# The effect of financial performance on state-owned banks credit in Indonesia

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#### **Abstrak**

Penelitian ini mengkaji pengaruh kinerja keuangan terhadap kredit perbakan BUMN di Indonesia. Perbankan yang terpilih menjadi objek penelitian adalah Bank Rakyat Indonesia (BRI), Bank Nasional Indonesia (BNI), Bank Mandiri dan Ban Tabungan Negara Indonesia (BTN). Data yang digunakan adalah data panel yaitu data sekunder tahunan yang diinterpolasi dalam data per triwulan, yang bersumber dari otoritas jasa keuangan, Bank Indonesia, Bappenas, BPS dan publikasi resmi lainnya. Pengaruh variabel bebas terhadap jumlah kredit diestimasi menggunakan regresi berganda metode Random Effect Model (REM. Hasil Penelitian menunjukkan bahwa perkembangan rata-rata kinerja keuangan perbankan BUMN mengalami fluktuasi dan mengalami variasi masing-masing Bank, sedangkan hasil pengujian menggunakan data panel semi log dengan model REM menunjukkan bahwa variabel *non performing loan dan loan to deposit ratio* memiliki pengaruh positif dan signifikan terhadap variabel jumlah kredit perbankan BUMN di Indonesia, sementara itu *return on assets* tidak berpengaruh signifikan.

Kata Kunci: Dana pihak ketiga, NPL, LDR,ROA, dan Kredit Perbankan BUMN

## Abstract

This study examines the effect of financial performance on state-owned banks credit in Indonesia. Banks selected to be analyzed are Bank Rakyat Indonesia (BRI), Bank Nasional Indonesia (BNI), Bank Mandiri, and Bank Tabungan Negara Indonesia (BTN). Panel data used is annual secondary data interpolated into quarterly data from Financial Services Authority, Bank Indonesia, The National Development Planning Agency or BadanPerencanaan Pembangunan Nasional (Bappenas), Central Bureau of Statistics or BadanPusatStatistik (BPS), and other official publications. The influence of independent variables to the amount of credit is estimated using multiple regression, Random Effects Model (REM). The result of the study indicates that all state-owned banks had fluctuations in financial performance growth and it is different for all banks, while the test results using semi-log panel data with REM shows that non-performing loan (NPL) variable and loan to deposit ratio (LDR) variable have a significant positive effect to the state-owned banks credit in Indonesia. Meanwhile, Return On Assets (ROA) variable has no significant effect.

Key words: Third party funds, NPL, LDR, ROA, State-owned banks credit

#### INTRODUCTION

Indonesia has experienced rapid economic development thanks to the role of banks as financial institutions that organize, collect, and channel funds that have been entrusted by public in the form of savings/deposit. Credit or lending has an important

role in managing funds because it is the largest source of the bank's income and of course it also affects the outcomes received by customers. If the bank is not able to channel funds while funds collected from third party are increasing, there will be a lot of barren money. This can affect the bank itself and the funds from customers. The ability of conventional banks to facilitate lending is strongly influenced by their ability to absorb third party funds coming from public.

Funds are cash held by banks in cash or other assets that can be immediately converted into cash. Funds from customers are the largest funds owned by banks in accordance with the function of banks as collectors of funds from parties who deposit their excess funds. The phenomenon of the dominance of bank lending is actually not only happening in conventional banks in Indonesia, but also in all conventional banks in the world. Conventional banks maximally raise funds from public by offering an attractivedeposit interest rate for depositors, the highest possible interest rate. According to Wibowo (2005), the deposit interest rate is said to be attractive if it is higher than the inflation rate, the foreign real interest rate, and the interest rate of other domestic banks. Otherwise, conventional banks in their attempt to develop collected fundsissue credit to the debtor.

Credit is still the major asset for Indonesian banking sector. At the same time, it is a risk for the banks concerned. Generally speaking, people borrow money for investment, working capital, and for consumption. But loans given to debtor are mostly investment loan and working capital loan, according to the banks. Economic activity, especially business sector can perform thanks to credit from banks. Business actors rely more on credit for investment and for their working capital than on their own money. Hence, bank credit has a very important role for business, because most business activities are funded by bank credit.

