

THE PERFORMANCE OF UNIT TRUSTS IN MALAYSIA: SOME EVIDENCE

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1. INTRODUCTION

Institutional investors such as pension funds, insurance companies and unit trusts (mutual funds) play an important role in providing investment capital in the financial markets of developed and developing economies. The term unit trust is equally applicable to the term mutual fund and investment trust in the Malaysian context. In America, unit trusts are known as mutual funds whereas in other countries, they are more popularly referred to as unit trusts. Unit trust is a general name which may be further classified according to its objective such as growth, income and balanced trusts, each of which can be reclassified according to sectors such as property trusts, sectoral trusts, equity trusts and gilts. Irrespective of their specific objective, the general objective of a unit trust is to pursue investments which generate the highest return per unit of risk or lowest risk per unit of return.

A unit trust serves as a medium through which small investors can acquire a share in a diversified portfolio of corporate securities, thereby pooling the risks of capital depreciation with other small investors who form a part of the unit trust. It therefore plays an important role in the development of the private capital market through mobilising small savings for active participation in the corporate securities market. Investors in unit trusts benefit from their investment in terms of the opportunity to spread risk over many different securities (portfolio diversification), professional management of their investment. It relieves them of their time and energy to do research and share trading. There is also liquidity of investment as unit trusts are obliged to create a ready market to redeem investors' units.

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Unit trusts were first introduced in Malaysia in 1959, with the establishment of the Malayan Unit Trust Limited by the Australian Cooper Brothers. At that time, the company managed 4 funds, but it has since 1969 ceased to manage any funds. Until recently, the growth of the unit trust industry in Malaysia has been slow which, among other factors, was due mainly to lack of awareness on the part of investors about the salient features of investment in unit trusts, the close regulation by the government and lack of convenient facilities for investors to invest in unit trusts. The second unit trust was only introduced some 7 years later in 1966. This was followed by Amanah Saham MARA Berhad (ASM) a year later in 1967. Another 10 years lapsed before MIC Unit Trust Berhad launched its first fund in 1977. This was followed by the launch of 2 other major funds in 1981. As at 31/12/93 there were 16 unit trust management companies in Malaysia managing a total of 41 funds. There were also three foreign companies namely, Singapore Unit Trust, Schrodgers and DBS Asset Management Ltd. managing 6, 2 and 8 funds respectively. The unit trust industry in Malaysia currently accounts for 5% of total share market capitalisation. The industry is expected to play a more important role in the economy and garner at least 20% of market capitalisation by the year 2000. In developed countries, unit trusts play a more significant role accounting for at least 40% of total market capitalisation (refer to Table 1). At present, Amanah Saham Nasional and Amanah Saham Bumiputera together account for 94% of the total market capitalisation of the unit trust industry in Malaysia.

2. OBJECTIVES OF UNIT TRUSTS

Unit trusts can be classified into various categories based on their stated objectives in the prospectuses filed with the Registrar of Companies (ROC). These are growth, income, balanced and property trust funds. The primary objective of a growth fund is to achieve higher returns through capital gains at higher risks. A large proportion of such funds is invested in high-growth common stocks or small companies which offer good prospects of growth.

11. Miller, R.E. and Gehr, A.K. (1978). "Sample Size Bias and Sharpe's Performance Measure: A Note." *Journal of Financial and Quantitative Analysis*, 13(5) (December).

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Table 1
Investment By Unit Trusts As A Percentage Of Market Capitalisation

| Country | % of Market Capitalisation |
|---------------|----------------------------|
| Japan | 48 |
| Australia | 40 |
| United States | 40 |
| India | 25 |
| Thailand | 16 |
| Malaysia | 3 |

Source: Business Times 6/2/94

Funds are also invested in investments with long term maturity and capital gain. Income funds provide investors with a stable and regular source of income at lower risk, and investment is primarily in high quality bonds and/or low-risk stocks, including blue chips. In short, funds are placed in well diversified portfolios comprising income generating investments. Balanced funds try to strike a balance between the growth and income funds by providing investors with moderate returns at average risk. The portfolio will be a balanced mix of investments in shares, bonds and money market instruments. The main source of income for property trust funds is through property rental.

