PERFORMANCE OF PROPERTY TRUSTS IN THE KUALA LUMPUR STOCK EXCHANGE

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1. INTRODUCTION

A property trust is an investment scheme organised in the form of a trust in which capital contributed by individual investors is used to acquire real estate property. A trust deed is registered whereby the investors entrust their capital to a trustee and the management of the property is undertaken by a professional manager.

The development of property trusts is a recent phenomenon in Malaysia as compared to other countries. Although the first investment trust was introduced in Malaysia in 1959, the property trusts were only introduced in Malaysia in the 1980s.

During the recession in the mid 1980s, owners of properties experienced cash flow problems and also problems of optimizing the value of their properties. At that time, the institutions and investors in Malaysia started to explore the possibility of developing property trusts. In October 1986, Bank Negara Malaysia (Central Bank of Malaysia) approved the development of property tursts. An informal committee was formed to approve all applications. This informal committee came out with several conditions for the management company of a property trust and a set of operational guidelines for the trusts. Among others, the management company of a property trust must possess a minimum capital of RM500,000 with at least 20 percent of it held by bumiputra. The management company must be a subsidiary of a financial institution approved by Bank Negara Malaysia. In addition, the management company cannot be involved with the company constructing the property nor become a subsidiary of this construction company.

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The first property trust called Arab-Malaysian First Property Trust (AMFPT) was introduced in September 1989 with an issued and paid-up unitholders' fund of RM135 million. The management company of this trust is the Arab-Malaysia Property Trust Management Bhd (AMPTM) which is a subsidiary of Arab-Malaysia Merchant Bank Bhd. In the same year, the second property trust called First Malaysian Property Trust (FMPT) was introduced in November with an issued and paid-up unitholders' fund of RM105 million. The management company is Commerce Property Trust Managers Bhd which is jointly owned by the listed company Commerce Asset Holding Bhd (70%) and Aust-Wide Ltd (30%). The third property trust introduced was Amanah Harta Tanah PNB (AHP) which was listed on the Kuala Lumpur Stock Exchange (KLSE) in December 1990 with an issued and paid-up unitholders' fund of RM100 million. This trust is administered by Pelaburan Hartanah Nasional Bhd which is a subsidiary of Permodalan Nasional Bhd (PNB). A fourth property trust, Mayban Property Trust One, was introduced in 1989 but it is not listed on the KLSE. Meanwhile, Bank Bumiputra Malaysia Bhd has obtained a licence to operate a property trust and has registered its trust deed. However, it has yet to launch its product.

There are a number of benefits for investment in property trusts. In theory the investor has access to property of high quality. He/She can invest directly in prime property such as an office building in the city which is normally very expensive and beyond the reach of any individual investor. The trust also allows for professional management of the property investment. The trust usually invests in several types of property situated in different locations. This means that the investor can diversify his investment and thereby reduce the risk of his investment. The trustee of the property trust will protect the rights of the investors by holding the assets on behalf of the unit holders and also receiving the income from the trust. The trustee also ensures that the manager of the trust invests only in investments that are listed in the trust deed and holds the title deed of the property. For trusts that are listed, an investor can easily get back the money from his investment by selling the units in the market. An investor also enjoys tax advantages. Taxation allowances for depreciation on buildings and plants can benefit an investor.

The objectives of the study are as follows :

(a) to assess the degree of risk and return for the three listed property trusts.

(b) to determine whether the three property trusts give higher returns than the market portfolio

(c) to test the consistency of the performance and risk of these trusts.

There are very few studies conducted on this topic. Furthermore, most of them are studies on investment trusts. In Malaysia, the three trusts listed on the KLSE are all property trusts. However, Chua (1985) conducted a study of 27 unlisted mutual funds and found that on the average these funds performed better than the market. The average Sharpe Index obtained was 0.161 compared with 0.083 for the market.

In Singapore , Tan (1989) conducted a study of the four investment trusts listed on the Stock Exchange of Singapore (SES) for the period 1978 - 1987 and found that they performed better than the market but not significantly so. The average Sharpe Index was 0.027 compared with 0.0135 for the market. The average Treynor Index was 0.0355 while the corresponding value for the market was 0.0106. The average Jensen's Ex-post Alpha Index of 0.414 showed that the performance of the four investment trusts was similar to the market's.

In the United States, Sharpe (1966) conducted a study of 34 mutual funds for the period 1954 - 1963 and using the various indices found that the mutual funds did not perform better than the market. Similarly, Jensen (1968) conducted a study of 115 mutual funds for the period 1945 - 1964 and using the Jensen's Ex-post Alpha Index found that they performed worse than the market.

On the consistency of the performance, Sharpe (1966) calculated the Sharpe Index and the Treynor Index for 34 mutual funds for the two periods 1944 - 1953 and 1954 - 1966, and using the Spearman's rank correlation coefficients obtained results that showed consistency of performance from one period to the next. Moles (1981) also conducted a study of 96 unit trusts for the two periods 1966 - 1970 and 1971 - 1975 and obtained similar results. However, Tan (1989) obtained results that showed that the four investment trusts generally did not have consistent performance from one period to the next.

