RESEARCH PAPER

COMPARISON OF SOME TECHNICAL INDICATORS IN THE KUALA LUMPUR STOCK EXCHANGE

BY

LIM GIN HOE

(EGE99019)

SUBMITTED TO THE FACULTY OF ECONOMICS AND ADMINISTRATION, UNIVERSITY OF MALAYA IN PARTIAL FULFILLMENT OF THE REQUIREMENT FOR THE DEGREE OF MASTER OF APPLIED STATISTICS



ACKNOWLEDGEMENT

I wish to record my sincere appreciation to my supervisor, Professor Dr. Kok Kim Lian for his valuable advice and supervision in helping me to complete this project paper. Without his precious help, time and guidance, this paper would not have materialised.

To my parents and sisters, I thank you for your encouragement and support.

Lastly, my appreciation to all who helped make it possible for me to complete this project on time.

Lim Gin Hoe Department of Applied Statistics Faculty of Economics and Administration University of Malaya 25 May 2001

ABSTRACT

Technical analysis is both highly controversial and widely used; some practitioners claim that it is profitable. They say that historical technical figures, such as the past behaviour of the stock's price, give them foresight into future price movements. Many others, however, claim that the practice of looking at past technical data to help predict the future is outlandish and most academics fall into this group.

More and more writers are beginning to question whether technical analysis may serve as one tool available to those who want to trade profitably in the market. And this is the reason for this project study – to try to shed additional light on its controversy through systematic and unbiased testing of a variety of technical indicators on the Kuala Lumpur Stock Exchange trading.

Four commonly used technical indicators were tested in this study. They are Simple Moving Average (SMA), Moving Average Convergence/Divergence (MACD), Relative Strength Index (RSI) and Stochastics Oscillator (STOC). This study shows that there is a significant difference in portfolio returns obtained by applying different trading methods.

CONTENTS (Cont'd)

PAGE

	2.2.1.3	Relative Strength Index	20
	2.2.1.4	Stochastics Oscillator	23
2.2.2	Statistical	l Test	26
	2.2.2.1	Analysis of Variance	27
	2.2.2.2	Tukey Test	29
	2.2.2.3	Chi-Square Test	30
	2.2.2.4	Kolmogorov-Smirnov Test	30

CHAPTER 3: ANALYSIS AND DISCUSSION OF RESULTS

3.1	Introduction		32
3.2	Comparison of Trading Signals		34
	3.2.1	Simple Moving Average	34
	3.2.2	Moving Average Convergence/Divergence	38
	3.2.3	Relative Strength Index	41
	3.2.4	Stochastics Oscillator	45
3.3	Compa	omparison of Trading Methods	
3.4	Model Adequacy Checking		52

CHAPTER 4: SUMMARY AND CONCLUSION 55

BIBLIOGRAPHY AND APPENDICES

Bibliography	58
Appendices	59

LIST OF TABLES

	PAGE
Commercial Banks Saving Deposit Rate, 1995 – 2000	13
SMA Returns According to the Listing Board	35
SMA Returns According to the Sector	35
ANOVA for SMA with Signal and Listing Board as Main Effects	36
ANOVA for SMA with Signal and Sector as Main Effects	36
Tukey Test for Simple Moving Average	37
Chi-Square Test for Different Signals Under SMA	37
MACD Returns According to the Listing Board	38
MACD Returns According to the Sector	39
ANOVA for MACD with Signal and Listing Board as Main Effects	40
ANOVA for MACD with Signal and Sector as Main Effects	40
Tukey Test for Moving Average Convergence/Divergence	41
Chi-Square Test for Different Signals Under MACD	41
RSI Returns According to the Listing Board	42
RSI Returns According to the Sector	42
ANOVA for RSI with Signal and Listing Board as Main Effects	43
ANOVA for RSI with Signal and Sector as Main Effects	43
Tukey Test for Relative Strength Index	44
Chi-Square Test for Different Signals Under RSI	44
	SMA Returns According to the Listing BoardSMA Returns According to the SectorANOVA for SMA with Signal and Listing Board as Main EffectsANOVA for SMA with Signal and Sector as Main EffectsANOVA for SMA with Signal and Sector as Main EffectsChi-Square Test for Different Signals Under SMAMACD Returns According to the Listing BoardMACD Returns According to the SectorANOVA for MACD with Signal and Sector as Main EffectsANOVA for MACD with Signal and Sector as Main EffectsChi-Square Test for Different Signals Under MACDChi-Square Test for Different Signals Under MACDKIReturns According to the Listing BoardANOVA for MACD with Signal and Sector as Main EffectsANOVA for SI with Signal and Listing Board as Main EffectsANOVA for RSI with Signal and Listing Board as Main EffectsANOVA for RSI with Signal and Listing Board as Main EffectsANOVA for RSI with Signal and Listing Board as Main EffectsANOVA for RSI with Signal and Listing Board as MainANOVA for RSI with Signal and Listing Board as MainANOVA for RSI with Signal and Listing Board as MainANOVA for RSI with Signal and Listing Board as MainANOVA for RSI with Signal and Listing Board as MainANOVA for RSI with Signal and Sector as Main EffectsANOVA for RSI with Signal and Sector as Main EffectsANOVA for RSI with Signal and Sector as Main EffectsANOVA for RSI with Signal and Sector as Main EffectsANOVA for RSI with Signal and Sector as Main EffectsANOVA for RSI with Signal and Sector as Main EffectsANOVA for RSI with Signal

LIST OF TABLES (Cont'd)

TABLE		PAGE
3.13 (a)	STOC Returns According to the Listing Board	46
3.13 (b)	STOC Returns According to the Sector	46
3.14 (a)	ANOVA for STOC with Signal and Listing Board as Main Effects	47
3.14 (b)	ANOVA for STOC with Signal and Sector as Main Effects	47
3.15	Chi-Square Test for Different Signals Under STOC	48
3.16 (a)	Average Returns According to the Listing Board	49
3.16 (b)	Average Returns According to the Sector	50
3.17 (a)	ANOVA for Trading Method Comparison with Trading Method and Listing Board as Main Effects	51
3.17 (b)	ANOVA for Trading Method Comparison with Trading Method and Sector as Main Effects	51
3.18	Tukey Test for Trading Method and Listing Board as Main Effects	52
3.19	Chi-Square Test for Different Trading Methods	52
3.20	Results of Kolmogorov-Smirnov Tests	53

141

LIST OF FIGURES

FIGURE		PAGE
2.1	Simple Moving Average Trading Signal	16
2.2	Moving Average Convergence/Divergence Trading Signal	19
2.3	Relative Strength Index Trading Signal	23
2.4	Stochastics Oscillator Trading Signal	26

LIST OF APPENDICES

APPENDIX		PAGE
Ι	Details of Selected Counters, as at 30 June 2000	59
II	Details of Capital Changes	61
III	Details of Dividends Schedule	63
IV	Details of Portfolio Returns	72