PREDICTING FINANCIAL DISTRESS USING FINANCIAL RATIOS: MALAYSIAN EVIDENCE

by

ENYLINA NORDIN

Thesis is submitted in partial of fulfilment of the requirement for the degree of Master of Accountancy

UNIVERSITI TEKNOLOGI MARA 2003

ACKNOWLEDGEMENT

Firstly, I am grateful to Allah s.w.t for giving me the courage to complete my dissertation.

I gratefully acknowledge the excellent contributions of my supervisor, Associate Professor Tew You Hoo for her comments, suggestions, guidance and constant encouragement. Her contributions are highly appreciated.

I would also like to thank Professor Dr. Ibrahim Kamal Abdul Rahman, Dean of the Faculty of Accountancy, UiTM and Dr. Asmah Abdul Aziz, Coordinator of Master of Accountancy Program for giving their support in completing this dissertation.

My thanks also go to Associate Professor Dr. Isahak Kassim and Dr. Yap Bee Wah for helping me in analyzing the data and Associate Professor Dr. Normah Omar for giving me useful knowledge about research methodology.

A special note of thanks to Puan Siti Nordinar Mohd Tamin for her editorial efforts, and to the Kuala Lumpur Stock Exchange (KLSE) Librarians too who have been very helpful indeed.

Finally, I would like to acknowledge the encouragement and support of my beloved family and friends throughout the completion of this dissertation.

TABLE OF CONTENTS

Acknowledgements	ii
Table of Content	iii
List of Tables	vi
Abstract	vii

CHAPTER 1: INTRODUCTION

1.1	Introduction				
1.2	Problem Statement				
1.3	Objectives	of	the	Study	7
1.4	Significance	of	the	Study	8
1.5	Organization	of	the	Report	10

CHAPTER 2:LITERATURE REVIEW

2.1	Introduction					11	
2.2	Discussion on Methodologies Issues						
	2.2.1 Distress Measurement/Financial Distress						
	Definitions						
	2.2.2	2 Sampling Issues					
	2.2.3	Instability	of	Financial	l Data	17	
	2.2.4	Matching	Procedures	5		20	
2.3	Overview of Relevant Literatures of Bankruptcy						
	Mode	ls				22	
2.4	Summary		of	the	Chapter	34	

CHAPTER 3: RESEARCH METHODOLOGY

3.1	Introduction				
3.2	Hypotheses				
3.3	Sample Selection				
3.4	Estimation and Holdout (Validation) Samples				
3.5	Matching Procedures				
3.6	Source of Data				
3.7	Variables				
	3.7.1 Dependent Variables	45			
	3.7.2 Independent Variables	45			
3.8	Data Analysis				
3.9	The Logit Prediction Model				
	3.9.1 General Equation of Logistic Regression				
	Model	50			
	3.9.2 Probability of Bankruptcy	52			

CHAPTER 4: FINDINGS AND ANALYSIS

4.1	Introduction						54	
4.2	Descriptive Statistics					54		
4.3	Results	of	Mann	Whitn	iey U	J	Test	58
4.4	Time	Series	Properties	of	Distress	ed	Firms	58
4.5	Logistic Regression Analysis of Pooled Data						61	
	4.5.1 Probabilities of Financial Distress Using							
	the Pooled Data Model						63	
	4.5.2	Goodne	ess of Fit	of the	Pooled	Data	Model	65
	4.5.3 Prediction Accuracy of the Pooled Data Model					67		
4.6	The Logit Predictive Models from Year 1 to Year 5							
	Prior to Financial Distress 7						71	

ABSTRACT

This study attempts to construct and test distress prediction models for Malaysian Companies. This study also observes and evaluates the classification and prediction error rates for the models developed by utilizing a sample of 84 distressed firms in 2001 and 2002 and a matched (by industry and firm size) sample of 84 healthy firms. The models are constructed using pooled data and yearly data of 5 years prior to financial distress by employing logit maximum likelihood estimator as a statistical technique. Pooled data model utilize measures of current liabilities to total assets and total borrowings to total assets. The model demonstrates excellent and moderate accuracy of financial distress firms and healthy firms respectively. Meanwhile, the prediction accuracy for the five yearly models ranges from moderate to excellent for both distressed and healthy firms. The prediction accuracy remains almost at the same level when the models are applied to an independent holdout sample. In addition, the developed models seem to fit. In conclusion, the pooled data model can predict financial distress of a firm up to 5 years. However, the 5 yearly models are not useful in predicting the financial distress of the firm since the predictors are not consistent in each model. It is also believed that the developed model can be useful to different groups of users such as policy makers, financial institutions, creditors, managers, bankers, investors and shareholders for making investment decisions.