On the issue of risk, Jensen (1968) obtained an average beta value of 0.840 for the 115 mutual funds in the study. Therefore, these mutual funds possessed a lower systematic risk than the market. Similarly, Moles (1981) obtained an average beta value of 0.7 with not a single unit

trust possessing a beta value of greater than one. Tan (1989) also obtained an average beta value of 0.787 but two of the four investment trusts in the study had beta values greater than one.

On the consistency of the systematic risk, results from Sharpe (1966) showed a tendency to be stable over time but Moles (1981) and Tan (1989) obtained the opposite results.

2. DATA AND METHODOLOGY

The weekly and monthly closing prices of the three property trusts, AMFPT, FMPT and AHP, for the period 1991 - April 1995 are used in the study. The KLSE Composite Index is used to represent the market portfolio index. In view of the relatively short data series, since the property trust AHP was only listed at the end of 1990, weekly data are used to compute the beta values.

The returns of the three property trusts are adjusted for dividends. There were no bonus or rights issues during the evaluation period. The interest rate for Bank Negara's 3 - month treasury bill is used to represent the risk-free rate.

The four main aspects of the study are the investment performance, consistency of the performance, risk profile and the consistency of the systematic risk.

The Adjusted Sharpe Index, Treynor Index and the Adjusted Jensen's Ex-Post Alpha Index are used to compare the performance of the three property trusts and the market portfolio.

The Sharpe Index is given by SI where

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

where

R_p = average portfolio return of the trust

R_f = average risk-free rate estimated from the 3-month treasury bill

σ = standard deviation of the portfolio returns

Miller and Gehr (1978) showed that the Sharpe Index was biased. Jobson and Korkir (1981), however, overcame this problem by introducing the Adjusted Sharpe Index (SSI) given by

$$SSI = SI \left[N / (N + 0.75) \right]$$

where N is the number of return intervals over the whole evaluation period.

A test of hypothesis based on the Adjusted Sharpe Index can be performed to test for significance of the investment performance of a trust compared with the market portfolio. The null and alternative hypothesis can be formulated as follows :

H_0 = investment performance of property trust i is the same as that of the market portfolio.

H_1 = investment performance of property trust i is worse than that of the market portfolio

or

$$H_0 : Sh_i - Sh_m = 0$$
$$H_1 : Sh_i - Sh_m < 0$$

where

Sh_i is the Adjusted Sharpe Index for trust i

Sh_m is the Adjusted Sharpe Index for the market portfolio

Jobson and Korkie (1981) performed a difference transformation as follows :

$$H_0 : Sh_{im} = 0$$
$$H_i : Sh_{im} < 0$$

The asymptotic distribution of the difference transformation statistic is normal with mean Sh_{im} and variance θ as follows :

$$Sh_{im} = \sigma_m\mu_i - \sigma_i\mu_m$$

$$\theta = \frac{1}{T}\left[2\sigma_i^2\sigma_m^2 - 2\sigma_i\sigma_m\sigma_{im} + {}^1/_2\,\mu_i^2\sigma_m^2 + {}^1/_2\,\mu_m^2\sigma_i^2 - \frac{\mu_i\mu_m}{2\sigma_i\sigma_m}(\sigma_{im}^2 + \sigma_i^2\sigma_m^2)\right]$$

where

T : number of return intervals in the evaluation period

μ_i : average return for property trust i

μ_m : average return for the market

σ_i^2 : variance of return of property trust i

σ_m^2 : variance of the market return

σ_{im} : covariance of the property trust return and market return

In practice, the parameters μ and σ are not known and usually are estimated by their corresponding sample statistics $\bar{r}$ and s.

Hence, $\hat{Sh}_{im}$ and $\hat{\theta}$ are the estimators of Sh_{im} and θ respectively. The test statistic is, therefore, given by :

$$Z_{sim} = \frac{\hat{Sh}_{im}}{\sqrt{\hat{\theta}}}$$

As a measure of the investment performance, Treynor (1965) developed a reward-to-variability index which takes systematic risk into account. The Treynor Index is given as follows :

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

where β_p is the beta value of the trust.

Jensen (1969) introduced an ex-post measure called the Jensen Alpha Index to determine the size of the excess return achieved by a portfolio. It is given by

$$J_p = (R_p - R_f) - [\beta_p (R_m - R_f)]$$

A positive Jensen Alpha Index value indicates that a portfolio achieves a higher return than the market portfolio with the same degree of risk. The Jensen Alpha Index can be obtained by regressing the excess return of the portfolio on the excess return of the market portfolio as in the following equation :

$$R_{pt} - R_{ft} = A_p + \beta_p (R_{mt} - R_{ft}) + e_{pt}, \quad t = 1, \ldots, T$$

where e_{pt} are normally distributed with mean 0 and variance σ^2.

