

Comparative Analysis of Stability and Bank Earnings: A Study of Indonesian Islamic and Conventional Banking Firms

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The objective of this study is to examine the effect of bank-related and country-based determinants of stability and earnings in the Indonesian banking industry. For this purpose, 7 banking firms from both conventional and Islamic title were selected over the period of 2012-2016, with annual observations made. Research design is based on the descriptive statistics, correlation matrix and finally regressions methods. Separate findings are presented and discussed for Islamic and conventional banks with and without consideration of country-based determinants of stability and earnings. It is found that under Islamic banking firms, key determinants for the stability are NPLs, market risk and book value per share. While GDP is also found to be a significant determinant of bank-stability and earnings. For conventional banks, key indicators for volatility in return on assets and return on equity are NPLs, capital ratio and GDP. These findings add significantly to the body of knowledge in the literature of banking, finance and risk management. Both conventional and Islamic banking officials are recommended to review these study findings to gain understanding of both regressors and outcome variables. The key limitation of this study is the limited sample from both Islamic and conventional banking, time duration and absence of cross-sectional comparative analysis. Future studies are recommended to overcome these limitations.

Key words: *Bank stability, earnings, volatility in return on assets, return on equity, GDP, Indonesia.*

Introduction and Background

In the global financial market, the role of the banking system is significantly accepted in the literature of finance and banking (Bernanke, Gertler, & Gilchrist, 1999; Zaher & Kabir Hassan, 2001). It is believed that the banking system facilitates all types of economic and financial activities in this global village (Helleiner, 1996; Chienwattanasook & Jermisittiparsert, 2019). Business firms whether working in domestic or international markets are dealing with banks to facilitate and promote their daily transactions. In this regard, both conventional and Islamic banking firms are conducting their operational activities through a series of products and services. Both types of banking arrangements are very important for economic prosperity and growth (Patrick, 1966). However, for smooth functioning, it is assumed that banking firms should be sustained also through stability in earnings and financial outcomes (King & Levine, 1993; Roberts & Dowling, 2002). In addition, conventional banking firms represent a significant proportion of the sector in the global economy when compared to Islamic banking organizations (Ban & Gabor, 2016; Ban, Seabrooke, & Freitas, 2016). However, Islamic financial institutes are also expanding their operational activities in all regions.

From the context of Indonesia, both Islamic and conventional banks are operating, receiving significant return on their investment projects (Doumpos, Hasan, & Pasiouras, 2017; Sa'adah Yuliana & Bashir, 2017). For the development at local level, Islamic financial institutions or IFIs are working with gradual improvements (Andriansyah, 2014). This trend is increasing progressively as noteworthy numbers of local members in Indonesia are shifting towards Islamic banking (Barendregt & Van Zanten, 2002; Eileen, 2018). However, the question of whether to use the Islamic banking firms is more concerned with potential earning in comparison to conventional banking and this is under significant debate. This study has examined the trend of both Islamic and conventional banks in the region of Indonesia through bank-related and country-based determinants of stability and earnings and the rest of this paper follows the following pattern: Section two is the literature review; Section three defines key variables of the study; Section four covers research methods and sample and Research findings and conclusion portion are presented under sections five and six respectively.

Literature Review

In current literature, both theoretical and empirical contribution are provided by the researchers for relative bank stability and earnings. For instance, (Soedarmono, Machrouh, & Tarazi, 2011) have examined the factor of market power, financial stability and economic growth from Asian

banking firms. For this purpose, a sample of 12 Asian countries and their relevant banking industry was selected during the time of 2001 to 2007 with annual observations. Their findings indicate the fact that higher instability in the banking firms is observed through greater market power. While banking firms are less capitalized in those markets which are not fully competitive. Research work by (Fu, Lin, & Molyneux, 2014) considered the factor of competition in banking industry and financial stability in Asia Pacific. The data period was from 2003 to 2010 with annual observations for 14 economies. Findings of the study indicate that Z-score measure of financial stability is influenced by greater concentration ratio, and other macroeconomic factors. While, bank-related factors like regulatory and other institutions conducted by Lee & Hsieh, (2014) have highlighted factors like bank-reforms, foreign ownership, and financial stability. They have applied GMM technique, covering dynamic panels by using bank-level data for both explanatory and outcome factors. They have found that there is an existence of home field advantage hypothesis while there is an inverse u-type relationship between bank stability and foreign ownership in selected banks. Additionally, they confirmed the fact that there is a significant and negative relationship between deposit and bank's stability.

