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Intellectual Capital and Corporate Governance in Financial Performance Indonesia Islamic Banking

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ABSTRACT

This study analyzes the influence of intellectual capital and corporate governance on the financial performance of the company. The data from 11 sharia banking in Indonesia. The analytical method used is seemingly unrelated regression, with two dependent variables, namely return on asset (ROA) and asset growth (AG) and seven independent variables, namely human capital, structural capital, capital employed, which is a sub variable of intellectual capital, and the board of size, the board of demography, the board of education (BE), the board of evaluation is a sub variable of corporate governance. The results of this study indicate that intellectual capital has a positive and significant effect on ROA, and no effect on AG. While corporate governance has a positive effect on ROA and does not affect the growth of corporate assets.

Keywords: Intellectual Capital, Corporate Governance, Company's Performance
JEL Classifications: D22, G21

1. INTRODUCTION

Knowledge has become the basis for regional economic growth and transforms the economic growth of production as output to the resource aspect as input. One important factor in the economy of a country is intellectual capital. Investment in intellectual capital will support national economic growth and improve economic performance. Intellectual capital is a pillar for economic growth in developing countries (Brooking, 1997).

The basic foundation of agency theory is needed before implementing corporate governance. Managers (agents) will try to maximize their personal interests that may be different from the interests of the company owner (Jensen and Meckling, 1976). Agency issues will arise when agents have good knowledge but poor morale and performance, thus neglecting responsibilities and performing poorly when duty is granted (Eisenhardt, 1989).

In general, the performance of Islamic banks is determined by internal and external factors. Internal determinants may include factors that affect the performance of banks, such as bank size, capital adequacy, asset quality, liability portfolio diversification,

overhead costs, liquidity ratio, human resources and ownership (Ramlall, 2009; Setyawati, 2016). Intellectual capital is capital owned by human resources, because intellectual capital is all the knowledge possessed by individuals within the organization that can generate value for the organization. By having qualified and competent human resources, it is possible for banks to have high intellectual capital (Cantu et al., 2009). Research on intellectual capital has been done by several researchers and found empirical evidence that intellectual capital improves company performance (Chen et al., 2005; Gan and Saleh, 2008).

At present, good corporate governance (GCG) is a necessity to improve accountability and transparency of banking management. The financial services authority has issued regulation No.8/POJK.03/2014 related to GCG implementation, viewed from the micro prudential side. In terms of macro prudential, in this case Bank Indonesia has issued Bank Indonesia Regulation No. 11/33/PBI/2009 regarding the implementation of GCG for Islamic banks and Islamic business units and Bank Indonesia Circular Letter No. 12/13/DPbS, April 30, 2010, on the implementation of GCG for Islamic banks and Islamic business units in realizing sustainable growth required a strong foundation for an enterprise

with a consistent and sustainable implementation. Several studies have found empirical evidence that corporate governance improves financial performance (Black and Khanna, 2007; Black et al., 2006; Brown and Caylor, 2009).

The purpose of this study is to analyze the influence of intellectual capital and GCG on the performance and the asset growth (AG) of sharia bank in Indonesia. This research is expected to have two contributions, first, improving the performance of the banking sector as knowledge-intensive, skill-based industries. The nature of the banking sector business requires highly intellectual personnel because the industry relies for its survival on large amounts of human capital (HC) and customer capital. Second contribution is avoiding possible conflicts that may arise agency that ultimately degrade the bank performance.

2. LITERATUR REVIEW

2.1. Intellectual Capital
Intellectual capital is the knowledge shared by everyone in an organization that can provide added value to an organization (Cantu et al., 2009). Intellectual capital is an intangible asset that is not displayed in the company's financial statements. If the asset is well managed, it is an advantage for the company as it will improve the organization's performance and generate added value in achieving competitive advantage (Cater and Cater, 2009).

Value added intellectual coefficient is a method used to measure the coefficient of intellectual capital. This method was discovered by Pulic (1998). This model is used to determine the efficiency of the overall value in the organization. The total value of the organization is the difference between output and input. The resulting value is profit from operations, personnel cost, depreciation and amortization. The contribution of physical capital to the added value is calculated as the ratio of physical capital used for the total value created. Based on the Scandia model, HC and structural capital (SC) are the main components of intellectual capital formers. The contribution of HC is calculated as the ratio between the personnel costs incurred on the added value obtained. While the contribution of SC is to calculate the ratio between capital structuring with added value generated.