The ability of banks to generate profits depends on their ability to manage their assets. One of the ways to see financial performances of banks is through Return On Assets (ROA). Meanwhile, the data recorded from Financial Services Authority of Indonesia report shows the non-performing loan (NPL) ratio of conventional banksin Indonesia in 2016 was 2.35% and it was decreasing in the second quarter in June 2016. This is quite good amid the unstable global economy. Banks is still able to maintain their existence as a channel of funds from customers. By maintaining the quality of its credit, banks can be profitable and healthy. It shows that the growth rate of state-owned banks credit in average has increased from 2010 – 2015. Each state-owned bank continues to improve its credit growth rate so that funds held by bank can keep in society. This can be seen from the table that state-owned banks experienced changes, for example, BRI from 2010-2016 experienced an increase in growth rate and similar to what Mandiri, BNI, and BTN have.

According to Warjiyo (2009), in fact, the behavior of credit offering by bank is not only affected by the amount of third party funds, but also by the perception of the bank on the business prospects of the debtor and the bank's condition itself such as Return On Assets, non-performing loan, and loan to deposit ration. Perry Warijo (2004) argues that the behavior of bank lending is not only influenced by third party funds but also by the profit rate reflected on assets ratio and affect the non-performing loan and loan deposit ratio.

Lending to public affects the economic growth rate where one of the indications of economic progress of a region is through bank credit channeling level to public. Amid global economic pressure, the resilience of the banking system must be

maintained. Intermediary function of bank continues torise, as indicated by the increasing credit growth rate in Indonesia in 2010-2015. However, the economic growth rate in 2010 of 6.10 percent decreased to 4.79 percent in 2015.

Based on the explanation above, this study aims to analyze: 1) the performance of state-owned banks in Indonesia; 2) the effect of financial performance on state-owned banks credit in Indonesia.

## RESEARCH METHODS

## Types and sources of data

Panel data used is annual secondary data interpolated into quarterly data from Financial Services Authority of Indonesia, Bank Indonesia, The National Development Planning Agency or Badan Perencanaan Pembangunan Nasional (Bappenas), Central Bureau of Statistics or Badan Pusat Statistik (BPS), and other official publications. Banks selected to be analyzed are Bank Rakyat Indonesia (BRI), Bank Nasional Indonesia (BNI), Bank Mandiri, and Bank Tabungan Negara Indonesia (BTN).

## **Analysis tools**

Descriptive analysis is used to analyze the financial performance of state-owned banks. Furthermore, to analyze the effect of financial performance on state-owned banks credit, we used a model that is specified using semi-log panel data regression approach to be:

 $LogK_{it} = \beta_0 + \beta_1 TPF_{1it} + \beta_2 NPL_{2it} + \beta_3 LDR_{3it} + \beta_4 ROA_{4it} + e$  where:

K<sub>it</sub> : Credit Rating of State-Owned Banks in Indonesia

TPF : Third Party FundsNPL : Non Performing LoanLDR : Loan To Deposit Ratio

ROA: Return On Assets

 $\beta_0$  : Constant

 $\beta_1 \beta_2 \beta_3 \beta_4$ : Regression coefficients

i : State-Owned Banks

t : Year

e : Disturbance error

There are three methods in panel data regression. Those methods are Common Effect Method or Pooled Least Square (PLS), Fixed Effect Method (FEM), and Random Effect Method (REM). To determine the best model, steps conducted as follow (Juanda and Junaidi, 2012):

## 1) Choosing between PLS and FEM

To find out if FEM is better than PLS, significance of FEM is obtained through F statistic test. This test is known as Chow Test or Likelihood Test Ratio, where:

 $H_0$  = Pooled Least Square

 $H_1$  = Fixed Effect Model

Test is conducted by comparing p-value or prob(F-test) with  $\alpha = 1\%,5\%,10\%$ . If p-value  $\langle \alpha \rangle$ , then H<sub>0</sub> is rejected and H<sub>1</sub> is accepted. It means that FEM is better than

PLS. If p-value  $< \alpha$ , then H<sub>1</sub> is rejected and H<sub>0</sub> is accepted. It means that PLS is better than FEM.