However, this index cannot be used to compare the performance of different portfolios which may have different levels of systematic risks. To adjust for the systematic risk, the Adjusted Jensen Alpha Index is computed. It is given by :

$$\text{Adjusted Jensen Alpha Index} = \frac{\text{Jensen Alpha}}{\text{Beta of the portfolio}}$$

The investment performance of the three property trusts as measured by the Adjusted Sharpe Index will be examined for their consistency from one time period to another by using the Spearman rank correlation coefficient.

The beta coefficients of the three property trusts can be computed by regressing the returns of each trust on the returns of the market portfolio represented by the KLSE Composite Index in the market model given below :

$$R_{it} = \alpha_i + \beta_i R_{mt} + e_{it}$$

where $e_{it} \sim IN(0, \sigma^2)$

R_{it} : weekly return of property trust i in week t

α_i : a constant term

β_i : beta coefficient of property trust i

R_{mt} : weekly return of the market portfolio in week t.

The beta coefficient of a property trust is a measure of its systematic risk. A property trust with beta coefficient greater than one is said to be volatile whereas a property trust with beta coefficient less than one is a defensive trust. Standard regression theory can be applied to test whether the systematic risk of a property trust is the same as that of the market portfolio. The Spearman's rank correlation coefficient can also be used to examine the consistency of the systematic risk of the property trusts from one time period to the next.

3. RESULTS

Three different time periods have been used in this study. The first period denoted by T_1 is January 1991 – November 1993. The second period denoted by T_2 is January 1994 – April 1995. The separation into time periods T_1 and T_2 has been taken as a result of the episode of undue over-speculation of the three property trusts in the month of December 1993 which affected greatly the prices of these trusts, as shown in Chart 1, In fact, this episode elicited action by the KLSE which declared these trusts 'Designated Securities' on 14 December 1993. As a result of this episode, the December 1993 returns of the three property trusts AHP, AMFPT and FMPT registered a record of 501.85%, 121.27% and 236.85%, respectively, as shown in Charts 2a, 2b and 2c. The third period denoted by T_3 extends period T_1 to March 1994, thereby covering the episode of over-speculation. This period would, therefore, allow us to determine whether the episode of over-speculation affects the investment performance and risk profile of the three property trusts since their inception.

The values of the Adjusted Sharpe Index for the three property trusts for the three different time periods are given in Table 1. For the time period T_1 where the market was generally rising, the trust FMPT registered the highest index value of 0.127 while the trust AHP registered the lowest value of 0.025. All three property trusts recorded values of the Adjusted Sharpe Index substantially lower than the index value of 0.282 for the market portfolio. For the time period T_2, a period of declining market, the three property trusts performed better than the market. Thus, the property trusts performed worse than the market in a rising market but better than the market in a falling market. For the time period T_3, although the episode of over-speculation greatly increased the returns of the three property trusts leading to an increase in the values of the Adjusted Sharpe Index, they still failed to better the index of 0.176 for the market. A test of hypothesis of the

investment performance of each property trust compared with the market shows that only AHP and AMFPT performed significantly poorer than the market in the time period T_1 while none of the property trusts performed significantly better than the market in time period T_2.

Table 1 :

Performance of the Property Trusts as measured by the Adjusted Sharpe Index

	Time Period					
	Jan 1991 - Nov 1993		Jan 1991 - Mar 1994		Jan 1994 - April 1995	
Property Trusts	Index	% Value	Index	% Value	Index	% Value
AHP	0.025	-1.352#	0.141	-0.159	-0.087	0.657
AMFPT	0.046	-1.513#	0.118	-0.471	-0.198	0.096
FMPT	0.127	- 1.066	0.147	-0.128	-0.005	0.663
Average	0.066		0.135		-0.097	
Market Portfolio	0.282		0.176		-0.232	

#Significant at 10%

Table 2 presents the values of the Treynor Index for the three property trusts and the market portfolio. The Treynor Index, which takes into account systematic risk, gives results which are slightly different from the Adjusted Sharpe Index. For the time period T_1, the trust FMPT has a Treynor Index of 0.0286 which is higher than the value 0.0145 for the market. A similar situation occurred for time period T_2 in which FMPT and AHP have Treynor Index values of -0.001 and -0.009, respectively, which are higher than the value -0.018 for the market portfolio. For the time period T_3, again the episode of over-speculation greatly improved the performance of the property trusts. The difference in the results of the Adjusted Sharpe Index and the Treynor Index could be attributed to the low systematic risk of the property trusts, thereby resulting in a higher Treynor Index. From the point of view of the relative investment performance, the Treynor Index gives results which are very similar to the Adjusted Sharpe Index in both time periods T_1 and T_2. Only the trust AHP has a Treynor Index which is marginally higher than that of FMPT in time period T_3.

