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Firms’ performance and risk with the presence of Sukuk rating as default risk

Nurul Hidayah Ab Hamid\textsuperscript{a}, Nor Balkish Zakaria\textsuperscript{a}\textsuperscript{*}, and Noor Hidayah Ab Aziz\textsuperscript{a}

\textsuperscript{a}Accounting Research Institute and Universiti Teknologi MARA, 85000 Segamat, Johor, Malaysia

Abstract

This research aims to examine the role of income stream risk, stock return risk, strategic risk and default risk in explaining corporate performance. Approximately 312 listed firms, from 2008 until 2011 are chosen across industries in Malaysia to represent the sample firms. The Sukuk rating emerges as a surrogate for default risk, while the corporate performance indicators are based on the return on assets and return on equity. The contribution of the research result may lead on introducing the default risk measures by Sukuk based on the uniqueness of Malaysian data in applying the Shariah compliance.

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Keywords: Corporate Performance; Corporate Risks; Sukuk

1. Introduction

Generally, corporate performance addresses on both operational and financial performance that include the process of collecting the data and performing the analysis. Corporate performance is a set of management and analytic processes that enable the management of an organization’s performance to achieve one or more pre-selected goals. According to Sirgy (2002) corporate performance indicates firm’s long term survival and growth which is determined by the relationship between quality and various organizational department as well as stakeholders. There are a few perspectives taken in order to measure the corporate performance in achieving such goals. Supported by balance scorecard model, Ghosh and Mukherjee (2006) suggest that four perspectives that must be measured are; learning and growth, internal process, customer, and financial. This is however slightly different from

\*Corresponding author. Tel.: +6 07 935 2478

\textit{Email Address}: balkish@johor.uitm.edu.my
Ivashkovskaya and Stepanova (2010) study, which found that the performance of the firm depends on its structural dimensions which are capital structure, ownership structure and corporate governance.

Bromiley (1991) and Bowman (1980) define risk as the uncertainty of a company’s income stream. It shows that the income stream risk is the most effective risk that may give a high effect towards company performance. In addition, every corporate performance involves risk factors that they have to improve in order to achieve the higher performance since risk may affect negatively. Otherwise there is no action taken on every failure in management incurred and also no turnover on every cent spent. Bierc (2003) states that risk is correctly viewed as the very lifeblood of an organization, the essential substance to determining vision, strategy, tactical objectives and key business process. In addition, Javari, Chadegani and Biglari (2011) suggest that the risk management is used to decrease the undesirable effects of market conditions and behavior on company’s activities and performance. It means that every firm that bears high risk tends to gain high income, in which leads to the higher performance. Thus, Fisher and Hall (1969) state that there is an economic argument for the impact of performance on risk taking, as the expected utility of an investment will decline with increase in the variance of return for that investment.

Default risk is also a part of the corporate risk elements. Default risk shows the inability of firms to meet their debt obligation. Default risk can commonly be identified from firms’ debt rating or from the proportion of debt existence in the capital structure. In the globalization era, Islamic capital market witnessed the evolution and development of Sukuk or also known as Islamic Bond. Sukuk have developed as the largest Islamic securities instrument in Malaysia and also in the world of the Islamic finance, with RM211 billion or almost 61.4% of all the outstanding Sukuk worldwide originating from Malaysia as at the end of 2008. Sukuk exercise some features of conventional bonds and equity that strictly follow Islamic practice. Sukuk may not consist of any additional charges such as interest (Riba’) and all agreement must be detailed up and also clear for both parties, for example uncertainty (Gharar) and gambling (Maysir). Sukuk represents undivided shares in the ownership of tangible assets relating to particular projects or special investment activity. Regarding Sukuk, Accounting and Auditing Organization for Islamic Financial Institutions (AAOIFI Standard 17, 2008) defined the following; “Sukuk investment is a certificates of equal values that represent undivided shares in ownership of tangible assets, usufruct and services or in the ownership of the assets of particular projects or special investment activity”. Sukuk holders or investors may enjoy the benefit of being backed by assets and affording a level of protection which may not be available from conventional debt securities. In addition, unlike the conventional debt securities which the interest is paid by purpose, Sukuk can be structured based on innovative applications of the Islamic principles whereby the revenues from these assets may represent the source of income for the payment of profit on Sukuk (Mohd Zin, Hashim, Khalid, Opir and Sulaiman, 2011). Sukuk as other conventional bonds need to undergo rating judgment that reflects the credit worthiness of the issuer. In this case, Sukuk may fall into default risk if the rating negatively migrates along the maturity years of assessment.

