

CHAPTER II

LITERATURE REVIEW

2.1 INTRODUCTION

Unit trust had its origin in Belgium since 1822. It spreads across Europe in the late 1860's and 1870's. It was only in 1929 that open-ended mutual funds were fully developed in America.

The performance of mutual funds or unit trusts has been an area of frequent research and inquiry since their inception especially in the West. The development of the modern portfolio theory by Markowitz and the Capital Asset Pricing Model (CAPM) by Sharpe, Linter, Jensen and Mossin have intensified work in this area.

This chapter highlights the studies and empirical findings of investment performance of unit trusts and mutual funds by research in the West, Singapore and Malaysia.

2.1.1 Empirical Studies in the West

The concept of grouping securities into portfolios has important implication for many facets of investments. In March 1952, Harry M. Markowitz published a landmark paper, 'Portfolio Selection', (Journal of Finance 7, No. 1) which is viewed as the origin of modern portfolio theory approach to investing. The important conclusion drawn from his study is that risk which is a measure of standard deviation of its expected return can be reduced by combining risky securities into portfolio rather than holding them individually. Besides that, the key to portfolio risk reduction is that the return on most securities are not perfectly positively correlated.

The portfolio theory developed by Markowitz illustrate how to measure risk but does not specify the relationship between risk and required rate of return. The risk-return relationship was later developed by John Linter, Jan Moissin and William Sharpe known as Capital Asset Pricing Model (CAPM). The CAPM relies on the perfect market assumption and specifies that the required rate of return on a risky security is a function of three factors namely risk free rate, the required rate of return on market portfolio and the volatility of the security's return relative to the returns on the market. (Journal of Finance, September, 1964).

Sharpe (1966) studied the performance of 34 mutual funds over the period 1954 to 1963 in the United States. He developed a risk adjusted measure of performance based on the reward to variability ratio ¹(Sharpe Index). On the average, the funds could not out perform the market portfolio (Dow Jones Industrial Average). Only 11 out of the 34 mutual fund had higher Sharpe Index value than the DJIA. This means that DJIA was a more efficient portfolio than the average mutual fund in the sample. His results also showed that the differences in performance over time can be predicted although imperfectly and that no indication on the sources that account for the differences in performance can be obtained. It also does not confirm that past performance is the best predictor of future performance. However, when the reward to volatility ratio i.e. the ²Treynor Index was used, Sharpe showed that for fund that performed reasonable diversification, the Treynor Index may provide better predictions of future performance than the Sharpe Index. Sharpe showed that good

¹ Sharpe Index is the index measures the risk premium of the portfolio relative to the total risks in the portfolio.

² Treynor Index is the index measures the risk premium of the portfolio relative to the systematic risk in the portfolio.

performance was associated with low expense ratio and that size of the fund per se is an unimportant factor in predicting future performance.

Jensen (1968) studied the performance of 115 open end mutual funds for the ten year period 1955 to 1964. He developed a performance measure called the ³Jensen's Alpha for evaluating a portfolio manager's predictive ability of security prices. His study results indicated that on the average the funds were unable to predict security prices well enough to outperform the naive "buy and hold" strategy.

In the United Kingdom, Firth (1977) studied the performance of 72 British unit trust funds over the period 1965 to 1975. The results of his study also showed that fund managers were unable to outperform the naive "buy and hold" strategy. There was no statistically significant evidence of any unit trust having superior performance but there was evidence of statistically significant inferior performance. The result holds even when management expenses are added back. It appears that unit trust investment managers do not have superior share price forecasting abilities and thus active management does nothing for performance. Firth could not find any consistency in the performance ranking of the funds over the various time periods and also found no difference in performance between the various types of the funds. The systematic risks of the funds were found to be lower than that of the market. Firth also showed that the size of the unit trust, the relative number of investment holdings, the relative number of unit holders, age of the fund, initial and annual management charges, liquidity and the beta values have no significant effect on Jensen's Alpha. The beta value cannot also be explained by these variables. It

³Jensen's Alpha obtained from the regression intercept of the Jensen's characteristics line as shown belows:

$$R_{jt} - R_{ft} = A_j + B_j(R_{mt} - R_{ft}) + U_{jt}$$

where A_j = Jensen's Alpha of unit trust j obtained from the regression intercept

B_j = Regression slope coefficient

suggested that the beta value of individual trusts depends largely on the investment policies of the managers.