Table 2 :

Performance of the Property Trusts as measured by the Treynor Index

Property Trust	Time Period		
	Jan 1991 - Nov 1993	Jan 1991 - Mar 1994	Jan 1994 - April 1995
AMP	0.003	0.016	-0.009
AMFPT	0.005	0.012	-0.021
FMPT	0.029	0.016	-0.001
Average	0.012	0.015	-0.010
Market Portfolio	0.014	0.014	-0.018

The values of the Adjusted Jensen Alpha Index for the three property trusts are presented in Table 3. For the time period T_1, two trusts AHP and AMFPT have negative index values, thereby indicating poorer performance than the market. Only one trust AMFPT has a negative index value in time period T_2. As in the case of the Treynor Index, the episode of over-speculation in time period T_3 resulted in an improvement in the Adjusted Jensen Alpha Index for the two trusts AHP and AMFPT but a deterioration for the trusts FMPT. The relative investment performance of the three trusts is the same in the two time periods T_1 and T_2 as that based on the Treynor Index.

Table 3 :

Performance of the Property Trusts as measured by the Adjusted Jensen Alpha Index

Property Trust	Time Period		
	Jan 1991 - Nov 1993	Jan 1991 - Mar 1994	Jan 1994 - April 1995
AHP	-0.012	0.003	0.009
AMFPT	-0.009	-0.002	-0.003
FMPT	0.014	0.002	0.017
Average	-0.002	0.001	0.008

Table 4 presents the Spearman rank correlation coefficients of the Adjusted Sharpe Index for the three property trusts in two consecutive 3-month periods over the evaluation period. Only three of the 16 pairs of consecutive periods, 1991Q1 & 1991Q2, 1993Q4 & 1994Q1 and 1994Q3 & 1994Q4 have coefficients one, thereby indicating consistent investment performance ranking of the three property trusts from one period to the next. The other 13 pairs of consecutive periods show varying degrees of inconsistency in their performance ranking.

The values of beta of the three property trusts are given in Table 5. For the time period T_1, the beta values are low, in the range 0.22 to 0.44. The values of their t-statistics are significant, thereby indicating that the property trusts possess systematic risks that are lower than that of the market portfolio. However, the beta values of the property trusts in time period T_2 are greater than one. In fact, two trusts AHP and AMFPT have significantly higher systematic risk than the market. Thus, the episode of over-speculation has certainly transformed the property trusts from defensive portfolios into volatile portfolios.

Table 4 :

Consistency of Performance Ranking of Property Trusts for the Period January 1991 – March 1995 as measured by the Spearman Rank Correlation Coefficient

Pair of 3-month Periods			Rank Correlation Coefficient of Adjusted Sharpe Index
1991Q1	&	1991Q2	1*
1991Q2	&	1991Q3	-0.5
1991Q3	&	1991Q4	-1
1991Q4	&	1992Q1	0.5
1992Q1	&	1992Q2	-1
1992Q2	&	1992Q3	0.5
1992Q3	&	1992Q4	0.5
1992Q4	&	1993Q1	0.5
1993Q1	&	1993Q2	-1
1993Q2	&	1993Q3	0.5
1993Q3	&	1993Q4	-0.5
1993Q4	&	1994Q1	1*
1994Q1	&	1994Q2	-1
1994Q2	&	1994Q3	-0.5
1994Q3	&	1994Q4	1*
1994Q4	&	1995Q1	-0.5

* Significant at 5%

Table 5 :

Systematic Risk (Beta) of Property Trusts

	Time Period			
	Jan 1991 - Nov 1993		Jan 1994 - April 1995	
Property Trusts	Beta	t-value	Beta	t-value
AHP	0.22	-10.029**	2.09	4.354**
AMFPT	0.30	-5.205**	1.23	1.538*
FMPT	0.44	-2.646**	1.43	1.61

* Significant at 10%

** Significant at 1%

Table 6 presents the Spearman rank correlation coefficients of the betas for the three property trusts in two consecutive 3-month periods over the evaluation period. Only three pairs of consecutive periods, 1993Q4 & 1994Q1, 1994Q1 & 1994Q2 and 1994Q2 & 1994Q3, show consistent systematic risk ranking, that is, a property trust with the highest systematic risk will continue to have the highest systematic risk in the next period.