This paper focuses on the performance of 54 unit trusts funds in Malaysia managed by 16 trust companies for the period 1988 to 1992. The sample of unit trusts analysed is shown in Appendix 1. The main objective is to assess whether investors in unit trusts are getting a fair deal from their investment. An attempt will be made to answer the following questions specifically: a. Are the unit trusts' return and risk characteristics consistent with their stated objectives? b. Are the unit trusts well-diversified? c. Do the unit trusts provide better returns than the market? d. Is the performance of the unit trusts consistent over time?

3. REVIEW OF LITERATURE

Studies on the performance of unit trusts in developed economies were prompted by the need to compare their performance with other investments. This was facilitated by the

availability of composite measures of performance. This section reviews the findings of some of these studies. Sharpe (1966) studied 34 mutual funds for the period 1954-63 and found that, on the average, mutual fund did not outperform the market (the Dow Jones Industrial Average or DJIA). Only 11 out of the 34 mutual funds had higher Sharpe Index value than the DJIA.

The evidence on mutual fund performance discussed by Jensen (1968) indicates not only that the 115 mutual funds examined were on average not able to predict security prices well enough to outperform a buy-the-market-and-hold policy, but also that there is very little evidence that any individual fund was able to do significantly better than that which was expected from mere random chance. It is also important to note that the conclusions discussed hold even when the returns on fund were measured gross of management expenses (i.e. on the assumption that book-keeping, research and other expenses except brokerage commissions were obtained free). Thus, on average, the funds apparently were not quite successful in recouping even their brokerage expenses. However, the issue of diversification was the main consideration.

Koh and Kee (1990) researched into some aspects of the performance of unit trusts in Singapore for the period 1980 to 1984 and concluded that the unit trusts in Singapore underperformed the market, were poorly-diversified, recorded inconsistent performance over time and that the actual return and risk characteristics were not entirely consistent with the objectives stated in the prospectus. Ariff and Johnson's (1990) study on the performance of 14 unit trusts in Singapore for the period 1984 to 1989 using weekly dividend adjusted returns found that there is room for further diversification of the composition of the funds. The fund managers select low-beta stocks which suggests that they place safety as first principle and therefore limit the extent of diversification benefits. Finally, the performance of the funds for the 6 years suggest that, on average, they did not do better than the market portfolio given the transaction cost and an economic price for the services of pooling and managing the small investors' funds.

Firth (1977) analysed the performance of 72 unit trusts in the United Kingdom using the capital asset pricing model and Sharpe's reward-variability index for the period 1965 to 1975. The results show that, on average, managers of unit trusts in the United Kingdom have not been able to forecast share prices accurately enough to outperform a simple buy

and hold policy. None of the unit trusts examined provided investors with the opportunity to invest in a portfolio of greater volatility than the market portfolio. The results also imply that unit trust managers have no superior investment selection ability. This perhaps is not surprising in view of the competitive nature of the British stock market.

Ippolito (1989) reported findings on the performance for 143 mutual funds in the United States over the period 1965-1984. The results showed that mutual funds with higher turnover, fees and expenses, earn rates of return sufficiently high to offset the higher charges. These results are consistent with the notion that mutual funds are efficient in their trading and information-gathering activities.

Cumby and Glen (1990) studied the performance of fifteen U.S.-based internationally diversified mutual funds over the period 1982-1988. Two performance measures were used, namely the Jensen measure and the positive period weighting measure proposed by Grinblatt and Titman (1989). They found no evidence that the funds, either individually or as a whole, provide investors with performance that surpasses that of a broad, international equity index over this sample period.

In general, the evidence from the developed markets show that investors in unit trusts do not earn the expected returns and investors would be better off investing and holding their money in a portfolio that replicates the market portfolio.

4. METHODOLOGY

Fifty-four unit trust funds were analysed, out of which 9 funds were managed by 2 foreign trust management companies. Monthly returns, adjusted for dividends and bonuses distributed to unit holders, were computed for the five-year period from January 1988 to December 1992. To serve as a benchmark, the KLSE Composite Index was used. The beta of stocks was estimated by regressing the returns on a stock with the returns on the KLSE Composite Index. The beta statistic measures the market risk of a diversified portfolio.