1.1 Problem statement

Firm with performance above its industry average with risk-averse and risk aversion will increase as performance increase. Contrast to the firms that below the target, the Prospect Theory by Kahneman and Tversky (1979) suggests that low performance firm may results in seeking project with higher risk. The income stream risk is the most effective risk that may give a high effect towards company performance (Miller and Bromiley, 1990). Moreover, Miller and Bromiley (1990) also discover three factors of risk that may have a reflection towards the performance of the corporate firms. Those three risk factors are the income stream risk, stock return risk and strategic risk. However, they exclude; default risk.

In addition in their study to the argument by Prospect Theory, default risk is vital as it could cover the loophole left by Beta, the systematic risk in explaining market capital risk (Fama and French, 1992). Nonetheless, this study seeks to find results from default risk and other risk elements as stated in Miller and Bromiley (1990) due to the uniqueness of debts from Malaysian listed firms that mostly are Shariah compliance. As this study is conducted based on the data obtained from Malaysia; which is one of the pioneer countries for Sukuk development, thus this study expects to see the result on how Sukuk rating may serves as default risk proxy in explaining the corporate performance. Thus, this study would like to examine on how the income stream risk, stock return risk, strategic risk
and default risk explain firms corporate performance. As default risk aims to analyses the dynamic effects on the management risk indicator on our country towards Islamic Finance, Sukuk issuance operates as a default risk element.

2. Literature review

2.1 Corporate performance

Caliskan, Icke and Ayturk (2011) examine the relationship between corporate reputation and corporate financial performance in Turkey for the period between the year 2000 and 2010. The results indicate that there is no casual relationship between corporate reputation and corporate financial performance measures of MBV (market book value) and ROA. Moreover, their results also indicate that although corporate reputation does not impact performance measure of ROE, however ROE improves corporate reputation.

Brown and Caylor (2004) identify corporate governance provisions that are significantly and positively have linked to ROA, ROE or both. The results of the study found that none of them to be significantly and positively related to the performance of firms operating. As compared to the study by Miller and Bromiley (1990), there are significant relationships between dependent variables (ROA and ROE) towards corporate performance.

Epps and Cerelo (2008) compared the institutional shareholder services’ CGQ (corporate governance quotient) rating with two measures of the firm’s operating performance, ROA and ROE. However, their result reveals that there is no statistical evidence suggesting that the firms’ operating performance is significantly related to the firm’s corporate governance rating.

2.2 Corporate risk

Palmer and Wiseman (1999) state that organizational risk is similar to the income stream risk. While organizational risk is important to strategic management since income variation can have negative consequences for the firm as a whole (Amit and Wernefelt, 1990). Fiegenbaum and Thomas (1988) posit that, the income stream risk is generally believed to be the measure of risk most relevant to the general management. Additionally, according to Bloom and Milkovich (1998) the income stream risk is negatively related to the company performance therefore the coefficients measurements of the income stream risk are negative and significant.

Miller and Bromiley (1990) states that the stock returns risk measure the variability in the historical stock returns. According to CAPM (capital asset pricing model), investors can eliminate the unsystematic risk elements through the diversification of portfolios. Additionally, Barber and Odean (2000) posit that the stock return risk is a key component of shareholder value that matters to the financial markets. Thus, stock return risk is value relevant. Pilotte (2003) however states in his study that microeconomic factors must first be added to the microeconomic influence in order to gain a deeper understanding of stock return risk. Nevertheless, according to Yi (2011) stock returns risk is influenced by the covariance between financial distress and expected inflation.

Strategic Risk is about managing risk “strategically” rather examining strategic risk as a category similar to operational, financial and other risk (Aron, Clemoins, Reddi ; 2005). Allan and Beer (2006) highlight that strategic risk emerges from the strategic of the decision making because the future is uncertain and all outcomes of strategic choice will be accompanied by varying degree of uncertainty. Faseruk (2011) stresses that strategic risk emerges as managers are assumed to formulate expectations about the riskiness of actual and potential investment projects. In addition, Kambil, Layton and Funston (2005) posit that the strategic risks are often caused by low frequency and high impact of risks. Allen (2007) posits that the strategic risk is the current or prospective risk to earnings and capital arising from changes in the business environment and from adverse business decisions, improper implementation of decisions or lack of responsiveness to changes in the business environment.