Table 6 :

Consistency of Systematic Risk Ranking of Property Trusts for the Period January 1991 – March 1995 as measured by the Spearman Rank Correlation Coefficient

Pair of 3-month Periods			Rank Correlation Coefficients of Beta
1991Q1	&	1991Q2	-1
1991Q2	&	1991Q3	-1
1991Q3	&	1991Q4	-0.625
1991Q4	&	1992Q1	-0.625
1992Q1	&	1992Q2	0.5
1992Q2	&	1992Q3	0.5
1992Q3	&	1992Q4	0.5
1992Q4	&	1993Q1	-0.5
1993Q1	&	1993Q2	-0.5
1993Q2	&	1993Q3	-1
1993Q3	&	1993Q4	0.5
1993Q4	&	1994Q1	1*
1994Q1	&	1994Q2	1*
1994Q2	&	1994Q3	1*
1994Q3	&	1994Q4	0.5
1994Q4	&	1995Q1	0.5

* Significant at 5%

4. CONCLUSION

Property trust is a relatively new financial instrument in Malaysia. Since the first property trust AMFPT was listed on the KLSE in 1989, it did not receive much attention by the investors until December 1993. This is clearly shown by its price behaviour in Chart 1. Before December 1993, the monthly closing prices for the three property trusts did not experience any substantial changes but instead hovered around one Malaysian Ringgit. In December 1993, their prices increased tremendously but fell back in the subsequent months. Although the episode of over-speculation caused the KLSE to declare the three property trusts 'designated securities', it has changed the risk and return characteristics of these trusts.

Among the three property trusts, FMPT performed the best as shown by the 3 index measures. Test of hypothesis also showed that it performed as well as the market portfolio in both time periods. The investment performance of AHP and AMFPT was worse than the market before the episode of over-speculation. In a declining market after this episode, all these property trusts performance better than the market. Thus, we may conclude that the property trusts in Malaysia generally performed better than the market in a falling market but worse than the market in a rising market. The results are similar to those obtained by Sharpe (1996), Jensen (1968) and Tan (1989) although for different markets and different time periods, but are different from those of Chua (1985) who performed the studies on Malaysian unit trusts. Thus, investors who wish to obtain higher returns than the market should not invest in the three property trusts but should instead invest in unit trusts or mutual funds, or directly in selected stocks or portfolios of stocks.

From the point of view of consistency, the property trusts listed on the KLSE did not give consistent investment performance over time. In other words, an investor who decides to invest in a property trust in a certain time period cannot base his decision on the investment performance ranking of the three property trusts in the previous time period. These results are similar to those of Tan (1989) but are different from those of Sharpe (1966) and Moles (1981).

Before the episode of over-speculation, the systematic risks of the three property trusts were low. Thus, it fulfilled the purpose of a trust which is to minimise risk through professional management and investment portfolio diversification. These results are consistent with

those obtained by Jensen (1968), Moles (1981) and Tan (1989). However, after the episode of over-speculation, the systematic risk of the property trusts increased beyond that of the market, although accompanied by better returns. Therefore, a risk-averse investor who used to invest in property trusts before December 1993 must realise that these property trusts have become a risky instrument of investment. Furthermore, the systematic risk rankings of these property trusts are not consistent over time. This means that an investor who wishes to invest in the property trust with the lowest systematic risk cannot base his choice of property trust on the one with the lowest beta based on historical data. These results are similar to those obtained by Moles (1981) and Tan (1989) but are different from those of Sharpe (1966).

It is evident from the foregoing that property trusts still constitute a relatively new form of investment. Hence, they may require a gestation period before the market pays serious attention to them.

