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THE IMPACT OF FINANCIAL DETERMINANTS ON MALAYSIAN REITS' PERFORMANCE

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ABSTRACT

Property investment in Malaysia has experienced tremendous growth and is considered one of the prime investments by investors due to its stable return growth over the years. This study examined the effects of six financial determinants (earnings per share, debts to assets, price-to-book value, dividend yield, market capitalisation, and return on equity) on the annual return of Malaysian Real Estate Investment Trusts (REITs). The common performance indicator of company can be seen in the percentage change in stock price plus when the dividend paid at the end of the year is used to measure the annual return performance of REITs. A total of 154 firm year observations for a sample of 14 Malaysian REIT companies were examined for a period of 11 years

(2008-2018) from the Bloomberg terminal. Multiple regression analysis was used to analyse the data. Findings showed that there is a positive relationship between earning per share, price-to-book value and dividend yield and REITs' annual return. On the other hand, this study showed that there is no significant relationship between debts to assets and REITs' annual return. The results also showed that market capitalisation and return on equity are negatively related to Malaysian REITs' annual returns. Overall, the results highlighted two key features. First, earnings per share and return on equity should be used by investors and management to assess the profitability and operational efficiency of REITS. Second, the investors should use dividend yield as one of the key investment criteria when assessing REIT investment decisions. This study contributed to the literature in REITs by increasing the effects of the explanatory power of financial determinants on REITs' annual returns.

Keywords: REIT, annual return, financial determinants, investment.

INTRODUCTION

Real estate investment trusts (REITs) have increased enormously over the past few decades and have become a significant component in the investment industry. Geltner et al. (2001) indicated that REIT is among the largest investment sector in the United States (US). Equally, Asian REITs have grown rapidly as investors have become more comfortable with REITs and more industrial portfolios have been put on the market; it has been a remarkable year for Asia Pacific REITs in terms of listings and acquisitions, and capital raised by REITs in the region could reach over USD20 billion by 2022 (APREA, 2022). Similarly, with an increasing interest from foreign and domestic investors in Malaysian REITs, market capitalisation in REITs has grown steadily over the years. This is evidence by increase in Malaysian REIT market capitalisation from RM9.64 billion in 2010 to RM35.65 billion in 2015 (Lim, 2020).

Three main lines of research in the past are related to the topic of REITs' performance. First, prior research has examined the effects of macroeconomic factors (such as gross domestic products per capita, exchange rate, employment rate, and interest rate) on the performance and return of REITs (Azwani et al., 2016; Chang et al., 2017; Razali

et al., 2020; Aljubairi & Shaheen, 2021). Second, previous research has investigated the impact of locations and types of properties on the performance of REITs (Jalil & Ali, 2015; Jalil et al., 2017; Ping & Jalil, 2016; Ismail et al., 2020; Song et al., 2021; Feng & Wu, 2021). Third, past research has assessed the effect of financial determinants on REITs' performance (Mohamad & Zolkifli, 2012; Lee, 2017; Chang et al., 2017; Khan & Siddiqui, 2019; Hashim et al., 2021).

This study attempted to explain the descriptive effect of financial determinants on Malaysian REITs' annual return by examining a wide range of financial determinants covering earnings per share (EPS), debts to assets, price to book value, dividend yield, market capitalisation, and return on equity (ROE). Assessing more comprehensive financial determinants are important for two reasons. First, analysis of past studies has indicated that there is a lack of consensus concerning the effect of financial determinants towards REITs' return performance (Cheng & Roulac, 2007). Second, financial determinants related to REITs' performance that have been studied in the prior research are rather limited, in particular within the context of Malaysia's REITs (Mohamad & Zolkifli, 2012; Jalil & Ali, 2015; Lee, 2017; Chang et al., 2017). For example, a study by Lee (2017) using 10 years' period of data only focusing on the effect of net income, dividend yield, and total assets on REIT's performance. While both Mohamad and Zolkifli (2012) and Chang et al. (2017) examined the effect of market capitalisation, net income, and dividend yield on REITs' return by using data from the past five years. Thus, the current study provides more recent evidence concerning the effects of financial determinants on REIT performance using a longer study period of 11 years from 2008 to 2018.

This paper is organised into three sections. The study's background and literature review and its hypotheses development are discussed in section 1. The methodology is elaborated in section 2. The final section discusses the findings and conclusion of the study.

BACKGROUND, LITERATURE REVIEW AND HYPOTHESIS DEVELOPMENT

Background

Real estate investment trust (REIT) is defined as a collective investment scheme that pools fund from investors, invests the fund

in income-producing real estate and distributes the profit before tax to investors in the form of dividends (Ong et al., 2011; Oreagba, 2006). REIT is considered a hybrid characteristic by offering tradability as stock and providing a steady income stream that is secured by a long lease in quality commercial real estate (Newell, 2012). Thus, REIT is considered as income stock rather than growth stock as growth stock generally provides substantial returns on capital, whereas income stock will deliver higher dividends. Long term investors would be attracted by REIT due to steady dividend income and moderate risk.

