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**FINANCIAL DISTRESS AND RESTRUCTURING OUTCOMES IN  
MALAYSIA**

**ABD HALIM @ HAMILTON BIN AHMAD**



**UUM**  
Universiti Utara Malaysia

**DOCTOR OF PHILOSOPHY  
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**FINANCIAL DISTRESS AND RESTRUCTURING OUTCOMES IN  
MALAYSIA**

**By**

**ABD HALIM @ HAMILTON BIN AHMAD**



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School of Economic, Finance and Banking  
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In fulfilment of requirement for degree of  
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**Kolej Perniagaan**  
(College of Business)  
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(Signature)

Pemeriksa Luar  
(External Examiner)

: **Assoc. Prof. Dr. Zamri Ahmad**

Tandatangan  
(Signature)

Tarikh: **6 August 2018**

(Date)

Nama Pelajar  
(Name of Student) : Abd Halim @ Hamilton Ahmad

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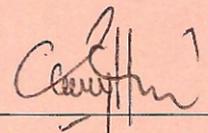
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---

Nama Penyelia/Penyelia-penyelia  
(Name of Supervisor/Supervisors) : Prof. Dr. Nur Adiana Hiau Abdullah



Tandatangan

Nama Penyelia/Penyelia-penyelia  
(Name of Supervisor/Supervisors) : Assoc. Prof. Dr. Kamarun Nisham Taufil Mohd



Tandatangan

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## ABSTRACT

This study examines issues of corporate restructuring using Malaysia's distressed listed companies. The present comprehensive study on corporate financial distress in Malaysia may present some scientific contributions that could potentially provide better insights of corporate restructuring in a different institutional setting compared to those in developed countries. By utilizing an event study (market adjusted return and market model) with data from 2001 – 2014, at the time of the financial distress announcement, the capital market differentiates firms based on the expected outcomes (emerged and delisted) of the distress. Second analysis of this study is to investigate the predictors of the outcome of distress resolution. Empirical analysis suggests that earnings before interest and tax to interest expense, CAR (-1, +1), and top 10 largest shareholders could predict the outcomes of the financial distress. Finally, this study examines the long-run share price performance of the emerged companies after the restructuring period. The results suggest that the post emergence performance decline over the three years after the companies are relisted in the Bursa Malaysia, irrespective of the approach to calculate the abnormal returns and the matching procedure employed. Based on the findings, this study proposes that, in the event of financial distress, the market or investors perceive successful restructuring do not create value as financially distressed companies cannot recoup the loss value during the financial distress condition. Therefore, attention should be given to these formerly financially distressed companies to seek the reasons of declining share price performance after the companies were allowed to continue to be listed after the restructuring process. Moreover, the characteristics of the financially distressed companies that are likely to be emerged could be used as part of the evaluation by the creditors and regulators which could shorten the time taken to evaluate the reorganization plan proposed by the affected companies.

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**Keywords:** financial distress, Malaysia, expected outcomes, long-run performance, market reaction

## ABSTRAK

Kajian ini mengkaji isu-isu penyusunan semula korporat menggunakan syarikat tersenarai yang bermasalah di Malaysia. Kajian komprehensif mengenai kesukaran kewangan korporat di Malaysia memberikan sumbangan saintifik kepada pengetahuan penyusunan semula korporat yang mempunyai bentuk institusi yang berbeza dengan negara maju. Dengan menggunakan kaedah *event study (market adjusted return and market model)* menggunakan data daripada tahun 2001-2014, semasa syarikat membuat pengumuman mengenai kesukaran kewangan, pasaran dapat membezakan syarikat yang berjaya keluar daripada kesukaran kewangan dengan syarikat yang terkeluar daripada syarikat tersenarai. Analisis kedua kajian ini adalah untuk mengkaji faktor penentu jangkaan keberhasilan kepada kesukaran kewangan. Keputusan empirikal menunjukkan bahawa pendapatan sebelum faedah dan cukai kepada perbelanjaan faedah, CAR (-1, +1), dan 10 pemegang saham terbesar boleh meramalkan resolusi kepada kesukaran kewangan. Akhirnya, kajian ini mengkaji prestasi harga saham jangka panjang syarikat-syarikat yang keluar daripada kesukaran kewangan selepas tempoh penstrukturan semula. Dapatan kajian menunjukkan bahawa terdapat kemerosotan prestasi selama tiga tahun oleh syarikat-syarikat yang berjaya keluar dari senarai kesukaran kewangan, tanpa mengambilkira pendekatan untuk mengira pulangan dan prosedur yang sesuai digunakan. Berdasarkan kepada penemuan ini, kajian ini mencadangkan bahawa, sekiranya berlaku kesukaran kewangan, pasaran atau pelabur melihat penstrukturan semula yang berjaya tidak dapat mencipta nilai kerana syarikat-syarikat yang bermasalah ini tidak dapat mengembalikan nilai kerugian semasa syarikat mengalami kesukaran kewangan. Perhatian harus diberikan untuk mencari faktor yang menyumbang kepada penurunan harga saham selepas syarikat-syarikat dibenarkan untuk terus disenaraikan setelah berjaya menjalani proses penyusunan semula. Tambahan lagi, ciri-ciri syarikat bermasalah kewangan yang berjaya mengatasi kesukaran kewangan dalam penstrukturan semula boleh digunakan sebagai sebahagian daripada penilaian oleh pemiutang dan pengawal selia yang boleh memendekkan masa yang diambil untuk menilai pelan penyusunan semula yang dicadangkan oleh syarikat yang terlibat.

**Kata Kunci:** kesukaran kewangan, Malaysia, jangkaan keberhasilan, prestasi harga saham jangka panjang, tindak balas pasaran saham

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## CHAPTER ONE

### INTRODUCTION

#### 1.1 Background of the Study

A corporation faces different stages of the business life cycle throughout its existence. Specifically, a corporation will go through the phases of growth, maturity and decline. However, inability to deal with challenges in the highly competitive business environment will lead to failure and subsequent exit from the business world. There are several causes of corporate failure, such as poor cash flow, inexperienced management team, inability to compete with similar business activity, declining market for the product and imprudent debt management, to name but a few. In addition, corporate failure is generally not an unexpected or sudden event; thus, companies with good profitability and strong balance sheets normally do not file for bankruptcy because of a dramatic change or downturn in the economic environment.

Generally, corporate failure does not happen overnight. It is due to the consequences of several years of adverse performance, with the corporation persistently showing weak profitability, deteriorating liquidity and increasing debt burden in the capital structure. In such a situation, a corporation is vulnerable to unforeseen circumstances and is exposed to any shocks or economic downturns that might lead to severe conditions, such as the 1997 Asian Economic Crisis. For that reason, corporate failure or bankruptcy is one of the significant events in the corporation's life cycle. In addition, within academic studies, the corporate failure issue has become one of the main research domains in corporate finance (Balcaen and Ooghe, 2006). In this sense, a number of studies have developed and refined corporate failure models since

the pioneering work in 1968 by Altman, who developed the Z-Score model to predict bankruptcy in the United States.

Corporate failures have been considered destructive events that captured the attention of the public. Their great relevance is due to the significant economic and social implications associated with them. Naples (1997) posits that business failures may have multiplicative effects on the national economy. They may have social and economic consequences due to the rise in unemployment and may also contribute to macroeconomic problems, hence resulting in severe and systemic economic decline (Naples, 1997). Furthermore, the effect of bankruptcy can be categorized as a contagion that spreads to other companies in similar industries, as documented by Lang and Stulz (1992). This shows that when a business becomes distressed or insolvent it may trigger insolvency in other companies as well. This can be simply illustrated by considering companies in a supply-chain relationship. For instance, when a business is insolvent, the suppliers are likely to encounter some measure of financial pressure as payments are withheld for as long as possible.

Nowadays, corporate failure can affect any company; it is common not only among new start-up companies but also among even the largest corporations in the world's most developed and advanced economy, including highly controversial cases such as Enron, Kodak and WorldCom. Enron was one of the world-renowned companies which led in the electricity and communications industries and had approximately 22,000 staff and asset values of US\$65.5 billion. Similarly, WorldCom, the leading telecommunications company in the United States, had total assets amounting to US\$103.9 billion. WorldCom filed for bankruptcy in 2002 and was one of the largest

companies ever to file for Chapter 11<sup>1</sup>. Its lengthy presence in the photographic film market, as well as being the leader with a 90 percent market share in the United States, could not prevent Kodak from filing for Chapter 11 in January 2012.

A study by Altman and Hotchkiss (2006 p.3) documented that one hundred billion-dollar companies had filed for protection under Chapter 11 between 2001 and 2003, including Wall Street's top five picks. This gives an overview, showing that larger size does not shield a company from business failure. A similar scene can be seen in South Korea. Despite the persistent belief that large conglomerates were "too big to fail", the 1997 Asian Financial Crisis forced major corporations such as Daewoo and Kia to file for bankruptcy. Daewoo, the second largest conglomerate in South Korea with 32 years of incorporation, went bankrupt with overall debts amounting to US\$84.3 billion. Similarly, Kia, founded in 1957 and considered one of South Korea's giant chaebols, was declared bankrupt in 1997<sup>2</sup>.

The phenomenon is not limited to the United States or developed countries. Emerging countries such as Malaysia also demonstrate a similar picture. Some of the most dramatic corporate distress necessitating corporate restructuring was experienced by Lion Group and Renong Group. These two groups were the two largest corporate debtors during the 1997 Asian Financial Crisis. Lion Group has four listed companies under its consortium (Lion Corporation Berhad, Amsteel Corporation Berhad, Lion Industries Corporation Berhad, and Silverstone

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<sup>1</sup> Chapter 11 is a chapter of Title 11 of the United States Bankruptcy Code which allows reorganization. It can be used by any type of business entity.

<sup>2</sup> Chaebol refers to a business conglomerate in South Korea. Examples of chaebols are Samsung, LG, Hyundai, Kia Motors and Daewoo.

Corporation Berhad), and these are classified under Practice Notes 4. To reorganize its financial condition, Lion Group proposed a restructuring exercise, which is called a group-wide restructuring scheme (GWRS). Despite major group restructuring in 2003, one of Lion Group's listed companies, Lion Corporation Berhad, has once more been classified as a financially distressed company, this time under Practice Notes 17 in 2013. Renong Group, however, was bailed out by the government in 2001.

There are several motivations for conducting this study. First, exploring market reactions towards bad news events should be of interest since most of the previous empirical studies were almost exclusively based on failure cases in the United States, which are regulated under the United States bankruptcy legislation. The United States is, in fact, the most debtor-friendly bankruptcy regime in the Western world (Coelho, 2008; Altman & Hotchkiss, 2006). As such, it would be interesting to extend the findings uncovered in the previous empirical studies on market reaction to the announcement of financial distress in Malaysia where the law is more creditor-oriented, to determine whether the market reacts differently.

The significant difference in terms of the legal set-up may enhance and yield new insight into whether investors react differently in a debtor-friendly versus creditor-oriented environment and whether such reaction is caused by the bad news announcement alone or by other factors. The recent study by Kausar *et al.* (2017) examines the market reaction to the auditor's going concern opinion between creditor friendly bankruptcy regimes (the United Kingdom) and debtor-friendly bankruptcy regimes (the United States). The results suggest that investors respond negatively to

auditor's going concern opinion both in the United States and United Kingdom. Nevertheless, the market reaction is more negative in the United Kingdom than in the United States. This has shown that the bankruptcy code significantly affects market reaction to the auditor's going concern opinion.

Apart from the legal setting, there are major differences between the United States and Malaysia in terms of governance and institutional settings, suggesting that the US empirical evidence in this area may not be applicable to Malaysia. Claessens, Djankov and Klapper (2005) demonstrate that the diverse structure of bankruptcy laws is due to differences in institutional background. Similar to elsewhere in Asia, Malaysia has a high concentration of ownership where the mean shareholdings of the single largest shareholder are 31 percent and those of the five largest shareholders of companies are 62 percent (Haniffa & Hudaib, 2006). Further evidence found by La Porta, Lopez-de-Silanes and Shleifer (1999) reveals that the United Kingdom, US and Japan have low ownership concentration.

Thus, using Malaysia as a context of study could provide us with an ideal setting and uncover further evidence about the behaviour of high ownership among large shareholders as compared to the dispersed ownership structure in the US. Furthermore, Malaysia has a diverse ethnic background which is rather unique in its own sense. Previous work carried out by Sim (2009) highlights the role of cultural and ethnic background in the Malaysian context, and how it has contributed to turnaround strategies and processes. This has led to studies of corporate failure which tend to be country-specific since the causes of corporate failure and the strategies undertaken during restructuring may differ according to the country context.

Recently, Wang (2012) undertook a comparative study to examine the role of institutional factors (bankruptcy codes and judicial efficiency) in the decision to resolve bankruptcy through reorganization and liquidation, finding that the legal origin of the bankruptcy code is important for determining the choice of either reorganization or liquidation.

Another motivation lies in Malaysia's unique disclosure environment. In order to improve investors' protection and corporate transparency, all listed companies are required to release relevant and adequate information to the public. In this sense, the availability of the actual event date may enable the study to employ an exact event date and observe how the market reacts to this information. The exact date when an information event such as financial distress announcement, is first released to the public can be identified through the official channels, and this provides accurate event dates for all companies in the sample. Under Paragraph/Rule 9.03 of the Listing Requirements of Bursa Malaysia, all listed companies are required to disclose high-quality and accurate material information to the market, which may affect the value of the company's outstanding securities. Since the announcements are made through electronic communication, the announcement or event dates of all companies in the sample are deemed to be very accurate. Therefore, an accurate event day when the information event is first released to the public allows accurate analysis of the announcements.

Finally, there has been little systematic investigation of financial distress and corporate restructuring in a unified setting, particularly in the case of Malaysia. This study covers the ex-ante and the ex-post restructuring to provide an overview on the

effectiveness of the reorganization system. In addition, this study uses a broader measure of distress characterization since there are several criteria for assessing whether Malaysian listed companies can be considered as financially distressed.

## **1.2 Problem statement**

The announcement that a company has fallen into distress and is expected to reorganize its financial condition conveys important information regarding the risk and value of its equity. Therefore, the announcement signals the market risks of its shares and the expected future performance. To the best of the author's knowledge, no evidence to support the existence of a financial distress announcement effect has yet been reported in the case of Malaysia. As has been stressed by Altman and Hotchkiss (2006), Lee, Yamakawa, Peng and Barney (2011) and Kim, J. (2018) bankruptcy law varies significantly across countries although it is similar in nature, and the United States adopts a debtor-friendly regime. In fact, the United States has the most debtor-friendly bankruptcy regime in the Western world.

The differences in the structure of insolvency legislation may have affected the distressed company's behaviour and performance. Furthermore, Bebchuk (2002), Berkovitch and Israel (1999), Cornelli and Felli (1997) and White (1994) demonstrate the impact of bankruptcy codes on various corporate decisions. In this sense, empirical evidence on the United States companies may not hold and should not be generalized since the legal settings are different. Therefore, it would be interesting to discover whether the market reacts differently to the announcement of

distress in countries that are more creditor-friendly, particularly Malaysia<sup>3,4</sup>. As has been put forward by Claessens *et al.* (2005), the different structure of bankruptcy laws among the countries is due to institutional differences.

More recently, the focus has shifted to the next step following bankruptcy, which is to predict or assess the likelihood of emergence from financial distress or restructuring. The importance of this is reflected in recent studies by Baird, Bris and Zhu, (2007), Bris, Schwartz and Welch (2005), Khal (2002) and Stromberg (2000). The reorganization period may take a few months or several years depending on the size and complexity of the reorganization case. These companies emerge from Chapter 11 (Bankruptcy Code of the United States) or Practice Notes 4 or Practice Notes 17 (Malaysia) particularly when their creditors approve a plan of reorganization that is filed with the court. Financially distressed companies have similar characteristics when these companies disclose declining revenues, total assets and equity values. As a result, to a certain extent, determining the resolution of a financially distressed company is complicated. Therefore, studies on financial distress resolution are called for. They have not been as prevalent in the previous finance literature as studies on the prediction of financial distress.

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<sup>3</sup> Malaysia ranks fourth after Singapore, Japan and Taiwan in the Asia Pacific region's most creditor-friendly bankruptcy regimes. <http://finance.bernama.com/news.php?id=382119>

<sup>4</sup> The creditors' rights index ratings formed by La Porta, Lopez-de-Silanes, Shleifer, and Vishny (1998) indicate Malaysia and the United States as 4 and 1, respectively. The ratings range from 1 to the maximum of 4. The index of 1 shows that the country has the least creditor rights; the most creditor rights is rated as 4.

The reorganization period enables a distressed company to restructure its condition to allow the continuation of its business by removing inefficient activities and relocating its investment to create value for equity holders. Thus, it might provide companies with an opportunity to restructure completely and make a fresh start. If the restructuring is biased toward the continuation of unviable companies, it will result in a poor post-restructuring performance. In Malaysia, financially distressed listed companies are governed by Practice Notes 4 (PN4) or Practice Notes 17 (PN17) to improve their financial condition in order to remain listed entities. The present study investigates the post-restructuring performances of restructured companies.

It addresses whether the existing regulations governing companies in distress effectively improve the condition of financially distressed companies or simply help poorly performing companies to survive, which ultimately creates legions of “zombie” companies (Caballero, Hoshi & Kashyap, 2008)<sup>5</sup>. Therefore, it suggests urgency to the regulators to re-examine and improve the existing Practice Notes 4, Practice Notes 17 and Amended Practice Notes 17 and relevant policies affecting financially distressed and restructured companies. So far, a number of studies in the United States have produced mixed evidence on the efficiency of Chapter 11 but no studies in Malaysia have yet looked at this issue. The empirical results from this study may help policy-makers to carefully evaluate whether a company should remain in business or not. Thus, this issue merits careful empirical inspection.

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<sup>5</sup> The term “zombie” has been used extensively in Caballero, Hoshi and Kashyap’s (2008) article to refer to unprofitable borrowers. They posit that by keeping “zombie” companies alive, they may distort competition in the economic system.

### **1.3 Research questions**

In a market which is efficient, share prices reflect all available information. The current share price is a reflection of future expected earnings or cash flows discounted by an appropriate cost of capital. The announcements made by the company will convey important information on the cash flow prospects of the company that could affect the company's fundamental value. Therefore, any profit opportunity from unanticipated events will be reflected as an increase in the current stock price of the company since the market realizes the prospect of positive outlooks and vice versa.

Accordingly, it is argued that if a market is efficient, it would be able to distinguish between failing companies which are able to restructure and resume business (good news) and those that have failed. These different outcomes carry different values for the shareholders, and the market may have a certain insight or foresight into companies' future prospects. To illustrate, it is likely that the restructured companies can, potentially, gain higher incoming revenue as compared to the companies that have failed in the reorganization process. Since a company's value is the present value of future cash flows and the market participants have sensible expectations regarding these cash flows, it is suggested that the market is able to differentiate between the "value" and "less value" companies.

Thus, the market's expectations of a company's likelihood of emerging from a financially distressed condition should be reflected in the share price. In this sense, it would be interesting to know whether the Malaysian equity market is efficient enough to distinguish between the companies that have successfully restructured and

those that have failed. Hence, this investigation has led to the following research questions:

(a) How does the stock market react to financial distress announcements for delisted and emerged companies?

While the market may have the ability to differentiate between the outcomes of the distress resolution, the measures from financial statements might also be considered to provide a better understanding of the researched issue. Since, the emerged companies were once financially distressed companies, in some circumstances, the same features may be shared between the delisted and emerged companies which, in turn, cause the prediction of the complicated distress resolution. Such as, in general, the financially distressed companies demonstrate deteriorating earnings, book values of assets and equities. Nevertheless, it is important to know the characteristics of the failed companies that will survive at the onset of the financial distress. With a better grasp of the characteristics of the emerged companies, the restructuring process could be shorter and, thus, reduce the underlying cost. This leads to our second research question:

(b) What are the predictors of the outcome of distress resolution?

The performance of the restructured companies should be at par with or better than their counterparts since they have removed the unprofitable divisions or businesses that have been adversely affecting them. The new injection of capital should breathe new life into the restructured companies. Therefore, the restructured companies should significantly improve their share price performance over the restructuring period. In addition, the restructured companies should be able to perform better than

or in a manner comparable to healthy companies. Thus, the following research question applies:

- (c) Do emerged companies demonstrate a better long-run performance than a comparable benchmark after the restructuring period?

#### **1.4 Research objectives**

In line with the issues raised, the study endeavours with these objectives:

- (a) To compare the stock market reactions to financial distress announcements by the delisted and emerged companies.
- (b) To investigate the predictors of the outcome of distress resolution.
- (c) To evaluate whether the long-run share price performance of the emerged companies after the restructuring period is better than a comparable benchmark.

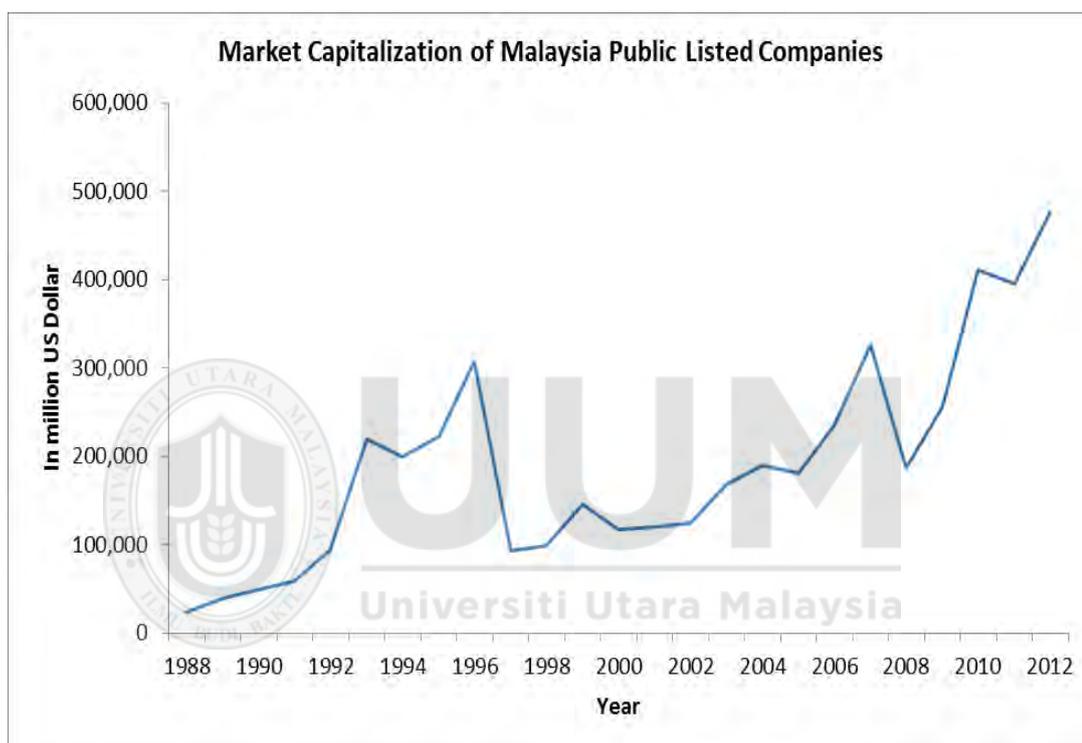
#### **1.5 Scope of the study**

The case of Malaysia is of interest for several reasons. In the macro perspective, the Malaysian stock market has the highest number of listed companies in the ASEAN region, with a total of 954, as at September 2011, and it is the fifth fastest-growing in Asia (Securities Commission Malaysia, 2011). Figure 1 shows that market capitalization quadrupled from US\$117 billion (in 2000) to US\$476 billion (in 2012). Furthermore, public listed companies in Malaysia are considered small capitalization corporations as compared to those in the US, UK and Taiwan. Penny stocks (below RM1.00 trading price) constitute 55 percent (756 out of 1360) of the total public listed companies in Malaysia in 2013 (Datastream)<sup>6</sup>. Such a characteristic is not common among well-established exchanges. Kotewall and

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<sup>6</sup> Author's calculation

Kwong (2002) state that, as of May 2002, almost 73 percent of Hong Kong share prices are traded below US\$0.2 as compared to 20 percent in London and Taiwan, less than one percent in Tokyo and Korea, and none in New York. This study focuses on listed companies from all sectors in the Main Market and Ace Market of Bursa Malaysia where more than 50 percent of the stocks are dominated by small market capitalization corporations.



