Does Taxation And Macroeconomics Matter On The Profitability Of Indonesian Banking Sector Through Capital Structure Policy?

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Abstract
This research aims to analyze whether the combination of taxation and macroeconomics will affect the profitability of Indonesian banking sector through capital structure policy. The result is expected to be able to develop alternative models that can be used as a reference for further research related to the increased profitability of banking companies, through tax planning in combination with capital structure decisions. Research on the effect of taxation policy for non-financial institutions have been found so many in the literature, while in the banking sectors are still rare. This study uses econometric models aimed to examine the effect of taxation against banking behaviour associated with the company's capital structure decisions and ultimately reflected in the ability of the company generates profitability. The interaction between taxation and variable macroeconomic conditions are simultaneous testing to test the effect of two variables on the capital structure and profitability of banks. Based on the results of test carried out partially on the impact of taxation and macroeconomics on capital structure showed that sub variable corporate income tax rate, dummy public, GDP, and BI Rate are significant. While, CKPN and Kurs are not significant. The results of test carried out partially on the impact on profitability showed that sub variable Capital Structure, Corporate Income Tax Rate, GDP and Kurs are significant. But, CKPN, Dummy Public and BI Rate are not significant. Therefore, the use of taxation as one instrument of fiscal policy has the function of budgetary and regulatory functions and it should be aligning with monetary policy.

Keywords: Taxation, Macroeconomics, bank capital structure, financial sector, econometric models

1. Introduction
The first motivation of this paper is to explore the phenomenon of the effect of policy changes in the taxation policy of the banks' and capital structure toward banking profitability. The reason to why this topic interesting that because the bank is one of the most important financial institutions in the financial system of a country. Research on the effect of taxation policy for non-financial institutions have been found so many in the literature, while in the banking sectors are still rare. Business operators are expected to make adjustments to the portfolio of assets that generate income as a result of changes in the corporate tax rate imposed the Government of progressive rates top 30 % to the single rate of 28% in 2009 and has dropped back to 25 % in 2010 until recently which is valid until the moment period of this research.

Figure 1: The Trend of Corporate Income Tax, Capital Structure and ROA of Banking Institution

Source: Ministry of Finance and Monetary Statistic Data, BI

A phenomenon that occurs from the micro enterprise trends may differ between corporate tax, capital structure and Return On Assets (ROA) shown by the above graph shows the pattern does not always correlate. Beside that variable, there is a hypothesis that macroeconomic variable such as GDP, BI Rate and
Inflation index/(CPI/IHK) will also effect the performance of the banking institutions as shown in the graph below. Also foreign exchange rate we very volatile during the research period.

Figure 2: The Trend of GDP, IHK and BI Rate

Source: Monetary Statistic Data, BI

Of the background research on the issue was identified are as follows: Taxation changes supposed to influence the capital structure. Changes in tax rules in the form of sub-variables: corporate income tax rate, Allowance for Impairment Losses (CKPN), and dummy go public (investment tax credit). The Macroeconomic condition is thought to effect the capital structure. Macroeconomic conditions include: GDP, Policy Rate or interest rate (BI Rate) and Kurs(Foreign Exchange Rate). Macroeconomic conditions will be responded by the Monetary policy that can affect bank performance. Capital Structure Decisions effect on profitability of Banking Institutions. The decision may impact on the company's internal profitability.

This research is only analyzing the impact of taxation rule and macroeconomics to the profitability of Indonesian banking sectors through capital structure policy. There are any recent policy issued by the fiscal authority such as impairments of taxation billing and non-deductible expenses that are not analyze in this research due to focus on the variable exploration.

This paper is organized as follows. In section 2, we discuss the Hyphotesis of this paper and follow by the source of data and candidate variable use in this model. Then, the paper follows by description of sample period and data sources during the period of the research. This statistical data has been included in this section. Section 3 introduces two alternative models which are panel 1 and panel 2 explaining about the capital structure and financial performance as dependent variable. Section 4 represents data and the empirical results that are combining together as a reason to make interpretation of the result. Finally, section 5 summarizes the conclusions and policy recommendation of this paper.

2. Theoretical and The Hyphotesis Framework

This study uses econometric models aimed to examine the effect of changes in tax rules on behavior related to the banking company's capital structure decisions and ultimately reflected in the company's ability to generate profitability of the company partially. The interaction between changes in tax rules and variable macroeconomic conditions are simultaneous testing to test the effect of two variables on the profitability of banks.