Gurney (1976) found that there was a weak correlation between the sizes of the funds and their performance. However, a significant correlation was noted between the yields quoted by the funds in the beginning of the periods and their performance. A positive correlation between performance ranking in the successive years was also found unless market conditions changed considerably. However this could not be generalised to all market conditions.

In the United States, Moles & Taylor (1977) conducted a risk return analysis of 86 funds covering a period of ten years. They found that in most cases, the performance variables such as number of units, size of funds and previous yield had weak predictive power for the funds' performance in the subsequent periods and there was little differentiation among the funds inspite of their stated objectives. Moles found that while there was a significant relationship between the funds' performance and some variables such as growth pattern, level of liquidity and type, no strong relationship was noted between their performance and other variables such as fund charges and management group.

Bruce N. Lehmann and David M. Modest (1983) examined the returns of 130 mutual funds over the period January 1968 through December 1982 to find out whether inferences about their performance are sensitive to the benchmark chosen to measure normal performance. They employ the standard CAPM benchmarks and a variety of APT benchmarks to investigate this question. In the research results, they find little similarity between the absolute and relative mutual fund rankings obtained from these alternative benchmarks, which suggests the importance of knowing the appropriate model for risk and return in this context. In addition, the rankings are not

insensitive to the method used to construct the APT benchmark. Finally, they find statistically significant measured abnormal performance using all the benchmarks.

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.

2.1.2 Empirical Studies in Singapore and Malaysia

Koh and Koh (1987) analysed 19 unit trusts in Singapore over a five year period from 1980 to 1984. They found that growth funds that were expected to yield the highest returns and to have the highest risks relative to the other types of funds do not have the highest returns nor do they possess the highest risks. This means that the returns and risk characteristics of these unit trusts are not fully consistent with their stated objectives. The funds did not achieve a high degree of diversification and were unable to outperform the market with some funds having negative ⁴Adjusted

⁴ Jensen's Alpha cannot be used to rank the performance of different asset unless it is risk adjusted by dividing by B_j as shown :
$$\text{Adjusted Jensen's Alpha} = A_j / B_j$$

Sharpe Index (ASI). This means that they earned returns that are less than the average risk free rate. The income funds outperformed the balanced and growth funds but none of the groupings could out performed the market. The sample of funds were not able to report consistent performance over time as the Spearman Rank Correlation (R_s) for the different pair of years were not significant.

In Singapore, the Association for Investment Management and Research (AIMR) have been set up to design standard to ensure fair and complete representation and greater uniformity in reporting investment results. These standards became effective in January 1993 which covered a variety of subjects, one of which was the basic of calculating performance returns. The standards state that performance results should adhere to some minimum computational requirements and to be adopted by all fund managers. These standards would definitely serve to assist investor when they make comparative performance returns of various funds.

Ariff and Johnson's (1990) study on the performance of 14 unit trust 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 limits the extent of diversification benefits. Finally, the performance of the funds for the six years suggest that, on average, they did not do better than the market portfolio given the transaction cost and an economic price for services of pooling and managing the small investors' funds.

Lee (1993) did a study on 21 unit trusts in Singapore over a five year period from 1986 to 1990. Her results are similar to those of Koh and Koh (1987). Their Sharpe Index and Adjusted Sharpe Index all failed to beat market with most of the funds recording negative indices while the market shows positive performance.