**Figure 1.1: Growth of market capitalization of public listed companies in Malaysia**

Data source: [World Bank, World Development Indicators](#).

The study covers all financially distressed companies for the period 2001-2013. The choice of time period is driven by the fact that Bursa Malaysia started to classify financially distressed listed companies in 2001 with the introduction of Practice Note 4. During this period, three amendments were made with regard to the Practice Note related to financial distress. It starts with Practice Note 4 which was introduced in January 2001. In January 2005, Practice Note 17 was issued and, later, in May 2006,

Amended Practice Note 17 came into force. The details of the Practice Notes in relation to financially distressed companies are further elaborated in Chapter 2.

## **1.6 Significance of the study**

The focus of research on corporate restructuring to date has been on companies in developed countries, especially in the United States and UK. Empirical evidence on emerging countries' companies undergoing restructuring is sparse. Moreover, since economic vulnerability is a global issue, the research questions are both timely and significant. Thus, this empirical study sheds some light on the corporate restructuring literature by contributing evidence of an emerging country, Malaysia. Existing studies still lack the offer of a clear explanation to the questions raised in Section 1.4. As a sufficient number of corporate financial distress cases in Malaysia have undergone reorganization and there is a traceable restructuring path, an opportunity arises to conduct an empirical study on the issues raised. In addition, the present comprehensive study on corporate financial distress in Malaysia may present some scientific contributions that could potentially provide better insights and understanding of corporate restructuring in a different institutional setting.

The present study empirically examines issues of corporate restructurings using Malaysia's distressed listed companies. The use of Malaysian listed companies as the sample may offer some empirical explanations of this issue that have not been highlighted in previous studies. Besides the substantial difference in terms of economic prosperity, the specific institutional framework or environment is fundamentally different across countries, especially between the developed and emerging countries. Previous studies suggest that emerging markets, in general, have

low creditors' rights protection and ineffective law enforcement (La Porta, Lopez-de-Silanes, Shleifer & Vishny, 1997, 1998). Accordingly, these influences companies' decisions in resolving their financial distress. Additionally, the tendency for government interference in markets and companies is high, thus indicating a low quality of bureaucracy (Shleifer & Vishny, 1994). This issue has been raised by Gomez and Jomo (1997), who describe how the Malaysian government has intervened in corporate activities through listing restrictions, direct equity stakes, control of banks, and government-sponsored investor vehicles. Furthermore, Johnson and Mitton (2003) posit the important aspect of political connections in Malaysian companies.

One of the aspects of the study is the explicit consideration of the peculiarities of ownership structure in Malaysia. Compared to its Western counterparts, the corporate ownership structure is highly concentrated in Malaysia, with only one percent of public listed companies in Malaysia being widely held (Claessens, Djankov & Lang, 2000). Furthermore, empirical studies document high ownership concentration in developing economies (La Porta *et al.*, 1998; La Porta *et al.*, 1999). The highly concentrated feature of ownership is due to the Asian Chinese culture, which accounts for the majority of owners in Malaysia. The concentrated ownership creates different incentives and shareholders' power compared to companies with dispersed ownership, which is much more frequent in US and UK listed companies (La Porta *et al.*, 1999). In addition, in the case of Malaysia, the existence of standards and measures, namely Practice Notes, for the listed companies to protect investors' and markets' interests is rather unique. This creates differences when compared with the US listed companies, which depend on the markets' ability to regulate the

restructuring. Furthermore, the accounting standards and the Companies Act in Malaysia are originated from common law, which is the United Kingdom Companies Act established in 1948.

Finally, the study seeks a thorough understanding of corporate restructuring to facilitate and enhance policy formulation that could assist the post-restructuring performance of listed companies in Malaysia. Therefore, companies' management might formulate effective strategies that could drive the success of the restructuring process. In addition, in the context of vulnerable global economic conditions, it is essential to devise a model of restructuring resolution that might identify the characteristics of delisted companies. In this sense, preliminary diagnosis might be made, thus potentially reducing and shortening the complex restructuring process. Early necessary actions could be taken in advance in order to reduce any costs associated with the restructuring. The practical use of the model is of considerable importance to the regulators or policy-makers who might also use the findings and insights from this study to enhance the existing Practice Notes or to decide whether the listed companies in distress should be de-listed or allowed to go through the restructuring process. As a result, this action may reduce the inefficiency of resource allocation in the economy.

## **1.7 Organization of the thesis**

This thesis is organized into four chapters. Chapter One discusses the background arguments of the issue under study. In this chapter, the research problem is explained and the resulting research questions and objectives are discussed. The chapter also sheds light on the significance of the study. Chapter Two reviews the rules and

regulations governing financially distressed companies in Malaysia. In addition, the United States bankruptcy code and United Kingdom receivership are discussed to give a general picture of the legislation aspect where most of the bankruptcy and restructuring literature is centred. Chapter Three contains an extensive review of the literature. Relevant theories related to the study are discussed. The chapter also discusses previous empirical works related to the study. Chapter Four focuses on the methodology adopted in this study. This includes discussions of the research design, research framework and statement of hypotheses to be tested in order to achieve the stated objectives. The chapter covers the measurement of variables, data collection techniques, sampling procedures and techniques of data analysis. Chapter Five discusses the empirical results. Chapter six concludes and suggests further research.



**CHAPTER TWO**  
**OVERVIEW OF RULES AND REGULATIONS GOVERNING**  
**FINANCIALLY DISTRESSED COMPANIES**

**2.1 Introduction**

This chapter provides an overview to provide a context for the present research by describing the regulations that govern listed companies in Malaysia. It provides a detailed description of the Practice Notes and their evolution related to financially distressed companies. In addition, the United States bankruptcy code and the United Kingdom receivership code are discussed to provide an overview and understanding of the difference between the countries' legislation. Malaysia, which was administered as a British colony, inherited a legal system based on English common law, which is why the legislation characteristics of the United Kingdom are discussed. The United States bankruptcy code is discussed because most samples in empirical studies make use of United States companies.

**2.2 Regulations governing listed companies in Malaysia**

In Malaysia, listed companies must fulfil the listing requirements and regulations devised by the Securities Commission and Bursa Malaysia. In January 2001, Bursa Malaysia (previously known as the Kuala Lumpur Stock Exchange) introduced new guidelines on listing requirements to enhance the quality and credibility of listed companies in Bursa Malaysia. Under these guidelines, certain measures are taken to protect investors' interests and ensure a high standard of capital market integrity. Therefore, a fair and efficient investment avenue can be achieved, hence improving

the competitiveness and attractiveness of the Malaysian capital market. Essentially, Bursa Malaysia issued Practice Notes containing several provisions that must be complied with in regard to the listing requirements.

This study focuses on just three Practice Notes and one Guidance Note which are related to the identification of financially distressed listed companies. Practice Notes of the Malaysian Listed Companies Requirements are designed to help listed companies that are financially distressed to restructure their debts within a stipulated time in order to give them sufficient time to re-emerge in the Exchange. They will be closely monitored by Bursa Malaysia Securities Berhad as they follow a reorganization plan to regularize their conditions, which falls under the Criteria and Obligations Pursuant to Paragraph 8.14C of the Listing Requirements. Financially distressed companies may emerge as new entities; they may also be acquired by other companies or delisted.

### **2.2.1 Practice Notes<sup>7</sup>**

This section consists of three parts. Firstly, Practice Note 4 is discussed. It was the first Practice Note to specifically regulate the financial condition of listed companies in Malaysia. The second and third discuss Practice Note 17/2005 and Amended Practice Note 17/2006, respectively.

#### **2.2.1.1 Practice Note 4/2001**

Practice Note 4 was introduced in January 2001 to specify the criteria for financially distressed listed companies in Malaysia. It specifically states the criteria as follows: A deficit in the consolidated adjusted shareholders' equity of the listed company;

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<sup>7</sup> This sections draws heavily from [www.bursamalaysia.com.my](http://www.bursamalaysia.com.my).

receivers and/or managers have been appointed over the property of the listed company, or over the property of its major subsidiary or major associated company whose property accounts for at least 70 percent of the total assets employed of the listed company on a consolidated basis; the auditors have expressed an adverse opinion in its latest audited accounts; and special administrators have been appointed over the listed company or the major subsidiary or major associated company of the listed company pursuant to the provisions of the Pengurusan Danaharta Nasional Act 1998.

#### **2.2.1.2 Practice Note 17/2005**

In 2004, Bursa Malaysia amended the framework of Practice Note 4/2001 and issued Practice Note 17 effective from 3<sup>rd</sup> January 2005. The amendment was aimed at expediting the time taken by listed companies experiencing an unsatisfactory financial condition and level of operations to regularize their condition. Practice Note 17/2005 set out the following criteria to identify financially distressed listed companies: There is a deficit in the consolidated adjusted shareholders' equity of the listed company; receivers and/or managers have been appointed over the property of the listed company, or over the property of its major subsidiary or major associated company whose property accounts for at least 70 percent of the total assets employed of the listed company on a consolidated basis; the auditors have expressed an adverse opinion on its latest audited accounts; the listed issuer has been suspended or ceased all of its business or its major business or its entire major operations for any reasons whatsoever; the listed issuer has an insignificant business or operation.

Practice Note 17 required the affected listed companies to submit their reorganization plans to the relevant authorities for approval within eight months. Should they fail to follow the stipulated timeframe, their securities will be suspended on the fifth market day after expiry of the eight-month period and Bursa Malaysia will proceed with the delisting procedures.

### **2.2.1.3 Amended Practice Note 17/2006**

Bursa Malaysia reviewed and amended the criteria on 5 May 2006 to improve the effectiveness of the reorganization process which is, by virtue, to enhance the quality of companies listed in Bursa Malaysia. Financially distressed listed companies were classified as Amended-PN17 companies. The Amended PN17 companies had to submit their restructuring plans to the Securities Commission within eight months and implement their restructuring plans within the stipulated timeframe. In addition, the amended PN17 companies must obtain approval from the Securities Commission before they can proceed with the restructuring plan.

The changes made to the PN17 criteria pursuant to paragraphs 8.04 (2) of the Listing Requirements are as follows: The shareholders' equity of the listed issuer on a consolidated basis is 25 percent or less of the issued and paid-up capital (excluding treasury shares) of the listed issuer and such shareholders' equity is less than RM40 million; receivers or managers have been appointed over the assets of the listed issuer, its subsidiary or associated company whose assets account for at least 50 percent of the total assets employed of the listed issuer on a consolidated basis; there is a winding-up of a listed issuer's subsidiary or associated company which accounts for at least 50 percent of the total assets employed of the listed issuer on a

consolidated basis; the auditors have expressed an adverse or disclaimer opinion on the listed issuer's latest audited financial statements; the auditors have expressed a modified opinion with emphasis on the listed issuer's going concern in the listed issuer's latest audited financial statements, and the shareholders' equity of the listed issuer on a consolidated basis is 50 percent or less of the issued and paid-up capital (excluding treasury shares) of the listed issuer; there is a default in payment by a listed issuer, its major subsidiary or major associated company, as the case may be, as announced by a listed issuer pursuant to Practice Note 1, and the listed issuer is unable to provide a solvency declaration to the Exchange; the listed issuer has suspended or ceased all of its business or its major business, or its entire or major operations; and the listed issuer has an insignificant business or operation.

### **2.2.2 Guidance Notes 3<sup>8</sup>**

For the ACE Market listed companies, Bursa Malaysia established Guidance Note 3 on 8 May 2006 with the view of protecting the interest of investors. Pursuant to Rule 8.04(2) of the Listing Requirements, a listed company that triggers one or more of the following prescribed criteria must comply with the provisions of Rule 8.04. Guidance Note 3 sets out the following criteria to identify financially distressed ACE market listed companies. First, the shareholders' equity of the listed corporation is 25 percent or less of the issued and paid-up capital of the listed corporation; where the listed corporation has incurred loss in any one full financial year commencing on or after its listing, which is equal to or exceeds the amount of its shareholders' equity at the end of the said financial year and the shareholders' equity is equal to or less than 50% of the issued and paid-up capital of the listed corporation at the end of the said

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<sup>8</sup> This sections draws heavily from [www.bursamalaysia.com.my](http://www.bursamalaysia.com.my).

financial year; where the listed corporation has incurred aggregated losses in any two consecutive full financial years commencing on or after its listing. Second, receivers or managers have been appointed over the asset of the listed corporation, its subsidiary or associated company which asset accounts for at least 50 percent of the total assets employed of the listed corporation.

Third, a winding up of a listed corporation's subsidiary or associated company which accounts for at least 50 percent of the total assets employed of the listed corporation. Fourth, the auditors have expressed an adverse or disclaimer opinion in the listed corporation's latest audited financial statements. Fifth, the auditors have expressed a modified opinion with emphasis on the listed corporation's going concern in the listed corporation's latest audited financial statements and the shareholders' equity of the listed corporation is 50 percent or less of the issued and paid-up capital of the listed corporation. Sixth, a default in payment by a listed corporation, its major subsidiary or major associated company, as the case may be, as announced by a listed corporation pursuant to Rule 9.19A and the listed corporation is unable to provide a solvency declaration to the Exchange. Finally, the listed corporation has suspended or ceased; or the listed corporation has an insignificant business or operations.

### **2.3 United States bankruptcy code**

The United States formal bankruptcy practices to deal with corporate financial distress and bankruptcy are regulated under the Bankruptcy Reform Act of 1978, which took effect on 1 October 1979 and has recently changed to the Bankruptcy

Reform Act of 2005<sup>9</sup>. The US bankruptcy rule emphasized the view that debtors should be given the chance to reorganize. In other words, debtors are protected by the courts from creditors that are persistently demanding for their claim from the debtors. The role played by the formal bankruptcy proceedings is to provide a collective procedure for settlement of claims of the affected contracts held against the company. Bankruptcy procedure, be it voluntary or involuntary, may be filed depending on whether the procedure is initiated by the company's management or the creditors. The majority of the companies that enter formal bankruptcy proceedings commonly file Chapter 11 in an attempt to reorganize or Chapter 7 for liquidation. Companies file Chapter 7 to liquidate the company's assets in order that the proceeds of the asset sales might be distributed to the claimholders according to the absolute priority rule<sup>10</sup>. In consequence, the court appoints a trustee to oversee and manage the orderly liquidation of the company's assets. Accordingly, all senior claims will be fully paid before junior claims can be settled. Thus, the distributions to the claimants are directly dependent upon the value of the company's assets during the liquidation of the company and the seniority of the claim.

On the other hand, Chapter 11 is filed by companies aiming for corporate reorganization in order that the business might become profitable again or become a healthy company. The main purpose of Chapter 11 is to maintain the existence of economically viable companies that experience financial difficulties as going

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<sup>9</sup> Hotchkiss, John, Mooradian and Thorburn (2008) and Senbet and Wang (2010) provide a thorough description of the US bankruptcy code.

<sup>10</sup> A rule stipulates the order of claim payment. Senior creditors have first claim to the proceeds from liquidation. Payments to the senior claimholders must be made in full before junior claims can be settled; shareholders are the last to be paid. This rule provides a degree of protection to creditors in the event of insolvency.

concerns while negotiations on the restructuring plan are conducted. The restructuring plan will propose solutions and restructure all the financial claims among the claimants. The plan specifically documents in detail all the claims according to the priority and additional features of the claims. In addition, it may also include operation restructuring such as asset sales to improve poor operating performance. The restructuring plan must be able to demonstrate to the bankruptcy courts the ability of the emerging company to perform better and not re-file for bankruptcy in the near future. In this sense, the company should be able to overcome any possibility of future failure that might lead to re-filing due to excessive debt in capital structure or recurrent poor operating performance.

The major provisions designed by Chapter 11 allow the company to continue its operations. One of the provisions in Chapter 11 is the automatic stay provision. This means that, during the reorganization period, Chapter 11 allows the company to halt all principal and interest payments due to creditors. In addition, secured creditors are not allowed to foreclose and sell the debtor's collateral. Automatic stay provisions effectively give some space and time to the distressed debtor to work out the solution to the financial problems of the company.

The 1978 Act also allowed the current management team to operate the business and stay in control of the company, apart from when cases such as fraud could be proven. Thus, management incompetence is insufficient reason to remove the incumbent management under Chapter 11. The management is given the exclusive right to propose a reorganization plan within a 120-day period following Chapter 11 filing. Extensions beyond the 120-day period are common, especially in the case of large

and complex bankruptcies. Prior to the 2005 Bankruptcy Reform Act, the exclusivity period could be extended indefinitely subject to the judge's discretion, but after 2005 it was limited to 18 months.

After filing for bankruptcy, a new debt financing called debtor-in-possession (DIP) can be arranged to help financially distressed companies reorganize. The provision of the financing is that these loans are given a super-seniority status over the existing debt. This provision could encourage new lending in order to help the company to emerge from bankruptcy as a viable entity. In 2005, the Bankruptcy Reform Act was established to improve the rights of creditors in Chapter 11 reorganization. Among the reforms introduced were restrictions on the use and size of management bonuses and severance payments, limitations on the exclusivity period to a maximum of 18 months, extension of the fraudulent conveyance review period to two years and reduction of the time given to the debtor to assume or reject leases.

#### **2.4 United Kingdom bankruptcy law**

United Kingdom insolvency is considered the opposite of the United States bankruptcy code, among the developed countries, as it is creditor-friendly (La Porta *et al.*, 1998)<sup>11</sup>. Even though the US and UK laws originate from a similar common law, which is English in origin, they differ substantially in terms of legal protection to creditors in cases of bankruptcy. UK companies have several options in procedures for dealing with corporate insolvency. The first procedure is called receivership. This means that a secured creditor appoints a receiver to protect and

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<sup>11</sup> For further reading and details, please refer to Blazy, Chopard and Nigam (2013) and Hotchkiss, John, Mooradian and Thorburn (2008).

represent its interest. The main objective of the appointed receiver is to reorganize the sale of assets of the bankrupt company efficiently and distribute the proceeds from the sale to creditors according to prior ranking interests.

The appointed administrative receiver will have extensive control over the entire business of the bankrupt company. Thus, the receiver will act in accordance with the terms that suit the appointing creditor without having to gain permission from other creditors or the court. One course of action is to enforce security against the company's assets in an attempt to pay off the secured debt of the appointing creditor. In 2002, UK insolvency procedures were reformed under the Enterprise Act and came into force in September 2003, eliminating the right of creditors secured by the floating charge, among other rights, to appoint the administrative receiver. This procedure often leads to eventual liquidation.

The second procedure is liquidation. The liquidation procedure can be divided into three types: compulsory liquidation, creditor voluntary liquidation and member voluntary liquidation. The petition for compulsory liquidation can be presented either by the creditors or the debtors. Creditor voluntary liquidation occurs when the debtor decides to liquidate the company since it is insolvent and incapable of repaying its debts. Member voluntary liquidation takes place when the shareholders convene to liquidate. In this case, the company has enough assets to repay the company's liabilities. The liquidation ends with piecemeal liquidation or sale as a going concern and, accordingly, the proceeds are distributed by following the absolute priority rule.

The third procedure is administration. This is the closest of the bankruptcy proceedings to Chapter 11 in the US (Kausar *et al.*, 2017). This is applied to ensure the survival of the company as a going concern. The financially viable company is allowed to restructure its obligations to re-establish itself. The procedure can be initiated either by the debtor or the creditors. This procedure will give the debtor company temporary relief from its creditors while the restructuring plan is being arranged. The court will appoint the administrator to protect the interests of the debtors and creditors. There are two conditions that allow a company to enter administration: the company is illiquid (insolvent); and the administrator's mission is feasible. In this procedure, the appointed administrator will prepare a reorganization plan, a company voluntary arrangement or liquidation.

If reorganization is proposed, the plan will be accepted or rejected according to a vote by the creditors. If the plan is rejected, the court may impose another solution deemed appropriate. The following are the main differences between UK proceedings and Chapter 11 (Kausar *et al.*, 2017): (i) the reorganization process is controlled by the court appointed administrator whereas Chapter 11 work-out allows the incumbent management to control the process, (ii) creditors work closely in designing and formulating the reorganization plan, (iii) no new financing opportunities to help the firms during the restructuring process, and (iv) no automatic stay provision or relief from creditors.

## 2.5 Comparison between Practice Notes/Guidance Notes, US and UK

### Bankruptcy Law

The table below shows the comparison between the Practice Notes/Guidance Notes of Malaysia, US Chapter 11 and UK Bankruptcy Law. These comparisons should be interpreted with caution since the Practice Notes/Guidance Notes are intended for listed companies in Malaysia while US Chapter 11 and UK Bankruptcy Law regulate all companies whether listed or privately held. In Malaysia, Section 176 of the Company Act 1965 regulates all companies which might justify an appropriate comparison position. However, since this study considers listed companies as the sample study, the Practice Notes/Guidance Notes are discussed.

**Table 2.1: Comparison of regulation between Malaysia, United States and United Kingdom**

<b>Practice Notes/Guidance Notes (Malaysia)</b>	<b>US Bankruptcy Law</b>	<b>UK Bankruptcy Law</b>
Criteria and Obligations Pursuant to Paragraph 8.14C of the Listing Requirements	Chapter 11	Schedule B1 Insolvency Act 1986
Listed Companies	All companies	All companies
No court involvement	No court discretion-legal right of the debtor.	Administrators can be appointed through court or out of court.
The listed companies trigger any of the set out criteria.	Debtors have legal right to enter the procedure, no requirement of insolvency.	The company is or is likely become insolvent.
Submit their restructuring plans to the Securities Commission within eight months and implement their restructuring plans within the agreed timeframe.	Automatic stay or moratorium of all litigation and prevents the enforcement of judgement. 120 days of exclusive right to formulate plan of reorganization and can be extended up to 18 months after the Chapter 11 filing date.	Moratorium effective from date of application to the court on the appointment of administrator or the notice of appointment of the administrator is filed at the court for out of court procedure.
No changes in the management of the affected companies.	The existing debtor's management manages the companies; namely as debtor in possession.	The affected company is managed by the insolvency practitioner (administrator).

<b>Practice Notes/Guidance Notes (Malaysia)</b>	<b>US Bankruptcy Law</b>	<b>UK Bankruptcy Law</b>
Court approval is not needed.	Court approval is required for any action outside the ordinary business activities.	No court supervision once in administration.
Obtain approval from the Securities Commission before they can proceed with the restructuring plan.	Plan accepted by class vote.	Proposal accepted with majority approval of the creditors.
The company executes the plan of reorganization as agreed by Bursa Malaysia.	Approved plans bind all creditors and equity holders.	Administrator manages the company by following the approved proposals.

## **2.6 Summary of the chapter**

This chapter discussed the regulations with regard to Malaysia. The detailed regulations governing financially distressed listed companies were discussed as part of the institution's uniqueness for the issue under study. The enhanced Practice Notes have been designed to boost the confidence of investors in the quality of listed companies in Malaysia. The main characteristics of the United States bankruptcy code and United Kingdom receivership have been described to show the differences in these legislations compared to Malaysia.

## **CHAPTER THREE**

### **LITERATURE REVIEW**

#### **3.1 Introduction**

This chapter is divided into two main sections: theoretical foundations and empirical evidence. First, the theoretical foundations that may provide the roots for discussions on the subject area of this study are examined. Accordingly, they may provide motivation and guides for the questions raised in the empirical studies. The key theoretical foundations to be described are efficient market hypothesis, agency theory, coalition behaviour theory, asymmetric information theory and bankruptcy and reorganization theory. Next, the growing body of related empirical literature is thoroughly reviewed in order to identify the gaps that the study will seek to fill. The empirical evidence comprises literature on the behaviour of distressed stocks. This is followed by a review of the empirical evidence on the predictors influencing resolution of corporate financial distress and, finally, on the post-restructuring share price performance.

#### **3.2 Theoretical foundations**

The theoretical foundations to be explained include efficient market hypothesis, agency theory, information asymmetry and bankruptcy and reorganization theory. These theories are discussed below.

