

## DRIVERS OF CAPITAL STRUCTURE IN MALAYSIA REAL ESTATE INVESTMENT TRUST FUNDS (M-REITs)

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### Abstract

This study investigates drivers of capital structure decisions of Malaysian Real Estate Investment Trust Funds (M-REITs) using 121 observations from 15 REITs companies listed in the Bursa Malaysia during 8 years study period of 2011 to 2018. Employing the panel data regression model, the result indicates that operating risk is significantly negatively related to leverage suggesting that M-REIT firms with higher uncertainty of earnings opt for low leverage as it reduces their risk of bankruptcy. Consistent with pecking order theory, profitability is reported to have significantly negatively related to leverage implying that M-REITs with higher (lower) profits have lower (larger) debt albeit this industry is expected to have low retained earnings. Contrary to the trade-off theory, the asset tangibility is significantly negatively related to leverage indicating that M-REITs with higher fixed assets opt for lower debt. The uniqueness of M-REIT regulation could be the justification for this result.

**Keywords:** Real Estate Investment Trust Funds, capital structure; pecking order theory; trade-off theory, M-REITs

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### Introduction

People buy properties for many reasons. Some of them buy property to live in and some of them buy for investment purposes. They buy at a lower price and sell it at double or triple the price. To those that cannot afford to do an investment like this, they can always buy shares in Real Estate Investment Trust (REIT) companies. They don't have to buy very expensive properties but only the shares of these REITs companies. Investing in REITs is similar to investing in a unit trust. The prominent difference between these two securities is the former is traded in Bursa Malaysia while the latter can be bought through a broker or agent. To be more precise, as defined as Security Commission (SC) REITs is "an investment vehicle that proposes to invest at least 50 per cent of its total assets in real estate, whether through direct ownership or through a single purpose company, whose principal asset comprises of real estate". In Malaysia, investors have two choices of REITs: Equity REITs and mortgage REITs. Equity REITs own physical property and their portfolio of properties are actively managed. Equity REITs generate income primarily through rents. Meanwhile, mortgage REITs borrow money at a lower rate and invest the proceeds in higher-rate mortgage-backed securities. Mortgage REITs generate income from the spread between interest paid and interest received.

Historically, Malaysian REITs or M-REITs were known as Property Trust Funds (PTF), developed in 1986 which employed the Australian Listed Property Trusts (LPT) model as their regulatory framework. The first listed property trust in Malaysia was the Amanah Harta Tanah PNB followed by Amanah Harta Tanah PNB 2, and Arab Malaysian First Property Trust. Later, the SC then revised the guidelines of the PTF in 1991, 1995 and 2002. At the early stage, the PTFs underperform other trust funds in Asia, basically due to the higher tax imposed by the government which is similar to the common stock that consequently reduced the net profit after interest and tax of these companies (Abdul Jalil and Mohd Ali,

2015). In 2005, due to the lower performance of PTFs, SC introduced the new guidelines of M-REITS, which include increased maximum gearing, improved tax arrangements, improved ownership conditions, reduced Bumiputra ownership conditions, and more flexibility in property acquisition. The latest revised guidelines on M-REITs effective in April 2018 shows major improvement in which the M-REITs have the rights or eligibility to acquire vacant land for property development.

To date, as of January 2, 2019, the market capitalization of M-REITs is approximately RM40,471.01 million<sup>1</sup>. Currently, there are 18 numbers of listed M-REITs companies in Bursa Malaysia with four of them listed as Shariah Fund. These Islamic REITs structured and fund themselves in Syariah compliant manner and only invest in properties in which property tenants operate their businesses that comply with Shariah principles. In addition, there is only one MREIT that is formed as a stapled security. KLCC Stapled Group consists of the KLCC Property Holdings (KLCCP) and KLCC REIT, where KLCCP shares are stapled with KLCC REIT units. The investors who invest in KLCCP Stapled Group would own both the KLCC REIT and KLCC Property Holdings.

