Journal of Advances in Social Science and Humanities

JASSH 5 (2), 616–621 (2019) ISSN (O) 2795-9481

Analysis of Relationship between Third Party Funds and Interest Rate with Distribution of Investment Credits and Working Capital Credit by Commercial Banks in Indonesia

M. Khoerul Mubin*[1], Rudi Purwono[2]

[1] *Universitas Airlangga, Surabaya, Indonesia*
[2] *Universitas Airlangga, Surabaya, Indonesia*

DOI: 10.15520/jassh52409

Accepted 31 Jan 2019; Received 24 Dec 2018; Publish Online 21 Feb 2019

ABSTRACT

The research aims to analyze the relationship between interest rates and third party funds in banks in the form of demand deposits, savings, and deposits with investment credit and working capital loans. The method used to carry out this analysis is vector autoregressive which is divided into two models for each investment credit and working capital credit. In each regression model, an analysis of impulse response was carried out to see the variable credit response and variance decomposition to see the contribution of each variable to variations in other variables.In model 1 the investment credit variable responds to the positive shock variable deposits and demand deposits, on the contrary responds negatively to the shock of savings and interest rates. In model 2 the working capital credit variable responds positively to the variables of demand deposits, deposits, savings and interest rates. These results provide evidence that the collection of third party funds is a variable that affects the realization of lending by banks.

Key words: credit, vector autoregressive, interest rate, deposit.

1 INTRODUCTION

Since the last few decades, the banking industry has experienced a fairly rapid development. This was a result of deregulation in the banking sector carried out by Bank Indonesia in 1983 (Pakto '83) which greatly influenced the pattern and strategy of bank management both in terms of liabilities and bank assets. This situation forces the banking industry to be more creative and innovative in developing and obtaining new funding sources.

In 1988, the next step taken by Bank Indonesia was to issue an easy policy for anyone to establish commercial banks only with ten billion rupiah in capital. This policy is known as pakto '88, thus causing the banking business to grow rapidly with increasingly fierce competition.One aspect that is absolutely necessary in the intermediation process carried out by the banking sector is the collection of funds from the public, because these funds will later be channeled to business people and other parties who need funds to support their economic activities.

Community funds collected by banks are usually stored in the form of demand deposits, savings and time deposits.From various sources of funds that have been collected by banks, the bank then distributes the funds back to the public. The funds are then mostly channeled in the form of loans, which is the largest percentage in the distribution activities carried out by banks. Based on data from the Indonesian banking statistics, in January 2010 the level of Loan to Deposit Ratio (LDR) of commercial banking in Indonesia reached 78%.

The receipt of banking funding sources after the crisis in 2002 experienced a more dominant increase in revenues from third party funds (DPK). While a number of other posts such as outstanding issuance of securities and sources of funds from loans were recorded to decline. Deposit growth rates per period during the period 2005-2009 ranged from 0.75% - 2.5%. If reviewed based on the performance of each component of TPF, the best performance was achieved in the collection of savings, namely with an average growth of 0.98% followed by demand deposits and deposits of 0.54%

and 0.13% respectively.

The results of Agung's survey [1] reported that bank credit contributions to corporate financing ranged from 24% consisting of investment loans and working capital loans. Other sources consist of the capital market (6%), foreign loans (5%), bonds (3%), loans from the business group itself (1%), and the rest from own capital.

Although the contribution of credit is so large for the business world, the interest rate as an indicator of credit prices offered by banks is still in a relatively high range. BI in this case has reduced its benchmark interest rate aggressively. November 2008, BI's benchmark interest rate was still at the level of 9.5 percent. In June 2009 the BI interest rate had dropped to the level of 7 percent. This is the lowest level in the history of BI's benchmark interest rate since 2005. If averaged over the period of July 2005 - December 2008 the large BI benchmark interest rate ranged from 9.82 percent.

The low BI benchmark interest rate does not necessarily affect the credit interest rate. At the 7 percent reference rate, lending rates should be in the range of 11.9-12 percent. The loan interest rate is calculated based on the response of the country's banking systemtowards BI monetary policy for the period 2006 - 2008. (Sadewo, Kompas 15 / June 2009).

As the discussion above, this study aims to look at the response of investment credit and working capital towards the shock of third party funds collection. This research consists of introduction, literature review, research methods, discussion, and conclusions.