### **3.2.1 Efficient market hypothesis**

The efficient market hypothesis (EMH) is considered one of the central subjects in academic finance literature. An influential survey article by Fama (1970) established the basic form of EMH, which states that a market is considered 'efficient' if the prices of the securities always 'fully reflect' all available information. This suggests that all relevant information has been considered in the pricing of financial assets in an efficient market. In other words, new information would be spread through the market very quickly and incorporated in the prices of assets without delay. Therefore, neither fundamental nor technical analysis would enable an investor to gain greater returns than those who hold a randomly selected portfolio of stocks with comparable risks.

An efficient market can take one of three forms: weak, semi-strong and strong. The weak form of efficient market suggests that prices have fully reflected all past information. The semi-strong form of the hypothesis claims that prices reflect all the relevant information that is publicly available. The strong form of market efficiency asserts that market prices have reflected all information that is publicly and privately available.

Fama (1970) states that, in accordance with the semi-strong form of the efficient market hypothesis, the market should accurately reflect all relevant information immediately after it becomes publicly known. In other words, the market has anticipated the information and made the price adjustments prior to the disclosure of the events. Therefore, any empirical result that is consistent with the prediction will have a non-statistically significant announcement effect, which would suggest that

the equity market is efficient with regard to that particular announcement. Thaler (1999) hypothesizes that all market participants are fully rational in order for the market to be efficient. Therefore, upon availability of the information, market participants update their beliefs accordingly, as described by Bayes Law (Barberis & Thaler, 2003, p.1).

With regard to the issues investigated in this study, it is assumed that the market is able to assess and differentiate correctly the “value” and “less value” stock, which in this case are the emerged and delisted companies, respectively. The theoretical model put forward by Li and Li (1999) suggests that the company’s choice on the financial distress resolution between the workouts and Chapter 11 procedures will have different announcement effects. In this sense, when the company makes an announcement, it will deliver important information regarding its cash flow prospects. Thus, market participants will always respond quickly to the new value-relevant information that may affect the fundamental value of the stock. Therefore, it is posited that the better future prospects of the emerged companies will be reflected positively in the stock prices. Nevertheless, the opposite applies to delisted companies.

### **3.2.2 Agency theory**

The relationship between the principals (such as shareholders) and agents of the principals (for example, company executives) of the company has been widely discussed in the literature. In the principal-agent relationship, it is hoped that the appointed managers will act in a way that maximizes the shareholders’ wealth and the company’s value. However, the separation between the shareholders and

management may introduce fundamental conflicts of interest for both parties. The managers have a tendency to make self-serving decisions to fulfil their own goals rather than those of the principal. The principal, on the other hand, tends to minimize the managers' rewards in the hope that the managers will satisfy his objectives. Thus, the divergence of interests between the company's managers and the company's owner(s) is called the agency cost<sup>12</sup>.

The influential paper by Jensen and Meckling (1976) has modelled a theory of ownership structure according to the problem of agency. They show that the conflicting interests among the major governing parties lead to the companies not operating according to the maximization principle. Agency theory assumes that the conflict of interest stems from the following factors: agent and principal having different objectives or goals, asymmetric information or different access to information (principal unable to monitor how much information the agent has), and the two parties having different propensity to risk. In order to reduce the managerial opportunism, Jensen and Meckling suggest equity ownership by the managers.

In relation to the financially distressed condition, the agency problem may become severe, which could make the company's value worsen due to the actions taken by the managers. In this sense, the managers of financially distressed companies may not disclose the true value of the company in order to remain in control (Li & Li, 1999). The information problem arises because managers who have access to private information on the future viability of the company do not reveal that information in order that they might retain the control of the company. As a result, the financial

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<sup>12</sup> Agency cost is defined as the sum of the monitoring expenditures by the principal, bonding expenditures by the agent and the residual loss (Jensen & Meckling, 1976).

distress situation cannot be resolved. Thus, Li and Li's (1999) theory suggests that the legal bankruptcy procedures could help to reduce the agency costs in financially distressed companies. This is due to the fact that the court may play its role in forcing the managers to disclose all the relevant information that might differentiate the economically inefficient and economically efficient companies. To relate the theory developed by Li and Li (1999) to the present study, listed companies in Malaysia are regulated with the requirement to announce to the public all the actions taken that fall under the Listing Requirement of the listed companies. In this sense, financially distressed listed companies are required to announce the action taken to resolve their financially distressed condition.

### **3.2.3 Information asymmetry**

Information asymmetry implies that one party has better or more relevant information than the other, which may disadvantage the uninformed party. In relation to the negotiation for resolving distress, high asymmetric information may arise between debtors and creditors. Hence, consensus between the two parties cannot be reached due to differences of view regarding the company's true value. The absence of fair bargaining between the debtor and creditors could lead to the court interfering in the proceedings rather than allowing a private workout. With symmetric information, complete contracting and single lenders, the efficient way to resolve financial distress is to restructure the debt contract privately against the costly court proceedings (Hotchkiss *et al.*, 2008).

The presence of information asymmetries between the two parties (creditors and managers) may cause inability to reach consensus or settlement in a private

restructuring. The creditors' uncertainty on the capability of the distressed company to recover could lead to further bargaining and modification and reorganization of plans before a consensus is reached (Carapeto, 2005). In consequence, severe information problems cause poorly informed creditors to opt for more costly bankruptcy proceedings rather than private workouts (Giammarino, 1989; Mooradian, 1994). In this sense, due to asymmetric information on the company's future prospects, creditor and debtors fail to reach an agreement on the terms of the debt contract and are, thus, unable to attempt to resolve distress via a less costly private workout.

Hence, this study proceeds by investigating the predictors of the outcome of distress resolution in order to reduce, to a certain extent, information asymmetries between the creditors and the company's insiders.

#### **3.2.4 Bankruptcy and reorganization theory**

In an economic system, entry of a new business entity and exit of the failed business are part of the business life cycle. The inability to cope with competition and challenges in the business environment could lead to failure in managing the business. Nevertheless, there are huge potential costs of bankruptcy and this had led to the reorganization of firms facing difficulties in the business. According to Altman and Hotchkiss (2006 p.8), the reorganization process is designed "to enable the financially troubled company to continue in existence and maintain whatever goodwill it still possesses rather than liquidating its assets for the benefit of its creditors". Since there are costs, be it direct or indirect costs to the society inherent in the failure of these entities in the community, regulations and procedures have been

established to protect the contractual rights of interested parties. In addition, the regulations and procedures are designed to provide the orderly liquidation of unproductive assets and a moratorium on certain claims in order to give the debtor time to become rehabilitated and to emerge from the process as a continuing entity (Altman & Hotchkiss, 2006). In brief, if an entity's intrinsic or economic value is greater than its current liquidation value, the company should attempt to reorganize and continue in existence. However, if the liquidation value exceeds the economic value, liquidation is the preferable alternative.

The process of reorganization should benefit the society in terms of the continued employment of the company's staff members, revenue for its suppliers, and taxes on the profits paid to the government. These benefits should be weighed against the costs of bankruptcy to the company and to society. The reorganization process will relieve the burden of the debtor's liabilities and realign the capital structure to prevent financial problems from recurring in the future. Most studies on bankruptcy emergence have been based on Myers (1977) and Bulow and Shoven's (1978) theoretical model, extended by White (1981). Myers's (1977) model suggests that any financially difficult firms should be liquidated if the liquidation value exceeds continuation value. A profitable firm is less likely to go bankrupt if it has higher continuation value compared to an unprofitable firm.

Bulow and Shoven (1978) formulated the optimal timing of liquidation in a model that was developed to control conflicts of interest among various classes of claimants. The study assumes that a bank lender and equity holder have bankruptcy decision powers but a bondholder does not have the right to restructure its debt. This,

in turn, has led to a bankruptcy decision that is made by the bank and equity holder not maximizing the total value of the firm. In this sense, this may cause economically viable firms to shut down or non-viable firms to continue to survive. White (1981) extends the model of Bulow and Shoven (1978) to include the decision between liquidation and reorganization. The models examine how conflicting creditors and asymmetries in their negotiations can lead to a suboptimal resolution to financial distress. White (1981) assumes that a company's claimants can be grouped into three classes: bondholders, who cannot alter the terms of their unsecured loans in the event of bankruptcy; bank lenders, who can alter the terms of their secured loans; and equity holders. If bankruptcy occurs, decisions are taken by a coalition of equity holders and bank lenders to maximize the total value of the coalition's claim.

Let  $E_b$  and  $B_b$  be the present value of the equity holders' and the banks' claims in bankruptcy and  $E_c$  and  $B_c$  be the present value of the equity holders' and the bank's claims in continuance. Bankruptcy will occur if the present value of the coalition's claim is greater in bankruptcy than in continuance,  $E_b + B_b > E_c + B_c$ . Since the claims of the equity holders are worth zero in bankruptcy,  $E_b = 0$ , liquidation occurs if equity holders cannot compensate the bank lender to keep the company in business,  $E_c < B_b - B_c$ .

### **3.3 Empirical evidence**

In the previous section, the theoretical foundation has been explained accordingly. In continuation, this subchapter provides empirical evidence on the researched area of the study. It is divided into three sub-sections: behaviour of distressed stocks,

resolution of financial distress, and long-run share price performance of emerging companies.

### **3.3.1 Behaviour of distressed stocks**

Bankruptcy filings are seen as one of the key corporate events in a business life cycle, a considerable amount of literature has been published on the market's anticipation of bankruptcy filings. Preliminary discussions and analysis of this particular issue were first carried out by Aharony, Jones and Swary (1980), who investigated the characteristics of risk and return of bankrupt companies using the capital market data before the companies filed for bankruptcy. The main result of Aharony *et al.*'s (1980) study was that failing companies show deterioration in performance as early as four years before bankruptcy is filed. Thus, an increasing number of empirical studies have investigated this issue including those by Clark and Weinstein (1983), Datta and Iskandar-Datta (1995), Dawkins and Rose-Green (1998), and Coelho (2015).

The declining performance of a distressed company might be attributed to the unresolved financial problems it experiences several years before they become severe. Thus, a number of studies have explored the characteristics of bankrupt companies before the bankruptcy filing. Aharony *et al.* (1980) investigate the characteristics of bankrupt and non-bankrupt companies prior to bankruptcy using capital market data. Examining 45 industrial companies and 65 matched companies for the period 1970-1978, the study documents that the bankrupt companies show significant negative cumulative returns from as far back as four years preceding the announcement of bankruptcy filing. In addition, there are significant differences in

terms of the risk characteristics of the failed companies compared to the solvent companies.

Clark and Weinstein (1983) whose analyses examine a sample prior to the 1978 Bankruptcy Reform Act report large equity losses prior to the filings. Using monthly data, Clark and Weinstein's performance measures show losses of between 50 and 65 percent three years prior to the bankruptcy announcement. In addition, through the use of daily data, the empirical results show losses of between 28 and 51 percent from event day -220 to event day -2. Similarly, Coelho (2015) proves that market prices of US industrial companies that file for Chapter 11 fall well before the formal announcement is made. His empirical results suggest that the mean one-year pre-event buy-and-hold abnormal returns are -71 percent for size and Z-score control sample and -89 percent for market-adjusted abnormal returns. Both results are significant at one percent. The significant negative abnormal returns are shown for all windows in the pre-Chapter 11 announcements. This indicates that the market has anticipated the information and reacts negatively prior to the formal Chapter 11 announcement.

However, the main aim of Clark and Weinstein's (1983) study is to investigate the existence of a bankruptcy announcement effect surrounding the bankruptcy filing. The new findings from the study suggest that shareholders of bankrupt companies suffer large losses during the month in which the bankruptcy occurs, and the losses are concentrated in the three days surrounding the bankruptcy filing. The average returns during the three days range from -22 percent to -47 percent depending on performance measurements. However, the drawback of Clark and Weinstein's (1983) results for the three-day announcement is that they are based on a very small sample

(six). This has made it difficult to draw inferences from the empirical results. Similarly, using data from only 29 available stock returns, Datta and Iskandar-Datta (1995) report a significant 33 percent loss around the three days of the bankruptcy filing. In a follow-up study, Lang and Stulz (1992) and Ferris, Jayaraman and Makhija (1997) also support the previous studies' findings of significant, large, negative, abnormal returns around the days surrounding the bankruptcy announcement. Lang and Stulz (1992) suggest an average loss of 28.5 percent for bankrupt companies for the period five days before to five days after the announcement of bankruptcy, and Ferris *et al.* (1997) find a 20.92 percent loss for a similar event window. In addition, Ferris *et al.* (1997) report that NASDAQ-listed bankrupt companies (smaller stocks) suffer a larger drop compared to NYSE/AMEX-listed bankrupt companies.

Among other studies in developing countries including those by Chi and Tang (2007) and Kam, Citron and Muradoglu (2008), Kam *et al.* (2008) examine the effect of restructuring announcements on the company value of 100 distressed companies in China. Stressing the governance point of view, the study concludes that distress resolution strategies would produce different results between state-owned enterprises and publicly-held companies, thus showing that ownership structures do matter in the case of China. The study emphasizes distress resolution using the following mechanisms: mergers and acquisitions, debt restructuring, asset sales, and managerial restructuring. The empirical evidence indicates that state-owned enterprises suffer negative cumulative average abnormal returns of 8.5 percent for voluntary asset sales, whereas debt restructuring by increasing the leverage results in positive cumulative average abnormal returns of 12.1 percent for the publicly-owned

companies. Chi and Tang (2007) investigate reorganization filing announcements and final resolution announcements in the case of Taiwan. Even though there are significant large negative abnormal returns on the reorganization filing day (-1.768 percent), the abnormal returns are positive (0.826 percent) on the final resolution day. This shows that the announcements of final resolution are evidently good news to the market.

The common findings in the previous empirical studies suggest that Chapter 11 bankruptcy filings give a negative effect on the value of the filing company's share price. They show that the negative effect is due to the decreasing value of the filing company. However, some filing companies are able to restructure and resume business. To illustrate, the restructured companies are expected to have higher future cash flows as compared to companies that have failed in the reorganization process. Since the market participants have rational expectations regarding these cash flows, it is suggested that the market is able to differentiate between "value" and "less value" companies. It is due to the fact that the market participants have sensible expectations about the bankruptcy outcomes and that the market is likely to recognize the successfully restructured companies among the group of distressed companies.

Clark and Weinstein (1983) suggest that the market is able to distinguish between worthless and valuable shares. Nevertheless, Clark and Weinstein's (1983) empirical results must be interpreted cautiously because they are based on a small sample size, which may lead to inference errors. The empirical results put forward by Beneish and Press (1995) show an inverse relationship between the pre-event cumulative

abnormal returns and the severity of financial distress. Comparing the stock price effects between technical default, debt service default and Chapter 11 filings, Beneish and Press (1995) suggest that stock prices may differentiate between the severities of financial distress accordingly. Thus, even though the abnormal returns from all categories of financial distress are negative, the evidence suggests that Chapter 11 filings, the most severe type of financial distress, have the most negative stock price effect. In addition, Gilson, John and Lang (1990), who carried out an investigation into the characteristics of companies that privately restructure debt *versus* those that reorganize under Chapter 11, have shown that the stock returns of companies that privately renegotiate debt are significantly higher. The explanation for the superior performance is linked to the reduction in the concern over value if the companies are able to privately renegotiate their debts, thus leading to higher company market value.

Another study by Rose-Green and Dawkins (2000) reported that the US equity market is able to differentiate between companies that will be liquidated and those that successfully manage the reorganization process. In a sample of 77 companies filing bankruptcy petitions between 1980 and 1996, the shareholders of subsequently liquidated companies experienced larger significant losses (-19.86 percent) than shareholders of those that subsequently reorganized (-4.8 percent) one day prior to the bankruptcy filing. The price reactions at the time of bankruptcy filing suggest that the market is able to anticipate the outcome of the filings. This evidence has led Rose-Green and Dawkins (2000) to conclude that the US equity market is efficient since it has a high degree of insight into the subsequent resolution of bankruptcy.

Looking at the matter from a different perspective, Rose-Green and Dawkins (2002) show that the stock market is able to differentiate between companies filing for bankruptcy for strategic reasons and those that file for bankruptcy for financial reasons.<sup>13</sup> Rose-Green and Dawkins (2002) suggest that companies that file bankruptcy petitions for strategic reasons have a better chance of emerging from bankruptcy with significantly less negative abnormal returns than companies filing financial bankruptcy petitions. Similarly, Huang, Huang and Lin (2013) investigate whether Taiwan's stock market is able to distinguish between companies that file reorganization petitions for opportunistic reasons and those that file for formal resolution of financial distress<sup>14</sup>. The results suggest that there are significant differences between companies that file for opportunistic reasons and those that file for formal resolution. The announcement effect on companies filing for the former is less negative compared to those filing for the latter.

With regard to the political connections of companies, it is expected that these companies commonly receive financial support or assistance during times of distressed financial conditions and have a high likelihood of success in restructuring their condition. Therefore, it is likely that market participants perceive political connection as beneficial in the event of financial distress even though the

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<sup>13</sup> Strategic bankruptcy is where solvent companies use Chapter 11 as a planned business strategy. A bankruptcy is classified as "strategic" if the filing is based on the following reasons: alleged accounting improprieties or fraud, asbestos liabilities, labour relations, other litigation or contract problems, pension disputes, personal injury lawsuits, patent lawsuits and regulatory/environmental/nuclear problems (Rose-Green & Dawkins, 2002).

<sup>14</sup> Opportunistic reasons refer to when a firm arbitrarily files for restructuring rather than for genuine financial reasons (for instance, to threaten creditors to concede on debt restructuring). The firm will then automatically retract the petition (self-retracting) before the court makes a decision on the filings.

announcement of financial distress is considered bad news. Nonetheless, this has yet to be tested as different investors might react differently and such reaction would also be affected by whether the firms are politically-connected or otherwise.

Empirical evidence on political connections suggest that, generally, politically connected firms have better access to key resources from the government when faced with distressed financial conditions (Johnson and Mitton, 2003; Faccio *et al.*, 2006), lower tax liability (Faccio, 2010) and lower risk (Boubakri *et al.*, 2012) which shows that political connections matter for the firm's value. Even though the announcement of financial distress is considered bad news, politically connected firms are in a favourable position with the advantage of access to bailouts in the event of financial distress or economic downturn (Faccio *et al.*, 2006). Therefore, it is likely that market participants perceive political connections as beneficial in the event of financial distress.

For this reason, there may be different investor reactions with respect to politically connected firms compared to non-connected firms. Since connections by the corporate sector in Malaysia is an important subject matter as stressed by Johnson and Mitton (2003), the inquiry with regard to the financial distress announcement of politically-connected firms is attained to explore the impact of political connections following such announcements. Furthermore, Faccio *et al.* (2006) likewise state in Table III (pg. 2607) that Malaysia is among the nations with the highest number of politically-connected companies.. Additionally, previous research has not examined the effects of outcomes (emerged and delisted) on financially distressed firms that are politically and non-politically connected.

Therefore, the empirical evidence suggests that there are reasons for hypothesizing that the market is able to identify or distinguish between companies that are successful in restructuring and those that fail. For the case of Malaysia, where financially distressed listed companies are either delisted or emerge, the discrimination may presumably emerge prior to the financial distress announcement. Since the company's current value is estimated from the expected future cash flows, markets should be able to distinguish the outcome.

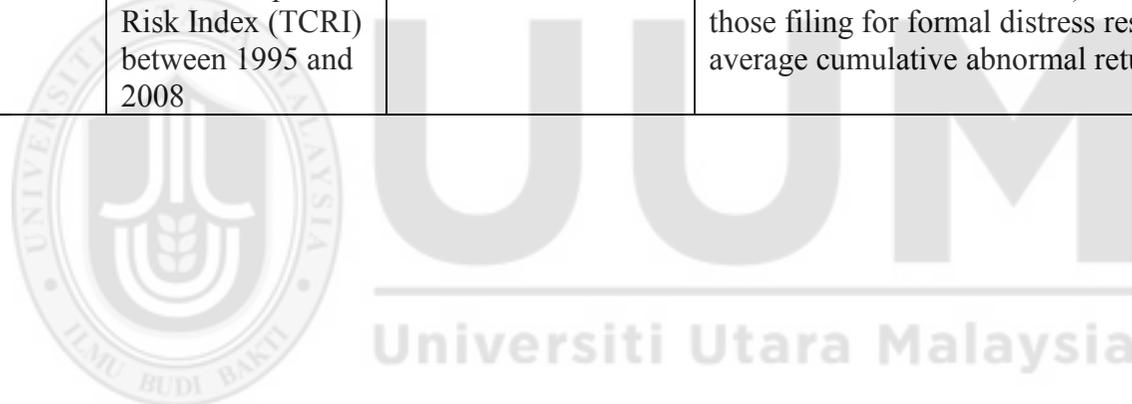
Datta and Iskandar-Datta's (1995) finding of significant price reversal during the post-filing period may be due to the failure of the study to accommodate the underlying elements. The literature on the effect of bankruptcy has centred on the developed market, especially in the United States on the filing of Chapter 11. In addition, the generalizability of much of the published literature on this issue is problematic, with mixed empirical findings. Therefore, building on prior empirical evidence, the first objective is to conduct a comprehensive analysis of the behaviour of the financially distressed equity.

**Table 3.1: Summary of attributes of articles reviewed**

<b>Author(s) (Year)</b>	<b>Sample</b>	<b>Methodology</b>	<b>Empirical results</b>
Market reaction on financial distress or bankruptcy announcement			
Aharony, Jones and Swary (1980)	45 industrial companies went bankrupt from 1970 to 1978 and 65 matched companies.	Market model	Mean weekly difference of bankrupt portfolio is significantly less than the control portfolio as early as four years before the bankruptcy is filed. Sharp decline in the differential of portfolio return seven weeks before bankruptcy (-3.28%).
Clark and Weinstein (1983)	36 NYSE listed firms filing for reorganization under Chapter X and XI Chandler Act from 1962 to 1979.	Raw returns and market adjusted returns	Losses between 50% and 65% three years prior to the bankruptcy announcement. The average returns during the three days range from -22% to -47%.
Lang and Stulz (1992)	Bankruptcies between January 1970 and December 1989 with liabilities more than US\$120 million.	Market model	Average loss of 28.5% for bankrupt companies for the period five days before to five days after the announcement of bankruptcy.
Datta and Iskandar-Datta (1995)	29 firms filed for Chapter 11	Mean adjusted excess return	Stock returns of -33.75% around the three days of the bankruptcy filing and statistically significant at 1%.
Ferris, Jayaraman and Makhija (1997)	274 firms listed either on the NYSE/AMEX and	Modified market adjusted and market model	Stock return of -20.92% loss for the period five days before to five days after the announcement of bankruptcy. NASDAQ-listed bankrupt companies (smaller stocks) suffer a

<b>Author(s) (Year)</b>	<b>Sample</b>	<b>Methodology</b>	<b>Empirical results</b>
	NASDAQ that announce bankruptcy under Chapter 7 or Chapter 11.		larger drop compared to NYSE/AMEX-listed bankrupt companies of 31.03% for five days before to five days after the announcement.
Chi and Tang (2007)	62 of Taiwan listed companies that filed petitions from 1980 to 2005	Market model	Abnormal returns of -1.77% on the reorganization filing announcement day. Cumulative abnormal returns on the final resolution date for event window (0, +1) of 1.73%.
Kam, Citron and Muradoglu (2008)	303 of China listed companies	Market model	Cumulative average abnormal returns for event windows of (-40, 0) and (-40, +40) increase by 10.7% and 12.1%, respectively for non-state-owned enterprises on increased leverage as debt restructuring strategy. The state-owned enterprises experience no significant cumulative average abnormal returns over the event windows. Non-state-owned enterprises experience significant cumulative average abnormal returns on event window (-40, +40) of -14.4% on debt renegotiation announcement.
Coelho (2015)	U.S. Industrial companies that filed for Chapter 11	Buy-and-hold abnormal returns	Average one-year pre-event buy-and-hold abnormal returns are -71% for size and Z-score control sample and -89% for market-adjusted abnormal returns.
<b>Market reaction on outcomes of financial distress and reasons of filing</b>			
Rose-Green and Dawkins (2000)	77 companies that filed bankruptcy petitions between 1980 and 1996	Buy-and-hold daily abnormal returns	Liquidated companies experience larger significant losses (-19.86%) than that are subsequently reorganized (-4.80%) one day prior to the bankruptcy filing.
Rose-Green and Dawkins (2002)	245 companies	Buy-and-hold daily	Financial bankruptcy companies experience significant

<b>Author(s) (Year)</b>	<b>Sample</b>	<b>Methodology</b>	<b>Empirical results</b>
	filed for Chapter 11 bankruptcy petitions between 1981 and 1996.	abnormal returns	abnormal returns of -2.02%, -10.94% and -16.89% on day -1, 0 and +1, respectively. Strategic bankruptcy companies experience significant abnormal returns of -13.38% on day 0. Significant CARs between financial and strategic bankruptcy companies on (-251,-2) event window.
Huang, Huang and Lin (2013)	153 Taiwan's financially distressed listed firms fall under Taiwan Corporate Risk Index (TCRI) between 1995 and 2008	Market model	Significant differences between companies that file for opportunistic reasons and those that files for formal resolution. The announcement effect on companies filing for the opportunistic reason (the median of average cumulative abnormal returns is -22.04%) is less negative compared to those filing for formal distress resolutions (the median of average cumulative abnormal returns is -49.91%).



