

## **CHAPTER 1**

### **OVERVIEW**

#### **1.1 Prospects of the Malaysian Economy**

The Malaysian economy has recorded a rapid growth rate in recent years with an average annual growth rate in Gross Domestic Product (GDP) of over 8 per cent during the period 1988-95. The economy is likely to remain buoyant and growth prospects over the medium-to long-term period are likely to be good, with growth rate targeted at about 7 per cent per annum over the period of the Second Outline Perspective Plan (OPP2), that is, 1991-2000.

#### **1.2 Recent Development of the Kuala Lumpur Stock Exchange**

The rapid economic growth and development saw a significant impact in the securities industry in recent years. In 1988, the Minister of Finance amended the rules of the Kuala Lumpur Stock Exchange (KLSE) to appoint a full-time Executive Chairman aimed at creating greater confidence in the industry by

strengthening the management of the KLSE.

A Second Board was launched by the KLSE on 11 November 1988 to allow smaller companies with good growth potential to raise fund from the capital market. The listing requirement of Second Board companies is less stringent compared to the Main Board. Since its inception, the Second Board has grown rapidly with the number of listed companies increasing from 2 in 1989 to 14 in 1990 before rising sharply to 32 and 52 at the close of 1991 and 1992, respectively. The number has since further grown to 131 and 160 as at end of 1994 and 1995, respectively. Accordingly, market capitalisation of the Second Board has increased tremendously from RM115.7 million in 1989 to RM22.7 billion in 1995.

System on Computerised Order Routing and Execution (SCORE) was implemented in stages from May 1989. It started as a semi-automated system and trading of all counters listed on the KLSE was fully automated since 30 November 1992. The implementation was aimed at reducing human intervention and thus improving the trading system. This electronic system can now transact hefty volumes as well as improve the speed of transaction.

To accommodate the listing of property trusts, listing requirements were amended. First Malaysia Property Trust was the first company to be listed on 28 September 1989. Two other companies, Amanah Harta Tanah PNB and Arab-Malaysian First Property Trust are also now listed on the KLSE.

To reduce market vulnerability to developments in Singapore and to become a totally independent stock exchange, all Malaysian incorporated companies were delisted from the Stock Exchange of Singapore. At the same time, all Singapore companies were removed from the KLSE. The split took place on 2 January 1990.

On the same date, another milestone was marked with the implementation of the "daily netting" system. Besides netting the stock transaction, the system also helps reduce the physical delivery of shares between broking firms and Securities Clearing Automated Network Services Sdn Bhd (SCANS). Another step has been taken by the KLSE when the Fixed Delivery and Settlement System was launched on 12 February 1990. This was aimed at improving the system of scrip movement so that broking houses can handle their cash flows in a much more efficient way.

To further enhance settlement and custodial arrangements, the

Central Depository System (CDS) was introduced. For this purpose, Malaysian Central Depository Sdn Bhd (MCD) was set up in April 1990, as a subsidiary company of the KLSE. Prescription of physical scrips under the CDS is being done in stages. As at end 1995, all 160 Second Board companies were successfully absorbed under the CDS.

With the establishment of Sarawak Securities Sdn Bhd and Innosabah Securities Sdn Bhd, the Malaysian securities industry moved a step further with the expansion of share trading to East Malaysia. These two broking houses were set up in March and June 1992 respectively. To allow greater accessibility to investors from other different time zones, the KLSE extended its trading hours by 90 minutes with effect from 22 July 1992.

In a further move to improve financial strength, inject expertise and professionalism and generate greater interest in the KLSE, the Minister of Finance amended the rules for trading by Member Companies in January 1993 in that only Member Companies with paid-up capital, unimpaired by losses, of not less than RM20 million are permitted to extend credit facilities to their clients.

The establishment of the Securities Commission saw Malaysian



securities market leading into a new era of financial maturity. The Securities Commission, which started its operation in March 1993, is responsible for both the equities and futures markets, absorbs the functions of the Capital Issues Committee and the Panel on Takeovers and Mergers and assumes certain functions of other bodies. It acts as a one-stop agency to stream-line applications of various authorities.

