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Diversification Strategy and Performance of Malaysian Firms

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ABSTRACT

Business diversification has drawn the attention of strategic management and finance scholars. This preliminary study examines factors that influence firm performance using multiple measures of performance namely accounting and market measurements. The study used OLS data analysis for a sample of 70 Malaysian firms from various industries during the period 2001 to 2005. The evidence produces some factors that explain performance measurement but results are still ambiguous.

Keywords: *diversification strategy, performance, Malaysia*

Introduction

The relationship between diversification and performance has been one of the most debated topics in the field of strategic management and finance. This issue has been studied mostly in developing countries but limited evidence is available in emerging markets. The results of previous studies are mixed, which may suggest that different independent variables were used. Malaysian-listed firms are employed as sample to find out whether these companies actively pursue diversification in order to reduce

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business risk. The inverse relationship between financial and business risk make it imperative for such companies to diversify to reduce risk and maximize returns. Thus, this study is motivated to examine factors that may influence diversification and firm performance of Malaysian-listed firms.

Literature Review

Diversification and Firm Performance

Diversification is a strategic choice of firms to improve performance. There are two opposing views in previous studies examining diversification and performance relationship. The first view favors undiversified firms while the second favors diversified firms. Therefore, the question of whether to diversify in order to increase firms' performance remains unclear.

Proposition to Support Undiversified Firms

The first division of research examines diversification and performance relationship. Several researches verified that diversification does not increase firm performance, whereby undiversified firms have the tendency to perform better than diversified ones (Montgomery, 1994). A strong rejection for diversification was demonstrated by Stimpert and Duhaime (1997) who emphasize that diversified firms would result in low performance when the firm fails to implement strategic investment. They conclude that high performance firms are unlikely to implement diversified strategy due to better investment opportunities as compared to firms experiencing low performance. Lin and Servaes (2002) present the same empirical evidence by investigating this relationship in emerging markets and advocate that undiversified firms are better performers. The study by Denis, Denis and Yost (2002), Zook et al (2000); Zook and Rogers (2001); also lend support to undiversified strategy.

Proposition to Support Diversified Firms

The second group of research contradicts the above findings whereby performance increases as a result of diversified strategy. Rumelt (1982) clustered firms' strategy into seven categories of diversification and advocated that diversified strategy could improve firms'

performance. His research was based on the sample from 1949 to 1974 whereby diversified strategy dominated corporate action in United States during that period.

Kim, Hwang and Burgers (1989) contend that diversification may improve firm performance. Lee, Hall and Rutherford (2003) found similar evidence in Korean markets during the period 1992 to 1996. This may be the reason why firms in emerging markets pursue diversified strategy. Based on a comparative study with US firms, which gave the opposite outcome, they concluded that diversification have different effects in developed as compared to emerging markets.

The contrasting evidence between developed and emerging markets may be due to different variables used in the respective studies. To date, various studies have examined the number of variables that may explain firm performance. However, these studies offered mixed results. One major problem is the existence of market imperfections which are economical, political and environmental in nature (Lee, Hall and Rutherford, 2003). Other reasons that affect their results might be due to different countries' characteristics, and also different approaches used (Kim, Hwang and Burgers, 1993). Simmonds (1990) shows that breaking up the study period from 10 years (1975 – 1984) to two 5-year sub-periods (1975 -1979 and 1980 – 1984) gave significant results. Major discrepancy between the results could be due to the period from 1975 to 1979 being when the economy experienced higher inflation and higher interest, while from 1980 to 1984, the economy faced reduced inflation and interest, and improved economic condition. Kracaw, Lewellen and Woo (1992) support those findings in which they mention that inflation variable may influence performance.

Apart from economic condition, firm-specific variables like leverage, risk and size may also influence performance. The literature has two sets of findings with regard to diversification and leverage relationship. The first shows that leverage may be negatively related to performance, while the second view put leverage as the factor that improve performance (Kovenock and Phillips, 1995).