### **3.3.2 Predictors influencing the outcomes of corporate financial distress**

Financial distress might affect the company's performance in many ways. The work of Opler and Titman (1994) on the indirect costs of financial distress shows that companies that are highly leveraged lose substantial market share to their more conservatively financed competitors during industry downturns. In addition, it is suggested that sales of highly leveraged companies decline by 26 percent more than companies that have low levels of leverage in their capital structure. Furthermore, studies by Hoshi, Kashyap and Scharfstein (1990) and Ofek (1993) find that financially distressed companies have a greater tendency to cut investment, sell their assets, and reduce employment than their non-leveraged counterparts.

The outcomes of financial distress are varied and depend on institutional factors as well as company-specific factors (Wang, 2012). LoPucki's (1983) study uses a small sample of bankrupt companies to examine the outcome of bankruptcy reorganization using only correlation analysis. Empirical evidence uncovered by Claessens, Djankov and Klapper (2003), Davydenko and Franks (2008) and La Porta *et al.* (1998) suggests that national bankruptcy codes are important in determining outcomes for distressed companies. Davydenko and Franks (2008) focus their study on three different bankruptcy codes, namely those of France, Germany and the UK. They found that a country's bankruptcy code is important in determining the outcome of distress reorganization.

The differences in bankruptcy codes can best be seen in the manner of the treatment afforded to the secured creditors. For instance, in the creditor-unfriendly code of France, the approvals of secured creditors are needed neither for the sale of their

collateral nor for confirmation of the reorganization plan. Hotchkiss *et al.* (2008) claim that, for the period 1990-2003, not more than 45 percent of US companies were successful in their reorganization plans in a single year. Successful restructuring is a consensus agreement between the claimants to modify a set of financial contracts and liquidate all or a portion of the company's assets to meet its obligations.

A company might pursue a number of resolution processes, namely in-court bankruptcy proceedings, out-of-court arrangements with creditors and other stakeholders on rearrangement, or partial write-off of debt. There are, thus, three possible outcomes: emergence, acquisition or liquidation. Hotchkiss (1995) finds that 24 percent of 806 public companies filing for Chapter 11 emerge as public companies. Eberhart, Altman and Aggarwal (1999) report that 131 of 546 companies filing for Chapter 11 from 1980 to 1993 emerged as public companies. Bris, Welch and Zhu (2006) find that 52 percent of companies emerge as independent public or private companies when they emerge from Chapter 11. Hotchkiss and Mooradian (1998) report that 28 percent of 1200 public companies that filed for Chapter 11 between 1979 and 1992 reorganized as independent public companies; nine percent were acquired, of which 55 companies were acquired by public companies. Morrison (2007), in his study using a sample of 95 Chapter 11 bankruptcy filings, found that nine percent were sold as going concerns, 28 percent returned as reorganized entities, 30 percent were shut down in bankruptcy and 33 percent were liquidated.

A vast amount of empirical studies attempt to comprehend the optimal approach to resolving corporate financial distress. Hence, extensive studies have empirically

examined the factors influencing the probability that a company will emerge successfully from Chapter 11 in the United States. These studies focus on the outcomes of bankruptcy filings using various company-level characteristics. A considerable amount of literature has studied the association between company size on the reorganization outcome. Larger companies are more likely to have different classes of assets that could be used as collateral to secure additional funding during financial distress (White, 1983). In other words, larger companies have a greater capacity to survive during periods of poor performance than small companies do. Previous studies have reported the relationship between bankruptcy costs and the size of a company (Warner, 1977; Altman, 1984; Campbell, 1996).

The economy of scale in accordance with bankruptcy costs for larger companies shows that bankruptcy costs are less significant when measured as a ratio of size. In addition, Denis and Rodgers (2007) provide evidence that larger companies are more likely to survive the Chapter 11 process and emerge as independent companies because they have more resources to help them survive. Overall, collectively, the above empirical studies posit that company size is an important factor for determining whether a company will be successful in restructuring its adverse condition. Accordingly, the natural log of assets is used as the proxy for company size.

### **3.3.2.1 Financial variables**

It is possible to posit the association of leverage with the resolution of corporate financial distress. Highly levered companies are more likely to have difficulties in securing the necessary funding to continue their operations. The high level of debt

leads to greater uncertainty and it is, therefore, difficult to secure additional borrowings if the company has little or no assets available for use as security. Furthermore, it is also in accordance with Hwang, Kang and Jin's (2014) study of Korean listed companies, which suggests that debt ratio is significant in determining delisted companies. Similarly, Denis and Rodgers (2007) also provide evidence denoting that companies that have higher levels of leverage prior to Chapter 11 filings are more likely to reorganize than to liquidate or be acquired. Huang, Huang and You (2015) also show similar findings in Taiwan. Therefore, it is precise to include a company's debt level which reflects the financial soundness of the company that may affect the reorganization decision.

Routledge and Gadenne (2000) suggest liquidity (measured as current ratio) as a significant measurement to differentiate reorganized companies from those that liquidate under voluntary administration in Australia. Companies that have high levels of short-term liquidity are expected to undergo reorganization rather than being liquidated as companies with high liquidity have better positions and are capable of continuing operation. On the other hand, Wang (2012) finds that companies that have large amounts of liquid assets have a higher tendency to be liquidated.

The earnings prospects should also give an indication of whether a company could successfully undergo its reorganization procedure (Casey, McGee & Stickney, 1986; White, 1984). A successfully reorganized company is expected to operate profitably to overcome its insolvent condition. The empirical results support the theoretical model developed by White (1981, 1984) with net income to total assets as the proxy

of the earnings prospects. Furthermore, using the same variable, similar evidence by Claessens *et al.* (2003) and Huang *et al.* (2015) also suggests that companies that were ex-ante perform worse (lower return on assets) and are more likely to file for bankruptcy compared to companies that did not file.

### **3.3.2.2 Market variables**

In addition, stock returns can be used as one of the indicators since the market may have a certain insight or foresight into companies' future prospects. There are studies showing that the market is able to differentiate between "value" and "less value" companies. For instance, Aharony, Jones and Swary (1980) find that the market is able to show an indication of the failures as early as four years before companies file for bankruptcy. Clark and Weinstein (1983) suggest that the market is able to distinguish between worthless and valuable shares. The empirical results put forward by Beneish and Press (1995) show an inverse relationship between the pre-event cumulative abnormal returns and the severity of financial distress. Comparing stock price effects between technical default, debt service default and Chapter 11 filings, Beneish and Press (1995) suggest that stock prices may differentiate between the severities of financial distress accordingly. The empirical evidence suggests that Chapter 11 filings, the most severe type of financial distress, have the most negative stock price effect. This suggests that the market is likely to recognize successfully restructured companies among the group of distressed companies.

Chen and Schoderbek (1999) and Lin, Lee and Gibbs (2008) are studies finding that stock return is significant in explaining the survivability of the company that undergoes restructuring. Chen and Schoderbek (1999) use one-year market-adjusted

stock return prior to delisting to represent the stock market variables. They find a significant negative relationship between stock returns and the probability of delisting, showing that losses in market value of the stock increase the probability of stock delisting. Similarly, Lin *et al.* (2008), who also employ market-adjusted stock return over the year of restructuring, find significantly negatively on the firm's ability to survive. These studies find that the loss in stock market value decreases the firm's ability to survive during restructuring.

### **3.3.2.3 Institutional variables**

Heretofore, little attention has been paid to the institutional structures of the companies in determining the resolution of corporate financial distress. Therefore, this study also includes institutional factors as part of the determinants which is relevant to the Malaysian context. Furthermore, political connections and concentrated shareholdings by institutions and individuals could have substantial implications on the resolution of financial distress. In this sense, considering institutional structures in Malaysian settings could provide additional evidence and insight into the present study. In this study, three measurements of institutional variables are used as measurement.

#### **Largest shareholdings**

The discussion on concentrated ownership structure and firm performance has been encouraging. Large shareholders have the incentive to professionally monitor the firm's management in order to increase the firm value. Therefore, ownership concentration could reduce agency problems since large shareholders have a general

interest in profit maximization and, thus, put pressure on the firm's management to deliver their interest (Shleifer and Vishny, 1997).

Even though ownership structures of firms in the United States are mainly dispersed, two-thirds of the firms are controlled by a single, large, shareholder elsewhere in the world (La Porta, Lopez-de-Silanes and Shleifer, 1999). For the case of Malaysia, Haniffa and Hudaib (2006) posit the mean shareholdings of the single largest shareholder are 31 percent and those of the five largest shareholders of companies are 62 percent, suggesting that Malaysia has a high concentration of ownership. In this concern, there are studies exploring the effects of large ownership on the firms' value. Using 1301 publicly traded companies in East Asia, Claessens *et al.* (2002) suggest that ownership concentration (cash-flow relationship) increases firm value, which supports the positive incentive effect of large shareholdings.

In contrast, studies by Demsetz and Lehn (1985) and Demsetz and Villalonga (2001) show ownership concentration has no significant impact on firm performance. In a cross-country study, Thomsen, Pedersen and Kvist (2006) find a negative relationship between block-holder ownership on firm performance for Continental Europe. Furthermore, Thomsen *et al.* (2006) suggest that the negative relationship is significant only for companies with initial levels of block-holder ownership of more than 10 percent of the shares. They suggest these findings as evidence of a conflict of interest between large investors and minority shareholders.

With regard to insolvency studies, consistent empirical results could not be reached. Chiang, Chung and Huang (2015) note that large block shareholdings are

significantly positive to default risk; explaining the tendency of large shareholders to expropriate wealth from small shareholders which leads to lower firm performance. Conversely, Hwang, Kang and Jin (2014) suggest the largest shareholder ratio has a negative sign and is significant in predicting delisting in Korea. The largest shareholder ratio can predict delisting as early as three years before the firm's delisting. This suggests that major shareholders with small shareholdings increase the likelihood to be delisted when companies become insolvent, for the case of Korea listed companies. Earlier studies by Parker, Peters and Turetsky (2002; 2005) suggest that firms with larger levels of block-holdings have a higher probability of surviving compared to firms with smaller block-holdings during periods of financial distress.

#### **Institutional ownership**

Institutional investors are associated with profit orientation and, thus, contribute to effective monitoring to ensure the firm is creating value on their investment. Therefore, it is expected that institutions have strong incentives to monitor the firm's management and the performance of the company as institutional investors have an ability, and substantial economic incentives, to make sure the returns of their investments are profitable. For that reason, institutional engagement in monitoring the firm enhances the firm's value.

Cornett *et al.* (2007) and Bhattacharya and Graham (2009) suggest a positive relationship between institutional ownership and firm performance. On the other hand, Seifert, Gonenc and Wright's (2005) findings suggest that there is no consistent relationship between institutional ownership and firm performance. The countries under study are the United States, United Kingdom, Germany and Japan.

In this sense, companies with high levels of institutional ownership tend to have lower probability of failure. From another point of view, institutional ownership is associated with survival in the case of financial distress.

### **Political connections**

Political connections have been considered as an important element in the development of capital markets. Generally, politically connected firms have better access to key resources from the government (Johnson and Mitton, 2003; Faccio *et al.*, 2006), lower tax liability (Faccio, 2010) and lower risk (Boubakri *et al.*, 2012) which, in turn, lead to a positive impact on the firm's performance. Therefore, investors perceive political connections as favourable news since politically connected firms enjoy the financial support or assistance of the government when faced with distressed financial conditions (Faccio *et al.*, 2006). Recent empirical work has investigated the role of political connections in enhancing firm value (Johnson and Mitton, 2003; Faccio *et al.*, 2006; Faccio, 2010; Boubakri *et al.*, 2012). Some research studies have linked Malaysian companies with political connections (for example, Ebrahim, Girma, Shah and Williams, 2014; Fraser, Zhang and Derashid, 2006; Johnson and Mitton, 2003). Faccio, Masulis and McConnell (2006) state in Table III (pg. 2607) that Malaysia is among the nations with the highest number of politically connected companies. Gomez and Jomo (1997) describe how the Malaysian government has intervened in corporate activities through listing restrictions, direct equity stakes, control of banks, and government-sponsored investor vehicles.

Politically-connected companies enjoy the crucial benefit of knowing which financial support or assistance will be granted during times of distressed financial conditions. Therefore, these companies tend to gain the support and influence of the government during the restructuring process to avoid failure. For this reason, politically-connected Malaysian companies carry more debt, as documented by the studies by Bliss and Gul (2012), Fraser *et al.* (2006) and Johnson and Mitton (2003). Thus, drawing on Ebrahim *et al.* (2014), the formal and informal types of patronage in Malaysia are considered to gauge the effect of political patronage on a company's ability to restructure.

#### **3.3.2.4 Modelling bankruptcy resolution**

There are studies that embark into the modelling of the bankruptcy resolution. Some of the early works are studies by Campbell (1996) and Casey *et al.* (1986) testing the theoretical work by White (1984). Casey *et al.* (1986) develop a prediction model using probit estimation, and the model correctly classifies 69 percent and 59 percent of companies in the estimation and holdout sample, respectively. There are two significant variables: free assets and the change in profitability in the years preceding bankruptcy. Using a sample of closely-held US companies, Campbell (1996) develops a model to predict the probability of reorganization following bankruptcy. The results suggest that companies with fewer secured creditors are more likely to reorganize. Secured creditors tend to negotiate individually with the debtor, thus increasing the costs of reorganization. As a result, this will decrease the likelihood of emergence. Campbell (1996) also finds that direct administrative costs of liquidation, the number of under-secured and secured creditors, and industry, do influence the chances of emergence.

Barniv, Agarwal and Leach (2002) developed a model to predict three types of resolution (liquidation, acquisition or emergence) considering 237 defaulted companies and using five accounting and five non-accounting variables. Barniv *et al.* (2002) provide evidence that smaller companies, companies with higher proportions of debt, companies involved in fraudulent activities and companies whose management does not resign are more likely to be liquidated. Using South Korean bankrupt companies, Kim and Kim (1999) examine the factors that could predict the outcome of bankruptcy petitions from the period 1977 to 1994. The logit estimation indicates that free assets, period of existence, company size and goodwill are positively associated with the probability of reorganization. On the other hand, firms with high liquid assets and operating risk are negatively related to the probability of reorganization. In a follow-up study, Kim, Kim and McNiel (2008) focus on the determinants of successful corporate restructuring in South Korea. The study has a small sample size of 59 companies of which 35 are successful and 24 are failed. The study suggests that company size (natural log of total assets), audit opinions (qualified or unqualified opinion on-going concerns) and company risk (beta coefficient) are the factors that help to distinguish between successful companies and delisted companies in South Korea. However, the deficiency of the model of this study is that the estimated model suffers from high Type I errors.

**Table 3.2: Summary of attributes of articles reviewed**

<b>Author(s) (Year)</b>	<b>Sample</b>	<b>Methodology</b>	<b>Empirical results</b>
Articles related to financial variables			
Kim and Kim (1999)	59 firms filed bankruptcy petitions under Corporate Reorganization Act of Korea from 1977 to 1994	Logit estimation	Free assets, period of existence, company size and goodwill are positively associated with the probability of reorganization. Firms with high liquid assets and operating risk are negatively related to the probability of reorganization.
Routledge and Gadenne (2000)	20 reorganized and 20 liquidated companies in Australia that appointed an administrator under Part 5.3A from 1993 to 1995.	Logistic regression	High liquidity ratio, positive shareholders' equity and high leverage (total assets to total liabilities) leads to high probability of reorganization.
Barniv, Agarwal and Leach (2002)	237 companies filed bankruptcy from 1980 to 1995	Ordered logistic regression	Smaller companies, companies with higher proportions of debt, companies involved in fraudulent activities and companies whose management does not resign are more likely to be liquidated.
Claessens, Djankov and Klapper (2003)	644 publicly traded East Asian firms	Logit model	Firms with lower return on assets lead to higher likelihood of bankruptcy filing among the distressed firms.
Denis and Rodgers (2007)	279 bankruptcy filings over the period 1985 to 1994	Logistic regressions	Larger firms, firms that reduce the size and the firm's liabilities to assets ratio while in Chapter 11 and higher leverage are more likely to reorganize and emerging from Chapter 11.
Kim, Kim and McNeil (2008)	59 firms that approved for the reorganization from 1991 to 2003 in South Korea where 35 are successful companies and	Logit regression	Company size (natural log of total assets), audit opinions (qualified or unqualified opinion on-going concerns) and company risk (beta coefficient) are the factors that help to distinguish between successful

<b>Author(s) (Year)</b>	<b>Sample</b>	<b>Methodology</b>	<b>Empirical results</b>
	24 are failed companies.		companies and delisted companies in South Korea.
Wang (2012)	555 bankruptcy filings from 30 countries from 1993 to 2009	Logit regression	For institutional specific factor, legal origin of bankruptcy code, debtor rights and judicial efficiency significantly predicting the outcomes of formal bankruptcy. For micro-specific factors, high firm's going concern value, returns on asset and returns on equity significantly explaining the likelihood of a firm to be reorganized. Firms with higher short-term liquidity and tangible assets are more likely to be liquidated.
Hwang, Kang and Jin (2014)	142 delisted Korean companies	Logit regression	Firms with lower total asset turnover ratio, operating cash flow, operating profit ratio and higher debt ratio have higher probability to be delisted.
Huang, Huang and You (2015)	269 financially distressed public listed firms Taiwan between 1995 to 2008	Logistic regression	Secured debt ratio, leverage ratio, return on assets and firms size significantly explain the likelihood of filing for reorganization of distressed firms.
Kim, Ma and Zhou (2016)	441 Special Treatment firms in Chinese stock market from 1998 to 2011	Cox proportional hazards model	Net income to total assets, total liability to total asset, current asset to current liability and firm size (log of total asset) significantly related to the survival probability.
Articles related to market variables			
Chen and Schoderbek (1999)	150 delisted firms from American Stock Exchange between 1981 to 1992	Logit model	Negative stock return over the year prior to delisting increase the probability of delisting.
Barniv, Agarwal and Leach (2002)	237 companies filed bankruptcy from 1980 to 1995	Ordered logistic regression	Firms with lower price weighted cumulative abnormal returns (CARs) from 60 days prior to filing through one day after the filing have higher probability of being liquidated.

<b>Author(s) (Year)</b>	<b>Sample</b>	<b>Methodology</b>	<b>Empirical results</b>
Lin, Lee and Gibbs (2008)	254 firms with negative earnings that restructured during 2001 economic recession	Logistic regression	Multiple restructurings, massive workforce reduction, large scale asset downsizing, failure to reduce the level of debts, failure to cut costs and negative stock returns (market adjusted stock returns over the year of restructuring) are more likely to delist following the restructuring. Larger firms are more likely to survive.
Balios, Eriotis, Missiakoulis and Vasiliou (2016)	239 companies listed in Athens Exchange	Discrete ordered polytomous logit model	Higher stock's return during the previous year of negotiation and the previous month of negotiation has lower probability of delisted. Liquidity and trade volume also have negative relationship with the probability of delisted. Companies with high leverage have higher probability to be delisted.
Articles related to institutional variables			
Chiang, Chung and Huang (2015)	438 Taiwan listed companies	Dynamic Panel Generalized method of moments (GMM)	Large stockholdings and director ownership positively related to probability of default. Institutional ownership and management share ownership negatively related to probability of default.
Hwang, Kang and Jin (2014)	235 delisted Korean companies from KOSPI and KOSDAQ market	Logit model	Large shareholdings and attendance rate of outside directors negatively related to probability of delisting. Frequency of fluctuations in capital, frequency of CEO changes, changes in major shareholders, frequency of board directors meetings and penalty points for unfaithful disclosure are positive and significant in predicting delisting.

### **3.3.3 Long-run share price performance of companies emerging from bankruptcy/financial distress**

There are various debates on the success or efficiency of bankruptcy procedures. Studies on the impact of Chapter 11 of the US Bankruptcy Code on the filing company and its stakeholders have been examined by Bebchuk (1988) and Hotchkiss, (1995). Hotchkiss (1995) argues that Chapter 11 reorganization promotes the continuation of inefficient or unviable companies by giving these companies the opportunity to reorganize which leads to “chronic inefficiencies” (Hotchkiss, 1995; Jensen, 1991). In addition, Heron, Lie and Rodgers (2009) and Gilson (1997) postulate that the reorganization process of Chapter 11 still substantially places emergence firms with high debts. In particular, Altman, Kant and Rattanuengyot (2009) find that the leverage of firms that file for a second Chapter 11 are three times more leveraged compared to those which emerge and remain solvent.<sup>15</sup>

The effectiveness and efficiency of a restructuring system depends on whether the system can effectively rehabilitate economically efficient but financially distressed companies and liquidate economically inefficient companies. The efficiency of the Chapter 11 US bankruptcy code has been extensively debated in the literature. Therefore, in examining the efficiency of the restructuring system, one way of shedding light on this conjecture is to empirically test the performance of companies after they emerge from the restructuring period. As a result of effective rehabilitation during the restructuring period, financially distressed companies might successfully improve their financial condition and recover to regain their economic strength.

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<sup>15</sup> Altman and Branch (2015) highlight the recidivism problem where firms that have successfully gone through Chapter 11 reorganization and emerge as continuing entities or are acquired as part of the bankruptcy process, refile for bankruptcy protection.

However, if the restructuring exercise is biased towards the unviability of economically inefficient companies, poor performance will persist even after the companies emerge from the restructuring period.

A considerable amount of literature has investigated the post-bankruptcy performance of restructured companies although with mixed empirical findings. Several studies have revealed that post-bankruptcy performance is poor because of weak accounting performance, high debt ratios and further need for debt restructuring (Gilson, 1997; Hotchkiss, 1995; Hotchkiss & Mooradian, 1997; LoPucki & Whitford, 1993). On the other hand, the study by Eberhart *et al.* (1999) shows that there are large positive excess common stocks returns for companies emerging from Chapter 11, as shown by the average abnormal returns ranging from 24.6 percent to 138.8 percent in the 200 days following emergence. Conversely, Alderson and Betker (1999) demonstrate that reorganized companies neither under-perform nor over-perform following Chapter 11 reorganization. More recent evidence offered by Jory and Madura (2010) supports the evidence of Alderson and Betker (1999), finding that post-bankruptcy stock performances of reorganized companies are similar to those of companies matching their size and book-to-market ratio. Using a sample of 184 companies emerging from Chapter 11 between 1982 and 2006, the study finds that the factors that might positively influence the stock price performance include bankruptcy duration, pre-packaged bankruptcy, being incorporated in the state of Delaware, and the proportion of equity held by the pre-Chapter 11 shareholders. In fact, filing for Chapter 11 with the Delaware Bankruptcy District Court affects companies' stock price performance adversely.

Hotchkiss (1995) investigates the relationship between management changes and post-bankruptcy performance. Over 40 percent of 197 public companies emerging from Chapter 11 during the period 1979-1988 continue to experience operating losses in the three years following bankruptcy; furthermore, 32 percent re-enter bankruptcy or privately restructure their debt. The main reason for the poor post-bankruptcy performance is because the pre-bankruptcy management is retained during the restructuring. Furthermore, Hotchkiss (1995) uses the accounting measures of profitability to assess post-bankruptcy performance, showing that the reorganized company's operating profit margin falls below its industry median following reorganization.