In line with the development and the progress of the Second Board companies, listing requirements were amended in November 1994 to facilitate the transition of Second Board companies to the Main Board. The robustness of the capital market is further enhanced when call warrants, a derivative product, was launched in December 1994 by the KLSE. The Malayan Banking Bhd's call warrant was the first counter traded under the Call Warrants Board of the KLSE on 7 June 1995.

Lately, there is a rising international recognition of the local stock market. This was evidenced by the inclusion of Malaysian companies in the popularly followed Morgan Stanley Index and Dow Jones World Stock Index for the very first time in 1993. As at end 1995, The International Federation of Stock Exchanges (FIBV) reported that KLSE ranked top in ASEAN and fifth in

the Asia-Pacific region, in terms of market capitalisation.

### **1.3 Performance of the Kuala Lumpur Stock Exchange**

Over the past six years, the KLSE Composite Index (CI) surged from 357.38 in 1988 to 971.21 in 1993 (see Table 1.1). This was felt to be spurred mainly by strong economic growth prospects and stable prices. Low interest rates and continuing liberalisation efforts in the financial system also spurred the stock price increase. However, the performance of the stock market in 1994 and 1995 was disappointing. The weak sentiment was believed in part to be due to the Bank Negara's measures to mop up excess liquidity in the financial system, in an effort to curb rising inflationary pressure and to stabilize the money market. Reflecting the bearish mood, the CI ended the year 1994 23.85 per cent lower than the previous year. It, however, staged a slight recovery of 2.47 per cent in 1995.

As compared to the performance of the overseas bourses during the period 1988-95 (Table 1.1), the KLSE outperformed the major foreign stock exchanges. It grew at 15.75 per cent per annum during the period compared with 13.05 per cent for the Dow Jones Industrial Average Index (DJ), 9.67 per cent for the Singapore

Table 1.1  
Performance of Major Stock Exchanges Compared to KLSE

	CI	% Change	DJ	% Change	NIKKEI	% Change	SES	% Change
1988	357.38		2,168.57		30,159.00		291.03	
1989	562.28	61.86	2,753.20	26.96	38,915.87	29.04	388.24	33.40
1990	505.92	-10.02	2,633.66	-4.34	23,848.71	-38.72	321.60	-17.16
1991	556.22	9.94	3,168.83	20.32	22,983.77	-3.63	404.50	25.78
1992	643.96	15.77	3,301.11	4.17	16,924.95	-26.36	394.63	-2.44
1993	1,275.32	98.04	3,754.09	13.72	17,417.24	2.91	628.66	59.30
1994	971.21	-23.85	3,834.44	2.14	19,723.06	13.24	533.57	-15.13
1995	995.17	2.47	5,117.12	33.45	19,868.15	0.74	555.39	4.09
Annual Growth Rate		15.75		13.05		-5.79		9.67

Source: KLSE

All-share Index (SES), and -5.79 per cent for the Nikkei 225.

The surge in index readings and large number of new issues during the period has boosted the market capitalisation of the KLSE significantly. It jumped from only RM98.7 billion in 1988 to RM161.4 billion in 1991 (Table 1.2). The split between the KLSE and SES at the beginning of 1990 did not seem to lead to any significant drop in the KLSE in terms of market capitalisation. At the end of 1992, the size grew substantially by 52.84 per cent to RM245.8 billion, making it among the larger stock markets in the Asia region. With the continued bull run in the KLSE, the market capitalisation shot up to RM619.6 billion in 1993 before settling down at RM508.9 billion and RM565.6 billion in 1994 and 1995, respectively.

In line with the bullish sentiment on the local bourse, total transactions rose sharply by 55.7 percent and 71.1 percent respectively, in 1992, in terms of volume and value. The bull run was unabated in 1993 and the total turnover grew substantially to 107.7 billion units amounting to RM387.2 billion. In 1995, however, the turnover was affected by the poor market sentiment; both volume and value fell more than 40 per cent to 34.0 billion shares and RM178.9 billion, respectively, as compared to 1994.

