CHAPTER 2

BACKGROUND INFORMATION AND LITERATURE REVIEW

2.1 The History of Kuala Lumpur Stock Exchange

The history of Kuala Lumpur Stock Exchange (KLSE) can be traced to the 1930s. The Singapore Stockbrokers' Association was formed in 1930 and it was the first formal organization dealing with securities business in Malaysia. In 1937, it was registered again under the name of Malayan Stockbrokers' Association and the Malayan Stock Exchange was formed. Shares trading involving the public only began on 9 May 1960.

However, the board system was only introduced in 1961. At that time, there were only two trading rooms in Singapore and Kuala Lumpur. Several telephone lines were directly linked to both rooms operating for a single market. Both the rooms have boards that listed down the stocks and shares at a single set of prices.

Singapore seceded from Malaysia in 1965 but the stock exchange still continued to serve both the countries. Since then, it was known as the Stock Exchange of Malaysia and Singapore (SEMS). Later, SEMS was separated into The Kuala Lumpur Stock Exchange Berhad (KLSEB) and The Stock of Singapore (SES) since the currency interchangeability arrangement was terminated in 1973. Thus, a strong link existed between KLSEB and SES, which at that time Malaysian

incorporated companies were also listed and traded through SES, and vice-versa for Singapore incorporated companies.

The operations of KLSEB were later taken over by The Kuala Lumpur Stock Exchange (KLSE). It provides a central market place for buyers and sellers to transact business in shares, bonds and various other securities of Malaysian listed companies. In 1990, Malaysia removed the listed Singapore incorporated companies from the KLSE and vice-versa for Malaysian companies listed on the SES. A stock exchange with true Malaysian identity existed with this move.

The Kuala Lumpur Stock Exchange (KLSE) is a self-regulatory organization. Conduct of its members and member stockbroking companies in securities dealings is governed by the organization. The organization enforces the listing requirements and disclosure standards to be maintained by public listed companies. Besides that, it is also responsible for the surveillance of the market place. The organization promotes fair and open price formations to maintain investors' confidence. Not only that, it also provides protection for investors. The organization ensures prompt and reliable information disclosure and dissemination.

Companies that fulfil the listing requirements and disclosure standards will be listed either on the Main Board or the Second Board of the KLSE. They are classified into several sectors depending on the core businesses of the companies. The organization is moving towards an implementation of a disclosure-based system in order to inculcate higher standards of disclosure and accountability by listed

companies. Its aim is to improve the transparency of public listed companies and ensure better protection for small investors.

In 1992, the trading on the KLSE was fully computerized with the implementation of the System on Computerized Order Routing and Execution (SCORE) automated trading system. SCORE eliminated the need for a trading floor at the Exchange's premises. The Exchange's 64 member stockbroking companies located all over Malaysia are equipped with the enhanced broker front-end system, WinSCORE. The real-time market information dissemination as well as order and trade routing and confirmation are provided to each dealer that operates from an integrated terminal. The stockbroking companies have better credit control and risk exposure management using WinSCORE.

The Central Depository System (CDS) was implemented in 1993. It replaced the old practice of holding and moving physical scrip of quoted shares. This automatic clearing and settlement system of the market is a safe and dependable computerized book entry system. The capital market has a fast pace of developments. Hence, the regulatory framework for the organization is continuously being reviewed. Moreover, it continually formulates and implements initiatives to provide a better investment environment.

In 1994, The Kuala Lumpur Stock Exchange was changed to Kuala Lumpur Stock Exchange without having a prefix at the front. The share application forms for

new public issues were made available in the newspapers and this has increased the accessibility of new shares to the public.

In 1995, trading in smaller lots of 200 units was introduced to attract the smaller investors to invest in higher price securities. Kuala Lumpur Options and Financial Futures Exchange (KLOFFE) began its trading on stock index futures, which is based on the KLSE Composite Index. KLOFFE started its first trading on 15 December 1995.