Similar to Hotchkiss (1995), Alderson and Betker (1999) also investigate the operating performance of their sample companies for the first three years following emergence from bankruptcy. They use a similar sample of companies to those examined by Hotchkiss (1995), with 60 percent of the companies reporting operating profit margins that fall below the median level for the industry; this shows that the majority of the companies exhibit poor accounting performance. Alderson and Betker (1999) claim that total cash flow measures are a better means of evaluating the success of companies emerging from Chapter 11. Thus, instead of focusing on accounting measures of performance, as Hotchkiss (1995) did, Alderson and Betker (1999) emphasize total cash flow by examining 89 companies emerging from Chapter 11 between 1983 and 1993. However, Alderson and Betker (1999) suggest that a company's investment behaviour following bankruptcy affects its post-bankruptcy performance. They find that the operating performance is abnormally positive for companies with high growth options following emergence from Chapter

11. The high growth option companies are companies that can generate superior returns where their net investment exceeds the industry median.

Kalay, Singhal and Tashjian (2007) question whether bankrupt companies benefit from Chapter 11 protection. Utilizing a sample of 201 reorganized companies during the period 1991-1998, they found that the operating performance improves significantly eight quarters after the Chapter 11 filing. Kalay *et al.* (2007) find that companies with higher pre-filing debt ratios and less complex debt structures seem to derive particular benefit from Chapter 11 protection. Likewise, recent evidence found by Aivazian and Zhou (2012) indicates that Chapter 11 companies improve their operating cash flows to a position that is no worse than that of control companies that do not file for bankruptcy protection. Aivazian and Zhou (2012) use a matching method to control for self-selection and company heterogeneity among companies being classified under Chapter 11. However, Inoue, Uchida and Bremer (2010) find that debt restructuring in Japan does not improve the profitability of the restructured firm. They suggest that out-of-court restructuring in Japan is biased toward the continuation of insolvent firms.

The most recent work on post-restructuring in emerging markets is by Komera and Lukose (2013) using a sample from India-listed companies. Komera and Lukose (2013) find that the companies that emerged from bankruptcy have declined in stock return and operating performance. The empirical results show that 30 percent of the companies continue to report negative operating performance in the post-bankruptcy period. In addition, the long run market performance is significantly less than the matching companies and benchmark market index where at least 65 percent of

emerged companies have returns less than the matching companies or the benchmark market index. On average, mean returns range from -28.41 percent to -31.26 percent for up to twelve months after their emergence from bankruptcy. These results are contradictory with Eberhart *et al.* (1999) who report large positive excess returns for companies emerging from Chapter 11 in the US.

The empirical evidence provides varying results on the post-emergence performance of companies that had previously been failing. Furthermore, the studies adopt different methods to study the post-emergence performance of emerging bankrupt companies, which makes them difficult to compare. In order to see the true picture of the long-run post-emergence performance in the context of the Malaysian market and compare it with studies in developed countries, such as the US, it will be necessary to complement the study by Eberhart *et al.* (1999). In addition, a limited number of studies have been carried out in Malaysia on the performance of listed companies following their release from the Practice Note 4 classification. This study extends the work of Ahmad, Shahar and Hamzah (2008), who investigate the share price performance of companies emerging from a financially distressed condition in Malaysia. Strong evidence of negative abnormal returns was found in the short term as well as in the long term. In particular, the cumulative average abnormal returns over the first 200 days of returns after emergence is found to be -30.3 percent and -28.2 percent using two measurements of market return, the KLCI and EMAS Index, respectively. This shows that companies appeared to under-perform in the market at the time of emergence from Practice Note 4 classification. The drawback of Ahmad *et al.*'s (2008) study is that their sample is limited to Practice Note 4 companies and the analysis is confined to the benchmark of the two market indices.

**Table 3.3: Summary of attributes of articles reviewed**

<b>Author(s) (Year)</b>	<b>Sample</b>	<b>Methodology</b>	<b>Results</b>
LoPucki and Whitford (1993)	43 large, publicly held firms that have filed for Chapter 11	Asset size, debt to equity ratio	Surviving companies reduce its asset size and high debt (measured by debt to equity ratio) that exceeds the benchmark ratio. High rate of refiling another bankruptcy petition.
Hotchkiss (1995)	197 public companies emerging from Chapter 11 during the period 1979-1988	Accounting measures of profitability, cash flow projections and further restructuring	Negative industry-adjusted median of operating income to sales and operating income to total assets during post-bankruptcy period. The reorganized firms fail to meet the cash flow projections. Large numbers of restructured firms require further financial reorganization.
Gilson (1997)	108 financially distressed public firms reorganizing under Chapter 11 or restructuring their debt out of court during 1979-1989	Ratio of long term debt to the sum of long term debt and book value of shareholders' equity and ratio of long term debt to the sum of long-term debt and market value of common stock	86 percent of firms restructured their debt out of court has leverage ratios that exceeds the industry median. 65.5% percent of firms reorganizing under Chapter 11 have leverage ratios that exceeds the industry median.
Alderson and Betker (1999)	89 companies emerging from Chapter 11 between 1983 and 1993.	Net cash flow	Reorganized firms' annualized returns are not significantly different from S&P 500 Index.
Eberhart, Altman and Aggarwal (1999)	546 firms emerging from Chapter 11 bankruptcy between January 1980 and December 1989.	Average cumulative abnormal return of 200-day period following emergence from Chapter 11	The average cumulative abnormal returns positive and significant ranging from 24.6% to 138.8%.

<b>Author(s) (Year)</b>	<b>Sample</b>	<b>Methodology</b>	<b>Results</b>
Kalay, Singhal and Tashjian (2007)	459 firms filed for Chapter 11 during the period 1991-1998.	Changes in operating income	Positive changes in operating cash flows from quarter +1 to quarter +8. Change in operating performance during Chapter 11 is positive and significant.
Inoue, Uchida and Bremer (2010)	127 listed companies in Japan from 1990 to March 2005	Operating margin, operating income to assets and interest coverage	Industry adjusted operating performance is negative and statistical significant. No significant improvement in the profitability of the restructured firms in post-restructured years.
Ahmad, Shahar and Hamzah (2008)	35 public listed companies emerged from PN4 classification from 2002 to 2003.	Market adjusted daily returns and wealth relative	Cumulative average abnormal returns (CAAR) over the first 200 days of returns after emergence are -30.3 percent and -28.2 percent, for Kuala Lumpur Composite Index and EMAS Index as market return, respectively.
Jory and Madura (2010)	184 companies emerging from Chapter 11 between 1982 and 2006.	Buy and hold abnormal returns (BHARs) and cumulative abnormal returns (CARs)	BHARs size and book-to-market matched of one month after emergence is -5.31% and significant. BHARs using industry and size matched for 1-month, 3-month and 6-month are negative and significant from zero. Using CRSP value weighted index and CRSP equally weighted return as market return, post emergence mean compounded abnormal returns are negative.
Komera and Lukose (2013)	101 public listed firm India listed companies emerging from bankruptcy	Buy and hold abnormal return	For short run estimates, 40 percent of the sample firms continue to report negative adjusted returns but no significant different from the matching firms after emerging from bankruptcy. For long run estimates, 65 percent of the sample report negative returns using matching firms and market index as benchmark. Significant and negative returns ranging from 28.41 percent to -31.26 percent for up to twelve months after their emergence from bankruptcy.

### **3.4 Summary of the chapter**

This chapter reviewed and discussed further the underlying theories associated with the study. The theories are used to provide a concrete foundation to explain the behaviour and relative occurrence of events in the capital market. In line with the issues to be investigated in the study, the chapter presented empirical evidence on the behaviour of distressed stocks. Previous studies on the resolution of corporate failure were also discussed. The chapter then proceeded to discuss the long-run share price performance of companies emerging from bankruptcy as documented in the literature. According to the review of the literature, it is evident that considerable efforts have been made by previous researchers to provide explanations for the behaviour of distressed companies. Significant negative price reactions to corporate failures are well documented in previous studies. However, most of the previous evidence is based on samples of failures in the United States which is, in fact, the most debtor-friendly bankruptcy regime. Based on the foregoing, this study is primarily motivated by certain gaps which have been noted.

There is an apparent dearth of literature on market reactions to distress announcements, especially in emerging markets. In addition, to study the efficiency of the restructuring system, this research seeks to study the share price performance of restructured, financially distressed companies after the restructuring period. Finally, there is also a dearth of literature on the resolution of corporate failure. To the best of the researcher's knowledge, these issues remain unexplored in the Malaysian market. Therefore, the study seeks to extend the literature on corporate failure resolution by using the Malaysian data to fill the observed gaps.

## **CHAPTER FOUR**

### **RESEARCH DESIGN AND METHODOLOGY**

#### **4.1 Introduction**

The previous chapter discussed the theoretical and empirical evidence associated with the study. In continuance, this chapter describes the methods and procedures used to answer the research questions. As highlighted earlier, the study seeks to examine the immediate impact of financial distress announcements in Malaysia. Next, factors that determine the restructuring resolution among distressed companies is discussed. Furthermore, the study investigates post-restructuring long-run stock price performance. The outline of the chapter is as follows: Section 4.2 discusses the measurement of distress. Section 4.3 describes the data collection and sample selection. The statistical analysis used and the procedures of data analysis in this study are explained in Section 4.4. Finally, Section 4.5 concludes and summarizes the chapter.

#### **4.2 Measurement of distress**

Several measurements have been undertaken by previous studies to classify whether companies are in financial distress. However, there has been no precise definition of distress and most of the studies come with their own definition of distress (Platt and Platt, 2006). Some of the indicators used to signify distress in previous studies are negative net operating income, accumulated losses, negative working capital, negative shareholder's fund, deficits in retained earnings, capital restructuring or reorganization and major restructuring or layoffs (McKeown, Mutchler & Hopwood, 1991; McLeay & Omar, 2000; Platt & Platt, 2006).

In a study by Fan, Huang and Zhu (2013), two approaches are used to classify financial distress, namely inference and actual default events. The inference approach is where several variables are used to determine the company's financial condition. For inferred distress, Fan *et al.* (2013) use three measurements: the modified Z-Score model by Altman, Hartzell and Peck (1998), leverage, and interest coverage. The financially distressed company is selected if the company fulfils either one of these criteria; the company has interest coverage that is lower than its interest payment obligations for two continuous years, leverage (ratio of total liabilities to total assets) of greater than one for two continuous years and the modified Z-Score is below zero for two continuous years. In this sense, this measurement could be different from other researchers. For instance, McLeay and Omar (2000) define 'failed' companies as companies incurring three consecutive years of accumulated losses or negative shareholders' funds for three continuous years. Sudarsanam and Lai (2001) define distressed companies by employing the Z-score developed by Taffler (1995) where sample companies are those experiencing negative Z-Scores after two consecutive years of positive Z-Scores.

The second approach is the real default events. In this sense, the company is considered to fall under financial distress subject to the consideration of the authority. For example, studies using companies that seek court protection and file for Chapter 11 of the Bankruptcy Code in the United States as the sample. The present study uses the second approach because the methods of inferred distress may not be able to recognize companies that are actually financially distressed. Previous studies that use actual events include, among others: Barniv *et al.* (2002); Casey *et al.* (1986), Kim and Kim (1999). In addition, the existence of the regulation (Practice

Notes) in relation to distress-listed companies is unique and it could complement the specific institutional framework in Malaysia. Therefore, the Practice Notes classification to determine distress-listed companies is used.

### **4.3 Sample**

A comprehensive sample of publicly listed financially-distressed companies was hand-collected from the website of Bursa Malaysia where official announcements made by the listed companies were downloaded and compiled. These announcements are available at the following web site address:

<http://www.bursamalaysia.com/market/listed-companies/company-announcements>

The search of the sample started from the beginning of the Practice Note 4 in February 2001, Practice Note 17, and Amended Practice Note 17 until 31 December 2014 that were meant for the Main Market. In addition, a list of ACE market companies was compiled governed under Guidance Note 3. These regulations have been explained in detail in Section 2.2. The public listed companies' announcements under the category of "investor alert" were taken. These include all the announcements made by a public listed company as it was required to inform the public for any major events. In this study, the announcements related to Practice Note 4, Practice Note 17, Amended Practice Note 17 and Guidance Note 3 that had details on the announcement date of being classified under the Practice Notes and the reason(s) for being classified under the Practice Notes. The next step was to determine the outcomes of the restructuring (whether the affected financially-distressed companies were delisted or regularized) by searching the company's

announcements subsequent to the compulsory monthly announcements related to Practice Notes. Again, the effective emergence date was recorded.<sup>16</sup> Next, the share prices were collected from the Thomson Datastream database.

For each financially-distressed company, the firm's financial characteristics, including total assets, sales, and operating income, were extracted from the Thomson Datastream database. The share prices and annual financial information were collected for the pre-distress and post-distress periods. The timeline had been illustrated in Figure 2.1. The X refers to the "First Announcement Date" made by Bursa Malaysia (or companies) pertaining to the conditions under the Practice Notes. The Z refers to the formal emergence date when the company exits the Practice Notes. The data for ownership structures (largest shareholders and institutional ownership) were hand collected from annual reports.

As has been the case in previous studies, financial institutions, real estate and insurance companies have been excluded since the accounting presentations of their financial statements are significantly different from those in other sectors. Thus, inclusion of these companies in the sample may lead to misleading results and misinterpretations. In addition, companies with missing data during the period, that are required for empirical analyses, are excluded from the sample. As the empirical results might be biased by outliers, any discrepancies or extreme outliers are taken into consideration by winsorizing the sample at the 1 percent level at both tails. Importantly, Kausar, Taffler and Tan (2009) point out that winsorizing the extreme abnormal return is critical and significant to small companies as it could reduce the

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<sup>16</sup> The example of the announcements could be referred at Appendix 4.

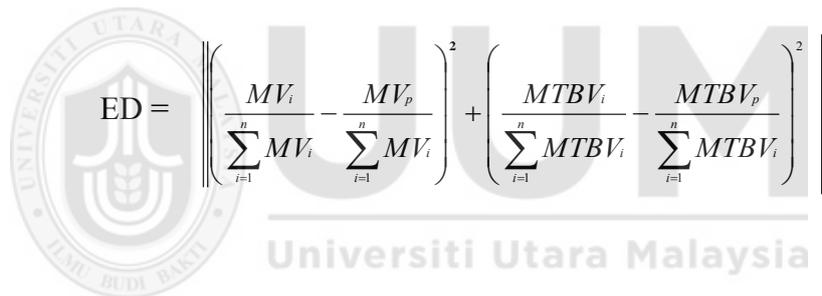
impact of low-priced stocks on the skewness of ex-post returns. This is important in the context of this study since most financially distressed companies in the sample trade at prices below RM1.00 per share.

For the third objective, a sample of matching or control companies is constructed in accordance with each of the emerged financially distressed companies using specified firm characteristics. According to Barber and Lyon (1997), using a matching companies approach could eliminate new listing bias, rebalancing bias, and skewness problems. In addition, this procedure could generate well-specified test statistics in all the situations being considered which eliminates biasness in the residuals that may affect holding period abnormal returns (Campbell *et al.*, 2009). Following Lyon *et al.* (1999), the first step of forming the matching companies is to identify all the non-event firms available for the study period. The firms are then ranked based on market size and then market to book value. Specifically, composition of the matching companies is based on the closest market size. Market size (market capitalization) is calculated as the number of shares outstanding multiplied by the closing share price at the end of the month of emergence. Market to book value is calculated as the company's market value divided by the book value of the companies at the end of the month of the emergence outcomes announcement. The matching procedure is identical to studies by Barber and Lyon (1997), Dichev and Piotroski (2001), Kausar *et al.* (2009) and Taffler, Lu and Kausar (2004).

Selection of the matching company is conducted using a two-step method. First, for each of the financially distressed companies, based on a similar trading avenue (either Main Market or ACE Market), a pool of potential matching/control

companies are searched with closest market size (market capitalization) to that of the distressed company is selected according to market size matching companies. For market size and market to book value matching size, Euclidean distance procedure is used to select the closest matching to that of the distressed company. This is done by transforming the size and market-to-book value into z-scores by subtracting the mean and dividing by the standard deviation. The closest matching firm is defined as the firm with the smallest Euclidean distance in the two-dimensional space of z-scores to the sample firm. The next closest Euclidean Distance matching firm is selected if it is delisted or dead before the three-year period.

The Euclidean distance is calculated using the following equation:



$$ED = \sqrt{\left( \frac{MV_i}{\sum_{i=1}^n MV_i} - \frac{MV_p}{\sum_{i=1}^n MV_i} \right)^2 + \left( \frac{MTBV_i}{\sum_{i=1}^n MTBV_i} - \frac{MTBV_p}{\sum_{i=1}^n MTBV_i} \right)^2}$$

where

$MV_p$  : Market value of emerged firm  $p$  in the month prior to the month of emergence

$MV_i$  : Market value of firm  $i$

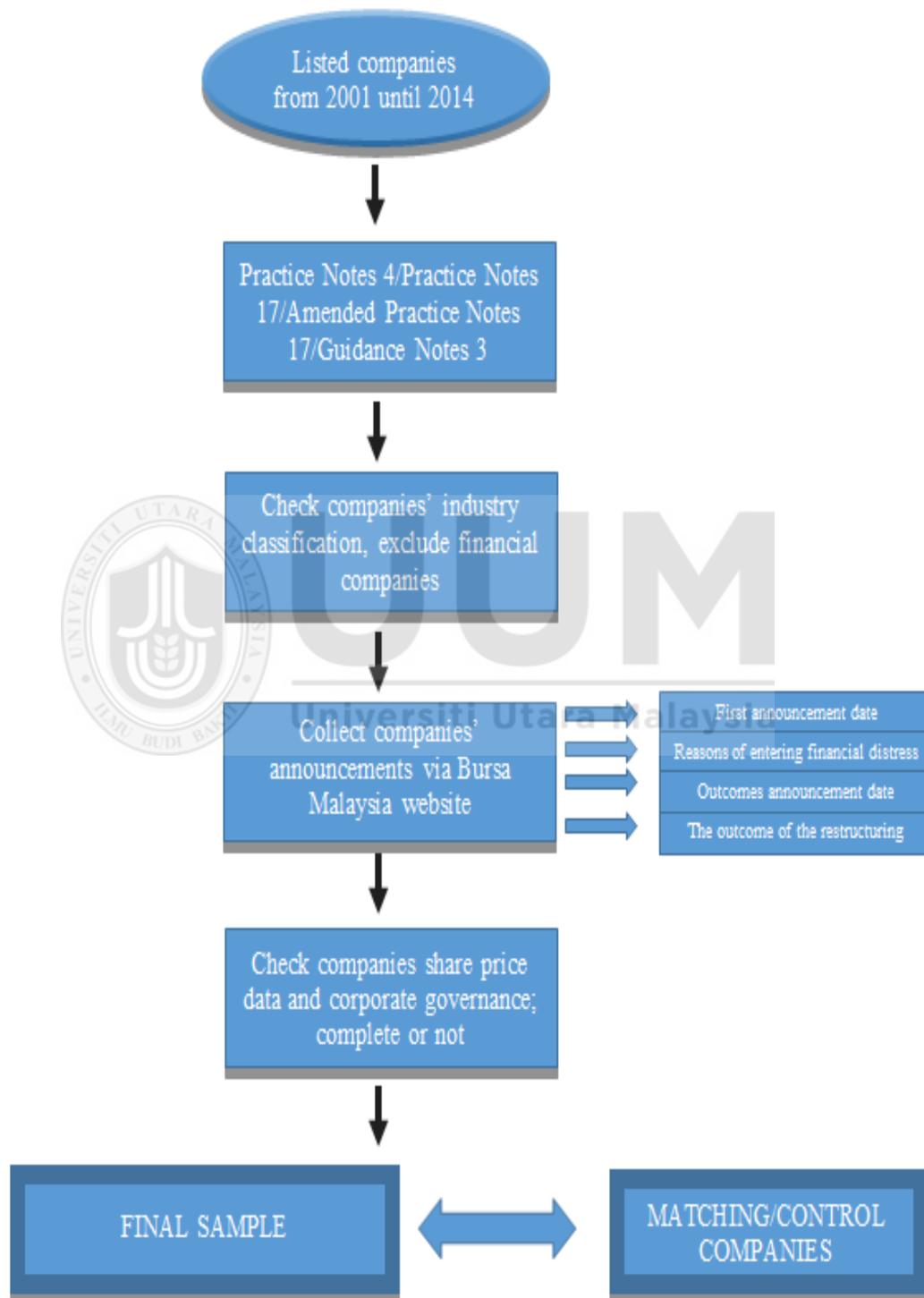
$MTBV_p$  : Market-to-book value of firm emerged  $p$  in the month prior to the month of emergence

$MTBV_i$  : Market-to-book value of firm  $i$

Second, the matching companies are selected if they fulfil the following criteria.

First, they are not in financial distress in accordance with the listing requirements of Bursa Malaysia. Second, the controls companies are not financial institutions, real

estate and insurance companies. Third, the matched company has sufficient information to conduct the analysis.



**Figure 4.1: Data and sample collection process**

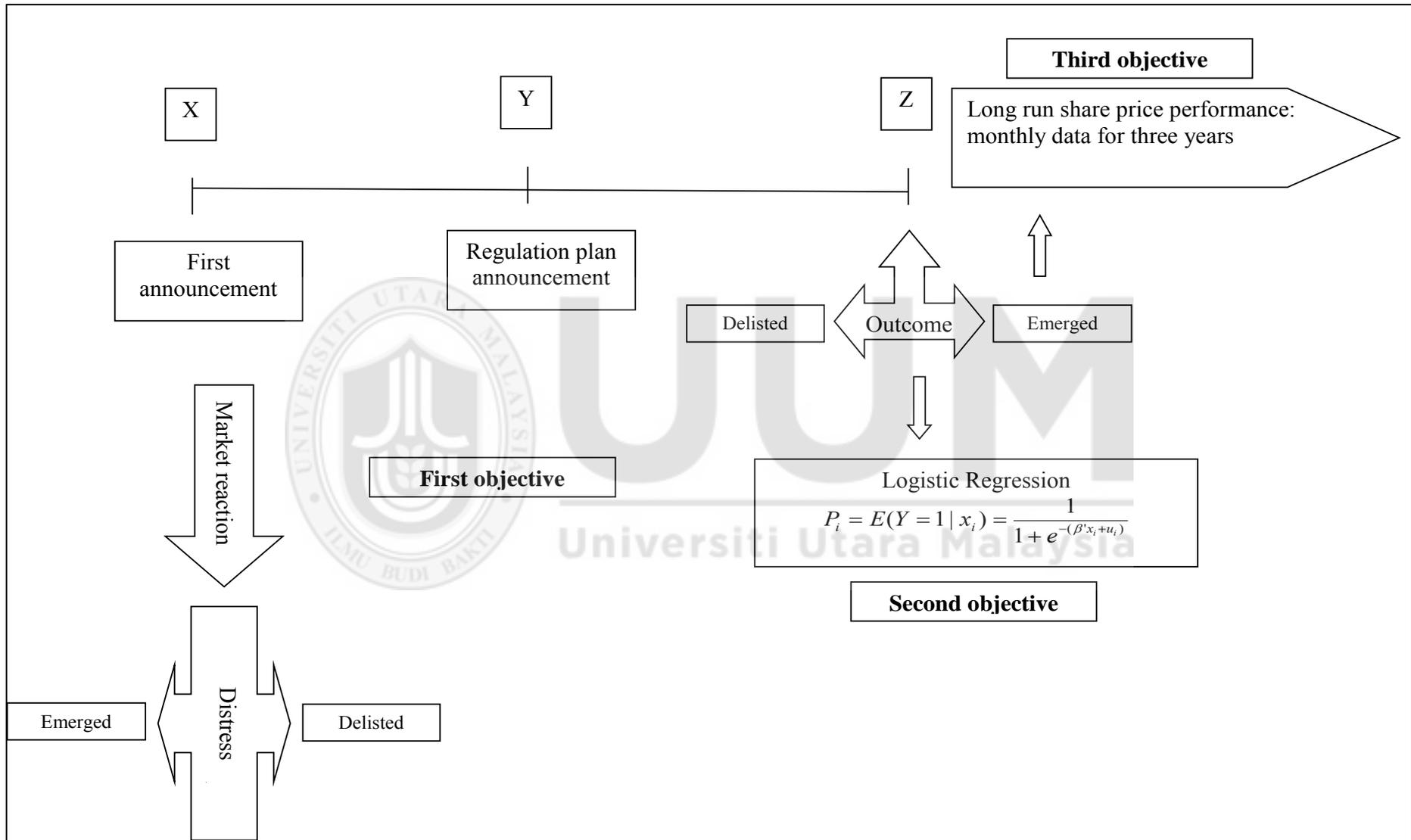


Figure 4.2: Research illustration

#### **4.4 Methodology**

A quantitative research design is employed. This is considered appropriate since the goal of the present study is to examine the relationships between the variables by testing the research questions. First, the event study methodology is to seek how the market reacts towards financial distress announcements made by the delisted and emerged companies fulfilling the first objective of the study. Next, to meet the second objective which is to examine factors that could determine the outcome of the distress resolution, logistic regression is utilised. This is followed by the long-run share price performance of the emerged companies using the standard long-term event study methods fulfilling the third objective of the study. Creswell (1994) suggests the use of a quantitative approach when the phenomena are to be explained by collecting quantitative data and analysed using mathematically-based methods. In this sense, the present study makes use of companies' stock price and financial statements data correspond to the quantitative approach.

