CHAPTER 3

RESEARCH METHODOLOGY

3.3 Theoretical framework

In Malaysia, unit trust management companies have different front-end load structure for different types of funds. Therefore analysis which take front-end load into consideration will generate a different result. This study will focus on the impact of loads on the returns of unit trust funds in Malaysia. The ranking of funds for this study would be different from the previous studies as well as those published by Mircopal, Lipper or Normandy. Micropal uses the bid price to calculate the returns while Lipper uses the NAV price to calculate the returns. This paper will determine whether actively managed unit trust funds in Malaysia are able to out performed the benchmark KLCI after deducting service fees. Most importantly this study will determine whether an average investor is able to derive the benefit of the equity market by investing in unit trust or it would be better for investor to hold market portfolio.

Even though the ranking of funds under this study will differ from previous studies, some of the good and quality funds' actual returns will still out-perform the benchmark KLCI. However, the number of funds out performing the benchmark will be reduced. The front-end load is a one off fee, however the impact will be very great if investors invest for longer term. The compounding effects on the forgone opportunities costs which has been paid as the front-end load will be greater if investor increase the investment period. The front-end and back-end load, plus the compounding effects would be the "Effective Cost of Investing" (ECI) for an investor. The calculation on the quantum for ECI is achieved by finding the difference between NAV Returns and Actual Returns. Hence the actual returns an investor received will be lower than the published returns.

Besides that this study also is aim to determine whether the age of a fund is an important factor that would influence the performance of the fund. Fund launches recently should be able to perform better than the older funds, as they need not have to carry the stock with higher cost which they bought in 1996 or 1997. Therefore, the newly launched funds should have a better year on year (yoy) performance as compared to their peers.

Lastly, this study intends to find out whether good performance repeats year after year or it occurs randomly by chance. As of to date, there is no conclusive study done overseas on long-term performance persistence. Therefore it is difficult to indicate whether investors will or will not benefit from chasing after the best performing fund. However, studies had shown that for shorter term, there are some predictability in the past performance. In Malaysia, the short-term result should not be far from that found overseas.

3.4 Hypothesis

Hypothesis 1:

The main objective of this study is to determine the quantum of the costs of investing and the impact of these costs on the performance of unit trust funds in Malaysia.

Null Hypothesis, H_0:

The difference between NAV returns and actual returns will be equal to the loads of the fund.

Alternative Hypothesis, H_1:

The difference between NAV returns and actual returns will not be equal to the loads of the fund.

Hypothesis 2:

For this subsection, this study is aimed to determine whether the effective cost of investing will increase as the investing period increase. If alternative hypothesis is true, then investor should choose funds with smaller or no front-end load to invest.

Null Hypothesis, H_0:

The effective cost of investing will remain the same for different investing periods.

Alternative Hypothesis, H_1:

The effective cost of investing will not remain the same for different investing periods.

Hypothesis 3:

This hypothesis is to determine whether newly launched funds are able to perform better than middle aged or seasoned funds.

Null Hypothesis, H_0:

Return for newly launched funds will be the same as middle aged or seasoned funds returns

Alternative Hypothesis, H_1:

Return for newly launched funds will not be the same as middle aged or seasoned funds returns.

Hypothesis 4:

The last objective of this study is to evaluate whether superior performance repeats year after year due to superior forecasting ability of the fund manager or purely by luck (randomly happened). Superior performance is defined as achieving better return than KLCI or market adjusted return.

Null Hypothesis, H_0:

Superior returns will not repeat.

Alternative Hypothesis, H_1:

Superior returns will repeat.

1.5.1 Types and Sources of Data

The research will be via compilation of data as of Table 1.

Table 1: Data Compilation Source

	Types of data	Sources	Reliability
1.	Selling, buying and net asset value of all the private managed unit trust funds	Year end published price in local newspaper	Moderately reliable
2.	Kuala Lumpur Composite Index	Bloomberg	Very reliable
3.	Emas Index	Bloomberg	Very reliable
4.	Distribution information on dividend declared and unit split	Prospectuses	Very reliable
5.	Objective of fund	Prospectuses	Very reliable
6.	Age of the funds	Prospectuses	Very reliable
7.	Category of funds	Lipper Performance Table	Very reliable

3.5 Sample Design

Population : All Manage open ended unit trust funds with at least 1 year of operations

Sample : All published fund prices

Duration : 1 January 1991 to 31 December 2000

3.6 Rate of Return

This study attempts to analyse the Actual Returns an investor can obtain from investing in unit trusts and to find out how misleading are returns published by the media. The returns published by the media are "NAV Return" and not "Actual Return" received by the investing public received. As for this study both NAV return as well as actual return will be calculated and compared over the sample of funds selected. For both NAV and actual returns, bonus and dividend issued will be adjusted base on forward adjustment in order to fully reflect the performance of the funds.