2 LITERATURE REVIEW

2.1 Theoretical Background

There are many factors that influence the decision of commercial banks to channel credit to the public, [2] and [3] formulate a credit supply model by the banking system as follows:

SK=g(S,ic,ib,BD).....(2.1)

Keterangan:
SK = the amount of credit offered by the bank
S = constraints faced by banks such as bank reserve levels
ic = credit interest rate
ib = opportunity cost of borrowing money
SD = the cost of deposits

The model above is further refined by [4], who explained that the transmission mechanism of monetary policy through money channels implicitly assumes that all funds mobilized by banks from the public in the form of money supply (M1, M2) are used for funding real sector activities through distribution bank credit In reality, according to Perry Warjiyo (2004), such an assumption is not always true. In addition to available funds (DPK), the offering behavior of bank credit is also influenced by bank perceptions of the debtor's business prospects and the condition of the bank itself, such as capital (CAR), the amount of bad loans (NPL), and Loan to Deposit Ratio (LDR).

Banking Get funds by collecting funds in the form of deposits with savings schemes, time deposits, and current accounts. The bank then manages the funds to be distributed in the form of loans to households and companies. In addition, the funds collected were also used for investments in the real sector, buying SBIs, or stored in other banks. Of the three types of third party funds, time deposits that can only be withdrawn after maturity are considered as a relatively stable source of funds for banks and are categorized as semi-fixed funds. Whereas [5] states that the income received by the bank comes from the bank's interest rate on the services provided by the bank to its customers, as well as the loan interest rates given for the activities of a company.

Previous research conducted by [6] discussed the disintermediation of banking functions in Indonesia after the 1997 crisis using switching regression methods. From the results of this study concluded that; first, the period during the 1997/1998 crisis was caused by the weakening of credit offers. Second, the period after the 1999 crisis. now due to the weak demand for credit by banks and the lack of recovery in the demand side of credit by the business world.

[7] examined the factorsthatcaused the lowLoan to Deposit Ratio in DIY province. This study uses a questionnaire methodwith the variables studiedincludeinterest rates, collateral, services, culture, and alternative loans. The studyproducedseveral first conclusions, from the results of factor analysisshowingcollateralis not included in the factorsthat influence the interest of Asabah to borrow. Second, the main problemwhyconsumers' interest in borrowingatbanksislowis the existence of alternative borrowing, the length of the process of obtainingloans, and interest rates.

By taking a sample of commercial banks in East Java, [8] concluded that the banking intermediation function, especially in the regions, had not run optimally, although banks were also very interested in being able to channel their loans. Factors that cause banks to be reluctant to channel funds in the form of loans to the public, especially small entrepreneurs are questionable. This is because many studies state that entrepreneurs in the regions have difficulty obtaining credit from banks.

3 DATA AND MODEL SPESIFICATION

Data on each variable is a monthly data that starts from 2002 the first month to 2009 the twelfth month, so the number of samples is 96 (n = 96). The data is obtained from the Indonesian Economic and Financial Statistics (SEKI) issued by Bank Indonesia [9] .

The analysis in this study uses the Vector Autoregression (VAR) model. This model can be relied upon in describing data and forming a reliable forecast of multivariate equations. The analytical framework in this model provides systematic information and is able to properly estimate the information in the equations formed from time series data [10] . The estimation device that will be used in interpreting the estimation results in this study are Impulse Response Function and Variance Decomposition.

4 RESULTS AND DISCUSSION

As is known that based on the purpose of its use, credit distribution is classified into three groups, namely; investment credit, working capital loans and consumer loans. Based on these groupings, the loans disbursed for financing the business sector are total loans disbursed minus consumptive loans.

Many factors influence the ability and willingness of banks in lending. In terms of capability, the flexibility of banks to channel loans is determined by the ability of the bank concerned to collect third party funds (DPK) and other funding sources.

Based on Indonesian banking statistics, the interest rates set by banks for consumer loans are subject to relatively higher interest rates than investment and working capital. Interest rates for investment loans decreased by 4.94%. while credit for working capital financing fell by 5.5%.

