegration. This type of research data is secondary data. Secondary data is primary data that has been collected and presented either by the primary data collection party or by other parties (Hardani et al, 2020). In this study, using data presented by Bank

Indonesia and the Financial Services Authority. With this data, information will be obtained regarding the BI 7DRR policy, inflation rate and lending to commercial banks in Indonesia in the period April 2016-November 2020.

The data used in this study is time series data collected from a certain time and place. The data used is from April 2016-November 2020. The data is processed using Eviews 10 software.

Results And Discussion

Based on the results of the stationarity test, it was found that the data obtained were stationary at the first difference level.

Tabel 1. Hasil Uji Augmented Dickey-Fuller (ADF)

Variabel	Uji Akar Unit	ADF	Prob
Penyaluran Kredit	1st *Difference*	-6.548560	0.0000
Suku Bunga BI 7DRR	1st *Difference*	-4.732753	0.0000
Tingkat Inflasi	1st *Difference*	-5.873686	0.0000

Sumber: Eviews 10, data diolah

From the stationary test at the level level, none of the variables are stationary. Then the test is continued at the first difference level. At the first difference level, it shows that the statistical ADF value is smaller than the critical value. So the data is stationary at the first difference level.

After that, the optimum lag length was determined, using information from the Akaike Information Criterion (AIC), Schwarz Information Criterion (SC) and Hannan-Quinn Criterion (HQ). In determining the optimum lag, based on the optimum lag test using the Akaike Information Criterion (AIC) criteria, the author uses an optimum lag of 10, with the AIC criterion of -14,24141. It is marked by *.

Tabel 2. Penentuan Lag Optimum

Lag	LogL	LR	FPE	AIC	SC	HQ

ISSN 2302-2663 (online)
DOI:

0	316.7582	NA*	1.76e-10*	-13.94481	-13.82437*	-13.89991*
1	324.4152	13.95268	1.87e-10	-13.88512	-13.40334	-13.70552
2	329.1121	7.932601	2.28e-10	-13.69387	-12.85076	-13.37957
3	333.9557	7.534498	2.79e-10	-13.50914	-12.30470	-13.06014
4	337.4930	5.030707	3.66e-10	-13.26635	-11.70058	-12.68265
5	345.0962	9.799727	4.08e-10	-13.20428	-11.27717	-12.48587
6	357.0939	13.86402	3.83e-10	-13.33751	-11.04907	-12.48440
7	369.5877	12.77139	3.65e-10	-13.49279	-10.84301	-12.50498
8	379.1083	8.462755	4.14e-10	-13.51592	-10.50482	-12.39341
9	387.7147	6.502630	5.22e-10	-13.49843	-10.12599	-12.24122
10	413.4317	16.00173	3.36e-10	-14.24141*	-10.50764	-12.84950

Sumber: Eviews 10, data diolah

After obtaining the optimum lag length of 10, proceed with the cointegration test. Cointegration test was carried out using the Johansen's Cointegration Test method. Based on the test results, it can be seen that the trace statistic value in 'None' is greater than the critical value with a significance level of 5%. This indicates the existence of cointegration in the data.

Tabel 3. Penentuan Lag Optimum

Unrestricted Cointegration Rank Test (Trace)

Hypothesized No. of CE(s)	Eigenvalue	Trace Statistic	0.05 Critical Value	Prob.**
None *	0.554341	54.69434	24.27596	0.0000
At most 1 *	0.346681	19.13353	12.32090	0.0031
At most 2	0.009121	0.403165	4.129906	0.5888

Trace test indicates 2 cointegrating eqn(s) at the 0.05 level
* denotes rejection of the hypothesis at the 0.05 level
**MacKinnon-Haug-Michelis (1999) p-values

Unrestricted Cointegration Rank Test (Maximum Eigenvalue)

Hypothesized No. of CE(s)	Eigenvalue	Max-Eigen Statistic	0.05 Critical Value	Prob.**
None *	0.554341	35.56082	17.79730	0.0000
At most 1 *	0.346681	18.73036	11.22480	0.0020
At most 2	0.009121	0.403165	4.129906	0.5888

Max-eigenvalue test indicates 2 cointegrating eqn(s) at the 0.05 level
* denotes rejection of the hypothesis at the 0.05 level
**MacKinnon-Haug-Michelis (1999) p-values

Sumber: Eviews 10, data diolah

In the cointegration test, the results show that there is cointegration in the data. Thus, the cointegration test results indicate that between BI 7DRR interest rate movements, inflation rates, and lending have a relationship of stability and similarity of movements in the long term. There is a cointegration relationship in time series data so that this research is continued with testing the Vector Error Correction Model (VECM).

