INTER-BANK CALL MONEY MARKET TRANSACTION IN INDONESIA

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Abstract

This study analyzes the effect of Indonesian Bank loan, the amount of demand deposits, and the Indonesia economic crisis in 1997 on the interbank call money market transactions in Indonesia using a multiple linear regression method. This study finds that the variables influencing the inter-bank call money market transactions are the interest rate of interbank call money market and the check money. Both variables have positive effect on the interbank money market transactions in Indonesia.

Keywords: Loans, Interest Rate, Check Money, Monetary Crisis, Interbank Money Market Transactions

Abstrak

Penelitian ini menganalisis pengaruh pinjaman Bank Indonesia terhadap tingkat bunga pasar uang antar bank, jumlah uang giral, dan krisis ekonomi Indonesia tahun 1997 terhadap transaksi pasar uang antar bank di Indonesia menggunakan metode regresi linier berganda. Penelitian ini menemu-kan bahwa variabel yang berpengaruh terhadap transaksi pasar uang antar bank tersebut adalah tingkat bunga pasar uang antar bank dan jumlah uang giral. Dua variabel tersebut berpengaruh po-sitif terhadap transaksi pasar uang antar bank di Indonesia.

Keywords: Pinjaman, Tingkat Bunga, Uang Giral, Krisis Moneter, Transaksi Pasar Uang antar Bank

INTRODUCTION

Along with the development and advances in technology, economic activities, as well as monetary and banking, money market systems become increasingly complex and sophisticated. This continuous development process has made the need for continuous revision on theories built on the subject. Money market has an important role in economic growth (Puri, 2012).

The demand for money has attracted a lot of scholars to analyze it. The dynamics of money demand has been investigated taking into account cross theories, time, money, and even cross periods of observations (Robertus, 2011). Financial institutions have a key role in supporting a country's development program. To support the development of its financial sector, Indonesia has issued various monetary policies such as Banking Deregulation Package in 1983, October 1988 Policy Package, package Wisdom January 1990, and 1993 Banking Deregulation Package.

Bank Indonesia has sought to activate the banking industry to support the banking transaction through the implementation of Indonesia's banking architecture program, both as an initiator and a facilitator. As the initiator, Bank Indonesia has published regulations and conditions so that the banking industry can implement prudent banking, based on international standards, and pay more attention to the rights of the customer. In the meantime, as a facilitator, Bank Indonesia had established a constructive cooperation with parties related to Indonesia's banking architecture program to produce a stimulant for the realization of a healthy banking system, powerful, and efficient.

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In addition, developments in global banking requires the adjustment in programs for Indonesia's banking architecture so that national banking industry will be able to compete at international level with a superior human resources, information technology, and infrastructure are adequate enough supporters in the running wheel economy.

Money is a very important part in running of the wheel of the economy, because in modern society the circulation flow of goods and services requires money as means of payment. In General, there are three definitions of money, namely the narrow money (M1), broad money (M2), and quasi money (QM). Narrow money consists of banknotes and coins (money kartal) and to the deposits in the form of current account (demand deposit). Broad money (M2) was narrow money plus saving deposits and time deposits.

Analysis of money demand is an economic analysis required to support the activities of the monetary system that consists of the monetary authorities and banks that receive demand deposits (=check money maker bank or CMMB). Monetary authority is an organization that conducts monetary control. It has four main functions, namely issuing and circulating currency as legal tender, nurturing and maintaining foreign exchange reserves, providing guidance and supervision of banks, and holding the state treasury.

The functions of the monetary authority are held by Bank Indonesia (Central Bank), while CMMB is a commercial bank that has a special position in the financial system because it can create demand deposits and quasi-money. Based on the ownership, commercial banks consist of state-owned banks, local government banks, private banks, foreign banks and joint venture banks.

Money transaction across banks in Indonesia has developed, influenced by government policies that enable the development of various types of savings and time deposits. People's propensity to save money in banks is influenced by various facilities and amenities offered by the bank. The government can increase the propensity by regulation and deregulation in the monetary field in particular, and by various economic policies.

The government has issued various regulations in the financial sector, particularly banks. These regulations concern three issues; improving the competitiveness of state-owned banks, eliminating credit limit, and regulating time deposits. In these various provisions, government banks are free to determine interest rates on deposits and lending It is intended to raise public interest to save their money in the government banks. It has to be noted that at that time (2004), the interest rates offered by private banks (18%) is higher than the interest rate offered by the government banks

(14%-15% percent). The transaction of money between banks in Indonesia plays an important role in the conduct of monetary policy in each economy. In 1998, after the financial crisis of 1997, the government established the Deposit Insurance Agency.

