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Abstract

This paper is aim to prove two competing hypothesis, whether the SCP or traditional hypothesis or the efficiency structure hypothesis are able to explain the influence of market structure on the profitability of the banking industry in Indonesia. Data used in this research is data there are 122 commercial banks in Indonesia during 2005 to 2009. Consequently the research model used in this study is panel data model, which combines cross section data and time series. After testing with the method of Chow test, the LM test and Hausman test to choose the best model, it is known that in this study is the best model is the fixed effect model. Based on the results of fixed effect model (FEM), it is known that the concentration has a positive and significant impact on the profitability of the banking industry in Indonesia. These findings support the SCP or traditional hypothesis. While an individual bank's market share variable has negative coefficient and significant impact on profitability, so this finding do not support the efficiency structure hypothesis. In this study also include variable transaction costs as explanatory variables in the Indonesian banking profitability.. To confirm the findings of fixed effect regression model, so, in this study, in depth interview was conducted. The results of depth interview stating that high profitability is not directly affected by the concentration ratio. Oligopoly structure in the banking industry has no effect on the use of market power and pricing behavior.

Keywords: Indonesia's banking industry, SCP and Efficiency Structure Hypotesis, Fixed Effect Model, indepth interview

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Pengaruh Struktur Pasar Terhadap Profitabilitas Industri Perbankan Di Indonesia Periode 2005 – 2009

Teguh Santoso

Abstraksi

Tulisan ini bertujuan untuk membuktikan *two competing hypothesis*, apakah hipotesis SCP (hipotesis tradisional) atau hipotesis efisiensi struktur yang dapat menjelaskan pengaruh struktur pasar terhadap profitabilitas industri perbankan di Indonesia. Data yang digunakan dalam penelitian ini adalah data 122 bank umum di Indonesia selama periode 2005 – 2009. Sehingga konsekuensinya, model penelitian yang digunakan adalah model panel data. Setelah pengujian untuk memilih model terbaik dengan menggunakan uji Chow, uji LM dan uji Hausman, diketahui bahwa model terbaik dalam penelitian ini adalah *fixed effect model* (FEM). Berdasarkan hasil *fixed effect model*, diketahui bahwa rasio konsentrasi berpengaruh positif dan signifikan terhadap profitabilitas industri perbankan di Indonesia. Temuan tersebut mendukung hipotesis SCP atau hipotesis tradisional. Sedangkan pangsa pasar individual bank berpengaruh negatif dan signifikan terhadap profitabilitas industri perbankan, sehingga temuan tersebut tidak mendukung hipotesis efisiensi. Penelitian ini juga memasukkan variabel biaya transaksi sebagai variabel penjelas yang mempengaruhi profitabilitas industri perbankan di Indonesia. Untuk mengkonfirmasi temuan regresi *fixed effect model*, maka dalam penelitian ini dilakukan *indepth interview*. Hasil *indepth interview* menyatakan bahwa tingginya profitabilitas tidak secara langsung dipengaruhi oleh rasio konsentrasi. Struktur oligopoli tidak berdampak pada penggunaan market power dan perilaku harga.

Kata kunci: Industri Perbankan Indonesia, Hipotesis SCP dan Hipotesis Efisiensi Struktur, *Fixed Effect Model*, *Indepth Interview*.

Introduction

Industrial economics theory states that the increased concentration in market share, will have an impact on increased the ability of companies on industry to raise prices above marginal cost (market power). Increased market power may indicate impairment in the level of competition in the market (Carlton and Pearlove, 1998). Besides the issue of market concentration, the issue of increasing the ratio of concentration may also occur in the banking industry in Indonesia. If the banking industry concentration ratio is high, then simply open the opportunity for collusion (Hanan, 1991).

After the implementation of Arsitektur Perbankan Indonesia in 2004, the number of commercial banks in Indonesia tends to decrease. If in 1998 the number of commercial banks are 208, in 2006 fell to 130 banks and continued to decline until 2009 to be 122 banks. The Decrease in the number of banks due to the revocation of business licenses and bank mergers. The process of consolidation through mergers efforts to strengthen the capital and is predicted to continue to happen in future in line with the implementation of API (Naylah, 2010).

From the perspective of business competition, implementation of various policies of Bank Indonesia in the grand design of the API tends to cause a polemic. Efforts to nourish and restore the banking industry in accordance with a similar scheme to the API seems to encourage banks (especially small-medium banks) to conduct mergers or acquisitions. The Scheme of API encourage companies in the banking industry in Indonesia to merge because of the minimum capital requirements. Besides that, trend towards the merger is also supported by the Single Presence Policy (SPP) (Lestari, 2010).