While most literature focuses on the determinant of the capital structure of public listed firms, this study investigates determinants of capital structure in another potential industry namely Malaysian Real Estate Investment Trust or M-REITs. Harris and Raviv (1991) survey the literature and conclude that the capital structure of firms within an industry are more similar than those in different industries and that industries are likely to retain their relative leverage ratios over time. REITs are capital intensive because of their large investments in fixed assets especially in real estate, and capital-intensive firms typically use more debt than equity to raise capital and run their operations. Investigation in these REITs is thus crucial as this industry is quite different from other capital-intensive industries such as automobile manufacturing. Investigation in these REITs is crucial as this industry is different from other listed industries. Among important features are; firstly, this industry can reduce or eliminate so-called double taxation. The tax regime on this industry is designed to be more attractive to investors as the Malaysian Inland Revenue Board (IRB) waived the tax if REITs distribute at least 90 per cent or more of their earnings after interest and tax to the shareholders. Despite the fact, this tax regime benefits the REITs in the short run; these companies will have to raise new capital for the future of the ten per cent (10%) internally generated fund would not be enough for any investment or expansion.

Secondly, the total borrowings of M-REIT shall not exceed 50% of the total asset value at the time the borrowings or financing facilities are incurred. Total asset value means the value of all the REIT's assets based on the latest valuation. Hence, when the total asset value depreciates until there is a breach of the 50% borrowing limit, the REIT's management must fix it within three months from the date of the breach. Thirdly, M-REITs may only borrow or obtain financing facilities from financial institutions or through the issuance of debt securities or Sukuk. To be able to grow and manage their portfolios, REITs must properly manage their cash flows, cash reserves, and debt levels (Juillet, 2012). Thus, REITs have to take proactive measures in managing the ratio of their bank loans. Motivated by the unique features of this industry, this present study tries to fill the empirical gap of capital structure determinants of M-REITs.

The analysis in this study is conducted using a panel data regression model and a total of 121 observations from a sample of 15 M-REITs companies listed in Bursa Malaysia are collected from the year 2011 to 2018. The findings of this study highlighted that operating risk is significantly negatively related to leverage suggesting that M-REIT firms with higher uncertainty of earnings opt for lower leverage as it can reduce their risk of bankruptcy. The profitability variable is reported to have a significantly negative relationship with leverage suggesting that M-REIT firms with lower profits will have larger debt in line with the pecking order theory that stated firms will only issue debt if they need extra funding. The asset tangibility is significantly negatively related to leverage which is contrary to the trade-off theory. This result suggests that low leverage is expected albeit this industry owns mostly high tangible assets. The result could be justified by the regulation in M-REITs that limits the total

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<sup>1</sup> <https://www.theedgemarkets.com/article/msian-reits-could-become-market-darlings-2019>

borrowings of not exceed 50% of the total asset value at the time the borrowings or financing facilities incurred.

This paper consists of five sections. Section two reviews theories and empirical studies related to capital structure. Section three discusses the data and methodology while section four discusses empirical results and discussion of the study. The conclusion and suggestion are discussed in section five.

### **Theoretical Literature Review**

One of the important theories in the capital structure used in this study is the pecking order theory (POT) by Myers and Majluf (1984). This theory states that in the presence of asymmetric information, firms will follow an order in issuing securities. They will use internal financing first since this source is the cheapest and available in the firms. Then, they will issue the safest security for example straight bonds and will issue equity as the final resort since any issuance of risky securities is perceived as overvalued by investors. Hence, according to the POT theory, the optimal level of debt is not possible.

In the case of the REIT industry, the firms need to pay a high dividend to shareholders to get the benefit of tax exemption; therefore, low retained earnings are expected. Concerning the POT, the first option to use retained earnings might not be relevant in this industry. In other words, in this industry issuing debt and equity would be the choice. Empirical studies by Brown and Riddiough (2003) and Ott et al. (2005) also confirm that REITs use external funding (i.e. debt and equity) instead of retained earnings. However, under asymmetric information in which investors perceived the price of equity would be overvalued, consequently would signal negatively to the market, issuing a higher level of debt is predicted for these REITs firms.