Based on the results of previous studies, the variables affecting the financial performance, corporate income tax, and capital structure still shows the results of different, even contradictory between research results with each other. This will be appointed as a research gap in this study. Therefore draw examined in a study with
the title: “Does Taxation and Macroeconomics Matter On the Profitability of Indonesian Banking Sector Through Capital Structure Policy?”.

Bank has a variety of instruments to optimize the capital structure every time. Thus the bank is able to pay or receive money instead of saving such as the issuance of bonds, the issuance of shares and retained earnings, including adjustments in the context of the distribution of dividends to shareholders. However, as research by Hemmelgarn and Teichmann (2013), concluded that the decrease in corporate income tax is contrary to the objectives set by regulators as describing in the framework of Basel III. In the framework describes that the obligation of banks to raise capital which means lowering the leverage will cause changes in the ratio capital structure of banks.

The first hypothesis developed in this research as follows:

H0: There is no influence of the taxation to the capital structure.
H1: There is an influence of the taxation to the capital structure.

The second hypothesis in this research as follows:

H0: There is no influence of macroeconomics to the capital structure.
H1: There is an influence of macroeconomics to the capital structure.

The third hypothesis in this research as follows:

H0: There is no influence of taxation and macroeconomics to the capital structure.
H1: There is an influence of taxation and macroeconomics to the capital structure.

The fourth hypothesis in this research as follows:

H0: There is no influence of taxation and macroeconomics to the bank profitability through the capital structure.
H1: There is an influence of taxation and macroeconomics to the bank profitability through the capital structure.

The hypothesis can be summarized as shown in the figure below which is the influence of taxation and macroeconomics are simultaneously effect the profitability of bank through capital structure during the period of the research.

The variable using in the taxations are consist of corporate income tax rate, CKPN and investment tax (dummy Go Public). On the macroeconomic variable use in this research consist of GDP, BI Rate and Foreign Exchange.

**Figure 3: Research Paradigma**
All the tax rule data and macroeconomic data are collected from the Indonesian fiscal policy and monetary policy statistic data which the data can be download at the public website. The reason to use the period of the research, firstly because there is a change in the tax ratio during the period of the research and secondly the macroeconomic global turbulence due to global financial crises in 2008 proxy by global GDP downward are interesting finding for the research and that can be used for further policy recommendation in the future.

3. Data collection and survey design

All the variable use in this research is provided by exploring the previous journal as listing in the reference literature and it’s support by the theory. The following explanation it can described in the next table.

Table 1: List of Variables

<table>
<thead>
<tr>
<th>Indicator</th>
<th>Variable</th>
<th>Sources of Data</th>
<th>Notes</th>
</tr>
</thead>
<tbody>
<tr>
<td>Capital Structure</td>
<td>Debt to Equity Ratio</td>
<td>Financial Statement</td>
<td></td>
</tr>
<tr>
<td></td>
<td>1- Equity/Asset Ratio (one minus the ratio of equity over assets)</td>
<td>Financial Statement</td>
<td>Specific for bank</td>
</tr>
<tr>
<td>Taxation</td>
<td>Corporate Income Tax Rate</td>
<td>Minister of Finance</td>
<td></td>
</tr>
<tr>
<td></td>
<td>CKPN (Investment Tax Credit)</td>
<td>Minister of Finance</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Dummy Go Public</td>
<td>Listing Banks from Indonesian Stock Exchange and Non Listing Banks from BI Data.</td>
<td>Listing bank with more than &gt;40% there is reduction tax 5%.</td>
</tr>
<tr>
<td>Macroeconomics</td>
<td>GDP</td>
<td>IFS</td>
<td></td>
</tr>
<tr>
<td></td>
<td>BI Rate (Policy rate)</td>
<td>IFS</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Exchange Rate</td>
<td>BI</td>
<td></td>
</tr>
<tr>
<td>Bank Profitability</td>
<td>ROA</td>
<td>BI</td>
<td>Return on Asset</td>
</tr>
<tr>
<td></td>
<td>ROE</td>
<td>BI</td>
<td>Return on Equity</td>
</tr>
</tbody>
</table>

Notes: all variable are in logarithm, and Ratio.

The data collection consist of macroeconomic data, fiscal policy and financial sector reform gathered from the data of Financial Service Agency (FSA), Bank Indonesia as an authority of monetary policy and Ministry of Finance in Indonesia. The data was collected with data series since Quarterly I-2007 until 2014, with the reason because since 2007 there are such policy measures both by ministry of finance in fiscal policy and the Central bank in term of monetary policy as a respond to the global financial crisis.

