

**12TH PACIFIC RIM REAL ESTATE SOCIETY
ANNUAL CONFERENCE
Auckland, New Zealand
22 – 25 January 2006**

**THE PERFORMANCE OF LISTED PROPERTY TRUSTS
IN MALAYSIA: AN EMPIRICAL INVESTIGATION**

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Abstract

This empirical study investigates the performance and systematic risk of listed property trusts in Malaysia for the 1995 to 2005 periods. The study is further analyzed according to sub-periods of the Malaysian economic cycle, namely pre-crisis, during crisis and post-crisis. The market portfolio benchmarks employed are the Kuala Lumpur Composite Index (KLCI) and the Kuala Lumpur Properties Index (KLPI). The objectives of this study are: (1) to examine the degree of returns based on risk-adjusted performance measures, specifically the Adjusted Sharpe Index, Treynor Index and Adjusted Jensen Alpha Index, of listed property trusts throughout the long-term period and in each sub-period respectively; (2) to investigate the degree of systematic risks, measured by beta, of listed property trusts throughout the long-term period and in each sub-period respectively; and (3) to determine whether the listed property trusts give higher returns than the KLCI and KLPI respectively. The results indicate that the risk-adjusted performance of the listed property trusts varied over the study period. The Adjusted Sharpe Index and Treynor Index measures show that the listed property trusts in general outperformed the market portfolios during the crisis but underperformed in the pre-crisis and post-crisis periods. Similarly, the Adjusted Jensen Alpha Index reveals that the listed property trusts on average generated better performance than the market portfolios during crisis but recorded poorer performance in the pre-crisis and post-crisis periods. This study also found that average systematic risks of the listed property trusts were slightly higher than the market portfolios during the pre-crisis and crisis but were significantly lower in the post-crisis period.

Keywords: Listed property trusts, Risk-adjusted performance, Systematic risk

Introduction

Real estate investment trusts (REITs) are known as listed property trusts in Malaysia. In Asia, Malaysia was the first to have listed property trusts in 1989. The Asian economic crisis during 1997-1998 periods had significantly contributed to the development of REITs in other Asian countries. The REIT market took off later in Japan and Singapore in 2001 and 2002 respectively. South Korea established its REIT legislation in 2001 while Taiwan launched its first REIT in 2004. Hong Kong was the latest to introduce a listed REIT in 2005. While Japan has the most developed REIT market, Singapore is widely considered to be the most dynamic REIT market among other Asian countries.

Many researchers have studied REIT performance in developed markets, especially in the US, since the late 1970s. Findings on the US REIT performance have been mixed relative to the stock market portfolio. Few studies have been conducted on this topic in Malaysia. Kok and Khoo (1995) suggested inconsistent risk-adjusted performance and systematic risk while Newell, Ting and Acheampong (2002) discovered unfavorable risk-adjusted performance. The government has recently amended and introduced new legislative measures to accelerate the growth of REIT industry in Malaysia and promote REITs as a viable investment vehicle for industry players and investors. This paper aims to provide evidence on the risk-return performance of listed property trusts over recent 10-year period as well as in each economic cycle, namely pre-crisis, during crisis and post-crisis.

The objectives of the study are to investigate:

- (a) the degree of returns and systematic risks of listed property trusts in Malaysia.
- (b) whether the listed property trusts give higher returns than the market portfolio, the Kuala Lumpur Composite Index (KLCI).
- (c) whether the listed property trusts give higher returns than the relevant sector benchmark, Kuala Lumpur Properties Index (KLPI).

Development of listed property trusts in Malaysia

Regulatory framework

Malaysia was the first country in Asia to introduce legislation to permit the formation of listed property trusts. In 1986, Bank Negara Malaysia (the Central Bank of Malaysia) approved the regulatory framework for listed property trusts

where the principal governing their establishment and operation being the Companies Act 1965 and the Securities Industry Act 1983. Specific guidelines on property trust funds were introduced by Securities Commission in 1991 and later revised in 1995.

In 1999, Securities Commission embarked upon a consultation process in relation to property trust funds vis-à-vis the likes of similar products in other jurisdictions, such as REITs in United States and property funds in Singapore. It issued a *Consultation Paper on Property Trust Fund* and *Consultation Paper on Property Trust Funds and Real Estate Investment Trusts* in 1999 and 2002 respectively.

