

CONVENTIONAL VERSUS ISLAMIC BANKING: WHICH IS BETTER?

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ABSTRACT

This paper aims to examine the impacts of changes in the Capital Adequacy Ratio, Asset Quality Productive, and Loan to Deposit Ratio, Return on Assets between Conventional and Islamic Banking in Indonesia. The restricted F-test and Hausman estimation model are applied and showed that The Random Effects Model is the best model to describe the relationships. The Asset Quality Productive variable does not have impact neither for Conventional nor Islamic Banking, whereas the Capital Adequacy Ratio variable shows negative impact in Islamic bank.

JEL: G210; G280

KEYWORDS: *Financial Performance, Conventional and Islamic Banking, The Random Effects Approach/REM.*

INTRODUCTION

The economic researchers in the recent years focus on the important role of financial sector in real economic activity (Cetorelli and Strahan, 2006). Various research provide empirical results that if the financial sectors, including bank, have strong system, it will supported to better economic growth prospect (Crockett, 1997). McKinnon, 1973 and Shaw, 1973 in Misra and Aspal (2013) emphasized the role of financial system in economic growth and opined that there is a strong correlation between economic growth and financial system development.

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The fast growing in banking industry is supported by the modern technology to support such an integrated system which will have an effect in forming public credibility (Lane and Ferretti, 2002, Edison et al., 2002). Furman et al. (1998) stated that the East Asian crisis is the only the latest in a series of spectacular economic catastrophes in developing countries which has led to simultaneously robustness for at least ten countries because of the currency and banking crises. Furman et al. (1998) acknowledge that Indonesia is a country which is not predicted before, to get the impacts from crises comparing to the 34 countries in their research sample. This is because Indonesia at that time considered had strong economic fundamentals so it can withstand from the external shock. Raz et al. (2012) stated that the economic shock in 2008 is triggered by the fast financial product innovation in securities practice and the “credit default swap”. The study by Zhang and Han (2010) stated that financial crisis in United States have affected the economics in Asia Pacific through three channels, one through the banking system.

Indonesia categorized as a small open economy country (Mankiw, 2013), clearly has a great opportunity to get affected if financial crisis befall an interconnected state. The current global financial crisis has not only shed doubts on the proper functioning of conventional “western” banking, but has also increased the attention on Islamic Banking (Beck et al., 2010). The role and importance of banking sector and the monetary mechanism cannot be under-estimated in the development of a nation (Misra and Aspal, 2013). In 1998, as part of the recovery process of national banks, Bank Indonesia as a central bank in Indonesia, carry out the national banking restructuring program and in 2004 issued what is called the Indonesian Banking Architecture (Arsitektur Perbankan

Indonesia/API) as an overall framework on policy direction in the following years (www.bi.go.id). Indonesia banking system implement dual bank system, means commercial banks can run a business based on conventional and or Islamic (Sharia) principle. Both systems are expected to synergistically support mobilization of public funds more broadly to improve funding capability for various sectors in the national economy.

In the last ten years, no additional amount of banks in Indonesia. Based on recent data released by Bank Indonesia (www.bi.go.id), there are 120 conventional banks (31 of them have already go public) and 11 banks based on Islamic principle (y-t-d). In general, Islamic banks should have better potential growth compared with conventional banking, with the potential target market in the largest Moslem country in the whole world. In 2008, there are five Islamic bank and the numbers be doubled in 2012, but in 2011 there was a significant decrease in the paid-up capital. The Islamic banking global growth in 2011 showed a downward trend, 25% (y-o-y), meanwhile in Indonesia showed increased $\pm 49\%$ (y-o-y), growth of financing is the highest in 2011 ($\pm 50\%$, y-o-y) and growth of deposits also the highest $\pm 51\%$, y-o-y.

Beck et al. (2010) found that only a few significant differences in business orientation, efficiency, asset quality or stability between those two kinds of banking system (Beck et al., 2010, Hasan, 2012). Beck et al. (2010) stated that conventional banks that operate in countries with a higher market share of Islamic banks are more cost-effective but less stable. This result is contradiction with Hasan (2012) which stated that the size and age factor did not significantly influence the efficiency scores in both

banking streams. Seibel (2008) concluded that only commercial banks successfully manage the Islamic banks but other banks do not have any experience at all.