The R - square statistic measures the proportion of total variance of returns of a unit trust which is explained by the KLSE Composite Index (the proxy for the market portfolio). It measures the degree of diversification of the unit trust and the value ranges from zero (no diversification) to one (perfect diversification). It is computed by regressing the return on

the unit trust on the return on the market index. The return on the unit trust is estimated as follows:

$$R_p = \frac{NAV_t - NAV_{t-1} + D_t + C_t}{NAV_{t-1}} \quad (1)$$

where D_t is the dividend or cash disbursement at time t

C_t is the capital gain disbursement at time t

NAV_t is the Net Asset Value at time t

NAV_{t-1} is the Net Asset Value one period before time t

The return on the market index is measured as follows:

$$R_m = \frac{I_t - I_{t-1}}{I_{t-1}} \quad (2)$$

where I_t = Market index in time period t

I_{t-1} = Market index one period before time t

The two composite performance measures which make use of the market index and treasury bill rate combination are the Treynor Index and the Jensen Ex-Post Alpha measure. However, their use in portfolio evaluation had been criticised {Roll(1977)}. Roll commented on the necessity of deriving the actual composition of the market portfolio before any reliable performance evaluation can be carried out. One performance measure that is not affected by Roll's critique is the Sharpe Index. However, the traditional Sharpe Index was found to be a biased measure by Miller and Gehr (1978). Subsequently, Jobson and Korkie (1981) overcame this problem by introducing the adjusted Sharpe Index which is used in this study and expressed in the following equation:-

$$SSI = SI [N / (N + 0.75)] \quad (3)$$

where

SSI = the adjusted Sharpe Index

N = the number of return intervals in the evaluation period

SI = the traditional Sharpe Index defined as :

$$SI = \frac{R_p - R_f}{S_p} \tag{4}$$

where

R_p = the average return on portfolio over the evaluation period

R_f = the average risk-free interest rate over the evaluation period estimated using the 3-month treasury bill rates

S_p = the standard deviation of the portfolio's annual return.

The Spearman Rank Correlation test was applied to evaluate the consistency of performance of the unit trusts over time.

5. FINDINGS

(i) Objective and Performance of Unit Trusts

The sample of unit trusts analysed in this study is classified into (a) growth funds (b) income funds and (c) balanced funds. The objective of a growth fund is to achieve higher returns through capital gains at higher risks. Income funds aim to provide investors with a stable and regular source of income at lower risks. Balanced funds try to strike a balance between the growth and income funds by providing investors with moderate returns at average risk. Potential investors are obviously interested to know whether unit trusts do achieve their stated objectives. Based on this classification the sample had 23 growth trusts, 24 balanced trusts and 7 income trusts. For each classification, the sample was further divided into the following – total sample, Malaysian unit trusts and foreign trusts.

Two proxies for risk of each trust were considered: the standard deviation and the beta. The returns and risk of total and the sub-samples are summarised in Tables 2 and 2(a).

Table 2
Returns and Risk Profile of Unit Trusts: Total and Malaysian Sample

| | Total Sample | | | Malaysian Sample | | |
|-------------------------------|--------------|--------|---------|------------------|--------|----------|
| | Growth | Income | Balance | Growth | Income | Balanced |
| Mean Returns | 0.067 | 0.032 | 0.068 | 0.06 | 0.03 | 0.06 |
| Mean Std. Dev. | 3.9 | 3.2 | 7.2 | 5.2 | 3.1 | 7.4 |
| Returns per unit of Std. Dev. | 17.2 | 10 | 9.4 | 11.5 | 9.7 | 8.1 |
| Mean Beta | 0.53 | 0.41 | 0.63 | 0.63 | 0.44 | 0.5 |

Table 2(a)
Returns and Risk Profile of Foreign Unit Trusts

| | Growth | Income | Balanced |
|-------------------------------|--------|--------|----------|
| Mean Returns | 0.16 | 0.04 | 0.05 |
| Mean Std. Dev. | 6.3 | 3.3 | 4.1 |
| Returns per unit of Std. Dev. | 25.4 | 12.2 | 12.2 |
| Mean Beta | 0.81 | 0.39 | 0.51 |