Pursuant to the Finance Act 2004, which was gazetted in December 2004, REITs will enjoy the tax treatment as follows:

- (a) REIT to be exempted from tax on income distributed to its unitholders whereas the undistributed income will be taxed at 28%;
- (b) Income distributed to unitholders will be taxed at their respective taxes. However, for non-residents, the tax payable at 28% will be withheld by REIT; and
- (c) The accumulated income that has been taxed and subsequently distributed is eligible for tax credit in the hand of unitholders.

Furthermore, REITs under the Finance Act 2004 enjoy stamp duty exemptions on all instruments of transfer of real property. Property owners who sell their properties to REITs are also exempted from real property gains tax. However, the filing obligations imposed under the Stamp Act 1949 and the Real Property Gains Tax 1976, are still required to be adhered to.

On January 3, 2005, Securities Commission issued the new *Guidelines on Real Estate Investment Trusts* to govern the operation and administration of REITs in Malaysia. The amended guidelines have generated a lot of excitement and discussions among industry players, with a number of them, especially those with sizeable investment properties, seriously considering injecting their assets into such trusts.

The key features of the new guidelines, which are a major improvement from the old guidelines, include the following:

- Liberalization of the borrowing limit for a REIT;
- Relaxation of rules on acquisitions of leasehold properties;
- Flexibility in the acquisition of real estate that is encumbered by financial charges;
- Eligibility requirement for management companies that manage REITs have been streamlined as far as their scope of business for an equity participation and structure similar with the requirements for management companies that oversee unit trusts;

- Introduction of a declaratory approach in the establishment of REITs. The onus now lies with the directors/promoters to ensure compliance with the relevant laws and guidelines; and
- Enhancement in the amount of exposure and reporting required which is consistent with international standards.

On November 22, 2005, the Securities Commission issued the *Guidelines on Islamic Real Estate Investment Trusts* (Islamic REITs) to facilitate further development of new Islamic capital market products. Malaysia was the first jurisdiction in the global Islamic financial sector to issue such guidelines and had set a global benchmark for the development of Islamic REITs. The Islamic REITs guidelines complemented the existing guidelines on conventional REITs. *Syariah* (Islamic jurisprudence) compliance criteria are provided in the guidelines to guide management companies in their activities relating to REITs, including the types of *Syariah* permissible and non-permissible rental and investment activities. **Exhibit 1** presents various regulations for listed property trusts and REITs in Malaysia since 1986.

Exhibit 1
Regulations for Listed Property Trusts and REITs in Malaysia

Year	Regulations
1986	Bank Negara Malaysia's Regulatory Framework for Listed Property Trusts
1991	Securities Commission's Guidelines on Listed Property Trust
1995	Securities Commission's Revised Guidelines on Listed Property Trust
1999	Securities Commission's Consultation Paper on Property Trust Fund
2002	Securities Commission's Consultation Paper on Property Trust Funds and Real Estate Investment Trusts
2005	Securities Commission's Guidelines on Real Estate Investment Trusts Securities Commission's Guidelines on Islamic Real Estate Investment Trusts

Industry growth

The first Malaysian listed property trust, Arab Malaysian First Property Trust, was launched in September 1989. The second listed property trust was First Malaysian Property Trust, established in November 1989, and followed by the third listed property trust, Amanah Harta Tanah PNB, commenced in December 1990. The fourth property trust was the unlisted Mayban Property Trust Fund One launched in 1990. There were no listed property trusts issued until Mayban Property Trust Fund One was listed on KLSE in June 1997 and known as Amanah Harta Tanah PNB 2. The First Malaysian Property Trust, however, ceased its listing in July 2002. As at the end of April 2005, only three property trusts were listed on Bursa Malaysia comprising AmFirst Property Trust (formerly Arab Malaysian First Property Trust), Amanah Harta Tanah PNB and Amanah Harta Tanah PNB 2.

Following the introduction of the new *Guidelines on Real Estate Investment Trusts*, Axis Real Estate Investment Trust was the first to be listed on Bursa Malaysia on July 29, 2005. Axis REIT's public offering was well received by the market where institutional and retail subscriptions were oversubscribed by 18 times and 3.7 times respectively. Next, Starhill Real Estate Investment Trust, the country's largest REIT was listed on December 16, 2005. The latest listing was UOA Real Estate Investment Trust on December 30, 2005. **Exhibit 2** presents the historical growth and assets under management of Malaysian listed property trusts and REITs.