Related with these various conditions, banking monitoring through health assessment of its operation is important as a part of monitoring process in monetary policy authorized by central bank (Bank Indonesia). Pettway and Sinkey (1980) said that on-site bank examination has been the backbone of the supervisory process conducted by both U.S Federal and state banking agency. The Fed examines the safe and sound on financial stability in bank through the on-site bank examination with the support of the CAMELS rating (Capital, Assets, Management, Earning, Liquidity, dan Sensitivity) and in complement with the off-site monitoring (Bernanke, 2007). Bank Indonesia required each bank to preserve and/or to improve soundness of every banks by applying prudential and risk management principle. Based on Bank Indonesia regulation No. 13/1/PBI/2011 regarding the health assessment of commercial banks and No. 9/1/PBI/2007 for Islamic banks, Bank Indonesia using four parameters for conventional bank, specifically: risk profile, Good Corporate Governance (GCG), profitability and capital; whereas for Islamic banks including: capital, asset quality, management, earning, liquidity and sensitivity to market risk. Both the assessment system is actually similar with CAMELS ratings, which is used in U.S. Shifting in institutions that maintain and regulate banking system, from Bank Indonesia to Financial Service Authority (Otoritas Jasa Keuangan/OJK) is expected can maintain banking continuity. A close cooperation between Bank Indonesia (as the macro prudential authority) and OJK (as the micro prudential authority) is one of the important pillar for the bank policy in the future.

This paper is aimed to analyze the impacts of capital factor (Capital Adequacy Ratio/CAR), asset quality (Kualitas Aktiva Produktif/KAP) and liquidity (Loan to Deposit Ratio/LDR) to the profitability (Return on Assets/ROA) as part of the bank's internal performance assessment indicators. The test distinguishes conventional and Islamic banks so the results from this test are expected to give suggestion to the bank monitoring process in Indonesia, especially for Islamic banking. The rest of this paper is organized into four specific parts. Part 2 exhibits literature review including empirical works. Part 3 describes methodology comprising of the econometric model and data. Part 4 shows the empirical results and discussion. Some conclusions and policy implications are presented in part 5.

REVIEW OF LITERATURE

Financial system is the broad term for the institutions in the economy that facilitate the flow of funds between savers and institution (Mankiw, 2013). Financial system has to do with financing system, sharing risk, dealing with asymmetric information and fostering economic growth. Although many practitioners who study about Islamic Finance in general, and particularly concerns for Islamic banking, but few academic papers that comparing between Islamic and Conventional banking. Beck et al. (2010) study related to Sharia and conventional bank performance during the crisis. They find little differences, except that Islamic banks increased their liquidity holdings in the run-up to and during the crisis relative to conventional banks. This also explains why Islamic banks' stocks performed better during the crisis compared to conventional banks' stocks. There are similarities product offered by Islamic and conventional banks (demand deposit) and other are structured in similar ways as conventional products

(leasing products). When two products are in stiff competition, the bank's health assessment is absolutely necessary.

The differences between Islamic and Conventional Banking are not exactly like-to-like, although Sharia laws are the tenets of Islamic Banking. Fundamental differences are as follow:

1. Islamic Banking does not allow for the charging of interest payments (riba) (Beck et al., 2010, Bakar, 2010). Conventional Banking was build upon the fundamentals of debtor-creditor relationship with interest being the price of credit and reflecting the opportunity cost of money.
2. Sharia-compliant finance relies on the idea of profit-, loss-, and risk-sharing, on both the liability and asset side (Beck et al., 2010).
3. Financial relationship in Islamic Banking is generally participatory in nature (Bakar, 2010). Risk and reward relationship is guided by the socio-economic principles.

