Effectiveness of Islamic Corporate Governance Mechanisms in Preventing Fraud: A Study of Islamic Commercial Banks in Indonesia, 2014-2023

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# Abstract

This study aims to analyze the influence of the Sharia Supervisory Board (SSB), Audit Committee (AUDIT), Board of Commissioners (BOARDSIZE), Independent Board of Commissioners (INBOARD), and External Audit Quality (AUDITQUALITY) on Fraud (FRAUD) at Islamic Commercial Banks in Indonesia for the 2014-2023 period, both simultaneously and partially. The population includes 13 Islamic Commercial Banks registered with the Financial Services Authority (OJK). Using purposive sampling, 7 banks were selected. This quantitative research uses secondary data from annual and good corporate governance reports. The data analysis model employs multiple linear regression with panel data and is processed using Eviews 13. The results show that SSB, AUDIT, BOARDSIZE, INBOARD, and AUDITQUALITY simultaneously significantly affect fraud. Partially, SSB, INBOARD, and AUDITQUALITY positively and significantly affect fraud, while AUDIT and BOARDSIZE have a negative and non-significant effect on fraud in Islamic Commercial Banks in Indonesia from 2014–2023.

# Keywords:

Fraud; Islamic Corporate Governance; Islamic Commercial Banks

# APPENDIX 1 DATA INPUT RESULT

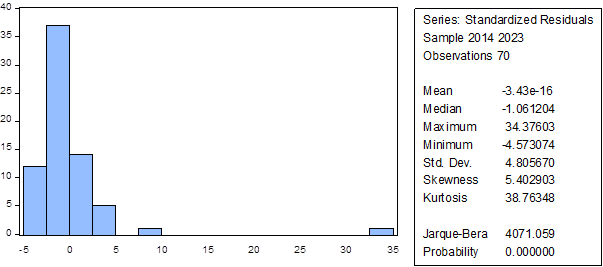
|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
| Years | Id | X1 | X2 | X3 | X4 | X5 | Y |
| 2015 | 1 | 2,40 | 1,39 | 1,10 | 0,41 | -0,69 | 1,25 |
| 2017 | 1 | 2,64 | 1,10 | 1,10 | 0,15 | -0,69 | 1,25 |
| 2018 | 1 | 3,18 | 1,10 | 1,10 | 0,41 | -0,69 | 0,92 |
| 2019 | 1 | 3,69 | 1,10 | 1,10 | 0,15 | -0,69 | 1,70 |
| 2020 | 1 | 3,99 | 1,39 | 1,10 | 0,15 | -0,69 | 0,41 |
| 2021 | 1 | 3,91 | 1,61 | 1,39 | 0,22 | -0,69 | 0,92 |
| 2022 | 1 | 3,95 | 1,10 | 1,39 | 0,22 | -0,69 | 1,25 |
| 2014 | 2 | 3,47 | 1,10 | 1,39 | 0,41 | 0,41 | 2,35 |
| 2015 | 2 | 2,64 | 1,10 | 1,10 | 0,41 | -0,69 | 2,01 |
| 2016 | 2 | 2,71 | 1,10 | 1,10 | 0,15 | -0,69 | 1,50 |
| 2017 | 2 | 3,22 | 1,10 | 1,10 | 0,15 | -0,69 | 0,41 |
| 2018 | 2 | 2,89 | 1,39 | 1,10 | 0,15 | -0,69 | -0,69 |
| 2019 | 2 | 2,83 | 1,39 | 1,10 | 0,15 | -0,69 | 0,41 |
| 2020 | 2 | 2,77 | 1,39 | 1,10 | 0,15 | -0,69 | -0,69 |
| 2021 | 2 | 3,00 | 1,39 | 1,10 | 0,15 | -0,69 | -0,69 |