REIT has gained global acceptance as a viable and high return yield investment. REIT is considered able to provide a safer investment with steady dividend, less risky investment, wider diversification opportunities in real estate, and ease of operation, as well as greater liquidity, in comparison to direct real estate ownership (Chan et al., 2003). Investors could benefit from stable dividends derived from rental income and services provided by professionals dedicated to add value and generate more income to the asset. REIT companies possess and manage a portfolio of high quality real estates that generate rental income, such as commercial office, hotels, retail malls, and hospitals.

Malaysia was the first country in Asia to establish property trusts in 1989. In 2005, the Securities Commission of Malaysia introduced REIT guidelines to supersede earlier guidelines on listed property trusts. Since then, the development of the Malaysian REIT market has improved and there were 18 REITs traded on Bursa Malaysia in 2019 (www.bursamalaysia.com). Under the Guidelines on Listed Real Estate Investment Trusts 2018, REIT must invest at least 75% of its total assets in real estate (Securities Commission of Malaysia, 2018). The structure of a Malaysian REIT comprises deeds, assets of the REIT, trustee, management company, and unitholders. REIT is required to distribute 90% of taxable income to unitholders annually in the form of a dividend.

The study of Malaysian REITs done by Ong et al. (2011) showed M-REIT performed better than investment in other common stocks. Newell and Osmadi (2009) also mentioned that Malaysian REITs outperformed the Kuala Lumpur Composite Index (KLCI). A study conducted by Pham (2013) showed that most Asian REITs performed better than their respective stock markets including Malaysian REITs by achieving dividend return between 4.1% to 9.3%.

Literature Review and Hypothesis Development

Earnings Per Share

According to Grupe and Dirocco (2000), corporate earning is one of the measures of the efficient use of resources to create economic value for unitholders. In the REIT industry, dividends are typically derived from the income generated by a REIT. Thus, higher profitability is expected to distribute a higher return to unitholders and increase earnings for property expansion. In previous research, the ratios used to measure profitability include fund from operations (FFO) and profit margin. FFO per share is referred to as earning per share (EPS), and FFO (earning) had been used commonly as a profitability measure in the REIT industry. Hwa and Abdul (2007), in their study, found that the REIT performance was affected by the net income from the underlying property of FFO, which eventually had an impact on REITs' return. This finding was supported by Alias and Tho (2011) with the fact that net income played an important role in dividend distribution, which affected the REITs' return.

Gore and Stott (1998) showed that there was a significant relationship between FFO and stock returns. Hardin and Hill (2008) indicated that dividends were a function of FFO, which was supported by a research done by Feng et al. (2011) on the US REIT market. Lee (2017) examined the determinants of return on Malaysian REITs based on 143 samples between 2006 and 2016 and found that net income was positively related to Malaysian REITs' annual return. On the contrary, Chang et al. (2015) examined the factors affecting Malaysian REIT performance from 2011 to 2015 and concluded that there was a significant negative relationship between property income and Malaysian REITs' annual return. On the other hand, the study by Mohamad and Zolkifli (2012) based on 45 Asian listed REITs between 2007 and 2011 with 225 observations indicated that there was no significant relationship between net income and Asian REITs' return. Thus, this study proposed:

H¹: There is a positive relationship between earnings per share and Malaysian REITs' annual return.

Financial Leverage

Financial leverage is another measure of company risk. Financial leverage has been measured by total debts to total assets, short term

debts to total assets, long term debts to total assets, and total debts to total equity (Beracha et al., 2019). Several studies have documented a negative relationship between firm financial performance and leverage ratio (Hashim et al., 2021; Fama & French, 1993; Rajan & Zingales, 1995; Titman & Wessels, 1988). These studies also indicated that more profitable firms have lower debt ratios. According to Van Horne (1998), high debt leverage (debts to assets) increased the financial risk of a company. Thus, lowering debt could effectively reduce unsystematic risk. Prior research in India suggested leverage had a significant relationship with stock return in the Indian market (Das & Bhattacharya, 2013; Nirmala et al., 2011). In contrast, Nautiyal and Kavidayal (2018) indicated that increasing debt in capital structure did not have any significant relationship with stock prices.

A study by Alcock and Steiner (2018) found that there was a significant negative relationship between leverage and REITs' return, especially during periods of a financial crisis. They indicated that there was a strong negative impact of leverage on REITs' return during crisis periods as higher leverage increased the risk to equity holders. In contrast, Giacomini, Ling, & Naranjo (2015) claimed that within levered REITs, those leveraged higher than the targeted leverage level outperformed the lowly leveraged ones, which coincidentally supports the notion of a positive correlation between the degree of leverage and performance. Furthermore, a robust study by Delfim and Hoesli (2019) examines the effect of leverage on the performance of various types of real estate exposures using data from the United States from 1986 to 2017 (direct, non-listed, and listed) and it showed a significant impact on the relationship between them. More recent studies showed the effect of financial leverage on REITs' performance (Khairulanuwar & Chuweni, 2021; Haran et al., 2021; Morri et al., 2021; Milosevic-Avdalovic & Milenkovic, 2017). For instance, Morri et al. (2021) stated that leverage improved the performance of REITs. Thus, this study proposed:

H²: Financial leverage has a positive relationship with Malaysian REITs' annual return.