CHART 1

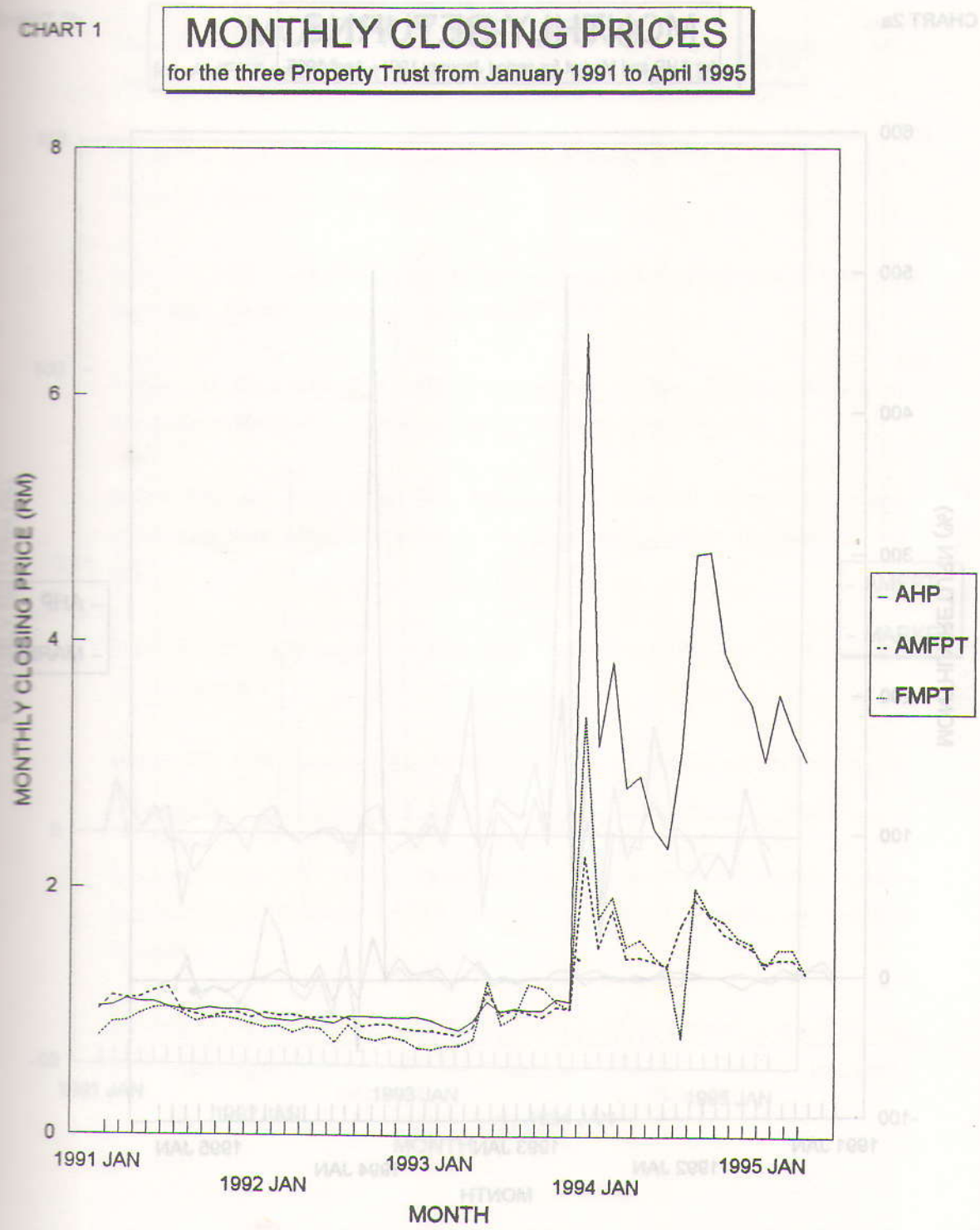

MONTHLY CLOSING PRICES
for the three Property Trust from January 1991 to April 1995
MONTHLY CLOSING PRICE (RM)
8
6
4
2
0
1991 JAN
1992 JAN
1993 JAN
1994 JAN
1995 JAN
MONTH
AHP
AMFPT
FMPT