Diallo and Al-Mansour (2017) focused on the recent financial crisis of the last decade taking the American International Group or AIG under empirical investigation. Their contribution was to empirically test the shadow banking system and banking sector stability. By using the Z-measure for FS, it was found that the insurance sector is significantly and negatively facing the problem of poor financial stability. While this situation is similar for those countries which are under the title of shadow banking. Some other studies like (Adrian & Liang, 2016; Flood, Jagdish, & Raschid, 2016; Fratzscher, König, & Lambert, 2016; Wagner & Marsh, 2006) consider credit risk and financial sector stability. Besides, research work by (Acharya & Richardson, 2009; Adrian & Liang, 2016; Creel, Hubert, & Labondance, 2015; Krishnamurthy & Vissing-Jorgensen, 2015; Shin, 2009) have observed the financial sector like banks for empirical investigation of banking sector fragility. To the best of researcher's findings, this is a very first attempt to conduct comparative analysis for stability and earning indicators for both Islamic and conventional banks in Indonesia.

Variables of the Study

Variable Nature	Variable Name	Abbreviation	Operational Definition	Operational Measurement
Dependent	Volatility in return on equity	V_ROE	Indicates the change in return trends over equity on annual basis	Standard deviation of return on equity
Dependent	Volatility in return on assets	V_ROA	Indicates the change in return trends over assets on annual basis	Standard deviation of return on assets

Dependent	Net profit margin	NPM	Indicates net income of business over its sales	Net income after tax/ total sales
Dependent	Earnings per share	EPS	Indicates per share earnings of the business	Net income /total common share outstanding
Dependent	Return on investment	ROI	Indicates net income to total investment	Net income/ total investment
Independent	Non-performing loans	NPLs	Indicates the net loans, not performing in banking industry	Non-performing loans to gross advances
Independent	Market risk	MRISK	Indicates annual exchange rate in the country	Annual exchange rate
Independent	Capital adequacy ratio	CADR	Explains ratio of capital to total assts	Capital to total assets
Independent	Book value per share	BVPS	Ratio of book value to per share	Book value per share of common stock
Independent	Gross Domestic Product	GDP	Overall production of goods and services	GDP growth (annual)
Independent	Inflation	INF	Gradual increase in the prices	Consumer price index

Sample and Research Methodology

This study is based on secondary data analyses for banking industry of Indonesia. At first sample of seven conventional and seven Islamic banking firms is selected over a time of 2012-2016 with annual observations for selected variables. Data is collected from official sources of the banks include annual reports web sources and audited financial statements. After sample collection, descriptive statistics with correlation and regression analysis are applied. For the better understanding of empirical association between the variables, following regression equations are developed and tested through STATA-14. For both conventional and Islamic banks, separate equations are developed with and without consideration of country-related indicators of stability and earnings.

For Islamic banking

Volatility in Return on Equity (V_{ROE}) = $\alpha + \beta_1$ (Non – performing Loans: NPLs) $_{i, t} + \beta_2$ (Market Risk: MRISK) $_{i, t} + \beta_3$ (capital adequacy ratio: CADR) $_{i, t} + \beta_4$ (book value per share: BVPS) + β_5 (gross domestic product: GDP) $_{i, t} + \beta_6$ (Inflation: INF) $_{i, t} + \epsilon$ (Model 01)

Volatility in Return on assets (V_{ROA})

= $\alpha + \beta_1$ (Non – performing Loans: NPLs) $_{i, t} + \beta_2$ (Market Risk: MRISK) $_{i, t} + \beta_3$ (capital adequacy ratio: CADR) $_{i, t} + \beta_4$ (book value per share: BVPS) + β_5 (gross domestic product: GDP) $_{i, t} + \beta_6$ (Inflation: INF) $_{i, t} + \epsilon$ (Model 02)

Net profit Margin (NPM)

= $\alpha + \beta_1$ (Non – performing Loans: NPLs) $_{i, t} + \beta_2$ (Market Risk: MRISK) $_{i, t} + \beta_3$ (capital adequacy ratio: CADR) $_{i, t} + \beta_4$ (book value per share: BVPS) + β_5 (gross domestic product: GDP) $_{i, t} + \beta_6$ (Inflation: INF) $_{i, t} + \epsilon$ (Model 03)