## 2) Choosing between FEM and REM

To know whether FEM is better than REM, Hausman Test is conducted. This test is conducted, where:

 $H_0$  = Random Effect Model

 $H_1$  = Fixed Effect Model

Test is conducted by comparing between p-value or Prob(Chi-square) with  $\alpha = 1\%$ , 5%, 10%. If p-value  $<\alpha$ , then  $H_0$  is rejected and  $H_1$  is accepted. It means that FEM is better than REM. Otherwise, if p-value  $>\alpha$ , then  $H_1$  is rejected and  $H_0$  is accepted. It means that REM is better than FEM.

## RESULTS AND DISCUSSION

## Performance of state-owned banks in Indonesia over period 2010 – 2015

The financial performance of state-owned banks in Indonesia (BNI, BRI, Bank Mandiri, and BTN) shows fluctuating conditions every year. In the context of ROA, BTN took the highest position with an average of 95.45 percent. It means that the bank has a large amount of assets and profits, which will have an impact on the increase in the amount of lending by banks. On the contrary, bank with the lowest ROA achieved was BNI, only 58.31 percent.

Table 1. ROA of Indonesian state-owned enterprises bank 2010-2015

| BANK    | TAHUN     | 2010 | 2011 | 2012 | 2013 | 2014 | 2015 |
|---------|-----------|------|------|------|------|------|------|
| BNI     | Maret     | 3,55 | 3,2  | 3,25 | 2,39 | 2,25 | 2,16 |
|         | Juni      | 1,48 | 3,14 | 3,35 | 2,39 | 3,19 | 2,18 |
|         | September | 2,45 | 3,14 | 3,49 | 2,22 | 2,36 | 2,2  |
|         | Desember  | 2,64 | 3,12 | 3,39 | 2,22 | 2,36 | 2,25 |
| BRI     | Maret     | 3,99 | 5,12 | 4,25 | 5    | 4,15 | 3,21 |
|         | Juni      | 3,91 | 4,2  | 4,75 | 4,94 | 4,15 | 3,41 |
|         | September | 3,95 | 4,19 | 4,69 | 4,77 | 4,15 | 3,5  |
|         | Desember  | 4,19 | 4,11 | 5,15 | 5,1  | 4,16 | 4,15 |
| Mandiri | Maret     | 3,54 | 3,33 | 3,11 | 3,45 | 4,23 | 2,19 |
|         | Juni      | 3,21 | 3,25 | 3,03 | 3,23 | 3,93 | 2,15 |
|         | September | 3,01 | 3,2  | 3,03 | 3,28 | 3,77 | 3,31 |
|         | Desember  | 3,15 | 3,22 | 3,03 | 3,35 | 3,63 | 3,31 |
| BTN     | Maret     | 1,53 | 1,19 | 1,1  | 1,19 | 1,15 | 1,1  |
|         | Juni      | 1,55 | 1,15 | 1,1  | 1,18 | 1,15 | 1,1  |
|         | September | 1,5  | 1,15 | 1,1  | 1,14 | 2,1  | 1,1  |
|         | Desember  | 1,61 | 1,15 | 1,1  | 1,05 | 2,1  | 2,15 |

Source: Financial Services Authority of Indonesia (OJK), 2017

If banks have stagnant or decreasingtotal asset but their income keep increasing, it shows that the banks could maximize their performance to generate substantial net income even with a small amount of assets. The decrease in ROA is due to banks being more preventive or cautious in doing their business, for example by doing more loanloss provisioning in line with the increasing NPL ratio. The increase in NPL is in line with slowdown in bank lendingwhich grew by 4,85% from October 2010. However, for now, the bank profitability ratio is projected to be depressed by provision ratio. This is because the NPL ratio will still be high in the third quarter and fourth quarter so that banks will maintain the minimum reserve until the end of fourth quarter of 2016.