Banking industry development policy directions formulated in Indonesian Banking Architecture (API) guided by the vision of achieving a healthy strong and efficient banking system, in order to create stability in financial system in order to support national economic growth. Based on the need of blue print for national banks and as a continuation of the bank restructuring program which has been running since 1998, Bank Indonesia on January 9, 2004 has launched the Indonesian Banking Architecture (API) as an overall framework development policy directions for the Indonesian banking industry.

Banks are required to preserve and/or improve the degree of health by implementing principal of prudential and risk management when doing business activity

as a part of the monitoring process conducted by Bank Indonesia. Meyer (2000) stated that there are several major approach that Federal Reserve governors in U.S should take in addressing the challenges of supervising the increasingly complex and large global financial institutions: internal rating, market discipline, supervision, and cooperation. The challenge of supervising global financial institutions is the challenge of the decade supervision. In United States, assessment process using CAMELS indicators that was adopted and adapted in Indonesia accordance with the requirements. In Indonesia banking system, the assessment are divided into commercial bank (conventional), rural banks (Bank Perkreditan Rakyat/BPR) based on sharia principal and commercial banks based on the sharia principal (Islamic Bank). These terms are used interchangeable, and in this paper, we are not discussed because of the unavailability of data.

Study conducted by Barr et al. (2002) stated that “CAMEL rating criteria has become a concise and indispensable tool for examiners and regulators”. The resulting rating criteria used to ascertain the level of health with test various aspects of one bank based on a variety of resources, such as financial statement, funding sources, macroeconomic data, budget and cash flow. Research from Tamini (2010) in comparing Conventional and Islamic bank performance showed that only liquidity (aligned with Sangmi and Nazir, 2010) which are significant for conventional bank performance. Olweny dan Shiphoo (2011) found that poor asset quality and low levels of liquidity are the two major causes of bank failures.

Several studies conducted in Indonesia examine differences of Islamic and conventional bank performance. Saragih (2013) in his study shows that ROA and LDR did not differ significantly between conventional banks and Islamic banks, a significant

difference only in CAR. Different results obtained by Suripto (2013) by comparing the performance of a bank- (owned by Government) with Bank Muamalat Sharia (the first purely bank with sharia principles), that CAR and LDR can significantly differentiate the performance but not with KAP and ROA. Once again, the author would like to state that only few research on Islamic bank which published scientifically.

RESEARCH METHODOLOGY

Sample period for this study uses monthly data from January 2010 to December 2012. In detail, the data for ROA, CAR, KAP and LDR are derived from the financial statements of each bank, whereas aggregate data taken from Bank Indonesia (www.bi.go.id). This study employ panel data that combines time series (January 2010-December 2012) and cross-section data (conventional and Islamic banks), with 31 samples of conventional banks (go public) and 11 Islamic banks. So that data panel used is unbalanced panel. Conventional banks have 1.078 observations (supposed to be 1.116 observations) and Islamic banks have 331 observation (it is should be 396 observation). This happen because there are several banks that could not found some of the data in its financial statements in certain months. The use of panel data done is selected for several reasons (Gujarati & Porter, 2009): competitiveness sector, the availability of data (especially for Islamic banking), can be more informative, more variability, less co linearity among variables, more degrees of freedom and more efficiency.

This study comparing the impacts of capital factor (Capital Adequacy Ratio/CAR), asset quality (Kualitas Aktiva Produktif/KAP) and liquidity (Loan to Deposit Ratio/LDR) to the profitability (Return on Assets/ROA) performances of Conventional and Islamic banks. Author construct an econometric model for

conventional (equation 1) and Islamic (equation 2, we add “Islamic” to make differences with conventional) banks as follow:

$$Y_{it} = \beta_0 + \beta_1 X_{2it} + \beta_2 X_{3it} + \beta_3 X_{4it} + \mu_{it} \quad (1)$$

i= Conventional bank 1, 2, 3,..... 31
 t= Month 1, 2, 3,.....36

$$Y_{it(\text{islamic})} = \beta_0 + \beta_1 X_{2it} + \beta_2 X_{3it} + \beta_3 X_{4it} + \mu_{it} \quad (2)$$

i= Islamic bank 1, 2, 3,.....11
 t= Month 1, 2, 3,.....36

According to the equation (1) and (2), we will estimate the coefficients both of dependent and independent variables in order to understand the relationship between variables for Conventional and Islamic Banking. Subscript i stands for the ith cross-sectional unit and t for the ttime period. As a matter of convention, we will let i denote the cross-section identifier and t the time identifier (Gujarati & Porter, 2009).

