

Chapter 2

Literature Review

2.1 Introduction

Early studies on price behaviour on the New York stock market have generally supported the hypothesis of weak form market efficiency and these included those conducted by Fama (1965a, 1965b), Sharma and Kennedy (1977), Granger and Morgenstern (1963) and Godfrey, Granger and Morgenstern (1964). The more recent evidence dating from the late 1970s however suggests that the market is not as efficient as once believed. A number of apparent anomalies have been recorded in literature. Findings are termed anomalies if it is difficult to reconcile these findings with the standard EMH. These anomalies are size effect, price-earnings (PE) ratio effect, price to book value effect and a number of other anomalies which include a range of seasonal and calendar effects. Results from Banz (1981), Reinganum (1981), Blume and Stambaugh (1983) indicated that small companies tend to provide much higher returns than large companies. Basu's study (1977) documents the anomaly to the EMH that companies with low PE ratios have given higher returns than those with high PE ratios. Rosenberg, Reid and Lanstein (1985) have shown that companies with a low price to book value ratio have shown excess returns.

In medium-sized stock markets such as the London stock market, the findings have been mixed. Kendall (1953) found serial independence in

weekly share price indices while Dryden (1970) and Kemp and Reid (1971) findings showed that the market was not weak form efficient. Smaller stock markets are generally not weak form efficient as shown by Conrad and Juttner (1973) on the German market, Jennergen and Korsvold (1975) on the Oslo and Stockholm markets, Wong and Kwong (1984) on the Hong Kong market, Sareewiwathana and Isbell (1985) on the Thailand market and Saw and Tan (1986) on the Singapore market.

2.2 Studies on the Kuala Lumpur Stock Exchange

In Malaysia, results of the studies on the Kuala Lumpur Stock Exchange (KLSE) have been mixed. Cheng (1978), Lim (1982), Lanjong (1983), Laurence (1986), Kok and Goh (1994) concluded that the Malaysian stock market is weak form efficient. Neoh (1985) suggested that the market is quite efficient in the weak form but not in the semi-strong form. Saw and Tan (1989) concluded that the market is inefficient. Othman (1989) suggested that the Malaysian stock market is not weak form efficient. Salim (1984) and Mansor (1989) obtained mixed results. A meaningful comparison with these studies cannot be made due to differences in the time period involved, the methodologies used as well as different intervals of a day, a week or a month used for computing price changes.

2.3 Studies using the Information Theory approach

Very few studies have been conducted using the information theory approach to test for dependence of time series. Information theory was originally developed by Shannon (1959). Based on the concept of information theory, Theil and Leenders (1965) used time series for the proportion of total stocks traded that advanced, declined and remained unchanged in price each day on the Amsterdam Stock Exchange for the period 2 November 1959 to 31 October 1963. They define a new information measure called *information inaccuracy*. The information inaccuracy provides a measure of ability to predict the proportions of stocks advancing, declining and remaining unchanged in price for a given day. The closer the actual values are to the predicted values, the better is the forecast and the smaller the information inaccuracy. Theil and Leenders concluded that there is considerable positive dependence in successive values of the proportions of stocks advancing, declining and remaining unchanged in price on the Amsterdam Exchange.

Fama (1965b) replicated the Theil-Leenders tests on data from the New York Exchange for the period 2 June 1952 to 29 October 1962. Fama concluded that the proportions of stocks advancing and declining in price on any given day on the New York Stock Exchange did not provide much help in predicting the proportions advancing and declining the next day. Dryden (1968) did a parallel study on the London Stock Exchange for the period January 1963 to April 1967. His study suggests that the dependence of stock price changes at time t on those of time $(t-1)$ is much greater in the London

Stock Exchange than for the Amsterdam and New York exchanges. Hong (1978) extended these studies to the Far East markets of Japan, Hong Kong, Australia and Singapore for the period September 1973 to March 1976. Among the four countries, Japan exhibits highest market efficiency while the proportions of advancing or declining stocks were less predictable in Australia compared to Hong Kong and Singapore. However direct comparison cannot be made with the other studies since Hong used weekly data instead of daily data (daily data being unavailable).

Kok (1994) used the Theil-Leenders test on the daily data of proportions of stocks advancing, declining or remaining unchanged in price in the Malaysian stock market for the period 1984 to 1991. His study suggests that the Malaysian stock market is weak form efficient and its efficiency has improved from the mid 1980s to the early 1990s.