THE INFLUENCE OF BANK PERFORMANCE AND BI RATE ON BANK LENDING

(Case Study of Listed Commercial Banks in Indonesia in the Period of January 2008 – December 2012)

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ABSTRACT

Using time series data from January 2008 to December 2012, this research aims at finding the dimensional influence of bank performance which consists of (1) Third Party Funds (DPK) (2) Capital Adequacy Ratio (CAR) and BI Rate on bank lending. After reviewing the current literature and testing the properties of individual time series data, Error Correction Model (ECM) is used along with *t*-test and *F*-test to reveal the relation and the influence of the pre-determined variables.

The finding shows that Third Party Funds (DPK), CAR, and BI Rate have a significant influence on bank lending. In short-run, Third Party Funds and BI Rate have a positive and significant influence on bank lending and CAR has a negative and significant influence on bank lending. Meanwhile, in long-run CAR_{t-1}, $BI Rate_{t-1}$, and ECT_{t-1} are not significant and thus do not affect bank lending. The most influential variable to the bank lending is Third Party Funds (DPK) which strongly affect bank lending in short-run and DPK_{t-1} that is likely to affect bank lending in long-run.

Keywords: Bank Lending, Third Party Funds, CAR, BI Rate

ABSTRAK

Denganmenggunakan data time series*dariJanuari 2008 sampaiDesember 2012, penelitianinibertujuanuntukmenemukanpengaruhkinerja bank yang terdiridari (1) Dana PihakKetiga (DPK) (2)* Capital Adequacy Ratio (CAR)*dan BI Rate terhadappinjaman bank. Setelahmeninjauliteraturdanpengujian data* time series*,* Error Correction Model (ECM)*digunakanbersamadengan*t-test*dan*F-test*untukmengungkapkanhubungandanpengaruhvariabel yang telahditentukan.*

Hasilpenelitianmenunjukkanbahwasecarasimultan, Dana PihakKetiga (DPK), CAR, dan BI Rate memilikipengaruhsignifikanpadapinjaman bank.Secaraparsial, dalamjangkapendek, Dana PihakKetiga (DPK) dan BI Rate memilikipengaruhpositifdansignifikanterhadappinjaman bank dan CAR memilikipengaruhnegatifdansignifikanpadapinjaman bank.Sementaraitu, dalamjangkapanjang CAR_{t-1}, $BI Rate_{t-1}$, dan ECT_{t-1} tidaksignifikandandengandemikiantidakmempengaruhipinjaman bank.Variabel yang paling berpengaruhterhadappinjaman bank adalah Dana PihakKetiga (DPK) yang sangatmempengaruhipinjaman bank dalamjangkapendekdan DPK_{t-1} yang kemungkinanmempengaruhipinjaman bank dalamjangkapanjang.

Kata Kunci: Pinjaman Bank, Dana PihakKetiga (DPK), CAR, BI Rate

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A. BACKGROUND

As in other emerging economies, Indonesia does not have many alternative forms of investment financing and, therefore, the role of banking sector remains dominant in the financial sector. Bank lending is the core business of banking sector in financial markets and the most important source of external funds for businesses.

Bank lending or credit plays an important role in influencing levels of consumer spending, investment and economic growth, therefore, when bank lending reduced, this decline in bank lending became a significant factor in causing economic recessions. Pettinger (2012) said that with lower levels of bank lending, firms were not able to borrow to finance investment. Therefore, investment in the economy fell considerably. With a fall in investment, there can be a knock on effect to other areas of the economy. If firms cut back on investment, this will cause some unemployment, and therefore the unemployed will spend less – causing an even bigger fall in economic growth.

According to DjokoRetnadi (2006) in Pratama (2010:9-10) ability to lend by banks is influenced by a variety of things that can be observed from the internal and external sides of the bank. From the internal side of the bank, credit is mainly influenced by the bank's ability to raise public funds and the determination of interest rates and from the external side of the banks; it is affected by economic conditions, government regulations, and others.