Even though researchers are divided on the effect of leverage, they have reached a consensus pertaining to influence of firm size on performance. Their evidence exhibits that large firms can utilize resources efficiently and minimize downside risk, which in turn could improve firm performance (Tongli, Kwok and Ping, 2005)

Besides that, risk is another important variable that attract little attention in the study pertaining to diversification issue. Risk needs to be

controlled because the theory states that high risk is associated with high return (Kim Hwang and Burgers, 1993). They used variance of return on assets as a proxy for risk. Therefore, risk profile of the firm needs to be controlled in order to capture effects on firm performance.

Performance Measurement

Various studies attempted to determine the measure of performance that captures all performance goals. Different proxies used in these studies contributed to the ambiguous findings pertaining to diversification and performance relationship. Most literature employed accounting measure as a proxy of performance. However, this measure has been criticized because it is subject to manipulation (Buhner, 1987). Since investors made investment decision based on accounting numbers, better results should lead to higher share prices (Dubofsky and Vadarajan, 1987). However, the evidences are mixed where accounting measure of performance support undiversified firms in contrast to market measure of performance which favor diversified firms (Dubofsky and Vadarajan, 1987; Hitt and Ireland, 1986). The reason for dissimilar evidence may suggest the existence of market imperfections as well as different proxies used for accounting measure (Lee, Hall and Rutherford, 2003).

Proxies for accounting measure proposed in the literature include return on equity used by Lateef and Narendar (2004); return on sales, return on invested capital and compound sales growth employed by Simmonds (1990). Both studies did not find significant relationship between diversification and the aforementioned variables. However, the results are significant with return on assets (Simmonds, 1990). Consequently, most studies incorporated return on assets as accounting measure of firm performance. Bettis (1981) informs that return on assets is widely used by practitioners and academicians because it controls for differences in the firm's financial design.

Owing to ambiguity in results when using accounting measure of performance, some studies have adopted market measure as an alternative proxy. Even though both measurements may have limited capability to measure performance, Simmonds (1990) suggests use of multiple measures (accounting and market) to capture almost all firm performance goals.

Therefore, it seems necessary to incorporate multiple measures to examine diversification and performance relationship as in Tongli, Ping and Kwok (2005). They also state that a single measure that satisfies all performance criteria is not available and that multiple measures may be appropriate to establish the robustness of findings and provide better performance measurement tool.

Theoretical Framework and Methodology

Company data were extracted from the Worldscope database and classified into diversified or undiversified. Companies with total sales exceeding 95% from a particular industry are classified as 'undiversified', the rest are 'diversified'.

The same approach was used by Rumelt (1982) who employed total sales as a benchmark to determine undiversified and diversified firms. However, if reported business segment did not reflect industry classification, the standard industry classification (SIC) code was used instead. Similar approach was employed by Lin and Servaes (2002).

The data randomly selects 260 syariah firms out of 584 syariah firms on Main Board of Bursa Malaysia as at end of 2005. List of *syariah*-compliant firms was obtained from Bursa's website. Financial sector was eliminated as firms in this sector have different financial statement structure. Subsequently, this study also eliminates firms for which Worldscope did not provide sales breakdown, although it may operate in a single or multiple business segments.

The study period is for five years from 2001 to 2005. A short study period is desirable because firms' strategy keeps changing over time and extending the period would reduce the number of firms with a stable strategy. Singh et al (2003) and Lateef and Narendar (2004) used three years study period and Buhner (1987) used four years. Firms that do not maintain the same strategy over the study period were eliminated.

Research Design

The regression estimation technique was used to establish possible relationship between diversification and performance of *syariah*-compliant Malaysian firms.