Merger or acquisition on the one hand can increase efficiency as well as strengthening of banking consolidation, but on the other hand can lead to the concentration of market share in a particular group of banks. Here will appear a polemic with the policy and competition law (Law No. 5 / 1999) are very wary of convergence such concentration, because of potential violations such as abuse of dominant position (Ariyanto, 2004).

Based on 2009 data, concentration ratio four biggest bank (CR4) in Indonesian banking industry is 0,47% for asset, 0,50 for third party funds (DPK)

and 0,43 for credit. Until January 2011, the share of the banking market share in Indonesia is still dominated by Bank Mandiri, BRI, BCA and BNI with a total market share reached 44,6%. Looking at market share above, it can be said that the banking industry in Indonesia has an oligopoly market structure in low-level moderate (Bain, 1959). Murti Lestari (2010) also finding that the structure of industrial banking in Indonesia is oligopoly.

Several empirical studies in the relationship between market structure and performance based on two competing hypothesis. The first hypothesis is SCP hypothesis or Traditional hypothesis which is also referred to as the collusive hypothesis (Mendes and Rebelo, 2003). In a simple formula, the SCP paradigm states that market concentration in the low cost of collusion between the company and generate abnormal profits (Evanov and Fortier, 1988). Economic gain is an indication of allocative distortion and is the result of the market structures that facilitate collusion or other action in the process of competition (Smirlock et al., 1984).

The second hypothesis is Efficiency Structure Hypothesis (ES hypothesis). ES hypothesis model is developed by Demsetz and McGee (1974), Peltzman (1977), Gale and Branch (1982). ES hypothesis states that economic profit is an indication of the relative efficiency of some companies and the results of the management of scarce resources from the production process. A more efficient company will be able to enlarge its market share so that it can improve the economic benefits. ESH hypothesis based on the proposition that states that the efficiency will increase market share and in turn will increase market concentration as well, but the increase in market share and concentration is the result of an efficient behavior that ultimately will improve the profit or advantage.

In the banking industry, both models are also often used to analyze the relationship between market structure and profitability in the banking industry. Most of the empirical findings stating that there is no relationship between the concentration ratio and profitability in the banking industry. Thus the SCP or Traditional hypothesis can not be used (Baumoel et al., 1982, Smirlock., 1985, Evanov and Fortier, 1988, Maudos, 1998). However, Mendez and Rebelo (2003) and Tregenna (2009) finding that the concentration ratio has positive and significant impact on profitability perbankan, so this finding supporting SCP or Traditional hypothesis. On the other hand, some empirical findings stated that the

market share have a greater influence than the ratio of concentration on profitability on the banking industry. (Smirlock, 1985, Evanof and Fortier, 1988, Samad, 2005 and 2007).

From the aspect of institutional economics, the banking industry in his characteristics as an industry full of transaction costs (Wallis and North, 1986, Polsky, 2001). Banking activities generate two types of transaction costs. The first type of transaction costs is interest expense reflects the financing for banking activities. The second type of transaction cost is non-interest expense which reflects the cost of information and coordination (Polsky, 2001). Polsky (2001) suggest that transaction costs private banking industry in the United States increased from time to time. The findings are also consistent with research Wallis and North (1986) who found that the transaction costs of economic sectors in the United States increased during the period 1870 to 1970. Furthermore, Wallis and North (1986) argues that increased economic sector increases transaction costs arising from both economic and institutional changes are relevant to explain the behavior of transaction costs in the banking industry (Polsky, 2010). Therefore, the transaction costs may be variables that affect the performance of the banking industry in Indonesia.

So that, this paper aims to prove either the SCP hypothesis or the ES hypothesis that affect profitability in the banking industry in Indonesia. In addition, this paper also wanted to prove whether the transaction costs in the banking industry in Indonesia effect on profitability of banking Industry. To confirm the quantitative findings, so, in this study, the indepth interview to the bankers was conducted. The result of ndepth interview is expected to be the basis for conducting analysis of market structure of the banking industry and its effect on profitability of the banking industry in Indonesia.

The Methods

The Data

This study includes cross-sectional and time series data for all 122 commercial banks operating in Indonesia during the period 2005 – 2009. All relevant data for this period was obtained from Direktori Perbankan Indonesia, published by Bank of Indonesia. Data used in this study include, return on asset

(ROA) as a proxy of banks profitability as a dependent variable. While the data used as explanatory variables (independent) is the ratio of asset ownership concentration ratio of four largest banks in Indonesia (CR4), Market Share (MS) from asset, interaction between CR4 and MS (MSCR), net interest margin (NIM), loan to deposit ratio (LDR), Capital Adequacy Ratio (CAR), expense and operating income ratio (BOPO), interest expense (IE) and non-interest Expense (NIE). Because of the data in this study is a combination of data cross-sectional and time series, the model used in this study is the panel data estimation.