Bank performance can be seen through its ability to attract funds from public and its capital. Third Party Funds are the main source of banks' funds. Banks raise funds from public, so morally they must distribute back the funds to the society in the form of credit. In addition to Third Party Funds, Capital Adequacy Ratio (CAR) is the capital ratios that indicate the ability of banks to provide funds for business development purposes and to accommodate losses caused by the bank's operations.

Haryati (2009:301) stated that credit is not only influenced by the bank's intermediation function but also by various macroeconomic variables and monetary policy such as the benchmark interest rate (BI Rate).Nier and Zicchino (2008) in Satria and Juhro (2011:251) found that bank credit supply is influenced by monetary policy stance, which interacts with balance sheet stress, transmitted through bank losses. Bank Indonesia, as a monetary authority, in conducting monetary policy uses BI Rate as the operational target. BI Rate is the reference rate which is determined every month and worked as a monetary policy stance.

B. LITERATURE REVIEW

Bank Lending

Indonesian banking institutions are typically classified into commercial and rural banks. According to Mishkin (2004:34), commercial banks are one type of financial intermediary that raise funds primarily by issuing checkable deposits (deposits on which checks can be written), savings deposits (deposits that are payable on demand but do not allow their owner to write checks), and time deposits (deposits with fixed terms to maturity). They use these funds to make commercial, consumer, and mortgage loans and to buy federal government securities and municipal bonds. Commercial banks differ with rural banks in the sense that the latter do not involve directly in payment system and have restricted operational area.

Bank lending is often called loan or credit. In conducting their function as financial intermediaries, banks collected funds from public; hence, they have a duty to distribute back funds they received from surplus units in form of credit to deficit units. The definition of credit according to Act of the Republic Indonesia Number 7 of 1992 concerning Banking is the provision of money or equivalent claim to money based on a loan agreement between a bank and another party, obligating the borrowing party to repay his debt after a certain period with interest, or profit share.

The Influence of Third Party Funds on Bank Lending

The ability to attract funds at a reasonable cost has become one of the key ingredients of commercial bank management in recent years. Bank management focused on how to lend and invest the surplus funds that banks were easily able to attract. According to SEBI No. 6/23/DPNP, 31 May 2004, Third Party Funds is the deposits of the third party (non bank) consist of demand deposits, saving deposits, and time deposits.

Most large size commercial banks in Indonesia depend on third party funds for their funding projects.Third Party Funds accounts for 80 percent until 90 percent of large size banks' total funding.Nazir*et al*., (2013:2431) found that supply of loan of particular month is positively related with the deposits of last month. Banks use the previous month's deposits to give loans in next months. For instance, to give loan February, deposits of January are used. Moreover, there is positive correlation of supply of loans with previous month's deposits. This means that supply of loans increases if last month deposit increases. Therefore, Third Party Funds is predicted to have a positive influence on bank lending.

The Influence of Capital Adequacy Ratio (CAR) on Bank Lending

Capital Adequacy Ratio (CAR) has become one of the most important banking regulations. In 1988, there was established Basel Accords known as Basel I which goal was originally to strengthen the stability of the international banking system by encouraging banking institutions to boost their capital positions.

The objective of Capital Adequacy Ratio (CAR) is to ensure that banks are capable of absorbing losses incurred in the course of their activities. The existing regulatory ratio is the 8 percent minimum as regulated by the Basel II Accord. This links bank capital to the risk-weighted assets held by the bank.

According to Gitman (2009) in Siringoringo (2012:64), in allocating a large value of loan, bank also need a large financing; otherwise will disturb its liquidity. Any expansionary plan on credit requires additional capital since it will reduce the capital adequacy ratio (CAR). Meanwhile, Barrell and Gottschalk (2006:36), in case of Brazil and Mexico, found that changes in capital adequacy ratios may negatively affect households, firms and government, by rising lending rates and decreasing banking loans.

The Influence of BI Rate on Bank Lending

BI Rate, in the implementation of the monetary policy, is a reference rate that serves as the stance to influence market interest rate, especially Interbank Money Market interest rate, deposits rate, and lending rate. It is determined each month in the monthly Board Meeting and implemented in the Bank Indonesia monetary operations conducted by means of liquidity management on the money market to achieve the monetary policy operational target.