##### **4.4.1 Market reaction to financial distress announcements**

Event study methodology has been widely applied in capital market studies since the inspiring and influential papers of Ball and Brown (1968), Brown and Warner (1985) and Fama, Fisher, Jensen and Roll (1969). In addition, the general applicability of event study methodology has led to its widespread use in other disciplines, including economics, history, law, management, marketing and political science (Corrado, 2011). The usefulness of event study methodology lies mainly in its ability to examine whether any significant abnormal returns can be attributed to the financial impact of the unanticipated event being studied.

The standard approach of an event study methodology involves assessing the excess returns over the time period around the announcement dates for each company. In this sense, event study methodology is able to recognize the event as the announcement that reflects the market participants' expectations of the market share price in the long term. In other words, the current stock return is perceived to indicate the future cash flows of a company. Therefore, the effects of the event would be reflected in the security price immediately, thereby giving an unbiased estimate, provided that the stock market is efficient. Therefore, event study methodology is ideal for investigating the first objective since the focus is to seek the immediate reactions of market participants to the arrival of the information.

In order to observe the effects, the examination of the differences between the actual returns of a security around the event period and normal returns that would have been observed had the event not occurred during the same period would be performed. This difference is known as abnormal returns. The abnormal return (excess return) is specified as the difference between the observed return and the predicted return generated by an appropriate model. Thus, in this work, the market model and market-adjusted return models are used. The usage of the two aforementioned event study methods is appropriate and accepted because it is well specified and the power of the tests is sufficient to achieve the aims of this study (Brown and Warner, 1985). Furthermore, a survey in Turkey shows that the market model and market adjusted return procedures are the most common abnormal return-generating models being utilized as methodologies in event studies (Basdas and Oran, 2014).

#### 4.4.1.1 Market Adjusted Model

The market adjusted model is employed as the benchmark for expected returns. The steps used to carry out the market-adjusted returns procedure are explained in detail as follows. Actual return on a company's share for a particular time,  $t$ , is derived as given in Equation 1:

$$R_{it} = \frac{(P_{it} - P_{it-1})}{P_{it-1}} \quad (1)$$

where  $R_{it}$  is the daily stock return,  $P_{it}$  is the stock price at day  $t$ , and  $P_{it-1}$  is the stock price at day  $t-1$ . The stock returns are calculated from day -60 to day +60 on the first announcement date made by the companies pertaining to conditions under Practice Notes. Similarly, the daily market returns are calculated in the same manner. The market indices used in this study are the Kuala Lumpur Stock Exchange Composite Index (KLCI) and EMAS Index.

$$R_{mt} = \frac{C_{mt} - C_{mt-1}}{C_{mt-1}} \quad (2)$$

where  $R_{mt}$  is the market return on day  $t$ ,  $C_{mt}$  is the market index on day  $t$  and  $C_{mt-1}$  is the market index on day  $t-1$ .

Abnormal return of security  $i$  on event day  $t$  is computed as

$$AR_{it} = R_{it} - R_{mt}, \quad (3)$$

where  $R_{it}$  is the daily return of security  $i$  on the event day  $t$  and  $R_{mt}$  is the return of market index on the same calendar day. In event time, the first day on which a company is has been declared into PN4 classification is numbered as event day 0. The second day of trading is used for the first return day calculation. The calculations in equation 3 produce a time series of market-adjusted returns for each security. The

average abnormal return (AAR) for day  $t$  is calculated by averaging the abnormal returns for all companies

$$AAR_t = \sum_{i=1}^N AR_{it} / N_t \quad (4)$$

where  $N$  is the number of securities in the sample and  $N_t$  is the number of securities that are traded on event day  $t$ .

Furthermore, cross-sectional average abnormal returns are summed to yield a cumulative abnormal return for the event day. Cumulative average abnormal returns (CAAR) can be obtained by the equation

$$CAAR_t = \sum_{t=-60}^{+60} AAR_t, \quad (5)$$

where  $t$  is the number of days in the event period.

The test-statistics on the significance of average daily abnormal returns are obtained by using the t-test. The null hypothesis tested in this analysis is that the average daily abnormal return on event day  $t$  is equal to zero. The  $t$ -statistic is computed as

$$t = AAR_t / (\sigma_t / \sqrt{N_t}) \quad (6)$$

where

$$\sigma_t = \frac{\left[ \sum_{i=1}^N (AR_{it} - AAR_t)^2 \right]^{1/2}}{N_t - 1} \quad (7)$$

is the cross-sectional standard deviation of abnormal return on event day  $t$ . Under the null hypothesis of no abnormal security performance,  $t$  is distributed according to the  $t$ -distribution with  $N_t - 1$  degree of freedom.

Moreover, to test the null hypothesis that cumulative average abnormal return (CAAR) over an interval of T days in length is equal to zero, a *t*-statistic is specified as

$$t_{T_1, T_2} = CAAR_{T_1, T_2} / \left( \sigma_{CAAR} \sqrt{T_2 - T_1 + 1} \right) \quad (8)$$

where

$$\sigma_{CAAR} = \left[ \left( \sum_{t=-60}^{60} \left( AAR_t - \frac{CAAR_{-60+60}}{121} \right)^2 / 121 \right) \right]^{1/2} \quad (9)$$

where  $CAAR_t$  is the cumulative average abnormal return over the T-day interval beginning with event day  $t = 0$  and ending with event day  $t$ .

If AARs and CAARS provide statistically significant results, it reveals evidence that the event contains information that could affect the security returns.

#### 4.4.1.2 Market Model

In order to provide consistent analysis of the market reaction, market model estimation is also being used. The advantage of using the market model for expected return is that, in general, the model gives a smaller variability of abnormal returns. In addition, it results in smaller correlations across securities' abnormal returns, thus giving a closer level of conformity to standard statistical tests (Beaver, 1981). The steps for carrying out the market model procedure are explained below.

In order to employ market model as part of the estimation, it requires the event of interest, the event date, the event window or test period (defined as the period over which returns are examined) and the estimation period for benchmark returns. The

event day ( $t = 0$ ) is defined as the day when the company makes the first announcement on its financial condition. Drawing on Lasfer, Sudarsanam and Taffler (1996), a wider event window of 121 days ( $t = -60, \dots, 0, \dots, +60$ ) is used to fully capture the information content of the announcements if there are any incidents of information leakage before the announcement could be made.

Following Kam *et al.* (2008) who investigate the impact of restructuring announcements on company value, the parameters are estimated using daily returns and an estimation window of 140-day pre-event interval ( $t = -200$  to  $-61$ ). The two windows are set not to overlap, in order to avoid biasness in the parameter estimates of alpha ( $\hat{\alpha}$ ) and beta ( $\hat{\beta}$ ). Early steps (equation 1 to equation 7) would be similar to the market adjusted return procedure. The abnormal return for each security  $i$  on day  $t$  relative to the event date is given by

$$AR_{it} = R_{it} - (\alpha_i + \beta_i R_{mt}) \quad (10)$$

where  $R_{it}$  is the abnormal return of stock  $i$  on day  $t$ .  $\alpha$  and  $\beta$  are the ordinary least squares coefficient estimates of the intercept and slope,  $R_{mt}$  is the return of the market on day  $t$ .

To test the significance of the cumulative average abnormal return (CAAR) a  $t$ -statistic is specified using the equation

$$t_{T_1, T_2} = CAAR_{T_1, T_2} / \sigma_{CAAR} \quad (11)$$

where

$$\sigma_{CAAR} = \sigma_{AAR} (T_2 - T_1 + 1)^{0.5} \quad (12)$$

$$\sigma_{AAR} = \left[ \left( \sum_{t=-200}^{-61} \left( AAR_t - \frac{CAAR_{-61--200}}{140} \right)^2 / T_2 - T_1 + 1 \right) \right]^{1/2} \quad (13)$$

where  $CAAR_t$  is the cumulative average abnormal return over the T-day interval beginning with event day  $t = 0$  and ending with event day  $t$ .

#### 4.4.1.3 Distress outcomes and price reactions

Further analysis is made to achieve the first objective of whether the market could anticipate, in advance, companies that are successfully restructured. To investigate this possibility, the sample is divided into companies that are successful in restructuring and those that are not. If the market is correct in predicting the outcome, differences in stock price reaction for the two subsamples may be observed. By analysing the cumulative stock returns, it is possible to infer that shareholders in companies that are successfully restructured are likely to experience less significant losses or better returns compared to shareholders in companies that are delisted. This is due to the fact that companies that are expected to be delisted may be facing a greater decline in future cash flows compared to restructured companies. Since current stock price is a reflection of future earnings discounted by an appropriate cost of capital, at the time of the filings, restructured companies should experience less negative price reactions than delisted companies.

The mean differential test between the two samples are conducted to validate the dichotomy between the announcements of delisted and restructured companies. Following Huang *et al.* (2013), the *t*-test is used to conduct the analysis.

## **4.4.2 Outcomes of corporate financial distress**

### **4.4.2.1 Timing of data collection**

The second objective is to investigate the factors that might determine corporate failure outcomes in Malaysia. Accordingly, in view of the objective and nature of the study, the appropriate approach to analysis of the data, given the dichotomous dependent variable of the study, is the static model approach, which is the logistic regression technique. Predictive models such as the Z-Score model of Altman (1968), Taffler (1982) and Deakin (1972) build on the basis of known failures and known survivors and fixed pre-failure horizons. However, it can be argued that the outcomes are not known when the companies are announcing their distressed condition. Furthermore, the restructuring periods are different among the distressed companies. Thus, realistically, it is inappropriate to build a prediction model with a fixed time period (such as one year prior to outcomes year) of known outcomes of the distress. Therefore, it is sufficient to suggest that prediction models of outcomes should be built ex-ante of the financial distress situation.

The outcome of financial distress is a function of a set of explanatory variables. Therefore, the explanatory variables should be observed prior to the realization of the outcomes of financial distress. In this sense, the explanatory variables prior to the Practice Notes announcement date are collected as there is some consideration that these data reflect the true condition of the companies prior to the distress announcement. Astebro and Winter (2012), on the other hand, suggest that the explanatory variables should be collected on the distress year. However, judging the approach into the respective study, collecting the data is imperfect since the worsening condition of the financially distressed companies could be at a peak. The

other justification lies in the inability to accommodate the short restructuring period for some of the distressed companies. For instance, Airocom Technology Berhad announced their distress condition on 5<sup>th</sup> May 2009 and made their outcome announcement on 11<sup>th</sup> May 2009. Another example is Taiping Consolidated Berhad which made their first financial distress announcement on 23<sup>rd</sup> February 2001 and their distress outcome announcement on 9<sup>th</sup> May 2001.

The search for annual reports is to unearth institutional variables, of which the OSIRIS database started to have data from 2006. In order not to lose the number of samples since the start of Practice Notes in 2001, searching for annual reports for the sample is the best option. The annual reports were made available from the Bursa Malaysia website since the sample consists of listed companies. The earliest available annual reports were from 2000 and remain available even though the listed companies have been delisted from Bursa Malaysia. Similar to the usage of financial data from Datastream, the available financial statements from the companies' last financial year-end prior to distress announcement date is used. Careful consideration should be given since listed firms in Malaysia have a variety of fiscal year-ends. For instance, Airocom Technology Berhad made their distressed condition announcement on 5<sup>th</sup> May 2009, therefore the nearest annual report prior to the announcement is 2008 which has a financial year-end period of 31<sup>st</sup> December. Another example is Carotech Berhad which made their announcement of financial distress on 29<sup>th</sup> October 2010. Since Carotech's financial year-end is 30<sup>th</sup> June, the nearest annual report prior to the announcement date is 2010. If the annual reports are unavailable, the search is at [www.i3investor.com](http://www.i3investor.com).

#### 4.4.2.2 Dependent variable

This investigation is conducted using a classification technique, which is the binary dependent variable since the outcome variable is discrete. The binary dependent variable takes into consideration the drawbacks of regression analysis and linear probability models, in which the linear functions are unbounded whilst probabilities are bounded (0 to 1). Therefore, the logit model becomes the identified technique for the multivariate regression analysis of the binary dependent variable (values between 0 and 1). Multiple Discriminant Analysis (MDA) has also been used to classify data with discrete categories and this technique could establish a boundary equation that maximizes discrimination between categories (Altman, 1968; Altman, Haldeman and Narayanan, 1977). Nevertheless, MDA is criticized due to its requirements of unlikely normal distributions in the independent variables. Ohlson (1980) and Lo (1986) discuss logit models and compare them with other techniques. These studies favour logistic regression over MDA for both empirical and theoretical reasons. Logit requires less restrictive statistical assumptions and offers better empirical discrimination (Zavgren, 1983).

In the absence of decisive arguments in favour of or against other classification techniques, the most appropriate technique would be logistic regression analysis, since it has been commonly used in the recent literature (see also Westgaard and Wijst, 2001). Consider the following description of the company's resolution type:

$$C_i = \begin{cases} 1 & \text{if } \textit{company emerged} \\ 0 & \text{if } \textit{company delisted} \end{cases}$$

The following cumulative logistic function is used to estimate the probability of resolution:

$$C_i = \frac{1}{1 + \exp(-x'_i \beta)} \quad (14)$$

where  $i = 1, \dots, N$ ,  $x_i$  is the vector of the independent variables for the  $i$ -th emerged and accordingly, the  $\beta$  is a vector of coefficients that is obtained from the regression.

#### 4.4.2.3 Independent Variables

The following logistic regression model is employed to examine the factors that could affect the company's ability to emerge from the Practice Notes/Guidance Note. The regression coefficient of positive (negative) implies that the larger the magnitude of the factor, the more likely the company will emerge (delist). It comprises the following general form:

$$\begin{aligned} Emerged_{i,t+1} = & \beta_0 + \beta_1 Size + \beta_2 Totaldebttotalasset + \beta_3 Totalassetturnover + \\ & \beta_4 Returnonassets + \beta_5 EBITtointerestexpense + \beta_6 Politicalconnection + \\ & \beta_7 Top10largestshareholdings + \beta_8 Top5institutionalshareholdings + \\ & \beta_9 CAR(-1,+1) + \varepsilon_{i,t} \end{aligned} \quad (15)$$

Variables	Description
$Emerged_{i,t+1}$	Coded as 1 if company $i$ emerged in period $t+1$ and 0 delisted
$Size_{i,t}$	Size of company $i$ in period $t$ (Log of Assets <sub><math>t</math></sub> )
$Debt\ ratio_{i,t}$	Debt ratio for company $i$ in period $t$ (Total liabilities <sub><math>t</math></sub> /Total Asset <sub><math>t</math></sub> )
$Total\ asset\ turnover_{i,t}$	Sales/total assets for company $i$ in period $t$ (Sales/total assets)
$Return\ on\ assets_{i,t}$	Return on assets for company $i$ in period $t$ (Net Income/Total assets)
$EBIT\ to\ interest\ expense_{i,t}$	Earnings before interest and tax to interest expense for company $i$ in period $t$ (Earnings before interest and tax/interest expense)
$Political\ connection_{i,t}$	Political connection for company $i$ in period $t$ (Dummy of 1 for political connected company and 0 otherwise)
$Top\ 10\ largest\ shareholdings_{i,t}$	Top 10 largest shareholder ownership for company $i$ in period $t$ (Sum of ten largest shareholder ownership)

Top 5 Institutional shareholdings <sub>i,t</sub>	Top 5 Institutional shareholdings <i>i</i> in period <i>t</i> (Sum of five largest institutional shareholder ownership)
CAR (-1,+1) <sub>i,t</sub>	Cumulative average abnormal return of days -1 to +1 for company <i>i</i> in period <i>t</i>
ε	Error term

A company is defined as politically connected if at least one of its large shareholders or top officers is a member of parliament, a minister, or closely related to a top politician or party (Faccio *et al.*, 2006). The list of political connection companies is provided by the study Faccio (2006), Mitchell & Joseph (2010), Bliss *et al.* (2011), Chen *et al.* (2013), and Fung *et al.* (2015).

**Table 4.1: Variables definitions and data sources**

Variables	Description	Sources
Outcomes	Dummy variable (1 = Emerged connected; 0 = Delisted)	Companies' announcements from Bursa Malaysia website
Size	Log of total assets	Datastream
Debt ratio	Total liabilities/total asset	Datastream
Total asset turnover	Sales/total assets	Datastream
EBIT to interest expense	Earnings before interest and tax/interest expense	Datastream
Return on assets	Net income/total assets	Datastream
CAR (-1,+1)	Cumulative average abnormal return of days -1 to +1	Author's calculation
Top 10 largest shareholdings	Sum of ten largest shareholder ownership	Companies' annual reports
Top 5 Institutional shareholdings	Sum of five largest institutional shareholder ownership	Companies' annual reports
Political connections	Dummy variable (1 = political connected; 0 = non-political connected)	Faccio (2006), Mitchell & Joseph (2010), Bliss <i>et al.</i> (2011), Chen <i>et al.</i> (2013), Fung <i>et al.</i> (2015)

#### 4.4.2.4 Performance Evaluation

The present study interest is to estimate the probabilities of emerged firms among financially distressed firms. Therefore, in order to examine and validate the

predictive accuracy of the models' estimates using a logistic regression, area under ROC curves is utilized and appropriate (Sobehart and Keenan, 2001; Bauer and Agarwal, 2014). Bauer and Agarwal (2014) utilize this approach to test the prediction ability of the estimated bankruptcy models. It is a non-parametric procedure commonly used to evaluate a model's classification performance (Hosmer, Lemeshow & Sturdivant, 2013).

The ROC curve is performed by plotting the true positive (if a firm actually emerged and the model classifies its emerged status as expected) against the false-positive (when a firm is actually delisted but the model classifies it as emerged status as expected) rate as the cut-off point to differentiate between the emerged and delisted firms. In other words, it represents an average number of misclassifications made by the model over all possible choices of probability cut-off points (Hosmer *et al.*, 2013). For instance, if a ROC curve is uniformly higher than the other, it implies that it makes less Type-I and Type-II errors at every possible cut-off.

The area under ROC curves (AUROC) captures the accuracy of the model where an AUROC of 1 denotes that a model has perfect prediction accuracy and an AUROC of 0.5 suggests that the model has no ability to discriminate between the two subjects (Hosmer *et al.*, 2013). However, there is no 'golden rule' on the value of AUROC and Hosmer *et al.* (2013) provide general guidelines to describe good discrimination:

**Table 4.2: Area Under ROC curves (AUROC) classification**

If AUROC = 0.5	No discrimination
If $0.5 < \text{AUROC} < 0.7$	Poor discrimination
If $0.7 \leq \text{AUROC} < 0.8$	Acceptable discrimination
If $0.8 \leq \text{AUROC} < 0.9$	Excellent discrimination
If $\text{AUROC} \geq 0.9$	Outstanding discrimination

(Source: Hosmer *et al.*, 2013, p.177)

To demonstrate that both models are able to predict failure better than a random model, the Hanley and McNeil (1982) test statistic, given by  $Z = \frac{A}{SE(A)}$ , is used.

The standard error is

$$SE(A) = \sqrt{\frac{A(1-A) + (n_F - 1)(Q_1 - A^2) + (n_{NF} - 1)(Q_2 - A^2)}{n_F n_{NF}}} \quad (16)$$

where A is the area under the ROC curve,  $n_F$  is the number of emerged companies

and  $n_{NF}$  is the number of delisted companies.  $Q_1$  is given by  $\frac{A}{2-A}$  and  $Q_2$  is given by

$$\frac{2A^2}{1+A}$$

Furthermore, to compare the predictive accuracy of the two models, the difference in the areas under the two ROC curves is evaluated using the normally distributed z-statistic proposed by Hanley and McNeil (1983):

$$z = \frac{A_1 - A_2}{\sqrt{(SE(A_1))^2 + (SE(A_2))^2 - 2rSE(A_1)SE(A_2)}} \quad (17)$$

#### 4.4.3 Long-run share price performance

In the third objective, the long-run share price performance of the emerged companies after the restructuring period is examined. It is noted that the measurement of abnormal returns in the long horizon is difficult, because the metric is highly sensitive to a variety of statistical imperfections that could lead to spurious results. The analysis of share price performance starts from the day the company emerged from the Practice Notes or Guidance Note up to three years from the emergence date. If the company is under trading suspension, the analysis begins from the first day of trading after the suspension is lifted due to the emergence from the Practice Notes or Guidance Note.

The event month [t=0] for this study is set as the end of the month in which outcomes of distress is announced. A number of methods are used to ensure that consistent and robust results are obtained throughout the analysis since the results can be influenced by the methods (Gompers and Lerner, 2003). Without hesitation to compare the weakness of the methods, standard long-term event study methods, namely cumulative abnormal returns (CARs) and Buy-and-Hold Abnormal Return (BHAR) are employed to make inferences on the long-run share performance of the restructured companies. Following other empirical studies on long run performance, the returns are estimated over a period of three years (Ritter, 1991; Ahmad-Zaluki *et al.*, 2007). The null hypothesis of the analysis is that the average abnormal return is zero. The following sub-sections discuss these approaches in detail.

#### 4.4.3.1 Benchmarks

Three benchmarks are utilized to determine the long run abnormal returns. First, the Kuala Lumpur Composite Index (KLCI) as the Malaysian main market index is employed. Second, the EMAS Index which has broader market coverage. Third, a matching company benchmark where an emerged company is matched with a matching/control company by either by size or size and market-to-book value<sup>17</sup>.

#### 4.4.3.2 Cumulative mean abnormal returns (CAR)

The monthly<sup>18</sup> raw returns are calculated as follows

$$R_{it} = \frac{(P_{it} - P_{it-1})}{P_{it-1}} \quad (18)$$

<sup>17</sup> A detailed matching procedure has been explained in section 4.3.

<sup>18</sup> Monthly returns are utilized rather than the daily returns is in accordance with Canina, Michaely, Thaler and Womack (1998) who posit that the use of daily return could produce bias in the analysis of long run excess return.

where  $R_{it}$  is raw return of company  $i$  in the event month  $t$ ,  $P_{it}$  is the monthly return index of the company in event month  $t$  and  $P_{it-1}$  is the monthly return in event month  $t-1$ .

The monthly return of the matching or control company is computed as follows:

$$R_{b,t} = \frac{(P_{b,t} - P_{b,t-1})}{P_{b,t-1}} \quad (19)$$

where  $R_{b,t}$  is the raw return of market index or matching company  $b$  in the event month  $t$ ,  $P_{b,t}$  is the monthly return of the market index or matching company in event month  $t$ , and  $P_{b,t-1}$  is the monthly return in event month  $t-1$ . The abnormal return of company  $i$  in the event month  $t$  is computed as follows:

$$AR_{i,t} = R_{i,t} - R_{b,t} \quad (20)$$

The average abnormal return for month  $t$  is computed using the equation

$$AAR_t = \sum_{i=1}^N AR_{i,t} / N_t \quad (21)$$

The CAR (cumulative abnormal return) from  $\tau_1$  to  $\tau_2$  is calculated by cumulating the average abnormal returns for 36 months after the emergence date.

$$CAR_{i,\tau_1-\tau_2} = \sum_{\tau_1}^{\tau_2} AAR_{i,t} \quad (22)$$

The cumulative average abnormal return (CAAR) from period  $\tau_1$  to  $\tau_2$  can be obtained by the equation

$$CAAR_{\tau_1-\tau_2} = \sum_{i=1}^N \frac{CAR_{i,\tau_1-\tau_2}}{N_{\tau_1-\tau_2}} \quad (23)$$

The  $t$ -statistics on the significance of CAAR are computed as

$$t = CAAR_{1,\tau_1-\tau_2} / \left( \sigma_{\tau_1-\tau_2} / \sqrt{N_{\tau_1-\tau_2}} \right) \quad (24)$$

where  $N_{\tau_1-\tau_2}$  is the number of companies trading during period  $\tau_1$  to  $\tau_2$  and  $\sigma_{\tau_1-\tau_2}$  is specified as

$$\sigma_{\tau_1-\tau_2} = \left[ \frac{\sum_{i=1}^{N_{x-y}} (CAR_{i,\tau_1-\tau_2} - CAAR_{\tau_1-\tau_2})^2}{N_{\tau_1-\tau_2}} \right]^{1/2} \quad (25)$$

is the cross-sectional standard deviation of abnormal return on event month  $t$ .

