FINANCIAL DISTRESS AMONG SMES IN MALAYSIA: AN EARLY WARNING SIGNAL

BY

MUHAMMAD MUHAMMAD MA’AJI

Thesis Submitted to
Othman Yeop Abdullah Graduate School of Business,
Universiti Utara Malaysia,
in Partial Fulfillment of the Requirement for the Master of Science (Finance)
PERAKUAN KERJA KERTAS PROJEK
(Certification of Project Paper)

Saya, mengaku bertandatangan, memperakukan bahawa
(I, the undersigned, certified that)

MUHAMMAD MUHAMMAD MA’AJI (815698)

Calon untuk Ijazah Sarjana
(Candidate for the degree of) MASTER OF SCIENCE (FINANCE)

telah mengemukakan kertas projek yang bertajuk
(has presented his/her project paper of the following title)

FINANCIAL DISTRESS AMONG SMEs IN MALAYSIA: AN EARLY WARNING SIGNAL

Seperti yang tercatat di muka surat tajuk dan kulit kertas project
(as it appears on the title page and front cover of the project paper)

Bahawa kertas projek tersebut boleh diterima dari segi bentuk serta kandungan dan meliputi bidang ilmu dengan memuaskan.
(that the project paper acceptable in the form and content and that a satisfactory knowledge of the field is covered by the project paper).

Nama Penyelia : PROF. DR. NUR ADIANA HIAU BT ABDULLAH
(Name of Supervisor)

Tandatangan : ______________________________
(Signature)

Tarikh : 24TH NOVEMBER, 2014
(Date)
PERMISSION TO USE

In presenting this project paper in partial fulfillment of the requirements for a Post Graduate degree from the Universiti Utara Malaysia (UUM), I agree that the Library of this university may make it freely available for inspection. I further agree that permission for copying this project paper in any manner, in whole or in part, for scholarly purposes may be granted by my supervisor(s) or in their absence, by the Dean of Othman Yeop Abdullah Graduate School of Business where I did my project paper. It is understood that any copying or publication or use of this project paper parts of it for financial gain shall not be allowed without my written permission. It is also understood that due recognition shall be given to me and to the UUM in any scholarly use which may be made of any material in my project paper.

Request for permission to copy or to make other use of materials in this dissertation/project paper in whole or in part should be addressed to:

Dean of Othman Yeop Abdullah Graduate School of Business
Universiti Utara Malaysia
06010 UUM Sintok
Kedah Darul Aman
ABSTRAK

Membuat ramalan tentang kesulitan kewangan di kalangan perusahaan kecil dan sederhana (PKS) boleh memberi impak yang signifikan ke atas ekonomi kerana ia berfungsi sebagai isyarat amaran awal yang efektif. Kajian ini membangunkan model ramalan krisis kewangan dengan menggabungkan pembolehubah kewangan, bukan kewangan dan tadbir urus, dan menganalisis pengaruh ciri-ciri tadbir urus korporat utama, seperti pemilikan dan struktur lembaga, terhadap kemungkinan krisis kewangan. Dua pendekatan yang digunakan ialah analisis diskriminan pelbagai (MDA) dan model logit. Sampel akhir bagi model anggaran adalah daripada 172 syarikat di mana ianya terdiri daripada 50 peratus syarikat yang tidak gagal dan 50 peratus syarikat yang gagal bagi tempoh antara tahun 2000 hingga 2012. Model ramalan menunjukkan prestasi yang agak baik utamanya bagi model logit dan MDA yang menggabungkan pembolehubah tadbir urus, kewangan dan bukan kewangan, dengan kadar ketepatan keseluruhan sebanyak 93.6 peratus dan 90.7 peratus masing-masing bagi sampel anggaran. Kadar ketepatan dalam sampel holdout ialah 91.2 peratus bagi model logit dan MDA. Bukti ini menunjukkan bahawa model bertindak sebagai isyarat amaran awal yang efisien dan boleh digunakan bagi tujuan pemantauan dan penilaian. Pemegang saham yang mengawal, bilangan pengarah dan jantina pengarah urusan merupakan faktor yang signifikan terhadap PKS yang mengalami masalah kewangan.