With existing data on audited financial statements as inputs, the measurement of intellectual capital coefficients will be more objective and can be easily verified (Pulic, 1997). The formula for the intellectual capital of total value creation is:

AIC = cost + capital contribution of human capital = (VA/HC) +([VA-HC]/VA)

VA (value added) = Total operating profit, personnel costs, depreciation, and amortization.

HC (human capital) = The amount of salaries and wages.

2.2. Corporate Governance Structure
The relationship between investors and corporate managers is put forward in the theory of genes that is the basis of the concept of governance. The agency theory explains that cooperation between owner and manager is a must. Although this relationship cannot be separated from the conflict.

In the theory of governance, a good company can increase the value of a company's stock, reducing the risks that the board of directors can make with their favorable decisions. Good governance can further increase investor confidence to invest. In turn will have a positive effect on the value of the stock.

3. METHODOLOGY

This research attempts to test following hypotheses:
H_1: Intellectual capital positively impact on return on asset (ROA)
H_2: Corporate governance positively impact on ROA
H_3: Intellectual capital positively impact on AG
H_4: Corporate governance positively impact on AG.

3.1. Proposed Model for Testing
This study developed a different model to examine the interaction between intellectual capital and corporate governance on financial performance using seemingly unrelated regression (SUR). The proposed model is presented in Figure 1. The model was tested by using Stata version 11.

3.2. Framework for the Study
This research focuses on empirical testing of models developed based on the proposed theoretical basis, that is intellectual capital and GCG variables. The data are taken from the report of Islamic bank publication in Indonesia, using monthly data during 2012-2014, so there are 396 observations.

Figure 1: Theoretical model for testing the relationship among variables
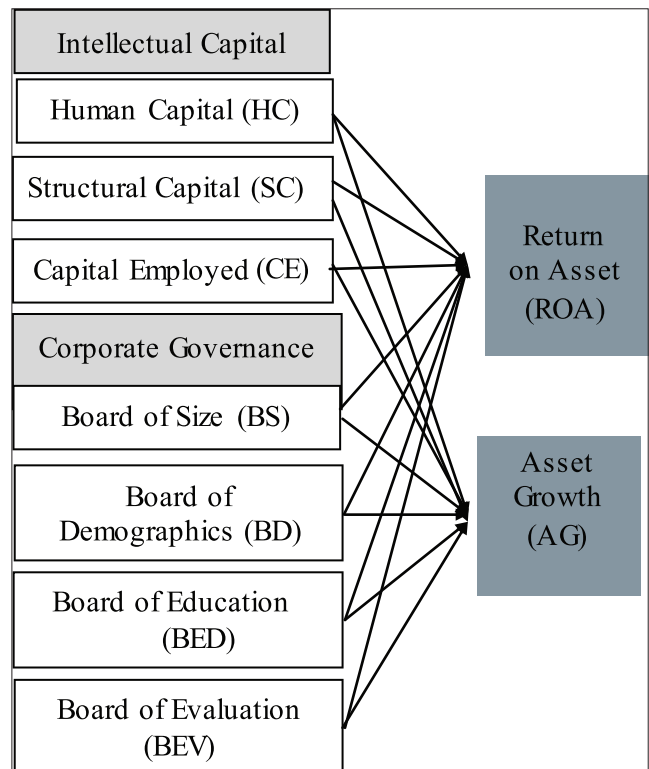
Source: Data processed, 2017

3.3. Performance Measurement

In this research, company performance is measured by ROA and AG, as the dependent variable. ROA shows the use of assets held to generate profits per dollar. ROA is very important to show the ability of managers in managing banks in the use of assets owned to generate profits (Hassan and Bashir, 2003; Setyawati, 2016; Setyawati et al., 2015). Intellectual capital acts as a competitive advantage factor, especially for the banking sector, as the efficiency of intellectual capital is critical to the welfare, growth and development of cutting-edge strategies. The banking sector has an intensive intellectual or personnel business nature and it takes more intellectually homogeneous human resources than any other economic sector. With the increasing complexity and competition in the banking sector, competitiveness is influenced by the quality of human intellectual capital and the ability to utilize it (Lipunga, 2015). Governance related to the ownership of the company, as it relates to the parties working for the owner. If not managed properly, will lead to agency conflict.