Earning per share (EPS)

= $\alpha + \beta_1$ (Non – performing Loans: NPLs) $_{i, t} + \beta_2$ (Market Risk: MRISK) $_{i, t} + \beta_3$ (capital adequacy ratio: CADR) $_{i, t} + \beta_4$ (book value per share: BVPS) + β_5 (gross domestic product: GDP) $_{i, t} + \beta_6$ (Inflation: INF) $_{i, t} + \epsilon$ (Model 04)

Return on Investment (ROI)

= $\alpha + \beta_1$ (Non – performing Loans: NPLs) $_{i, t} + \beta_2$ (Market Risk: MRISK) $_{i, t} + \beta_3$ (capital adequacy ratio: CADR) $_{i, t} + \beta_4$ (book value per share: BVPS) + β_5 (gross domestic product: GDP) $_{i, t} + \beta_6$ (Inflation: INF) $_{i, t} + \epsilon$ (Model 05)

Without consideration of country-based factors

Volatility in Return on Equity (V_{ROE}) = $\alpha + \beta_1$ (Non – performing Loans: NPLs) $_{i, t} + \beta_2$ (Market Risk: MRISK) $_{i, t} + \beta_3$ (capital adequacy ratio: CADR) $_{i, t} + \beta_4$ (book value per share: BVPS) + ϵ (Model 01)

Volatility in Return on assets (V_{ROA})

= $\alpha + \beta_1$ (Non – performing Loans: NPLs) $_{i, t} + \beta_2$ (Market Risk: MRISK) $_{i, t} + \beta_3$ (capital adequacy ratio: CADR) $_{i, t} + \beta_4$ (book value per share: BVPS) + ϵ (Model 02)

Net profit Margin (NPM)

$$\begin{aligned} &= \alpha + \beta_1 (\text{Non – performing Loans: NPLs})_{i, t} \\ &+ \beta_2 (\text{Market Risk: MRISK})_{i, t} + \beta_3 (\text{capital adequacy ratio: CADR})_{i, t} \\ &+ \beta_4 (\text{book value per share: BVPS}) + \epsilon (\text{Model 03}) \end{aligned}$$

Earning per share (EPS)

$$\begin{aligned} &= \alpha + \beta_1 (\text{Non – performing Loans: NPLs})_{i, t} \\ &+ \beta_2 (\text{Market Risk: MRISK})_{i, t} + \beta_3 (\text{capital adequacy ratio: CADR})_{i, t} \\ &+ \beta_4 (\text{book value per share: BVPS}) + \epsilon (\text{Model 04}) \end{aligned}$$

Return on Investment (ROI)

$$\begin{aligned} &= \alpha + \beta_1 (\text{Non – performing Loans: NPLs})_{i, t} \\ &+ \beta_2 (\text{Market Risk: MRISK})_{i, t} + \beta_3 (\text{capital adequacy ratio: CADR})_{i, t} \\ &+ \beta_4 (\text{book value per share: BVPS}) + \epsilon (\text{Model 05}) \end{aligned}$$

For conventional banking

Volatiitiy in Return on Equity (V_{ROE}) = $\alpha + \beta_1 (\text{Non – performing Loans: NPLs})_{i, t} + \beta_2 (\text{Market Risk: MRISK})_{i, t} + \beta_3 (\text{capital adequacy ratio: CADR})_{i, t} + \beta_4 (\text{book value per share: BVPS}) + \beta_5 (\text{gross domestic product: GDP})_{i, t} + \beta_6 (\text{Inflation: INF})_{i, t} + \epsilon (\text{Model 01})$

Volatiitiy in Return on assets (V_{ROA})

$$\begin{aligned} &= \alpha + \beta_1 (\text{Non – performing Loans: NPLs})_{i, t} \\ &+ \beta_2 (\text{Market Risk: MRISK})_{i, t} + \beta_3 (\text{capital adequacy ratio: CADR})_{i, t} \\ &+ \beta_4 (\text{book value per share: BVPS}) \\ &+ \beta_5 (\text{gross domestic product: GDP})_{i, t} + \beta_6 (\text{Inflation: INF})_{i, t} \\ &+ \epsilon (\text{Model 02}) \end{aligned}$$