Price to Book Value

According to David and Andy (2003), net asset value per share is a measurement of REITs' intrinsic value. Brent et al. (2011) explained

that the determinants of growth value of REITs is based on net asset value (NAV) per share, which is referred to as book value per share which is the underlying value of REIT assets. Prior research showed that the price to book value and book to market values (inverse of price to book value) were used as a ratio for the measurement (Alomari et al., 2018; Cheng & Roulac, 2007; Hou et al., 2011). A company's book value is the difference between the company's total assets and liabilities or total equity. Generally, investors will judge the stock value by dividing the market share price by book value per share of the company (Grupe & Dirocco, 2000). When the share price is below NAV, it is considered as undervalued or discounted, which is viewed as offering investors more value than a stock priced at a premium.

According to Young (1998), high premium REITs are considered to have more growth potential than REITs that are traded at lower premiums to NAV. He found that relative premium to NAV was associated with firm growth opportunities and proxies for management quality and governance. REITs trading at lower premiums to NAV reflect poor current and future earnings capabilities and investment in poor-performing assets (Hua, 2001). Some past studies concluded that there was a significant contribution of price to book value on the stock return (Feng & Wu, 2021; Artmann et al., 2012; Hou et al., 2011). However, a more recent study by Hashim et al. (2021) found that book value was insignificant to REITs' performance. Thus, this study proposed:

H³: Price to book value has a positive relationship with Malaysian REITs' annual return.

Dividend Yield

Several empirical studies have investigated the relationship between dividends and their return on performance (Mohamad & Zolkifli, 2012; Chan et al., 2003; Hou et al., 2011; Chen, 2020). Ratios used to measure dividends include dividend per share, dividend payout, and dividend yield. According to Grupe and Dirocco (1999), investors often look at dividend yield (dividend divided by share price) to compare with investment yield of alternative investments to determine which stocks are relatively over or undervalued. An extraordinary high dividend yield may indicate that a particular company is facing certain problems and investors may demand an additional risk premium.

Because of the tax regulations of Malaysian REITs that require them to distribute 90% of taxable income to unitholders, dividend pay-out or dividend yield is a significant performance measurement for REITs (Chan et al., 2003). By using panel data analysis, Singh (2009) concluded that dividend yield was a significant determinant of stock return performance in India. Malhotra and Prakash (2001), Nautiyal and Kavidayal (2018), and Sharma (2011) found that dividend per share was the primary determinant of share price. Similarly, Uwuigbe et al. (2012) in their study of 30 listed firms in the Nigerian stock market discovered that the share price in Nigeria was significantly determined by the dividend pay-out.

A multifactor model done by Hou et al. (2011) using 27,000 stocks from 49 countries for a three-decade period showed that dividend yield had a positive significant impact on stock return. On the contrary, Lee (2017) researched the determinants of returns on Malaysian REIT based on 143 samples for a period of ten years between 2006 and 2016, which demonstrated that dividend yield had a negative relationship with returns. Likewise, Nautiyal and Kavidayal (2018) and Mahapatra and Lall (2004) observed a negative but significant relationship between dividend per share and share price in the Indian market. On the other hand, a study by Mohamad and Zolkifli (2012) based on 45 Asian listed REITs with 225 observations including Malaysia, Singapore, Thailand, Hong Kong, Japan, and Taiwan for a period of five years from 2007 to 2011 showed that dividend yield had no significant impact on Asian REITs' return. While a more recent study by Chen (2020) explained that dividend pay-out level for REITs was negatively associated with returns on assets based on data of five countries in Asia. Moreover, the most recent study by Tee and Choong (2022) has concluded that investors who prefer a high and consistent dividend yield should consider investing in M-REITs that are primarily focused on the hospitality sector. Thus, this study proposed:

H⁴: Dividend yield has a positive relationship with Malaysian REITs' annual return.

Market Capitalisation

Firm size is an important criterion for investors in REITs financial performance. Firm size has been measured commonly by total market

capitalisation (natural logarithm of market capitalisation) and total assets (Kim, 2001). Prior research showed mixed results for the relationship between firm size and return performance (Ambrose & Linneman, 2001; Chang et al., 2015; McIntosh et al., 1991; Olanrele et al., 2014). According to Ambrose (2001), larger firms should increase the rate of return due to a higher profit margin and lower cost of capital. The economy of scale in REITs was found to increase operational efficiency, which will improve REIT performance (Vogel & John, 1997). A multiple regression analysis conducted by Olanrele et al. in 2014 based on the Malaysian REITs market for a period between 2008 and 2012 showed that firm size was a significant financial factor on REITs' financial performance. Similarly, past studies showed that there was a positive relationship between REIT size and rate of return. In other words, the larger the firm size, the higher the rental income and profit margin, thereby improving the yield (Ambrose & Linneman, 2001; Alias and Tho, 2011; Haran et al., 2021). Linneman (1997) found that there was a reduction in the cost of capital by 2.2% for every one billion dollars increased in market capitalisation due to the existence of economies of scale on firm size.