Another measure to evaluate company performance is company growth. The growth of the company can be seen from the development of its asset value. Total bank assets are often used as a measure of bank growth, because total asset's bank cover all aspects of growth, while other company growth measures, such as loans or income are very rarely used (Setyawati and Suroso, 2016).

3.4. Intellectual Capital

Intellectual capital as independent variable, that consists of sub variants, that are HC, SC, and capital employed (CE).

3.5. HC

HC is the most important element of intellectual capital and is an important source of sustainable competitive advantage. HC consists of individual education, skills, values and experience. These elements, vary with each company and not permanently in an organization (Cabrita and Bontis, 2008). Intellectual capital consists of the competence and commitment of employees (intellectual capital = competence × commitment), which will lead the company to other positive such as customer loyalty, productivity and work performance (Dave, 1998). Some research finds a strong positive relationship between HC with company performance (Bontis and Fitz-enz, 2002; Cabrita and Bontis, 2008; Joshi et al., 2010; Seleim et al., 2007; Wang and Chang, 2005).

3.6. SC

SC is a strategic asset that is important and valuable, which consists of non-human assets such as information systems, routines, procedures and databases. SC is the building and the size of the organization, as it provides information, tools and architectures to preserve, package and transferring knowledge throughout the value chain. SC as the knowledge generated by an organization and cannot be separated from the entity (Cabrita and Bontis, 2008; Joshi et al., 2010). SC has a significant positive effect on company performance (Hajeb et al., 2015; Piluso, 2013; Rehman et al., 2012; Rehman et al., 2011; Ulum et al., 2014).

3.7. CE

CE is an indicator of value added (VA) that is created by one unit of physical capital. Value added is an indicator to assess business success and demonstrate the company's ability in value creation. If one unit of CE produces a higher rate of return than another company, it means the company is better at using its CE. CE is the total investment of organization in the form of material or the amount of investment invested to increase total assets by the organization (Aslam et al., 2014; Ismail and Nik, 2009). From several studies, CE has a positive effect on company performance (Rehman et al., 2012; Rehman et al., 2011; Ulum et al., 2014).

3.8. Corporate Governance

Corporate governance as independent variable, that consists of sub variants, that are board of size (BS), board of demographics (BD), board of education (BED), and board of evaluation (BEV). Good corporate performance is gained from the management of GCG, whereby firms that run the business activities in accordance with established provisions, will perform better than companies that have bad rules (Antwi and Binfor, 2013; Hassan and Marimuthu, 2016; Hassan et al., 2014; Nanka-Bruce, 2011).

3.9. BS

The BS is one of the corporate governance mechanisms, providing compensation and incentives to board members or top executives with the aim of minimizing agency conflicts (Antwi and Binfor, 2013; Gill and Mathur, 2011). In this research, BS measured by the number of directors in the company. In several studies, BS has a significant negative effect on company performance (Bennedsen et al., 2008; Chiang and Lin, 2011; Gill and Mathur, 2011; Hassan and Marimuthu, 2016; Hassan and Farouk, 2014; Nath et al., 2015; Rashid et al., 2010; Rouf, 2011), because when the number of directors increases, there is a problem of coordination, communication and decision making. The possibility that can happen, is a trade-off in the board, if the number of members increased, so that it can further hamper the company's performance (Uadiale, 2010).

3.10. BD

Demographic of diversity consists of members of the director who have different characteristics and backgrounds, such as gender, age, and ethnicity. Such differences can lead to benefits for the company's success (Hassan et al., 2015; Hassan and Farouk, 2014). In this study, BD was measured by the age of the director. From various studies, the BD has a negative and significant effect on company performance (Bennedsen et al., 2008; Chiang and Lin, 2011; Darmadi, 2011; Hassan et al., 2015; Nath et al., 2015).

3.11. BE

Board of commissioners who have a business education background, usually have an effect on their knowledge, although it is not a must for business actors to have business education, but it would be better if the board of commissioners have a business education background. The board of commissioners shall consist of persons knowledgeable of accounting and financial procedures to ensure that they are able to provide better disclosure to shareholders and the public (Renee, 2010). In this study, BE is measured by the education level of the director. The level of education of the board of commissioners has a negative effect on

the company performance (Tulung, 2010). While the other studies, states that directors who have high school education level have a negative effect on company performance, but directors who have the level of undergraduate education have a positive influence On company performance (Basyith, 2016).