4. THE RESULT

The population in this research use the Indonesian Commercial banks which is there is 120 commercial banks. By excluding the outlier data then number of commercial bank data use in this research is 98 banks. Using the software E-views 8 to run the data then the result of the econometric can be explain in the next paragraph.
As describing in the appendix, the normality data test is done using software E-views in order to avoid a non-normal distribution data in the research, therefore the outlier data excluded from the analysis as a part of standard of econometric data in doing analysis. The total data consist of 3136 data available and the period of data use during year of 2007 until 2014 using quarterly data.

The econometric model:

Panel 1:

The first model using in this paper to test the effect on bank capital structure can be provided in the regression model as follows:

\[ CS_{it} = \beta_0i + \beta_1CTR_{it} + \beta_2CKPN_{it} + \beta_3DummyP_{it} + \beta_4GDP_{it} + \beta_5BIR_{it} + \beta_6KURS_{it} + e_{it} \]

On which, the explanation of each variable as follows:

- CS: Capital Structure
- CTR: Corporate Income Tax Rate
- CKPN: Allowance for Impairment Loss
- DummyP: Dummy Go Public (Investment Tax Credit)
- GDP: Economic Growth
- BIR: BI rate (Policy Rate)
- KURS: Exchange Rate of Rupiah currency to US Dollar currency
- e: error term
- \( \beta \): Regressions Coefficient

Based on the results of tests carried out partially on the impact of changes in taxation on capital structure showed that every 1% increase in corporate taxes led to the Bank will decrease the company's capital structure of 4% reflected the additional financing of the coefficient is negative. This is consistent with research findings by Horvarth (2013) which suggests that any increase in the corporate tax of 10 points have consequences with the increase in leverage between 0.8 - 1.4 percent. The respon on financial institution has a second round impact that it will cause on the reducing of risk-weighted assets (risk weight assets) amounted to 2-7% conducted research in 71 countries in the period 1997 to 2011.

The Results of empirical testing also showed that the effect of taxation and macroeconomics on the capital structure of banks has a significant relationship to the variable Corporate Income Tax Rate (0.0170), DummyP (0.0000), GDP (0.0036) and also significantly on the Bi rate (0.0030). All the result shows examine an evidenced by all variables are significant at the level \( \alpha \) less or equally to 5%. However, the CKPN using in this research shows level \( \alpha \) stood at (0.6522), and Kurs (0.2733) that can be interpreted that are not significant because the results are more than level \( \alpha \) 5%.
The result of this research can be described in the table below:

**Table II: Regression model results of Panel 1**

<table>
<thead>
<tr>
<th>Variable</th>
<th>Coefficient</th>
<th>Std. Error</th>
<th>t-Statistic</th>
<th>Prob.</th>
</tr>
</thead>
<tbody>
<tr>
<td>C</td>
<td>18.50954</td>
<td>5.349356</td>
<td>3.460144</td>
<td>0.0005</td>
</tr>
<tr>
<td>CTR</td>
<td>-4.007968</td>
<td>1.678378</td>
<td>-2.388001</td>
<td>0.0170</td>
</tr>
<tr>
<td>CKPN</td>
<td>-2.42E-07</td>
<td>5.43E-07</td>
<td>-0.446634</td>
<td>0.6552</td>
</tr>
<tr>
<td>DUMMYP</td>
<td>12.78990</td>
<td>1.575052</td>
<td>8.120302</td>
<td>0.0000</td>
</tr>
<tr>
<td>GDP</td>
<td>0.202796</td>
<td>0.069575</td>
<td>2.914761</td>
<td>0.0036</td>
</tr>
<tr>
<td>BIR</td>
<td>-67.54228</td>
<td>22.77392</td>
<td>-2.965774</td>
<td>0.0030</td>
</tr>
<tr>
<td>KURS</td>
<td>0.303690</td>
<td>0.277164</td>
<td>1.095706</td>
<td>0.2733</td>
</tr>
</tbody>
</table>

Panel 2a:

The second model using in this paper to test the effect on bank profitability can be described as follows:

\[
\text{ROA}_{it} = \beta_{0it} + \beta_1 CS_{it} + \beta_2 CTR_{it} + \beta_3 CKPN_{it} + \beta_4 \text{DUMMYP}_{it} + \beta_5 \text{GDP}_{it} + \beta_6 \text{BIR}_{it} + \beta_7 \text{KURS}_{it} + \epsilon_{it}.
\]