Exhibit 2 Historical Growth of Malaysian Listed Property Trusts and REITs

Listed Property Trust/REIT	KLSE/ Bursa Malaysia Listing	Total Assets
AmFirst Property Trust	September 1989	RM201 million ¹
First Malaysia Property Trust	November 1989	N/A ²
Amanah Harta Tanah PNB	December 1990	RM136 million ¹
Amanah Harta Tanah PNB 2	March 1997	RM96 million ¹
Axis REIT	July 2005	RM332 million ³
Starhill REIT	December 2005	RM1,031million ⁴
UOA REIT	December 2005	RM311million ⁵

Notes:

- ¹ Figures as at 31 December 2004
- ² First Malaysia Property Trust was delisted in July 2002
- ³ Prospectus of Axis Real Estate Investment Trust, 30 June 2005
- ⁴ Prospectus of Starhill Real Estate Investment Trust, 22 November 2005
- ⁵ Prospectus of UOA Real Estate Investment Trust, 13 December 2005

Empirical evidence from previous research

The literatures on empirical investigation of REIT performance, especially in the US REIT industry, are extensive. Indeed, dramatic events related to the REIT industry have attracted many studies on this topic. Research findings on the REIT performance have been mixed and inconclusive. Some studies suggested that the performance of REIT stocks was worse than, or comparable to, the stock market portfolio. Others, however, discovered that REITs, especially equity REITs, outperformed the stock market portfolio. In addition, it is generally found that the results from REIT performance studies seem to be highly sensitive to the sample period studied.

Smith and Shulman (1976) made comparison among the performance of 16 REITs to the S&P 500 index, savings accounts, and 15 closed-end funds over the 1963-1974 periods. They discovered that equity REITs outperformed savings account and the S&P index for the 1963-1973 periods. However, the poor performance of REIT stocks in 1974 resulted in their REIT sample underperformed the S&P index for the whole 1963-1974 periods. Kuhle and Walther (1986) found that REITs performed poorly during the mid-1970s. When comparing both the CAPM-based Jensen indexes and the APT-based Jensen indexes on 16 equity REITS and 20 mortgage REITs over the 1973-1982 periods, Titman and Warga (1986) concluded that the performance of REIT stocks is not significantly different from that of the market portfolio. Another study by Goebel and Kim (1989) suggested that REITs underperformed compared to the S&P index over the 1984-1987 periods. Howe and Shilling (1990) also found that REITs underperformed the CSRP equally weighted index over 1973-1987 periods.

However, the findings from the studies on the REIT performance over the period between the late 1970s and early 1980s generally indicate that the performance of the REIT industry was similar or superior to that of the market portfolio. Burns and Epley (1982) found that mixed-asset portfolios containing 35 survivor REITs outperformed S&P index and single asset portfolios over 1973-1985 periods. Kuhle and Walther (1986) discovered that REITs outperformed the S & P index in 1977-1984. Similarly, Sagalyn (1990) found that survivor equity REITs outperformed the S&P index over 1973-1987 periods.

Han and Liang (1995) examined the performance of 255 US REIT stocks over the 1970-1993 periods. The sample REIT stocks are divided into 3 subgroups: equity REITs, hybrid REITs and mortgage REITs. Their findings suggested that the performance of the REIT portfolios was consistent with the Security Market Line over the 1970-1993 periods. However, the REIT performance varied over the period and the use of unrepresentative S&P 500 index as a performance benchmark tends to overstate the REIT performance. They also found survivor REITs performed better than the overall REIT population.

In the Malaysian context, published evidence on the performance of listed property trusts is very limited. Kok and Khoo (1995) examined the performance and the systematic risk of three listed property trusts, namely Arab Malaysian First Property Trust, First Malaysia Property Trust and Amanah Harta Tanah PNB, over January 1991-April 1995 period. Their findings concluded that First Malaysia Property Trust outperformed other listed property trusts and performed as well as the market portfolio over the period. The listed property trusts generally performed better than the market in a falling market but worse than the market in a rising market. The listed property trusts did not give consistent performance over time. The systematic risks of the listed property trusts were low before the period of over-speculation. However, after the period of over-speculation, the systematic risks were higher than those of the market. They also discovered that the systematic risk rankings of the listed property trusts were not consistent over time.

