DETERMINANTS OF ACCOUNTING-BASED PERFORMANCE: EVIDENCE FROM BURSA MALAYSIA

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Abstract

This study aims to examine the determinants of accounting-based performance of 531 non-financial Malaysian listed companies over the period 2004 to2012. System generalized method of moments reveals that both prior risk-taking behaviour and size are found to be important determinants of performance. A significant positive influence of prior risk-taking behaviour on performance implies that risk-averse managers are cognitively influenced by their capability in handling risky investments in the past; consequently enhance confidence in their ability to manage profitable investments. The result appears to support the capital asset pricing model implication. Meanwhile, a significant positive size-performance relationship suggests that investors and fund managers should focus on larger companies as they can have better stock performance.

Keywords: *Risk-Return Relationship; Reverse Size Effect; System-GMM*

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Introduction

Financial performance is considered as an effective indicator of company's achievement over its fiscal year. Return on asset (ROA) is one of the most favorable accounting-based performance measures (Al-Matari, Al-Swidi & Fadzil, 2014; Issah & Antwi, 2017), which reflects the fundamentals of business, including the effectiveness of wealth-generating activities by means of assets utilization. In view of this fact, ROA could be considered as one of the essential components of financial performance measures which can encourage people to invest in a company. As such, corporate managers should take strategic

actions to genuinely improve this accounting-based performance from time to time.

The issue on determinants of corporate financial performance has long been discussed in the areas of financial economics (Hodoshima, Garza-Gomez, & Kunimura, 2000; Blitz & Van Vliet, 2007; Rossi & Timmerman, 2012; Vintila & Nenu, 2015) and strategic management (McNamara & Bromiley, 1999; Andersen, Denrell, & Bettis, 2007; Henkel, 2009; Li, Yang & Zhang, 2014). Identification of factors that can accurately predict firm performance is of great interest to any decision maker. Many studies (Hawawini, Subramanian, & Verdin, 2003; Issah & Antwi, 2017) argue that industry-specific (external) factors play a more important role in dictating the influence of firm performance. On the other hand, other studies (Opler & Titman, 1994; Kamasak, 2011) suggest that firm specific (internal) factors seem to be the major determinants of firm performance, and are the main driver of competitive advantage which is crucial for long-run survival of a company. Focusing on firm specific factors seems more appropriate for this study since prior research documented that firm characteristics factors had a greater effect in explaining firm performance as compared to industry effects (Hansen & Wernerfelt, 1989; Yurtoglu, 2004).

Several research papers (Chandrapala & Knápková, 2013; Kaya, 2015; Ismail & Subramaniam, 2017) developed a measurement model for firm performance based on various internal indicators. Chandrapala and Knápková (2013) investigate the impact of eight internal factors on ROA of 974 firms in the Czech Republic over the period 2005 to 2008. The study shows that firm size, sales growth and capital turnover are having significant positive impact on financial performance of firms. Meanwhile, debt ratio and inventory reflect significant negative impact on financial performance of firms. Furthermore, Kaya (2015) investigates the firm-specific factors affecting the profitability of 24 non-life insurance companies operating in Turkey over the period 2006 to 2013. The main results of the study demonstrate that profitability of non-life insurance companies is statistically significant and positively related to the size of a company and premium growth rate, whereas profitability is statistically significant and negatively related to the age of a company, loss ratio, and current ratio. A similar study was conducted by Ismail and Subramaniam (2017) on 42 consumer products companies in Malaysia for the period 2006 to2015. The results suggest that sales growth (debt to equity ratio) is positively (negatively) and significantly related to profitability.

However, despite being a highly debated topic in the literature, previous studies have not reached a conclusive inference with regard to which company-specific factors most affect the performance of a

company. Inconclusive results will impinge investors' strategy to secure the best investment opportunities with maximum returns for a given level of risks. Therefore, it provides an avenue for the current research to test the previously examined factors and integrate behavioural models of decision making, agency theory and other relevant theoretical views into the research framework. A blend of a broader set of organisational theories could give a better explanation on risk-return relationship, which can add value to the body of knowledge on this issue in the context of emerging markets.