Kata Kunci: Krisis kewangan, model logit, analisis diskriminan pelbagai, perusahaan kecil dan sederhana
ABSTRACT

Predicting financial distress among SMEs can have a significant impact on the economy as it serves as an effective early warning signal. The study develops distress prediction models combining financial, non-financial and governance, variables and analyse the influence of major corporate governance characteristics, i.e., ownership and board structures, on the likelihood of financial distress. The two extensively documented approaches, MDA and logit methods were used. The final sample for the estimation model consists of 172 companies with 50 percent non-failed cases and 50 percent failed cases for the period between 2000 to 2012. The prediction models perform relatively especially in the logit and MDA model that incorporate governance, financial and non-financial variables, with an overall accuracy rate of 93.6 percent and 90.7 percent respectively in the estimated sample. The accuracy rate in the holdout sample was 91.2 percent for the logit and MDA model. This evidence shows that the models serve as efficient early warning signals and can thus be beneficial for monitoring and evaluation. Controlling shareholder, number of directors and sex of managing director are found to be significant predictors of financially distressed SMEs.

Keywords: Financial distress, Logit model, MDA, SMEs, Malaysia
ACKNOWLEDGEMENT

First and foremost, Alhamdulillah, thanks to Allah S.W.T for ALL the blessings upon me and for providing me the guidance and chance to complete this dissertation to fulfill the requirement of Master of Science Finance at Universiti Utara Malaysia.

I would like to express my sincere gratitude and appreciation to my supervisor Prof. Dr. Nur Adiana Hiau Bt Abdullah for the continuous support of my masters study and dissertation, for her patience, guidance, advices, motivation, enthusiasm, and immense knowledge. Her guidance helped me in all the time of research and writing of this dissertation. I could not have imagined having a better advisor and mentor for my master’s study. I would also like to thank Prof. Madya Dr. Rohani Bt Md Rus and Prof. Madyan Dr. Kamarun Nisham Taufil Mohd for their feedbacks. Their commitment and time spent for this dissertation is most appreciated.

I would like to thank my father, Alhaji Kawu Muhammad Ma’aji, and my late mother, Laraba Mikail, for their utmost assistance and prayers, may her soul continue to rest in perfect peace, ameen. My heartfelt thanks goes to my grandmother, Hajiya Hasiya Adamu, may Allah grant her long life, health and prosperity, ameen. And all my family members for their source of inspiration and motivation. To them I dedicated this dissertation.

Finally, to Companies Commission of Malaysia (CCM) for their speedy response in providing the data used in this study and to all my colleagues in the Master of Science (Finance) programme and my lecturers, I wish to thank you all for your support and friendship.
# TABLE OF CONTENTS

<table>
<thead>
<tr>
<th>DESCRIPTION</th>
<th>PAGE</th>
</tr>
</thead>
<tbody>
<tr>
<td>TITITLE PAGE</td>
<td>i</td>
</tr>
<tr>
<td>CERTIFICATION OF THESIS WORK</td>
<td>ii</td>
</tr>
<tr>
<td>PERMISSION TO USE</td>
<td>iii</td>
</tr>
<tr>
<td>ABSTRAK (BAHASA MELAYU)</td>
<td>iv</td>
</tr>
<tr>
<td>ABSTRACT (ENGLISH)</td>
<td>v</td>
</tr>
<tr>
<td>ACKNOWLEDGEMENT</td>
<td>vii</td>
</tr>
<tr>
<td>TABLE OF CONTENT</td>
<td>viii</td>
</tr>
<tr>
<td>LIST OF TABLES</td>
<td>ix</td>
</tr>
<tr>
<td>LIST OF FIGURES</td>
<td>x</td>
</tr>
<tr>
<td>CHAPTER 1: INTRODUCTION</td>
<td>1</td>
</tr>
<tr>
<td>1.1 Background of Study</td>
<td>1</td>
</tr>
<tr>
<td>1.2 Status and Performance of SMEs across the Globe</td>
<td>2</td>
</tr>
<tr>
<td>1.3 State of SMEs in Malaysia</td>
<td>3</td>
</tr>
<tr>
<td>1.4 Problem Statement</td>
<td>6</td>
</tr>
<tr>
<td>1.5 Research Objectives</td>
<td>8</td>
</tr>
<tr>
<td>1.6 Research Questions</td>
<td>8</td>
</tr>
<tr>
<td>1.7 Significant of Study</td>
<td>8</td>
</tr>
<tr>
<td>1.8 Organisation of the Study</td>
<td>9</td>
</tr>
<tr>
<td>CHAPTER 2: LITERATURE REVIEW</td>
<td>11</td>
</tr>
<tr>
<td>2.1 Introduction</td>
<td>11</td>
</tr>
<tr>
<td>2.2 The Underlying Theories of Financial Distress</td>
<td>11</td>
</tr>
<tr>
<td>2.2.1 The Trade-off Theory</td>
<td>11</td>
</tr>
</tbody>
</table>
2.2.2 Agency Theory 13