The second relevant theory in capital structure is the trade-off theory (TOT) developed by Modigliani and Miller (1958) that discusses having debt will increase the firms' value as long as the marginal cost of bankruptcy will not exceed the benefits of the tax shield. This theory states that the optimal level of debt can be achieved when the benefits of tax shield are more than the cost of bankruptcy (of having interest rate for the debt) and at that point, the weighted average cost of capital (WACC) or the cost of the firms is at the lowest level.

According to Harrison et al. (2011), the benefit of the tax shield does not apply to REITs with the justification that this market mostly serves as tax-exempt entities. On the contrary, according to Feng et al. (2007), REITs issue debt as a source of financing even though the tax shield does not benefit them.

## **Methods**

### **Data and Sample Size**

This study uses a sample of 15 M-REITs companies listed in Bursa Malaysia. The study period covers from the year 2011 to 2018 (8 years) that yields a total of 121 observations. In total there are 18 M-REIT companies listed in Bursa Malaysia, however, three are excluded from the sample due to either the REIT is a newly listed firm, is currently delisted or the leverage ratio for the sample period is very low. Firms' characteristics data were collected from Datastream and Annual Reports of M-REITs companies.

### **Variable Definitions, Measurements, and Hypotheses Development**

#### **Dependent Variable**

We use leverage as the dependent variable. Morri and Beretta (2008) define leverage as financial debt (short-term and long-term debt) over the book value of total assets.

$$\text{Financial Leverage} = (\text{Short-term} + \text{Long-term Debt}) / \text{Total Assets}$$

#### **Explanatory variables**

##### **Operating risk**

The operating risk is defined as the volatility of expected earnings as measured by the standard deviation of earnings before interest and tax (EBIT) scaled by EBIT (Lips and Schramade 2009). According to Lips and Schramade (2009) scaling by EBIT is used to exclude the influences of firm size. In line with both theories (POT and TOT), we predict a negative relationship between operating risk and leverage. According to TOT theory, firms that have higher operating risk, reduce their variability of the net profit by reducing their leverage. These firms reduce their probability of bankruptcy by having lower debt. In the case of POT, the uncertainty of earnings would lead to uncertainty of net profit and retained earnings and increase the probability of bankruptcy. Therefore, firms with high operating profits will reduce debt that consequently reduces the amount of interest payment and increase the retained earnings.

$$\text{Operating risk} = \text{Standard deviation of earnings before interest and tax} / \text{EBIT}$$

Our first hypothesis is:

H1: There is a significant negative relationship between operating risk and leverage

### **Asset tangibility**

We use asset tangibility as a proxy of an increase in debt. Asset tangibility is referring to any long-term fixed assets or real assets. These long-term assets are usually financed by debt or leverage. Consistent with the trade-off theory, the positive association between asset tangibility and leverage is expected. We employ net fixed assets over the book value of total assets (De Jong et al., 2008; Morri and Beretta 2008) as a proxy for asset tangibility.

$$\text{Asset Tangibility} = \text{Net Fixed Assets} / \text{Total Assets}$$

Our second hypothesis is:

H2: There is a significant positive relationship between asset tangibility and leverage

### **Profitability**

We use operating profits as a proxy of financial slack or retained earnings. Consistent with the POT theory, we predict a negative relationship between operating profits and leverage as firms that have more profitability will have more retained earnings, hence will have lower debt. We use the operating profit to exclude the tax and interest effect as this industry varies from other industries. The formula is taken from Alcock et al. (2010) and measured as below:

$$\text{Operating Profits} = \text{Earnings Before Interest and Tax} / \text{Total Assets}$$

Our third hypothesis is:

H3: There is a significant negative relationship between profitability and leverage

### **Control Variable**

We also employ the firm size calculated by the natural logarithm of total assets as a control variable (Chikolwa 2011; Harrison et al. 2011; Zarebski and Dimovski 2012). This variable is expected to have a positive relationship with leverage as large firms tend to issue large debt. Furthermore, according to TOT, a positive relationship between firm size and leverage is associated with decreasing bankruptcy cost as large firms will generate more cash flows thus enable them to borrow more (Harrison et al., 2011).