#### 4.4.3.3 Buy and Hold Abnormal Return (BHAR)

Following Barber and Lyon's (1997) procedure, buy-and-hold abnormal returns (BHAR) are used to estimate the post-restructuring share price performance (Dichev and Piotroski, 2001; Taffler *et al.*, 2004; Ogneva and Subramanyam, 2007; Kausar *et al.*, 2009; Jory and Madura, 2011). The advantage of utilizing BHAR is it permits for the actual measurement of stock returns that accurately represent the investors' actual experience (Barber and Lyon, 1997; Lyon *et al.*, 1999). A BHAR is defined as the difference between the holding period return for the sample firm and the corresponding holding period return for market index and a matching/control firm. Similar to the CAR in Section 4.4.4.2, the matching company benchmark is developed that controls either the firm size or firm size and market-to-book ratio. The procedure of matching/control companies has been explained explicitly in Section 4.3.

The buy-and-hold abnormal returns are computed as

$$BHAR_i(\tau_1, \tau_2) = \prod_{t=\tau_1}^{\tau_2} (1 + R_{i,t}) - \prod_{t=\tau_1}^{\tau_2} [1 + R_{b,t}] \quad (26)$$

where  $BHAR_i(\tau_1, \tau_2)$  is the buy-and-hold abnormal return for company  $i$  from time  $\tau_1$  to  $\tau_2$ ,  $R_{i,t}$  is the raw return for company  $i$  at time  $t$ , and  $R_{b,t}$  is the return from a matching or control company at time  $t$ . Cross-sectional average BHARs are then calculated as follows (Barber and Lyon, 1997; Campbell, Lo and MacKinlay, 1997):

$$\overline{BHAR}(\tau_1, \tau_2) = \frac{1}{N} \sum_{i=1}^n BHAR_i(\tau_1, \tau_2) \quad (27)$$

where  $BHAR_i(\tau_1, \tau_2)$  is the buy-and-hold abnormal return of company  $i$  from period  $\tau_1$  to  $\tau_2$ , and  $N$  is the number of companies with valid  $BHAR$  over time period  $\tau_1$  to  $\tau_2$ .

Drawing on the work of Loughran and Ritter (2000), the present analysis emphasizes the equally weighted return. This is due to the fact that value-weighted returns can overstate standard errors, leading to low power in detecting abnormal performance. A positive (negative)  $BHAR$  value shows the share price performance out-performs (under-performs) a portfolio of benchmarks.

Two procedures are employed to determine the statistical significance of the mean buy and hold abnormal returns. First, the standard cross-sectional  $t$ -test statistics is utilized and second, the bootstrapped skewness-adjusted return  $t$ -statistics. Using matching company benchmark to determine the long run abnormal returns is sufficient due to the fact that matching company procedures have controlled for the new listing bias, rebalancing bias and skewness bias and therefore could yield well specified test statistics (Barber and Lyon, 1997). Drawing on Ahmad-Zaluki, Campbell and Goodacre (2007) and Lyon, Barber and Tsai (1999), a bootstrapped

skewness-adjusted return  $t$ -statistics is employed when market index is used as the benchmark.

The bootstrapped skewness-adjusted  $t$ -statistics is specified as

$$t_{sa} = \sqrt{n} \left( S + \frac{1}{3} \hat{\gamma} S^2 + \frac{1}{6n} \hat{\gamma} \right) \quad (28)$$

where

$$S = \frac{\overline{BHAR}_t}{\sigma(BHAR_t)}$$

and

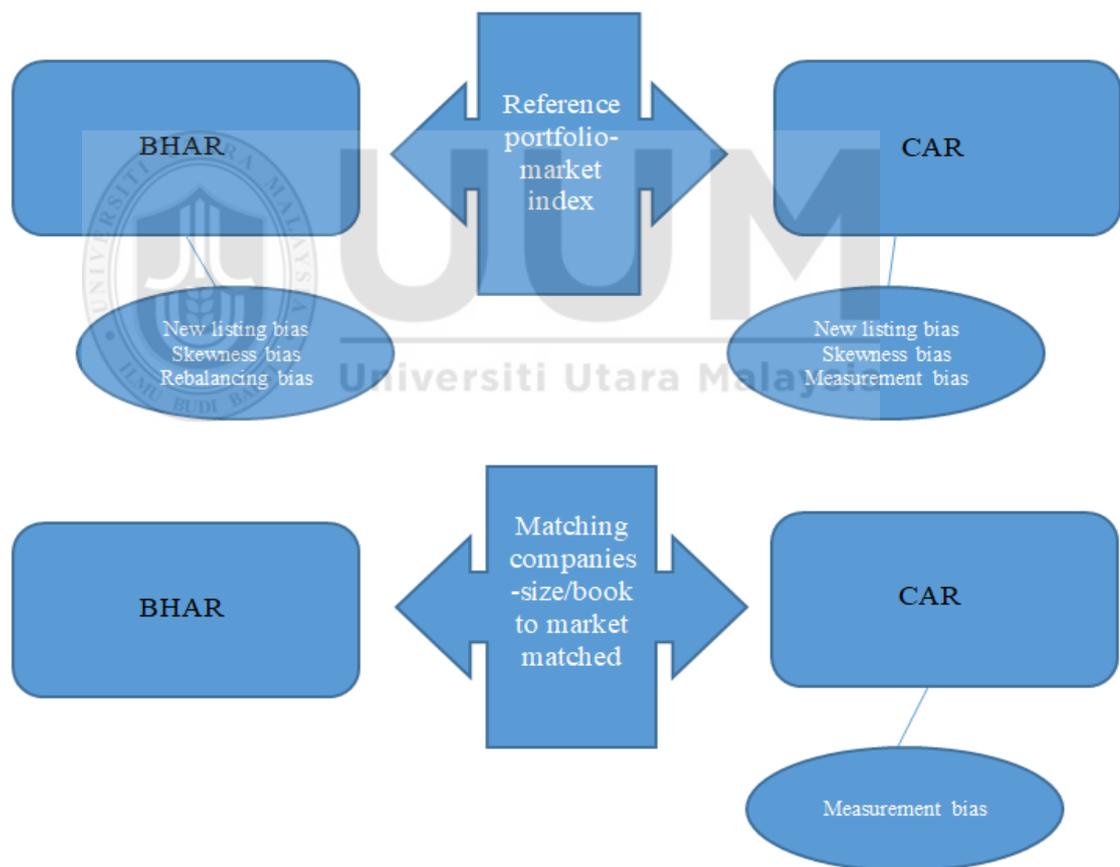
$$\hat{\gamma} = \frac{\sum_{i=1}^n (BHAR_{i,t} - \overline{BHAR}_t)^3}{n \sigma(BHAR_t)^3}$$

where  $\hat{\gamma}$  is the estimate of the coefficient of skewness and  $\sqrt{n}S$  is the conventional  $t$ -statistics.

#### 4.4.3.4 Wilcoxon signed rank-test

In order to check the validity of the estimation results of the parametric tests, median abnormal returns are also reported, along with the corresponding Wilcoxon signed rank test. According to Ang and Zhang (2004), the median returns are unaffected by extreme observations and present some theoretical advantages compared to mean BHARs. In addition, Kausar *et al.* (2009) suggest that it is important to complement the usual parametric analysis of longer-term abnormal returns of highly distressed firms with the computation of their non-parametric equivalents.

Consistent with previous research dealing with corporate failure announcements, a Wilcoxon signed rank-test is employed to test the statistical significance of our median abnormal returns (Dawkins and Rose-Green, 1998; Rose-Green and Dawkins, 2002; Dawkins et al, 2007). Nonetheless, some caution is warranted here. As Ikenberry and Ramnath (2002) point out, median returns are problematic when considering questions of efficiency because of the inconsistency this statistic poses for *ex ante* trading strategies. Accordingly, median returns are only used for robustness test purposes.



**Figure 4.3: Long run share price performance illustration**

Source: Barber and Lyon, 1997

#### **4.5 Summary of the chapter**

This chapter discussed the research methods that are used in the present study. Based on the literature review, this chapter described how the variables are measured. The collection of the sample procedure, the type of data used and the data sources were also clearly defined. The chapter concluded with a discussion of the type of analysis utilised to achieve the objectives of the study and answer the research questions. The procedures of the analysis are employed to achieve the robust results are discussed extensively for each of the objectives in the study.



## **CHAPTER FIVE**

### **ANALYSIS AND FINDINGS**

#### **5.1 Introduction**

This chapter discusses the analysis and findings of the study. The overview of the sample is described in the next section followed by the main part of the analysis which is divided into three sub-sections that represent the three objectives of the study. The sub-sections include the market reaction to financial distress announcements, outcomes of corporate financial distress, and long-run share price performance of the emerged financially distressed companies. In each sub-section, the descriptive statistics on the sample are explained before the appropriate analysis and statistical procedure are discussed for the three objectives. Finally, this chapter concludes with a summary.

#### **5.2 Overview of the sample**

Analysis of the sample in this study begins with the descriptive statistics to provide a general picture of the sample. In this section, the general description is segregated according to the year of distress, sector and criteria which have caused the companies to be classified as financially distressed listed companies. The initial number of listed companies triggered by financial distress classification is 315 from 2001 to 2014. The distribution of the financially distressed companies is shown in Table 5.1.

**Table 5.1: Distribution of 315 financially distressed listed companies by year of announcement and sector classification**

		Total
Full sample		315
<i>Panel A: Distribution by year of announcement</i>		
2001		100
2002		15
2003		7
2004		6
2005		14
2006		49
2007		10
2008		20
2009		19
2010		32
2011		6
2012		14
2013		16
2014		7
<i>Panel B: Distribution by sector<sup>19</sup></i>		
Main market*	Technology	8
	Industrial Products	76
	Trading/Services	55
	Consumer Products	31
	Construction	30
	Properties	29
	Plantations	10
	Hotels	2
	Infrastructure Project Company (IPC)	3
	Finance	12
	Total <sup>20</sup>	256
	ACE market*	Technology
Industrial Products		4
Trading/Services		5
Total		27

\* Main market was formed on 3<sup>rd</sup> August 2009 where the Main Board and Second Board were combined into one. At the same time, the MESDAQ was renamed ACE market.

Table 5.1 depicts the segregation of the financially distressed listed companies according to the year between 2001 and 2014. It has been shown that 2001 is the year with the most number of companies announcing their financially distressed

<sup>19</sup> The industry group is according to Bursa Malaysia industry classification.

<sup>20</sup> The total numbers of companies by year and sector classification have resulted in different numbers due to second-time entry companies (n=32). Please refer to Table 5.3.

condition. Since Practice Note 4 was introduced in 2001, 89 companies made announcements in February 2001. This could suggest that these 89 companies were financially distressed long before the introduction of the Practice Note. In 2006, a substantial rise is seen as compared to the previous year when Bursa Malaysia made some amendments to Practice Note 17 to enhance the effectiveness of the reorganization process. From Table 5.1, it is clearly shown that the industrial products industry has the most distressed companies, which is 30 percent of the Main Market. As for the ACE Market, the industrial sector contributes 15 percent with four distressed companies. Collectively, this figure represents the highest number relative to the industries. Trading and services contribute the second highest number of distressed companies for the Main Market with 55 distressed companies which represents 21 percent of distressed companies.

For the ACE Market, the trading and services sector contributes 19 percent with five distressed companies. Consumer products and the construction sector contribute 12 percent for the Main Market. Technology, Infrastructure Project Company and Hotels sectors have the least number of distressed companies with each sector contributing three to one percent. For the ACE Market, the technology sector contributes the most distressed companies at 67 percent. Overall, the industrial products sector has the most distressed companies at 80, which represents 25 percent of the total numbers of distressed companies. The trading and services sector contributes 19 percent with 60 companies, followed by consumer products and the construction sector.

Table 5.2 shows the criteria that triggered the financially distressed listed companies filed under Practice Notes/Guidance Notes. These reasons are stated along with the first announcement made by the affected listed companies. The most common criteria given for being classified under the Practice Notes is related to shareholders equity, either deficit or low shareholders' equity, which made up 42.6% of the number of reasons. The second most common criteria quoted by affected companies is that the auditors have expressed an adverse opinion concerning the latest audited accounts with 10.6% for Practice Note 4.

For Practice Note 17, the second most common criteria is that auditors have expressed a modified opinion on going-concern, and shareholders' equity is 50% or less of issued and paid-up capital with 9.3% of the total criteria. Default in payment and being unable to provide a solvency declaration represents 8.5% of the total criteria. For Guidance Note No.3, the most common criteria relate to the shrinkage of shareholder equity and incurred losses in the business. This is followed by losses incurred in one full financial year which equals or exceeds the amount of shareholders' equity, and shareholders' equity is equal to or less than 50% of issued and paid-up capital.

Panel B of Table 5.2 shows that, of the 315 companies classified as financially distressed between 2001 and 2014, 32 listed companies re-enter the financial distress classification after successful restructure of the first financially distressed situation. However, there is no evidence of subsequent entry to the financial distressed condition after the second successful restructuring during these periods. Panel C of Table 5.2 depicts the outcomes of the financially distressed companies after

successful restructuring. As of 31 December 2014, 22 companies were still in the midst of reorganization, 133 had emerged and 159 were delisted from Bursa Malaysia. Panel D of Table 5.2 shows the number of politically-connected firms. In total, 47 financially distressed listed companies are politically-connected following studies by Fung *et al.* (2015), Chen *et al.* (2013), Bliss *et al.* (2011), Mitchell and Joseph (2010) and Faccio (2006). Most of the politically-connected financially distressed companies are identified by Fung *et al.* (2015) and Chen *et al.* (2013).



**Table 5.2: Number of distressed companies by criteria of distressed, second entry and outcomes of the distressed**

<b>Panel A</b>		
	<b>Criteria**</b>	<b>Number of companies (%)</b>
<b>Practice Notes 4</b>	A deficit in the consolidated adjusted shareholders' equity of the listed company	107 (27.6%)
	Receivers and/or managers appointed for at least 70 percent of the total assets	3 (0.8%)
	Auditors have expressed an adverse opinion in its latest audited accounts	41 (10.6%)
	Special administrators have been appointed over the listed company or the major subsidiary or major associated company of the listed company pursuant to the provisions of the Pengurusan Danaharta Nasional Act 1998.	19 (4.9%)
<b>Practice Notes 17</b>	Shareholders' equity is 25% or less of the issued and paid-up capital (excluding treasury shares) and is less than RM40 million*	49 (12.7%)
	Receivers or managers appointed for at least 50% of the total assets	3 (0.8%)
	Adverse or disclaimer opinion by the auditors	24 (6.2%)
	Auditors express a modified opinion on going-concern and shareholders' equity is 50% or less of issued and paid-up capital	36 (9.3%)
	Default in payment and unable to provide solvency declaration	33 (8.5%)
	Suspended or ceased all/major business/operations	18 (4.7%)
	Insignificant business or operations	12 (3.1%)
<b>Guidance Note No.3/2006</b>	Shareholders' equity is 25% or less of the issued and paid-up capital	9 (2.3%)
	Incurred loss in any 1 full financial year which equal to or exceed the amount of its shareholders' equity and the shareholders' equity is equal to or less than 50% of issued and paid-up capital	8 (2.1%)
	Incurred aggregated losses in any 2 consecutive full financial years	9 (2.3%)
	Receivers or managers appointed for at least 50% of the total assets	1 (0.3%)
	Adverse or disclaimer opinion by the auditors	4 (1.0%)
	Auditors express a modified opinion on going-concern and shareholders' equity is 50% or less of issued and paid-up capital	3 (0.8%)
	Default in payment and unable to provide solvency declaration	5 (1.3%)
	Suspended or ceased all/major business/operations	2 (0.5%)

	Insignificant business or operations				1 (0.3%)
<b>Panel B</b>					
	<b>Number of companies</b>				
<b>Second-time entry<sup>21</sup></b>	32				
<b>Panel C</b>					
<b>Outcomes of the restructurings</b>					
<b>Emerged</b>	133				
<b>Delisted</b>	159				
<b>Reorganization in-progress (as at end of December 2014)</b>	22				
<b>Declassification</b>	1				
<b>Panel D</b>					
<b>Politically connected firms (n=47)</b>					
Faccio (2006)	Mitchell & Joseph (2010)	Bliss <i>et al.</i> (2011)	Chen <i>et al.</i> (2013)	Fung <i>et al.</i> (2015)	
1	3	2	13	28	

\*Prior to May 2006, the criteria were “deficit in the adjusted shareholders’ equity”. \*\*The total number exceeds the total number of companies in Table 5.1 because a company may have more than one criteria of financial distress. There are 13 companies that did not give reasons of being classified under the Practice Notes.

<sup>21</sup> Second time entry refers to cases of where listed companies were initially classified as financially distressed and reclassified into the listings after being able to restructure their financial condition. Nevertheless, these companies were reclassified as financially distressed in the later year.

### **5.3 Empirical results and discussion**

This section provides the empirical results for each of the objectives outlined in Section 1.5 of Chapter 1, starting with analysis of the first objective which concerns market reactions to financial distress announcements, followed by the outcomes of delisted and emerged companies. The next section describes analysis on the predictors of the outcome of distress resolution. Finally, it follows with an analysis on the long-run share price performance of the emerged companies after the restructuring period.

#### **5.3.1 Market reaction to financial distress announcements**

This section provides analysis of the first objective which is to compare the stock market reactions to financial distress announcements by the delisted and emerged companies. The analysis starts with the descriptive statistics of the sample for this analysis, first looking at the market reactions using two market indexes (EMAS and KLCI Index) and two event study procedures (Market Adjusted Return and Market Model). Analysis of the market reactions follows where the sample is segregated by the listing markets (Main Market *vs.* ACE market) and whether the companies are politically-connected or non-politically connected. Next, analysis segregates the sample by outcomes of distress (emerged *vs.* delisted).

##### **5.3.1.1 Descriptive statistics**

The initial number of financially distressed companies is 315. The initial confirmation of data availability on the share price is made to discover firms with missing values during the period. Exclusion arises from missing returns data in the test period or no share price data on the announcement date in the Thomson

Datastream. The reason behind the insufficient share price data is due to the trading suspension imposed by Bursa Malaysia to the affected companies even before the companies made their first announcement concerning financial distress. In addition, one company, namely Kejuruteraan Samudra Timur Berhad, is excluded since it has been de-classified to be under the Cash Company<sup>22</sup>. In this case, Kejuruteraan Samudra Timur Berhad needs to fulfil the criteria as a cash company of the listing requirements of Bursa Malaysia. As has been the case in previous empirical studies, financial institutions and insurance companies are excluded since the accounting presentations of their financial statements are significantly different from those in other sectors. This has led to exclusion of a total of 61 companies from the sample and, in consequence, the final number of sample included in this study is 254 companies.

Table 5.3 depicts distribution of companies included in the analysis according to its listing market and industry. From the total of 254 companies, the Main Market accounts for 92 percent of the total number of sample and eight percent are ACE Market companies. Most of the financially distressed companies in the Main Market come from the industrial products industry (30%) followed by trading/services (24%), consumer products (12%) and properties (9.8%). As for the ACE Market, the highest number of companies comes from technology which accounts for five percent of the sample, followed by trading and services, and industrial products.

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<sup>22</sup> Cash company refers to a listed company with assets on a consolidated basis, consist of 70% or more of cash or short term investments, or combination. The cash company needs to comply with Paragraph 8.03 and Practice Note 16 of the Listing Requirements.

**Table 5.3: Sample description**

Main market	Technology	10
	Industrial Products	72
	Trading/Services	58
	Consumer Products	31
	Construction	24
	Properties	25
	Plantations	8
	Hotels	3
	Infrastructure Project Company (IPC)	2
	Total	233
ACE market	Technology	13
	Industrial Products	4
	Trading/Services	4
	Total	21

Table 5.4 presents the share price on the day of the financial distress announcement for the 254 sample companies. Most of the financially distressed companies, or 80 percent, have prices under RM1.00 per share at the time the companies were announced and declared distressed (under Practice Note 4/Practice Note 17/Guidance Note 3 classification) according to the Bursa Malaysia listed companies' regulation. The average price is RM1.72 and the median price is RM0.32 with standard deviation of RM5.06.

**Table 5.4: Share price on the day of announcement (day 0)**

Price range (RM)	Number of companies	Percentage (%)
0.01 – 0.50	156	61.4
0.51 – 1.00	48	18.9
1.01 – 5.00	31	12.2
5.01 – 10.00	8	3.1
More than 10	11	4.3
Total	254	100
Mean	RM1.72	
Median	RM0.32	
Standard deviation	RM5.06	

### 5.3.1.2 Estimation results

As a starting point, the stock price reactions surrounding the financial distress announcement date is examined. In this stage, the KLCI and EMAS Index are used to compute abnormal returns using both the market adjusted model and market model. The event study procedure has been explained in section 4.4.1. Table 5.5 shows the daily average abnormal returns (AARs) over -10 and +10 periods relative to the event day 0.<sup>23</sup>

Overall, the results suggest that the AARs are negative and statistically significant prior to and after the financial distress announcement. Utilizing the market adjusted return procedure, large negative average abnormal returns of 3.34 to 3.32 percent (significant at the 1 percent level) are reported respectively for both the KLCI and EMAS Index on the day of announcement ( $t = 0$ ). The negative and significant average abnormal returns are reported two days prior to the announcement day until five days after the announcement ranging from -1.03 to -18.70 percent and -1.03 to -18.73 percent for the KLCI Index and EMAS Index, respectively. In order to provide precise estimation results, the market model procedure is also being estimated. The results of market models are similar to those of market adjusted return model. There are significant AARs of -0.82, -1.22, -3.16, -18.55, and -10.88 percent for the respective days -2, -1, 0, 1 and 2 for KLCI Index and -0.85, -1.23, -3.16, -18.52, and -10.90 for the respective days -2, -1, 0, 1 and 2 by using EMAS Index.

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<sup>23</sup> The daily average abnormal returns (AARs) are calculated over -60 and +60 period relative to the event day 0. Due to space constraints, only AARs for the -10 and +10 periods are reported.

Table 5.6 shows the cumulative average abnormal returns (CAAR) are significantly negative for event windows of (-60, 0), (-10, 0), (-1, +1), (-1, 0), (-0, +1) and (-60, +60). With percentage rates of -21.94, -10.57, -23.49, -4.77, -22.07 and -59.47 adopting the KLCI Index and -21.58, -10.50, -23.43, -4.73, -22.02 and -59.05 for EMAS Index when the market adjusted return model is used. All values are highly statistically significant at the one percent level. In addition, the market model procedure yields similar results, although with lower magnitude. These findings indicate that information of the distress announcement is known to investors before the announcement date. In other words, the equity market has anticipated the announcement of financial distress. The negative CAAR results are consistent with Clark and Weinstein (1983) whose empirical results show losses of between 28 and 51 percent from event day -220 to event day -2. In addition, Coelho (2015), Lang and Stulz (1992), Datta and Iskandar-Datta (1995) and Ferris, Jayaraman and Makhija (1997) also support the findings of significant, large, negative, abnormal returns around the days surrounding the bankruptcy announcement.