| 2022 | 2 | 2,08 | 1,39 | 1,10 | 0,15 | -0,69 | -0,69 |
| 2023 | 2 | 2,89 | 1,61 | 1,10 | 0,15 | -0,69 | 0,41 |
| 2014 | 3 | 2,56 | 1,61 | 1,39 | 0,00 | -0,69 | -0,69 |
| 2015 | 3 | 2,83 | 1,61 | 1,39 | 0,00 | -0,69 | -0,69 |
| 2016 | 3 | 3,14 | 1,39 | 1,39 | 0,22 | -0,69 | 0,92 |
| 2018 | 3 | 3,09 | 1,61 | 1,10 | 0,15 | -0,69 | 1,50 |
| 2020 | 3 | 2,94 | 1,61 | 1,10 | 0,15 | -0,69 | 1,50 |
| 2021 | 3 | 3,00 | 1,61 | 1,10 | 0,15 | -0,69 | 0,41 |
| 2022 | 3 | 3,18 | 1,61 | 1,10 | 0,15 | -0,69 | 0,92 |
| 2023 | 3 | 3,58 | 1,39 | 1,39 | 0,00 | -0,69 | 0,92 |
| 2015 | 4 | 2,89 | 1,10 | 1,10 | 0,41 | -0,69 | 0,41 |
| 2016 | 4 | 2,83 | 1,10 | 1,10 | 0,41 | -0,69 | 1,50 |
| 2017 | 4 | 2,77 | 1,10 | 1,10 | 0,41 | -0,69 | 1,25 |
| 2018 | 4 | 2,71 | 1,10 | 1,10 | 0,41 | -0,69 | 1,25 |
| 2019 | 4 | 2,48 | 1,10 | 1,10 | 0,41 | -0,69 | 0,41 |
| 2020 | 4 | 2,71 | 1,10 | 1,10 | 0,41 | -0,69 | 0,41 |
| 2021 | 4 | 2,71 | 1,10 | 1,10 | 0,41 | -0,69 | 0,92 |
| 2023 | 4 | 2,83 | 1,10 | 1,10 | 0,41 | -0,69 | 0,41 |
| 2015 | 5 | 2,89 | 1,10 | 1,10 | 0,15 | 0,41 | 1,50 |
| 2017 | 5 | 3,37 | 1,10 | 1,39 | 0,00 | 0,41 | 0,92 |
| 2018 | 5 | 2,40 | 1,10 | 1,10 | 0,15 | 0,41 | 0,41 |
| 2020 | 5 | 2,64 | 1,10 | 1,10 | 0,15 | 0,41 | 1,70 |
| 2022 | 5 | 2,89 | 1,10 | 1,10 | 0,15 | 0,41 | 1,70 |
| 2023 | 5 | 2,83 | 1,10 | 1,10 | 0,15 | 0,41 | 1,70 |
| 2014 | 6 | 2,64 | 0,69 | 1,10 | 0,15 | -0,69  Connect.... | -0,69 |
| 2015 | 6 | 2,94 | 1,10 | 1,39 | 0,00 | -0,69 | -0,69 |
| 2016 | 6 | 2,71 | 1,10 | 1,39 | 0,00 | -0,69 | -0,69 |
| 2017 | 6 | 2,83 | 1,10 | 1,39 | 0,00 | -0,69 | 0,41 |
| 2018 | 6 | 2,77 | 0,69 | 1,39 | 0,00 | -0,69 | -0,69 |
| 2019 | 6 | 2,83 | 1,10 | 1,10 | 0,15 | -0,69 | 0,92 |
| 2020 | 6 | 2,71 | 1,39 | 1,10 | 0,15 | -0,69 | 1,25 |
| 2021 | 6 | 2,77 | 1,39 | 1,10 | 0,15 | -0,69 | 0,41 |
| 2022 | 6 | 2,83 | 1,10 | 1,10 | 0,15 | -0,69 | 0,92 |
| 2023 | 6 | 2,71 | 1,10 | 1,10 | 0,15 | -0,69 | 0,92 |
| 2014 | 7 | 2,94 | 1,39 | 1,10 | 0,15 | -0,69 | 0,41 |
| 2015 | 7 | 2,89 | 1,10 | 1,10 | 0,15 | -0,69 | -0,69 |
| 2016 | 7 | 2,89 | 1,10 | 1,10 | 0,15 | -0,69 | 0,92 |
| 2018 | 7 | 2,89 | 1,10 | 1,10 | 0,15 | -0,69 | 1,50 |
| 2019 | 7 | 2,77 | 1,39 | 1,10 | 0,15 | -0,69 | -0,69 |
| 2020 | 7 | 2,94 | 1,10 | 1,39 | 0,22 | -0,69 | 1,50 |
| 2021 | 7 | 3,14 | 1,10 | 1,10 | 0,15 | -0,69 | 0,41 |
| 2022 | 7 | 2,83 | 1,10 | 1,10 | 0,15 | -0,69 | 0,92 |

Appendix 1 (Continued 1)

