

Chapter 5

Summary and Conclusion

This study focused on the issue of weak form market efficiency in Malaysia by examining the random walk behaviour of stock prices over the short run in the KLSE. The study began by using an information theory test, the Theil–Leenders test, on the daily proportions of stocks advancing, declining or remaining unchanged in price. This information theory test serves to examine the extent to which observed proportions today can predict the proportions tomorrow. The results obtained using the information theory approach implies that there is some dependence in successive values of the proportions of stocks advancing, declining or remaining unchanged in price at the KLSE. The results suggest that it is possible to predict successive values of the proportions of stocks advancing, declining or remaining unchanged in price from past levels. However this would be of no economic value since the proportion by itself does not indicate the market sentiment.

This study proceeds 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. The rationale is that the difference between the proportion of stocks advancing and proportion of stocks declining in price is an indication of the market sentiment. The runs test, serial correlation test, Ljung-Box-Pierce Q test and von Neumann's ratio test were used to test for autocorrelation in the series. The results using these

autocorrelation tests were generally consistent and there is sufficient evidence to reject serial independence of successive daily difference between the proportion of stocks advancing and proportion of stocks declining in price thus indicating a general tendency of persistence of market sentiments in the same direction. On the short-term, say on a day-to-day basis, close monitoring of the difference between the proportion of stocks advancing and proportion of stocks declining in price can be used for predictive purposes.

The co-movement 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 were then analyzed using cross-correlation technique and Granger causality procedure. The tests revealed that significant lead-lag relationship existed between the two series. It could be deduced that the difference between the proportion of stocks advancing and proportion of stocks declining in price 'lead' the corresponding market index returns. This would mean that if the proportion of stocks advancing is more than the proportion of stocks declining in price at day t , the market index returns at day $t+1$ would likely be positive and if the proportion of stocks advancing is less than the proportion of stocks declining in price at day t , the market index returns at day $t+1$ would likely be negative.

The tests of market price behaviour were also tests of the market efficiency. The empirical evidence provided by the numerous tests carried out in this study points to weak form stock market inefficiency in Malaysia in the

period 1994-1998. Specifically, the results indicate positive serial dependence of the daily difference between the proportion of stocks advancing and proportion of stocks declining in price. This difference between the proportion of stocks advancing and proportion of stocks declining in price can also be used to predict the market index returns in the same direction. This may have direct bearing to the investing public since market inefficiency would mean that it is possible to obtain 'lead' signals for the KLSE market movement and possibly to profit from this information.

Few people understand the technical jargon associated with stock market analysis. The number of stocks increasing and the number of stocks decreasing in price are easy enough values to be understood and could be of considerable use in forecasting the price movement in the future. Market technicians also use the advance/decline line to gauge the general movement of the market. They describe the market as "overbought" or "oversold" based on the ratio of the number of stocks advancing to that of the number of stocks declining in price during a given period. Market inefficiency would mean that it is possible to predict the market sentiment using this advance/decline line.

Market inefficiency may not persist over longer period of time and has to be significantly strong to be of predictive and economic value. Moreover this study did not take into account the number of stocks that were not traded each day. The proportion of stocks remaining untraded may affect the results of this study.