

## **Performance of REITs after a Tax Reform: Experience from a Developing Country**

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*This study examines the performance of Malaysian REITs over the period 1999 to 2014, following the implementation of the tax reforms in 2007, 2009, and 2012. By using the Sharpe (1966), Treynor (1965), and Jensen (1968) measures, most of the M-REITs outperformed the tax-adjusted value-weighted M-REITs index, KLCI, KLPI and the 3-month Malaysia Treasury Bills. This finding shows that investors would benefit from investing in the M-REITs industry. Positive and statistically significant Jensen alphas of M-REITs indicate that the fund managers were either good in selecting undervalued assets or in timing the market. Tax-adjusted value-weighted REITs index was found to outperform the KLCI, KLPI and the 3-month Malaysia Treasury Bills. In terms of total risk, some of the M-REITs are having a higher standard deviation than the KLCI and the tax-adjusted value-weighted M-REITs Index. Most M-REITs have a lower total risk than the KLPI.*

**JEL Codes:** G11 and H20

### **1. Introduction**

The development of Real Estate Investment Trusts (REITs) started in 1960 in the United States under the Real Estate Investment Trust Act of 1960. In Malaysia, REITs was only introduced in 1989 in accordance to the Australian Listed Property Trust (LPT) regulatory framework (Hwa, 1999; Hamzah et al., 2010). REITs provides an opportunity for investors to invest in a professionally managed portfolio of real estate with attractive dividend yields.

Since late 1970s, many researchers have concentrated on REITs performance. In the US and Australia, mixed results have been found where the REITs portfolio either outperformed, underperformed or performed at par as their market benchmark (Burns & Epley, 1982; Higgins & Ng, 2009; Howe & Shilling, 1990; Kim et al., 2002; Kuhle et al., 1986; Newell & Wen Peng, 2009; Titman & Warga, 1986). As for REITs in the Asian markets, Pham (2012) and Coen and Lecomte (2014) found that Asian REITs had a superior performance as compared to REITs in developed markets. Other studies such as Newell et al. (2010) who focused on REITs in Hong Kong (HK-REITs), Koh et al. (2014) and Newell et al. (2015) in Singapore (S-REITs) and Newell and Wen Peng (2012) in Japan (J-REITS), found that HK-REITs, S-REITs, and J-REITs outperformed the overall stock market. However, for Malaysia, risk-adjusted performance studies on REITs have

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provided mixed results as in the US (Hamzah et al., 2010; Kok & Khoo, 1995; Low & Johari, 2014; Newell & Osmadi, 2009; Newell et al., 2002).

Other than REITs performance, there are researchers who focus on the impact of tax reforms on performance. However, the number of studies is rather limited. Xu and Yiu (2010) focus on the impact of tax reforms on the REITs return in the US and Australia. Their result shows that REITs tax reforms affected the REITs return either positively or negatively depending on the tax reform period. In Malaysia, there has been no study on the Malaysian REITs performance that takes into account the different tax regimes implemented in 2007, 2009, and 2012. Most of the studies calculated returns of REITs without considering the changes of dividend tax rate for individuals and domestic investors, and foreign institutional investors during the implementation of the tax incentives. Without such consideration, the performance analysis presented in those studies might not reflect the true performance of the M-REITs. Thus, this study is implemented to examine on the performance of REITs when there are changes in the tax rate of REITs' income.

This paper is divided into five sections. The next section would cover the literature review which is followed by the methodology in Section 3. Section 4 analyses the results and Section 5 concludes the paper.

## **2. Literature Review**

Studies on the performance of the REITs industry over the period between the late 1970s and early 1980s suggest a mixed and inconclusive finding on the performance of REITs. Smith and Shulman (1976) made a comparison among the performance of 16 US REITs to the S&P 500 index, savings accounts, and 15 closed-end funds over the period from 1963 to 1974. The study found that equity REITs outperformed savings account and the S&P 500 index. The result is consistent with the studies of Burns and Epley (1982), Han and Liang (1995) and Kim et al. (2002). Similarly, Sagalyn (1990) also found that survivor equity REITs outperformed the S&P 500 index over the 1973 to 1987 period. In particular, equity REITs showed less volatility but higher returns. This can be explained by the high return, lower volatility, and lower systematic risk of REITs in the period of high growth in the real gross national product which dominated the 1980s.