The Methodology

The methodology utilized in this paper is based on Weiss's (1974) as quoted and used by Smirlock (1985) assertion that the correct test of competing hypothesis is one takes both concentration and market share into account at the same time. A direct way to do this is to estimate pool data model profit equation that includes both concentration and market share as independent variables and to examine the significance of their coefficient. Accordingly, the estimate model is:

$$\pi_{it} = \alpha_0 + \alpha_1 CR4_t + \alpha_2 MS_{it} + \alpha_3 LDR + \alpha_4 NIM + \alpha_7 BOPO + \alpha_8 IE + \alpha_9 NIE + \alpha_{10} NII + \varepsilon_{it} \dots (1)$$

Where π_{it} is some measure of the profit rate. Banking studies, however, have chosen two emphasize two profit rate measures, the rate of return on total capital and (particularly) the rate of return on total assets. According to Smirlock (1985), return on asset (ROA) has provided the strongest evidence on a concentration profitability relationship in banking. CR4 defined as concentration the four-bank asset concentration ratio. A Bank's Market Share (MS) is defined as its total asset divided by total asset banks in the industry. MSCR is interaction variable between CR4 and MS. CR4, MS and MSCR are structural variable.

Other's control variables that expected influence on profitability in banking industry are LDR, NIM, CAR, BOPO, IE, NIE and NII. Loan to deposit ratio is included to account because this indicator become expansionary measure of the level of banking in lending. This ratio also measures the level of banking intermediation. The higher this indicator, the better the banks perform to their intermediation function. Net Interest Margin (NIM) is the margin between lending rate and saving rate. This variabel is included to account since greater NIM, the

ability of banks to increase profit also increases, in other words, this variable shows the behavior of banks in maximizing profits. Expense and operating income ratio (BOPO) shows how much the operating expenses compared with operating income of a company in units of percent (%). This variable describes whether the banking industry is efficient in running its operations. Interest Expense (IE) and Non-Interest Expense (NIE) is the transaction cost variables used in this study. Value of transaction costs (IE and NIE) obtained from the ratio between the cost (expense), interest and total income (for IE) and the ratio of operating expenses to total income (for NIE) (Polsky, 2001). NII is non-interest income, which is a source of bank income besides the interest income, consists of commissions, fees and fee, foreign exchange transaction revenue, increased revenue and other income securities.

The usefulness of equation (1) in discriminating between two hypotheses is straight forward (Smirlock, 1985). If a coefficient of $\alpha_1 > 0$ and statistically, $\alpha_2 = 0$ implies that higher profitability as the result from market concentration and support traditional hypothesis. If coefficient of $\alpha_1 = 0$, $\alpha_2 > 0$ and statistically significant, implies that banks with high market share are more efficient than the rivals and earn rent or profit because of this efficiency and supporting efficiency structure hypothesis. If $\alpha_3 > 0$ and statistically significant, the profitability of the banking industry is the result of collusion, which it's means that the share of profits will increase in proportion of market share to the concentration of industry.

The Methodology of Panel Data Analysis

Estimation using panel data is divided into three methods:

a. Pooled Least Square Approach.

Pool Least Square method or common model is data panel analysis where the intercept and the slope of all cross section identifiers are similar or common. Hence, we can write the model as follow:

$$Y_{it} = \alpha + \beta X_{it}^j + u_{it} \quad i=1, \dots, N \quad \text{dan} \quad t=1, \dots, K$$

Where N is the number of cross section units (individuals) and T is the number of time series (time period). The process of estimation using PLS method performed by the unit combines time series and cross section units so as to produce the number of observations as much as NT. The basic assumption of the

PLS approach is the intercept value (α) and slope value (β) inter-unit cross section and time series unit is constant or the same.

b. Model Fixed Effects

An unrestricted model, in which we can analysis the characteristic of each cross section identifier is refered as fixed effects model or least square dummy variable (LSDV). The model assume that the slope is similar for all identifier. However, the intercept is different for all identifier. The model specification for fixed effect model is given below. Fixed effect model equation is as follows:

$$Y_{it} = \alpha_i + \beta_j X_{it}^j + \sum_{i=2}^N \alpha_i D_i + u_{it} \quad \rightarrow \quad i=1, \dots, N \quad \text{dan} \quad t=1, \dots, K$$

Where Y_{it} is a dependent variable at time t for unit cross section i . α_i is the intercept which varies between units cross section. X_{it}^j is explanatory variables j -th at time t for unit i cross section. β_j is parameters for the j -th independent variables. u_{it} is the error component at time t for unit i cross section.