Table 2. Growth of ROA of Indonesian state-owned enterprises bank 2010-2015

| BANK    | TAHUN     | 2010   | 2011   | 2012  | 2013  | 2014   | 2015  |
|---------|-----------|--------|--------|-------|-------|--------|-------|
| BNI     | Maret     | -      | -      | -     | -     | -      | -     |
|         | Juni      | -58,31 | -1,88  | 3,08  | 0,00  | 41,78  | 0,93  |
|         | September | 65,54  | 0,00   | 4,18  | -7,11 | -26,02 | 0,92  |
|         | Desember  | 7,76   | -0,64  | -2,87 | 0,00  | 0,00   | 2,27  |
|         | Rata-Rata | 5,00   | -0,84  | 1,46  | -2,37 | 5,25   | 1,37  |
| BRI     | Maret     | _      | -      | -     | -     | -      | _     |
|         | Juni      | -2,01  | -17,97 | 11,76 | -1,20 | 0,00   | 6,23  |
|         | September | 1,02   | -0,24  | -1,26 | -3,44 | 0,00   | 2,64  |
|         | Desember  | 6,08   | -1,91  | 9,81  | 6,92  | 0,24   | 18,57 |
|         | Rata-Rata | 1,70   | -6,71  | 6,77  | 0,76  | 0,08   | 9,15  |
| Mandiri | Maret     | -      | -      | -     | _     | -      | _     |
|         | Juni      | -9,32  | -2,40  | -2,57 | -6,38 | 4,23   | -1,83 |
|         | September | -6,23  | -1,54  | 0,00  | 1,55  | 3,93   | 53,95 |
|         | Desember  | 4,65   | 0,63   | 0,00  | 2,13  | 3,77   | 0,00  |
|         | Rata-Rata | -3,63  | -1,11  | -0,86 | -0,90 | 3,63   | 17,38 |
| BTN     | Maret     | -      | -      | -     | -     | -      | _     |
|         | Juni      | 1,31   | -3,36  | 0,00  | -0,84 | 0,00   | 0,00  |
|         | September | -3,23  | 0,00   | 0,00  | -3,39 | 82,61  | 0,00  |
|         | Desember  | 7,33   | 0,00   | 0,00  | -7,89 | 0,00   | 95,45 |
|         | Rata-Rata | 1,80   | -1,12  | 0,00  | -4,04 | 27,54  | 31,82 |

Source: Financial Services Authority of Indonesia (OJK), 2017

In terms of NPL, bank that experienced the highest increase of ratio is BNI in 2010 (March) of 39.25 percent. This means that the bank has suffered a lot of losses. Bank with highest decrease of NPL ratio is Bank Mandiri in 2013 (June) of -46.67 percent which means that the bank has been able to reduce losses so it is able to increase net profit of the bank thanks to the increase in bank lending.

Table 3. NPL of indonesian state-owned enterprises bank 2010-2015

|         |           | •    |      |      |      |      |      |
|---------|-----------|------|------|------|------|------|------|
| BANK    | TAHUN     | 2010 | 2011 | 2012 | 2013 | 2014 | 2015 |
| BNI     | Maret     | 2,14 | 2,11 | 2,1  | 3,12 | 4,45 | 4,64 |
|         | Juni      | 2,98 | 2,09 | 2,1  | 3,11 | 4,41 | 4,55 |
|         | September | 2,83 | 2,02 | 2,1  | 3,05 | 3,11 | 4,45 |
|         | Desember  | 2,7  | 1,12 | 2,1  | 2,1  | 3,11 | 4,33 |
| BRI     | Maret     | 2,17 | 1,12 | 1,12 | 2,66 | 3,33 | 4,45 |
|         | Juni      | 2,33 | 1,19 | 1,12 | 2,45 | 3,33 | 4,44 |
|         | September | 2,24 | 1,15 | 1,12 | 2,11 | 3,33 | 4,44 |
|         | Desember  | 2,02 | 1,1  | 1,13 | 1,99 | 2,23 | 2,95 |
| Mandiri | Maret     | 1,81 | 1,31 | 1,15 | 2,25 | 2,12 | 2,11 |
|         | Juni      | 2,1  | 1,25 | 1,15 | 1,2  | 2,12 | 2,08 |
|         | September | 2,41 | 1,2  | 1,15 | 1,2  | 2,12 | 2,04 |
|         | Desember  | 2,29 | 1,15 | 1,15 | 1,15 | 2,12 | 2,02 |
| BTN     | Maret     | 4,78 | 4,95 | 4,15 | 3,85 | 4,49 | 4,14 |
|         | Juni      | 4,7  | 5,05 | 4,15 | 3,86 | 4,25 | 4,1  |
|         | September | 4,5  | 4,15 | 4,15 | 4,05 | 3,85 | 4,05 |
|         | Desember  | 3,42 | 4,1  | 4,15 | 4,11 | 2,99 | 3,85 |
|         |           |      |      |      |      |      |      |