The number of observation have differs among panel members, so we have unbalanced panel. When using panel data, it's assume that X's (CAR/ X_{2it} , KAP/ X_{3it} and LDR/ X_{4it}) are nonstochastic and that the error term follows the classical assumption, $E(u_{it}) \sim N(0, \sigma^2)$.

Here are the specific variables involved in the equation (1) and (2).

- i. Y_{it} is one measure of the performance of management in generating profitability and measured by Return on Assets (ROA) of each Conventional/Sharia banks each month. The smaller the ratio indicates a lack of ability of bank management in managing assets to increasing revenue and /or lowering costs.
- ii. X_{2it} is Capital Adequacy Ratio, which is measured from a certain percentage of the weighted assets based on risk (Aktiva Tertimbang Menurut Risiko/ATMR). Relevant regulation for this indicator was found in the Bank Indonesia Regulation

- No. 14/18/PBI/2012 about minimum capital adequacy for commercial banks (Kewajiban Penyediaan Modal Minimum/KPMM). When assessing for conventional banks, this indicators included as one of market risk measurement, which is related to interest rate risk derived from the trading or booking book. In Islamic banks, this capital assessment will be related with the assessment to capital adequacy of banks and Sharia Business Units (Unit Usaha Syariah/UUS) to cover the exposure of current risk and anticipated future risk exposure (Kewajiban Penyediaan Modal Minimum/KPMM).
- iii. X_{3it} is Asset Quality (Kualitas Aktiva Produktif/KAP), which is intended to assess the condition of banking assets, including anticipated over the default risk of financing (credit risk). The higher the ratio showed better asset quality. Actually on health banking assessment, Bank Indonesia only uses this measure as an instrument or Islamic banks and BPR. More detailed for the regulation is stipulated in Bank Indonesia Regulation No. 14/15/PBI/2012 about Asset Quality Rating for Commercial Banks.
- iv. X_{4it} is Loan to Deposit Ratio (LDR), indicator for assessing the company's ability to meet short-term obligations. In conventional banks, it is associated with liquidity risk, the risk due to the inability of the bank to meet its liability maturity from cash flow funding sources, and/or of high-quality liquid assets that could have a function as collateral, without disrupt the activities and financial condition. This risk is also called funding liquidity risk.

RESULTS AND DISCUSSION

For the econometric analysis of panel data, we cannot assume that the observations are independently distributed across time. For this reason, special models and methods have been developed to analyze panel data (Woolridge, 2009). Estimation of equation 1 and 2 depends on the several assumptions about the intercept, the slope coefficients and the error term, μ_{it} . There are several possibilities which explain in Gujarati & Porter (2009). Based on each complexity assumption, first we will test which one the best model for estimate: Pooled Least Square/PLS Regression (all coefficient constant across time and individuals), The Fixed Effects Regression Model/FEM (slope coefficient constant but the intercept varies across individual) or The Random Effects Approach/REM (Error Component Model/ECM)? The test is divided into two parts, the first is for conventional bank and the second one is for Islamic banking.

CONVENTIONAL BANKING

This study focuses on testing the impact of three financial indicators (CAR, KAP, LDR) to the internal banking performance (ROA) in period 2008-2012. Related to this, so the equation (1) is estimated as follow: The first stage is by comparing the results between PLS and FEM model. In the table 1 using PLS model, estimated coefficients, CAR and LDR, is individually significant, as the p values of the estimated t coefficients are extremely smaller than 0.05. The same result when we used FEM model, are individually significant with the same criteria as PLS model. We then test which model is better. FEM model denote R^2 value has increased substantially and the fact that Durbin-Watson d value is much higher, suggesting that PLS model is miss-specified (Gujarati & Porter, 2009). By using restricted F test we have $F_{3,1072} = 189$

Where the restricted R^2 value is from the PLS model and the unrestricted R^2 value is from FEM model, and when the number of restrictions is 3, since PLS models assumes that the intercepts are the same. Clearly, the F value of 218 (for 3 numerator df and 1072 denominator df) is highly significant and, therefore the restricted regression (PLS model) seems to be invalid.