c. Random Effects Model

Random effects model or Error Components Model (ECM) state that the intercept value is considered as random variables. The model is developed to replace fixed effects model that use dummy variables. Random effects model state that every firms in general have the same intercept, however there are individual differences which is accomodated in the random error term. The random error term is an unobservable variable. The specification for fixed effect model is given below:

$$Y_{it} = \alpha + \beta X_{it}^j + u_{it} \quad \rightarrow \quad u_{it} = u_i + v_t + w_{it}, \quad i=1, \dots, N \quad \text{dan} \quad t=1, \dots, K$$

Where $u_i \sim N(0, \delta u^2)$ is the component *cross section error*, $v_t \sim N(0, \delta v^2)$ is the component of *time series error*, $w_{it} \sim N(0, \delta w^2)$ is the component of error combination.

Common, Fixed Effects or Random Effect Model?

To choose whether to use the common model, fixed effects model or random effects model we can use the Chow-test, LM test and the Hausman test.

a. Chow Test

Chow Test is a test F Statistics. Chow Test is used to select whether the model used Pooled Least Square or Fixed Effect. In this test done with the following hypothesis:

Ho : intercept is the same for all cross section identifiers (PLS Model/Restricted)
 Ha : at least two cross section identifiers intercept is different (Fixed Effect/Unrestricted)

Chow Test is given below,

$$F = \frac{(RSSR - USSR)/r}{USSR/(\sum_{i=1}^n(T) - k)}$$

Where RSSR is Restricted sum square residual, USSR is Unrestricted sum square residual, Tj is number of observation. r is amount of restriction. If the value Chow Statistics (F_{stat}) test results greater than F_{table} , then the null hypothesis is rejected so that the model we use is the fixed effect model and vice versa.

b. LM Test

LM test is a test for selecting PLS model or random effect model. In this test done with the following hypothesis.

H0: Model PLS (*Restricted*)

Ha: Model *Random Effect (Unrestricted)*

Formulations to test the above hypothesis using the chi square distribution table as formulated by Breusch Pagan.

$$LM = \frac{nT}{2(T-1)} \left[\frac{\sum_{i=1}^n [\sum_{t=1}^T e_{it}]^2}{\sum_{i=1}^n \sum_{t=1}^T e_{it}^2} - 1 \right]^2$$

Where $\sum_{i=1}^n \sum_{t=1}^T e_{it}^2$ is Restricted Residual Sum Square (The Sum of Square Residual of the panel estimation with least squares methods of pool / common

intercept). $\sum_{i=1}^n [\sum_{t=1}^T e_{it}]^2$ is the sum square error of fixed effect model. N is the total of cross section data and T is the total of time series data. If the value LM_test (χ^2_{stat}) test results greater than the χ^2 table, then the null hypothesis is rejected so that the model we use is the random effect model and vice versa.

c. The Hausman Test

The Hausman test was used to select a model or Random Effect Fixed Effect. Hypothesis testing is as follows:

H0: Random Effects Model

Ha: Fixed Effects Model

Hausman Test calculations using Eviews program. If the value Hausman test results greater than the χ^2 table, then the null hypothesis is rejected so that the model we use is the fixed effect model and vice versa.

The Result And Analysis

Choosing The Best Model

After data processing with the three approaches, common effect (PLS), fixed effect and random effect model (see appendix), then be tested with the method of Chow Test, LM Test and Hausman Test to select the best model. Based the result of Uji Chow Test, is known that the nilai F_{stat} adalah sebesar 3.70975, while the value F_{table} on 95%) confident interval with ($\alpha = 0,05$) df 9,591 is 2.72. The result of Chow Test showing tha the value of $F_{stat} > F_{table}$, H_0 is rejected, so that the model chosen is FEM . Based the result of LM Test is known that the value of χ^2_{stat} is 25.7981 while the value of χ^2_{table} on 95% confident interval ($\alpha = 0,05$) is 16.9190. The result of LM Test showing that the value of $\chi^2_{stat} > \chi^2_{table}$, so that the model chosen is REM. The result of Hausman Terst showing that the value of χ^2_{stat} is 28.196906 while the value of χ^2_{tabel} on 95% confident interval ($\alpha = 0,05$) is 16.9190. Therefore, based on the Hausman test, the model was chosen is the FEM. Based on testing performed, the model chosen as the basis of the analysis is the Fixed Effects Model (FEM). The selection is due to Chow Test requires FEM model, while the LM test requires a model of REM, and the Hausman test confirmed that the selection decision requires choosing FEM model.