Variable definitions

This section discusses variable definitions used as proxies for diversification, control variables and performance. They are briefly explained as follows:

i. Performance variables

The accounting and market measures are the two types of performance measurement used in this study.

a. Accounting Measure

Most literatures have employed accounting measure of performance by using return on asset (ROA) as a proxy. According to Bettis (1981), this ratio is under management control and broadly used by practitioners and academicians. Khanna and Palepu (2000) used the same ratio to assess performance of firms in India. This study thus adopts the same ratio to measure performance defined as follows: -

$$\textit{Return on Assets (ROA)} = \frac{\textit{Net Income after taxes but before extraordinary items}}{\textit{Total Assets}}$$

b. Market Measure

The data for share prices were gathered from DataStream for the period 2001 to 2005. The base year for each category is year 2000. The market-adjusted return was used as a proxy for market measure (Tongli *et al*, 2005).

i. Market Adjusted Return = Share return – Emas Index Return

where:

$$\textit{Share return} = \frac{(SP_n - SP_i) \times 100}{SP_i}$$

Share return = percentage change of share price over initial value
SP_i = Initial value of share price (prior to base year of study)
SP_n = Share price in year N

The *emas* index was used to calculate market return. This index is considered effective because it comprises of all listed firms on Main Board of Bursa Malaysia. In addition, this study randomly selected sample from all listed firms on the Board.

ii. Emas Index return $= \frac{MP_n - MP_i \times 100}{MP_i}$

Emas Index Return = ***percentage change of emas index return over initial value***

MP_i = ***Initial value of emas index (prior to base year of study)***

MP_n = ***Emas index in year N***

ii. Independent and Control Variables

The focus of this study is to find the impact of various independent variables on firm performance. These variables have been tested in developing countries but not in Malaysia. The existence of different country characteristics may be possible factors leading to variable result. (Geringer, Tallman and Olsen, 2000; Kim, Hwang and Burgers, 1993; Lee, Hall and Rutherford, 2003). Therefore, this study incorporates the following variables on firm performance:

a. Firm Size

Previous studies normally control for firm size. According to them, firm size has an impact on performance. Tongli *et al*. (2005) assert that large firms can use their resources efficiently and minimize downside risk, which in turn, could improve firm performance. Therefore, this variable needs to be controlled. The following definition is used to measure firm size:

Market Value (MV) = ***share price × number of shares outstanding***

Firm Size = ***Ln(MV)***

b. Risk

The theory states that for any investment decision made by investors, they require high return to compensate for high risk. Kim *et al*. (1993) used variance of return on assets as a proxy for risk. Risk profile of the firm needs to be controlled in order to capture effects of firm performance.

Risk = Standard deviation of ROA

c. Inflation

Kracaw, Lewellen and Woo (1992) and Simmonds (1990) suggest that inflation has a strong impact on performance. This study thus employs inflation in investigating performance effect on companies in Malaysia.

d. Leverage

Leverage of the firm were taken from Worldscope which provides debt to equity ratio for listed firms on Bursa Malaysia. The definition of this variable is:-

$$\textit{Debt to Equity Ratio} = \frac{\textit{Long Term Debt}}{\textit{(Long-term debt + Market value of equity)}}$$

Method of Estimation

a. Relationship between Performance and Business Diversification

There are two categories used in diversification; undiversified and diversified firms. Diversified strategy has been advocated by Dubofsky and Vadarajan (1987) to improve firm performance. In contrast, Stimpert and Duhaime (1997) favor undiversified strategy. The mixed evidence need to be understood in the Malaysian context by integrating the control variables namely, size, risk, leverage and inflation, to explain firm performance. The following estimation techniques are used to examine factors affecting performance:-

Diversified firms

$$Y= \alpha +\beta_1 (size) + \beta_2 (risk) + \beta_3 (lev) + \beta_4 (inf) + e_{it} \ldots\ldots\ldots\ldots\ldots\ldots \text{ Equation 1}$$

Undiversified firms

$$Y= \alpha +\beta_1 (size) + \beta_2 (risk) + \beta_3 (lev) + \beta_4 (inf) + e_{it} \ldots\ldots\ldots\ldots\ldots\ldots \text{ Equation 2}$$

Estimation Results

This section presents the results of regressions from the estimation models developed. Analysis of the regression outputs from the OLS technique reveal result presented in Table 1, which exhibits the findings for diversified and undiversified firms. The tested variables that consist of leverage, size, risk and inflation reveal mixed findings in measuring performance.