# APPENDIX 2 DESCRIPTIVE STATISTICS

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
|  | Y | X1 | X2 | X3 | X4 | X5 |
| Mean | 0.659379 | 2.922569 | 1.221692 | 1.164224 | 0.190265 | -0.558230 |
| Median | 0.916291 | 2.833213 | 1.098612 | 1.098612 | 0.154151 | -0.693147 |
| Maximum | 2.351375 | 3.988984 | 1.609438 | 1.386294 | 0.405465 | 0.405465 |
| Minimum | -0.693147 | 2.079442 | 0.693147 | 1.098612 | 0.000000 | -0.693147 |
| Std. Dev. | 0.843307 | 0.364948 | 0.216662 | 0.121781 | 0.126258 | 0.363787 |
| Skewness | -0.370681 | 1.163692 | 0.293422 | 1.296175 | 0.564623 | 2.298447 |
| Kurtosis | 2.189511 | 4.926789 | 2.922102 | 2.680070 | 2.595035 | 6.282857 |
| Observations | 57 | 57 | 57 | 57 | 57 | 57 |

# APPENDIX 3 NORMALITY TEST RESULTS

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# APPENDIX 4 NORMALITY TEST RESULTS AFTER OUTLIERS

# 

# APPENDIX 5 MULTICOLLINEARITY TEST RESULTS

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
|  | X1 | X2 | X3 | X4 | X5 |
| X1 | 1.000000 | 0.150738 | 0.349402 | -0.094689 | 0.003836 |
| X2 | 0.150738 | 1.000000 | 0.019925 | -0.173188 | -0.214443 |
| X3 | 0.349402 | 0.019925 | 1.000000 | -0.392713 | 0.051404 |
| X4 | -0.094689 | -0.173188 | -0.392713 | 1.000000 | -0.066477 |
| X5 | 0.003836 | -0.214443 | 0.051404 | -0.066477 | 1.000000 |

# APPENDIX 6 HETEROSCEDASTICITY TEST RESULTS

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Heteroskedasticity Test: White | | | |  |
| Null hypothesis: Homoskedasticity | | | |  |
|  |  |  |  |  |
|  |  |  |  |  |
| F-statistic | 0.913507 | Prob. F(16,40) | | 0.5607 |
| Obs\*R-squared | 15.25408 | Prob. Chi-Square(16) | | 0.5061 |
| Scaled explained SS | 6.827407 | Prob. Chi-Square(16) | | 0.9764 |
|  |  |  |  |  |
|  |  |  |  |  |

# APPENDIX 7 DURBIN-WATSON TEST RESULTS (DW TEST)

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
|  |  |  |  |  |
| R-squared | 0.405670 | Mean dependent var | | 0.659379 |
| Adjusted R-squared | 0.347403 | S.D. dependent var | | 0.843307 |
| S.E. of regression | 0.681253 | Akaike info criterion | | 2.169533 |
| Sum squared resid | 23.66936 | Schwarz criterion | | 2.384592 |
| Log likelihood | -55.83170 | Hannan-Quinn criter. | | 2.253112 |
| F-statistic | 6.962189 | Durbin-Watson stat | | 1.865649 |
| Prob(F-statistic) | 0.000050 |  |  |  |
|  |  |  |  |  |

# APPENDIX 8 COMMON EFFECT MODEL (CEM) ESTIMATION

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Dependent Variable: Y\_FRAUD | | |  |  |
| Method: Panel Least Squares | | |  |  |
| Date: 06/09/24 Time: 20:13 | | |  |  |
| Sample: 2014 2023 | | |  |  |
| Periods included: 10 | | |  |  |
| Cross-sections included: 7 | | |  |  |
| Total panel (unbalanced) observations: 57 | | | |  |
|  |  |  |  |  |
|  |  |  |  |  |
| Variable | Coefficient | Std. Error | t-Statistic | Prob. |
|  |  |  |  |  |
|  |  |  |  |  |
| C | -0.613531 | 1.228275 | -0.499506 | 0.6196 |
| X1\_SSB | 0.723647 | 0.270363 | 2.676579 | 0.0100 |
| X2\_AUDIT | -0.005098 | 0.445111 | -0.011453 | 0.9909 |
| X3\_BOARDSIZE | -0.739820 | 0.869701 | -0.850661 | 0.3989 |
| X4\_INDBOARD | 2.821060 | 0.803131 | 3.512577 | 0.0009 |
| X5\_AUDITQUALIY | 0.915756 | 0.257826 | 3.551832 | 0.0008 |
|  |  |  |  |  |
|  |  |  |  |  |
| R-squared | 0.405670 | Mean dependent var | | 0.659379 |
| Adjusted R-squared | 0.347403 | S.D. dependent var | | 0.843307 |
| S.E. of regression | 0.681253 | Akaike info criterion | | 2.169533 |
| Sum squared resid | 23.66936 | Schwarz criterion | | 2.384592 |
| Log likelihood | -55.83170 | Hannan-Quinn criter. | | 2.253112 |
| F-statistic | 6.962189 | Durbin-Watson stat | | 1.865649 |
| Prob(F-statistic) | 0.000050 |  |  |  |
|  |  |  |  |  |
|  |  |  |  |  |