Fixed Effcet Model and Classical Assumption Test

After the test to select the best model, it is known that the best model that can be used as a basis for analysis is the fixed effect model. The summary result of fixed effect model is presented in Table 1 below:

Table 1. The Result of Fixed Effect Model

Dependent	ROA?		
Method	Pool (Fixed Effect)		
Variable	Coefficient	t-Statistic	Prob.
C	0.193151	0.043872	0.9650
CR4?	0.429497	0.045798	0.9635
MS?	-1.071141	-0.518043	0.6047
MSCR?	2.213998	0.526968	0.5985
NIM?	0.242708	7.641836	0,0000
BOPO?	0.006613	1.732759	0,0838
LDR?	0.000642	0.882390	0.3780
CAR	0.004151	6.449430	0.0000
IE?	-0.002572	-2.279818	0.0231
NIE?	0.002166	1.309286	0.0181
NII?	3.67E-07	1.537680	0.1248
R Squared	0.561	F-Statistic	4.656625
Adj. R Squared	0.441	S.E of Regression	1.595477
RSS	1211.680	DW	1.954516

Source: Eviews 6.0 Estimation

Before analyzing the results of regression models, it will be conducted a classic assumption test to see there are have or not heteroskedasticity and autocorrelation problem. In this study, detection of whether or not there is a problem with the method of white heteroskedastisitas general heteroscedasticity test.

If the model contains heteroskedasticity problem, then the regression model must be estimated by the method of Generalized Least Square (GLS) to eliminate the heteroscedasticity problem, so that the model estimator still produce parameters that are BLUE (Gujarati, 2004: 395). As for the detection of autocorrelation problems will be done by the method of Breusch - Godfrey test (BG test). Multicollinearity test wasn't done because by combining data and time series cross section is already a rule of thumb in solving multicollinearity problem

After conducted the heteroscedasticity test with *white heteroscedasticity test*, is known tha the value of R^2 auxiliary regression white test is 0.58027 . thus, the value of $obs \cdot R^2$ with 610 sample is 352.804. While χ^2 critical value is 124.342, so that in this model is contained heteroscedasticity problem. Therefore,

in order to keep generating the parameter that is BLUE, then the regression results of FEM will be re-estimated using the GLS method to solve the heteroscedasticity (Gujarati, 2004:398). After conducted autocorrelation test with *Breusch – Godfrey* (BG test) is known that the value of R^2 is 0.167674, while the value of $(n - p) \cdot R^2$ with lag $(p) = 1$ is 102.113466. χ^2 critical value is 124.342, so in this model have no serial correlation problem.

Analysis

To perform the analysis, the regression results of FEM with the GLS method will be presented related heteroscedasticity problems. Regression results of FEM will be used as a basis to analyze the influence of each variable.

Table 2
The Result of Fixed Effect Model With GLS Methods

Dependent	ROA?		
Method	Pool EGLS (Fixed Effect)		
Variable	Coefficient	t-Statistic	Prob.
	-0.605983	0.897266	0.4071
CR4?	2.637180	1.736644	0.0831***
MS?	-0.405685	-2.300259	0.0219**
MSCR?	0.953560	2.135166	0.0333**
NIM?	0.271405	31.99372	0,0000*
BOPO?	-0.000273	-0.191741	0,8480
LDR?	0.000297	2.132167	0.0335**
CAR	0.004928	9.841688	0.0000*
IE?	-0.001552	-5.152826	0.0000*
NIE?	0.002581	2.168904	0.0181**
NII?	1.76E-		0.0000*
	07	6.512571	
R Squared	0.873	F-Statistic	25.120.95
Adj. R Squared	0.838	S.E of Regression	1.542022
RSS	1131.847	DW	1.953071

Source: Eviews 6.0 Estimation

note: *) significant at $\alpha = 1\%$; **) significant at $\alpha = 5\%$; ***) significant at $\alpha = 10\%$;

The Analysis Influence of Structural Variable

Based on Table 1, is known that the sign for the CR4 coefficient are positive and significant statistically at 10 % level. This implication is that bank concentration raises profitability in a structural way, rather than as an outcome of

banks' individual market power associated with their own market share. This findings are consistent with the SCP or the traditional hypothesis where the company (bank) which is in market structure that is more concentrated will get profitability more higher than the company (bank) operating in the market is less concentrated, apart from efficiency issues (Williams, et al, 1994).

The condition is caused due to the higher of market concentration on the banking industry is give more market power for banks, which in turn leads to low levels of deposit interest rates and high interest loan rate that ultimately enhance the profitability of banks (Van Hoose, 2010). In addition, the high concentration of an industry resulting in low costs for collusion between companies that provide increased monopoly rents. Collusion can happen openly or without public knowledge. Moreover, when the SCP hypothesis is proven, then the opportunity to achieve abnormal profit company more open (Evanov and Fortier, 1988; Williams, et al, 1994 and Treggena, 2009).

