CHAPTER 5

CONCLUSIONS

5.1 *Summary and Conclusions*

The study attempts to examine the efficacy of Graham's stock selection criteria in the KLSE using criteria 3 and 6. The period of study is from the end of 1987 to the end of March 2000. Each year, a portfolio was formed from securities meeting the selection criteria. The sizes of the portfolios vary from 8 to 35; a random sample of 35 eligible securities was selected to form a portfolio and in the cases where the number of eligible securities were less than 35 but more than 8, all were selected. There were altogether 10 portfolios through the period of study with no portfolio formed in 1994 due to insufficient number of eligible securities.

For each security in a portfolio, the Graham-Rea approach suggested a holding period of either 2 years or until a 50% price appreciation is achieved – whichever comes first. In addition to the strategy suggested by the Graham-Rea approach (strategy 3), the study employs 3 other strategies, namely strategy 1 (a holding period of either 2 years or until a 100% price appreciation is achieved – whichever comes first), strategy 2 (a holding period of either 2 years or until a 75% price appreciation is achieved – whichever comes first) and strategy 4 (a holding period of either 2 years or until a 25% price appreciation is achieved – whichever comes first). For each strategy, the efficacy of the selection criteria

was tested using the portfolio returns and risk-adjusted returns. Besides, comparisons between the four strategies were made to determine the best strategy.

The paired samples test was employed to test the efficacy of the selection criteria using the portfolio returns. The results indicate that the portfolio returns for strategies 1 and 2 are significantly greater than the market returns. However, the same cannot be said for strategies 3 and 4. For these results to be reliable, the normality assumption for the paired samples test must not be violated. The Kolmogorov-Smirnov test employed for this purpose provides no indication of non-normality. Therefore, it can be concluded that Graham's selection criteria do have selective ability, especially after a change of strategy such as to strategies 1 or 2. Furthermore, an investor using strategies 1 and 2 would, on the average, achieve a mean return of about 43% and 36% respectively whereas the mean market return was only about 23%.

However, after adjusting for risk, only a few of the excess risk-adjusted returns are statistically significant. For the period of study, only 30% of the excess returns are significant for each of the strategies 2, 3 and 4 whereas 40% of the excess returns are significant for strategy 1. Further analysis suggests that the period when the sampled portfolios outperform the market corresponds to upward movements of the market, especially the 1993 bull run. There is no significant superior performance by the portfolios formed during stable market and market downturn. On the other hand, from a return and wealth perspective, all the portfolios (regardless of strategies used) maintain

positive excess risk-adjusted returns throughout the period of study except for the portfolio with holding period from April 1996 to March 1998. This period corresponds to the 1997 market crash and an economic recession.

In measuring the performance of portfolios using risk-adjusted returns, the OLS regression method was run to estimate and test the excess risk-adjusted returns. The required conditions for the OLS regression method are independence of residuals and that the residuals are from a normal distribution with homoscedastic variance. The tests performed do not reveal severe cases of autocorrelation, heteroscedasticity and non-normality of residuals.

The performances of portfolios using different strategies were compared using the portfolio returns and the test result shows that there are differences in the returns of portfolios using different strategies. The Friedman test result further confirms this finding. In addition, the results of the multiple comparison tests indicate that strategy 1 and strategy 2 are the better strategies.

As a conclusion, the results of the study suggest that an investor who made use of Graham's selection criteria 3 and 6 would have gained superior returns compared to the market. These gains could be obtained by changing to strategies 1 or 2 as opposed to the one recommended by the Graham-Rea approach. In addition, the results also suggest that

the KLSE is not semi strong form efficient yet as abnormal returns could still be gained from publicly available information.

5.2 *Implications of the Study*

The findings of this study will be of interest to investors, stock brokers and fund managers. The criteria used require information on the 3-month Treasury Bill rate, dividend yield, total debt and book value of any particular security. All these information can be obtained easily from Investors Digest, Bank Negara Quarterly Bulletin and Annual Companies Handbook. Due to the easy availability of information and the mechanical nature of such a trading system, this study implies that anybody, layperson or not, can use Graham's selection criteria to form portfolios that could outperform the market. At worst, the portfolios formed could gain positive excess risk-adjusted returns, even though such returns could be quite low.

5.3 *Limitations of the Study and Suggestions for Further Research*

There are altogether 10 criteria in Graham's stock selection criteria. For a security to be considered undervalued, it must meet one reward and one risk criteria. In view of the time and extent of work required to screen the securities and to compute the portfolio returns, the study could only employ reward criterion 3 and risk criterion 6; other combinations of reward and risk criteria were not employed. In addition, the study has been confined to securities listed on the Main Board of the KLSE.

Oppenheimer (1986) conducted a study to test Graham's criterion 5, that is, the NAV criterion from 1970 – 1982. He found that the mean monthly return of NAV portfolios was 2.45% as opposed to 0.96% for the NYSE-AMEX index. The author suggests a simulation of Oppenheimer's study in the KLSE as an area for further study. Furthermore, the securities screened need not be confined to the Main Board only. In addition, different combinations of criteria could be employed such as a combination of criteria 1 and 3.