## **Findings and Analysis**

### **Descriptive Statistics**

As shown in Table 1, KLCC REIT is the largest among M-REITs and only five M-REITs are specialized REITs while the rest hold a rather mixed portfolio. The lowest average gearing (total borrowings divide by total assets value) calculated from 2011 to 2018 is earned by KLCC REIT. Once in 2013, YTL reported gearing of almost 53%, which is above the gearing limit. Only Hektar has gearing consistently above 40 per cent year after year whilst the rest of M-REITs reported gearing below 40 per cent for

most of the years under study. UOA borrowings consist of short-term financing only (in the form of revolving credit) while the rest 11 M-REITs relied more on long-term financing rather than on short-term.

Table 1. The market capitalization, average gearing, and average short-term financing of M-REITs

Portfolio	Market Capitalization (RM million)#	Mean Gearing (%)*	Mean Short-term Financing (%)*	
Al Aqar	Hospital, Nursing College, Hotel	964.14	43.59	24.85
ARREIT	Industrial Office, Hotel, Institutions, Retail	470.04	37.20	11.61
AHP	Retail, Office	162.90	23.83	47.70
First	Office, Retail, Hotel	360.36	40.67	23.62
Atrium	Industrial, Warehouse, Office	135.20	28.63	67.64
Axis	Office, Industrial	1,942.54	32.91	62.55
CMMT	Retail	2,064.62	30.55	12.27
Hektar	Retail	517.40	42.75	5.51
IGB	Retail	6,150.57	23.77	2.04
KLCC REIT	Retail, Office	13,864.96	14.38	13.77
MRCB-Quill	Retail, Office	1,157.53	37.06	9.87
Pavillion	Retail, Office	4,919.46	21.01	8.32
Sunway	Retail, Hotel, Office	5,183.34	33.79	55.06
UOA	Office	549.73	33.84	100.00
YTL	Hotel	2,028.22	35.44	4.34

# as of January 2, 2019, Source: The Edge

\* Source- authors' compilation from Annual Reports

Table 2 shows the descriptive statistics of the firms' characteristics in our study. From the table, the typical REIT in Malaysia has average leverage (total debt ratio to total assets) of 33.00% with the highest leverage of 77.20% and the lowest leverage of 5.60%. M-REITs tend to have a low debt ratio as compared to other listed industries in Malaysia that have on average 60% leverage. This figure is also true when comparing with REITs in other countries such as in Europe (Morri and Cristanziani, 2009) and Australia (Chikolwa, 2011). On average, M-REITs have 84.84% of asset tangibility in line with the nature of these businesses which involves assets such as real estate, hotels, malls and others. The smallest firm in this study has total assets of RM0.17 billion and the largest firm has total assets of RM17.86 billion. On average, M-REITs in this study have a profitability ratio of 6.80%, with the lowest profitability ratio of 0.40% and the highest of 15.70%. M-REITs have an average operating risk of 46.00%, the minimum point at 7.00% and the maximum point of 1280.00%, a wide range as indicate by 116.60% of standard deviation.

Table 2. Firms characteristics of 15 REITs companies from 2011 to 2018

Variables	Minimum	Maximum	Mean	Std. Deviation
<b>Leverage</b>	5.60%	77.20%	32.62%	11.59%
<b>Asset Tangibility</b>	0.00%	99.50%	84.84%	28.64%
<b>Firm size ( RM billion)</b>	0.17	17.86	3.29	4.04
<b>Profitability</b>	0.40%	15.70%	6.80%	2.66%
<b>Operating Risk</b>	7.00%	1280.00%	46.00%	116.60%

### Pearson Correlation

Table 3 provides the correlation coefficient matrix. There is a strong significant negative relationship (at the 1% level) between operating risk and leverage. This table also indicates that there is a low multicollinearity problem between independent variables as the highest Pearson correlation coefficient is -0.65 which is between operating risk and profitability.