The Interbank rates describe the condition of the financial markets as a result of financing activities and short-term investment banking and further are transmitted to the deposits rate. Changes in deposits rate influence the lending rate because in deciding lending rate, banks consider costs incurred due to interest expenses for third-party funds such as demand deposits, savings and time deposits. Changes in these short-term interest rates affect bank credit, investment, exchange rate, and net exports and further will ultimately influence output and inflation.

According to Bernanke and Blinder (1998) in Goeltom (2008:325), a restrictive or tight monetary policy led to a reduction in banks' reserves and their deposits. If the decrease in deposits is not offset by other funds which are not subject to reserve requirements, or by a decrease in securities, this will result in

a decrease in bank loans.In other side, an increase in BI Rate will encourage the tendency of banks to put funds in Certificate of Bank Indonesia or other instruments since it is more secure or allocate their funds in other secondary reserves which in turn reduce their bank lending. Therefore, BI Rate is predicted to have a negative influence on bank lending.

Previous Study

The research conducted by Sari (2013) entitled Factors Influencing Commercial Bank Credit in Indonesiais aimed to analyze the factors that affect commercial bank credit. This research uses Ordinary Least Square (OLS) method and multiple regression analysis with empirical data from 2008 to 2012. The findings of the study show that Third Party Funds (DPK) and BI Rate have a positive influence on commercial bank credit while Capital Adequacy Ratio (CAR) and Non-Performing Loan have a negative and significant influence on commercial bank credit.

Pratama (2010) has conducted a research on the Analysis of Factors Influencing Banking Credit Distribution Policy Period of 2005 to 2009. Using multiple linier regression analysis, this study is aimed to test factors that influence the policy of banking credit distribution. The findings show that Third Party Funds (DPK), Capital Adequacy Ratio (CAR), and Non-Performing Loan (NPL) significantly influence credit while SBI Rate does not significant. Third Party Funds (DPK) positively influences the banking credit distribution while Capital Adequacy Ratio (CAR) and Non Performing Loan (NPL) negatively influence banking credit distribution.

The research conducted by Haryati (2009) entitledBank Credit Growth in Indonesia: Intermediation and the Influence of Macroeconomic Variable aims to provide empirical evidence on the variables that affected loan growthduring December 2004-December 2008. This study used multiple regression analysis to estimate the model. The findings show that Third Party Funds (DPK) growth, borrowing growth, and inflation have a positive and significant influence on loan growth. Meanwhile, excess liquidity growth, BI Rate, and exchange rate have a negative and significant influence on loan growth of national commercial banks in Indonesia. However, equity growth does not affect loan growth. On the other hand, Third Party Funds (DPK) growth, borrowing growth, and equity growth are significant and positively affect loan growth of foreign and join-venture commercial banks in Indonesia while excess liquidity growth, inflation, BI Rate, and exchange rate are insignificant.

C. RESEARCH METHOD

This research is a quantitative research which uses Error Correction Model (ECM) to analyze the influence of bank performance and BI Rate on bank lending.The time sequence used in this research was from 2008 to 2012 in monthly basis.

Error Correction Model (ECM) is used to determine the short-run dynamics of the system to time series data. The ECM shows the speed of adjustment to reinstate equilibrium in the model. The coefficient of ECM which is called Error Correction Term (ECT) shows how rapidly a variable return to equilibrium. It should be negatively signed, indicating a move back towards equilibrium(Mahmood and Sial, 2012:240).