The Malaysian stock market is of special interest as Morgan Stanley Capital International (MSCI) views it as one of the emerging markets in the Asian region which could offer a good place for investment[1] (Lingaraja, Selvam & Vasanth, 2014). Even though comparatively an emerging market such as Malaysia is claimed to be efficient during the period of 2004 to 2013 among the Asian region (Lingaraja et al., 2014), the profile of risk and return in this market may be different from those of efficient markets in developed countries. This is because emerging markets and developed markets do not have similar characteristics (Bekaert, Erb, Harvey & Viskanta, 1998; Bekaert & Harvey, 2002; Bekaert & Harvey, 2003).

This study focuses on both the lagged and contemporaneous risk-taking, size, financial slack and leverage as company-specific factors that are expected to have influence on accounting-based performance. To the author's knowledge, this is the first attempt to utilize generalized method of moments (GMM) estimator in investigating the determinants of corporate performance within the context of the Malaysian market. By using system generalized method of moments (S-GMM) which is claimed as robust in the class of all GMM estimators, this paper could offer a better explanation on the issue discussed.

Conventionally, decision makers are assumed to be prone to risk-averse behaviour (Jensen, 1986; Coffee, 1988; Gomez-Mejia & Wiseman, 1997). Apparently, this behaviour will lead to positive risk-return relationships (Fisher & Hall, 1969; Hurdle, 1974; Brealey & Myers, 2003). This risk preference is deemed to be compatible in the settings of an efficient market wherein assets are priced with the aim that their expected return will compensate shareholders for their expected risk. However, the empirical issue of Bowman's paradox which has been widely discussed in the Western countries since Bowman's (1980) seminal work denies the standard assumption of a positive risk-return relationship and risk-averse behaviour derived from the CAPM theory.

[1] By having sound domestic macroeconomic fundamentals, ample liquidity of financial markets and good banking systems enable Malaysia to have sufficient buffers against external shocks, namely, USA sub-prime financial crisis and European sovereign debt crisis (Abidin & Rasiah, 2009; Ibrahim, 2010; Samsi, Yusof & Cheong, 2012).

Many management scholars empirically prove risk-seeking behaviour amongst manager leads to negative risk-return relationship (Bromiley, 1991; Fiegenbaum & Thomas, 1985, 1986, 1988; Wiseman & Bromiley, 1991). This phenomenon emerges as the management team of a poorly performed company is willing to bear higher risks, and do not mind to accept lower returns as long as the company has an opportunity to get out from an unfavourable situation. The temptation to engage in risk-seeking behaviour reflects the perspective of Tversky (1990) irrational behaviour of organisational decision makers in making investment decision. Behavioural finance suggests that the decision makers' risk preference is affected by several cognitive and psychological errors (Ritter, 2003). Apparently, anomaly in risk preference contradicts the core assumption of efficient market hypothesis (EMH). The paradox in accounting-based risk-return relationship remains unexplained as Oviatt and Bauerschmidt (1991) fail to detect any significant relationship between risk and return based on three-stage least squares (3SLS) estimates. In addition, Chang and Thomas (1989) document both positive (managers tend to pursue risky investments as they experience certain level of higher returns) and negative relationship (managers also tend to gamble on risky investments as they experience certain level of lower returns) or a curvilinear risk-return relationship.

The observation of inverse relationship between size of companies and performance, which is labelled as size effect is first documented by Banz (1981) and Reinganum (1981). Based on the US market data, they suggest that excess returns would have been earned by holding stocks of small size companies. The finding on this issue is further supported by Fama and French (1992). Amel-Zadeh (2011) validates the existence of size effect in the Germany equity market. He suggests that the impact of company size on stock returns is conditional on market situation where in the bearish (bullish) market, smaller (larger) companies outperform larger (smaller) companies.

However, the evidence on the issue of size effect has not always been one-sided. For example, studies based on data from the US (Chang & Thomas, 1989; Horowitz, Loughran & Savin, 2000; Schwert, 2003; Chaibi, Alioui & Xiao, 2014), Korea (Mukherji, Dhatt & Kim, 1997), UK (Dimson & Marsh, 1999; Dimson, Marsh & Staunton, 2002), Nigeria (Muritala, 2012), Tanzania (Kipesha, 2013), Czech Republic (Chandrapala & Knápková, 2013); Turkey (Kaya (2015) and Malaysia (Mohd Ali, 2006) suggest that small size companies have substantially lower returns than large size companies. These researches show that the reversed size effect is not only happen in emerging markets but also exist in mature markets. Schwert (2003) suggests that the size effect appears to be reversed because practitioners begin to utilize investment tools which enable them to exploit the small-firm anomaly for their portfolio maximisation. Some studies have shown that large firms have a direct impact on performance due to the ability in