Table 3. Pearson Correlation Matrix

	LEVERAGE	OPERATING RISK	FIRM SIZE	ASSET TANGIBILITY	PROFIT
LEVERAGE	1.00				
OPERATING RISK	-0.35***	1.00			
FIRM SIZE	-0.15	-0.22**	1.00		
ASSET TANGIBILITY	-0.09	-0.04	0.24*	1.00	
PROFITABILITY	-0.09	-0.65***	0.13	-0.15	1.00

Note: \*, \*\*, and \*\*\* Correlation is significant at the 10%, 5%, and 1% level (2-tailed)

### Panel Data Regression

We use the Panel Data Regression model to examine significant relationship of a dependent variable to other independent variables. The equation below regresses the dependent variable and independent variables use in this study:

$$\ln \text{Leverage}_{i,t} = \alpha_{i,t} + \beta_1(\ln \text{Asset Tangibility}_{i,t}) + \beta_2(\ln \text{Operating Risk}_{i,t}) + \beta_3(\ln \text{Firm Size}_{i,t}) + \beta_4(\ln \text{Profitability}_{i,t}) + \varepsilon_{i,t}$$

where the  $\ln$  Leverage is defined as the natural logarithm of short-term and long-term debts divided by total assets,  $\ln$  Asset Tangibility is the natural logarithm of net fixed assets divided by total assets,  $\ln$  Operating Risk is the natural logarithm of the standard deviation of EBIT divided by total EBIT,  $\ln$  Firm size is the natural logarithm of total assets,  $\ln$  Profitability is the natural logarithm of EBIT divided by total assets and lastly,  $\varepsilon_i$  is the error term.

Table 4 shows the regression results in four estimation models in the panel data statistics; the pooled OLS, the random effect (RE), the fixed effect (FE), and the random effect robust (RE robust). The diagnostic test indicates that the probability of  $\chi^2$  for the Breusch-Pagan LM test is significant at the 1% level; therefore, Generalized Least Squares (GLS) model is more appropriate than the Ordinary Least Squares (OLS) model. The p-value for  $\chi^2$  for the Hausman test is more than 5%, indicating that there is no fixed effect, therefore, the RE model is more appropriate than the FE model. Since the heteroscedasticity and serial correlation test are significant at the 1% and 5% levels respectively, the result of the analysis should be based on the RE robust model.

The  $R^2$  in RE robust model in Table 3 suggests that this model explains 41.53% of the variation in the dependent variables, leverage. The finding indicates that the operating risk has a significant negative relationship (at the 1% level) with leverage which is consistent with traditional capital structure theories; the TOT and the POT. It suggests that similar to other listed industries, M-REITs with higher operating risk opt for low leverage as an increase in leverage will increase the bankruptcy cost. The result is also consistent with other empirical studies in this industry that stated REITs are very sensitive to the variability of operating risk (Chikolwa 2011; Morri and Berretta 2008).

The asset tangibility has a significant negative relationship (significant at the 5% level) with leverage which is contrary to both TOT and the POT, hence hypothesis 2; there is a significant positive relationship between asset tangibility and leverage is rejected. For the non-REITs industry, higher fixed

assets serve as collateral for having higher debt, thus higher fixed assets would lead to higher leverage. Unlike other listed industries, this result suggests that M-REITs that have higher fixed assets have lower leverage. The negative significant relationship between asset tangibility and leverage can be justified possibly based on the regulation of M-REITs that limit the total borrowings of not exceed 50% of the total asset value at the time the borrowings or financing facilities incurred. This finding is consistent with Chikolwa (2011) in Australian REITs.