In the case of credit distribution. Position in December 2001 the amount of loans channeled by commercial banks was Rp. 307.59 trillion. And this amount is channeled to finance investment of Rp. 73.4 trillion (23.88%), working capital financing of Rp. 175.69 trillion (57.12%), and for consumer loans amounting to Rp. 58.43 trillion. In the position of December 2008 loans channeled by commercial banks increased to 1,300.18 trillion or an average increase of 40% per year. Delta distribution of each credit is; Investment loans rose 246%, working capital loans rose 286%, and consumer loans rose 527%. From this we can see that the highest increase in national commercial bank lending is in consumption credit.

The high increase in consumption credit, which almost equals the sum of credit increases for investment purposes and working capital financing has changed the consumption of commercial bank lending. This change occurred with the increase in the composition of loans channeled by commercial banks to consumptive purposes from the original 19% in 2001 to total loans disbursed, up to 28.18 in December 2008. In contrast, loans for financing investment and working capital composition declined considerably. The composition of investment credit decreased from 23.88% (2001) to 19.57% (2008), while credit for working capital financing decreased from 57.12% (2001) to 52.25% (2008).

4.1 Impulse response Function

This function wants to see the investment credit response because of the shock of other variables. In each of the following graphs, we can see the development of shock in the variables of demand deposits, savings, time deposits and investment credit interest rates on investment loans. In the initial period the shock effect of the current account variable on the investment credit rate was negatively responded to by -32.72 SD. In the second period the shock of the demand deposit variable was responded negatively at 95.3 SD.

Deposit shock since the first period was immediately responded to by investment credit of -96.4 SD, the next period the response was shown to be positive 38. until the 10th period the investment credit response to the shock deposit variable remained stable at a range of 60 elementary schools.

For the savings variable, in the first period of shock given byInvestment credit variable has shown the number 490.4 SD. In the second period investment credit responded positively at 32.7 SD. Until the 7 period of shock shown by the investment credit variable still shows a positive value.In the first period the variable investment credit interest rate was not responded by the investment credit variable. In the second period, it showed a positive response of 4.3 SD. However, in the third and subsequent period the response is negative, namely -76.1 SD.

The VAR estimation through the impulse response function in model 2 aims to see the response of the working capital credit variable due to the shock of other variables. In the first period the shock of the demand deposit variable was not responded by the working capital credit variable. Then in the second period a response was 13454 elementary schools. In the following period the response was -2525 SD. But the next period the response shown remained negative 4665.3 SD.

The variable response of working capital credit returned positive and began to stabilize in period 7.

The first period of time deposit shock has not been responded to by working capital loans, the next period is the response to working capital loans to variable shock deposits 829 SD. the next period the response indicated was -2263 SD. The variable response of working capital loans is stable in periods 4 to 10 even though they were negative in periods 6 and 9.

The saving variable in the first period was not directly responded to by working capital loans, the next period the response of working capital loans to the shock variable of deposits became negative -3881 SD. the next period the response was shown to be positive 3393 SD then became negative -7902 in period 4 and 4090 in the 5th period. The variable response of working capital credit then stabilized towards the equilibrium point.

Response shown due to variable interest rates shock despite fluctuations but shows a positive tendency. In the first period the variable interest rate for working capital loans was not responded to by working capital credit variables. In the second period the response was 2805 SD. The third period of the response is negative -2097. Then the period of 6 responses shown was also negative, namely -306 SD, but the 7 to 10 response periods were always positive.

5 VARIANCE DECOMPOSITION

5.1 Variance decomposition of model 1

Based on the VAR estimation results through the variance decomposition seen in table 4.6, it can be seen that since the second period, the variables of demand deposits, savings, time deposits and interest rates have contributed to changes in the investment credit variable. DEP variable has not contributed to the first period, while in period two contributes 0.01% and so on until period 10 does not move

above 1%. So that it can be concluded that the effect of DEP on investment credit is not too large.

Furthermore, the demand deposit variable has not contributed to the first period. The next increase in the second period with a contribution of 0.1%, in the next period increased to 1.9% and so on until the period 10 continued to be stable with a contribution of 2.0%.Savings also contributes to changes in Investment credit which is equal to 0.2%. The next period rose to 1.4% and continued to stabilize until period 10. The figure also shows that the savings variable contribution is less significant.