The finding is also consistent with several studies that support the SCP hypothesis and reject the efficiency hypothesis (ESH) in which some studies have also found a significant and positive relationship between levels of concentration (CRn) on the profitability of the banking industry, while the variable of Market Share (MS) has no significant effect.

Gilbert (1984, as quoted by Van Hoose, 2010) found evidence supporting the SCP hypothesis. Research conducted to test the effect of market concentration on profitability performance of the banking industry in America in 1960 to 1970. Research conducted Berger and Hannan (1989) also found evidence of a strong and perfect to support the SCP hypothesis. His research done to see the relationship and influence between the level of concentration and performance of the banking industry in America during the period 1983 and 1985 using 470 data banks in America.

Research which was done by Muharrami and Matthews (2009) also support the SCP hypothesis, where market structure have significant and positive effect on company profits in the banking industry in the Gulf Cooperation Council (GCC) during the period 1993 to 2002. Treggena (2009) also found positive and significant correlation between the level of market concentration and performance (profitability) in the U.S. banking industry after a period of crisis by using a panel

data approach. Her findings completely support the SCP hypothesis and reject the hypothesis of efficiency

For the case of Indonesia, Naylah (2009) found a positive and significant impact between the level of market concentration (CR4) on the profitability of the banking industry in Indonesia during the period 2004 to 2008. The sample used was 16 largest commercial banks in Indonesia with panel data methods. Her findings also stated rejection of the hypothesis of efficiency where there are negative and significant relationship between Market Share and profitability (ROA) of the banking industry in Indonesia. Previously, research conducted by Sofyan (2002) also found evidence to support the SCP hypothesis and against the hypothesis of efficiency, during the study period from 1984 to 1995.

Important implications in the findings of a positive relationship between CR4 and the banking industry profitability (ROA) is for policy implementation, especially mergers and consolidations. Samad (2007) states that if the SCP hypothesis is proven, mergers and consolidation in the banking industry could increase profitability by increasing the concentration of the banking industry.

On the contrary, coefficient of Market Share (MS) has a negative and statistically significant. This indicate that in Indonesia's banking industry, profitability is not affected by banking efficiency. The result imply that the efficient structure hypothesis is not applicable to the banking industry in Indonesia and not influence bank profit in all market. According to the ES Hypothesis, setting the interest rate large banks have lower costs per unit, which is an obstacle for small banks competitors and thus produce an average loan interest rates low and the average deposit interest rates, is not proven. interest rates in Indonesia banking industry is likely to be high and rigid, this is causes inefficient banks in Indonesia and could not support the ES Hypothesis.

A negative coefficient value of the variable market share also shows that banks are not run efficiently, so that when the increased market share, profitability generated will actually be reduced. This reflects that the bank already has a large market share or be called by the big banks tend to become complacent and inefficient that operate at high cost so that the profit generated will be reduced by increasing market share and inefficiency

Study which was conducted by Sofyan (2002) which examines the banking industry in Indonesia, the period from 1984 to 1995 found a significant and

negative influence market share variables (MS) to profitability (ROA). Findings Sofyan (2002) tends to support the SCP hypothesis and against the efficiency hypothesis. Khatib (2004, as quoted Naylah 2009) also found a negative relationship between market share (MS) profitability (ROA) of the banking industry in Malaysia in the period 1989 to 1996 but no significant. The findings reject the hypothesis efficiency and instead support the SCP hypothesis with the finding that the concentration ratio variable has a positive relationship and significant influence on profitability (ROA).

The variables of MSCR have positive coefficients and significant impact on ROA. These findings are further proof that the true profit is the result of collusion, which means that the share of profits will increase in proportion to the concentration of industry market share. It can be concluded that the MSCR influential variable in this study emphasized the acceptance of the SCP hypothesis.

Variable MSCR is rarely used by researcher in analyzing the influence of market structure on the performance of the banking industry, so that empirical support is also rarely available. Variable MSCR was first used by Smirlock (1985), but research findings show a negative and significant relationship between the MSCR and profitability (ROA) of the banking industry. One finding that sufficient to support is the result of research whis is conducted by Naylah (2010), variable MSCR have a possitive coefficient but not statistically significant affect on the profitability of banking industry in Indonesia during the period 2004 to 2008. But the direction of a positive relationship between the MSCR and profitability (ROA) can be used as a basis to confirm acceptance of the SCP hypothesis although with a weak influence.