Table 1: OLS Estimation Result

Variable	Diversified (Equation 1)		Undiversified (Equation 2)	
	ROA	MAR	ROA	MAR
Leverage	0.000440	0.000103	-0.000968	0.000777
	(0.002445)	(0.000121)	(0.003792)	(0.000175)***
Size	0.579495	0.012298	0.756509	0.003412
	(0.006099)**	(0.125424)***	(0.123192)***	(0.005773)
Risk	-0.613843	-0.002238	-1.040485	0.002227
	(0.126716)***	(0.006273)	(0.095641)***	(0.004402)
Inf	-0.616100	-0.089952	-0.046553	-0.053340
	(0.644723)	(0.031916)***	(0.675625)	(0.031097)*
N	35	35	35	35
R^2	0.1503	0.0487	0.4246	0.1250
Adj. R^2	0.1354	0.0321	0.4145	0.1097
DW	1.4031	2.3308	2.2511	2.4737

Note:
1) Figures in parentheses denote "Standard Error" values of the regression coefficients.
*** Significant at 1 percent level
** Significant at 5 percent level
* Significant at 10 percent level
2) MAR: Market Adjusted Return

Overall, the independent variables explain accounting measure of performance better than the market measure of performance for both diversified and undiversified firms. The adjusted R^2 for accounting measure are 13.54% and 41.45% for diversified and undiversified firms respectively. The direction of relationship seems consistent with theory whereby higher leverage is associated with better performance. The more leverage being employed by a firm, the lower is the cost of capital and the higher the return. Even though the direction of relationship is according to theory, the coefficients are not significant except for only one, that is market measure of performance of undiversified firms. The finding indicates that leverage can be used to improve firm performance if the firm is not diversified. Similar finding has been presented by Kovenock and Philips (1995) that leverage can be utilized to increase performance in a single product firm.

A positive relationship is also observed between size and performance. Size is significant to explain performance of diversified firms under accounting and market measures, while for undiversified firms, only accounting measure of performance is significant. Overall, this evidence

confirms the findings by Buhner (1987) and Simmonds (1990) in developing countries. Tongli et al (2005) also found significant size effect on firm performance in a smaller domestic market that is Singapore. These researches concur that large firms are able to use their resources efficiently and have limited downside risk.

Risk factor is negatively related to accounting measure of performance for both diversified firms and undiversified firms. Even though this finding is puzzling, it does agree with Kim et al (1993) who mentioned in their study that firms could achieve high return with low risk based on certain diversification strategies.

The result also shows that inflation is inversely related to market measure of performance being significant at 1% level for diversified firms. Both inflation variables for diversified and undiversified firms are not significant for accounting measure of performance. For undiversified firms, the relationship is marginally significant at the 10% level using market measure as the dependent variable. This finding is similar to Kracaw, Lewellen and Woo (1992). Inflation has no effect on the accounting measure of performance suggesting that investors are more sensitive to market related information rather than accounting related information.

Conclusion

The study explores factors that affect firm performance for diversified and undiversified firms. Finding shows that independent variables have provided dissimilar evidence of relationship with performance. Size significantly affects performance of diversified firms but it is only significant to explain accounting measure of performance of undiversified firms. While leverage only influence market measure of performance of undiversified firms but does not have any effect on performance of diversified firms.

In the case of risk factor, it is only significant on accounting measure of performance for both diversified and undiversified firms but unable to explain market measure of performance for both types of firms. However, inflation only explains market measure of performance for both firms' pursuing different business strategies.

As a conclusion, the results of this study are still ambiguous. Therefore, future research should refine the study to get better result such as shorten the study period to increase firm sample and also to include additional variables to explain firm performance.

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