Such policies are intended to raise funds for development, either through financial institutions or in the form of Bank Indonesia liquidity credits. Furthermore, they are intended to improve and equalize opportunities for small businesses, medium and large businesses, as well as cooperatives. This will help prevent unwanted accident such as manipulation in money market. About manipulation in money market, please refer to Ewerhart et al. (2007). More on the role monetary policy in interbank call money market and interest rate, please refer to Bartolini and Prati (2003), Bartolini et al. (2002), Bernhardsen and Kloster (2002), Bhattacharyya et al. (2009).

In general, the sources of bank funds can be divided into three; funds from the bank itself, funds from the community, and funds from financial institutions, both banks and non-banks. These are the sources that support inter-bank money market transactions.

The existence of the interbank market is important in supporting the liquidity of the financial institutions, especially banks. The existence of the interbank market provide a lot of benefits, both as a major factor in distributing financing and payment traffic development and as the main supporter of the increase in economic growth, an increase in employment opportunities, a reduction of inflation, and stabilization of the balance of payments.

The above phenomenon prompted the researchers to analyze the relationship between Bank Indonesia, loan interest rates of interbank money market, the amount of demand deposits, and a Dummy variable that separates the situation pre and pro the monetary crisis.

Literature Review

Interbank Call Money Market (ICMM) is the whole banking organization that conducts interbank borrowing money using the equipment in the form of short term securities (for discussion on interbank market, please refer to, for exmple, Giannone, 2102, and Marsono, 1984). According to Bank Indonesia, ICMM is lending and borrowing funds activities across banks in order to manage liquidity to overcome short term mismatch. Banks experiencing a shortage of liquidity will take a taking position in the ICMM to meet its short-term liquidity needs. Meanwhile, banks that have excess liquidity will take a placing position to take potential profit. Thus, the equilibrium interest rate is the result of market mechanisms that reflect the market liquidity conditions.

Wang and Rujira (2013) investigate the dynamic relationship of stock indexes on interbank money market rates in Thailand. They find that there are three important stock indexes which lead up to the BIBOR changes that consists of DJIA, FTSE100, and ASX.

Aristei and Gallo (2012) conducted a study on the relationship between the interbank interest rate with interbank transaction. By using the MS-VAR and VECM, with monthly data the period 2003(1)-2011(9), they found that during the period of the financial crisis, all prices show a decrease in the degree of interbank rate. They also found that the inter-bank transaction influenced by the level of interbank interest rates. Furthermore, Freixas et al. (2009) find that failure to cut interest rates during a crisis erodes financial stability by increasing the probability of bank runs.

Aisyiyah (2003) examines the factors that affect transaction volume in ICMM before and after the crisis in Indonesia. She found that the Bank Indonesia loan, the amount of demand deposits, and interest rates of ICMM have positive effect, although the effect of the interest rate is not consistent with the hypothesis that has been

specified. They also found that the crisis had no effect.

Sugiyanti (2003) conducted a study to investigate factors influencing transaction value in ICMM in Indonesia during 1997-2000. She found that the factors influencing the ICMM are ICMM interest rate, Sertifikat Bank Indonesia interest rate, and bang liquidity.

METHODS

This research estimate an Error Correction Model. This model is especially appropriate for variables with has a long-run relationship, even though there might be an inequilibrium in the short run.

To run such model, the paper proceeds as follows. The first thing to do in such process is testing the stationarity of variables in the model. Various tests can be used for such purposes, such as Dicke-Fuller (DF) test, Augmented Dickey-Fuller (ADF) test, or Phillipps-Perron test.

If the variables are non stationary in level, then we can test whether the variables are stationary at first difference. When they do, then we can proceed by testing the existence of the cointegration among the variables. When the cointegration is evidenced, then we can construct the ECM.

RESULTS

This research uses a model of linear equations. The data are from Badan Pusat Statistik on various issues and International Financial Statistics (2012). The use of this model is based on the MWD test, (Table 1). *International Financial Statistics* (CD Data, Tahun 2012).

The MWD result for the linear model shows that Z1 is not significant. This means that the linear model is an appropriate one. The MWD result for the log linear model shows that Z2 is significant, with a negative sign. This means that the linear model is an appropriate one. (Table 2). Considering the test results of the MWD, the equation will model being estimated is as follows:

$$Y_t = \beta_0 + \beta_1 X_{1t} + \beta_2 X_{2t} + \beta_3 X_{3t} + \beta_4 D_t + e_t \qquad (1)$$

where:
Y is Interbank Market transactions in Indonesia (billion rupiah)
X_1 is Bank Indonesia loans (billion rupiah)
X_2 is Interest rates on interbank market (per cent)
X_3 is demand deposits amount (billion rupiah)
D is Dummy variable for the monetary crisis

Table 1. MWD Test Result: Linear Model

Variable	Coefficient	t	Probability
C	-664409,4	-3370780,0	0,0000
X1	0,182225	4142098,0	0,0000
X2	73476,95	6326482,0	0,0210
X3	0,706184	7218611,0	0,0300
DT	190807,1	2348577,0	0,0000
Z1	1.000001	1.194257	0.0610

Table 2. Test Result for MWD on Model Log Linier

Variable	Coefficient	t-statistic	Probability
C	4895265,0	1,694743	0,1084
LX1	113114,1	0,969996	0,3456
X2	53785,17	1,304237	0,2095
LX3	286823,6	1,541343	0,1416
DT	383102,8	1,131089	0,2737
Z2	-1.584156	3.254852	0.0047

This paper conducts a unit root test to test the stationarity of the data. The test results on all variables at the first difference indicate that all the variables used in the analysis are not stationary. (Table 3). Because the data are not stationary in level, then we run the unit root test at the first difference, and the results are displayed in Table 4.