CHART 2a

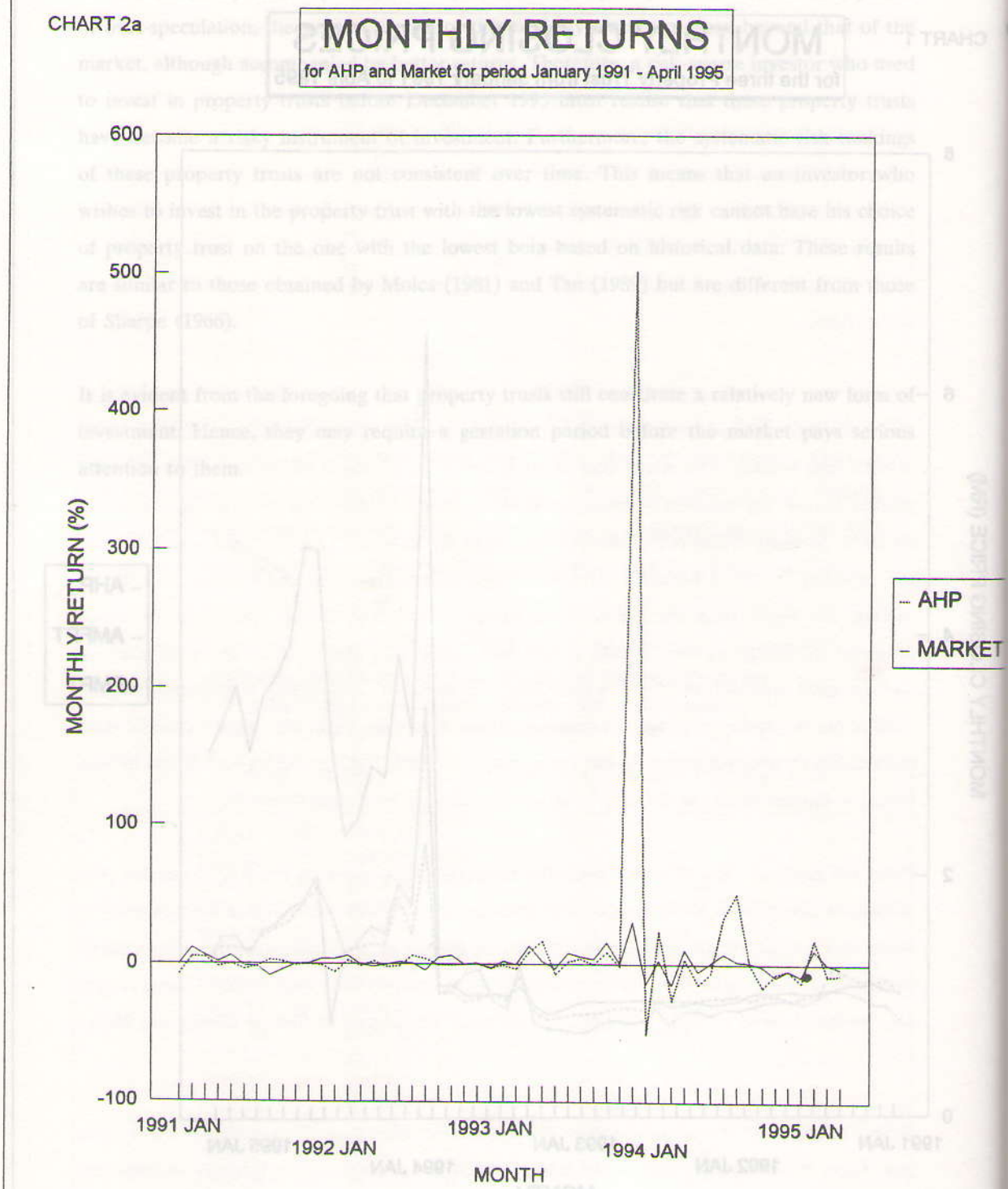

MONTHLY RETURNS
for AHP and Market for period January 1991 - April 1995
600
500
400
300
200
100
0
-100
MONTHLY RETURN (%)
1991 JAN
1992 JAN
1993 JAN
1994 JAN
1995 JAN
MONTH
AHP
MARKET