Second step, we need to examine which is better between FEM and REM/ECM, because we assumed that ε_i and X's are uncorrelated. Despite Hausman test, null hypothesis is accepted, the conclusion is that REM/ECM is appropriate than FEM. The estimation results from all three panel data models are shown in Table 1.

From the estimation results, it can be seen that constant has a negative value. Theoretically, ROA decrease if operational expenses increase or interest income decrease because the outstanding loans was decline. Based on Indonesia Banking Statistics 2013, the ROA in 2013 was at 3.03% (y-o-y) declining from 2012 which reached 3.11% (y-o-y) of the highest in the period 2007-2013.

Tabel 1. The Panel Data Estimation Data Panel for Conventional Banks

Variable	PLS	FEM	REM
C	-1.873 (0.390)	-2.785 (0.58)	-2.54 (0.57)
CAR	0.049 (0.008)	0.05 (0.009)	0.048 (0.009)
KAP	-0.006* (0.815)	0.003* (0.023)	0.003* (0.022)
LDR	0.024 (0.004)	0.035 (0.006)	0.03 (0.006)
R^2	0.056	0.383	0.047
Adjusted R^2	0.054	0.341	0.045
F-Statistic	21.4	9.457	17.9
Prob (F-Statistic)	0.000	0.000	0.000
Durbin-Watson Stat.	0.33	0.492	0.326

This table shows panel data estimation results using PLS, FEM, and REM. The data source are from financial statements for each 31 samples of conventional banks (go public), period 2008-2012. Standard error in parentheses. The asterisk () (**) indicate the rejection of the null hypothesis of a zero coefficient at the 5% (10%) significance level, respectively*

The % CAR (X_{2it}) has a positive significant impact on % ROA (Y_{it}) in Conventional Banking. In detail, 1 percent of the CAR raises % ROA by about 0.05%. The higher of CAR ratio, the more solvable it was, because ROA measuring the capital adequacy to handling losses and compliance with applicable regulation. From the estimation, we have negative constant, then the impact of the increase is not too large. Based on Indonesia Banking Statistic 2013, the average increase of % CAR in 2007-2013 is 7%, higher than the average increase of % ROA, 0.04%. Variable Assets Quality (KAP, X_{3it}) on the estimation does not affect on the % ROA (Y_{it}). The data appears in Indonesia Banking Statistics 2013 only liquid assets ratio (%) with total assets. In Appendix, Figure 1 show that the growth in total assets is lower than the Conventional Banking Islamic Banking, with a similar pattern of growth until 2010.

The % of LDR also has a significant positive impact on % of ROA, although smaller than % CAR. 1 % of the LDR increase, ROA will raise for 0.03%. The size of % LDR based on Indonesia Banking Statistics shows increasing trend, in 2012 reached 83.58% and 2013 about 89.7% (y-o-y), the previous year only $\pm 70\%$. In Appendix, Figure 2 shows that the amount of third party funding of Conventional banking fluctuate more than Islamic banks. The higher LDR ratio shows the lower of liquidity conditions. Some practitioners agree that the safe limits of LDR is 85% -100%, and 115% maximum based on government regulation.

The R^2 value shows that the 4.7% of deviation data can be explained by the deviation of the estimation, and 95.3% explained by residual. Another factor that is not described in the % ROA model estimation in conventional banking is composed of a various criteria that will become an opportunity to explore in the future research.

Simultaneously, from the F (Prob-Statistic), it can be concluded that the null hypothesis is not accepted, it means that at least one of β_1 , β_2 or β_s are not equal to zero in the context of Conventional banking.