The operational definition of variables used in this research is explained below.

a. Bank lending (Credit)(Y)

Bank lending is the sum of three types of loan based on use: working capital loans, investment loans, and consumption loans. It is measured from the commercial banks' lending position in the monthly period stated in the Billion Rupiah.Third Party Funds

b. Third Party Funds (DPK) (X_1)

Third Party Funds (DPK) is the total accumulated deposits from public (non bank) at commercial banks. It is consist of demand deposits, saving deposits and time deposits both in rupiah and foreign exchange and measured form commercial banks' Third Party Funds position at the end of the monthly period stated in the Billion Rupiah.

c. Capital Adequacy Ratio (CAR) (X_2)

Capital Adequacy Ratio (CAR) is the ratio of total capital to total risk weighted assets and stated in percentage.

d. BI Rate (X_3)

BI Rate is the level of Bank Indonesia's policy rate which is determined each month in the monthly Board Meeting stated in percentage. It is measured from the level of BI rate at the end of the monthly period.

D. FINDINGS AND DISCUSSION

Stationary Test

Stationary test is used to determine whether the time series data has a constant mean and variance or not.

Table 1 Stationary Test Result

Variable		ADF test	Prob.	
Third Party Funds (DPK)	**Level**	0.385	0.9986	**Not Stationary**
	1st Difference	-5.141	0.0005	**Stationary**
CAR	**Level**	-4.474	0.0006	**Stationary**
BI Rate	**Level**	-1.661	0.4455	**Not Stationary**
	1st Difference	-2.958	0.0450	**Stationary**
Credit	**Level**	0.082	0.9963	**Not Stationary**
	1st Difference	-3.757	0.0271	**Stationary**

Source: Result of data processing using Eviews 6

Based on the results which are summarized in the table above, it can be seen that Third Party Funds generated a value of -5141 with probability of 0.0005 at 1st level difference, so it can be stated that Third Party Funds has been stationary at 1st level difference. The variable of CAR generated a value of -4474 with a probability level of 0.0006 on the level, so it can be expressed that CAR has been stationary at level.

Further, BI Rate generated a value of -2958 with a probability of 0.0450 at 1st level difference, so that it can be expressed that BI Rate has been stationary at 1st level difference. Credit generated a value of -3757 with probability 0.0271 at 1st level difference, so it can be stated that Credit has been stationary at 1st level difference.

Cointegration Test

Cointegration test is intended to measure the long-run equilibrium of the variables that are not stationary. To test for cointegration can be done using the Engle-Granger method.

Table 2 Engle-Granger Cointegration Test Result

	ADF test	**Prob.**
Residual	-4.352908	0.0000

Source: Result of data processing using Eviews 6

Based on the table above, the value of the ADF test statistics for residuals is -4.352908 with a probability of 0.000. The test yields a probability value smaller than the error rate ($\alpha = 5\%$), so it does not contain unit root or it has been stationary. Thus, it can be stated that the Third Party Funds, CAR, BI Rate, and Credit are cointegrated. This result implies that although variables used in this study are not stationary yet they tend to be stationary and reach equilibrium in the long-run.

Error Correction Model (ECM)

Error Correction Model (ECM) is intended to determine the stability of the variables in the short term. The test results can be known through the ECM estimation summarized in the following table.

Table 3 Error Correction Model (ECM) Estimation

Term		Coefficient	Std. Error	t-statistic	Prob.
DX1_DDPK		0.331398	0.062221	5.326176	0.0000
DX2_DCAR		-8359.812	4598.680	-1.817872	0.0750
DX3_DBI_RATE		40364.69	11811.31	3.417462	0.0012
X1_DPK(-1)		0.020099	0.006955	2.889758	0.0056
X2_CAR(-1)		4007.376	2475.988	1.618496	0.1117
X3_BI_RATE(-1)		1607.740	3010.810	0.533989	0.5957
ECT(-1)		-0.013837	0.076400	-0.181106	0.8570
C		-104975.7	61216.77	-1.714819	0.0924
F-statistic	= 14.41830	P-Value	= 0.000000		
R^2	= 0.664315	R^2Adj	= 0.618240		

Source: Result of data processing using Eviews 6

F-Test (Simultaneous Test)

Simultaneous test is used to determine whether there is any effect of changes (increases or decreases) in Third Party Funds, CAR, BI Rate, and ECT on changes in Credit in the long term and short term. Criteria of this test is if the p-value < level of significance (α) then there is a significant effect of the changes (increases or decreases) in Third Party Funds, CAR, BI Rate, and ECT on changes in Credit in the long-run and the short-run. Significance testing simultaneously produces value of F = 14.41830 with a p-value of 0.000. The test results show that p-value < level of significance ($\alpha = 5\%$). This means there is a significant and simultaneous effect of changes in Third Party Funds, CAR, BI Rate, and ECT on changes in Credit both in the long-run and short-run.