(a) Total and the Malaysian Sample

Table 2 shows that for both the total and the Malaysian sample the growth trusts yield the highest returns per unit of risk measured in terms of standard deviation (17.2 and 11.5 respectively) compared to the income trusts (10 and 9.7) and the balanced trusts (9.4 and 8.1). However, the risk per unit of returns is highest for the balanced trusts (106 and 123

respectively) compared to the income trusts (100 and 103) and growth trusts (58 and 87). The income trusts have lower returns and lower risk than the balanced trusts. Similar results are observed using beta as the risk measure. These results imply that the risk and return characteristics of the total sample and the Malaysian trusts are inconsistent with their stated objectives.

(b) Foreign Unit Trusts

Table 2(b) shows that the growth trusts have the highest returns and highest risk compared to the income and balanced trusts. The balanced trusts have higher returns and risk than the income trust. These findings indicate that only the risk and returns characteristics of foreign growth funds are consistent with their stated objectives. The inability of the Malaysian unit trusts to achieve their stated risk-return objective certainly warrants a close supervision and control of their activities.

(ii) Degree of Diversification of Unit Trusts

One of the benefits of investing in unit trusts is the reduction of portfolio risk through diversification in a large number of securities. Investors being risk averse would prefer less risk and more returns. The degree of diversification of a trust is measured by the R-square statistic which ranges from 0 to 1. The R-square statistic is estimated by regressing the returns on unit trusts (the dependent variable) with the returns on the market index (the independent variable). The R-square statistic of the total sample and sub-samples are summarised in Tables 3 and 3(a).

Table 3

Diversification Measure of Unit Trusts: Total and Malaysian Sample

| | Total Sample | | | Malaysian Sample | | |
|---------------|--------------|--------|----------|------------------|--------|----------|
| | Growth | Income | Balanced | Growth | Income | Balanced |
| Mean R-square | 0.36 | 0.32 | 0.30 | 0.45 | 0.36 | 0.29 |

Table 3(a)**Diversification Measure of Unit Trusts: Foreign sample**

| | Growth | Income | Balanced |
|---------------|--------|--------|----------|
| Mean R-square | 0.28 | 0.26 | 0.38 |

(a) Total Sample and Malaysian Unit Trust

For the total sample, Table 3 shows the mean R-square statistic of the 54 unit trusts ranged between 0.30 for the balanced funds to 0.36 for the growth funds. Thirty nine (72 %) of the unit trusts were not well diversified with R-square values below the 0.5 cut-off point. The results show that although growth trusts are marginally better diversified than other categories, none of the categories achieved the expected level of diversification.

The Malaysian unit trusts show similar results. Twenty six out of 37 funds in the sample (70.3%) had a low degree of diversification. None of the trusts achieved an acceptable level of diversification, although the growth trusts were the most diversified (R-square=0.45) compared to income trusts (0.29) and balanced trusts (0.28). The low R-square values imply that the degree of diversification of unit trusts is lower than that expected. This might be due to the various investment constraints faced by unit trust managers and/or the manager's strategy to sacrifice diversification to earn higher returns. Some of these constraints were the maximum units allowed for each trust is only 100 million. The trust can invest only in authorised Malaysian assets and the level of liquid assets in a unit trust fund must be at least 15% of the value of the fund. Since 10th March 1994, the Securities Commission has issued a new set of guidelines.

(b) Foreign Unit Trusts

Table 3(a) shows that the balanced funds are the most diversified (0.38) compared to the growth funds (0.28) and the income funds (0.26). Only four (23.5%) out of a sample of 17 foreign funds enjoyed a reasonable (R-square greater than 0.5) degree of diversification. These findings imply that, in general, the foreign trusts did not achieve the expected level of diversification (greater than 0.5). Therefore investors could be better off in buying stocks across the board themselves or buying a portfolio which replicates one of the commonly used broad-based stock indices. The diversification level of both Malaysian and foreign unit

trusts is low compared with those reported in developed markets (for example, Moles (1981), Ippolito (1989) and Glen (1990), where the average degree of diversification is as high as 0.70.