operating business efficiently (Kumar, 2004; Bos & Kolari; 2005; Van Biesebroeck, 2005; Aljifri & Moustafa, 2007), utilizing economies of scales and dominating the market (Bain, 1954; Kumar, 2004; Serrasqueiro & Macas Nunes, 2008), experiencing more business diversification (Yang & Chen, 2009), having greater financial resources (Arora & Gambardella, 1990), and diversifying risk efficiently (Ghosh, 1998; Bossone & Lee, 2004).

The issue on financial slack-performance relationship in the developed markets has been investigated from the perspective of behavioural theory of the firm and agency theory. The proponents of behavioural theory of the firm and agency theory posit contradictory hypothesis on the influence of financial slack on firm's performance (Daniel, Lohrke, Fornaciari & Turner, 2004). From the perspective of behavioural theory of the firm, financial slack is excess resource that can be utilized to absorb variation in external business environment and tackle problems that may threaten company's survival (Sharfman, Wolf, Chase & Tansik, 1988). In addition, financial slack resource can be used to take advantage of environmental opportunities and pursue innovative activities (Cyert & March, 1963; Sang, Hyuksoo & Hinh, 2014). Therefore, organisational decision makers need to be proactive in order to facilitate environmental change (Cheng & Kesner, 1997). These arguments support the positive effect of financial slack on performance of a company (Cyert & March, 1963; Pfeffer & Salancik, 1978; Marlin & Geiger, 2015). In line with this contention, many researchers argue that financial slack is necessary to ensure the long-run survival of a company (Singh, 1986; Hambrick & D'Aaveni, 1988; Lee, 2011).

In contrast, from the perspective of corporate governance issue, agency theorists typically argue that without effective monitoring of management, financial slack provides extra costs and inefficiency to the company and thus harm its performance (Jensen & Meckling, 1976; Fama, 1980; Jensen, 1986). This is because organisational decision makers who are described as self-centred agents would have a tendency to waste the extra financial resources for the purpose of seeking their own interest at the expense of shareholders. Therefore, many scholars are in agreement that financial slack should be reduced to minimize the possibility of mismanagement which can cause performance to decline (Davis & Stout, 1992; Phan & Hill, 1995; Steensma & Corley, 2000).

A number of previous literature have shown that corporate governance mechanisms are important to be implemented in order to promote a more transparent and effective decision making criteria for the management to act in the best interest of the shareholders (Tirole, 2001; Al-Faki, 2006). In the context of Jensen's (1986) free cash flow hypothesis, leverage is considered as one of the governance mechanisms which can reduce the opportunistic behaviour of managers in over-investing the financial resources under their control at the expense of shareholders. The proponents of free cash flow hypothesis argue that by

having greater debt financing leads managers to put more efforts in managing risky projects that have greater potential for larger returns. Failure to meet debt payment will expose the company to bankruptcy problems (Altman, 1993), which in turn may cause the threat of manager's replacement (Jensen, 1989). Thus, the existence of such governance mechanism would mitigate the manager-shareholder conflict of interest which in turn could improve shareholders' value (Jensen, 1986; Harris & Raviv, 1991). The evidence of free cash flow hypothesis is further supported by a number of researchers (see for example, Campello, 2006; Berger & Bonaccorsi di Patti, 2006; Franck, Huyghebaert & D'Espallier, 2010).

The organisation of the rest of this paper is as follows. Section 2 describes how the present study is practically carried out. In Section 3, the results of the study are presented. Finally, Section 4 summarises the findings and highlights the implications of the study.