The Analysis Influence of Control Variable

Control variables that significantly influence the ROA are, NIM, LDR, CAR, IE, NIE dan NII. Net interest margin (NIM) has a possitive coefficient and the effect is very significant at 1% level. This shows that NIM has a very large variables on the profitability of banks in Indonesia. This indicates that banks in Indonesia are still oriented on interest income as a source of bank profits and, consequently, banks should establish a high interest rate loan and low on deposit interest rates to profitability. The high of NIM is what makes the banking industry in Indonesia is

not efficient, because it is very expensive if a customer borrows money from a bank. It seems also to encourage the Bank Indonesia set a policy as of March 1, 2010 which requires that banks have to announce the prime lending rate to increase banking efficiency and give more information to the public on the determination of interest rates by banks. The high NIM is also not independent from the market with highly concentrated, so the interest rate set to be high because large banks have market power for improved its profitability through the establishment of a high interest rate loan and deposit interest rates low.

Regression results found that BOPO variables have negative coefficients but don't have significant affect on the profitability (ROA) of the banking industry. The findings didn't significantly influence getting supports efficiency hypothesis and reinforce the notion that the banking industry in Indonesia not operate efficiently. When banks operate efficiently, then the negative relationship should be accompanied by a strong effect (exhibited significantly statistically). So these results can be interpreted that although BOPO down (up) then the profitability (ROA) of the banking industry will not go up (down) significantly. These findings further strengthen the rejection of the hypothesis of efficiency and strengthen support for the hypothesis SCP

LDR variable has a positive coefficient and significant influence on ROA. Positive and significant effect suggests that the basic functions of banking intermediation in Indonesia is still quite good and the banks still get profit from lending to the real sector. These conditions can be the argument that banks should further enhance its intermediary function, since proven to increase profits even with a small value. In addition to expansion activity could increase the profits of credit to the real sector will also be able to encourage the economic activity. The findings are also consistent with the results of research which is conducted Samad (2008), who found that LDR variable has positive and significant impact on the profitability of the banking industry in Bangladesh.

CAR variable has positive coefficient and significantly impact on ROA. Positive relationship between CAR with ROA showed that the smaller the risk is giving effect to increased profitability. Because the greater the CAR, the smaller the risk of a bank. In addition the bank is a function of the capital to accommodate the possibility of risk. Given the important role of CAR and a significant positive impact on profitability, it is very important to maintain the position of their own

capital to risk assets in a certain position and the minimum CAR in the event of deterioration immediately take additional restructuring or capital. The findings of this study are also consistent with research done by Samad (2008) for the case of the banking industry in Bangladesh, where the variable CAR has positive and significant impact on the profitability of the banking industry. Naylah (2009) also found the same effect for the case of Indonesia in the period 2004 to 2008 with a sample of 16 largest banks controlling 75 percent market share of commercial banks in Indonesia

Variable NII has very significant effect on profitability (ROA) of the banking industry. This shows that the banking industry in Indonesia, besides maximizing profits through the establishment of a high NIM, also through non-interest income sources. However, not all banks are able to maximize profit through non-interest income. Only a few large banks and banks - foreign banks are able to obtain non-interest sources of profit amounting to more than Rp. 1 trillion. The bank, among others, Bank Mandiri, Bank BRI, Bank BCA, Bank BNI, Bank CIMB Niaga, Bank BII, Citybank, Standard Chartered Bank, and HSBC Bank. These conditions can be interpreted that only a small bank that is able to perform product differentiation, especially non-lending and deposit services. This further strengthens the notion that competition is the bank's products primarily for non-lending and savings products is quite low. In addition banks with a source of profits derived from non-interest income with considerable value, will tend to set high lending rates, because they took it for a profit of non-interest income and forced customers to pay with interest rate high as a consequence of an oligopoly market structure

Two variable transaction costs have different effects even though both statistically significant. Variable transaction costs of interest expense (IE) has a negative coefficient and statistically significant effect on the level of 1%. This shows that as increasing transaction costs to obtain financial resources from the customers or other sources, the profitability of banking would also decrease. From the institutional aspect, the high transaction costs would negatively affect the performance of the company, as stated by North (1990). On the other hand, the variable transaction costs of non-interest expense (NIE) has a positive coefficient and statistically significant at 5% level. Means, increasing transaction costs of non-interest expense, then the profitability of banks is also increasing.

This could occur because of non-interest expense consists of components such as transaction costs for personnel expenses, promotional expenses and the burden of information technology. Increased transaction costs can indeed improve the profitability of banks, because the greater the cost of promotion and information technology that issued it will attract customers to use bank services that can ultimately improve profitability. By giving high salaries for employees, it will be an incentive for employees to improve their performance so that it can increase the profitability of banks.

The Result of Indepth Interview

Although the market is concentrated and lead to oligopoly, but basically the banking industry in Indonesia is more precisely categorized structured monopolistic competition. This is because the bank has a different product segmentation and of course there is product differentiation. Nevertheless, it is still debatable because in each segment or its exposure, there must be a market leader.