***t*-Test (Partial Test)**

Partial test is used to determine whether there is the effect of changes in Third Party Funds (DPK), CAR, BI Rate, DPK_{t-1}, CAR_{t-1}, BI $Rate_{t-1}$, and ECT_{t-1} to changes in Credit.

a. Partial Significance Test between $DX1\_DDPK_t$ and $DY\_DCredit_t$

Significance test in partial (individual) $DX1\_DDPK_t$ against $DY\_DCredit_t$ generated $t_{statistic} = 5.326176$ with a p-value of 0.0000. The result of this test shows p-value <level of significance ($\alpha = 1\%$). This means there is a significant effect of changes in Third Party Funds in the current period to changes in credit in the current period partially.

b. Partial Significance Test between $DX2\_DCAR_t$ and $DY\_DCredit_t$

Significance test in partial (individual) $DX2\_DCAR_t$ against $DY\_DCredit_t$ generated $t_{statistic} = -1.817872$ with a p-value of 0.0750. The result of this test indicates the p-value< level of significance ($\alpha = 10\%$). This means that there is a significant effect of changes in CARin the current period to changes in credit in the current period partially.

c. Partial Significance Test between $DX3\_DBI\_RATE_t$ and $DY\_DCredit_t$

Significance test in partial (individual) $DX3\_DBI\_RATE_t$ against $DY\_DCredit_t$ $t_{statistic} = 3.417462$ with a p-value of 0.0012. The result of this test shows p-value <level of significance ($\alpha= 1\%$). This means there is a significant effect of changes in the BI Rate in the current period to changes in credit in the current period partially.

d. Partial Significance Test between $X1\_DPK_{t-1}$ and $DY\_DCredit_t$

Significance test in partial (individual) $X1\_DPK_{t-1}$ against $DY\_DCredit_t$ generated $t_{statistic} = 2.889758$ with a p-value of 0.0056. The results of this test shows p-value <level of significance ($\alpha= 1\%$). This means there is a significant effect of Third Party Funds in one period prior to the changes in credit in the current period partially.

e. Partial Significance Test between $X2\_CAR_{t-1}$ and $DY\_DCredit_t$

Significance test in partial (individual) $X2\_CAR_{t-1}$ against $DY\_DCredit_t$ generated $t_{statistic} = 1.618496$ with a p-value of 0.1117. The result of this test indicates the p-value<level of significance ($\alpha= 5\%$). This means that there isno significant influence of CAR one period prior to changes in credit in the current period partially.

f. Partial Significance Test between $X3\_BI\_RATE_{t-1}$ and $DY\_DCredit_t$

Significance test in partial (individual) $X3\_BI\_RATE_{t-1}$ against $DY\_Dcredit_t$ $t_{statistic} = 0.533989$ with a p-value of 0.5957. The result of this test indicates the p-value> level of significance ($\alpha= 5\%$). This means that there is no significant influence of BI Rate one period prior to changes in credit in the current period partially.

g. Partial Significance Test between ECT_{t-1} and $DY\_DCredit_t$

Significance test in partial (individual) ECT_{t-1} against $DY\_DCredit_t$ generated $t_{statistic}= -0.181106$ with a p-value of 0.8570. The result of this test indicates the p-value> level of

significance (α= 5%). This means that there is no significant effect of ECT one period prior to changes in credit in the current period.

h. Partial Significance Test between Constant and $DY\_DCredit_t$

Significance testing in partial (individual) Constant against $DY\_DCredit_t$ generated $t_{statistic}$ = -1.714819 with a p-value of 0.0924. The result of this test indicates the p-value< level of significance (α= 10%). This means that there is significant effect of constant to changes in credit in the current period.