Panel 2b:

Basically this Return on Asset Model can be used to test the influence of dependent variable profitability as a proxy of ROA can be used into ROE as follows:

\[
\text{ROE}_{it} = \beta_{0it} + \beta_1 CS_{it} + \beta_2 CTR_{it} + \beta_3 CKPN_{it} + \beta_4 \text{DUMMYP}_{it} + \beta_5 \text{GDP}_{it} + \beta_6 \text{BIR}_{it} + \beta_7 \text{KURS}_{it} + \epsilon_{it}.
\]

The result of econometric model using ROA as an indicator of bank performance are as follows:

The Results of empirical testing also showed that the effect of taxation on the profitability of banks has a significant relationship to the variable Capital Structure (0.0176), Corporate Income Tax Rate (0.0009), GDP (0.0340) and also significantly on the variable Kurs (0.0000). All the result shows examine an evidenced by all variables are significant at the level α less or equally to 5 %. However, the CKPN using in this research shows level α stood at (0.0645), DummyP stood at (0.9021), and BI Rate stood at (0.2216) that can be interpreted that are not significant because the results are more than level α 5 %. Even though, the analysis uses ROE as describe in the Panel 2b, however the result is not listing in this paper in order to avoid a redundant explanation.
Table III: Regression model results of Panel 2a

<table>
<thead>
<tr>
<th>Variable</th>
<th>Coefficient</th>
<th>Std. Error</th>
<th>t-Statistic</th>
<th>Prob.</th>
</tr>
</thead>
<tbody>
<tr>
<td>C</td>
<td>2.441190</td>
<td>0.497439</td>
<td>4.907515</td>
<td>0.0000</td>
</tr>
<tr>
<td>CS</td>
<td>0.004002</td>
<td>0.001685</td>
<td>2.374230</td>
<td>0.0176</td>
</tr>
<tr>
<td>CTR</td>
<td>0.519145</td>
<td>0.155912</td>
<td>3.329733</td>
<td>0.0009</td>
</tr>
<tr>
<td>CKPN</td>
<td>9.31E-08</td>
<td>5.04E-08</td>
<td>1.849130</td>
<td>0.0645</td>
</tr>
<tr>
<td>DUMMYP</td>
<td>0.018185</td>
<td>0.147758</td>
<td>0.123073</td>
<td>0.9021</td>
</tr>
<tr>
<td>GDP</td>
<td>-0.013712</td>
<td>0.006466</td>
<td>-2.120489</td>
<td>0.0340</td>
</tr>
<tr>
<td>BIR</td>
<td>2.588261</td>
<td>2.117141</td>
<td>1.222526</td>
<td>0.2216</td>
</tr>
<tr>
<td>KURS</td>
<td>-0.136899</td>
<td>0.025729</td>
<td>-5.320796</td>
<td>0.0000</td>
</tr>
</tbody>
</table>

5. CONCLUSION AND RECOMMENDATION

This paper finds that after the global crisis of 2008, the tax has been used as one of the efforts to realize the financing for development. Therefore, the use of taxation as one instrument of fiscal policy has the function of budgetary and regulatory functions. Results of testing hypotheses about the effect of taxation in the banking industry were examined during the study period showed that the sub variable corporate income tax rate and dummy go public are significant effect on the capital structure of the banking industry. These results are consistent with the model research using by Albertazzi and Gambartoca (2006).

Based on the results of test carried out partially on the impact of taxation and macroeconomics on capital structure showed that sub variable corporate income tax rate, dummy public, GDP, and BI Rate are significant. While, CKPN and Kurs are not significant.

The results of test carried out partially on the impact on profitability showed that sub variable Capital Structure, Corporate Income Tax Rate, GDP and Kurs are significant. But, CKPN, Dummy Public and BI Rate are not significant.

These results are consistent with the statement of the banking industry management (The Biggest bank in Indonesia in term of Asset), that in the banking business plan that the capital structure of bank influenced by macroeconomic conditions in Indonesia

Therefore, the use of taxation as one instrument of fiscal policy has the function of budgetary and regulatory functions and it should be aligning with monetary policy. Based on the description set above, the things that can be proposed is for the perpetrators of the banking industry in micro, in response to changes in tax rules and macro-economic conditions are two external factors that can be business risk as well as a business opportunity that both must be responded well and right target.

6. REFERENCES


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