Newell, Ting and Acheampong (2002) analyzed the performance of four listed property trusts, namely Arab Malaysian First Property Trust, First Malaysia Property Trust, Amanah Harta Tanah PNB and Mayban Property Trust Fund One (Amanah Harta Tanah PNB 2), over the 1991-2000 period. Based on the average annual return measures, they found that only Amanah Harta Tanah PNB outperformed the Kuala Lumpur Composite Index, the Kuala Lumpur Properties Index and the Kuala Lumpur Office Property Index respectively over the period. The risks, measured by standard deviation, for three of the listed property trusts (First Malaysia Property Trust, Amanah Harta Tanah PNB and Mayban Property Trust Fund One (Amanah Harta Tanah PNB 2)) were more than the overall stock market risk and significantly above the office real estate risk. They also concluded that based on a coefficient of variation measure, each of the listed property trusts significantly underperformed the Kuala Lumpur Composite Index and real estate companies sector.

This paper aims to contribute to and expand on existing literatures. The research examines the degree of returns based on risk-adjusted performance measures, specifically the Adjusted Sharpe Index, Treynor Index and Adjusted Jensen Alpha Index, as well as the degree of systematic risk, measured by beta, of listed property trusts throughout the 1995-2005 period and in each sub-period respectively. In addition, it investigates whether the listed property trusts give higher returns than the KLCI and KLPI respectively.

Research design

The sample data consists of four Malaysian listed property trusts, namely AmFirst Property Trust (AMFPT), First Malaysia Property Trust (FMPT), Amanah Harta Tanah PNB (AHP) and Amanah Harta Tanah PNB 2 (AHP2). Monthly returns adjusted for dividends and bonuses distributed to unitholders are computed for the 10-year period from April 1995 to April 2005. Data for FMPT ends in March 2002 as it was delisted from the Kuala Lumpur Stock Exchange (KLSE), while data for AMFPT commences from June 1997 when it assumed listing of Mayban Property Trust Fund One.

To serve as a benchmark, the returns on the Kuala Lumpur Composite Index (KLCI) are used as a proxy for returns on the market portfolio and the risk-free rate is proxied by the 3-month Treasury Bills. In addition, the returns on the Kuala Lumpur Properties Index (KLPI) are utilized as a sector proxy benchmark. Based on the economic cycle throughout the period, the analysis periods are further classified into three different sub-periods as follows: (1) Pre-crisis (April 1995-June 1997); (2) Crisis (July 1997-September 1998); and (3) Post-crisis (October 1998-April 2005).

The measurement of returns on the listed property trusts is derived from two components, namely income and capital gain. The rate of returns for each property trust is calculated as follows:

$$R_p = \frac{P_t - P_{t-1} + D_t}{P_{t-1}}$$

where;

R_p	=	Total return of a portfolio (individual property trust)
P_t	=	Price at time t
P_{t-1}	=	Price one period before time t
D_t	=	Dividend or cash disbursement at time t

The return on the benchmark market index is measured as follows:

$$R_m = \frac{I_t - I_{t-1} + D_t}{I_{t-1}}$$

where;

R_m	=	Return on market index
I_t	=	Market index value in time period t
I_{t-1}	=	Market index value one period before time t
D_t	=	Dividend or cash disbursement at time t

In this study, three standard performance measurement methods, namely Sharpe Index, Treynor Index and Jensen Alpha Index are employed to evaluate the performance of listed property trusts.

Sharpe Index:

The Sharpe Index (1966) measures investment performance using total risk:

$$SI = \frac{R_p - R_f}{s_p}$$

where;

SI	=	Sharpe Index
R_p	=	Return for portfolio
R_f	=	Risk-free rate of return
s_p	=	Standard deviation of returns for portfolio

Due to the biasness in estimation of the standard deviation, Sharpe index has been modified by Jobson and Korkie (1981) to become Adjusted Sharpe Index as follows:

Adjusted Sharpe Index (ASI):

$$ASI = SI \times \frac{\text{no. of observations (N)}}{\text{no. of observations (N)} + 0.75}$$

Treynor Index:

Treynor (1965) developed a measure of investment performance using systematic risk:

$$TI = \frac{R_p - R_f}{\beta_p}$$

where;

$$\begin{aligned} \text{TI} &= \text{Treynor Index} \\ \beta_p &= \text{Systematic risk for portfolio} \end{aligned}$$

Jensen Alpha Index:

Jensen (1968) developed an ex-post alpha measure to determine the size of excess returns achieved by a portfolio.

$$\begin{aligned} \text{JI} &= (R_p - R_f) - [\beta_p (R_m - R_f)] \\ R_{pt} - R_{ft} &= \alpha_p + \beta_p (R_{mt} - R_{ft}) + e_{pt} \end{aligned}$$

To adjust for different levels of systematic risk factors, an Adjusted Jensen Alpha Index is computed as follows:

Adjusted Jensen Alpha Index (AJI):

$$\text{AJI} = \frac{\text{Jensen Alpha Index (JI)}}{\text{Beta of the portfolio } (\beta_p)}$$

Beta coefficient:

The beta coefficient, which measures the systematic risk of property trust portfolio, is computed by regressing the returns of each property trust on the returns of the market portfolio as follows:

$$R_{pt} = \alpha_p + \beta_p R_{mt} + e_{pt}$$

where;

$$\begin{aligned} \alpha_p &= \text{A constant term} \\ \beta_p &= \text{Beta coefficient of the portfolio} \\ R_{mt} &= \text{Returns on the market portfolio} \end{aligned}$$

Empirical results

Risk-adjusted performance

The values of the Adjusted Sharpe Index for the four listed property trusts (LPTs) in each economic cycle are presented in **Exhibit 3**. All LPTs underperformed the KLCI while two of three LPTs (except AMFPT) underperformed the KLPI in the pre-crisis. However, all LPTs outperformed both the KLCI and KLPI during crisis. In post-crisis, all LPTs and two of three LPTs (except AHP) underperformed the KLCI and KLPI respectively.

Exhibit 3
Performance of LPTs as measured by Adjusted Sharpe Index

LPTs	Time Period		
	Pre-crisis	Crisis	Post-crisis
AHP	-0.1350	-0.3211	0.0415
AHP2	-	-0.1864	-0.0429
AMFPT	-0.0434	-0.2424	-0.0824
FMPT	-0.0701	-0.1901	-
Average	-0.0828	-0.2350	-0.0279
Market Portfolio (KLCI)	0.0189	-0.4218	0.1482
Market Portfolio (KLPI)	-0.0685	-0.3315	0.0326

Exhibit 4 demonstrates the values of the Treynor Index for the LPTs and the market portfolios. In pre-crisis, all LPTs recorded lower values than that of the KLCI, signaling underperformance. During crisis, all LPTs have higher values than that of KLCI indicating they outperformed the market portfolio. In post-crisis, all LPTs underperformed the KLCI. If compared against KLPI in each economic condition, two of three LPTs (except AMFPT) underperformed the KLPI in pre-crisis. Three of four LPTs (except AHP) outperformed while two of three (except AHP) underperformed the KLPI during crisis and post crisis respectively.

Based on relative investment performance, both the Adjusted Sharpe Index and Treynor Index of the LPTs generally produce similar results. Furthermore, the average values of Adjusted Sharpe Index and Treynor Index indicate similar relative performance against the KLCI and KLPI respectively.

Exhibit 4
Performance of LPTs as measured by Treynor Index (KLCI & KLPI)

LPTs	Time Period					
	Pre-crisis		Crisis		Post-crisis	
	KLCI	KLPI	KLCI	KLPI	KLCI	KLPI
AHP	-0.0112	-0.0112	-0.0581	-0.0835	0.0048	0.0058
AHP2	-	-	-0.0346	-0.0378	-0.0098	-0.0108
AMFPT	-0.0038	-0.0037	-0.0476	-0.0530	-0.0103	-0.0111
FMPT	-0.0071	-0.0063	-0.0362	-0.0400	-	-
Average	-0.0074	-0.0071	-0.0441	-0.0536	-0.0051	-0.0054
Market Portfolio	0.0008	-0.0047	-0.0622	-0.0721	0.0112	0.0028

Exhibit 5 presents the values of the Adjusted Jensen Alpha Index for all LPTs. During the pre-crisis and post-crisis, all LPTs have negative index values, thereby indicating poorer performance than the market as represented by the KLCI. However, all LPTs produce better performance than the market during crisis. If compared to the sector benchmark (KLPI), the results are relatively similar. In both pre-crisis and post-crisis, all LPTs (except AMFPT in pre-crisis and AHP in post-crisis) have poorer performance than the KLPI. During crisis, all LPTs (except AHP) have positive index values and better performance than the KLPI.

Exhibit 5
Performance of LPTs as measured by
Adjusted Jensen Alpha Index (KLCI & KLPI)

LPTs	Time Period					
	Pre-crisis		Crisis		Post-crisis	
	KLCI	KLPI	KLCI	KLPI	KLCI	KLPI
AHP	-0.0121	-0.0066	0.0041	-0.0114	-0.0063	0.0030
AHP2	-	-	0.0275	0.0343	-0.0438	-0.0136
AMFPT	-0.0047	0.0010	0.0146	0.0191	-0.0214	-0.0140
FMPT	-0.0080	-0.0016	0.0259	0.0321	-	-
Average	-0.0083	-0.0024	0.0180	0.0185	-0.0238	-0.0082

Systematic risk

The values of beta of all LPTs are given in **Exhibit 6**. Over the 10-year period, the beta values of all LPTs as compared to the KLCI and the KLPI range from 0.597 to 0.899 and from 0.556 to 0.792 respectively. AHP2 recorded the lowest betas while AHP generated highest betas. This statistically significant results indicate that the LPTs possess systematic risks that are lower than those of the market portfolios.