CHART 2b

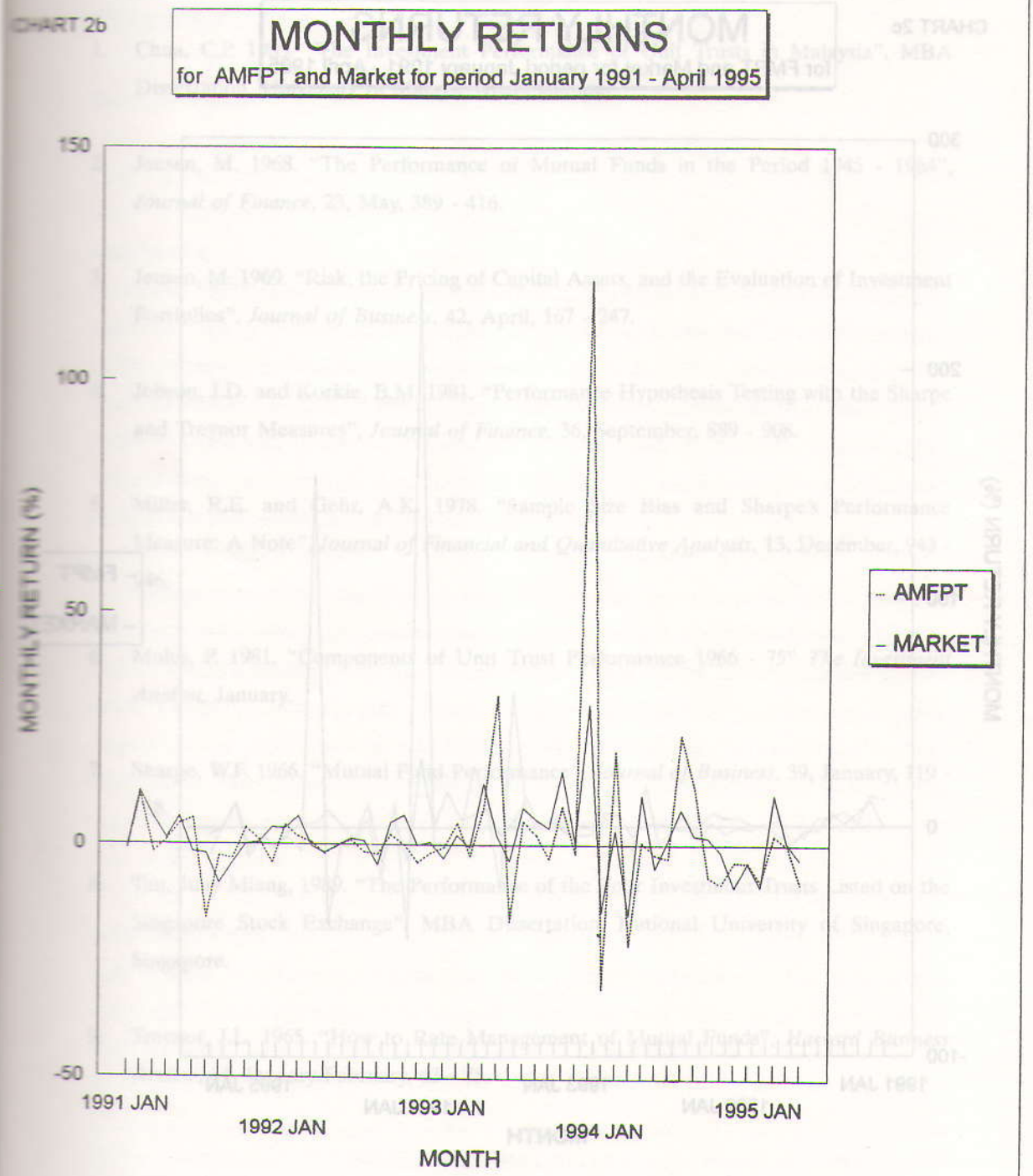
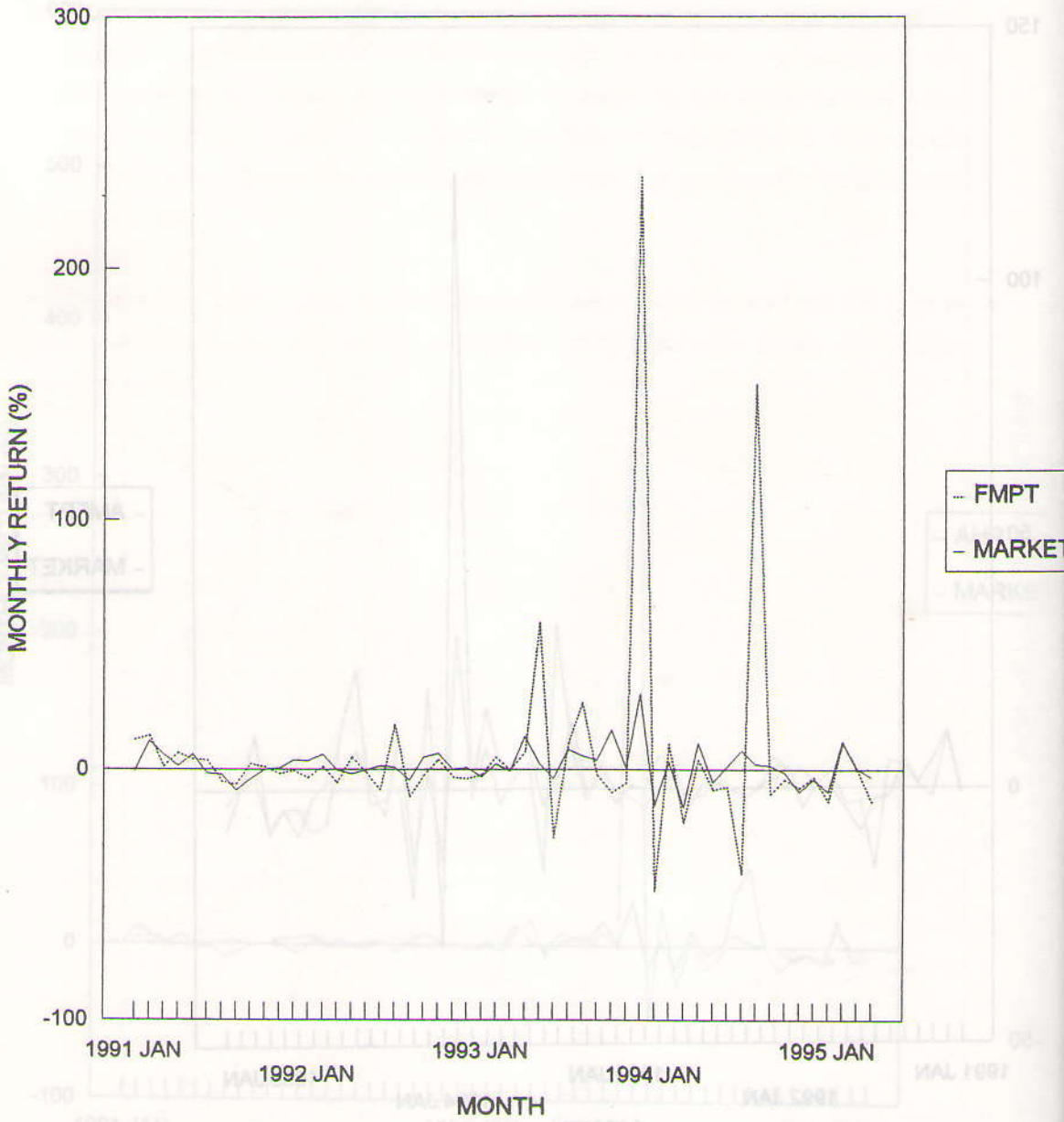

MONTHLY RETURNS
for AMFPT and Market for period January 1991 - April 1995
150
100
50
0
-50
MONTHLY RETURN (%)
AMFPT
MARKET
1991 JAN
1992 JAN
1993 JAN
1994 JAN
1995 JAN
MONTH

CHART 2c

MONTHLY RETURNS

for FMPT and Market for period January 1991 - April 1995



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