Source: Financial Services Authority of Indonesia (OJK), 2017

Table 4. Growth of NPL of Indonesian state-owned enterprises bank 2010-2015

| BANK    | TAHUN     | 2010   | 2011   | 2012 | 2013   | 2014   | 2015  |
|---------|-----------|--------|--------|------|--------|--------|-------|
| BNI     | Maret     | -      | -      | -    | -      | -      | -     |
|         | Juni      | 39,25  | -0,95  | 0,00 | -0,32  | -0,90  | -1,94 |
|         | September | -5,03  | -3,35  | 0,00 | -1,93  | -29,48 | -2,20 |
|         | Desember  | -4,59  | -44,55 | 0,00 | -31,15 | 0,00   | -2,70 |
|         | Rata-Rata | 9,88   | -16,28 | 0,00 | -11,13 | -10,13 | -2,28 |
|         |           |        |        |      |        |        |       |
| BRI     | Maret     | -      | -      | -    | -      | -      | -     |
|         | Juni      | 7,37   | 6,25   | 0,00 | -7,89  | 0,00   | 4,45  |
|         | September | -3,86  | -3,36  | 0,00 | -13,88 | 0,00   | 4,44  |
|         | Desember  | -9,82  | -4,35  | 0,89 | -5,69  | -33,03 | 4,44  |
|         | Rata-Rata | -2,10  | -0,49  | 0,30 | -9,15  | -11,01 | 4,44  |
|         |           |        |        |      |        |        |       |
| Mandiri | Maret     | -      | -      | -    | -      | -      | -     |
|         | Juni      | 16,02  | -4,58  | 0,00 | -46,67 | 0,00   | -1,42 |
|         | September | 14,76  | -4,00  | 0,00 | 0,00   | 0,00   | -1,92 |
|         | Desember  | -4,98  | -4,17  | 0,00 | -4,17  | 0,00   | -0,98 |
|         | Rata-Rata | 8.60   | -4,25  | 0,00 | -16,94 | 0,00   | -1,44 |
|         |           |        |        |      |        |        |       |
| BTN     | Maret     | -      | -      | -    | -      | -      | -     |
|         | Juni      | -1,67  | 2,02   | 0,00 | 0,26   | -5,35  | -0,97 |
|         | September | -4,26  | -17,82 | 0,00 | 4,92   | -9,41  | -1,22 |
|         | Desember  | -24,00 | -1,20  | 0,00 | 1,48   | -22,34 | -4,94 |
|         | Rata-Rata | -9,98  | -5,67  | 0,00 | 2,22   | -12,36 | -2,37 |
|         |           |        |        |      |        |        |       |

Source: Financial Services Authority of Indonesia (OJK), 2017

In relation to LDR, bank with highest increase is BRI in 2010 (June) of 9.20 percent, which means that the bank has collect liquid funds. In terms of third party funds, BRI in 2010 (December) had the highest increase, that is 27.83 percent. It shows

that the quality of bank in lending was getting better. On the contrary, BNI had the lowest growth of third party funds in 2014 (September) of -2.64 percent. It was due to its high interest rate of 1.25 percent and of course it will suppress its net profit.

In terms of bank lending, BNI had the highest increase in 2013 (June) of 10.98 percent. On the contrary, BRI experienced the lowest growth of bank lending in 2010 (September) of 1.08 percent.