ISSN 2302-2663 (online)
DOI:

Tabel 4. Estimasi VECM Jangka Panjang

Variabel	Koefisien	t-statistik
BI7DRR (-1)	-2.414446	-8.26183
INFLASI (-1)	-0.551171	-1.99029

Sumber: Eviews 10, data diolah

Tabel 5. Estimasi VECM Jangka Panjang

Error Correction:	D(PENYALURAN KREDIT)	D(BI7DRR)	D(INFLASI)
CointEq1	0.012311	0.051071	-0.563499
	(0.13947)	(0.10455)	(0.15793)
	[0.08827]	[0.48849]	[-3.56807]
D(PENYALURANKREDIT(-10))	0.154230	-0.104600	0.020583
	(0.25802)	(0.19342)	(0.29217)
	[0.59776]	[-0.54079]	[0.07045]
D(BI7DRR(-10))	-0.048054	-0.159615	-0.112556
	(0.51201)	(0.38382)	(0.57979)
	[-0.09385]	[-0.41585]	[-0.19413]
D(INFLASI(-10))	0.034174	-0.193912	0.145968
	(0.16129)	(0.12091)	(0.18264)
	[0.21188]	[-1.60379]	[0.79921]
C	-0.003526	-0.013864	0.016084
	(0.01324)	(0.00992)	(0.01499)
	[-0.26635]	[-1.39705]	[1.07297]
R-squared	0.669748	0.726708	0.877293
Adj. R-squared	-0.117778	0.075012	0.584683

Sumber: Eviews 10, data diolah

credit distribution with a statistical value of [-8.26182], because whether or not a variable is significant to other variables can be evaluated using the absolute value of t-statistics [2] or [1.96]. The data above means that if there is a 1% increase in the BI 7DRR interest rate, it will cause a decrease in commercial bank lending by 2,41446. This is in accordance with Pohan's (2018) statement that the banking intermediation function does not always run perfectly. When there is a change in interest rates and people's incentives increase to choose to save their money in banks,

this does not mean that this will always be followed by a proportional increase in credit that will be distributed by banks to the public. And Keynes's theory states that the distribution of money is not fully influenced by interest rates, but there are also several economic factors that influence it (Haryanto and Widyanti, 2017).

Furthermore, the inflation variable has a negative and significant effect on lending with a statistical value of [-199029]. This is different from the theoretical expectation which states that the inflation rate has a positive influence on commercial bank lending. This is because the inflation rate is not the only factor that can affect lending. In Keynes' theory, inflation mainly occurs due to excess liquidity so that this has a more direct impact on changes in BI's interest rates, so it does not have a direct impact on how the banking response in channeling the amount of credit (Boediono, 2018).

In the long term, the summary results of goodness of fit are obtained from each variable. Existing quantities include the value of R-Squared. The greater the value, the better the model obtained. In the output above, the R-Squared values for the credit distribution equation model, BI7DRR and Inflation are 0.669748, 0.726708 and 0.877293, which means that the lag of each selected variable can explain the lending variables, BI7DRR and inflation of 66.97%, 72.67%, and 87.72 %, the rest is explained by other variables outside the model. From the R-Squared value, it can be seen that the loan distribution equation model, BI7DRR, and inflation is quite good, as can be seen from the R-Squared value obtained which is quite high. Furthermore, the Granger causality test was carried out. This causality test can indicate whether a variable has a two-way relationship or not.