Similar to savings, the interest rate variable in the first period has not yet contributed, then from period 2 to 10 there has only been an increase from 0.1% to 1.9%. the low variance decomposition of the interest rate indicates that there are other variables that more influence the community to apply for credit other than the interest rate.

5.2 Variance decomposition of model 2

Based on the estimation results of VAR model 2 through the variance decomposition seen in table 4.7, it can be seen that since the initial period, the variable demand deposits, deposits, and interest rates have contributed to changes in the working capital credit variable. In the first period, deposits contributed 2.64%. the next period rose to 2.92%. Up to ten periods of deposit contributions to the capital credit variable were stable at 2.87%.

The GIROvariable in the first period contributed 3.81% to variable M. In the secondperiod it rose to 4.7%. The next period rose to 6.0%. but in period 5 and so onuntil period 10 is stable at 6.7%. This number is the highest contributionvalue compared to other variables.Savings contributed 0.11% in the firstperiod.The second period rose to 3.42%. Starting from the period 3 to ten, itcontinues to increase until the 10th period reaches 5.66%. different from thevariance decomposition in model 1, in model 2 the saving variable contributesquite high.The working capital loan interest variable also contributes to M. Inthe first period it contributed 1.2%. The second period increased to 1.47%. Andso on until the 10th period it reaches a contribution value of 2.27%.

6 DISCUSSION

Based on the discussion on the analysis model, it can be seen how the role of current accounts, savings, deposits, and interest rates on the development of the number of loans at commercial banks in Indonesia. The phenomenon of a decline in bank credit has also occurred in several regions of the world, both developing countries and industrialized countries whose financial systems have been very advanced. This is indicated by non-price rationing with increasing risk premiums and interest rates charged to customers. Through the impulse response function and variance decomposition model 1, it can be seen that the demand deposit variable does not have a significant effect on investment credit. This condition is not in line with the increasing collection of deposits in the form of demand deposits by the public which should be able to encourage the growth of investment credit. The average monthly growth in demand deposits is 1.56%. Since 2002 to 2009 there has been an increase in the collection of demand deposits at national commercial banks by 150%. This is supported again by the collection of demand deposits which are not too influenced by bank interest rates because they are generally used in giral traffic transactions.Selanjutnya, dari hasil fungsi impulse response variabel giro memberikan kontribusi sebesar 0.2% pada periode kedua. Berikutnya mengalami kenaikan pada periode ketiga dengan kontribusi sebesar 1.4%. pada periode berikutnya kontribusi yang diberikan tetap pada kisaran 1.4%.

In this study the deposit variable has a positive influence on investment credit. This is because deposits are third party funds with the largest share compared to current accounts and savings, which amounted to 46% in 2009. Deposits as deposits from third parties in this bank can only be withdrawn within a certain period of time based on the agreement. The nature of this source of funds is a source of semi-fixed funds because the withdrawal can be estimated based on the maturity date, so that the level of fluctuations can be anticipated, besides deposits as the largest source of loan funds will greatly affect the ability of banks to channel credit. The greater the ability of banks to collect deposits, the greater their ability to channel credit and make securities investments.

6.1 impulse response and variance decomposition of model 2

The VAR estimation results with the impulse response model 2 show that the demand deposit variable has a positive effect on working capital loans. This is because the current account is one of the sources of third party funds used in financing loans disbursed by banks. Furthermore, the results of the variable variance decomposition function of the current account contributed 3.8% in the first period. The next increase in the second period to period 10 with a contribution of 6.7%. This figure shows a significant contribution compared to other deposits. During the period of 2002 to December 2009, it could be seen that the growth in demand deposits followed the growth of working capital loans. Position of current account as of December 2002 was Rp. 130.8 trillion. Next, the first semester of 2003 decreased, but in December 2003 it rose to Rp. 155.8 trillion, then in December 2004 it rose again to Rp. 171.6 trillion, the growth continues to occur until December 2009 the value of collected accounts reached Rp. 327, trillion.In this study the deposit variable has a positive influence on working capital credit. Deposits as the largest source of loan funds will greatly affect the ability of banks to channel credit. The greater the bank's ability to collect deposits, the greater their ability to channel loans and make securities investments. From the results of variance decomposition, in the first period, deposits contributed 2.6%. Until ten periods of