However, when Smith and Shulman (1976) split their sample, they found a poor performance of REITs where REITs underperformed the S&P index for the whole 1963 to 1974 period. The result was consistent with the study of Kuhle et al. (1986) whom used a monthly return data over a five-year period to examine the effect of diversification on portfolio risk in the US REITs. They found that the overall performance of mixed portfolio of common stocks and REITs was not significantly different from a portfolio of only common stocks. This is further supported by Howe and Shilling (1990) whom evaluated the performance of equally weighted REITs index based on advisory types. By using Jensen alpha index (JI) of 105 REITs, they also found that REITs underperformed the CSRP equally weighted index over the period from 1973 to 1987. This finding concurs with those of Brounne and Koning (2012), Kim et al. (2002) and Titman and Warga (1986).

As for Australia, Higgins and Ng (2009) conducted a study on the performance of Australian REITs (A-REITs) market. Their finding showed that the mean annual return of S&P/ASX 300 Australian REITs which was 14.53%, underperformed the 16 wholesale

property funds that had a mean return of 15.08%. Based on Modigliani and Modigliani (1997) risk-adjusted performance measure, 14 out of 16 funds had an excess return beyond the market benchmark. This finding corresponds to the result reported by Newell and Wen Peng (2009) on 26 A-REITs where these REITs outperformed the other major asset classes and became the best asset class from 1996 to 2007. However, during the global financial crisis (GFC) in 2008, the A-REITs performed worse than the other asset classes and their risks were higher than the stock market which indicated that during that time the A-REITs returns were more volatile than the stock market.

In Singapore, REITs are considered as a separate asset class when investors are looking to diversify and to strategically better allocate their asset composition within their investment portfolios (Wong, Tong & Keow, 2012). Newell et al. (2015) assessed the performance of Singapore REITs (S-REITs) from 2003 to 2013. Based on the reward-to-risk ratio and Sharpe ratio, S-REITs were found to outperform the overall stock market and the level of risk was higher than stocks but lower than the property companies. S-REITs had a superior performance as compared to the Singapore property companies and stocks except during the GFC period. Similar to the Australian REITs (Newell & Wen Peng, 2009), S-REITs was the least performing asset during the GFC and their risk level also rose to 25.8%. However, after the GFC, S-REITs outperformed the other asset classes.

As for Malaysia, Kok and Khoo (1995) were among the first study that examined the performance of REITs. They looked at three listed property trusts over 1991 to 1995 by using the Sharpe Index (SI), Treynor Index (TI) and Jensen Index (JI). Their findings show that the First Malaysia Property Trust outperformed other listed property trusts and performed at par with the market portfolio. However, in a falling (rising) market, the listed property trusts performed better (worse) than the market. Newell et al. (2002) extended the sample of Kok and Khoo (1995) by having more observations and longer period from 1991 to 2000. The mean annual return showed that only Amanah Harta Tanah PNB outperformed the Kuala Lumpur Composite Index (KLCI), Kuala Lumpur Property Index (KLPI) and Kuala Lumpur Office Price Index (KLOPI). On a risk-adjusted basis, Newell et al. (2002) found that all the LPTs significantly underperformed the KLCI. Total risks for three of the listed property trusts were more than the stock market risk and significantly above the office real estate risk.

Subsequently, Hamzah et al. (2010) investigated the performance and systematic risk of listed property trusts in Malaysia from 1995 to 2005. The Adjusted SI, TI and Adjusted JI show that the LPTs in general outperformed the KLCI and KLPI during the crisis but underperformed in the pre-crisis and post-crisis periods. This finding contradicts to the results reported for the Singapore and Australian REITs that show they were the least performing asset during the GFC (Newell et al., 2015; Newell & Wen Peng, 2009). Hamzah et al. (2010) associated their finding with the lag effect where according to them the performance of REITs was better during the crisis because the property and construction sectors may not immediately absorb the effect of economic downturn during the GFC. They also found that the average systematic risks of REITs were slightly higher than the market portfolio during the pre-crisis and crisis period but were significantly lower in the post-crisis period.

A later study by Ong et al. (2012) examined the Malaysian conventional and Islamic REITs from 2005 to 2010. Based on the Sharpe, Treynor and Jensen Index, all REITs

underperformed the KLCI and Emas Shariah Index during the pre-subprime crisis period. During and post-crisis periods resulted with a negative performance for both the conventional and Islamic REITs based on the Sharpe and Treynor measures; but based on JI, all REITs outperformed both market indices. The finding on conventional REITs is consistent with those reported by Kallberg et al. (2002), Liow and Adair (2009) and Liow and Sim (2006) in which all reported inferior average monthly returns and higher risks of REITs as compared to the Asian stocks during the financial crisis. Ong et al. (2012) did not provide further explanation on the differences in the findings other than it was being caused by different performance measures.