Net profit Margin (NPM)

$$\begin{aligned} &= \alpha + \beta_1 (\text{Non – performing Loans: NPLs})_{i, t} \\ &+ \beta_2 (\text{Market Risk: MRISK})_{i, t} + \beta_3 (\text{capital adequacy ratio: CADR})_{i, t} \\ &+ \beta_4 (\text{book value per share: BVPS}) \\ &+ \beta_5 (\text{gross domestic product: GDP})_{i, t} + \beta_6 (\text{Inflation: INF})_{i, t} \\ &+ \epsilon (\text{Model 03}) \end{aligned}$$

Earning per share (EPS)

$$\begin{aligned} &= \alpha + \beta_1 (\text{Non – performing Loans: NPLs})_{i, t} \\ &+ \beta_2 (\text{Market Risk: MRISK})_{i, t} + \beta_3 (\text{capital adequacy ratio: CADR})_{i, t} \\ &+ \beta_4 (\text{book value per share: BVPS}) \\ &+ \beta_5 (\text{gross domestic product: GDP})_{i, t} + \beta_6 (\text{Inflation: INF})_{i, t} \\ &+ \epsilon (\text{Model 04}) \end{aligned}$$

Return on Investment (ROI)

$$\begin{aligned} &= \alpha + \beta_1 (\text{Non – performing Loans: NPLs})_{i, t} \\ &+ \beta_2 (\text{Market Risk: MRISK})_{i, t} + \beta_3 (\text{capital adequacy ratio: CADR})_{i, t} \\ &+ \beta_4 (\text{book value per share: BVPS}) \\ &+ \beta_5 (\text{gross domestic product: GDP})_{i, t} + \beta_6 (\text{Inflation: INF})_{i, t} \\ &+ \epsilon (\text{Model 05}) \end{aligned}$$

Without consideration of country-based factors

Volatiiti in Return on Equity (V_{ROE}) = $\alpha + \beta_1$ (Non – performing Loans: NPLs) $_{i, t} + \beta_2$ (Market Risk: MRISK) $_{i, t} + \beta_3$ (capital adequacy ratio: CADR) $_{i, t} + \beta_4$ (book value per share: BVPS) + ϵ (Model 01)

Volatiiti in Return on assets (V_{ROA})

$$\begin{aligned} &= \alpha + \beta_1 (\text{Non – performing Loans: NPLs})_{i, t} \\ &+ \beta_2 (\text{Market Risk: MRISK})_{i, t} + \beta_3 (\text{capital adequacy ratio: CADR})_{i, t} \\ &+ \beta_4 (\text{book value per share: BVPS}) + \epsilon (\text{Model 02}) \end{aligned}$$

Net profit Margin (NPM)

$$\begin{aligned} &= \alpha + \beta_1 (\text{Non – performing Loans: NPLs})_{i, t} \\ &+ \beta_2 (\text{Market Risk: MRISK})_{i, t} + \beta_3 (\text{capital adequacy ratio: CADR})_{i, t} \\ &+ \beta_4 (\text{book value per share: BVPS}) + \epsilon (\text{Model 03}) \end{aligned}$$

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Return on Investment (ROI)

$$\begin{aligned} &= \alpha + \beta_1 (\text{Non – performing Loans: NPLs})_{i, t} \\ &+ \beta_2 (\text{Market Risk: MRISK})_{i, t} + \beta_3 (\text{capital adequacy ratio: CADR})_{i, t} \\ &+ \beta_4 (\text{book value per share: BVPS}) + \epsilon (\text{Model 05}) \end{aligned}$$

Results and Discussions

Table 1 below presents descriptive facts of the study through total observations, average of the variables, standard deviation from the mean score, and range through minimum and maximum values. Percentile 1 and percentile 99 with skewness and kurtosis are also presented under descriptive outcomes. It is found that highest mean value links to MRISK which is 68.064, followed by NPLS; 15.97 approximately. Minimum average score is 2.016 which is presented by volatility in return on equity or V_{ROE} . As per standard deviation, lowest is linked to the factor of volatility in ROA for selected banking firms. Maximum value of descriptive score belongs to market risk factor which is 88.98. Additionally, both skewness and kurtosis are providing a reasonable trend for data set.