The Coefficient of Determination Adjusted R^2

The contribution of Third Party Funds, CAR, and BI Rate to Bank Lending can be seen through the coefficient of determination (adjusted R^2) which is equal to 0.618240 or 61.8%. This means that the contribution of Third Party Funds, CAR, and BI Rate to Bank Lending is 61.8%, while the remaining 38.2% is the contribution of the other variables that are not examined in this study.

Error Correction Model (ECM)

Credit   -104975.7   0.331398   DPK- 8359.812   CAR   BI_RATE

0.020099   4007.376   1607.740   0.013837

Note: * Significant at probability level of 1%
         ** Significant at probability level of 5%
         *** Significant at probability level of 10%

The coefficient of ECT_{t-1} is 0.013837 which states that the 0.013837 discrepancy between the actual credit and expected credit will be eliminated or removed in one period. However, in the previous discussion, it has stated that the ECT_{t-1} is insignificant. This result implies that, in this estimated model, any short-run adjustment to long-run equilibrium is primarily through the other variables in the system. In other words, the independent variables produce a significant effect in the short-run but in the long-run they have very small influence or they may not have any significant influence on dependent variable. A highly significant ECT means a stable long-run equilibrium. The probability of ECT_{t-1} is 0.8570 which means that the influence of Third Party Funds, CAR, and BI Rate are very small in the long-run.

Table 4 Short-run and Long-run Coefficient

Variable	Short-run Coefficient	Long-run Coefficient
Constant	-104975.7	-103542.9
Third Party Funds (DPK)	0.331398	0.340523
CAR	-8359.812	-8245.702
BI RATE	40364.69	39813.8

Source: Result of data processing using Eviews 6

Short-run Empirical Model

$$\text{Credit} \quad -104975.7 \quad 0.331398 \quad \text{DPK} \qquad \text{CAR} + 40364.69 \quad \text{BI\_RATE}$$

Note: * Significant at probability level of 1%
          *** Significant at probability level of 10%

The short-run empirical model implicates the short-run dynamics of the variables. It tells how changes (Δ) in an independent variable affect dependent variable in the short-run. The empirical model shows that changes in Third Party Funds in the current period (ΔDPK_t) and changes in BI Rate in the current period (ΔBI_RATE_t) influence bank lending in the current period ($\Delta Credit_t$) positively. Meanwhile, changes in Capital Adequacy Ratio (CAR) in the current period (ΔCAR_t) influence bank lending in the current period ($\Delta Credit_t$) negatively.

The result shows that in short-run; both Third Party Funds (DPK) and BI Rate have positive influence on credit and are significant al level of 1%. An increase in Third Party Funds (DPK) and BI Rate will increase bank lending (credit). Meanwhile, Capital Adequacy Ratio (CAR) has a negative influence on credit and is significant at level of 10%. This means an increase in CAR will decrease bank lending (credit).

Third Party Funds (DPK) is the main source of funds for loans. It accounts for 80 until 90 percent of the total funding while the remaining funds come from capital market. If there are changes or increases in the amount of Third Party Funds (DPK), these in turn, will raise the amount of bank lending in the current period. In other words, the bigger the Third Party Funds (DPK) collected, the bigger the amount of bank lending will be made. This finding is proven by the results of previous studies conducted by Sari (2013), Pratama (2010), and Haryati (2009) which found that Third Party Funds (DPK) has a positive and significant effect on credit growth of commercial banks in Indonesia.

Capital Adequacy Ratio (CAR) of commercial banks produce a negative sign which means that an increase in CAR will decrease the amount of bank lending and vise versa. A high Capital Adequacy Ratio (CAR) indicates a big amount of idle funds. Any plan to expand the amount of credit requires a lot of capital to be put which in turn lowers capital adequacy ratio. There is also a tendency that banks will restrict their credit growth in line with the global crisis in order to maintain high capital adequacy ratio especially foreign bank branches and joint venture banks. This finding is proven by the result of the previous studies conducted by Sari (2013) and Pratama (2010) which found that Capital Adequacy Ratio (CAR) has a negative and significant effect on credit.