Tabel 6. Hasil Uji Kausalitas *Granger*

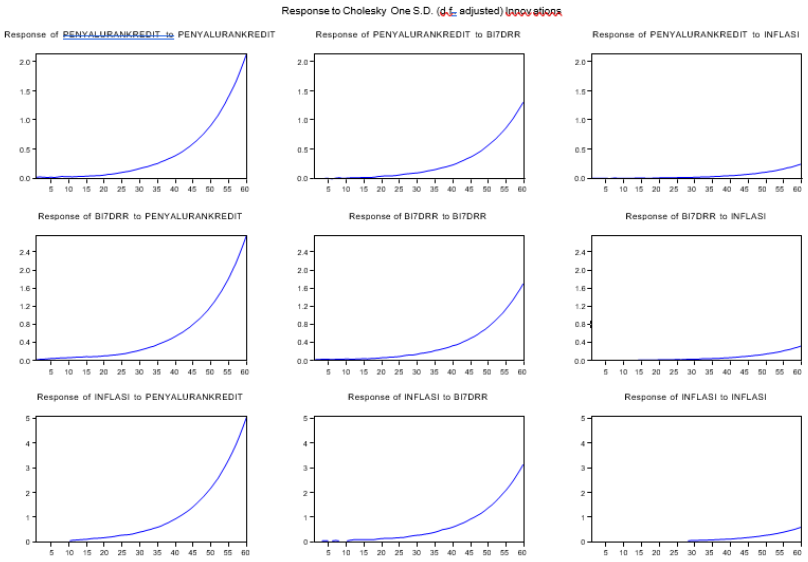
Pairwise Granger Causality Tests
Date: 07/02/21 Time: 12:39
Sample: 2016M04 2020M11
Lags: 10

Null Hypothesis:	Obs	F-Statistic	Prob.
BI7DRR does not Granger Cause PENYALURANKREDIT	46	0.76862	0.6568
PENYALURANKREDIT does not Granger Cause BI7DRR		0.75358	0.6697
INFLASI does not Granger Cause PENYALURANKREDIT	46	0.74596	0.6762
PENYALURANKREDIT does not Granger Cause INFLASI		0.64795	0.7595
INFLASI does not Granger Cause BI7DRR	46	0.75794	0.6660
BI7DRR does not Granger Cause INFLASI		1.10738	0.3946

Sumber: Eviews 10, data diolah

From the results of the Granger causality analysis above, it can be seen that there is no causal relationship between the three variables in this study. This can be seen from the probability value > 5%. So that in the Granger causality test, there is no significant effect between one variable and another. Then the Impulse Response Function (IRF) test is performed to determine the response of an endogenous variable to a particular shock. IRF can provide information related to the direction of the relationship and the magnitude of the strength between variables.

Gambar 4. Impulse Respons Function



Sumber: Eviews 10, data diolah

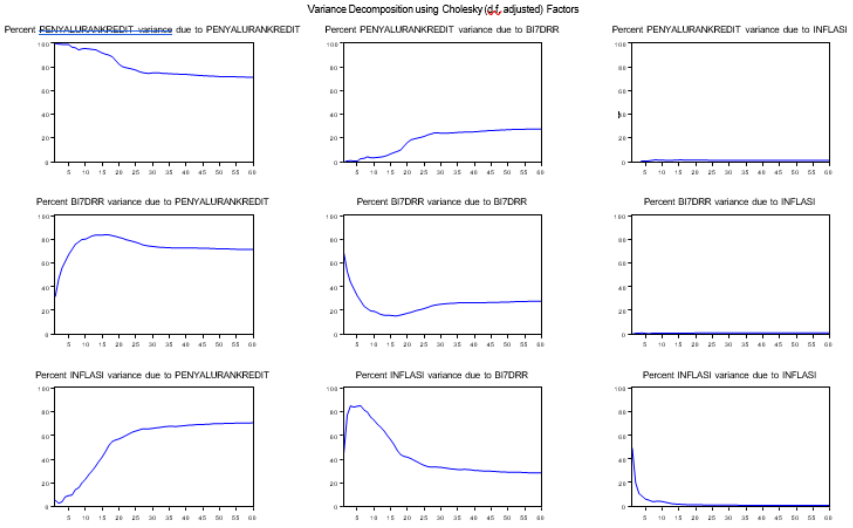
ISSN 2302-2663 (online)

DOI:

The response of the credit distribution variable due to changes in the lending variable itself, it can be seen that in the middle of the period (period 30-35) credit distribution responded positively to the changes (shock) that occurred in the lending itself which in the long term moved constant positive. The response of lending to changes in BI 7DRR, it can be seen that at the beginning of the period up to the 6th period, credit distribution responded negatively to BI 7DRR. This is because changes in the benchmark interest rate that have just been set by BI have not directly affected the level of lending by commercial banks. However, after the 7th period, credit distribution began to give a positive response to the BI 7DRR policy. response of lending to changes in the inflation rate. This change (shock) is not very visible, however, in the 3rd and 6th periods, credit distribution gave a negative response to changes in the inflation rate. Then in the following period changes in credit distribution gave a positive response to the inflation rate. The response of the BI 7DRR Policy variable due to changes in the lending variable, it can be seen that the change in the BI 7DRR Policy variable responded positively with the lending variable significantly from the initial period to the 60th period. The response of the BI 7DRR Policy variable to a change (shock) in the variable The BI 7DRR policy itself can be seen that BI7DRR gave a positive response to changes that occurred in BI7DRR itself in the long term, namely for 60 periods. The response of the BI7DRR policy variable to changes (shock) that occurred in the inflation rate variable, it can be concluded that for 60 periods, the response given by BI7DRR to the inflation rate tends to experience significant changes. Furthermore, the response to the inflation rate variable is due to changes in the credit distribution variable. In periods 1 and 2, inflation gave a negative response to changes in the lending variable. However, in the next period, inflation gave a positive response to changes in credit distribution. The inflation rate gave a positive response to changes (shock) that occurred in the BI7DRR policy. Although in general during the 60 periods it showed a positive response, but several times it decreased and in the 10th period the response that emerged from the inflation rate variable to changes in the inflation rate was negative. .

Furthermore, the last is the variance decomposition test, which is intended to see how changes in a variable indicated by changes in error variance are affected by other variables, namely FEVD. This method characterizes a dynamic structure in the VAR model, and in this method it can be seen that the strengths and weaknesses of each variable affect other variables in the long term (M. Firdaus, 2018).

Gambar 5. Variance Decomposition



Sumber: Eviews 10, data diolah

ISSN 2302-2663 (online)

DOI:

The data on the decomposition of the loan disbursement variable above can be seen that at the beginning of the period, credit distribution was determined by the shock in the variable itself, which was 100 percent in the first period, which means that the shock in other variables had no contribution at all. In the next period the shock of other variables began to have an effect on the lending variable, although the effect of the shock was not too large. In the long term, it can be seen that apart from the shock in lending itself, the shock to the BI7DRR policy contributed 27 percent and inflation only contributed less than 1 percent.

The data on the decomposition of the BI7DRR variable above can be seen that at the beginning of the period, BI7DRR was determined by most of the shocks to the variable itself, which was 68 percent. Meanwhile, the shock in the other two variables, the lending variable contributed 31 percent while inflation did not contribute in the first period. In the long term, the contribution of shock to the BI7DRR variable began to decline in the 4th and 15th periods, then increased again. Meanwhile, the contribution of the long-term lending variable tends to increase although in the 15th period its contribution also decreases. For the inflation variable, the long-term contribution is less than 1 percent.

The data on the decomposition of the inflation variable above can be seen that at the beginning of the period, inflation was determined by most of the shocks to the variable itself, which was almost 50 percent. In the long term, the contribution of shock to lending began to show an increase from time to time. Meanwhile, the contribution of the other two shocks decreased from time to time. The shock contribution that affects the inflation rate is credit distribution with an average contribution of 70 percent in the long term, while the BI7DRR shock contribution is only 28 percent, and the shock contribution to the inflation variable in the long term continues to decline from time to time until reached less than one percent.

ISSN 2302-2663 (online)
DOI:

CONCLUSIONS AND SUGGESTIONS

CONCLUSIONS

Based on the discussion of the analysis above regarding the relationship between the BI7DRR variable and the inflation rate on lending, several conclusions can be drawn, including:

1. BI7DRR policy does not have a significant relationship with credit distribution in the short term and also on the results of the causality test. This is because when there is a change in interest rates or public incentives are increasing to choose to save their money in banks, this condition is not always followed by a proportional increase in loans that will be distributed by banks. In the long-term VECM estimation, the statistical value [-8.26182] is greater than the t-statistical value [2] which means it is significant. In the short term, the summary of the goodness of fit BI7DRR is 0.736708, which means that the BI7DRR variable can explain the lending variable of 72.67%. From the coefficient value obtained, it shows that if there is an increase in the BI 7DRR interest rate by 1%, it will cause a decrease in commercial bank lending by 2,41446.