Table 1: Descriptive Statistics

Variables	Obs	Mean	Std.Dev.	Min	Max	p1	p99	Skew.	Kurt.
V_ROE	32	2.016	0.076	-0.026	2.974	0.026	0.017	0.322	2.812
V_ROA	35	3.014	0.0897	-0.238	1.647	0.238	0.228	0.133	3.573
NPM	32	5.34	0.1034	-0.4574	0.32	0.239	0.23	0.126	3.589
EPS	35	6.241	0.1171	0.8742	1.007	0.24	0.232	0.119	3.615
ROI	32	11.97	0.1308	2.2058	2.334	0.241	0.232	0.121	3.605
NPLS	35	15.974	0.1445	3.5374	3.661	0.242	0.232	0.13	3.614
MRISK	31	68.064	0.1582	4.869	88.988	0.245	0.235	0.126	3.645
CADR	32	11.023	0.1719	6.2006	6.315	0.246	0.237	0.118	3.656
BVPS	35	12.018	0.1856	7.5322	7.642	0.249	0.241	0.113	3.698
GDP	32	2.414	0.1993	8.8638	10.969	0.252	0.242	0.117	3.727
INF	32	5.024	0.213	10.1954	12.652	0.255	0.243	0.115	3.748

Table 2 below provides an overlook for the level of association between variables. It is observed that volatility in return on equity (V_ROE) has not significant association with any of the variables, although it is presenting both positive and negative association with correlation coefficients. For volatility in return on assets (V_ROA), moderate and positive correlation is recorded with net profit margin, but low with earning per share and market risk factors. While the association between V_ROA and book value per share or BVPS is 74.1 indicating higher and positive correlation between the both. For NPM and EPS, correlation is 42.5, expressing significantly positive relationship. In addition, NPLS and NPM have shown a correlation coefficient of 67.1 percent, significant at 1 percent. For NPM and BVPS, association is 63.2, significant at 5 percent. In addition, variables like NPLS and Capital adequacy ratio are highly associated to each other, reflecting the fact that there is high interdependency between them.

Table 2: Correlation Matrix of the Variables

Variables	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)
(1) V_ROE	1.000										
(2) V_ROA	0.068	1.000									
	0.506										
(3)	0.0	0.520	1.000								

NPM	67	***										
	0.509	0.000										
(4) EPS	68	**	0.264	0.425	1.000							
	0.506	0.000	0.000									
5) ROI	67		0.185	.6412	0.254	1.000						
	0.509	0.250	0.365	0.674								
(6) NPLS	67		0.671	0.671	0.010	0.080	1.000					
	0.508	0.421	0.014	0.974	0.115							
(7) MRISK	68	***	0.139	0.345	0.617	0.906	0.273	1.000				
	0.504	0.000	0.124	0.257	0.197	0.614						
(8) CADR	67		0.258	0.094	0.093	0.457	0.824	0.142	1.000			
	0.513	0.117	0.257	0.000	0.020	0.024	0.241					
(9) BVPS	67	***	0.741	0.632	0.189	0.624	0.552	0.058	0.874	1.000		
	0.511	0.000	0.000	0.457	0.047	0.146	0.112	0.000				
(10) GDP	70		0.257	0.147	0.0917	0.017	0.367	0.245	0.364	.0102	1.000	
	0.489	0.157	0.258	0.147	0.317	0.246	0.964	0.142	0.524			
(11) INF	73		0.665	0.024	0.673	0.437	0.035	0.073	0.871	0.096	0.654	1.000
	0.472	0.187	0.000	0.0647	0.183	0.196	0.341	0.963	0.348	0.000		

***** indicates level of significance at 1 percent, 5 percent respectively.

Findings for the key determinants of stability and earnings of Islamic banking firms are presented in Table 3 below. Overall regression analysis are divided into two portions. Firstly, all indicators are added in the model. Secondly, only bank related indicators are examined to analyze their impact on both stability and earnings factors. Table 4 reflects the findings for both bank related and economic indicators on stability (V_ROE, V_ROA) and for earnings indicators (NPM, EPS, ROI) respectively. Model 1 considers V_ROE as main outcome factor along with both bank-related and economic regressors. It is found that only the effect of MRISK is significant for the volatility in return on assets. This effect is significantly negative with the coefficient of -1.590. It means that more risk in the market is leading towards adversely affecting the first stability measure in banking sector of Indonesia. While overall explanatory power of the model is .462, reflecting a moderated change in V_ROE by all explanatory variables of the model.