Table 1. Table 1 Variance Decomposition of Investment Loan

DEP	GIRO	iI	S
0	0	0	0
0.016	0.18	0.102	0.202
0.488	1.925	0.087	1.405
0.537	2.049	0.195	1.28
0.702	2.144	0.474	1.233
0.798	2.109	0.745	1.2
0.861	2.088	1.086	1.177
0.91	2.069	1.404	1.165
0.948	2.049	1.694	1.151
0.978	2.032	1.944	1.142

Table 2. Table 2 Variance Decomposition of Working Capital Loan

DEP (%)	GIRO (%)	IM (%)	S (%)
2.643	3.818	1.263	0.111
2.925	4.733	1.47	3.421
2.828	4.562	2.141	4.126
2.841	6.003	2.269	5.476
2.779	6.639	2.284	5.559
2.824	6.734	2.281	5.575
2.849	6.724	2.277	5.658
2.846	6.733	2.274	5.661
2.846	6.737	2.276	5.659
2.847	6.737	2.276	5.665

deposit contributions to the working capital credit variable remained stable at 2.8%. BI data shows quite rapid growth, the position of deposits per December 2002 was Rp. 365.7 trillion, in the second semester of 2003 it had dropped to Rp. 359.8 and continues to decline to Rp. 331.6 trillion. Only then rose again in the first semester of 2005 to Rp. 373.9 trillion. This positive growth continued until December 2009 of Rp. 762.5 trillion.

In this study savings has a positive influence on the amount of working capital loans channeled by national commercial banks. This is because savings is a source of loan funds managed by the banking industry in lending or various other business activities of banks. Thus the more amount of savings that can be collected by the bank, the more funds can be channeled by banks in channeling their loans. Savings in this study contributed significantly to changes in working capital loans, which amounted to 3.4%, but the next period continued to increase to 5.6%. The savings variable experienced the most stable growth throughout December 2002 to December 2009. The position per December 2002 was Rp. 193.4 trillion continues to increase to Rp. 334.3 trillion per December 2006 to reach Rp. 565.6 trillion per December 2009. Total growth of 192% or average growth reached 27% per year.

7 CONCLUSSION

From the discussion above, the conclusions related to this study are that the impulse response results indicate that the investment credit variable responds positively to the variable shock of deposits and demand deposits, but the investment credit variable responds negatively to the shock of savings and interest rates. Unlike investment loans, the working capital loan variable responds positively to the variables of demand deposits, savings, time deposits and interest rates.

The results of variance decomposition indicate that the variable interest rates, current accounts, deposits, and savings have almost the same contribution to the variation of the investment credit variable. Whereas in the working capital credit variable, the shock of the savings and demand deposit variables showed the highest contribution compared to the other variables.

REFERENCES

[1] Agung JK. Credit Crunchdi Indonesia setelah krisis. Bank Indonesia; 2001.
[2] Harmanta dan Ekananda, 2005. “Disintermediasi Fungsi Perbankan di Indonesia Pasca Krisis 1997:Faktor permintaan atau Penawaran Kredit”; 2005.
[3] Miller RR. Modern Money and Banking. Third Edition. Singapore: Mc.Graw-Hill; 1993.
[4] Mishkin. Frederic S.2004.The Economics of Money, Banking, and Financial Markets. Boston: Pearson Education Inc;.
[5] Money HJG. The Finance System, and The Economy.Boston. Pearson Education.Inc;.
[6] Roesmana D. Laporan Akhir : Identifikasi Faktor-faktor Yang Mempengaruhi Rendahnya LDR di DIY; 2005.
[7] Warjiyo P. dan Solikin.2003.Kebijakan Moneter di Indonesia.No 6. Seri Kebanksentralan. Jakarta: Bank Indonesia;.
[8] Fauzi IN. Persepsi Pelaku Usaha Terhadap Iklim Usaha di Era Otonomi Daerah. Regional Economic Development Institute (REDI). Disampaikan dalam seminar Decentralization Regulatory Reform, and The Business Climate, Hotel Borobudur, 12 Agustus 2003 diselenggarakan oleh USAID dan Deperindag;.
[9] Indonesia B. Statistik Ekonomi dan Keuangan Indonesia. Berbagai terbitan 2002-2009. Jakarta: Bank Indonesia;.

[10] Gujarati DN. Basic Econometrics. Fourth Edition. New York: McGraw-Hill; 2003.