The result of the unit root test in Table 4 shows that Y,X1, X2, and X3 are stationary at first difference, or stationary at the same degree, namely I(1). Thus, it is appropriate to perform the cointegration test to test the existence of long-term relationship of factors that affect the transaction of interbank market in Indonesia.

Table 3. Unit Root Test, in Level

No	Variable	ADF	
		t-statistik	Prob.
1	X1	-3.211312	0.1117
2	X2	-2.866123	0.1911
3	X3	0.748025	0.9993
4	Y	-3.076991	0.1486

Table 4. Unit Root Test, First Difference

No	Variable	ADF	
		t-statistic	Prob.
1	X1	-3.943129**	0.0283
2	X2	-5.068073***	0.0033
3	X3	-3.722524**	0.0499
4	Y	-13.64290	0.0001

Note :   ***) Stasionary at 1% significance level
            **) Stasionary at 5% significance level
            *) Stasionary at 10% significance level

Cointegration Test

Table 5. Cointegration Test

Variable	Coefficient	t
Constant	-664409,8	-1,197481
X1	0,182225	1,471494
X2	73476,97	2,247504
X3	0,706184	2,564435
DT	190807,3	0,834341
CRDW = 1,268	DF = -6.784489,	ADF = -8.532173
	Sig. 0.0000	Sig. 0.0000

Table 6: Multiple Regression Estimation Result Using OLS

Variable	Koefisien Regresi	t-statistic	Prob.	Status
Constant	-664409.8	-1.197481	0.2467	Not significant
X_1	0.182225	1.471494	0.1584	Not significant
X_2	-73476.97	-2.247504	0.0374	Significant
X_3	0.706184	2.564435	0.0195	Significant
D	190807.3	0.834341	0.4150	Not significant

$R^2 = 0.413$, Adjusted $R^2 = 0.283$, $F = 3.169$, $p = 0.039$, $DW\text{-}test = 1.269$

Based on the test results in Table 5, it can be concluded that, with α = 5%, the residual of the cointegration equations is stationary in-level, or I(0), marked by the significance value CRDW, DF and ADF statistics cointegration. In other words, the cointegration equation residual is I(0).

Bank Indonesia loan has no significant effect to interbank money market transactions. This is due to the need of call money is a short-term necessity so that the magnitude of Bank Indonesia loan does not affect the volume of the interbank money market transactions.

Interest rate of interbank money market has a positive and significant impact on the volume of the interbank money market transactions. However it should be noted that the sign of the coefficient is not in accordance with the theory; an increase in the interest rate during the period of study increases interbank money market transaction volume. That is because the need of call money is urgent. The call money are usually demanded by banks in needs, usually for those who is experiencing loss clearing. Rising interest rates would increase the volume of interbank market transactions. It can be inferred that during the research period, many banks need urgent funds so that the interbank money market transaction increased despite the high interbank interest rates.

The amount demand deposit has a positive and significant effect on interbank money market transactions. These results are in accordance with the hypothesis. When the amount of demand deposit increases, the transaction volume of interbank money market also increases. It fits with the theory that when the amount of money increases, there will be an increase in the volume of interbank money market transaction.

The dummy variable for monetary crisis does not significantly influence the inte bank money market transactions. This is because the monetary crisis tooke place in a short period of time, while the interbank market transactions take place in a long period.

CONCLUSION

This research found that Bank Indonesia lending did not affect significantly the interbank market transactions in Indonesia. The study also found that the level of interest rates of the interbank money market has a positive and significant effect on the interbank money market transactions. This means that if the level of interest rates increases, then the interbank money market transactions increases, and vice versa.

The amount of check money (demand deposit) has a positive and significant effect on interbank money market transactions. It means that if the amount of demand deposit increases, then the transaction of interbank money market will increase, and vice versa. The study also found that the dummy variable accommodating monetary crisis had no effect on the interbank money market transactions. This can be interpreted that the monetary crisis does not affect the interbank market transactions.

The results of this study implies that Bank Indonesia as monetary policy makers must be careful in any decision it makes so as not to harm interbank money market transactions in Indonesia. The results also implies that financial institutions, namely common banks, should be rational and careful in any transaction they make.

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