On the other hand, default risk is the risk of a borrower ability to pay its creditors on time and in the full amount. Vassalou and Xing (2004) suggest that default risk is the probability the firm’s assets will be less than the book values of its liabilities. In addition, they also suggested that default risk would cause lenders to require a spread over the risk-free rate. The size of this spread is a function of the probability of default of the individual firms. Therefore, the higher the probability of default will give the higher result of spread. The default risk also may arise as the poor
performance of a firm. According to Zeitun, Tian and Keen (2007), firms’ capital structures are fundamental in predicting default risk as they affect a firm’s ability to access external sources of funds. By referring to Jordanian sample of firms, their result shows default probability is negatively related to high cash flow and greater sales volume. These imply that the financial performance affects the default risk. Zeitun and Tian (2007) define firms with default risk as those that have a receiver or liquidator appointed or that have been delisted from the Amman Stock Exchange.

2.3 Sukuk Rating

Sukuk or also known as Islamic Bond is a new phenomenon that rapidly grows among others Islamic Securities in Islamic Capital Market. Sukuk is a security’s instrument that complies with the Islamic Law, since the income of Sukuk issuance is fixed proved that Sukuk issuance may not involve any additional interest (Riba’) charging and excessive uncertainty (Gharar).

Sukuk as other conventional bond has to undergo the rating process that reflects the credit worthiness of the issuer. Thus, if the issuer defaults in any repayment obligation the rating will suffer a negative migration. This is where the default risk of Sukuk emerges. In Malaysia, all Sukuk has to be rated unlike the issuance in some other Gulf countries where some of the Sukuk issuances are silence from undergoing the rating process (Godlewski, Rima and Weill, 2011)

3. Research methodology

3.1 Sample selection and procedures

Firms’ specific data were obtained from DataStream database while the data for Sukuk were derived from Rating Agency of Malaysia (RAM). Sukuk rating data were assigned to scales according to rating score. Data were gathered from 2008 until 2011. The sample was drawn from the listed firms on Bursa Malaysia as at 1st January 2008. However, firms with insufficient data to estimate beta were delisted. Therefore, the final sample consists of firms that have sufficient stock return data, listed on Bursa Malaysia from 2008 to 2011 and issued Sukuk and rated by RAM in between this period. Thus, firm-years observation sample for this study is 312.

3.2 Models

The model is designed following Miller and Bromiley’s (1990). The dependent variables in this study is the corporate performance measures by ROA and ROE while the independent variables are the income stream risk (measures by the standard deviation of ROA (SDROA) and standard deviation of ROE (SDROE)), stock return risk (Beta), strategic risk (debt to equity ratio) and default risk (Sukuk rating). Two empirical models were developed to test how these risk elements may affect corporate performance.

\[
\begin{align*}
\text{ROEt} &= \beta_0 + \beta_1 \text{SDROA}_{t-1} + \beta_2 \text{SDROE}_{t-1} + \beta_3 \text{Betat}_{t-1} + \beta_3 \text{DER}_{t} + \beta_4 \text{Sukuk} + e \\
\text{ROAt} &= \beta_0 + \beta_1 \text{SDROA}_{t-1} + \beta_2 \text{SDROE}_{t-1} + \beta_3 \text{Betat}_{t-1} + \beta_3 \text{DER}_{t} + \beta_4 \text{Sukuk} + e
\end{align*}
\]

Where:
- \( \text{SDROA}_{t-1} \) = Last year Standard Deviation ROA
- \( \text{SDROE}_{t-1} \) = Last year Standard Deviation ROE
- \( \text{Betat}_{t-1} \) = Last year estimated from market model (Sharp, 1963)
- \( \text{DER} \) = Debt Equity Ratio
- \( \text{Sukuk} \) = Sukuk rating score assigned as Appendix A
- \( t \) = Current year
- \( e \) = Estimation error

Variables measurement
4. Data analysis and findings

4.1 Descriptive result

Table 1 shows the descriptive results of this study. The mean (median) of the ROA is 5.69 (5.65). There is not much difference between the values of mean and median for the ROA, thus this variable is normally distributed. The standard deviation for ROA is 2.19. Meanwhile, the mean for another dependent variable (ROE) is 7.69 and the variable median is 7.45 together with the values of the standard deviation of 2.92.

The mean (median) for the income stream risk which is measured by Standard deviation of ROA (SDROA) is 0.31 (0.30). In addition, the mean (median) for Standard deviation of ROE (SDROE) is 13.39 (6.77). For stock return risk that is measured by beta, the mean is 1.37 and the median is 1.06.