Methods

The empirical test of this study is based on 531 non-financial Malaysian listed companies. An unbalanced panel data is collected for nine years from 2004 to 2012. The period of study was selected because the Malaysian stock market was claimed as relatively efficient as compared to its counterparts in the Asian region during those period (Lingaraja, Selvam & Vasanth, 2014). All annual based data set for this study are extracted from Datastream. The purpose of relying on a single source of database is to ensure consistency of extracted data. The uniformity of the data is expected to result in an unbiased analysis. To answer the research objective of this study, the following model is examined.

$$PERFroa_{i,t} = \alpha_0 + \alpha_1 RISKSTDroa_{i,t-1} + \alpha_2 RISKSTDroa_{i,t} + \alpha_3 SIZE_{i,t} + \alpha_4 FSlack_{i,t} + \alpha_5 LEV_{i,t} + \alpha_6 PERFroa_{i,t-1} + e_{i,t}$$

Where, i = 1,…, *N* represents the company and t = 1,…, *T* represents time period. Dependent variable, $PERFroa_{i,t}$ represents company *i*'s performance. The company-specific variables namely, $\text{RISKSTDroa}_{\text{i,t-1}}$ and $\text{RISKSTDroa}_{\text{i,t}}$ represent risk-taking[2] in year *t* -1 and *t* respectively; $SIZE_{i,t}$ refers to company *i*'s size (measured by total assets) in year *t;* $\text{FSlack}_{\text{i,t}}$ is financial slack (measured by current ratio) for company *i* in year *t*; and $\text{LEV}_{\text{i,t}}$ is company *i*'s debt-to-equity ratio in year *t*. Time dummies are

[2] Risk is measured by using standard deviation (STD) which is a traditional and the most popularly used measure of risk introduced by Markowitz (1952, 1959). In this particular study, risk is calculated by taking the standard deviation of ROA (Shehzad, 2009; Lu, 2011; Mihet, 2013; Li, Tripe, & Malone, 2016). There are other measures of risk used by previous studies such as risk-tolerance ratio (Walls & Dyer, 1996; Walls, 2005), value at risk (Linsmeier & Pearson, 1996; Corkalo, 2011) and below mean semi-deviation (Estrada, 2000; Beach, 2011; Allen & Murray, 2013). Nevertheless, most studies utilized the common measure of risk which is standard deviation.

included in the specification (where appropriate) and $SIZE_{i,t}$ is transformed into logarithms. It is assumed that the error terms $e_{i,t}$ in the above equation follow a one-way error component model:

$$e_{i,t} = \lambda_i + \nu_{i,t}$$

Where $\lambda_i \sim iid\ (0,\sigma^2_\lambda)$ represents the specific effects and $\mathbf{\nu}_{it} \sim iid\ (0,\sigma^2_{\mathbf{\nu}})$ is the error term. They are independent of each other and among themselves.

This research applies one of the most common variations of GMM to estimate the dynamic unbalanced panel models. The method is known as system-GMM (S-GMM) estimator (Arellano & Bover, 1995; Blundell & Bond, 1998; 2000). This dynamic panel data estimation approach is an extension of the original GMM estimator from Arellano and Bond (1991), which is known as difference-GMM (D-GMM) estimator. The basic principle of the D-GMM is to eliminate the unobserved individual-specific effects by accomplishing first-differenced equations with suitable lagged levels of the dependent and endogenous variables as instruments. However, implementing first differencing lessens the variation in all regressors which leads to weak identification problem and increases the measurement errors. Therefore, the S-GMM is employed.

The S-GMM method combines moment conditions for model in first differences (the transformed equation) with moment conditions for the model in levels (the original equation). This process is done by exploiting lagged variables at levels as instrumental variables in the transformed equation whereas lagged difference variables are used as instruments in the original equation. By estimating regressions in the transformed and original equations simultaneously, the S-GMM is able to differentiate the instruments while keeping regressors in levels. Hence, this procedure allows the introduction of more instruments, further reduce the finite sample bias and substantially improve the estimation efficiency (Blundell, Bond & Windmeijer, 2000; Windmeijer, 2005; Roodman, 2006; Baltagi, 2008). The consistency and reliability of GMM estimator procedures are tested using two standard diagnostic tests. The over-identifying restriction is tested using the Sargan's (1964) test of misspecification. Meanwhile the Arellano-Bond (1991) tests for first order serial correlation (AR(1)) and second order serial correlation (AR(2)) of the residuals are applied to verify the efficiency of model estimations using GMM approach.