(iii) Risk - Adjusted Performance

Unit trusts are managed by professional managers and investors expect returns on their investment to be higher than that of a naïve buy-and-hold strategy with equivalent risk. The usual benchmark used by investors to evaluate the investment performance of unit trusts is the returns on the market portfolio proxied by the market index.

The findings of risk-adjusted performance of the total sample and sub-samples are summarised in Tables 4 and 4(a). The results show that for the total sample, the mean returns for the growth, income and balanced trusts were 2.1%, 4.0% and 4.1% respectively. The average return for the total sample was 3.5%. The return from investing in unit trusts was significantly lower than the 6.5 % average return on the risk-free treasury bills. The return on market portfolio proxied by the KLSE Composite Index was 17.8%. The Malaysian unit trusts had similar results, except that the return on the growth trust (5.2%) and income trust (8%) funds was positive and the return on the balanced fund was negative. The foreign trusts had negative returns for their growth and income funds and positive (11%) returns for the balanced fund.

Table 4
Risk-Adjusted Performance of Unit Trusts: Total and Malaysian Sample (1988-1992)

| | Total Sample | | | Malaysian Sample | | |
|---------|--------------|--------|----------|------------------|--------|----------|
| | Growth | Income | Balanced | Growth | Income | Balanced |
| Returns | 0.021 | 0.04 | 0.041 | 0.052 | 0.08 | -0.05 |

Table 4(a)
Risk-Adjusted Returns of Unit Trusts: Foreign Sample
(1988-1992)

| | Growth | Income | Balanced |
|---------|--------|--------|----------|
| Returns | -0.025 | -0.100 | 0.113 |

Twenty six funds had negative returns, another 26 had positive returns but these were significantly lower than the returns on the risk-free treasury bills (6.5%). Two trusts outperformed the risk-free rate and the market return (17%); one is a local growth fund (80%) and the other, a foreign balanced fund (30%). Classified in terms of their objective, the growth funds outperformed the balanced and income funds for the Malaysian sample. For the total and foreign sample the balanced funds performed better. From the total sample, only two funds had an average return above the risk-free rate and the market return for the period of study. This finding suggests that despite the reliance on professional investment managers, unit trusts are not able to generate an expected reasonable risk-adjusted return. These findings are consistent with the performance of unit trusts world wide (Firth (1977), Koh and Kee (1987), Ippolito (1989) and Cumby and Glen (1990)). The underperformance evidenced in this study could be due to the various restrictions imposed by the authorities on unit trusts with regard to amount and the avenues for investment and the conservatism of the management. The decision by the Securities Commission to amend the investment guidelines on unit trust funds is timely, and pertinent and should improve the investment performance of unit trusts.

The literature on the performance of unit trusts conjectures that managers of unit trusts do sacrifice diversification in pursuance of higher returns with more risky investments. The findings in this study suggests that 72% of the sampled trusts were poorly diversified (Table 3), the risk relatively low (Table 2) and the risk-adjusted returns low (Table 4), which are inconsistent with the conjecture.

(iv) Consistency of Performance

Assuming that investors are risk averse and utility maximisers, they would prefer not only a high return per unit of risk but also consistency of good performance over time. Given the investment opportunities available, a superior management team should not only be

able to maintain a consistent performance but also improve the performance over time. There is evidence (Sharpe (1966), Moles (1981)) that unit trusts in developed markets perform consistently from one period to another. The findings of the sample analysed are summarised in Table 5 below.

Table 5
Consistency of Performance of Unit Trusts for the Period
1988 - 1992 As Measured By Spearman Rank Correlation Coefficient

| Period | Total Sample | Malaysian Sample | Foreign Sample |
|-----------|--------------|------------------|----------------|
| 1988-1989 | 0.1757 | 0.1752 | 0.5367 |
| 1989-1990 | -0.3739 | 0.1032 | -0.4093 |
| 1990-1991 | -0.4222 | -0.4608 | -0.1152 |
| 1991-1992 | -0.1723 | -0.2287 | -0.2892 |

For the total sample and the sub-samples, there was no consistency in the performance ranking of unit trusts over the five-year period. The periods 1989-1990, 1990-1991 and 1991-1992 showed negative rank correlation coefficients though these were not significant (at 0.05 level). This indicates that there is no relationship between the rankings in one period with another, and the negative rank correlations (though not significant) suggest that some firms had reversals in performance ranking, that is their performance deteriorated over time. These findings suggest that the performance of unit trusts in Malaysia is not consistent over time and therefore investors cannot rely on past performance as a guide for future performance.