The Research Institute of Investment Analysts Malaysia (RIIAM) was established in 1985. RIIAM educate investors through various courses and seminars, in order to achieve a higher investment research standard in Malaysia. A subsidiary of the KLSE, Securities Clearing Automated Network Services Sdn. Bhd. (SCANS) acts as the central clearing house. It also provides the related services in information technology regarding the trading system. The Malaysian Exchange of Securities Dealing and Automated Quotation (MESDAQ) was launched on 6 October 1997, and it acts as a stock exchange specialising in growth and technology companies. SCANS was appointed as the clearing house and held another additional role as the network and facilities manager for MESDAQ.

Companies in the KLSE were grouped into different sectors to reflect their main business activities. The sectors are Finance, Industrial Products, Properties, Consumer Products, Trading / Services, Plantation, Construction, Mining, Hotels and Infrastructure. The Industrial sector was sub-divided into Consumer Products,

Industrial Products, Trading / Services and Construction in 1993. All the shares are listed on the Main Board and Second Board of the KLSE. A listing of companies with sound financial background of at least a paid-up capital of RM20 million are listed on the Main Board. It was later revised to a minimum of RM50 million as of 1 April 1997. The firms listed on the Second Board are smaller in terms of paid-up capital with a minimum of RM10 million but less than RM50 million.

The number of listed companies at KLSE changes from year to year. Table 2.1 shows the number of listed companies for each year from 1973 to 2000. From 1973 to 1988, the counters were listed on the Main Board of KLSE only and the number of listed companies was less than 300. Since 1989, the number of counters exceeded 300 with the introduction of the Second Board of KLSE. The total number of counters increased to 795 by November 2000.

Table 2.2 presents the turnover in units and also the turnover in Ringgit Malaysia (RM) of all the stocks listed on the Main Board and Second Board of KLSE. As at November 2000, the turnover of the Main Board is 66,326 million units valued at RM211,806 million. The total market capitalization of the exchange stood at RM444.35 billion.

2.2 Stock Market Index

A stock market index is a term that we use for the measure of the average price indicating the state of a market. It also reflects the current expectation of the future

Table 2.1 Total Number of Listed Companies at KLSE

Year	**2000**	**1999**	**1998**	**1997**
Main Board	497	474	454	444
Second Board	298	283	282	264
Total	795	757	736	708
Year	**1996**	**1995**	**1994**	**1993**
Main Board	413	369	347	329
Second Board	208	160	131	84
Total	621	529	478	413
Year	**1992**	**1991**	**1990**	**1989**
Main Board	317	292	271	305
Second Board	52	32	14	2
Total	369	324	285	307
Year	**1988**	**1987**	**1986**	**1985**
Main Board	295	291	288	284
Second Board	-	-	-	-
Total	295	291	288	284
Year	**1984**	**1983**	**1982**	**1981**
Main Board	282	271	261	253
Second Board	-	-	-	-
Total	282	271	261	253
Year	**1980**	**1979**	**1978**	**1977**
Main Board	250	253	253	256
Second Board	-	-	-	-
Total	250	253	253	256
Year	**1976**	**1975**	**1974**	**1973**
Main Board	264	268	264	262
Second Board	-	-	-	-
Total	264	268	264	262

Source: Monthly Statistical Bulletin, Bank Negara Malaysia

Table 2.2 Turnover for the Main Board and Second Board and Market Capitalization of KLSE

Year	Main Board		Second Board		Total Market Capitalization (RM billion)
	Turnover (million units)	Turnover (RM million)	Turnover (million units)	Turnover (RM million)	
1990	13,061	29,303	77	218	131.66
1991	12,068	29,249	280	848	161.39
1992	18,559	49,187	706	2,282	245.82
1993	105,011	372,634	2,745	14,642	619.64
1994	58,747	318,251	1,398	9,806	508.85
1995	30,862	157,908	3,078	20,877	565.63
1996	47,351	278,138	19,039	185,061	806.77
1997	62,278	299,596	10,497	108,958	375.80
1998	52,061	100,610	6,226	14,571	374.52
1999	79,981	171,501	5,176	13,749	552.69
2000*	66,326	211,806	9,083	32,248	444.35

Source: Monthly Statistical Bulletin, Bank Negara Malaysia

*As at November 2000

outlook. Investors and stock market observers normally discuss about the state of a market in terms of index, especially fund managers.