Banks that have greater assets tend to get profitability (ROA) are high, because ROA is an indicator of the use or utilization of assets. The higher turnover of assets, then the profitability will increase. Bankers also expressed that ROA which is obtained are not directly related to market concentration and market power held by the four major banks. Banks in Indonesia tend to already have its exposure or segmentation - each, so that market concentration and market power does not directly affect the profitability of bank's. Indeed there is a market leader but the condition returned in segments where the bank operates. Bank Mandiri is the market leader in the corporation, Bank BRI is the market leader in retail, and BCA is the market leader in fund raising customers.

Net interest margin (NIM) is high not just a reflection of the use of market power, or associated with a concentrated market structure, but greatly influenced by the structure cost of banks is concerned, the risk premium of borrowers as well as high rate low rate of inflation. Bankers admitted that in general banking industry in Indonesia is not efficient, its indicator is still high rate of operating expense ratio and operating income (BOPO), and high net interest margin (NIM)

According to one source, the high BOPO due to the high cost of facilities and incentives for officers and employees in the banking industry, especially state-

owned banks. The high NIM is due to the high rate of inflation leading to higher deposit rates, still relatively high risk premium of borrowers and the high cost component. However, for price indicators (NIM) tend to experience improved efficiency compared to before economic crisis in 1998, where the NIM tend to decrease. In this case the transaction costs of both interest and non-interest influence on the increase NIM.

Conclusion And Policy Implication

This paper has investigated the influence of market structure on profitability of the banking industry by using two competing hypothesis. The first hypothesis is SCP or the traditional hypothesis which states that concentration ratio has positive and significant impact on the profitability of the banking industry. SCP hypothesis is an indicator of collusion hypothesis, which generated profits in the banking industry for collusive behavior among banks because the market is concentrated. While the second hypothesis is the efficiency structure hypothesis, which states that banking profitability is produced because the banks operate in an efficient condition, so the implications for the expansion of the market share of individual banks which led to increased profits.

By using 122 data of the commercial banks in Indonesia and using the technique of panel data fixed effect model, positif and highly significant relationship is found between concentration and profitability, even with the inclusion of regressors associated with banks individual market share. This support the SCP or traditional hypothesis of a causal relationship between overall concentration and profitability. The implication is that bank concentration raises profitability in structural way, rather than simply as an outcome banks' individual market power associated with their own market share, or with economies of scale. This is important to understanding the sources of banks profit in Indonesia's banking industry. This is also consistent with the traditional hypothesis that when the concentration increased then it would increase the profitability, due to cost to make collusion becomes cheaper.

Otherwise, the result do not support ES Hypothesis where the market share held by individual banks do not affect the profitability of the banking industry. Proved that the variable individual bank's market share did not affect significantly to the profitability of the banking industry. This means that banks in Indonesia are

not in a condition can not be efficient to assign a lower interest rate. In addition, another efficiency indicator variables, namely BOPO (ratio of operating expenses to operating income) also shows a negative sign but have not significant effect on profitability. Hal tersebut menunjukkan bahwa meskipun tidak efisien, industri perbankan di Indonesia masih bisa mendapatkan profitabilitas yang tinggi. Two variable transaction costs show a different direction though relations are equally significant. Transaction costs Interest expense (IE) can negatively affect temporary variable transaction costs of non-interest expense has a positive. This finding show that indeed, the transaction costs affect the performance of banks in Indonesia.

The important implication of the findings of a positive relationship between banking market concentration and profitability is important for policy implementation, especially in the banking merger and consolidation policy. The merger bank can increase the profitability of the banking industry. Banking consolidation was associated with an increased level of interest rates or a decrease in loans and deposits as the reduced number of existing banks, as firms try to exploit their market power to increase profits.

Based on the results of depth interview, the interviewees admitted that the banking industry market structure is concentrated and lead to an oligopoly. However, on the one hand there is also intense of competition among the bank's. There is segmentation and product differentiation among banks, however there was indeed a market leader for each segmentation. For example retail segments is BRI and Mandiri for corporate segment. Both banks are the market leader for its segment. So it is more accurate to say if it is basically the market structure in Indonesian banking industry is monopolistic competition, where the large bank's that control a large market share could not use market power. According to the interviewees, it is recognized there collusive behavior but does not directly or tacit collusion.

Therefore, granting permission for merger and consolidation of existing banks in Indonesia have to go through a very profound process of identification by the KPPU and Bank Indonesia, if there are indications that the merger and consolidation will increase the degree of market concentration then should permission for mergers and consolidation are not given .

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