Table 5. LDR of Indonesian state-owned enterprises bank 2010-2015

| BANK    | TAHUN     | 2010   | 2011   | 2012   | 2013   | 2014   | 2015   |
|---------|-----------|--------|--------|--------|--------|--------|--------|
| BNI     | Maret     | 87,76  | 88,36  | 82,98  | 74,44  | 73,45  | 67,85  |
|         | Juni      | 87,63  | 80,87  | 84,35  | 73,54  | 76,85  | 68,66  |
|         | September | 87,67  | 85,65  | 84,35  | 76,56  | 78,99  | 68,98  |
|         | Desember  | 87,77  | 87,77  | 85,45  | 77,89  | 70,21  | 70,45  |
| BRI     | Maret     | 80,47  | 92,56  | 89,31  | 84,86  | 85,45  | 86,64  |
|         | Juni      | 87,87  | 93,99  | 89,55  | 82,55  | 90,77  | 88,48  |
|         | September | 84,89  | 85,88  | 90,65  | 85,25  | 89,56  | 88,48  |
|         | Desember  | 86,88  | 81,98  | 88,45  | 79,14  | 76,45  | 75,99  |
| Mandiri | Maret     | 83,8   | 86,54  | 80,23  | 78,66  | 67,97  | 61,65  |
|         | Juni      | 82,97  | 85,55  | 82,88  | 81,14  | 73,85  | 64,65  |
|         | September | 84,27  | 84,35  | 85,68  | 79,84  | 72,77  | 69,48  |
|         | Desember  | 87,05  | 82,23  | 82,58  | 77,99  | 71,77  | 65,55  |
| BTN     | Maret     | 109,71 | 100,99 | 98,89  | 102,23 | 110,21 | 113,44 |
|         | Juni      | 109,94 | 105,56 | 110,11 | 108,56 | 110,21 | 116,22 |
|         | September | 105,71 | 108,18 | 109,25 | 108,84 | 100,36 | 114,25 |
|         | Desember  | 108,78 | 108,18 | 104,17 | 100,98 | 102,12 | 108,19 |

Source: Financial Services Authority of Indonesia (OJK), 2017

Table 6. Growth of LDR of Indonesian state-owned enterprises bank 2010-2015

| BANK    | TAHUN     | 2010  | 2011  | 2012  | 2013  | 2014   | 2015   |
|---------|-----------|-------|-------|-------|-------|--------|--------|
| BNI     | Maret     | -     | -     | -     | -     | -      | -      |
|         | Juni      | -0,15 | -8,48 | 1,65  | -1,21 | 4,63   | 1,19   |
|         | September | 0,05  | 5,91  | 0,00  | 4,11  | 2,78   | 0,47   |
|         | Desember  | 0,11  | 2,48  | 1,30  | 1,74  | -11,12 | 2,13   |
|         | Rata-Rata | 0,00  | -0,03 | 0,99  | 1,54  | -1,23  | 1,26   |
| BRI     | Maret     | -     | -     | -     | -     | -      | -      |
|         | Juni      | 9,20  | 1,54  | 0,27  | -2,72 | 6,23   | 2,12   |
|         | September | -3,39 | -8,63 | 1,23  | 3,27  | -1,33  | 0,00   |
|         | Desember  | 2,34  | -4,54 | -2,43 | -7,17 | -14,64 | -14,12 |
|         | Rata-Rata | 2,72  | -3,87 | -0,31 | -2,21 | -3,25  | -4,00  |
| Mandiri | Maret     | -     | -     | -     | -     | -      | -      |
|         | Juni      | -0,99 | -1,14 | 3,30  | 3,15  | 8,65   | 4,87   |
|         | September | 1,57  | -1,40 | 3,38  | -1,60 | -1,46  | 7,47   |
|         | Desember  | 3,30  | -2,51 | -3,62 | -2,32 | -1,37  | -5,66  |
|         | Rata-Rata | 1,29  | -1,69 | 1,02  | -0,26 | 1,94   | 2,23   |
| BTN     | Maret     | -     | _     | _     | -     | -      | _      |
|         | Juni      | 0,21  | 4,53  | 11,35 | 6,19  | 0,00   | 2,45   |
|         | September | -3,85 | 2,48  | -0,78 | 0,26  | -8,94  | -1,70  |
|         | Desember  | 2,90  | 0,00  | -4,65 | -7,22 | 1,75   | -5,30  |
|         | Rata-Rata | -0,24 | 2,34  | 1,97  | -0,26 | -2,39  | -1,52  |
|         |           |       |       |       |       |        |        |

Source: Financial Services Authority of Indonesia (OJK), 2017

## The effect of financial performance on state-owned bank credit

To determine the most appropriate model used in estimating panel data, Chow Test or Likelihood Ratio and Hausman Test were conducted. The results are:

Table 7. Chow test to choose between PLS and FEM

| Effects Test             | Statistic | d.f.   | Prob.  |
|--------------------------|-----------|--------|--------|
| Cross-section F          | 0.594961  | (3,88) | 0.6200 |
| Cross-section Chi-square | 1.927662  | 3      | 0.5876 |

Based on the test results, it shows that both F test and Chi-Square are significant (Prob. 0.6200 and 0.5876 are bigger than alpha 0.05 percent). It can be concluded that PLS is better than FEM.