2.3 Empirical Evidence of Financial Distress 16

CHAPTER 3: METHODOLOGY 25

3.1 Introduction 25

3.2 Data Collection and Sample Selection 25

3.3 Research Framework 26

3.4 Hypotheses Development 27

3.5 Methods 28

3.5.1 Logit Model 28

3.5.2 MDA Model 29

3.5.3 Variables Measurement 31

CHAPTER 4: EMPIRICAL RESULTS AND DISCUSSION 33

4.1 Introduction 33

4.2 Descriptive Statistics 33

4.3 Pearson Correlation 37

4.4 Multiple Discriminant Analysis 38

4.5 Logit Analysis 42

CHAPTER 5: CONCLUSION 48

5.1 Introduction 48

5.2 Summary of Findings 48

5.3 Implications of Study 49

5.4 Limitations of the Study 50

5.5 Recommendation for Future Research 50

REFERENCES 51

APPENDIXES 60
# LIST OF TABLES

<table>
<thead>
<tr>
<th>TABLES</th>
<th>PAGE</th>
</tr>
</thead>
<tbody>
<tr>
<td>Table 3.1 Definition of Variables</td>
<td>31</td>
</tr>
<tr>
<td>Table 4.1 Descriptive Statistics</td>
<td>33</td>
</tr>
<tr>
<td>Table 4.2 Pearson Correlation</td>
<td>36</td>
</tr>
<tr>
<td>Table 4.3 Variance Inflating Factor</td>
<td>37</td>
</tr>
<tr>
<td>Table 4.4 Stepwise MDA Analysis for Estimated Models</td>
<td>39</td>
</tr>
<tr>
<td>Table 4.5 Classification Accuracy Rate under MDA Models</td>
<td>41</td>
</tr>
<tr>
<td>Table 4.6 Stepwise Logistic Regression Analysis for Estimated Models</td>
<td>44</td>
</tr>
<tr>
<td>Table 4.7 Classification Accuracy Rate under Logistic Regression Models</td>
<td>46</td>
</tr>
</tbody>
</table>
# LIST OF FIGURES

<table>
<thead>
<tr>
<th>FIGURES</th>
<th>PAGE</th>
</tr>
</thead>
<tbody>
<tr>
<td>Figure 1.1 SMEs Contribution to GDP Growth</td>
<td>5</td>
</tr>
<tr>
<td>Figure 1.2 GDP of SMEs and Large Firms in Percentage Share to overall GDP</td>
<td>6</td>
</tr>
<tr>
<td>Figure 3.1 Conceptual Framework</td>
<td>27</td>
</tr>
</tbody>
</table>
CHAPTER 1
INTRODUCTION

1.1 Background of Study

The consequences of corporate failure have a far-reaching impact on stakeholders either directly or indirectly. The major stakeholders in a company who are the shareholders stand to lose most of their investment. Creditors may receive partial or no repayment of their initial loans depending on whether their loans were secured or unsecured. The implication of a corporate failure is unfortunately not that simplistic and has serious consequences for many other stakeholders. Some of these consequences include; employees will lose their jobs, the government collects less company and personnel taxes, and social problem might increase. The contributions of Altman (1968); Altman, Edward, Haldeman, & Narayanan (1977); Beaver (1966); Deakin (1977); Blum (1974); and Ohlson (1983) among others have spawned huge literature on the topic of company failure. Since then a number of models have been proposed in order to correctly predict corporate failure but mostly in large public listed firms due to easy access to their financial data. However, very little number of researches on small and medium enterprises (SMEs) has been done as a result of difficulty in accessing their financial data and other information.

In recent years, SMEs are viewed to be the leading contributor to the national economy development in terms of developing entrepreneurship using indigenous skills and technologies, creating employment opportunities, building market competitive through innovativeness and allowing government to realise poverty free society (Jahur and Quadir, 2012). Small business in Malaysia plays a significant role towards economy development in the country therefore understanding why SMEs
The contents of the thesis is for internal user only
References List


Ohlson, J. (1980). Financial ratios and the probabilistic prediction of bankruptcy, 
Journal of Accounting Research, 18, 109-131


Parker, G., Peters, F., & Turetsky, H. (2002). Corporate governance and corporate failure: A survival analysis, Corporate Governance, 2, 4-12.