Chang et al. (2015) concluded that there was a significant positive relationship between firm size and the rate of return of Malaysian REITs. Similarly, Ambrose et al. (2001) in their findings indicated that when firm size was larger, income and profit margin had become higher. A study conducted by Ali in 2006 investigated the size effect on REITs performance based on 30 companies from Bursa Malaysia. The results indicated that big market capitalisation REITs had a better performance compared with small market capitalisation with a higher return. Chang et al.'s (2017) study of the Malaysian REIT market and Mohamad and Zolkifli's (2012) study of Asian countries including Malaysia concluded that there was a significant positive relationship between company size and rate of return of REITs. The reason is that larger firms would have higher profit margins, rental income, and lower cost of capital. However, Yong et al. (2009) found that the size factor had a negative impact on return, implying that a smaller size tended to yield more return in Australian REITs. Chaudhry et al. (2004) and Hamelink and Hoesli (2004) stated that larger REITs were found to be more geographically diversified but less diversified in terms of property type, which could result in a negative relationship between firm size and rate of return. Hamelink and Hoesli's (2004) study based on international REITs from 21 countries showed that firm

size had a negative impact on return. McIntosh, Liang, and Tompkins (1991) showed that there was a negative size effect on REITs return, indicating that smaller firms performed better than larger firms.

According to Yang (2001), there will be diseconomies of scale when the firm size goes beyond the optimal point. Another possible reason is that large would be involved in a series of decision-making processes that caused a smaller REIT make faster decisions whenever a potential market opportunity was identified (Chan, 2002). Olanrele (2014) attempted in a separate study to determine the elements influencing REIT performance. This case study focused on AMFIRST REIT throughout the 2007-2013 study period and revealed that all of the variables, including size (market capitalization), degree of leverage, market-to-book ratio, and funds from operations, had a substantial effect on the performance of REITs. On the contrary, a study conducted by Lee (2017) regarding determinants of returns on Malaysian REIT based on 143 observations for the period from 2006 to 2016 and found that there was no significant relationship between firm size as measured by total assets and rate of return. A similar result was also documented in a recent study by Hashim et al. (2021). Thus, this study proposed:

H⁵: Market capitalisation has a positive relationship with Malaysian REITs' annual return.

Return on Equity

REITs' operating efficiency is related to operational performance and is typically measured by return on equity (ROE) and return on assets (ROA) (Beracha et al., 2019). ROE is defined as funds from operating dividends by total equity, whereas ROA is defined as funds from operating dividends by total assets. According to Logue and Merville (1974), firms with higher operating efficiency were inclined to generate higher profit and lower the probability of business failure, thus lowering the firm's overall risk. Gu and Kim (1998) found that high operating efficiency led to lower systematic risk due to efficient asset management. Based on Block (1998), more efficient REITs' property management attracted institutional investment funds as only efficient REITs w be able to deliver their promised yields. Beracha et al. (2019) concluded that efficient REITs (as measured by ROE and ROA) could generate a higher stock return and lower credit risk, which were associated with the operational efficiency management

of a firm. While Das and Bhattacharya (2013) found that ROE had a significant relationship with stock returns.

Likewise, Khan et al. (2011) analysed 55 companies listed on the Karachi Stock Exchange (Pakistan) and indicated that ROE was positively correlated with stock prices. Based on the research done by Sharif, Purohit, and Pillai (2015) by investigating 41 companies listed on the Bahrain Stock Exchange, there was a significant positive relationship between ROE and stock prices. Besides, Milosevic-Avdalovic and Milenkovic (2017) conducted a research regarding the impact of financial variables on stock price based on 42 companies listed on the Belgrade Stock Exchange in Serbia for the period from 2010 to 2014. They indicated that there was a significant positive relationship between ROA and stock prices, whereas ROE had no significant impact on stock prices. Based on the study by Jakpar, Tinggi, Tak, and Ruzlan (2018) about determinant factors of return on equity based on Malaysian REITs for a period of eight years from 2008 to 2015, the dividend yield had a positive significant relationship with return on equity in the Malaysian REIT market. Thus, this study proposed:

H⁶: Return on equity has a positive relationship with Malaysian REITs' annual return.

METHODOLOGY

Sample Selection

The sample for this study comprised a total of 154 observations for a sample of 14 Malaysian REITs listed on Bursa Malaysia throughout the 11 years for the period of 2008 - 2018. The data were collected from the Bloomberg terminal. REITs stock closing price from 2008 - 2018 was also extracted from the Bloomberg terminal. The period chosen for this study was from January 2008 to December 2018 and the period of the data was on a yearly basis. This period was chosen because of the tremendous growth of Malaysian REITs for the past several years. A total of 159 firm year observations for a sample of 14 Malaysian REIT companies were examined for a period of 11 years (2008-2018). Comparing with the prior studies (see, for example, Mohamad & Zolkifli, 2012; Chang et al., 2017; Hashim et al., 2021)

that mostly analysed for a period of five years, this study collected more years to perform the analysis to obtain robustness in the result of findings.