Table 8. Hausman test to choose between FEM and REM

| <b>Test Summary</b> | Chi-Sq. Statistic | Chi-Sq. d.f. | Prob.  |
|---------------------|-------------------|--------------|--------|
| Cross-section       | 1.320390          | 2            | 0.7243 |
| random              | 1.320390          | 3            | 0.7243 |

Based on the Eviews output, it shows that Chi-Square statistic value has bigger probability than alpha 0.05 percent (0.7243 > 0.05). So Random Effect Model (REM) will be used in this study because REM is better than FEM based on the test result.

Estimation results of panel data equation about the effect of third party funds, Non-Performing Loan (NPL), Loan to Deposit Ratio (LDR) and Return On Assets (ROA) on state-owned banks credit are as follows:

**Table 9. Estimation results of REM** 

| Variable               | Coefficient | Std. Error | t Statistic | Prob    |
|------------------------|-------------|------------|-------------|---------|
| С                      | -0.688348   | 0.130319   | -5.282011   | 0.0000  |
| TPF                    | 1.024066    | 0.014805   | 69.16942    | 0.0000  |
| NPL                    | -0.097809   | 0.014511   | -6.740344   | 0.0000  |
| LDR                    | 0.004870    | 0.000255   | 19.10159    | 0.0000  |
| ROA                    | -0.002947   | 0.003617   | -0.814603   | 0.4174  |
| Random Effects (Cross) |             |            |             |         |
| _BNIC                  | -2.07E-12   | -          | t Table     | 1.66159 |
| _BRIC                  | -7.20E-13   |            | F table     | 2.31    |
| _MANDIRIC              | 2.03E-12    |            |             |         |
| _BTNC                  | 7.63E-13    |            |             |         |
| R-squared              | 0.994161    |            |             |         |
| F-statistic            | 5221.802    |            |             |         |
| Prob(F-statistic)      | 0.000000    |            |             |         |

## Coefficient of determination (R<sup>2</sup>)

From the test results, we obtained coefficient of determination (R<sup>2</sup>) of 0.994161. It means that 99.41 percent of variation of state-owned banks credit is explained by

independent variables in the model. These variables are Third Party Funds, Non-Performing Loan, Loan to Deposit Ratio, and Return On Assets. The remaining 0.59 percent can be explained by other variables beyond the independent variables.

## Hypothesis testing

## 1) F-Test

At  $\alpha = 0.05$ , we obtained df = 91 (n = 96-5). It is known that  $F_{table}$ = 2.31 so  $F_{statistic}$  = 5221.802> $F_{table}$ = 2.31 means that Ho is rejected and Ha is accepted, thereby Third Party Funds, Non-Performing Loan, Loan to Deposit Ratio and Return On Assets have an effect on state-owned banks credit. It is confirmed once more on Table 5.1, the value of Prob (f statistic) 0,000000 < 0.05, so it means that Ho is rejected and Ha is accepted, thereby Third Party Funds, Non-Performing Loan, Loan to Deposit Ratio and Return On Assets affect state-owned banks credit in Indonesia.

## 2) t-Test

T-Test was conducted to see the significance of Third Party Funds, Non-Performing Loan, Loan to Deposit Ratio and Return On Assets on state-owned banks credit in Indonesia. T-Test is useful to see how influential each independent variable to the dependent variable. With 95 % confidence level with 2-tailed test and df=92 (n=96-4), t table value obtained is 1.66159 by T-test, as seen in the following table:

| Tabla  | 10 | t-Value | on I | DEM     |
|--------|----|---------|------|---------|
| I anie |    | T-Value | An F | < H   V |

| Variable | t statistic | t Table | Prob.  | Note            |
|----------|-------------|---------|--------|-----------------|
| TPF      | 69.16942    | 1.66159 | 0.0000 | Significant     |
| NPL      | -6.740344   | 1.66159 | 0.0000 | Significant     |
| LDR      | 19.10159    | 1.66159 | 0.0000 | Significant     |
| ROA      | -0.814603   | 1.66159 | 0.4174 | Not Significant |