ISLAMIC BANKING

In this section, we do the same stage and criteria to choose the best estimation model as in conventional banking context. From table 2, using PLS model, only one estimated coefficients, LDR, is individually significant, as the p values of the estimated t coefficients are extremely smaller than 0.05. But when we used FEM model, we can see if β_0 and LDR, are individually significant with the same criteria as PLS model. We then test which model is better. FEM model denote R^2 value has increased substantially and the fact that Durbin-Watson d value is much higher, suggesting that PLS model is mis-specified (Gujarati & Porter, 2009). Using restricted F test, we have $F_{3,325} = 218$

Where the restricted R^2 value is from the PLS model and the unrestricted R^2 value is from FEM model, and when the number of restrictions is 3, since PLS models assumes that the intercepts are the same. Clearly, the F value of 218 (for 3 numerator df and 325 denominator df) is highly significant and, therefore the restricted regression (PLS model) seems to be invalid. Next, we need to examine which is better between FEM and REM/ECM, because we assumed that ε_i and X's are uncorrelated. Despite Hausman test, null hypothesis is accepted, the conclusion is that REM/ECM is appropriate than FEM. From the estimation result for constant value, we have different expression between conventional and Islamic banks. In Islamic bank, it has positive

values by 0.466. It means that 99.544% of ROA not affected by the dimensions of CAR, KAP and LDR, but is influenced by other variables beyond the model.

Table 2. The Panel Data Estimation for Islamic Banks

Variable	PLS	FEM	REM
C	0.230* (0.146)	0.333 (0.162)	0.466 (0.229)
CAR	0.000* (0.001)	0.000* (0.001)	-0.003 (0.001)
KAP	0.000* (0.031)	0.052* (0.028)	-0.004* (0.034)
LDR	0.000 (0.000)	0.003 (0.001)	0.005 (0.001)
R ²	0.115	0.707	0.074
Adjusted R ²	0.107	0.657	0.066
F-Statistic	14.17	14.22	8.77
Prob (F-Statistic)	0.000	0.000	0.000
Durbin-Watson Stat.	0.413	0.625	0.254

This table shows panel data estimation results using PLS, FEM, and REM. The data source are from financial statements for each 11 samples of Islamic banks, period 2008-2012. Standard error in parentheses. The asterisk () (**) indicate the rejection of the null hypothesis of a zero coefficient at the 5% (10%) significance level, respectively*

ROA value in Islamic bank can reach for above 2% in 2012 (2.14%, y-o-y). This Figure 3 shows that the difference is not significant, when we compare with conventional banking. This can indicate a variety of possibilities that occur in banking industry: stagnant growth, intense competition, saturated market or indeed, there is no unique and valuable distinction between conventional and Islamic banking. The % CAR (X_{2it}) has a negative significant impact on % ROA (y_{it}) in Islamic Banking. In detail, 1 percent of the CAR decline % ROA by about 0.003%. This result is actually opposite to the theory, but based on Islamic Banking Statistics, in the 2007-2012 period, the data of 2008, 2009 and 2012 run into different direction.

The Variable of Productive Assets Quality (KAP) had no effect on the estimation results, similar with conventional banks. Based on PBI No.9/1/PBI/2007 about regulation for assessment bank health for Islamic bank, KAP becomes one of the main ratios in measuring the asset quality factor. But we did not find the data on the overall of Islamic Banks in Financial Ratios of Islamic Commercial Bank and Islamic Business

Unit in Islamic Banking Statistics. The % Parameter of LDR (X_{3it}) also has a significant positive impact on % of ROA (Y_{it}) where every increase of 1% of LDR will increase the % of ROA by 0.0045% (lower than conventional banks).

The R^2 value bigger than conventional banking, that the 4.7% of the deviation data can be explained by the deviation of the estimation, and 95.3% explained by residual. Simultaneously, Simultaneously, from the F (Prob-Statistic), it can be concluded that the null hypothesis is not accepted, it means that at least one of β_1 , β_2 or β_s are not equal to zero, same result with Conventional banking.