### 3. The Methodology and Model

The sample comprises of 19 Malaysia REITs that are listed at Bursa Malaysia. Monthly returns of the M-REITs, FTSE BM KLPI (KLPI), FTSE BM KLCI (KLCI) and 3-month Malaysia Treasury Bills (T-Bills) were taken from Datastream from January 1999 to December 2014. KLCI was used as the market benchmark to represent the performance of Bursa Malaysia. A self-constructed tax-adjusted value-weighted Malaysia REITs index was constructed from the summation of each M-REITs total return index taking into account the three tax reforms in 2007, 2009, and 2012 in which the Malaysian government improved the tax incentives where the dividend tax rate for individuals and domestic investors have been reduced from 15% (2007) to 10% (2009, 2012) and for foreign institutional investors, from 20% (2007) to 10% (2009, 2012)(KPMG, 2006; KPMG, 2011). Furthermore, to ensure an accurate performance of the M-REITs, a tax adjusted return of individual REITs were calculated as follows:

$$AR_{it} = \frac{P_{it} + D_{it} \times (1 - RT_{it}) / (1 - CT_t)}{P_{it-1}} - 1 \quad (1)$$

Where:

$AR_{it}$  is the tax adjusted return for REIT  $i$  at month  $t$ ;

$P_{it}$  is the price for REIT  $i$  at month  $t$ ;

$P_{it-1}$  is the price for REIT  $i$  at month  $t-1$ ;

$RT_{it}$  is the dividend tax rate of REIT  $i$  at month  $t$ ;

$CT_t$  is the corporate tax rate at month  $t$ .

Three measures that have been used by prior REITs performance studies which are the Sharpe Index (1966), Treynor Index (1965) and Jensen Alpha (1968) were utilised (Howe & Shilling, 1990; Kok & Khoo, 1995; Low & Johari, 2014; Newell et al., 2010; Newell et al., 2015; Ong et al., 2012; Titman & Warga, 1986). Sharpe (1966) derived the performance measure based on the capital asset pricing model (CAPM) by looking at the total risk of a portfolio represented by the standard deviation of returns ( $\sigma_i$ ). The Sharpe ratio is calculated as follows:

$$S_i = \frac{\bar{R}_i - \bar{R}_f}{\sigma_i} \quad (2)$$

$\bar{R}_i$  and  $\bar{R}_f$  are the average individual REITs returns and the average yield on the 3-month Malaysia T-Bills.

The second performance measure was proposed by Treynor (1965). He focuses on the unique return composition of a portfolio relative to the market portfolio. According to him, if a portfolio is completely diversified, the unique risk would be diversified away. Therefore, Treynor only considers the systematic risk ( $\beta_i$ ) that is generated by the market fluctuations. The Treynor ratio is calculated as follows:

$$T_i = \frac{\bar{R}_i - \bar{R}_f}{\beta_i} \quad (3)$$

The third model is Jensen's Alpha Index ( $\alpha$ ) (1968) which is also based on the CAPM model. Jensen derived the model of portfolio performance based on the work by Sharpe (1964), Lintner (1965) and Treynor (1965). A fund manager is considered superior (inferior) if he or she could produce a significant positive (negative) alpha value ( $\alpha_i$ ). The Jensen's measure is estimated as follows:

$$R_{it} - R_f = \alpha_i + \beta_i(R_{mt} - R_f) + e_{it} \quad (4)$$

Where  $R_{it}$  is the return of REITs in month t,  $R_f$  is the return on a 3-month Malaysia T-Bills in month t,  $e_{it}$  is the random error term,  $\beta_i$  is the systematic risk for security or portfolio i and  $\alpha_i$  and  $\beta_i$  are the parameters estimated from the ordinary least-squares (OLS) regression model.

#### **4. The Findings**

Table 1 exhibits the risk-adjusted performance of the Malaysian REITs in comparison to the value-weighted REITs index, KLCI, KLPI, and 3-Month Malaysia T-Bills for the period from January 1999 to December 2014. The average monthly returns for 16 out of 19 REITs were higher than the KLCI during the study period which is consistent to the study by Newell and Wen Peng (2009) who found that the Australian REITs outperformed the other major asset classes from 1996 to 2007. The average monthly return of the KLCI amounted to 0.7100%. Among the 19 M-REITs, First Malaysia Property Trust (FMPT) provides the highest return with an average monthly return of 2.8440%. This concurs to the result reported by Kok and Khoo (1995). As for the KLPI that has an average return of 0.5167%, all the M-REITs outperformed the index except for IGB that shows an average return of 0.2444%. Similarly, all the Malaysian REITs have an average return higher than the 3-month Malaysia T-Bills.