# APPENDIX 9 FIXED RANDOM EFFECT (FEM) ESTIMATION

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Dependent Variable: Y\_FRAUD | | |  |  |
| Method: Panel Least Squares | | |  |  |
| Date: 06/09/24 Time: 20:13 | | |  |  |
| Sample: 2014 2023 | | |  |  |
| Periods included: 10 | | |  |  |
| Cross-sections included: 7 | | |  |  |
| Total panel (unbalanced) observations: 57 | | | |  |
|  |  |  |  |  |
|  |  |  |  |  |
| Variable | Coefficient | Std. Error | t-Statistic | Prob. |
|  |  |  |  |  |
|  |  |  |  |  |
| C | -0.347137 | 2.029211 | -0.171070 | 0.8649 |
| X1\_SSB | 0.680526 | 0.323940 | 2.100776 | 0.0413 |
| X2\_AUDIT | -0.534953 | 0.616408 | -0.867855 | 0.3901 |
| X3\_BOARDSIZE | -0.838846 | 0.986596 | -0.850243 | 0.3997 |
| X4\_INDBOARD | 5.131038 | 1.486694 | 3.451307 | 0.0012 |
| X5\_AUDITQUALIY | 0.588418 | 0.823872 | 0.714210 | 0.4788 |
|  |  |  |  |  |
|  |  |  |  |  |
|  | Effects Specification | |  |  |
|  |  |  |  |  |
|  |  |  |  |  |
| Cross-section fixed (dummy variables) | | | |  |
|  |  |  |  |  |
|  |  |  |  |  |
| R-squared | 0.498840 | Mean dependent var | | 0.659379 |
| Adjusted R-squared | 0.376334 | S.D. dependent var | | 0.843307 |
| S.E. of regression | 0.665980 | Akaike info criterion | | 2.209551 |
| Sum squared resid | 19.95884 | Schwarz criterion | | 2.639667 |
| Log likelihood | -50.97220 | Hannan-Quinn criter. | | 2.376708 |
| F-statistic | 4.071973 | Durbin-Watson stat | | 2.405012 |
| Prob(F-statistic) | 0.000369 |  |  |  |
|  |  |  |  |  |
|  |  |  |  |  |

# APPENDIX 10 RANDOM EFFECT MODEL (REM) ESTIMATION

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Dependent Variable: Y\_FRAUD | | |  |  |
| Method: Panel EGLS (Cross-section random effects) | | | | |
| Date: 06/09/24 Time: 20:16 | | |  |  |
| Sample: 2014 2023 | | |  |  |
| Periods included: 10 | | |  |  |
| Cross-sections included: 7 | | |  |  |
| Total panel (unbalanced) observations: 57 | | | |  |
| Swamy and Arora estimator of component variances | | | | |
|  |  |  |  |  |
|  |  |  |  |  |
| Variable | Coefficient | Std. Error | t-Statistic | Prob. |
|  |  |  |  |  |
|  |  |  |  |  |
| C | -0.613531 | 1.200740 | -0.510961 | 0.6116 |
| X1\_SSB | 0.723647 | 0.264302 | 2.737958 | 0.0085 |
| X2\_AUDIT | -0.005098 | 0.435133 | -0.011715 | 0.9907 |
| X3\_BOARDSIZE | -0.739820 | 0.850204 | -0.870168 | 0.3883 |
| X4\_INDBOARD | 2.821060 | 0.785127 | 3.593128 | 0.0007 |
| X5\_AUDITQUALIY | 0.915756 | 0.252046 | 3.633283 | 0.0006 |
|  |  |  |  |  |
|  |  |  |  |  |
|  | Effects Specification | |  |  |
|  |  |  | S.D. | Rho |
|  |  |  |  |  |
|  |  |  |  |  |
| Cross-section random | | | 0.000000 | 0.0000 |
| Idiosyncratic random | | | 0.665980 | 1.0000 |
|  |  |  |  |  |
|  |  |  |  |  |
|  | Weighted Statistics | |  |  |
|  |  |  |  |  |
|  |  |  |  |  |
| R-squared | 0.405670 | Mean dependent var | | 0.659379 |
| Adjusted R-squared | 0.347403 | S.D. dependent var | | 0.843307 |
| S.E. of regression | 0.681253 | Sum squared resid | | 23.66936 |
| F-statistic | 6.962189 | Durbin-Watson stat | | 1.865649 |
| Prob(F-statistic) | 0.000050 |  |  |  |
|  |  |  |  |  |
|  |  |  |  |  |
|  | Unweighted Statistics | |  |  |
|  |  |  |  |  |
|  |  |  |  |  |
| R-squared | 0.405670 | Mean dependent var | | 0.659379 |
| Sum squared resid | 23.66936 | Durbin-Watson stat | | 1.865649 |
|  |  |  |  |  |
|  |  |  |  |  |

