Chapter 1

Introduction and Objectives

1.1 Introduction

Is there any predictable pattern in stock prices? Are prices as likely to go up, as they are to go down on any particular day regardless of past performance? Or are price movements essentially unpredictable? What is the Efficient Market Hypothesis (EMH)? What evidence supports and what evidence contradicts the EMH? How does Technical analysis and Fundamental analysis come into the picture? What are the implications of the EMH for investment policy?

The Efficient Market Hypothesis (EMH) was first postulated by Louis Bachelier in 1900. If the stock market is efficient, according to this theory, stock prices should fully reflect all available information. Price changes would then be random and unpredictable since past events have no influence whatsoever on future stock prices. Fama (1970) identified three forms of market efficiency: weak form, semi-strong form and strong form efficiency. A market is weak form efficient if past price information cannot be used to predict future price changes. This weak form of the EMH is popularly known as the Random Walk Hypothesis (RWH). A market is semi-strong form efficient if all publicly available information would not enable good forecasting of future price changes. Finally, a market is strong form efficient if all publicly as well as privately available information would not enable good forecasting of future stock prices.

In other words, supporters of EMH do not believe that studying past price movements is at all useful in predicting future price trends. However supporters of EMH differ on to what extent the future prices are predictable. The weak form supporters do not deny the possibility of predicting future prices but they maintain that it is not possible to do so based on historical information. The semi-strong form supporters believe that it is not possible to predict future prices based on publicly available information but prediction can be done using inside information. The strong form supporters maintain that it is impossible to predict future prices regardless of whatever information one has.

Assumptions of Technical analysis and Fundamental analysis oppose the notion of an efficient market. In Technical analysis, it is believed that there are predictable patterns in price and volume movements. By observing and studying the past behaviour pattern of given stocks, a technical analyst can use this accumulated historical information to predict the future price movements in the stock market. If the market is efficient, Technical analysis would be without merit. The past history of prices and trading volume is publicly available. Therefore any information would already have been reflected in stock prices. In Fundamental analysis, the research is on determinants of stock value such as earnings and dividends prospects, expectations for future earnings and risk of the company. The hope is to attain some insight into the future of the company that is not yet recognized by the rest of the market. The EMH predicts that Fundamental analysis adds little value to market predictions. Since fundamental analysts rely on publicly available earnings and information, it would not be possible to generate excess profits if markets are operating efficiently.

Numerous studies on share price behaviour using an assortment of statistical tests have been conducted to test the EMH. In some research the data have been prices or price changes for individual stock. In others, the daily returns of the stock market indices have been used to test market efficiency. There are however some studies, albeit a few, done on aggregate market data such as the daily proportions of stocks advancing, declining or remaining unchanged in price. These studies using daily proportions of stocks advancing, declining or remaining unchanged in price have direct bearing on the trading strategies of investors with diversified portfolios whose fortunes move in tandem with the market sentiments.

1.2 Objectives of the study

The objective of this study is to examine the behaviour of the stock market in Malaysia and its implication on the weak form efficiency of the EMH using publicly available information of daily data of the number of stocks advancing, declining or remaining unchanged in price and the daily closing levels of the stock market indices of the Kuala Lumpur Stock Exchange. The specific objectives of this paper are as follows:

1. To examine the extent to which the observed proportions of stocks advancing, declining and remaining unchanged in price over any trading day can predict the same proportions the following trading day.
2. (i) To examine if there is any serial dependence in successive daily difference between the proportion of stocks advancing and proportion of stocks declining in price.

   (ii) To examine if there is any serial dependence in the daily logarithmic returns of the stock indices
3. To examine the short-run relationship between the time series defined by the difference between the proportion of stocks advancing and proportion of stocks declining in price and the time series of the corresponding market index returns.

1.3 Organization of the study

This paper is divided into five chapters. Chapter 1 gives a brief introduction and the objectives of this study. In chapter 2, relevant literature review is included. Chapter 3 describes the data and methodology used in this study. It gives a description of the data used, the time period covered and the statistical tests to be carried out. Results and analysis of this study are presented in Chapter 4. The results are divided into three parts each pertaining to the three specific objectives. Lastly, Chapter 5 summarizes and makes conclusion about the results of this study.