Model 2 reflects the effect of bank-related and economic indicators for volatility in return on assets. It is found that increasing credit risk like non-performing loans in the country is causing towards more volatility over return factors of assets. In addition, factor of book value per share shows its significant and positive influence with the coefficient of .569 and standard error of .306 respectively. Through GDP, bank stability like V_ROA is positively affected through parameter of .699. This effect is significant at 10 percent due to higher value of standard error and lower critical ratio. Under model 3, earning factor like net profit margin is observed. It is expressed that factors like increasing NPLs through coefficient of 1.377 and book value per share with the coefficient of .539 are positively and significant associated. Their effect is significantly positive at 1 and 10 percent chance of error. For market risk, coefficient is -.533, showing adverse effect for NPM at 10 percent.

For country-related factors, GDP has a coefficient of .554, reflecting its positive influence, means that increasing gross domestic product has its direct impact on bank's earning like NPM. Model four observes the effect of key regressors for earning per share EPS. Again, NPLs show their direct impact with the coefficient of 1.377. While market risk and GDP are showing an adverse effect, significant at 5 percent. For Model 5, return on investment ROI is considered as main dependent, explained through credit risk, market risk, capital adequacy ratio, book value per share, GDP and level of inflation. NPLs are directly associated to ROI along with book value per share with the coefficients of 1.081 and .293. These coefficients are significant at 5 percent, reflecting significant change. Highest explained variation is under model five, followed by model three and model four respectively. The findings are that Islamic banking firms in Indonesia are directly impacted by NPLs, GDP and BVPS and this means that more earnings and stability in Islamic bank is associated to increasing GDP and BVPS. However, findings through NPLs are not consistent with existing literature as increasing CR showing its direct impact on stability measures.

Table 3: Regression Findings for stability and Earning Indicators: Islamic Banks

	(1)	(2)	(3)	(4)	(5)
VARIABLES	V_ROE	V_ROA	NPM	EPS	ROI
NPLS	-0.114 (0.989)	1.409*** (0.209)	1.377*** (0.195)	1.377*** (0.158)	1.081*** (0.0987)
MRISK	-1.590*** (.094)	-0.374 (0.332)	-0.553* (0.310)	-0.502** (0.251)	-0.260 (0.157)
CADR	-0.932 (1.457)	-0.0564 (0.308)	0.0756 (0.288)	0.0407 (0.233)	0.0421 (0.145)
BVPS	-2.118 (1.445)	0.569* (0.306)	0.539* (0.285)	0.376 (0.231)	0.293** (0.144)
GDP	0.641 (1.367)	0.699** (0.289)	0.554** (0.270)	-0.457** (0.219)	-0.154 (0.136)
INF	0.944 (0.858)	0.143 (0.182)	0.110 (0.169)	0.163 (0.137)	-0.00452 (0.0857)
Constant	-0.00583*** (0.000982)	0.000142 (0.000208)	5.04e-05 (0.000194)	9.50e-05 (0.000157)	2.14e-05 (9.80e-05)
Observations	35	32	35	32	33
R-squared	0.467	0.578	.635	0.632	0.715

Standard errors in parentheses, *** p<0.01, ** p<0.05, * p<0.1

Table 4 below provides an outlook for regression findings of stability and earning determinants in Islamic banking, without taking country related factors into consideration. It is observed that for volatility in return on assets, significant and positive influence of 1.416 with standard error of .206 is observed. For net profit margin, its effect is 1.385, significant at 1 percent chance of error. Under earning per share, the effect of NPLs is similar positive and significant at 1 percent with the coefficient of 1.348. While for ROI, its effect is 1.101 and standard error of .0944, significant at 1 percent chance of error. These findings imply that effect of NPLs for all indicators of return and stability in Islamic without the presence of country factors is significant and direct. While for market risk, effect is insignificant for both stability measures, but significantly negative for NPM, EPM, and ROI with the coefficients of -.537, -.452 and -.273. Rest of the indicators have shown their insignificant relationship with the return and stability measures in Islamic banks. Findings as presented in Table 4 below conclude that when the effect of country factors is removed from regression model, significant determinants are NPLs and market risk for Islamic banking stability and return.