2. The inflation rate does not have a significant relationship with lending in the short term and also on the results of the causality test. In the long-term VECM estimation, statistical value is obtained [-1.99029], and the coefficient value obtained shows the result that if there is an increase in inflation of 1%, it will cause a decrease in commercial bank lending by 0.551171. In the short term, the summary of goodness of fit inflation is 0.877293, which means that the inflation variable can explain the credit distribution variable of 87.72%.

3. The BI7DRR policy and the inflation rate together contributed to the shock that occurred in the lending variable. It is proven by the R-Squared values for the credit distribution equation model, BI7DRR and inflation are 0.669748, 0.726708 and 0.877293, which means that the lag of each selected variable can explain the lending variables, BI7DRR and inflation of 66.97%, 72.67%, and 87.72%, the rest explained by other variables outside the model.

SUGGESTIONS

1. The next researcher needs to discuss the BI7DRR interest rate variable, inflation rate and other variables to see if there is a relationship in the factors that affect credit distribution by commercial banks.

2. The next researcher can use a larger amount of time series data to support better data analysis according to needs

ISSN 2302-2663 (online)
DOI: doi.org/10.21009/JPEPA.007.2.3

REFERENCES

Alamsyah, H., Zulverdi, D., Gunadi, I., Idris, R. Z., & Pramono, B. (2005). Banking Disintermediation and Its Implication for Monetary Policy: The Case of Indonesia. *Buletin Ekonomi Moneter Dan Perbankan*, *7*(4), 499–522. https://doi.org/10.21098/bemp.v7i4.122

Badan Pusat Statistik. 2020. Konsep Inflasi dan Indeks Harga Konsumen

(IHK) Badan Pusat Statistik. 2020. Pertumbuhan Ekonomi Kuartal III-2020

IndonesiaBank Indonesia. 2020. Data Histori Inflasi Periode April 2016 -

November 2020

Bank Indonesia. 2020. Data Histori BI 7 Days (Reserve) Repo Rate Periode April 2016 - November 2020

Berger, Elizabeth A., Alexander W. Butler, Edwin Hu, and Morad Zekhnini. 2021. "Financial Integration and Credit Democratization: Linking Banking Deregulation to Economic Growth." *Journal of Financial Intermediation* 45(November 2017): 100857. https://doi.org/10.1016/j.jfi.2020.100857

Boediono. (2018). Seri Sinopsis Pengantar Ilmu Ekonomi No 5, Ekonomi Moneter.

Yogjakarta: BPFE.Ekananda, Mahyus. 2016. *Analisis Ekonometrika Time Series Edisi 2*. Jakarta:

Mitra Wacana Media.

M. Firdaus. (2018). *Aplikasi Ekonometrika untuk Data Panel dan Time Series*. Bogor: IPB Press.

Oktaviani, & Pangestuti, I. R. D. (2012). Pengaruh DPK, ROA, CAR, NPL dan Jumlah SBI terhadap Penyaluran Kredit Perbankan (Studi pada Bank Umum Go Public di Indonesia Periode 2008-2011).*Diponegoro Journal of Management*, *1*(2), 430–438.

Sari, N., & Abundanti, N. (2016). Pengaruh Dpk, Roa, Inflasi Dan Suku Bunga Sbi Terhadap Penyaluran Kredit Pada Bank Umum. *E-Jurnal Manajemen Universitas Udayana*, *5*(11), 254484.

Suseno, & Astiyah, S. (2010). Seri Kebanksentralan No. 22 - Inflasi. *Bank Indonesia*, *22*(22), 1–68.

Susilowati, M. W. K., & Wahyuningdyah, R. Y. (2018). Efektivitas BI7DRR dalam Kerangka Mekanisme

ISSN 2302-2663 (online)

DOI: doi.org/10.21009/JPEPA.007.2.3

Transmisi Kebijakan Moneter untuk Pengendalian Inflasi. *Praxis*, *1*(1), 78–92.https://doi.org/10.24167/PRAXIS.V1I1.1627

ISSN 2302-2663 (online)
DOI: doi.org/10.21009/JPEPA.007.2.3