3.12. BEV

Good governance requires an effective board of commissioners, as it should evaluate and assess management performance at least once a year. The evaluation process is a constructive mechanism to improve board effectiveness, maximize strength and overcome weaknesses, leading to a direct improvement in the performance of the entire organization (Chiang and Lin, 2011). In this study, a proxy of the number of director meetings will be used as the basis for determining the BEV. By using controlling size as a proxy of the BEV, it was found that BEV has a positive effect on company performance (Chiang and Lin, 2011).

3.13. Econometric Specification

In this study used panel data in making estimation, research data has two dimensions, that are cross-section and time-series (Jeffrey, 2009). To examine the relationship between ROA and assets growth as the dependent variable with intellectual capital and corporate governance, was used SUR. Seemingly unrelated regression model is part of a multivariate regression. SUR can be estimated using several methods such as maximum likelihood, generalized least square (GLS) and feasible GLS methods (Greene, 2002).

Estimation model used in this research, that is:
$$ROA_{it} = \alpha_0 + \beta_1 HC_{it} + \beta_2 SC_{it} + \beta_3 CE_{it} + \beta_4 BS_{it} + \beta_5 BD_{it} + \beta_6 BED_{it} + \beta_7 BEV_{it} + \epsilon_{1it} \quad (1)$$

$$AG_{it} = \alpha_1 + \beta_8 HC_{it} + \beta_9 SC_{it} + \beta_{10} CE_{it} + \beta_{11} BS_{it} + \beta_{12} BD_{it} + \beta_{13} BED_{it} + \beta_{14} BEV_{it} + \epsilon_{1it} \quad (2)$$

The SUR model, as shown in equations 1 and 2, is resolved with the least square fixed effect approach, ordinary least square (OLS) test, such as multicollinearity, heteroscedasticity, and autocorrelation tests are required. The fixed effect remains selected, rather than random effects, after the Hausman test. Another reason to choose a fixed effect is the amount of research time (T) is greater than the number of individual/Islamic banking in Indonesia (N), so the use of fixed effect panel data model is more appropriate. In addition, by using fixed effect panel model, it will show the individual effect of each Islamic bank (Greene, 2002; Kenward and Roger, 1997; White, 1980).

Base on Appendix 1: The OLS test consisting of multicollinearity, heteroscedasticity, and autocorrelation tests. The correlation coefficient between independent variables showed by multicollinearity test, where if the partial correlation value between independent variables is <0.8, it means there is no multicollinearity between independent variable. In Appendix 2, heteroscedasticity test performed by Bruesch-Pagan Lagrange Multiplier test (L-BP test) and likelihood ratio test (LR test), where P < 0.05, which means that the model variance structure is not heteroscedastic. While Appendix 3: The Wooldridge test for autocorrelation, the P < 0.05, indicating the absence of autocorrelation (Gujarati and Porter, 2010).

Table 1: Estimation result

Variable	Model 1	Model 2
	Dependent variable ROA	Dependent variable AG
INTERCEPT	+0.0308455***	+0.0156702***
	(0.00496707)	(0.003185)
HC	− 0.0011487*	+0.0005212
	(0.00000373)	(0,003)
SC	+0.0206574***	+0.0329586
	(0.003118)	(0.0324113)
CE	+0.0274869***	+0.0175771
	(0.0016499)	(0.0171504)
BS	+0.00124**	+0.0054284
	(0.0005158)	(0,031)
BD	− 0.0017781***	−0.0062558*
	(0.0003649)	(0.0037928)
BE	+0.0353703***	+0. 1496402*
	(0.0080724)	(0,031)
BEV	− 0.0000074	− 0.0002173
	(0.0080724)	(0.0002632)
R^2	0.6599	0.7250
F (prob)	0.0000	0.0000

*,**,***Indicates significant at the 1%, 5%, and 10% levels respectively

4. RESULT AND DISCUSSION

4.1. Empirical Result

Test F statistics (global test), indicates that models 1 and 2 are significant, because the p value <0.05, so the model is appropriate and can describe the dependent variable. Model 1 has R^2 of 66%, meaning that the variation of ROA can be explained by the variation of its independent variables, while 34% is explained by variations of other variables, which are not in the model. Model 2 has R^2 of 72.5%, meaning that variation of AG can be explained by the variation of the independent variable, while 34% is explained by variations of other variables, which are not in the model. Table 1 shows the summary of the dependent variable and its explanatory variables.