Dependent Variable

In this study, the dependent variable was the annual return of REIT (R_t). The annual return performance of REITs is measured as a percentage change in stock price plus dividend paid at the end of the year. This measure is the common performance indicator used by investors when making investment decisions (Parker, 2011; Chai et al., 2011). Thus, this study used the annual return of Malaysian REITs. The calculation for annual return is as follows:

$$R_t = [(P_t - P_0) + D_t] / P_0 \times 100 \quad (1)$$

where,

R_t = Annual return of REIT for year t ,

P_t = Closing price at the end of year t ,

P_0 = Price at the beginning of year t ,

D_t = Total dividend at the end of year t .

Independent Variables

Based on the reviewed literature, this study examined the effects of six financial determinants on REITs' return performance and its measurement as tabulated in Table 1.

Table 1

Measurement of Independent Variables

Independent Variables	Measurement
Earnings Per Share (X1)	Fund from operation divided by the number of outstanding shares. Fund from operation is defined as operating cashflow before working capital changes.
Debts to Assets (X2)	Total bank borrowings divided by total assets
Price to Book Value (X3)	Market price divided by net asset value per share

(continued)

Independent Variables	Measurement
Dividend Yield (X4)	Dividend per share divided by the share price
Market Capitalisation (X5)	Market price times number of outstanding shares
Return on Equity (X6)	Fund from operation divided by total shareholders' equity

Research Model

A multiple regression model was employed to test the proposed hypotheses to confirm the relationship between financial determinants and REITs' annual return. The regression model developed to test the hypotheses for this study is as follows:

$$Y = a + b_1X_1 + b_2X_2 + b_3X_3 + b_4X_4 + b_5X_5 + b_6X_6 + c \quad (2)$$

where,

Y = REITs' Annual Return,

a = Constant,

b = Beta value,

X_1 = Earnings per Share,

X_2 = Debts to Assets,

X_3 = Price to Book Value,

X_4 = Dividend Yield,

X_5 = Natural logarithm of Market Capitalisation,

X_6 = Return on Equity,

c = *Standard Error*.

Data Analysis Techniques

Multiple regression analysis (MRA) is used to test the effect of the six financial determinants towards REITs' annual return. In MRA, the correlation coefficient between dependent and independent variables reflects the association between these two variables. In addition, the correlation coefficient will show the changes in independent value,

whereby it will change the dependent value. The correlation coefficient poses positive or negative signs that will affect the result.

The main software used in this study was the Statistical Package for Social Sciences (SPSS) version 23. This software generates Descriptive Statistics and Ordinary Least Square (OLS) regression. The Pooled OLS method was employed for regression analysis to determine if there was a significant relationship between the financial determinants and REITs' annual return.

FINDINGS AND DISCUSSION

Descriptive Statistics

Table 2 shows a summarisation of descriptive statistics for annual return and the six independent variables in the regression analysis for the identifying of determinants of return performance. A total number of an average of 159 samples for all Malaysian REITs were collected and analysed for a period of 11 years (2008 - 2018). For the overall 11-year period, the mean for Malaysian REITs' annual return was moderately high at 10.2%, ranging from -42.25% to 105.24%. Meanwhile, its standard deviation was higher than mean value as the Malaysian REITs had been experiencing the economic cycle especially involving large fluctuations of share price movement during the subprime crisis (2008 - 2009).

Earnings per share (EPS) and return on equity (ROE) recorded a mean value of RM0.13 and 9.09%, respectively. The table below exhibits that the mean value for debts to assets ratio was moderately low at 29.07% with a standard deviation of 12.14, which was within the leverage requirement of 50%. For the past 11 years, the mean for the price to book value was 0.93 times, which was below 1.0 times, indicating that Malaysian REITs were averagely traded at a discount. Meanwhile, its standard deviation was low at 0.25. Based on the table below, the mean for Malaysian REITs' dividend yield was moderately high at 6.68% with a low standard deviation of 1.92, which was higher than the 2018 KLCI dividend yield of 3.12%. The mean value for market capitalisation was RM1,780.60 million, ranging from RM74.3 million to RM15,598.0 million throughout 11 years. With regard to market capitalisation, KLCC REIT had the largest market capitalisation of RM13.8 billion in Malaysian REIT as of December 2018.

Table 2

Descriptive Statistics for Financial Determinants and Annual Return for the period of 11 Years (2008 - 2018)

Variables	Mean	Std. Dev.	Min.	Max.	Obs.
REITs' Annual Return (%)	10.2	17.95	-42.25	105.24	154
EPS (RM)	0.13	0.13	-0.01	39.03	154
ROE (%)	9.09	5.99	-0.54	39.03	154
Debts to Assets (%)	29.07	12.14	0	52.66	154
Price to Book Value	0.93	0.25	0.48	1.7	154
Dividend Yield (%)	6.68	1.92	0	14.59	154
Market Capitalization (RM' mil)	1,780.60	2,735.2	74.3	15,598.08	154

Correlation Analysis among the Variables

There was no multicollinearity problem in the regression model as the VIF for all independent variables was less than 10 (Hair et al., 1995; Kennedy, 1992). According to Gujarati (1995), a multicollinearity problem exists when the correlation is above 0.80. The results of this study indicated that there were no multicollinearity problems as the correlations were relatively moderate with the highest correlation value of 6.270, which was below 8. Pallant (2005) stated that tolerance is used to determine how much the independent variable are related to one another, measured by the value of more than 0.1. The results of tolerance for all independent variables were above 0.1, which were within the satisfactory level and indicated a very low level of multicollinearity in the proposed regression.