The mean (median) values of the debt to equity ratio (DER) are 48.90 (49.91). Finally the mean of the Sukuk as default risk is 17.64 with a median of 19.06. The standard deviation for this additional risk is 3.09.

Table 1. Descriptive results

<table>
<thead>
<tr>
<th></th>
<th>ROA</th>
<th>ROE</th>
<th>Std Dev. ROA (SDROA)</th>
<th>Std Dev. ROE (SDROE)</th>
<th>Beta</th>
<th>Debt Equity Ratio (DER)</th>
<th>Sukuk</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mean</td>
<td>5.69</td>
<td>7.69</td>
<td>0.31</td>
<td>13.39</td>
<td>1.37</td>
<td>48.9</td>
<td>17.64</td>
</tr>
<tr>
<td>Median</td>
<td>5.65</td>
<td>7.45</td>
<td>0.30</td>
<td>6.77</td>
<td>1.06</td>
<td>49.91</td>
<td>19.06</td>
</tr>
<tr>
<td>Minimum</td>
<td>1.1</td>
<td>1.43</td>
<td>0.00</td>
<td>0.50</td>
<td>0.63</td>
<td>10.01</td>
<td>1.00</td>
</tr>
<tr>
<td>Maximum</td>
<td>9.07</td>
<td>13.67</td>
<td>5.56</td>
<td>245.97</td>
<td>1.88</td>
<td>89.37</td>
<td>20.00</td>
</tr>
<tr>
<td>Stand Dev.</td>
<td>2.19</td>
<td>2.92</td>
<td>0.87</td>
<td>28.86</td>
<td>1.34</td>
<td>17.43</td>
<td>3.09</td>
</tr>
</tbody>
</table>

4.2 Correlation Analysis

Table 2. Correlation analysis results of all the variables

<table>
<thead>
<tr>
<th></th>
<th>ROA</th>
<th>ROE</th>
<th>Std Dev. ROA (SDROA)</th>
<th>Std Dev. ROE (SDROE)</th>
<th>Beta</th>
<th>Debt Equity Ratio (DER)</th>
<th>Sukuk</th>
</tr>
</thead>
<tbody>
<tr>
<td>ROA</td>
<td>1</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>ROE</td>
<td>0.678**</td>
<td>1</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Std Dev. ROA</td>
<td>0.359**</td>
<td>0.396**</td>
<td>1</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Std Dev. ROE</td>
<td>-0.081</td>
<td>-0.032</td>
<td>-0.069</td>
<td>1</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Beta</td>
<td>-0.061</td>
<td>-0.045</td>
<td>0.194**</td>
<td>-0.008</td>
<td>1</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Debt Equity Ratio</td>
<td>0.09</td>
<td>0.098</td>
<td>0.207**</td>
<td>0.004</td>
<td>0.684**</td>
<td>1</td>
<td></td>
</tr>
<tr>
<td>Sukuk</td>
<td>0.062</td>
<td>0.068</td>
<td>0.029</td>
<td>-0.081</td>
<td>-0.027</td>
<td>-0.06</td>
<td>1</td>
</tr>
</tbody>
</table>

Note: Correlation is significant at the 0.01 level (2-tailed)

Table 2 above shows the Pearson correlation coefficient among all pairs. From Table 2, the correlation of ROA and ROE is 0.678, which proved that there is a strong correlation between these two proxies for the corporate performance. Any changes in ROA may strongly correlate with the changes in ROE. Similar results were derived from Debt to Equity Ratio (DER) and Beta, the correlation for these two variables is positive at 0.684.
Meanwhile, the positive values of Pearson correlation show that there is a positive correlation between the variables. Pearson value on the relationship between ROE and DER is 0.098, thus it proves that if the value of ROE increases by 1 unit DER will increase by 0.098. However, the correlation result of -0.081 between ROA and SDROA implies that ROA increases by 0.081 with each drop in the value of SDROE.