Estimation results of the research model (model 1), as follows:
$$ROA_{it} = 0.031 - 0.001 HC_{it} + 0.021 SC_{it} + 0.027 CE_{it} + 0.001 BS_{it} - 0.002 BD_{it} + 0.035 BE_{it} - 0.0000074 BEV_{it}$$

In the first model, HC, SC, CE, BS, BD, and BE have a significant effect on ROA, meaning HC, SC, CE, BS, BD, BE may affect ROA in any Islamic bank in Indonesia. HC has a significant negative effect on ROA, thus, Islamic banks in Indonesia has not fully apply the values of micro (aspects of competence/professionalism and attitude of trust), so it has not seen the spirit of human resource development to better implement the role of Islamic economics in work and life. Some research suggests the intellectual capital have a negative impact on profitability (Chen et al., 2005; Díez et al., 2010; Maditinos et al., 2011; Mondal and Ghosh, 2012).

SC has a significant positive effect on ROA. This shows that the level of profit earned by Islamic banks in Indonesia is significantly affected by SC, its meaning that the organization of Islamic banks in Indonesia have good systems and procedures. However, if it

is associated with a negative effect between HC and ROA, then the business expansion undertaken by Islamic banks in Indonesia has not used sufficient human resource competence to exploit expansion. SC efficiency has increased with increasing ROA, but not yet fully supported by HC. Some studies have shown that SC has a significant positive effect on ROA (Rehman et al., 2012; Rehman et al., 2011; Salman et al., 2012). While other research states that there is no statistically significant influence between SC and ROA on the banking sector in Turkey (Ozkan et al., 2016). The SC has no significant effect on profitability in financial institutions in Malaysia and Australia (Joshi et al., 2013; Ting and Lean, 2009).

CE has a significant positive effect on ROA. This indicates that the high value of CE, Islamic banks in Indonesia are able to utilize the CE. If one unit of CE produces greater profits than other companies, then the company is better able to use its CE. Thus, a better utilization of the CE is part of the intellectual capital of companies (Pulic, 1998; Pulic, 2016). Several studies shown that CE has a positive effect on the value added banking in Indonesia (Rehman et al., 2012; Rehman et al., 2011; Ulum et al., 2014).

BS has a significant positive effect on ROA. The number of board membership more, can increase the number of variations of the skills and capabilities of the board (Daily et al., 1999; Eisenberg et al., 1998; Naranjo-Gil et al., 2008; Raheja, 2005), but often they will be more difficult to coordinate because of the amount of interaction is more among the members of the board. In some studies, BS has a significant negative effect to profitability (Bennedsen et al., 2008; Chiang and Lin, 2011; Hassan and Farouk, 2014; Nath et al., 2015; Rashid et al., 2010; Rouf, 2011).

BD has a significant negative effect on ROA, shows that the board of commissioners' age reflected in the BD has a significant negative effect on ROA, meaning that the board of commissioners has not been able to increase profits and has not increased the internal operation of Islamic banks in Indonesia. In some research the BD and ROA has a negative and significant effect (Bennedsen et al., 2008; Darmadi, 2011; Hassan et al., 2015).

BE has a significant positive effect on ROA, is meaning that BE significantly affect the increase of ROA. BE of commissioners has a negative effect on ROA (Tulung, 2010). The other research states, if the education from director of high school level, it will have a negative influence on ROA, while the BE undergraduate level will have a positive effect on ROA (Basyith, 2016).

Base on Appendix 4, Maybank Syariah Indonesia has a highest constant value, because Maybank Syariah profitability management is good. Although the presence of Maybank Syariah Indonesia is relatively new in Indonesia's Islamic banking industry and is the only mixed Islamic bank, it is active in the utilization of its assets into productive assets with the support of competent resources in its field. In addition, in 2013, Maybank Syariah Indonesia awarded Infobank magazine with a very good predicate of performance.

Estimation results of the research model (model 2), as follows:
$$AG_{it} = 0.016 + 0.001HC_{it} + 0.033SC_{it} + 0.018CE_{it} + 0.005BS_{it} - 0.006BD_{it} + 0.115BE_{it} - 0.0002BEV_{it}$$

In the second model, BD and BE have significant effect on AG, meaning BD and BE may affect AG in any Islamic bank in Indonesia. BD has a significant negative effect on AG. The proxy used by the BD is the age of the board of commissioners, because age can be considered as the level of experience and risk taking. Young managers are more likely to engage in risky strategies, and companies with young managers will experience higher growth than firms with older managers (Hambrick and Mason, 1984). By using Tobin Q as the dependent variable and age as independent variable, the age of board of commissioner <50 years become the respondent. The results showed that age has a positive and significant effect on Tobin Q (Darmadi, 2011). While other studies suggest that age has a positive effect on Tobin Q and significant negative effects on Altman Z Score (Topal and Dogan, 2014).