S-GMM estimation procedure is performed in one- and two-step variants. The process starts by calculating the one-step GMM estimates. In the first step, homoskedasticity and independent residuals are assumed. Then, by utilizing the one-step residuals, a more efficient two-step GMM estimator is

computed. The two-step S-GMM estimation method is credited as more sophisticated and effective approach since this estimator uses optimal weighting matrices. Furthermore, Windmeijer (2005) proposes a two-step estimator with robust standard errors to correct finite-sample bias. The adjustment is performed by acquiring an estimated variance covariance matrix (VCE) which is robust to heteroskedasticity. This adjustment will not change the point estimates. Only estimated VCE and standard errors are changed. By doing the correction of the standard errors of the two-step GMM estimates, this estimator is more competent in dealing with the issues of endogeneity for some of the explanatory variables and omitted variables bias. Most importantly, this method is capable of offering acceptable and consistent estimators under the above mentioned issues.

Results

Table 1 presents the summary of descriptive statistics for each continuous variable used in the study over the period 2004 to 2012. The number of observations depicted in Table 1 depends on the availability of the data provided by Datastream. Thus, the total number of observations for company specific characteristics is not equal to 4779 company-year observations. The findings of descriptive analysis represent both the 388 active companies and 143 delisted companies categorized under all non-financial sectors. This has caused a huge gap between the minimum and maximum value of all variables. The blend of both active and delisted companies is meant to create a survivorship-bias-free data set.

Table 1

Descriptive Statistics of Continuous Variables over the Period 2004-2012

	Obs (N)	Mean	STD	Min	Max
$PERFroa_{i,t}$ (%)	4109	3.33	12.36	-99.90	107.70
$PERFroa_{i,t-1}$ (%)	3726	3.24	12.58	-104.28	111.95
$RISKSTDroa_{i,t}$ (%)	3711	5.64	7.49	0.20	58.51
$RISKSTDroa_{i,t-1}$ (%)	3335	5.73	7.60	0.20	59.35
$SIZE_{i,t}$ [3](Total Assets in RM'000)	4134	1195697	2311269	1172	11100000
$FSlack_{i,t}$ (%)	4074	2.42	2.49	0.01	12.43
$LEV_{i,t}$	4128	0.67	1.79	-11.41	12.91

The results of pairwise Pearson's correlation for the research model are depicted in Table 2. Generally, there is almost no multicollinearity problem arise between the independent variables in the predictive model. This is because the pairwise Pearson's correlation indicators for almost all independent variables are less than 0.8. Table 2 shows that only $RISKSTDroa_{i,t}$ has a pairwise Pearson's correlation that exceed 0.8. Therefore, to ensure there is no multicollinearity problem amongst the paired variables, variance inflation factor (VIF) is applied. Hair *et al.* (2010) suggested that a VIF of less than 10 would indicate no serious multicollinearity problem exists. The results in Table 3 confirms that there is no threat of multicollinearity as all variables present a VIF below 10.

[3] The descriptive statistic of SIZE is purposely stated as integer values in Table 1 so as to reflect the actual size of the company's total assets. However, SIZE is transformed into LN form in the analysis.

Table 2

Pearson Correlation Tests between Independent Variables of Study

Independent variables	$RISKSTDroa$	$RISKSTDro$	$SIZE_{i,t}$	$FSlack_{i,t}$	$LEV_{i,t}$	$PERFro$
$RISKSTDroa$	1.00					
$RISKSTDroa$	0.87**	1.00				
$SIZE_{i,t}$	-0.23**	-0.26**	1.00			
$FSlack_{i,t}$	-0.04*	-0.05**	-0.07**	1.00		
$LEV_{i,t}$	-0.07**	-0.07**	0.13**	-0.17**	1.00	
$PERFroa_{i,t-1}$	-0.18**	-0.15**	0.22**	0.14**	0.003	1.00

Notes: ** and * indicate the respective 1% and 5% significance level.

Table 3

Variance Inflation Factor (VIF) for Multicollinearity Assumption of Model

Independent variables	**VIF**
$RISKSTDroa_{i,t-1}$	3.97
$RISKSTDroa_{i,t}$	3.98
$SIZE_{i,t}$	1.09
$FSlack_{i,t}$	1.04
$LEV_{i,t}$	1.05

Since financial econometric issue discussed in this study is dynamic by nature, dynamic panel data analysis by using generalized method of moments (GMM) estimator is applied. The standard diagnostic tests of dynamic System-GMM (S-GMM) estimator presented in Table 4 reveals that the research model which is founded on accounting-based data fulfill the statistical properties.