The stock market index can be affected by the regime switch of government policies. Any policy shifts can lead to changes in the trend of the movement of stock

market. Therefore, the stock market index is sensitive and responsive to economic and political conditions. An ideal stock market index should have inherent consistency and flexibility and also will respond to policy shifts, but not being overly sensitive. The stock market index should be well formulated and reliable.

Either sample of shares or all the shares listed is being used in formulating the stock market index by comparing the current prices with the prices at an earlier date chosen as the base year. There are several important factors that should be taken into consideration before constructing a stock market index. One of the main factors is the number of companies that should be included in the index. Besides that, the base period of the index also plays an important role.

The stock market index usually is constructed either by the stock exchange or security research house. The accuracy of an index in representing the actual state of the stock market will increase with the number of companies that are used to construct the index. The latter is usually restricted by the availability of the past data. In addition, the age of the stock exchange will also be a restriction in constructing an index.

The index is being used by investors and fund managers in planning a medium-term portfolio or long-term investment, mainly to analyze the systematic risk. Investors use the index to examine the total returns for an aggregate market. Hence, the returns are being used as benchmark to predict the performance of a portfolio.

Investors and fund managers also use the stock market index as a proxy in examining the influencing factors of the aggregate price movements. The index will help the investors and fund managers in developing their index portfolios. Investors should invest in a portfolio that has better return than a market portfolio.

The performance of the whole stock market on a particular day is reflected through changes in the stock market indices. The KLSE Composite Index (CI) is a measurement of the average price level based on a number of stocks that are selected. A good market index should include representative companies to reflect changes in the stock market. The KLSE CI is most widely used as the market barometer.

As at year 2002, there are 100 stocks listed on the Main Board being used to calculate the CI. These particular stocks include companies with large, medium and small paid-up capitals. The sample selected for computation of the CI is constantly reviewed by a sub-committee of the KLSE, which is known as the KLSE Index Sub-Committee.

Refer to Table 2.3, the sector of Trading / Services has the highest number of representative stocks in the Composite Index which is 25 companies. The Composite Index included 19 stocks from the sector of Industrial Products, followed by 14 stocks from the Finance sector, 13 stocks from the Properties sector and 12 stocks from the Consumer Products sector. The selected stocks from the other sectors are smaller in number.

The stocks are selected based on the criteria that the shares must be actively traded. It must not have a non-trading for more than 3 consecutive months. Besides that, to avoid the bias of double counting, the subsidiary companies to the CI component companies will not be selected.

Table 2.3 The Number of Stocks in Each Sector Included in the Composition of the KLSE Composite Index

Sector	**Number**	**Percent**
Trading / Services	25	25
Industrial Products	19	19
Finance	14	14
Properties	13	13
Consumer Products	12	12
Plantations	6	6
Constructions	6	6
Minings	2	2
Hotels	2	2
Infrastructure	1	1
TOTAL	100	100

Source: Monthly Statistical Bulletin, Bank Negara Malaysia

The price of the individual stock that is selected is multiplied with the number of listed shares. This gives the current market value of the share. This current market

value determines the relative importance of the stock in comparison with the other stocks in the index. The combination of the market value for the individual stocks comprising the index will give the current aggregate market value.

The current aggregate market value is expressed as a proportion of the base aggregate market value and multiplied by 100. The base aggregate market value is computed using information for 1977. The truncated mean of the inter-quartile range of the closing prices in 1977 is used in the calculation at the base period. The reason of using the inter-quartile range is to eliminate extreme price fluctuations. The calculation of the index is given by:

$$I_c = \frac{100\sum P_{ci}Q_{ci}}{\sum P_{bi}Q_{bi}} \qquad (2.1)$$

where P_{bi} is the price of stock i in the base period,

P_{ci} is the price of stock i in the current period,

Q_{bi} is the number of shares for stock i in the base period, and

Q_{ci} is the number of shares for stock i in the current period.

2.3 Literature Review

Fund managers, stock pickers and market timers have certain security selection skills and market timing skills. The changes in the composition of stocks in a portfolio will give an impact on the fund's systematic risk. Therefore, selection skills and market timing skills play an important role in examining the aggregate price movements and helps to develop an index portfolio. The portfolio should have better returns than market portfolio.