3.6.1 NAV Return

NAV return will be based on monthly closing bid (buying) price.

$$R_t = [\ (1 + D_t/B_{xt})\ (B_{t+1}/\ B_t)\ -1]*100$$

Where

R_t = NAV return for the period

B_{t+1} = manager bid price of unit trust at period t+1(when investor redeem)

B_t = manager bid price of unit trust at period t (when investor purchase)

B_{xt}= ex-dividend manager bid price

D_t = gross dividend paid in period t

For example:

	NAV	Manager buy price(RM)	Manager sell price(RM)
Date of purchase	0.95	0.95	1.00
Date of redeeming	1.20	1.20	1.26
Ex - Dividend	1.00	1.00	1.05

Net dividend declared during the period = 10 sen per unit

$$R_t = [\ (1 + D_t/B_{xt})\ (B_{t+1}/\ B_t)\ -1]x100$$

R_t = [(1+ 0.1/1.00) (1.20/0.95) −1] x100

= 38.55%

3.6.2 Actual Return-

$$AR_t = [(1 + D_t/B_{xt})(B_{t+1}/B_{t+1}) - 1]x100$$

Where

AR_t = Actual return for the period

S_{t1} = manager selling price of unit trust at period t1

B_{t+1} = manager bid price of unit trust at period t+1

B_{xt} = ex-dividend manager bid price

D_t = gross dividend paid in period t

t+1 = date of redemption

t1 = date if purchase

For Example:

	NAV	Manager buy price(RM)	Manager sell price(RM)
Date of purchase	0.95	0.95	1.00
Date of redeeming	1.20	1.20	1.26
Ex - Dividend	1.00	1.00	1.05

Net Dividend declared during the period = 10 sen per unit

$$AR_t = [(1 + D_t/B_{xt})(B_{t+1}/S_t) - 1]x100$$

AR_t = [(1+ 0.1/1.00)(1.20 /1.00)-1]x100

= 32%

3.6.3 Effective Cost of Investing (ECI)

ECI = Nav return – Actual return

= 38.55% - 32%

= 6.55%

3.6.4 Fund Age

Funds will be grouped into three respective age categories:

- Young fund : Less than 2 years old
- Middle Aged fund: More than 2 years and less than 5 years

- Seasoned fund : More than 5 years

Data collected for the past 10 years, will be grouped into their respective age group. In order to avoid the effects of market performance, market adjusted return is used.

Market adjusted return = Actual (NAV) Return – KLCI Return

3.6.5 Persistence Performance Analysis

This study aim to analyses the predictive ability of past performance in 2 manners:

- Short-term predictability
  - Under the short-term predictability analysis, performance of a fund in a particular year is supposed to predict the fund's performance for the following year. For example, the top 10 performing funds in 1991, is supposed to be the top 10 performing funds for year 1992 and so forth.
  - The analysis use Actual Returns.
- Medium-term predictability
  - The medium-term predictability analysis will use 3 years annualized returns to predict the following years returns for subsequent years. For example, the top 10 performing funds for the past 3 years is supposed to be the top 10 performing funds for the subsequent years.
  - The analysis use Actual Returns.

3.7 Market Proxy

Most of the funds under this study are equity funds. It is impossible to have an accurate market return based on the combination of asset classes the funds invest in. As such we will resolve to use a widely used index, Kuala Lumpur Composite Index (KLCI) and EMAS (Exchange Malaysia All Shares). The reason, for choosing KLCI is because most of the equity funds use KLCI

as proxy. EMAS is used as a secondary index because not 100% of the funds is invested in the 100 composite index link counters. Although both indices will not be an accurate proxy of the market, it is nevertheless the closest proxy we can obtain.

Market rate of return is calculated as follows:

$$R_m = \frac{(CI_{t+1} - CI_t)}{CI_t} \times 100$$

Where

R_m = market rate of return

CI_t = KLCI in period t (when investor purchase)

CI_{t+1} = KLCI in period t+1 (when investor redeem)

Broad base market rate of return is calculated as follows:

$$R_{bm} = \frac{(E_{t+1} - E_t)}{E_t} \times 100$$

R_{bm} = Broad base market rate of return

E_t = EMAS in period t (when investor purhase)

E_{t+1} = EMAS in period t+1 (when investor redeem)