Table 4

Diagnostic Test

	One-Step S-GMM (1)	**Two-Step S-GMM (2)**	**Two-Step S-GMM with Robust SE (3)**	**Two-Step S-GMM with Time Dummies and Maxldep (4)**
$PERFroa_{i,t} = \alpha_0 + \alpha_1 RISKSTDroa_{i,t-1} + \alpha_2 RISKSTDroa_{i,t} + \alpha_3 SIZE_{i,t} + \alpha_4 FSlack_{i,t} + \alpha_5 LEV_{i,t} + \alpha_6 PERFroa_{i,t-1} + e_{i,t}$				
Sargan test of over-identifying restrictions (p-value)	172. (0.00)	50.95 (0.03)	-	43.76 (0.06)
2nd order autocorrelation Test (p-value)	-	1.23 (0.22)	1.18 (0.24)	1.35 (0.18)
# of lags	-	-	-	5
# of Instruments	41	41	41	46
# of Groups	500	500	500	500

In line with Arellano and Bond (1991) findings, column (1) of Table 4 shows that the one-step S-GMM version of Sargan-test is sensitive to heteroskedasticity (p-value is less than 0.05), leading to rejection of the validity of instruments for the model. Due to the presence of heteroskedasticity of unknown form, the results of repeated Sargan-test analysis based on two-step GMM (column 2), two-step GMM estimators with robust standard error (column 3), and two-step S-GMM with time dummies which includes *p* lags of dependent variable (column 4) are then presented. Result shows that the two-step S-GMM with time dummies and *p* lags of dependent variable is regarded as the final estimator. This is because the higher p-value of the Sargan statistic (p-value is greater than 0.05) reflects that the instruments are exogenous and the model is appropriate. Therefore, the result suggests that this model is well specified and the estimators chosen are consistent.

Another important diagnostic test in dynamic panel data estimation is the Arellano-Bond (1991) test for autocorrelation between residuals (AR). This diagnostic test is employed to check on the validity of instruments due to the dynamic nature of data (Arellano & Bond, 1991). Overall, results of the diagnostic test AR(2) reported in Table 4 meet the requirements of accepting no second order serial correlation in the first-difference residuals (all respective p-values are greater than 0.05).

Table 5 documents that lagged corporate risk-taking ($RISKSTDroa_{i,t-1}$) has a positive and significant influence on contemporaneous accounting performance. The coefficient of regressing $PERFroa_{i,t}$ on $RISKSTDroa_{i,t-1}$ is 0.47 (z = 3.50) and it is significant at the 99 percent confidence level. The estimated coefficient implies that a one percentage point increase in $RISKSTDroa_{i,t-1}$ tends to increase the $PERFroa_{i,t}$ by 0.47 percentage point. The relationship between these two variables is commonly discussed in industrial organisation economics and strategic management. The results imply that corporate decision makers in Malaysia engage in risk-averse behaviour when they expect this behaviour brings in higher returns. In line with the risk-averse preference, managers are sensitive to the past accounting-based risk taking indicators as a basis for matching their response towards securing a safer investment (Teece, Pisano & Shuen, 1997). Consequently, high accounting returns are expected in order to compensate for taking additional risk in the past. The above argument explains the existence of a significantly positive correlation between prior risk-taking and subsequent performance in the Malaysian listed companies. The finding confirms that the effect of risk on returns is not immediate but gradually realized over time (Abdullah *et al.* 2017).

Table 5

The Impact of Company-Specific Factors on Accounting-Based Performance

Corporate Performance Indicator	$\boldsymbol{PERFroa_{i,t}}$
Constant	-84.84 (-5.44)***
Lagged Corporate Risk-taking ($RISKSTDroa_{i,t-1}$)	0.47 (3.50)***
Contemporaneous Corporate Risk-taking ($RISKSTDroa_{i,t}$)	-0.28 (-1.82)*
Total Assets ($SIZE_{i,t}$)	6.48 (5.48)***
Current Ratio ($FSlack_{i,t}$)	0.48 (1.90)*
Debt-to-Equity Ratio ($LEV_{i,t}$)	0.002 (0.70)
Lagged Dependent Variable ($PERFroa_{i,t-1}$)	0.21 (9.90)***

Sargan test of over-identifying restrictions (p-value)	Pass
2nd order autocorrelation Test (p-value)	Pass
Company-year observation	3141
T	9

Notes: (1) Only the final models are reported; (2) The lagged dependent variable used as explanatory variables in this model is positive and has a highly significant effect (at 99% confidence level), implying that the model is genuinely dynamic; (3) *** and ** indicate the respective 1% and 5% significance level.