Fund managers use the logic of the analysis to establish a relationship between the risk of a fund and market timing ability. Many researches have used the quadratic market model and the 'dual-beta' market model to examine market timing performance. Generally, studies have attempted to accommodate this non-linearity and identified changes in the systematic risk.

Risk is the uncertainty in rates of return on an investment due to fluctuations in market price. The cause of uncertainty refers largely to financial risk. If the profitability of a firm increases, uncertainty about its ability to pay decreases. The concept of a relationship between risk and expected rate of return has become widely accepted. This is evident from the studies of Black, Jensen and Scholes (1972), Blume and Friend (1973), Fama and Macbeth (1973), and Blume and Friend (1974).

The risk level of a portfolio changes as the result of the decisions of the fund manager or the investors to change the composition of the portfolio. Therefore, the relationship between the portfolio returns and market returns can be non-linear. Due to this reason, different studies begin to accommodate the non-linearity and identify changes in the systematic risk of stocks and market returns.

Treynor and Mazuy (1966) are among the pioneer researchers working on market timing. They used the quadratic regression technique for their studies to identify changes in the systematic risk. Their study shows that there is a relationship between systematic risk and market timing ability. They identified that active market

timing by the investors or fund managers would induce a non-stationary systematic risk. This non-linearity can be captured by including a quadratic term in the regression equation and it is being used to estimate Jensen's Alpha (Jensen, 1968). Given that the findings are positive, market timing includes a curvature in the characteristic line.

Treynor and Mazuy's (1966) model lies in its simplicity. The value of alpha in their model identifies security selection skills and the coefficient on the quadratic term or the value of beta measures market timing ability. They used a sample of 57 mutual funds to test the significance of the quadratic term in the regression and it was found that one of the funds displayed significant timing ability.

Besides that, Admati, Bhattacharya, Pfleiderer, and Ross (1986) studied the timing and selectivity by using the same quadratic regression technique for identifying changes in systematic risks. Chen and Stokum (1985) refined Treynor and Mazuy's (1966) quadratic regression approach and incorporated time-varying betas in their study of fund managers' macro-forecasting skills. They used a generalised model to study selectivity, market timing and random behaviour on mutual funds. Ferson and Schadt (1996) refined Treynor and Mazuy's (1966) regression technique to measure fund strategy and performance by conditioning on publicly available information.

An alternative definition of market timing ability is invoked by Henriksson and Merton (1981). This is referred to as the 'dual-beta' specification. They used

statistical procedures to evaluate forecasting skills. Both the quadratic regression technique and the 'dual-beta' model are used in their study on market timing and investment performance. The two approaches show the same results. Besides that, Jagannathan and Korajczyk (1986) also applied the 'dual-beta' specification model in assessing the market timing performance and identifying changes in the systematic risk of managed portfolios. Sinclair (1990) applied the 'dual-beta' technique in a study of superannuation funds. Another study on UK unit trusts by Fletcher (1995) also applied the technique of 'dual-beta' specification to examine the selectivity and market timing performance. An alternative performance measure technique that was developed by Grinblatt and Titman (1989) requires information about portfolio holdings rather than portfolio returns. Due to the difficulty in obtaining data on portfolio holdings, this approach has not been widely adopted.

A number of studies reported a negative market timing skills and a negative relationship between selectivity and timing and this is an interesting feature of the literature. These studies show that the security selection skills and the market timing ability are negatively correlated, or in other words, the relationship between portfolio returns and market returns is negative. For example, the study of the market timing performance of mutual fund managers by Kon (1983) reported negative market timing skills. Subsequent studies including Chang and Lewellen (1984) on the market timing and mutual fund investment performance; Henriksson (1984) in an empirical investigation on the market timing and investment performance; Lehmann and Modest (1987) on comparing the benchmarks of mutual fund performance evaluation; Grinblatt and Titman (1989) on evaluation of portfolio performance;

Cumby and Glen (1990) on evaluation of the performance of international mutual funds; Connor and Korajcyzk (1991) on the attributes, behaviour and performance of US mutual funds; and Coggin and Hunter (1993) on the mutual fund performance using meta-analysis reported a negative relationship between selectivity and timing, or negative market timing skills. However, in an empirical examination conducted by Lee and Rahman (1990), it was found that 28 of the 93 funds in their sample exhibited significantly positive timing ability. When the regression estimates were adjusted for heteroscedasticity, the figure reduced to 16 funds.