Table 3 shows a correlation matrix that summarises the strength degree of the relationship for each of the independent variables and dependent variable. The Pearson Correlation coefficient and the significant p-value are tabulated on the correlation table. The objective of using correlation analysis is to determine the degree of relationship between two variables and the association of direction. Correlation value indicates the strength of the relationship between the two variables (correlation between financial determinants and annual return or correlation among financial determinants) and association of direction. The correlation value is in the range between -1 and +1. The value of (-1) shows that there is a strong negative correlation between

the two variables, whereas the value of (+1) indicates both variables are a strong positive correlation. The value of the correlation is essential for researchers to determine the direction of the two variables either moving in the same or opposite direction. The correlation value is equal to 0 when both variables are not correlated.

Table 3 depicts that 15 of 21 pairs of variables were statistically significant at the 0.05 level while only 12 pairs of variables had no significant value (>0.05). The result showed that the highest positive correlation with an annual return was earning per share (EPS) with a correlation value of 0.477, followed by price to book (0.213), return on equity (0.162), and market capitalisation (0.128). It showed that there was a strong positive correlation between annual return and EPS. This indicated that when EPS increased, the annual return would increase.

Table 3

Pearson Correlation Analysis

Variables	REITs' Annual Return	Debts to Assets	Price to Book Value	Dividend Yield	Market Capitalisation	EPS	ROE
REITs' Annual Return	1.000						
Debts to Assets	-0.053	1.000					
Price to Book Value	0.213*	0.131*	1.000				
Dividend Yield	-0.171*	0.214*	-0.341*	1.000			
Market Capitalisation	0.128*	-0.011	0.627*	-0.527*	1.000		
EPS	0.477*	-0.268*	-0.130	-0.358*	0.321*	1.000	
ROE	0.162*	-0.060	0.018	0.271*	-0.036	0.574*	1.000

*Correlation is significant at 0.05 level (2-tailed)

The strongest negative correlation with an annual return was dividend yield with a correlation value of -0.171. This indicated that when dividend yield increased, the annual return would decrease. Based on Table 3, it is very clear that there was no significant correlation between debts to assets and annual return. For correlation between debt to assets and financial determinants, results showed that the strongest correlation with debts to assets was EPS with a correlation value of -0.268. Regarding the correlation between price to book and financial determinants, results indicated that the strongest correlation

with a price to book value was market capitalisation with a value of 0.627. The strongest correlation between dividend yield and financial determinants were market capitalisation with a value of -0.527. Meanwhile, the strongest correlation between EPS and financial determinants was the return on equity with a value of 0.574.

Regression Analysis and Regression Coefficients

The adjusted R-square of the model was high at 0.797, which indicated that the independent variables (earning per share, price to book, dividend yield, market capitalisation, and return on equity) explained 79.7% of the variation of annual return of Malaysian REITs (see Table 4). Thus, this study generated higher explanatory power of financial determinants on Malaysian REITs' annual return as compared to previous studies such as Lee's (2017) regression model (adjusted R-square of 0.133) and Mohamad and Zolkifli's (2012) regression model (adjusted R-square of 0.081) due to the presence of additional significant financial determinants of price to book value and return on equity introduced in the regression model. The remaining 20.3% variation was not explained in the model. Based on the literature review, other factors would influence the return performance such as macroeconomic factors like GDP per capita, exchanges rate, and unemployment rate (Azwan et al., 2016). Other possible factors that might affect the return performance are the location of property and financing policy (Jalil & Ali, 2015; Kim & Jang, 2012; Ong et al., 2012). Meanwhile, property portfolio influences the return performance of REITs (Jalil et al., 2017). The systematic risk-beta (Fama & French, 1992; Mohamad & Zolkifli, 2012; Newell & Lee, 2012) is another possible factor that would affect the performance of REITs. The remaining financial factor of dividend pay-out would also influence the annual return of REITs (Kim & Gu, 2016).

The result presents a high F-value of 70.53 with a significant p-value of 0.000 ($p < 0.05$). A statistically significant model is tested by the null hypothesis, which is below $p < 0.05$ and indicates that the regression model is statistically significant. Table 4 shows the regression analysis of annual return with financial determinants, namely earnings per share, debts to assets, price to book value, dividend yield, market capitalisation, and return on equity. The hypotheses were tested by the significant p-value of 5% to determine if there was a significant relationship between earnings per share, debt to assets, price to book

value, dividend yield, market capitalisation, and return on equity with the annual return of REITs. If the p-value is more than 5%, the null hypotheses were not rejected. The regression coefficient showed there was a form of mathematical equation in the relationship between financial variables and annual return.