The dynamic panel estimation also reveals that the estimated coefficient of company size ($SIZE_{i,t}$) on performance is statistically positive and significant at the 99 percent confidence level, indicating that one percentage point increase in $SIZE_{i,t}$ would be reflected in 0.0648 percentage point increase in $PERFroa_{i,t}$. The positive relationship is consistent with the findings of past studies (Chang & Thomas, 1989; Majumdar, 1997; Mukherji, *et al*., 1997; Dimson *et al*., 2002; Schwert, 2003; Mohd Ali, 2006; Aljifri & Moustafa, 2007; Yang & Chen, 2009; Saliha & Abdessatar, 2011; Muritala, 2012; Kipesha, 2013; Chaibi *et al*., 2014; Akben-Selcuk, 2016) hence, it verifies the importance of size in influencing performance of the Malaysian listed companies. The result also reported that corporate performance is negatively (positively) afffected by $RISKSTDroa_{i,t}$ ($FSlack_{i,t}$), but the relationship is only marginally significant at the 90 percent confidence level. The former relationship appears to weakly support the argument made by previous studies (Bowman, 1980; Bettis & Hall, 1982; Whitelaw, 1994; Ang, *et al*., 2006; Banerjee, Doran & Peterson, 2007; Boermans & Willebrands, 2012) that the contemporaneous risk has adverse effect on contemporaneous performance. Meanwhile, the latter relationship is consistent to the implication stated in the behavioral theory of the firm as promoted by Cyert and March (1963) where the greater is the financial slack, the better is the performance of companies (Pfeffer & Salancik, 1978; Marlin & Geiger, 2015). However, leverage ($LEV_{i,t}$) is reported to have no influence on corporate performance. The insignificant relationship denies the implication stated in the Jensen's (1986) free cash flow hypothesis, which maintains that a greater debt financing would reduce the opportunistic behavior of managers at the expense of shareholders (Campello, 2006; Berger & Bonaccorsi di Patti, 2006; Franck, Huyghebaert & D'Espallier, 2010).

CONCLUSION

This study investigates factors contributing to accounting-based performance of the Malaysian listed companies over the period of 2004 to 2012. The result of multiple regressions using S-GMM estimation reveals the existence of a significantly positive correlation between lagged corporate risk-taking and performance. This implies that corporate decision makers of the Malaysian listed companies engage in risk-averse behaviour when they expect this behaviour leads to higher returns. The preference of a more certain outcome to less certain is in line with Sharpe's (1964) CAPM model, but appears to challenge Cyert and March's (1963) behavioral theory of the firm. However, when contemporaneous corporate risk-taking is considered, minimal negative impact on performance is recorded. This finding inclines to support Bowman's paradox (1980) which suggests that the risk preference amongst Malaysian economic agents is not static but vary in accordance with their past experience. The practical implication of the finding for managers is that, the role of prior risk-taking should be acknowledged as one of the corporate strategies to improve companies's performance. The dynamic panel estimation also verifies the importance of company size as one of the accounting-based corporate performance determinants. This would mean that investors and fund managers should focus on large firms as they are associated with higher performance. Furthermore, the finding of this research also reports the importance of financial slack as one of the contributing factors of corporate performance, but the presence of a positive effect is minor. With regard to policy implication to policymakers such as Securities Commission (SC), the outcomes could furnish this regulatory body with a more accurate and reliable risk-return assessment model. Having a more relevant model can facilitate the regulator in disclosing a more comprehensive and relevant risk-return profile of listed companies. Better understanding and perception on the overall risk-return profile of listed companies is important so that this security market watchdog can regulate a more transparent risk-return information disclosure in companies' annual reports. Greater transparency would promote trust and confidence as well as protect the interest of investors and other stakeholders. As in other studies, there is a limitation to this study where the results are only applicable for the period from 2004 to 2012. Future research should lengthen the study period taking into account a more recent data set so as to capture the profile of risk-return relationship before and after the financial crisis within the past two decades of the economic cycle. In addition, we have only used ROA as the performance measure. There would be other accounting and market based measures that could represent performance such as return on equity and total return index. Future studies could compare which among the measures would best represents performance of a company.

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