BI Rate is used as the reference rate and stance in the monetary transmission mechanism and affects the amount of available liquidity in financial system. A tight monetary policy will reduce liquidity available in financial system and bank deposits. Decreases in these loanable funds lower bank lending.

However, the result of ECM shows that BI Rate produces a positive sign which is in the opposite of the theory used in this research but proven by the previous study conducted by Sari (2013) which found that BI Rate has a positive and significant effect on bank lending.

Theoretically, when Bank Indonesia conducts an expansive monetary policy by lowering the BI Rate; the interbank money market will respond by lowering its interest rate. This in turn will lower deposits rate and lending rate. In fact, lending rate will not necessarily decrease. This is because banks would like to maintain certain amount of spread, especially large size banks which maintain a

considerably higher percentage of spread than the others. Even when BI Rate decreases, spread tends to be widening. Khakim (2011) states that from 2009 to 2010, when the BI Rate was maintained at the level of 6.50% for 18 months, spread of Indonesia commercial banks rose from 6.60% to 7.63%.

Table 5 Net-Interest Margin (NIM) of Commercial Banks (December)

	2008	2009	2010	2011	2012
State-Owned Banks	6.07	5.81	6.11	6.55	5.95
Foreign Exchange Commercial Banks	5.32	5.64	5.35	5.42	5.17
Non-Foreign Exchange Commercial Banks	7.25	7.97	9.10	9.21	9.34
Regional Development Banks	8.52	7.88	8.74	8.10	6.70
Joint Venture Banks	3.75	3.77	3.83	3.91	3.63
Foreign Owned Banks	4.29	3.78	3.54	3.62	3.47
Commercial Banks	5.66	5.56	5.73	5.91	5.49

Source: Indonesian Banking Statistic (bi.go.id)

Based on Table 5, Indonesian commercial banks maintain average margin of 5%. This implies that the Indonesian banking industry enjoys high margins of the high interest rate while in Malaysia, Thailand and Singapore, the average margin is relatively smaller, approximately 2% -3%.

In addition, Banks will pay attention to the structure of their capital especially public funds in their balance sheet. When the largest component is the long-term time deposits that are promised with high interest rates, banks will be difficult to bring down their lending rates. The relatively unchanged lending rate will cost businesses in real sector. It was proven that high lending rates raise the cost of production which in further affect productivity of local businesses.

Table 6 Commercial Banks Lending Rate (December)

	2010	2011
Working Capital Loan	12.83%	12.16%
Investment Loan	12.28%	12.04%
Consumer Loan	14.53%	14.15%

Source: Indonesian Financial and Economic Statistic (bi.go.id)

High lending rates encourage households and businesses to seek funds from other source of financing such as equity and leasing companies which offer a competitive interest rate. This, in turn, will lower households and businesses' demand to get financing from banks. As explained before, banks are not willing to give loan if households or businesses are not eager to borrow. Therefore, when BI rate decreases (expansionary monetary policy), bank lending will fall due to relatively unchanged lending rate that affects households and businesses' desire to get bank lending.

Long-run Empirical Model

$$\text{Credit} \quad -103542.9 \quad 0.340523 \, \text{DPK}_{t-1} \qquad \text{CAR}_{t-1} \qquad \text{BI\_RATE}_{t-1}$$

Note: * Significant at probability level of 1%
        *** Significant at probability level of 10%

The empiric model of ECM shows that in long-run both Third Party Funds (DPK) and BI Rate have positive influence on credit however only Third Party Funds that is significant at probability level of 1% while BI Rate does not significant. This tells us that as long as banks use Third Party Funds (DPK) as their main source of funds for loans, Third Party Funds (DPK) will be the most possible factor that can affect bank lending in long-run.