Exhibit 6
Systematic Risk (Beta) of LPTs (1995-2005)

LPTs	(KLCI)	p-value	(KLPI)	p-value
AHP	0.899	0.000	0.792	0.000
AHP2	0.597	0.000	0.556	0.000
AMFPT	0.657	0.000	0.612	0.000
FMPT	0.786	0.000	0.761	0.000

Exhibit 7(a) and 7(b) show the beta values for all LPTs in each of the economic cycles. In pre-crisis, mostly all LPTs recorded higher betas in the range of 0.896 to 1.259 (against KLCI) and 0.942 to 1.255 (against KLPI) respectively. In fact, the average beta is greater than 1.00, possessing slightly higher systematic risk than the market portfolios. During crisis, the average betas stand at 1.047 (against KLCI) and 0.833 (against KLPI) respectively. However, in post-crisis, the average betas of all LPTs decrease significantly to 0.519 (KLCI) and 0.478 (KLPI), thus indicating lower systematic risks than the market portfolios.

Exhibit 7(a)
Systematic Risk (Beta) of LPTs (Sub-period KLCI)

LPTs	Time Period					
	Pre-crisis		Crisis		Post-crisis	
	(KLCI)	p-value	(KLCI)	p-value	KLCI)	p-value
AHP	1.259	0.003	1.140	0.000	0.865	0.000
AHP2	-	-	0.973	0.000	0.328	0.002
AMFPT	0.896	0.005	0.859	0.000	0.474	0.000
FMPT	0.964	0.018	1.218	0.000	0.412	0.060
Average	1.039		1.047		0.519	

Exhibit 7(b)
Systematic Risk (Beta) of LPTs (Sub-period KLPI)

LPTs	Time Period					
	Pre-crisis		Crisis		Post-crisis	
	(KLPI)	p-value	(KLPI)	p-value	(KLPI)	p-value
AHP	1.255	0.000	0.771	0.000	0.716	0.000
AHP2	-	-	0.819	0.000	0.299	0.001
AMFPT	0.942	0.000	0.719	0.000	0.438	0.000
FMPT	1.088	0.000	1.025	0.000	0.457	0.016
Average	1.095		0.833		0.478	

Conclusion

This study investigates the performance and systematic risk of listed property trusts in Malaysia for the entire 1995-2005 periods and the sub-periods of economic cycle. The results indicated that the risk-adjusted performance and systematic risk of the listed property trusts varied over time. The Adjusted Sharpe Index and Treynor Index produce similar results in terms of relative investment performance. The listed property trusts in general outperformed the market portfolios during the crisis but underperformed in the pre-crisis and post-crisis periods. Likewise the Adjusted Jensen Alpha Index suggested that the listed property trusts on average generated better performance than the market portfolios during crisis but recorded poorer performance in the pre-crisis and post-crisis periods.

Better performance during crisis may be explained by the 'lag effect' experienced by the property and construction sectors during the economic cycle transitions. The property sector may not immediately absorb the effect of economic downturn during crisis period. As such, the economic impact due to recession would take some 'gestation period' before it directly affects the property sectors. Furthermore, the crisis period is a relatively short timeframe. The spillover effect of economic recession would thus be most likely experienced by property sectors in the post-crisis period.

This study found that average systematic risks of the listed property trusts were slightly higher than the market portfolios during pre-crisis and crisis periods. This result may be explained by Kok and Khoo (1995) who discovered that systematic risks increased after the episode of over-speculation (January 1994 – April 1995). Since this study begins immediately from April 1995, the over-speculation effects may still be largely present. The average systematic risks,

however, declined significantly in the post-crisis. Thus, investors may now consider listed property trusts as another viable investment alternative.

The limitation of this study is the absence of data on the Kuala Lumpur Office Property Index. It is hopeful that the empirical findings can help both institutional and retail investors understand better the risk-return tradeoff of investment in listed property trusts. The study would also benefit the regulatory body in designing conducive legal framework to enhance the development of REIT industry in Malaysia.

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