Based on the Treynor Index, all except one fund underperform the market. However the Jensen and Adjusted Jensen Alpha showed that eight funds managed to beat the market. When the funds are grouped according to their objectives, the income funds posted the worst results while the special funds (fund that are specialised in certain sectors, industry or commodity) were the best performer. Most of the funds in the sample were inconsistent in their performance for the five years period. There was no significant difference in the risk profile over time for most of the funds with 38% of the funds showing significant difference in risk. She showed that the funds systematic risk levels were quite stable over time although they were not consistent with the funds stated objectives.

Chua (1985) did an empirical study that covered a ten year period from 1974 to 1984 of 12 Malaysian unit trust funds managed by two management companies with nine funds from Amanah Saham Mara and the remaining three funds from Asia Unit Trust. On the average, the funds outperformed the market with the average Sharpe Index of 0.161 as against the market's value of 0.083. The R_s values for the Sharpe Index and the Treynor Index for the two sub periods 1974 to 1979 and 1979 to 1984 was significant indicating fairly consistent performance over time. He also reported similar findings when the Treynor Index was used indicating a fairly consistent performance over time. The unit trusts appear to adhere to their stated objectives and had also performed their risk control and diversification tasks reasonably well. Fund characteristics such as size, expense ratio and portfolio turnover were all negatively correlated to performance. Simple regression analysis showed that all fund characteristics studied were reasonably good predictors of the performance measure. Among the fund characteristics studied, the average portfolio turnover has the highest explanatory power for the performance measure. This

means that high performance funds tend to relate to those with low expense ratios, low asset size (net asset value), low portfolio turnover. Hence, investment managers can improve performance by reducing expenses, managing smaller funds as well as avoiding active trading which only results in excessive expenses on brokerage. On average, the Jensen's Alpha showed that the unit trust funds were able to predict security prices well enough to outperform the naive "buy and hold" strategy. All the government backed funds were able to outperform the naive "buy and hold" strategy while the private sector funds did not show the ability to predict security prices and were not able to do better than the naive "buy and hold" strategy.

In Tan Hoon Chuan's (1994) paper investigates the investment performance and ranking of a sample of twenty one unit trust funds in Malaysia from three management companies for the period January 1984 to December 1993. Thirteen of those funds are bumiputra funds while the remaining eight funds are public funds. It also includes an investigation into the consistency of performance of the funds over time, the degree of risk diversification, the stability of the funds' systematic risk over time, adherence of funds to their stated objectives and ability of funds managers to predict security prices. The impact of fund characteristics such as age, size, portfolio turnover and expense ratio on investment performance and systematic risk were also investigated.

The findings revealed that the funds as a whole performed worse than the market portfolio. Their performance were quite consistent and their market risks were stable over time. They also hold quite well diversified portfolios. Generally the funds did not adhere very well to their stated objectives and all the fund managers could not forecast security prices and failed to outperform the naive "buy and hold" strategy. The research also revealed that the fund characteristic, expense

ratio have a negative correlation with the investment performance with the larger funds and funds that practice active trading being more risky. The older funds however were more risk averse.

In Tan (1994), he used rate of return for KLSE Composite Index as a benchmark for market rate of return, R_m . Some funds invested in stocks excluded from the KLSE Composite Index stock, Second board stock and long term bond. Hence, using KLSE Composite Index as market rate of return may not be appropriate for comparing the performance of unit trust funds. Due to this limitation, I have used the KLSE Emas Index which includes all the stocks in Malaysia as a benchmark. I don't use Second board Index as a benchmark because most of the funds do not invest in the Second board stocks.

In Tan (1994), he uses a combination of government unit trust and private unit trust to determine compare the overall fund's performance. He realized that it would be inappropriate to draw any general conclusions on the performance of the unit trust industry as a whole since the performance of the funds could be considerably influenced by the management companies' policies especially those of the bumiputra funds. For example, some share allocation privileges such as new shares issued are given to government trust funds. Thus these funds would not reflect the true performance of the unit trust funds industry. Therefore, my research only concentrates on the Malaysian private unit trust funds only.