**APPENDIX 11 CHOW TEST**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Redundant Fixed Effects Tests | | |  |  |
| Equation: MODEL\_FEM | | |  |  |
| Test cross-section fixed effects | | | |  |
|  |  |  |  |  |
|  |  |  |  |  |
| Effects Test | | Statistic | d.f. | Prob. |
|  |  |  |  |  |
|  |  |  |  |  |
| Cross-section F | | 1.394313 | (6,45) | 0.2378 |
| Cross-section Chi-square | | 9.719018 | 6 | 0.1370 |
|  |  |  |  |  |
|  |  |  |  |  |

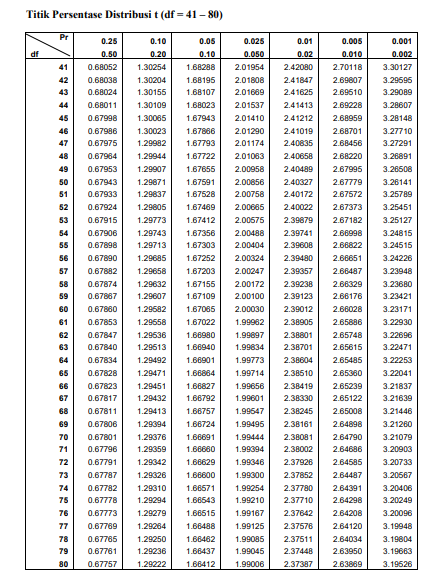
**APPENDIX 12 HAUSMAN TEST**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Correlated Random Effects - Hausman Test | | | |  |
| Equation: UJI\_HAUSMAN | | |  |  |
| Test cross-section random effects | | | |  |
|  |  |  |  |  |
|  |  |  |  |  |
| Test Summary | | Chi-Sq. Statistic | Chi-Sq. d.f. | Prob. |
|  |  |  |  |  |
|  |  |  |  |  |
| Cross-section random | | 7.718722 | 5 | 0.1724 |
|  |  |  |  |  |
|  |  |  |  |  |

**APPENDIX 13 LAGRANGE MULTIPLIER (LM) TEST**

|  |  |  |  |
| --- | --- | --- | --- |
| Lagrange Multiplier Tests for Random Effects | | | |
| Null hypotheses: No effects | | |  |
| Alternative hypotheses: Two-sided (Breusch-Pagan) and one-sided | | | |
| (all others) alternatives | | |  |
|  |  |  |  |
|  |  |  |  |
|  | Test Hypothesis | | |
|  | Cross-section | Time | Both |
|  |  |  |  |
|  |  |  |  |
| Breusch-Pagan | 0.551725 | 0.700841 | 1.252566 |
|  | (0.4576) | (0.4025) | (0.2631) |
|  |  |  |  |
| Honda | -0.742782 | -0.837163 | -1.117189 |
|  | (0.7712) | (0.7987) | (0.8680) |
|  |  |  |  |
| King-Wu | -0.742782 | -0.837163 | -1.104509 |
|  | (0.7712) | (0.7987) | (0.8653) |
|  |  |  |  |
| Standardized Honda | 0.042464 | -0.744615 | -4.299402 |
|  | (0.4831) | (0.7717) | (1.0000) |
|  |  |  |  |
| Standardized King-Wu | 0.042464 | -0.744615 | -4.303269 |
|  | (0.4831) | (0.7717) | (1.0000) |
|  |  |  |  |
| Gourieroux, et al. | -- | -- | 0.000000 |
|  |  |  | (1.0000) |
|  |  |  |  |
|  |  |  |  |

**APPENDIX 14 F TABLE**



**APPENDIX 15 T TABLE**