As shown in Table 4, earnings per share (EPS) made the strongest contribution to annual return (beta = 2.107, $p < 0.05$), followed by price to book value (beta = 1.465, $p < 0.05$), return on equity (beta = -1.351, $p < 0.05$), market capitalisation (beta = -1.046, $p < 0.05$), and lastly dividend yield (beta = 0.890, $p < 0.05$).

Table 4

Regression Analysis of Return with Independent Variables

Independent Variables	Unstandardised Coefficient		Standardised Coefficient		
	B	Std Error	Beta	t	Sig.
(Constant)	163.404	19.649		8.316	0.000
EPS	292.788	15.215	2.107	19.243	0.000
D/A	0.055	0.069	0.037	0.795	0.429
P/B	107.262	6.372	1.465	16.834	0.000
DY	8.346	0.751	0.890	11.115	0.000
MC	-15.179	1.150	-1.046	-13.194	0.000
ROE	-4.050	0.280	-1.351	-14.455	0.000
R-square	0.809				
Adjusted R ²	0.797				
F	70.53				
No of obs.					

The results of the p-value and coefficient of earnings per share (EPS) were 0.000 ($p < 0.05$) and 2.107, respectively. The result supported the first research hypothesis (H1), which is “Earnings per share has a significant impact on Malaysian REITs’ annual return” as the p-value was significant at the 0.05 level. This result indicated a significantly positive relationship between EPS and annual return. When EPS increased by 1, the annual return increased by 2.107. This finding was supported by the studies in Malaysia by Lee (2017) and Hwa and Abdul (2007), which revealed that profitability as measured by net income or income from the underlying property had a significant relationship with REITs’ return. This finding was further supported by Uddin et al. (2013), Malhotra and Tando (2013) and Khan et al.

(2011), which indicated that EPS was positively correlated with stock price. Alias and Tho (2011) in their analysis found that REITs' dividend returns were dependent on income from the underlying real estate assets. The result revealed that EPS was positively correlated with Malaysian REITs' annual return.

On the other hand, the p-value for debts to assets was 0.429 ($p > 0.05$), indicating that it was not significant at the 0.05 significant level. Therefore, the result did not support the second research hypothesis (H2), which is "Debts to assets has a significant impact on Malaysian REITs' annual return". It can therefore be concluded that the relationship between debt to assets and the annual return of Malaysian REITs was not significant. This finding was supported by the studies by Mahapatra and Lall (2004) and Nautiyal and Kavidayal (2018), which demonstrated that financial leverage did not have a significant relationship with the share price performance. This is probably because Malaysian REITs may not exceed 50% of the regulatory leverage limit under the guidelines on listed real estate investment trusts 2018, thereby resulting in the Malaysian REITs' leverage ratio being capped at a 50% limit and hardly recording significant changes. This would cause the Malaysian REITs' share price to be less sensitive to the financial leverage ratio. In conclusion, the result revealed that debt to assets had no significant impact on Malaysian REITs' annual return.

The results of the p-value and coefficient of price to book value were 0.000 ($p < 0.05$) and 1.465, respectively. The result supported the third research hypothesis (H3), which is "Price to book value has a significant impact on Malaysian REITs' annual return" as the p-value was significant at the 0.05 level. Thus, this indicated that there was a significant positive relationship between price to book value and annual return. When the price to book value increased by 1, the annual return increased by 1.465. This finding was consistent with the studies done by Milosevic-Avdalovic and Milenkovic (2017) and Yong et al. (2009) with the fact that price to book value was positively correlated with stock return. This finding was further explained by Young (1998) that high premium REIT to NAV was considered as having more growth potential than lower premiums, which was associated with firm growth opportunities and proxies for management quality and governance. In other words, REITs that were traded at a higher premium to NAV reflected better prospects

for firm growth opportunities and better management quality as well as governance (Hua, 2001). The result concluded that price to book value was positively correlated with Malaysian REITs' annual return.

The findings with regard to dividend yield indicated that the p-value and coefficient were 0.000 ($p < 0.05$) and 0.890, respectively. The result supported the fourth research hypothesis (H4), which is "Dividend yield has a significant impact on Malaysian REITs' annual return" as the p-value was significant at the 0.05 level. This showed that the relationship between dividend yield and annual return was significantly positive. When dividend yield increased by 1, the annual return increased by 0.89. This result was compatible with the study done by Jalil et al. (2017) and Hou et al. (2011), which showed that dividend yield and stock return were positively correlated. Therefore, it can be deduced that dividend yield was positively correlated with Malaysian REITs' annual returns.