Fletcher (1995) conducted a study on a sample of UK unit trusts over the ten-year period 1980-1989 on selectivity and market timing performance. He applied two different empirical specifications to assess market timing performance. First, following the work of Chen and Stockum (1985), Fletcher used a quadratic market model. Second, the 'dual-beta' market model was applied following the work of Henriksson and Merton (1981). In his studies, he found that the funds generally tend to show evidence of negative market timing performance. But, it seems to be offset by superior security selection ability. Sinclair (1990) also applied the 'dual-beta' market model in a study of superannuation funds and the results also exhibit 'perverse' market timing performance. Fletcher (1995) observed the consistency of the trade-off between selectivity and market timing with the existing US evidence as shown by the studies of Henriksson (1984), Connor and Korajcyzk (1991), and Coggin and Hunter (1993). An explanation of this phenomenon is yet to be found and Fletcher discussed the possible reasons for the trade-off between selectivity and timing.

Bello and Janjigian (1997) conducted a study by taking account of the inclusion of non-S&P 500 stocks in mutual fund portfolios. They extended Treynor and Mazuy's (1966) model to incorporate two additional indices. The study took a data set of 633 funds and categorised them into a few categories. Based on their investment objectives, they classified the funds as aggressive, small company, growth, equity-income or balanced category. Bello and Janjigian (1997) used the quadratic regression technique and extended the model for their studies to identify changes in the systematic risk. They found that only the categories of growth and equity-income indicate superior selectivity using the model without extension. However, using the extended model, all the categories indicate superior selectivity. Looking at the timing ability, the former model shows that the aggressive, small company, growth and equity-income categories have significant negative timing. The extended model found evidence of negative timing for the equity-income and balanced categories, and evidence of positive timing for the aggressive, small company and growth categories. An interesting finding is that timing skills and selectivity skills are negatively correlated.

Ferson and Schadt (1996) studied the measurement of fund strategy and performance by conditioning on selected public information variables and found evidence that indicates fund managers possess perverse market timing ability. On the other hand, Kothari and Warner (2001) suggested the idea of that the commonly used models are misspecified. The misspecification in measuring market timing ability may explain the reported results.

Sinclair (1990) provided the Australian evidence on the market timing issue. He used a sample data of 16 pooled superannuation funds over the seven-year period 1981-1987. In his study, he combined two empirical strategies for investigating the market timing ability. First, the Quandt's (1958, 1960) and Brown, Durbin and Evans's (1975) techniques were applied to identify shifts in the fund risk. Second, the Henriksson and Merton's (1981) 'dual-beta' market model was applied. Sinclair found that the Australian funds tend to exhibit perverse market timing performance. However, this seems to be typically offset by superior security selection ability.

Other studies on the case of Australia include Bird, Chin and McCrae (1983), and Robson (1986). The few surveys conducted by Lakonishok, Shleifer and Vishny (1992), Ippolito (1993), and Shukla and Trzcinka (1994) document the renewed interest in portfolio performance and provide an overview of the themes which have emerged in the literature of Hallahan and Faff (1999). One of the important areas is the identification of market timing ability on the part of fund managers.

Hallahan and Faff (1999) examined the market timing ability of a segment of the Australia investment fund industry, namely, the Australian equity trusts. Their study therefore extends the market timing literature by examining data from an alternative major capital market, using a more extensive Australian data set than has been previously published. Their study involves the sample period of 1988-1997. Their idea of study on the Australian equity trusts follows the work of Clare, Priestly and Thomas (1998) in the finance literature. They also based their investigation on

the arguments of Leamer (1983), and Lo and Mackinlay (1990) who questioned the appropriateness of continued testing of an hypothesis using data from which the hypothesis was developed originally. They used an approach that involves running both quadratic excess returns market model and 'dual-beta' excess returns market model. In addition, some specification tests suggested by Jagannathan and Korajczyk (1986) were also applied. They found that there is little evidence of market timing ability for the sample over the period examined. Further, there is no clear dominance of one market timing model over the other. However, the cubic market model specification fitted the data quite well for nearly one third of the sample data that show evidence of market timing ability.