6. SUMMARY AND CONCLUSION

The paper provides some evidence on the performance of unit trusts in Malaysia, specifically with respect to : congruence of risk-return characteristics with stated objectives, degree of diversification, performance in comparison to the risk-free and market returns and the consistency of performance over time. The results show that for the 1988 to 1992 period, the returns on investments in unit trusts in Malaysia are well below the risk-free and market returns. The degree of diversification of the portfolios is below expectation and the

performance is not consistent over time. The actual return and risk characteristics of the funds are inconsistent with their stated objectives. The findings on foreign managed trusts in Malaysia were similar to their Malaysian counterparts. These lackadaisical performance of unit trusts in Malaysia cannot be attributed to the lack of profitable investment opportunities in the economy as the economy has steadily grown since 1988. A more relevant explanation could be the regulatory constraints imposed on the amount and the type of investments allowed. The strict advertising code for the unit trust industry also contributed to its slow growth as public awareness is still low. Besides statutory requirements, the management factor is also an important ingredient for a successful performance. Since all unit trusts are subjected to the same regulations, the superior performance of two of the 54 funds analysed is probably due to their superior management. A pro-active role by management in investment strategies would certainly boost the financial performance of unit trusts.

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Appendix 1

Types of Unit Trust in MALAYSIA

| NAME | DATE OF INCEPTION | TYPE OF FUND |
|---|-------------------|--------------|
| 1. AMANAH SAHAM NASIONAL BERHAD | 20 / 04 / 8 | Balanced |
| 2. AMANAH SAHAM MARA BERHAD | | |
| First | 09 / 04 / 68 | Balanced |
| Second | 19 / 02 / 69 | Balanced |
| Third | 01 / 11 / 69 | Balanced |
| Fourth | 02 / 02 / 70 | Balanced |
| Fifth | 03 / 09 / 71 | Balanced |
| Sixth | 05 / 05 / 72 | Balanced |
| Seventh Income | 28 / 12 / 72 | Income |
| Seventh Accumulation | 28 / 12 / 72 | Balanced |
| Warriors | 14 / 08 / 72 | Balanced |
| Eight | 17 / 07 / 75 | Balanced |
| Ninth | 22 / 10 / 77 | Balanced |
| Tenth | 24 / 10 / 78 | Balanced |
| Eleventh | 29 / 10 / 79 | Balanced |
| ASMFPT | 20 / 04 / 92 | Balanced |
| 3. ASIA UNIT TRUST BERHAD | | |
| Malaysian Investment | 02 / 12 / 66 | Income |
| Malaysian Progress | 01 / 06 / 70 | Growth |
| Malaysian Security | 14 / 05 / 71 | Growth |
| Malaysian Berjaya | 05 / 05 / 76 | Growth |
| Malaysian Equity | 20 / 01 / 82 | Growth |
| Malaysian Commerce | 24 / 01 / 84 | Growth |
| 4. ARAB-MALAYSIAN UNIT TRUST BERHAD | | |
| Arab-Malaysian First | 10 / 01 / 89 | Income |
| Arab-Malaysian Gilts | 28 / 11 / 86 | Income |
| 5. BBMB UNIT TRUST MANAGEMENT BERHAD | Unit | |
| Trust Fund | 29 / 09 / 89 | Growth |
| Prime Fund | 14 / 05 / 91 | Growth |
| 6. BHLB PACIFIC TRUST MANAGEMENT BERHAD | | |
| Double Growth Fund | 20 / 05 / 91 | Growth |
| 7. DCM-RHB UNIT TRUST MANAGEMENT BERHAD | | |
| DCM-RHB Dynamic Fund | 28 / 09 / 92 | Balanced |
| 8. KUALA LUMPUR MUTUAL FUND BERHAD | | |
| K L Saving Fund One | 29 / 03 / 81 | Balanced |
| K L Growth Fund Two | 12 / 84 | Growth |
| K L Index Fund | 02 / 03 / 92 | Growth |