In terms of market capitalisation, the findings indicated that the p-value and coefficient were 0.000 ($p < 0.05$) and -1.046, respectively. The result supported the fifth research hypothesis (H5), which is "Market capitalisation has a significant impact on Malaysian REITs' annual return" as the p-value was significant at the 0.05 level. Based on these findings, it can be inferred that there was a significant negative relationship between market capitalisation and annual return. When market capitalisation increased by 1, the annual return decreased by 1.046. This finding was in line with the research findings by Yong et al. (2009), Hamelink and Hoesli (2004), and McIntosh, Liang and Tompkins (1991), which indicated that firm size had a significant negative impact on REITs' return. It implied that smaller firms were inclined to generate more returns. This finding was further supported by Yang (2001) that there would be diseconomies of scale when the firm size was too large and exceeded beyond the optimal point. According to Chan (2002), another possible reason was that large REITs involved a series of decision-making processes that allowed a smaller REIT to make faster decisions whenever potential market opportunities was identified. In other words, it reflected the high decision-making efficiency of small REITs as compared to large REITs. In conclusion, market capitalisation was negatively correlated with Malaysian REITs' annual return.

The result of the p-value and coefficient of return on equity (ROE) was 0.000 ($p < 0.05$) and -1.351, respectively. The result supported

the sixth research hypothesis (H6), which is “Return on equity has a significant impact on Malaysian REITs’ annual return” as the p-value was significant at the 0.05 level. It indicated that there was a significant negative relationship between ROE and annual return. This finding was supported by Das and Bhattacharya (2013), which concluded that ROE had a significant relationship with stock return. The possible explanation for the negative relationship was due to the simultaneous effects of all financial determinants on the annual return and no variable should be considered individually and isolated from others to reflect the true association between ROE and annual return as suggested by Olanrele et al. (2014). Another possible explanation concerning the negative relationship may be due to the declining trend in ROE due to increases in accumulated retained profit while the net income from the property was relatively stable. In other words, it implied that the reduction in ROE ratio was due to an enlarged equity base as a result of the growth of accumulated retain profit with stable rental income that did not reflect the operational efficiency of a REIT company. The result suggested that ROE was negatively correlated with Malaysian REITs’ annual return. Overall, the hypotheses results are summarised in Table 5.

Table 5

Summary of Hypotheses Results

Hypothesis	P-value	Conclusion
H1 EPS has a significant impact on Malaysian REITs’ annual return.	0.000	Supported
H2 Debts to assets have a significant impact on Malaysian REITs’ annual return.	0.429	Not Supported
H3 Price to book value has a significant impact on Malaysian REITs’ annual return.	0.000	Supported
H4 The dividend yield has a significant impact on Malaysian REITs’ annual return.	0.000	Supported
H5 Market capitalisation has a significant impact on Malaysian REITs’ annual return.	0.000	Supported
H6 ROE has a significant impact on Malaysian REITs’ annual return.	0.000	Supported

Based on Table 5, results of EPS in H1, price to book value in H3, dividend yield in H4, market capitalisation in H5, and ROE in H6 had shown significant relationships towards Malaysian REITs’ annual return. However, it is seen based on this analysis that there was no

significant relationship between debt to assets and Malaysian REITs' annual return in H2.

CONCLUSION

The main objective of this study is to investigate simultaneously the effects of six (6) financial determinants on Malaysian REITs' return performance. More specifically, this study examined the effects of EPS, debt to assets, price to book value, dividend yield, market capitalization and ROE towards Malaysian REITs' annual return throughout the period of 11 years (2008-2018). It can be concluded that all of the financial determinants with the exception of debts to assets has significant impact on REITs' annual return. This suggest investors may considers these financial determinants when assessing performance of the individual REITs company.

Several implication are noted in this study. First, the results of the present study can contribute as an investment guidance to investors and fund managers by deepening their understanding of the important of the significant financial determinants which will affect their investment return performance in Malaysia. Hence, the investors and portfolio managers can have better understanding of the relationship between financial determinants and annual return which would facilitate their analysis on the significant financial variables and investment criteria when making an investment decision in order to maximize their investment return. Second, the finding indicates that smaller firm size tends to generate more return. This suggest if a firm size is too large and reach beyond the optimal point, it will result on diseconomies of scale. Thus, investors and portfolio managers should consider the firm size as one of the important investment criteria in order have a higher yield in their investment portfolio. Third, investors might emphasis on the dividend yield as one of their investment criteria or indicators in order to generate stable and steady investment income. Fourth, this study suggests, senior management should consider the impacts of earning per share and operational efficiency for better REIT management quality, thereby enhancing firm value as well as increasing shareholder value.

The sample for this study is limited to publicly traded Malaysian REITs in which the financial and stock return data are available on the

Bloomberg database. Thus, unlisted Malaysian REITs and privately held REITs are not included in the sample due to insufficient financial and stock return data. In view of this, the findings of the study should not be generalised to those unlisted Malaysian REITs. Besides, the exclusion of the controlled variable in the model might require further examination. However, the existing model with the exclusion of the controlled variable is adapted based on prior research such as by Lee (2017) and Chang et al. (2017). Furthermore, variance inflation factor is conducted to mitigate the impacts of high correlation among independent variables, which will affect the outcome of regression coefficients. Future studies can use different representative variables and proxies of financial measurements to investigate the potential relationship between those financial variables and return performance. The regression results indicated that approximately 20.3% of the variation of Malaysian REITs' annual returns is unexplained. Future studies can explore the effect of systematic risk (beta), location of property, and effect of institutional ownership on REIT performance.

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