The highest total risk is exhibited by the First Malaysian Property Trusts, with a monthly standard deviation of 19.0055%. Six M-REITs surpassed the KLCI standard deviation that shows 5.1154%. The M-REITs' total risk ranged from 2.5498% to 19.0055%. Twelve out of 19 M-REITs have a higher standard deviation as compared to the value-weighted Malaysian REITs Index; whereas 18 M-REITs reveal a lower volatility against the KLPI except for the FMPT. All Malaysian REITs are found to be more volatile than the 3-month Malaysia T-Bills.

The Sharpe measure results indicate that 16 M-REITs outperformed the KLCI that shows a Sharpe ratio of 0.0918. The highest SI was obtained by Sunway with 0.3584. On average, the Sharpe ratio of M-REITs is 0.1870 surpassing the market SI, indicating that investors would receive a higher excess return per unit of total risk. This result is consistent to the finding of Newell and Osmadi (2009) and Low and Johari (2014) where they showed that the M-REITs sector outperformed the overall stock market. Furthermore, the SI of the value-weighted REITs index was found to outperform the KLCI Sharpe ratio; whereas the KLPI Sharpe ratio was the lowest among the indexes. If the M-REITs were compared against the KLPI, only IGB shows a lower SI. This is because it has the smallest average return and standard deviation among all M-REITs. The Malaysian REITs' beta ranged from -0.1704 to 0.7393 which is lower than the KLCI's beta of 1. A low beta would mean that REITs are less volatile than the market. AXIS gives the highest systematic risk of 0.7393, implying that it is 26.07% less sensitive against the KLCI.

**Table 1: Monthly performance measures for nineteen Malaysian REITs<sup>a</sup>:  
January 1999 – December 2014**

REITs	MEAN (%)	SD (%)	Sharpe	Rank	Beta	Treynor	Rank	Jensen	Rank
Aqar Healthcare REIT	1.0708	4.0357	0.2042	8	0.2991	0.0275	5	0.0069	10
Al Hadharah Boustead REIT	1.6448	4.8719	0.2880	3	0.3786	0.0371	3	0.0125*	4
Amanah Harta Tanah PNB	0.7982	5.5429	0.1006	16	0.5497	0.0101	16	0.0030	16
Amanah Harta Tanah PNB2	0.5346	6.7050	0.0434	18	0.2881	0.0101	17	0.0022	18
AmanahRaya REIT	0.7478	3.7125	0.1356	14	0.2699	0.0187	10	0.0043	14
AmFirst Property Trust	1.4954	4.9734	0.2543	5	0.4745	0.0267	8	0.0103*	6
AmFirst REIT	0.9947	2.9652	0.2528	6	0.2948	0.0254	9	0.0065*	11
Atrium REIT	1.0619	4.5044	0.1816	10	0.5762	0.0142	13	0.0070	9
Axis REIT	2.2391	6.2630	0.3179	2	0.7393	0.0269	6	0.0168*	2
Capitamalls REIT	1.1682	4.3915	0.2088	7	0.3407	0.0269	7	0.0084	8
First Malaysia Property Trust	2.8440	19.0055	0.1366	13	0.5810	0.0447	1	0.0220	1
Hektar REIT	1.3657	5.4947	0.2039	9	0.6141	0.0182	11	0.0091	7
IGB REIT	0.2444	2.5498	-0.0043	19	-0.1704	0.0006	19	0.0000	19
MRCB-Quill REIT	0.6633	6.1716	0.0678	17	0.4939	0.0085	18	0.0029	17
Pavilion REIT	1.3801	4.0576	0.2772	4	0.2614	0.0430	2	0.0106	5
Sunway REIT	1.6209	3.8218	0.3584	1	0.4243	0.0323	4	0.0128*	3
Tower REIT	1.0647	4.8189	0.1694	11	0.5047	0.0162	12	0.0060	12
UOA REIT	0.9631	4.4569	0.1604	12	0.5633	0.0127	15	0.0046	13
YTL Hospitality REIT <sup>a</sup>	0.7415	3.7763	0.1306	15	0.3603	0.0137	14	0.0033	15
Average Return of REITs	1.0690	4.4293	0.1870	NA	0.4778	0.0173	NA	0.0060*	NA
Value Weighted REITs Index	1.0082	4.2780	0.1795	NA	0.4865	0.0158	NA	0.0054*	NA
KLCI	0.7100	5.1154	0.0918	NA	1	0.0047	NA	0.0000	NA
KLPI	0.5167	6.8446	0.0403	NA	1.0580	0.0026	NA	-0.0022	NA
3-month Malaysia T-Bills	0.2405	0.0396	NA	NA	NA	NA	NA	NA	NA