CONCLUDING COMMENTS

This paper goal is to analyze the impacts of capital factor (Capital Adequacy Ratio), asset quality productive and liquidity (Loan to Deposit Ratio) to the profitability (Return on Assets) as part of the bank's internal performance assessment indicators. Sample period for this study uses monthly data from January 2010 to December 2012, taken from the financial statements of each bank, whereas aggregate data taken from Bank Indonesia (www.bi.go.id). This study employ unbalanced panel data that combines time series (January 2010-December 2012) and cross-section data (conventional and Islamic banks), with 31 samples of conventional banks (go public) and 11 Islamic banks. Based on each complexity assumption, we used several estimation steps before choosing the best model for estimate: Pooled Least Square/PLS, The Fixed Effects Regression Model and The Random Effects Approach/REM (Error Component Model/ECM).

The internal performance indicators are part of the parameters used by Bank Indonesia in determining the degree for bank health (commercial banks, commercial

banks based on shariah principle, and BPR). The difference lies in the weighting factor for each type of the bank. The estimation using a Random Effects Approach / REM (Error Component Model / ECM). The estimation results indicate Assets Quality (KAP) in conventional and Islamic banks have no effect to ROA. Whereas, in Islamic banks, KAP is one of the main indicators for the assessment of the quality factor of productive assets. This is a concern for further investigation in subsequent studies. Interesting to observe, the CAR estimation in Islamic banks shows a negative effect on ROA. Based on Indonesia Banking Statistic, NPF in the period 2011-2013 show an increase trend (2.96% in 2013, although still below 5%), but the capacity of their capital in anticipation of credit risk is adequate enough (CAR in 2013 was 14.19%).

The result estimation in this study can be justified with the aggregate data in 2011-2013. So the method for estimate can be used for further research to asses banking performance, including BPR with adding more indicators. Small values of R^2 for conventional and Islamic banks show there are a lot of factors that contributes to % of ROA. Limitations in this paper related to the completeness of data availability, especially for the data due to problems for Islamic bank: the bank is not include in go public corporation or there is a period in which the financial statements are still attached to the parent bank that uses a conventional system. Future studies may to confirm the data firs with the management of the bank.

APPENDIX

Figure 1: Growth of Total Asset and Its Proportion

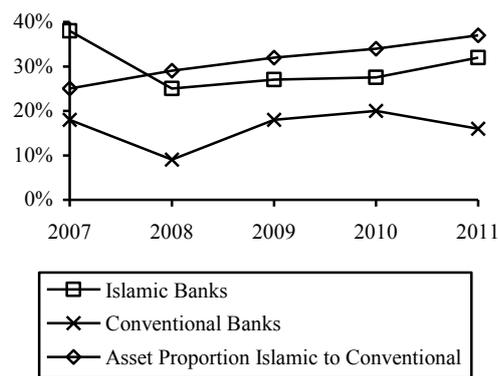


Figure 2: Growth of Third Party Fund

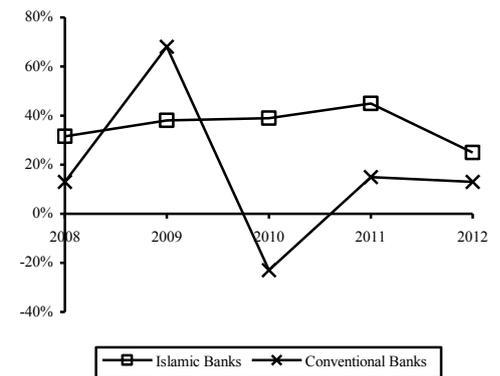
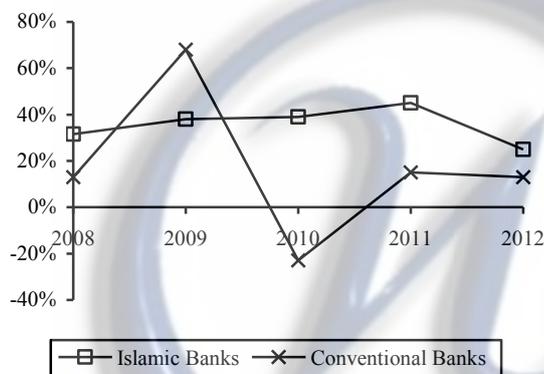


Figure 3: Growth of Profit after Income Tax



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