Table 4: Regression Findings for stability and Earning Indicators: Islamic Banks

	(1)	(2)	(3)	(4)	(5)
VARIABLES	V_ROE	V_ROA	NPM	EPS	ROI
NPLS	-0.655 (0.916)	1.416*** (0.206)	1.385*** (0.190)	1.348*** (0.152)	1.101*** (0.0944)
MRISK	2.110 (1.512)	-0.351 (0.336)	-0.537* (0.310)	-0.452* (0.248)	-0.273* (0.154)
CADR	-1.500 (1.385)	0.0192 (0.316)	0.137 (0.291)	0.0583 (0.234)	0.0754 (0.145)
BVPS	0.0604 (0.998)	-0.0922 (0.227)	0.00872 (0.209)	0.0441 (0.168)	0.0954 (0.104)
Constant	-0.00625*** (0.00100)	0.000186 (0.000212)	8.65e-05 (0.000195)	9.93e-05 (0.000157)	4.39e-05 (9.72e-05)
Observations	32	35	33	35	33
R-squared	0.026	0.287	0.314	0.387	0.251

Robust standard errors in parentheses

*** p<0.01, ** p<0.05, * p<0.1

For conventional banking firms, Table 5 below presents the output for descriptive facts of the study. Overall observations are in range of 30-35, considering a time of 5 years with seven conventional banks from overall financial market of Indonesia. For volatility in return on equity, mean score is 2.02 and for return on assets, it is 3.64 with the deviation of .04 respectively. Maximum average score is associated to market risk factor which is 68.91, followed by capital adequacy ratio; 15.67. In terms of standard deviation, highest deviation is observed for capital ratio which is 9.94. In terms of data range, maximum observation is 44.64 for market risk. Other findings like p1, p99 and trends through skewness and kurtosis are also presented below:

Table 5: Descriptive Statistics for Conventional Banking

Variables	Obs	Mean	Std.Dev.	Min	Max	p1	p99	Skew.	Kurt.
V_ROE	30	2.02	0.04	0.22	10.00	0.16	0.95	0.70	3.00
V_ROA	30	3.64	0.04	0.75	15.00	0.62	0.38	0.87	3.77
NPM	30	12.97	0.35	0.42	16.00	0.15	0.99	0.76	3.81
EPS	31	2.66	1.64	0.08	4.00	0.05	0.04	0.86	3.82
ROI	33	4.69	2.06	0.84	13.00	0.39	0.96	0.01	3.81
NPLS	35	12.69	6.34	0.36	15.34	0.16	0.87	0.51	1.80
MRISK	30	68.91	3.05	0.88	44.64	0.17	0.95	0.57	2.65
CADR	31	15.67	9.94	0.76	13.00	0.80	0.58	0.60	1.65

BVPS	34	12.99	0.64	0.44	9.00	0.47	0.65	0.17	2.64
GDP	31	2.97	1.97	0.32	10.00	0.93	0.47	0.31	2.65
INF	31	4.67	0.08	0.75	6.00	0.96	0.41	0.47	2.64

Table 6 below details regression results for key determinants of stability and return for conventional banking firms in Indonesia. Through NPLS, effect on both stability measures and three measures of earning is found to be significantly positive at 1 percent chance of error. While through market risk factor, none of the indicator is found to be significantly associated. Capital ratio explains the finding that volatility in return on assets and earning per share EPS are directly affected with the coefficients of .421 and .114 respectively. Through book value per share, effect on return on equity is -591, explains its significant and negative influence. From country related indicators, effect of GDP is significant and positive for volatility in return on assets, net profit margin, earning per share and return on investment. These findings explain that increase in gross domestic product has its direct and significant influence on the bank's earnings and stability in the region of Indonesia. While effect of inflation is found to be insignificant under all models for conventional banking firms.

Table 6: Regression Findings for stability and Earning Indicators: Conventional Banks

	(1)	(2)	(3)	(4)	(5)
VARIABLES	V_ROE	V_ROA	NPM	EPS	ROI
NPLS	1.520***	1.459***	1.317***	1.170***	1.050***
	(0.237)	(0.202)	(0.172)	(0.124)	(0.0889)
MRISK	-0.233	-0.273	-0.149	-0.0815	0.118
	(0.355)	(0.303)	(0.258)	(0.186)	(0.133)
CADR	0.241	0.421***	0.227	0.114***	-0.118
	(0.352)	(0.000)	(0.256)	(0.085)	(0.132)
BVPS	-0.591*	-0.421	-0.332	0.0735	-0.0177
	(0.333)	(0.284)	(0.242)	(0.175)	(0.125)
GDP	0.519	0.502***	0.109***	0.336*	0.583***
	(0.356)	(0.013)	(0.059)	(0.187)	(0.034)
INF	-0.451**	-0.232	-0.168	0.0660	0.0311
	(0.213)	(0.182)	(0.155)	(0.112)	(0.0801)
Constant	-0.000296	-0.000248	-0.000351	-9.41e-05	-0.000124
	(0.000358)	(0.000305)	(0.000260)	(0.000188)	(0.000135)
Observations	32	35	33	33	32
R-squared	0.452	0.351	0.551	0.514	0.463