\*statistically significant at 5% level

<sup>a</sup> For REITs that are introduced after 1999, analysis begins with the listing month

As for Treynor measure, the First Malaysia Property Trusts has the highest ratio of 0.0447 which is greater than the KLCI TI of 0.0047. Eighteen Malaysian REITs outperformed the market index and the KLPI. This is in contrast to the finding obtained by Low and Johari (2014) who found Hektar REIT was the only REIT that outperformed the KLCI. The lowest rank goes to IGB REIT which is similar to the Sharpe and Jensen index measures. For most REITS, the SI and TI did not generate the same performance ranking except for Al Hadharah Boustead REIT and Capitamalls REIT that are ranked at third and seventh places. An examination on the tax-adjusted value-weighted REITs index exhibits a SI and TI of 0.1795 and 0.0158, which are lower than the average return of M-REITs that provides a SI (TI) of 0.1870 (0.0173). Nevertheless, both of the risk-adjusted performance

measures of the tax-adjusted value-weighted REITs index and average return of M-REITs outperformed the KLCI and KLPI, implying that during the study period, investing in REITs is better than investing in other financial assets, i.e., KLCI and KLPI.

The Jensen's alphas ranged from 0.0000 to 0.0220, where the M-REITs with the highest JI was the First Malaysia Property Trusts as was identified in the Treynor measure. This REIT could provide an excess return of 2.2% per month more than expected given the REIT's risk level. All M-REITs exhibited positive Jensen's alpha beyond the KLPI, which is consistent to the finding by Kuhle et al. (1986). A close examination finds that five M-REITs (Al Hadharah Boustead REIT, AmFirst Property Trust, Amfirst REIT, AXIS REIT, and Sunway REIT) provide a positive and significant alpha indicating that the fund managers were either good in selecting undervalued assets to be included in their portfolio or in timing the market. This result concurs to a study by Low and Johari (2014) where JI of ten REITs were found to generate positive alpha. It is also consistent to the finding of Titman and Warga (1986) who found that REITs outperformed the CRSP index. If we were to look at the value-weighted REITs index (0.0054) and average return of REITs (0.0060), they exhibited a positive and significant JI beyond the KLCI and KLPI which were having an insignificant JI of 0.0000 and -0.0022. This result indicated that the value-weighted REITs index and average return of REITs could generate an excess return of about 0.54 and 0.60 basis points more than what would have been anticipated given the level of risk.

An examination of the monthly average return of the 3-month Malaysia T-Bills shows that it underperformed the KLCI, KLPI, M-REITs and value-weighted REITs index; and its standard deviation is also found to be lower than the rest of the indexes. Overall, the results of this study show that there is a performance difference between the individual REITs in comparison to the tax-adjusted value-weighted REITs index, KLCI, KLPI and the 3-month Malaysia T-Bills. This result is supported by the finding of Higgins and Ng (2009) who found that fourteen out of sixteen wholesale property funds showed excess returns beyond the S&P/ASX 300.

## **5. Summary and Conclusions**

Based on a sample of 19 Malaysian REITs over the period 1999 to 2014, we investigate the performance of M-REITs following the implementation of the tax rate reforms in 2007, 2009, and 2012. The study improves upon the existing literature on REITs by adjusting the monthly return of REITs on the different tax regimes. Such approach has never been used in previous studies. This is important because without adjusting for the different tax incentives, an inaccurate assessment of the performance of Malaysian REITs might have taken place. Our evidence shows that most of the M-REITs outperformed the tax-adjusted value-weighted REITs index, KLCI, KLPI and the 3-month Malaysia T-Bills based on the Sharpe (1966), Treynor (1965), and Jensen (1968) risk-adjusted performance measures, indicating that investors would benefit from investing in the M-REITs industry. Specifically, five M-REITs provide a positive and statistically significant alpha indicating that the fund managers were either good in selecting undervalued assets or in timing the market. First Malaysia Property Trust generated the highest mean return, standard deviation and was rank first for the Treynor and Jensen measures. Among the indexes, value-weighted REITs index outperformed the KLCI, KLPI and the 3-month Malaysia T-Bills. The latter provides the lowest risk and return. Total risk of six (twelve) M-REITs surpassed the KLCI (tax-adjusted value-weighted M-REITs Index) whereas all except one M-REITs have a