4.3 Multiple Regressions

From Table 3 below, the model summary indicates that the adjusted R2 is 0.325. This shows how much the independent variables are able to explain the dependent variable (ROE). In this case, as much as 32.5% on ROE had been significantly explained by the four-predictor variables. The results show that the income stream risk (measures by SDROA) is positive and significantly associated with the performance of the company with the value of t=7.839, P < 0.05. However, the other measure of income stream risk which is SDROE indicates the income stream risk is not significant associated with the company performance (t = -0.121, P < 0.05). Beta that represents the stock return risk is negative and significantly associated with the company performance (t = -5.969, P < 0.05). Strategic risk which is measured by DER also shows a significant association to the company performance with t = 5.447 and the P < 0.05. In addition the result from Sukuk that represents the default risk is found negative significantly associated with the performance of the company (t= -2.475, P < 0.05)

<table>
<thead>
<tr>
<th>Independent Variables</th>
<th>Estimate (t-stat)</th>
</tr>
</thead>
<tbody>
<tr>
<td>SDROA</td>
<td>1.333</td>
</tr>
<tr>
<td></td>
<td>(7.839)**</td>
</tr>
<tr>
<td>SDROE</td>
<td>-0.001</td>
</tr>
<tr>
<td></td>
<td>(-0.121)</td>
</tr>
<tr>
<td>Beta</td>
<td>-0.742</td>
</tr>
<tr>
<td></td>
<td>(-5.969)**</td>
</tr>
<tr>
<td>DER</td>
<td>0.088</td>
</tr>
<tr>
<td></td>
<td>(5.447)**</td>
</tr>
<tr>
<td>Sukuk</td>
<td>-0.069</td>
</tr>
<tr>
<td></td>
<td>(-2.475)**</td>
</tr>
<tr>
<td>Constant</td>
<td>9.57</td>
</tr>
<tr>
<td></td>
<td>(8.723)**</td>
</tr>
<tr>
<td>Observation</td>
<td>312</td>
</tr>
<tr>
<td>Adj. R²</td>
<td>0.325</td>
</tr>
</tbody>
</table>

Note: ** Significant at P < 0.01 (2-tailed) and * Significant at P < 0.05 (2-tailed)

From Table 4 below, the model summary indicates that the adjusted R2 is 0.272. This shows how much the independent variables are able to explain the dependent variable (ROA). In this case, as much as 27.2% on ROA had been significantly explained by the four-predictor variables.

The results show that the income stream risk (measures by SDROA) is positive and significantly associated with the performance of the company with the value of t=5.648, P < 0.05. However the other measure of income stream risk which is SDROE indicates the income stream risk is not significant associated with the company performance (t = -0.860, P < 0.05). Beta that represents the stock return risk is negative and significantly associated with the company performance (t = -6.216, P < 0.05). Strategic risk which is measured by DER also shows a significant association to the company performance with t = 5.648 and the P < 0.05. In addition, the result from Sukuk that represents the default risk is found negative significantly associated with the performance of the company (t= -2.395, P < 0.05).
Table 4: Multiple regression analysis

<table>
<thead>
<tr>
<th>Independent Variables</th>
<th>Estimate (t-stat)</th>
</tr>
</thead>
<tbody>
<tr>
<td>SDROA</td>
<td>0.906 (5.648)**</td>
</tr>
<tr>
<td>SDROE</td>
<td>0.007 (-0.860)</td>
</tr>
<tr>
<td>Beta</td>
<td>-0.586 (-6.216)**</td>
</tr>
<tr>
<td>DER</td>
<td>0.069 (5.648)**</td>
</tr>
<tr>
<td>Sukuk</td>
<td>-0.067 (-2.395)**</td>
</tr>
<tr>
<td>Constant</td>
<td>7.304 (8.795)**</td>
</tr>
<tr>
<td>Observation</td>
<td>312</td>
</tr>
<tr>
<td>Adj. R2</td>
<td>0.272</td>
</tr>
</tbody>
</table>

Note: ** Significant at P < 0.01 (2-tailed) and * Significant at P < 0.05 (2-tailed)

5. Conclusion

5.1 Summary of the findings

This study analyzes the role of income stream risk, stock return risk, strategic risk and default risk in explaining corporate performance. Results of this study indicate that most of the independent variables are significant to the firms’ performance except for income stream risk which is measured by SDROE on both corporate performance models measures. The result of beta shows that stock return risk is significant and negative. This implies that corporate performance improves wherever stock return risk decrease. Strategic risk that is proxied by debt to equity ratio indicates that wherever the strategic risk increases, the corporate performance will also increase. This could due to the debt financing strategy that sample firms used to finance their business operation. This implies that the greater the debt over equity, the higher the firm’s return on asset and equity. Finally, default risk in this study proved that Sukuk rating is significant to firms’ corporate performance. The lower the default risk which due to high rating of Sukuk indicates better corporate performance of the firms. This implies that the credit worthiness and ability to meet debt obligation is vital to every firms.

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