Based on the table above, it can be explained that t-test results are as follows:

- 1. Given that t statistic value of TPF is 69.16942 and t table is 1.66159, so t statistic > t table means that  $H_0$  is rejected and  $H_a$  is accepted. Because Prob of TPF is 0.000 and Prob < 0.05,  $H_0$  is rejected and  $H_a$  is accepted. It shows that TPF has a significant positive effect on state-owned banks credit in Indonesia.
- 2. Because t statistic value of NPL is -6.740344 > t table of 1.66159, H<sub>0</sub> is rejected and H<sub>a</sub> is accepted. Given that Prob of NPL is 0.000, because Prob < 0.05 percent, H<sub>0</sub> is rejected and H<sub>a</sub> is accepted. It shows that NPL has a significant negative effect on state-owned banks credit in Indonesia.
- 3. Because t statistic value of LDR is 19.10159 > t table of 1.66159, H<sub>0</sub> is rejected and H<sub>a</sub> is accepted. Given that Prob of LDR is 0.0000, because Prob < 0.05 percent, H<sub>0</sub> is rejected and H<sub>a</sub> is accepted. It shows that LDR has a significant negative effect on state-owned banks credit in Indonesia.
- 4. Given that t statistic value of ROA is -0.814603 and t statistic > t table of 1.66159 means that H<sub>0</sub> is accepted and H<sub>a</sub> is rejected. Because Prob of ROA is 0.4174 and Prob> 0.05 percent, H<sub>0</sub> is accepted and H<sub>a</sub> is rejected. It shows that ROA doesn't

have a significant negative effect on state-owned banks in Indonesia as well as Prob ROA that isn't significant given that  $\alpha = 10\%$ .

## CONCLUSIONS AND RECOMMENDATIONS

#### Conclusion

Based on the analysis results presented in the previous sections, it can be concluded that:

- 1. In terms of the performance of state-owned banks, there are several indicators: (a) BTN had the highest growth rate of ROA and BRI had the lowest growth. However, if we observed it per year, all state-owned banks had fluctuationsin growth rate during period 2010-2015. It indicates that there is unstable performance of the banks, affected by changes in external and internal variables; (b) BNI had the highest average growth rate of NPL and Bank Mandiri had the lowest rate; (c) BRI had the highest average growth rate of LDR and BTN had the lowest rate; (d) BRI had the highest average growth rate of TPF in 2010 of 11.41 percent and BTN had the lowest rate of 1.13 percent in 2014, and (e) BNI had the highest average growth rate of lending/credit of 7.66 percent in 2013 and BRI had the lowest growth rate of 3.78 percent in 2014.
- 2. The highest point of economic growth was in September 2015 (7.91%) and the lowest point was in March 2010 (2.72%), while the average economic growth in Indonesia was 4.75 percent.
- 3. State-owned banks lending in Indonesia is affected by third party funds of 1.02 percent, non-performing loans of -0.09 percent, loan to deposit ratio of 0.01 and Return On Assets of -0.01 percent. The state-owned banks lending of 99.41 percent is explained by third party funds, non-performing loans, loan to deposit ratio and Return On Assets. However, from these four variables, only three of them that have a positive effect on state-owned banks credit in Indonesia, i.e. third party funds, non-performing loans, loan to deposit ratio, while Return On Assets has a negative effect on it. ROA has a negative effect because the banks have return not exceeding profit so that banks reduce its loan. It can be concluded that return that is smaller than profit can hamper more credit channeling.

## Recommendation

- 1. To increase bank lending, commercial banks must provide complete information and ease of lending process to potential investors. It can be done, for example, through credit with simple requirements, good service, low loan interest rate, and an extensive and accessible service to attract the public.
- 2. State-owned banks in Indonesia should pay more attention to bank lending policies by adhering to the principle of prudence in lending to avoid non-performing loans and achieving low rate of NPL in the future, be able to meet all debt obligations, and meet the demand for funds proposed by the customers without any suspension in lending through the ratio of loan to deposit ratio.

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