Table 1.2  
Market Capitalisation, Volume and Value  
of the KLSE: 1988-1995

Year	Market Capitalisation (RM billion)	Volume (Billion units)	Value (RM billion)
1988	98.7	4.0	6.8
1989	156.1	10.2	18.5
1990	131.7	13.2	29.5
1991	161.4	12.4	30.1
1992	245.8	19.3	51.5
1993	619.6	107.7	387.2
1994	508.9	60.1	328.1
1995	565.6	34.0	178.9

Source: KLSE

With such an impressive performance in the recent period, it is therefore of great interest and importance to understand the stock behaviour of the KLSE. With Malaysia continuing to pursue an aggressive industrialisation programme, it is essential that local and foreign capital be mobilised to fund investment and such capital be effectively channelled into the most productive use in the economy.

#### **1.4 Literature Review**

Studies on stock market volatility have been well documented in the US market. In the late 20th century, studies on this subject have also been carried out in many Pacific-Basin capital markets such as Taiwan, Thailand, Singapore, Malaysia, Hong Kong and Korea. According to Ma (1993), there are four groups of factors namely fundamental, institutional, speculative and manipulative which influence market volatility.

Numerous researchers have studied movements in aggregate stock market volatility. Among them, Officer (1973) related changes in the volatility to macroeconomic variables. Schwert (1989) characterized the changes in stock market volatility to

time-varying volatility of a variety of economic variables.

Trading automation, to certain extent may have impact on the stock volatility. Naidu and Rozeff (1993) demonstrated a substantial increase in trading volume after the full automation period in the Stock Exchange of Singapore. Stock volatility and liquidity ratios also showed an increase. Extension of trading hours would also cause volatility and volume to change. As observed by Chang (1993b) in Thailand market, extended trading hours proved that the market volatility and transactions have increased substantially while the speed of price adjustment also showed some improvement. Sang and Tae (1993) found margin regulations has a significant relationship with volatility. Change of price limit in the trading may also cause price fluctuation in the stock trading. This was studied by Chung (1991) and Ma (1992).

With the technological advances, many stock exchanges are now able to disseminate stock information in a more frequent manner. Other than on-line prices display, stock index which acts as a market barometer has also been made available on a shorter interval basis such as 15-minute in Hong Kong, 10-minute in Korea and 1-minute in Malaysia effective 18 April 1995. With this prompt information available to the investing public, the

investment opportunities have become competitive and challenging. The microstructure of the trading is thus crucial in determining the direction of the fund-flow of an investor. This has prompted the need of analyzing intraday information. A number of studies which utilise intraday data have been carried out by researchers, among them Chang et al (1993a), Jain and Joh (1988), Ho and Cheung (1991), Ho et al (1993) and Hyuk and Hung (1993).

In developed countries such as United States, Japan and United Kingdom, the stock markets demonstrated a strong tendency of seasonal effects. These were revealed by researchers such as Cross (1973), French (1980) and Penman (1987).

The market seasonality was also found in Pacific-Basin capital markets. For instance, weekend effect was observed by Wong and Dong (1986) in the Singapore market. Ho et al (1993) found the stock trading in Hong Kong has some day-of-the-week and time-of-the-day effect. Time-of-the-day effect is not well documented in the Malaysian stock market. However, Annuar and Shamsheer (1993) showed that there existed some weekend and January effects on the Malaysian stock market.



In an examination on the intraday pattern of the stock market, Cheung et al (1993) observed a smooth U-shape in the morning session in Hong Kong market. The second U-shape that appeared in the afternoon session was much smaller than the morning one. Chang et al (1993a) in their study also demonstrated that stock returns in Malaysian market showed roughly a U-shaped curve during the morning session. However, this did not happen in the afternoon session. Similar patterns were also obtained by Hyuk and Hung (1993).

When discussing volatility, the information on trading volume receives little attention. Volume can provide important and useful indication for practitioners in investment decision as well as testing the financial economic theories.

Cheung et al (1993) observed a positive relationship between the volume and return. However, the volume did not seem to contain any information for forecasting stock returns. Most researchers reported similar results as Cheung et al (1993), among them are Rogalski (1978), Harris (1986), Comiskey et al (1987) and Martikainen et al (1994). Other than the contemporaneous relationship, the lead-lag relationship also received attention from Smirlock and Starks (1988), Martikainen et al (1994), Ho et al

(1993) and Jain and Joh (1988).