Standard errors in parentheses, *** p<0.01, ** p<0.05, * p<0.1

Table 7 below demonstrates the facts for bank-related measure of stability and earnings. Again, effect of NPLs is found to be positively significant at 1 percent for volatility in return on assets, volatility in return on equity, net profit margin, earning per share and return on investment. While book value per share shows that it has negative and significant influence on both measures of stability and NPM, when the effect of country related factors is extracted from regression models. In addition, maximum explained variation through R-square is related to model 2 of V_ROE, followed by model 5 for ROI.

Table 7: Regression Findings for stability and Earning Indicators: Conventional Banks

	(1)	(2)	(3)	(4)	(5)
VARIABLES	V_ROE	V_ROA	NPM	EPS	ROI
NPLS	1.659*** (0.230)	1.529*** (0.194)	1.368*** (0.165)	1.148*** (0.120)	1.041*** (0.0847)
MRISK	-0.397 (0.451)	-0.350 (0.296)	-0.207 (0.251)	-0.0485 (0.183)	0.130 (0.129)
CADR	0.394 (0.500)	0.462 (0.292)	0.269 (0.248)	0.0469 (0.181)	-0.133 (0.127)
BVPS	-0.653** (0.263)	-0.639*** (0.197)	-0.428** (0.168)	-0.140 (0.122)	-0.0328 (0.0861)
Constant	-0.000291 (0.000407)	-0.000267 (0.000305)	-0.000357 (0.000259)	-0.000121 (0.000189)	-0.000127 (0.000133)
Observations	32	35	32	32	33
	0.4251	0.6321	0.4215	0.4935	0.5631

*** p<0.01, ** p<0.05, * p<0.1, Robust standard errors in parentheses

Conclusion and Future Implications

This study examined both Islamic and Conventional banking firms for stability and earning trends through bank-related and country-based indicators. For stability, selected key measures are volatility in return on assets and return on equity. To reflect earning trends, three measures under the title of net profit margin, earning per share and return on investment were added in the model. Analyses were conducted for both conventional and Islamic banks through regression analysis with and without consideration of country-based factors. It is observed that for Islamic banking, key indicators for stability through return on equity are market risk with highly significant effect. For volatility in return on assets, NPLs, book value per share and GDP are found to be significant determinants. Meanwhile, for NPM effect of NPLs, market risk book value per share and GDP is significant.

In addition, earning determinants like NPM, EPS and ROI are directly influenced by NPLs, book value per share and GDP also. When the effect of country-related factor is removed from



regression models, NPLS and market risk are the only bank-related factors to affect volatility in ROA and earnings of Islamic banks. Additionally, for conventional banking firms, key determinants under the consideration of all explanatory variables are non-performing loans, capital adequacy ratio and gross domestic product. While effect of inflation is also found to be significant for V_ROE. Without country-based indicators, key factors for the stability and earnings are again NPLs and book value per share for V_ROE, V_ROA, and NPM respectively.

These findings add significantly to the body of knowledge in the literature of banking, finance and risk management. Both conventional and Islamic banking officials are highly recommended to review the findings of present study for more understanding of both regressors and outcome variables. It is suggested that bank volatility either in Islamic or conventional banking is highly associated to NPLs and these findings are of not because they are not consistent with existing literature. In addition, capital ratio and book value per share are also significant determinants but their effect is very low, means that they could be under 2nd consideration for banking management and related officials. For country-representatives, GDP reflects its significant influence on both stability and earning factors. This means that future growth of GDP is highly anticipated for banking growth too. Key limitations of this study are highlighted as the limited sample from both the Islamic and conventional banking sectors, time duration of study and absence of cross-sectional comparative analysis. Future studies are highly recommended to overcome these limitations.



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