9. MIC UNIT TRUST BERHAD

| | | |
|---------------------------|--------------|----------|
| MIC Investment Fund One | 12 / 07 / 77 | Balanced |
| MIC Investment Fund Two | 15 / 05 / 81 | Growth |
| MIC Investment Fund Three | 04 / 82 | Balanced |

10. MBF UNIT TRUST MANAGEMENT BERHAD

| | | |
|------------|--------------|----------|
| First Fund | 02 / 05 / 91 | Balanced |
|------------|--------------|----------|

11. MAYBAN MANAGEMENT BERHAD

| | | |
|------------------------|--------------|----------|
| Mayban Unit Trust Fund | 06 / 03 / 92 | Balanced |
|------------------------|--------------|----------|

12. PELABURAN JOHOR BERHAD

| | | |
|---------------------|--------------|----------|
| Tabung Pelaburan | 1980 | Balanced |
| Amanah Saham Johor* | 15 / 05 / 92 | Balanced |

FOREIGN FUND MANAGEMENT COMPANIES

13. SINGAPORE UNIT TRUST LTD

| | | |
|---------------------------------|----------|----------|
| Singapore Commerce and Industry | 30/11/63 | Growth |
| Singapore Savings | 26/06/65 | Balanced |
| Singapore Progress | 28/02/70 | Balanced |
| Singapore Security | 12/05/71 | Income |
| Singapore Investment | 21/04/75 | Income |
| Singapore Equity | 10/01/79 | Growth |

14. SCHRODERS MANAGEMENT LTD

| | | |
|-------------------------------|----|--------|
| Schroder South East Asia Fund | NA | Growth |
|-------------------------------|----|--------|

15. DBS ASSET MANAGEMENT LTD

| | | |
|---------------------------|--------------|--------|
| Shenton Twin City Fund | 11 / 06 / 84 | Growth |
| Japan Growth Fund | 03 / 12 / 85 | Growth |
| Shenton Thrift Fund | 12 / 06 / 87 | Growth |
| Shenton Income Fund | 30 / 12 / 88 | Income |
| Shenton Asia Pacific Fund | 13 / 03 / 90 | Growth |
| Malaysia Growth Fund | 07 / 02 / 90 | Growth |
| Mendaki Growth Fund | 26 / 04 / 91 | Growth |
| US Growth Fund | 08 / 07 / 91 | Growth |

16. CREDIT LYONNAIS MANAGEMENT LTD

Singapore Growth

NA

Growth

Asia Pacific Growth

NA

Growth

* This is a relaunched fund from Tabung Pelaburan 1 (1977).

ABSTRACT

Numerous studies have shown that in a fully integrated market, a large market has greater influence on a relatively smaller market. These findings suggest that prices in a larger market can be used to predict prices in the smaller market and subsequently, investors who use this information as a trading rule will reap abnormal rate of returns. The objective of the present paper is to determine the degree of market integration between the stock indices of the Main Board and Second Board of the Kuala Lumpur Stock Exchange. In this paper we employed a recently developed econometric technique on the cointegration of time series to examine the issue of market integration. Using monthly and weekly frequency data, our results suggest that the Main Board and Second Board of the Kuala Lumpur Stock Exchange are not cointegrated. This indicates that there is no long run relationship between the two stock indices. Since prices determined in jointly efficient markets cannot be cointegrated, the result is consistent with the efficient market hypothesis.

INTRODUCTION

Numerous studies on capital markets have sought to determine the linkages among national financial markets. In a segmented market, different markets are viewed as independent of each other. It would be difficult to earn consistently abnormal profits by investing in a particular market based on the observed developments in other markets. If this being the case, it is then consistent with the notion of an informationally efficient stock market. That is, the growth of one market cannot be used (as a trading rule) to predict another market.

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