BE has a significant negative effect on AG. The proxy used by the BEV is the number of meetings held by the board of commissioners. The meetings are held to discuss company plans, supervise and control the activities undertaken by management and make decisions on issues raised in the meeting, such as seat-right control, stock-right control, earning distribution right, shareholder's profit target (Chiang and Lin, 2011).

Based on Appendix 5, Bank Muamalat Indonesia has a highest constant value, because since its establishment on 27 Syawal 1412 Hijriah (1992 AD), it has opened a service for people who want to conduct sharia-based financial transactions. Bank Muamalat Indonesia is positioned as the first pure Islamic banking, besides being equipped with the widest real time network on line advantage in Indonesia and providing services through 312 outlets spread over 33 provinces, supported by a network of over 3800 online Post Offices throughout Indonesia (Setyawati, 2016).

5. CONCLUSION

This study found that the ROA of Islamic banks in Indonesia is affected by HC, SC, CE, BS, BD, and the BE. While AG of Islamic banking in Indonesia affected by the BD, and the BE. It is very interesting in this study is that HC has a effect on ROA, but it does not affected on AG in Islamic banks. This shows that Islamic banks have low HC, because less supported by intellectual capital, emotional capital, social capital, fortitude capital, moral capital and health capital. Therefore, Islamic bank is expected to apply the micro values for its human resources, so that profitability and AG can be achieved.

Likewise, BD has a negative effect on ROA and AG. BD is shown by the board's age, where age can be considered as the level of experience and risk taking. The younger board of directors is more likely to engage in risky strategies than the old board of directors. Islamic banking in Indonesia requires a board of directors of youth to further develop and expand Islamic business.

In the future, this research can be continued by using different proxies, such as gender, ethic, board composition, board ownership and CEO duality.

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APPENDIX

Appendix 1: Multicollinearity test

```
. pwcorr roa pta hc sc ce bs bd be bev, sig

             |      roa      pta       hc       sc       ce       bs       bd       be      bev
-------------+---------------------------------------------------------------------------------
         roa |   1.0000
             |
             |
         pta |   0.0923   1.0000
             |   0.0666
             |
          hc |  -0.4586   0.0254   1.0000
             |   0.0000   0.6148
             |
          sc |   0.5416   0.0642   0.8075   1.0000
             |   0.0000   0.2022   0.0000
             |
          ce |   0.4941   0.0410  -0.1228   0.0573   1.0000
             |   0.0000   0.4158   0.0144   0.2553
             |
          bs |   0.0234   0.0569  -0.2178  -0.0298   0.4620   1.0000
             |   0.6426   0.2586   0.0000   0.5541   0.0000
             |
          bd |  -0.0942  -0.0153   0.0027  -0.0039   0.1413   0.3258   1.0000
             |   0.0612   0.7613   0.9568   0.9384   0.0049   0.0000
             |
          be |   0.1703   0.0563  -0.4316  -0.2596   0.0479  -0.2675  -0.4991   1.0000
             |   0.0007   0.2634   0.0000   0.0000   0.3417   0.0000   0.0000
             |
         bev |  -0.0682  -0.0149  -0.1592  -0.0384   0.0067  -0.2488  -0.0673   0.4148   1.0000
             |   0.1754   0.7681   0.0015   0.4464   0.8942   0.0000   0.1814   0.0000
```