There are many researchers who have studied stock market volatility using daily, weekly or monthly data. This, however, does not seem to satisfy investors' need especially when KLSE has started computing its indices at 1-minute interval. Nevertheless, a study was conducted by Chang et al (1993a) on Malaysian stock market behaviour using 15-minute intraday data. However, their study only covered the period from 3 February 1990 to 10 February 1992. After this period, the KLSE has gone through some important changes or transition such as trading automation and the extension of trading hours. These events could have changed some of the market behaviour, for instance, volatility.

In Malaysia, studies on stock return and volume relationship have not been well reported. The causal relationship between volume and return also received much less attention from local researchers. In view of that, it may be essential if a research on intraday volatility, specifically looking at price-volume relationship and the causality, be carried out.

### **1.5 Significance of Study and Research Objectives**

The quality of a stock market plays a very important role in attracting the investors. The quality of a stock market can be justified from the aspect of liquidity, visibility and the trading cost. A market which is illiquid tends to be volatile. A quality stock market provides better visibility and thus attracts a broader geographical participation in it (Naidu and Rozeff, 1993). Increase in volatility means increase in uncertainty. This may lead to the increase of real interest rate and cost of capital, thus resulting in a reduction in the value of investment and loss of confidence in the financial market. This may, in turn, lead to capital outflow from the equity market (Schwert, 1989).

According to Karpoff (1987), it is important to study the price-volume relationship as it gives insights into the financial market structure. Volume is usually employed as a confirmation for the price signal and the relationship has an implication for research in the futures market. The latter reason is especially important as Kuala Lumpur Options and Financial Futures Exchange (KLOFFE) has commenced its trading operation on 15 December 1995.

It might be of interest to policy makers, fund managers and other market participants to analyse how fast investors adjust to the

information, for instance, price and volume for the events of extended trading hours and full automation event. Another clue is how these two events affect the market volatility and transactions.

Extended trading hours is expected to encourage more information to be revealed. Foreign investors may take the opportunity of extended hours to invest in the KLSE after other foreign stock exchanges have closed for trading.

The purpose of trading automation is to minimize human intervention and improve trading efficiency and hence attract orders from the investors. After full automation, they could be more aware of the latest position of their portfolio return. Information traders tend to make profit by generating private information and trading on it. It is important to understand whether automation creates more noise<sup>1</sup> to the market besides disseminating up-to-date information although there could be some other factors influencing the stock market behaviour.

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<sup>1</sup>Noise is what makes observation imperfect (Black, 1986)

In Malaysia, the stock market is relatively small in size compared to those in developed countries and thus may be easily exposed to speculation and manipulation.

Government policy may act to reduce volatility by introducing taxes on capital gains and dividends, margin requirement, interest rate and trading cost. Regulatory bodies may interfere in the market to enact further regulation with potential detriment to improving the efficiency of the resource allocation. (Hodgson and Nicholls, 1991). Policy makers therefore view with concern any major price fluctuation on the KLSE. Such volatility is also of interest to the fund managers, financial consultants and the private investors.

In respect of the above, the objectives of the study are:

1. To compare the volatility of KLSE before and after the extended trading hours and full automation.
2. To analyse traders' response to the stocks' information before and after the extended trading hours and full automation.

3. To observe the price-volume relationship in the KLSE.

The study examines trading in the KLSE to determine whether U-shaped curve exists as observed by many researchers in the world major stock markets. The volatility is expected to reduce and the speed of price adjustment to improve after extended trading hours and full automation. It can be expected that there exists some relationship between price and volume in the local stock market.

### **1.6 Framework of the Study**

The study will be divided into five chapters.

Chapter 1 consists of Prospects of the Malaysian Economy, Recent Development of the Kuala Lumpur Stock Exchange, Performance of the Kuala Lumpur Stock Exchange, Literature Review, Significance of the Study and Research Objectives, and Framework of the Study. Data and methodology will be discussed in Chapter 2. Chapter 3 demonstrates analysis on intraday return volatility, variation in return, trading volume behaviour, variation in volume, overall increasing trend and speed of price adjustment. The relationship between price and volume will be discussed in

Chapter 4 while Chapter 5 draws conclusion of the study.