Meanwhile, Capital Adequacy Ratio (CAR) has a negative influence on bank lending and does not significant in the long-run. This means that CAR is less likely to have influence on bank lending and therefore Third Party Funds (DPK) has the highest effect on bank lending since both in the short-run and long-run Third Party Funds (DPK) is highly significant.

BI Rate does not affect bank lending in long-run. According to Freixas and Rochet (2008:196), contemporary monetary theory acknowledges that monetary policy produces effects only in the short-run and is neutral in the long-run. Thus, monetary policy can be used to smooth out fluctuations but not to increase the rate of growth. This is also explaining why that when there are changes in BI Rate, bank lending will keep growing; makes monetary policy remains ineffective in long run.

Implications on Banking Policy

Tight competition of banking industry in collecting funds from public reflects the importance of Third Party Funds (DPK) to banking intermediation. Furthermore, lending that is fully funded by Third Party Funds (DPK) promotes sustainable economic growth compared to lending funded by central bank that only produces temporary growth and possibly causes inflationary pressures. Therefore, it is necessary for banks to optimize their intermediary function in channeling funds raised form public to finance investment.

When financial crisis hit, banks should raise their Capital Adequacy Ratios (CAR) and reduce bank lending in order to keep their sound performance and maintain CAR remained above the minimum requirement set by Bank Indonesia. During financial crisis risks are greater and therefore, banks should not hold a big amount of risky assets.On the other hand, Bank Indonesia (BI) and Financial Services Authority should coordinate to each other to revise regulation on Minimum Capital Adequacy Requirements of commercial banks. This is to anticipate the impact of the global economic issues that could destabilize the financial system and the banking sector.

Implications on Monetary Policy

Transmission through the interest rate channel becomes hindered as reflected from the ineffective monetary policy in lowering lending rate. This inadequate response of banking industry on changes in BI Rate is caused by Bank Indonesia's lack of effective communication. Bank Indonesia should assess more carefully the use of interest rate as an operational target. There is a need of evaluation and improvement in the implementation of monetary policy taken by Bank Indonesia, so it can significantly improve the response of commercial banks to monetary policy changes.

In addition, there should be efforts from BI to determine efficient level of BI Rate in order to support real sector. When Bank Indonesia (BI) decides to raise BI Rate, increases in lending rate is expected will not hamper the real sectors especially micro, small, and medium enterprises. Thus, the real sectors are still able to running their business even with minimal profits.

E. CONCLUSIONS AND RECOMMENDATIONS

Conclusions

Based on the results and discussion in the previous chapter, the following conclusions can be drawn:

1. In general, Third Party Funds (DPK), Capital Adequacy Ratio (CAR), and BI Rate strongly influence bank lending in the short-run but in the long-run they have a very small influence or they may not have any influence.

2. Third Party Funds (DPK) is the most influential variable because it is the biggest sources of funds for lending. Rapid growth of Third Party Funds (DPK) raises the amount of bank lending to productive sectors. Meanwhile, increases in Capital Adequacy Ratio (CAR) curtail bank lending because banks prefer to improve the level of banks' soundness, especially during economic crisis. On the other hand, BI Rate can not provide a direct signal to the movement of lending rate due to a tendency that banks would like to maintain high lending rates even when BI Rate decreases. This, in turn, will affect banks' intermediation function as households and businesses are likely to shift their needs of funds from bank lending to other sources of financing.

Recommendations

1. Based on the findings above, there are several recommendations for commercial banks and related institutions such as central bank and financial service authority:

2. Commercial banks should perform its intermediation function by optimizing the allocation of Third Party Funds (DPK) in the form of lending to businesses and households.

3. Commercial banks should be able to manage their sound performance especially during financial crisis. They also need to consider the optimum Capital Adequacy Ratio (CAR) that can support their intermediation function.

4. Bank Indonesia (BI) as the monetary authority together with Financial Services Authority should be able to direct banking intermediation in accordance with the target of monetary policy.

5. It is suggested that the next research includes a longer time span to get better results and also to identify additional suspected influencing variables. In addition, it is also important to use appropriate methods and tools that can help to obtain more holistic conclusions.

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