Appendix 2: Heteroscedasticity test

```
. reg roa hc sc ce bs bd be bev

      Source |       SS       df       MS              Number of obs =      396
-------------+------------------------------          F(  7,   388) =    76.34
       Model |  .017714472      7  .002530639          Prob > F      =   0.0000
    Residual |  .012861781    388  .000033149          R-squared     =   0.5794
-------------+------------------------------          Adj R-squared =   0.5718
       Total |  .030576253    395  .000077408          Root MSE      =   .00576

-------------+----------------------------------------------------------------
         roa |      Coef.   Std. Err.      t    P>|t|     [95% Conf. Interval]
-------------+----------------------------------------------------------------
          hc |   .0008195   .0003964     2.07   0.039     .0000401    .0015989
          sc |   .0175041   .0029712     5.89   0.000     .0116623    .0233458
          ce |   .0242646   .0015383    15.77   0.000     .0212401    .027289
          bs |  -.0017793   .0003002    -5.93   0.000    -.0023694   -.0011892
          bd |   .0002755   .0001657     1.66   0.097    -.0000504    .0006013
          be |  -.0026643   .0029335    -0.91   0.364    -.0084318    .0031033
         bev |   -.000028   .0000137    -2.04   0.042     -.000055   -1.03e-06
       _cons |  -.0097003   .0122416    -0.79   0.429    -.0337685    .014368
-------------+----------------------------------------------------------------

. hettest

Breusch-Pagan / Cook-Weisberg test for heteroskedasticity
         Ho: Constant variance
         Variables: fitted values of roa

         chi2(1)      =    379.29
         Prob > chi2  =     0.0000

. reg pta hc sc ce bs bd be bev

      Source |       SS       df       MS              Number of obs =      396
-------------+------------------------------          F(  7,   388) =     1.13
       Model |   .02449335      7  .00349905           Prob > F      =   0.3411
    Residual |  1.19775507    388  .003086998          R-squared     =   0.0200
-------------+------------------------------          Adj R-squared =   0.0024
       Total |  1.22224842    395   .0030943           Root MSE      =   .05556

-------------+----------------------------------------------------------------
         pta |      Coef.   Std. Err.      t    P>|t|     [95% Conf. Interval]
-------------+----------------------------------------------------------------
          hc |  -.0033243   .0038255    -0.87   0.385    -.0108456    .004197
          sc |   .0506019   .0286729     1.76   0.078    -.0057717    .1069755
          ce |  -.0118355   .0148447    -0.80   0.426    -.0410217    .0173507
          bs |  -.0025745   .0028965    -0.89   0.375    -.0082694    .0031204
          bd |   .0015472   .0015994     0.97   0.334    -.0015974    .0046918
          be |   .0388599   .0283085     1.37   0.171    -.0167974    .0945173
         bev |  -.0001801   .0001325    -1.36   0.175    -.0004406    .0000803
       _cons |  -.1242847   .1181335    -1.05   0.293    -.3565467    .1079772
-------------+----------------------------------------------------------------

. hettest

Breusch-Pagan / Cook-Weisberg test for heteroskedasticity
         Ho: Constant variance
         Variables: fitted values of pta

         chi2(1)      =     13.78
         Prob > chi2  =     0.0002
```

Appendix 3: Autocorrelation tests

```
. xtserial roa hc sc ce bs bd be bev

Wooldridge test for autocorrelation in panel data
H0: no first order autocorrelation
    F(  1,      10) =      0.869
             Prob > F =     0.3766

. xtserial pta hc sc ce bs bd be bev

Wooldridge test for autocorrelation in panel data
H0: no first order autocorrelation
    F(  1,      10) =      0.891
             Prob > F =     0.3675
```

Appendix 4: Individual effects (first model)

Bank	Effect	Constant
BCA Syariah	0.030845	0.03084
Jabar Banten Syariah	0.011155	0.04200
BNI Syariah	0.012600	0.04344
BRI Syariah	0.014323	0.04516
Syariah Bukopin	0.003033	0.03387
Syariah Mandiri	0.000365	0.03121
Maybank Syariah	0.034741	0.06558
Syariah Mega Indonesia	−0.003657	0.02718
Muamalat Indonesia	0.018987	0.04983
Panin Syariah	0.008026	0.03887
Victoria Syariah	0.001452	0.03229

Appendix 5: Individual effects (second model)

Bank	Effect	Constant
BCA Syariah	0.015670	0.01567
Jabar Banten Syariah	0.0334161	0.04909
BNI Syariah	0.0253737	0.04104
BRI Syariah	0.0409034	0.05657
Syariah Bukopin	−0.0101183	0.00555
Syariah Mandiri	−0.0245245	−0.00885
Maybank Syariah	0.0427426	0.05841
Syariah Mega Indonesia	−0.0422714	−0.02660
Muamalat Indonesia	0.0588039	0.07447
Panin Syariah	0.021904	0.03757
Victoria Syariah	−0.010597	0.00507