Table 4. Panel Data Regression Results

Variables	Pooled OLS	Random Effect	Fixed Effect	Random Effect Robust
<b><u>Dependent variable: ln Leverage</u></b>				
Constant	7.21 (12.85)***	7.56 (6.15)***	-404.56 (-0.39)	7.42 (5.5)***
Operating Risk	-0.46 (-7.91)***	-0.62 (6.73)***	20.24 (0.38)	-0.58 (3.53)***
Asset Tangibility	-0.03 (-2.21)**	-0.02 (-1.7)*	-0.02 (-1.7)**	-0.03 (-2.09)**
Profitability	-0.55 (-6.04)***	-0.64 (6.38)***	20.25 (0.38)	-0.59 (-3.33)***
Size	- 0.08 (-2.53)**	-0.06 (-0.89)	20.94 (0.4)	-0.06 (-0.64)
Observations	121	121	121	121
R-squared	37.39%	39.48%	34.22%	41.53%
F-value	17.17 (0.00)***		13.14 (0.00)***	
Wald Chi <sup>2</sup>		55.12 (0.00)***		294.63 (0.00)***
Number of firms	15	15	15	15
Year				YES
<b><u>Diagnostic test</u></b>				
Breusch-Pagan LM Test X <sup>2</sup>				69.75 (0.00)***
Hausman Test X <sup>2</sup>				5.85 (0.054)
Multicollinearity (VIF)				1.48
Heteroscedasticity (chi <sup>2</sup> stat)				5022.37 (0.00)***
Serial Correlation				5.85 (0.03)**

**Notes:** 1. Figures in parentheses are t-statistics for pool OLS, z-statistics for random and fixed effect, and z-statistic based on robust std error for random effect robust; 2. Figures in parentheses for Breusch-Pagan LM test and Hausman test is the p-value; 3. \*\*\*, \*\* and \* indicate the respective 1%, 5%, and 10% significance levels

The finding also shows that profitability has a significant negative relationship (at the 1% level) with leverage in line with the TOT and POT that predicts a negative relationship with leverage. Hypothesis 3 which is profitability has a significant negative relationship with leverage is consistent with this finding. This result is also aligned with empirical findings from the same industry; Zainudin et al. (2017) Chikolwa (2011), Ertugrul and Giambona (2010), Morri and Cristanziani (2009) and Morri and Berretta (2008). The explanation for this is non-REITs with higher profits and few investments have little debt because these firms tend to have more retained earnings to fund their operations and prefer to use retained earnings rather than issuing external financings such as debt and equity. In the case of the REITs industry, the same sign as other industries justifies that although M-REITs have higher profit they would still need to issue external funds since this industry is expected to have lower retained

earnings. They might issue equity since the benefit of tax shield is no longer relevant and issuing debt would be costly to them as they still need to pay the interest for the debt. Hence, they opt to have low leverage. The descriptive statistics in Table 2 is in agreement with this finding as MREITs have a lower debt ratio or leverage (average of 32.6%) than non-REITs in Malaysia that have on average of 60% leverage. This result is also consistent with the finding by Morri and Cristanziani (2009) that highlighted in Europe, non-REITs (standard property companies) are significantly more leveraged than REITs.

The firm size has a non-significant negative relationship with leverage. This variable is related to the cost of issuing debt and equity in such the cost of issuing debt for smaller firms is bigger than the cost of issuing debt for larger firms (Morri and Berretta, 2008). In other words, larger firms would have higher leverage as their costs of issuing debts are smaller.

### Conclusion

The general purpose of this study is to investigate drivers of capital structure decisions by REITs in Malaysia. A sample of 15 M-REITs companies with 121 observations is used in this study during 8 years study period of 2011 to 2018. The hypotheses of this study are analysed using a random effect robust model. This study finds that REITs capital structure is driven by many of the same traditional factors of non-REITs such as operating risk and profitability. Unlike other industries, M-REITs that have higher asset tangibility have lower leverage. The result can be justified by the unique regulations of the M-REITs market and the culture of operational and financing characteristics also influence the M-REITs leverage decisions.

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