In the succeeding analysis, following Dawkins *et al.* (2007), the EMAS Index is used to better match the financially distressed companies and as it gives a better overview of the estimation results. Dawkins *et al.* (2007) use CRSP equally weighted to the market index in their analysis to match their bankrupt firms as they argue that the bankrupt firms are smaller than the median of CRSP firms. Thus, the KLCI Index might not be a suitable benchmark as it includes thirty largest market capitalisation companies and could produce downward biased estimation results (size related bias). Nevertheless, estimation using the KLCI Index has been done and it suggests similar results, as shown in Table 5.5 and Table 5.6.

**Table 5.5: Daily average abnormal returns (AARs) around financial distress announcement day**

Event day	Market Adjusted Return (n=254)				Market Model (n=254)			
	EMAS Index		KLCI Index		EMAS Index		KLCI Index	
	AAR <sub>t</sub> (%)	<i>t</i> -statistics	AAR <sub>t</sub> (%)	<i>t</i> -statistics	AAR <sub>t</sub> (%)	<i>t</i> -statistics	AAR <sub>t</sub> (%)	<i>t</i> -statistics
-10	-0.9951	-2.6356***	-0.9659	-2.5537***	-0.8038	-2.0734**	-0.7343	-1.8875*
-9	-0.6150	-1.8918*	-0.6235	-1.9094*	-0.3556	-1.0931	-0.3522	-1.0708
-8	0.0465	0.1096	0.0144	0.0340	0.2634	0.6325	0.2388	0.5693
-7	0.0339	0.0774	0.0314	0.0716	0.1949	0.4398	0.2156	0.4856
-6	-0.5708	-1.0130	-0.5941	-1.0538	-0.3138	-0.5580	-0.3138	-0.5582
-5	-1.3846	-2.9404***	-1.3922	-2.9545***	-1.2014	-2.5750***	-1.1904	-2.5468***
-4	-1.1311	-2.9006***	-1.1390	-2.9179***	-0.9199	-2.3824**	-0.9070	-2.3440**
-3	-0.1167	-0.2323	-0.1135	-0.2254	0.0390	0.0786	0.0877	0.1760
-2	-1.0316	-2.3060**	-1.0253	-2.2884**	-0.8481	-1.8916*	-0.8171	-1.8124*
-1	-1.4112	-1.9858**	-1.4246	-2.0015**	-1.2311	-1.7326*	-1.2195	-1.7118*
0	-3.3217	-4.2545***	-3.3410	-4.2766***	-3.1609	-4.0270***	-3.1605	-4.0310***
+1	-18.6970	-13.4765***	-18.7265	-13.4828***	-18.5260	-13.3199***	-18.5473	-13.3104***
+2	-11.1178	-9.0259***	-11.1093	-9.0009***	-10.9015	-8.8185***	-10.8777	-8.7792***
+3	-2.3231	-2.6615***	-2.3396	-2.6750***	-2.0738	-2.3997**	-2.1180	-2.4409***
+4	-2.6805	-3.1813***	-2.7882	-3.2958***	-2.3057	-2.7630***	-2.5028	-2.9748***
+5	-2.5877	-3.3915***	-2.6066	-3.4075***	-2.4036	-3.1505***	-2.3908	-3.1177***
+6	0.0401	0.0650	0.0268	0.0433	0.3417	0.5607	0.3702	0.6059
+7	-0.0721	-0.1346	-0.0786	-0.1464	0.1874	0.3552	0.1764	0.3342
+8	-1.2987	-2.7851***	-1.2985	-2.7766***	-1.0654	-2.3183**	-1.0606	-2.2996**
+9	0.0641	0.0845	0.0327	0.0430	0.4033	0.5303	0.3749	0.4930
+10	-1.1663	-2.2168**	-1.1634	-2.2081**	-0.9566	-1.8017*	-0.9381	-1.7595*

Note: \*, \*\*, \*\*\* denote significance at the 10, 5 and 1 percent, respectively.

**Table 5.6: Cumulative average abnormal returns (CAARs) surrounding the announcement day**

Event windows	Market Adjusted Return (n=254)				Market Model (n=254)			
	EMAS Index		KLCI Index		EMAS Index		KLCI Index	
	CAAR <sub>t</sub> (%)	<i>t</i> -statistics	CAAR <sub>t</sub> (%)	<i>t</i> -statistics	CAAR <sub>t</sub> (%)	<i>t</i> -statistics	CAAR <sub>t</sub> (%)	<i>t</i> -statistics
(-60,0)	-21.5806	-9.5697***	-21.9441	-9.6095***	-8.8386	-3.4655***	-8.1274	-3.3171***
(-10,0)	-10.4973	-7.3410***	-10.5732	-7.3324***	-8.3375	-5.8965***	-8.1527	-6.0101***
(-1, +1)	-23.4298	-14.7752***	-23.4921	-14.8166***	-22.9179	-14.3428***	-22.9273	-15.1730***
(-1,0)	-4.7328	-4.9449***	-4.7656	-4.9715***	-4.3920	-4.5516***	-4.3800	-4.8030***
(0,+1)	-22.0187	-14.4175***	-22.0675	-14.4431***	-21.6869	-14.1103***	-21.7078	-14.9456***
(-60,+60)	-59.0465	-14.7992***	-59.4719	-14.9318***	-33.5138	-7.0898***	-32.3691	-7.1791***

Note: \*, \*\*, \*\*\* denote significance at the 10, 5 and 1 percent level, respectively



In addition, the usage of a market model procedure as an alternative return-generating model may not be appropriate given the fact that it is difficult to identify a non-event estimation period for bankrupt firms (Clark and Weinstein, 1983; Dawkins *et al.*, 2007, and Hubbard and Stephenson, 1997). The assumption of using the market model of which regression coefficients do not change over the estimation period might not be fulfilled for the bankrupt firms since these firms often sell assets, becoming merger targets, negotiating with the creditors and changing their management board (Hubbard and Stephenson, 1997). These activities, to some extent, affect the stock price of the estimation period. In addition, Aharony *et al.* (1980) and McEnally and Todd (1993) argue that beta is unstable for bankrupt firms where beta decreases prior to bankruptcy announcement and makes it unreliable.

In the next analysis, the sample is segregated between firms listed on the Main Market and the ACE Market. The results are shown in Table 5.7 and Table 5.8. The results suggest that AARs are negative and significant for both firms listed on the Main Market and ACE market on the announcement day and two days after the announcement being made. In addition, the CAARs of firms listed on the Main market and ACE market are significantly negative for event windows of (-60, 0), (-10, 0), (-1, +1), (-1, 0), (-0, +1) and (-60, +60). The findings also reveal that firms listed in the ACE market experience higher negative returns compared to the Main Market firms in all windows. This concurs with the findings of Ferris *et al.* (1997) who report that NASDAQ-listed bankrupt companies (smaller stocks) suffer a larger drop compared to NYSE/AMEX-listed bankrupt companies.

**Table 5.7: Daily average abnormal returns (AARs) around financial distress announcement day**

Event day	Main Market (n=233)		ACE Market (n=21)	
	AAR <sub>t</sub> (%)	<i>t</i> -statistics	AAR <sub>t</sub> (%)	<i>t</i> -statistics
-10	-1.1445	-2.9569***	0.6626	0.4294
-9	-0.7132	-2.2705**	0.4743	0.2570
-8	0.0103	0.0243	0.4476	0.2132
-7	-0.1611	-0.4156	2.1984	0.7009
-6	-0.5509	-0.9242	-0.7914	-0.4696
-5	-1.4055	-2.9034***	-1.1522	-0.5941
-4	-1.0764	-2.6811**	-1.7385	-1.0988
-3	-0.1737	-0.3514	0.5155	0.1927
-2	-0.8395	-1.9517**	-3.1627	-1.2350
-1	-1.4297	-1.9933**	-1.2060	-0.3626
0	-2.9184	-3.7714***	-7.7954	-2.0061**
+1	-18.9387	-13.1812***	-16.0152	-3.0043***
+2	-10.9302	-8.6502***	-13.1989	-2.5680***
+3	-2.2901	-2.6247***	-2.6890	-0.6239
+4	-3.1782	-3.9120***	2.8406	0.6053
+5	-2.5261	-3.1948***	-3.2712	-1.1168
+6	-0.3559	-0.6726	4.4348	0.9620
+7	-0.2240	-0.4205	1.6128	0.5992
+8	-1.2024	-2.4608***	-2.3667	-1.5035
+9	-0.0385	-0.0473	1.2022	0.7256
+10	-1.2690	-2.3405**	-0.0268	-0.0127

Note: \*, \*\*, \*\*\* denote significance at the 10, 5 and 1 percent level, respectively.

**Table 5.8: Cumulative average abnormal returns (CAARs) surrounding the announcement day**

Event window	Main Market (n=233)		ACE Market (n=21)	
	CAAR <sub>t</sub> (%)	<i>t</i> -statistics	CAAR <sub>t</sub> (%)	<i>t</i> -statistics
(-60,0)	-21.4247	-9.3139***	-23.3113	-2.3679**
(-10,0)	-10.4027	-6.9887***	-11.5477	-2.1965**
(-1, +1)	-23.2868	-13.7285***	-25.0167	-6.6161***
(-1,0)	-4.3481	-4.4206***	-9.0014	-2.3519**
(0,+1)	-21.8572	-13.8070***	-23.8106	-4.0743***
(-60,+60)	-58.7530	-14.1381***	-62.3026	-4.2746***

Note: \*, \*\*, \*\*\* denote significance at the 10, 5 and 1 percent level, respectively.

In order to better understand the market reaction of financial distress announcement, this study proceeds by segregating the sample into non-politically and politically

connected companies. According to Faccio *et al.* (2006), Malaysia has the highest fraction of politically-connected companies (Table III, page. 2607), among the public firms, globally. As such, inquiry of connections by corporate sector in Malaysia is important, as stressed by Johnson and Mitton (2003). Kang (2002) even labelled Malaysia as crony capitalism where political leaders have a tendency to use their power for the benefit of their families and close ties. Malaysia's capital control policy, implemented during the 1998 Asian Financial crisis, is regarded as "relationship-based" capitalism (Rajan and Zingales, 1998).

According to Faccio *et al.* (2006), politically-connected firms would be bailed out in the event of financial distress or economic downturn. Politically-connected companies enjoy the crucial benefit of knowing which financial support or assistance will be granted during times of distressed financial conditions. These companies tend to gain the support and influence of the government during the restructuring process to avoid failure. In this sense, it is likely that market participants perceive political connection as being beneficial in the event of financial distress even though the announcement of financial distress is considered bad news. Nonetheless, this has yet to be tested as different investors might react differently and such a reaction would also be affected by whether the firms are politically-connected or otherwise. Hence, the subsequent analysis sets out to explore the impact of political connection following announcements of financial distress.

Table 5.9 shows the daily average abnormal returns (AARs) for politically-connected and non-politically-connected firms over ten days surrounding the event day  $t=0$ . The empirical results suggest that there are AARs that are negative and statistically

significant prior and after the financial distress announcement. The interesting results from the AARs show that there are a lot more significant event days that show negative AARs for non-politically connected companies. The non-politically-connected firms have greater negative stock price effect as compared to the connected firms. As shown in the table, the significant AARs for non-political connection firms have percentages of -1.09, -1.68, -3.86, -19.07, -10.66 for day -2, -1, 0, 1 and 2, respectively whereas the significant AARs for political connection firms on day 1 and 2 are -16.67 and -13.65 percent, respectively. Based on AARs analysis, this indicates that investors value a firm's political connection favourably.

**Table 5.9: Daily average abnormal returns (AARs) around financial distress announcement day between political and non-political connected firms**

Event days	AARs (%)		<i>t</i> -statistics	
	Politically connected (n=39)	Non-politically connected (n=215)	Politically connected	Non-politically connected
-10	-0.6684	-1.0544	-0.7563	-2.5288***
-9	-0.8855	-0.5659	-1.1270	-1.5840
-8	0.2499	0.0095	0.2484	0.0204
-7	0.4031	-0.0330	0.7251	-0.0649
-6	-1.3256	-0.4339	-1.0032	-0.6978
-5	-0.7319	-1.5030	-0.7053	-2.8683***
-4	-0.5338	-1.2395	-0.6941	-2.8214***
-3	1.1645	-0.3491	0.7404	-0.6703
-2	-0.7024	-1.0913	-0.8356	-2.1542**
-1	0.0563	-1.6774	0.0501	-2.0608**
0	-0.3279	-3.8647	-0.3706	-4.2753***
1	-16.6666	-19.0653	-5.0665***	-12.4748***
2	-13.6529	-10.6579	-5.1922***	-7.7525***
3	0.2808	-2.7954	0.2061	-2.7989***
4	-4.4962	-2.3512	-3.6279***	-2.4266**
5	-1.4095	-2.8014	-1.0924	-3.2175***
6	-0.9420	0.2183	-0.9268	0.3092
7	0.1803	-0.1179	0.1586	-0.1968
8	0.3373	-1.5954	0.4014	-3.0245***
9	0.5761	-0.0288	0.3005	-0.0348
10	-1.3840	-1.1268	-1.3260	-1.9006*

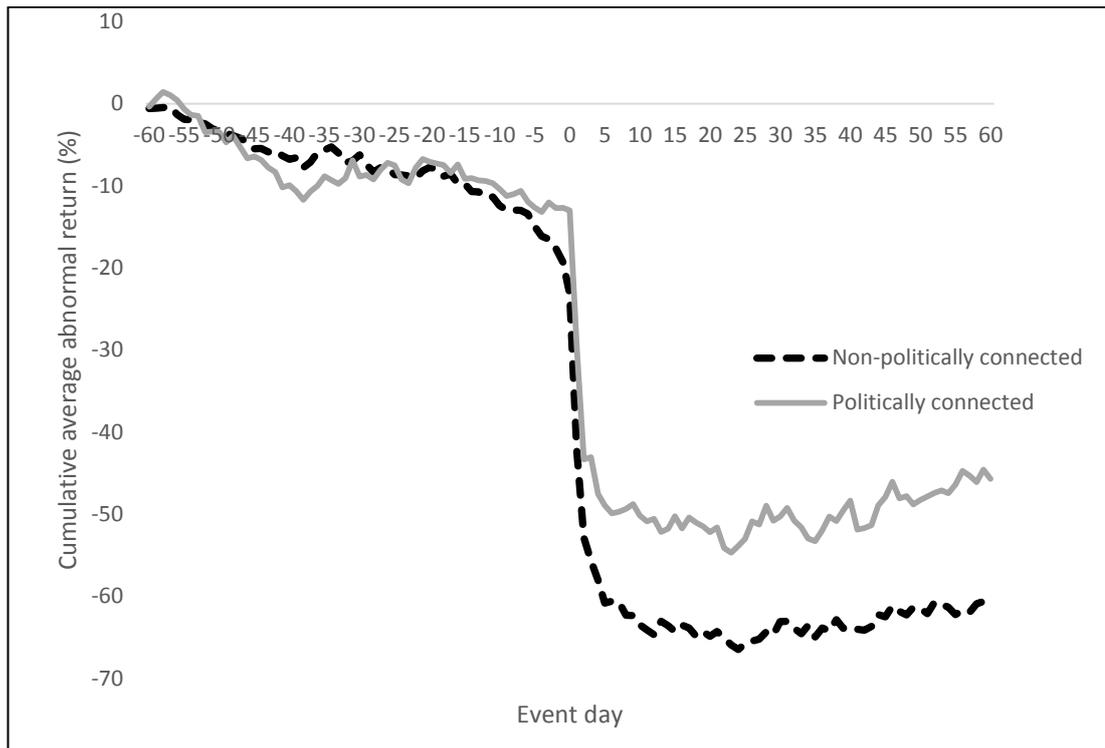
The *t*-statistics test the null hypothesis that the average abnormal returns are equal to zero. \*, \*\*, \*\*\* indicate statistical significance at 10%, 5% and 1% level, respectively.

The cumulative average abnormal returns (CAARs) in Table 5.10 indicate that politically-connected firms experience lower negative returns compared to non-politically-connected firms in all windows. For example, the significant negative returns are observed for (-60, 0), (-1, +1), (-0, +1) and (-60, +60) event windows where the CAARs percentages are -13.00, -16.94, -16.99 and -45.71 for the politically-connected firms. On the other hand, the non-politically connected firms' CAARs percentages are -23.14, -11.80, -24.61, -5.54, -22.93 and -61.47 and they are statistically significant for all windows. Furthermore, it appears that the mean difference of CAARs for event days (-10, 0) and (-1, 0) between the political and non-politically-connected firms is 8.50 percent and 5.27 percent, respectively. Both are significance at the 5 percent level (Table 5.10). These results show that there are discrepancies in how investors react to financial distress announcements with regard to political connection. Investors react more negatively in the non-politically-connected firms compared to connected firms. Such a finding has not been documented previously in the literature. Figure 5.1 shows the difference of the price effect between connected and non-connected firms.

**Table 5.10: Cumulative average abnormal returns (CAARs) surrounding the announcement day between political and non-political connected firms**

Event windows	Politically connected (n=39)		Non-politically connected (n=215)		Mean difference <sup>a</sup>
	CAAR <sub>t</sub> (%)	<i>t</i> -statistics	CAAR <sub>t</sub> (%)	<i>t</i> -statistics	
(-60,0)	-12.9954	-2.5437***	-23.1380	-9.3012***	10.1426 (5.6824)*
(-10,0)	-3.3017	-1.1030	-11.8026	-7.4416***	8.5008 (3.3877)**
(-1, +1)	-16.9382	-4.2861***	-24.6074	-14.2861***	7.6691 (4.3110)*
(-1,0)	-0.2716	-0.1846	-5.5421	-5.0810***	5.2704 (1.8319)***
(0,+1)	-16.9945	-4.7744***	-22.9300	-13.6443***	5.9355 (3.9363)
(-60,+60)	-45.7067	-4.4468***	-61.4663	-14.2321***	15.7596 (11.1491)

Note: \*, \*\*, \*\*\* denote significance at the 10, 5 and 1 percent level, respectively. <sup>a</sup>To compare the mean difference, independent *t*-statistic under the assumption of unequal variances and two-tailed test are utilized. Number in parenthesis is the standard error difference.



**Figure 5.1: Cumulative average abnormal returns (CAARs) surrounding the announcement day of politically connected versus non-politically connected firms**

### **Distress outcomes and price reactions**

In this section, the results and discussion of the outcomes of distress situation which are either emerged or delisted are presented. It can be seen that the sample number is smaller compared to the previous section since some of the financially distressed companies have not completed their restructuring process as at end of 31 December 2014. The difference of outcomes is examined to see whether the market is able to identify or distinguish between companies that are successful in restructuring (emerged) and those that fail (delisted). For this purpose, the sample is divided into two groups. For each group, only companies that have outcomes of distress situation are used in the analysis whereas financially distressed companies that have not resolved their situation are excluded from the analysis.

Table 5.11 shows the daily average abnormal returns (AARs) over -10 and +10 days relative to the event day 0 for emerged and delisted firms. Overall, both delisted and emerged firms experience significant negative abnormal returns on the days surrounding the financial distress announcement date. Consistent with our expectation, the financially distressed companies that were eventually delisted experienced higher losses than the emerged companies which suggests that the market could anticipate the outcomes of the financially distressed condition. The significant AAR percentages for delisted firms are -5.22, -22.73, -16.84, -2.99, and -2.84 for day 0, 1, 2, 3 and 4, respectively. The emerged firms reported to have significant losses of -13.02, -6.96, -2.21 and -2.68 percent on day 1, 2, 3 and 4, respectively.

The cumulative average abnormal returns (CAARs) in Table 5.12 also suggest that emerged firms experience lower negative stock price declines compared to delisted firms in all windows. For example, during the (-60, 0), (-10, 0), (-1, +1), (-1, 0), (0, +1) and (-60, +60) periods, the CAARs are -17.32, -6.75, -16.11, -3.09, -13.75 and -33.13 percent respectively for emerged firms and -24.91, -12.33, -29.02, -5.45, -28.67 and -84.77 percent respectively for delisted firms. All event windows show significant price declines for both groups at the one percent level. Furthermore, differences in CAARs between the emerged and delisted firms are tested using *t* tests (parametric). The CAARs between the emerged and delisted firms differ in magnitude ranging from 12.91 to 51.64 percent, and the differences are significant at the one percent level in the (-1, +1), (0, +1) and (-60, +60) windows. Figure 5.2 shows the difference of the price effect between the emerged and delisted firms.

**Table 5.11: Daily average abnormal returns (AARs) around financial distress announcement day between emerged and delisted firms**

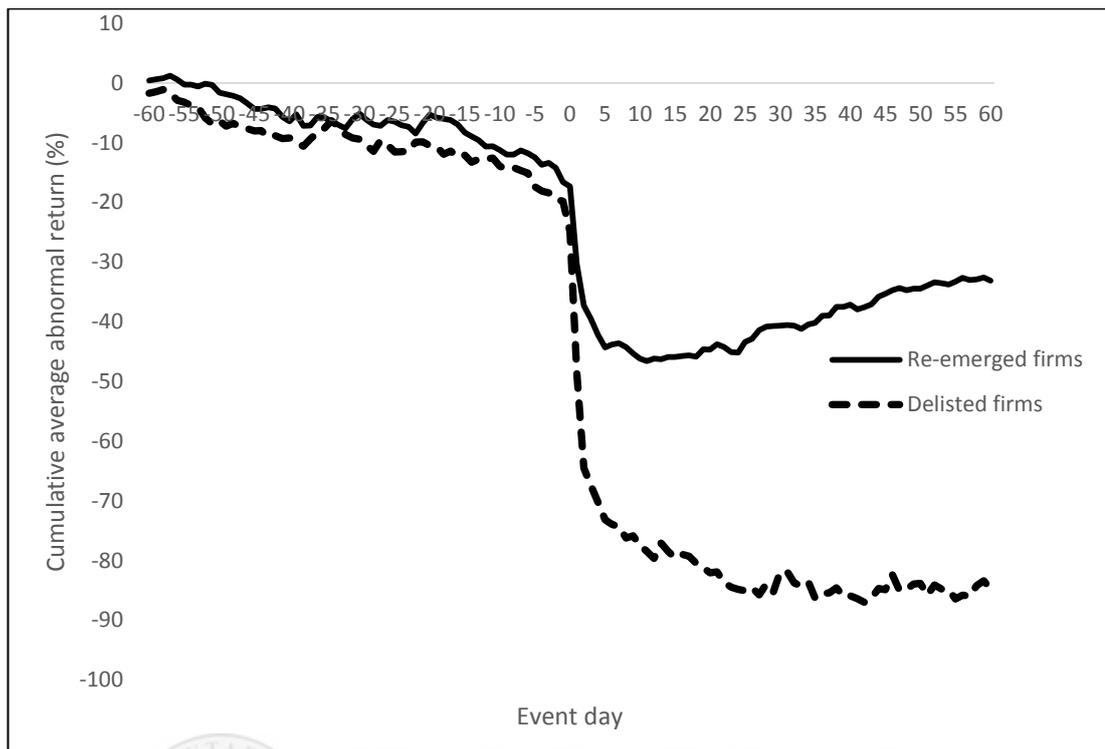
Event day	Emerged firms (n=121)		Emerged firms excluding second time entry (n=87)		Delisted firms (n=115)	
	AAR <sub>t</sub> (%)	<i>t</i> -statistics	AAR <sub>t</sub> (%)	<i>t</i> -statistics	AAR <sub>t</sub> (%)	<i>t</i> -statistics
-10	-0.6489	-1.7270*	-0.5085	-1.0842	-1.4066	-1.9523**
-9	-0.7698	-2.6363***	-0.9121	-2.6889***	-0.3486	-0.5486
-8	0.0081	0.0160	0.1974	0.2979	0.1326	0.1772
-7	0.6949	1.3865	0.6840	1.0839	-0.4790	-0.6000
-6	-0.4837	-0.9393	-0.7535	-1.1217	-0.3924	-0.3527
-5	-0.7203	-1.2791	-1.1892	-1.7200*	-2.3094	-2.7999***
-4	-1.1807	-2.8089***	-0.8840	-1.9169*	-0.7113	-1.0542
-3	0.2753	0.8346	0.2561	0.6211	-0.2926	-0.2835
-2	-0.8350	-1.8737*	-0.7429	-1.3652	-1.0756	-1.3103
-1	-2.3617	-2.0356**	-2.7062	-1.7053*	-0.3532	-0.3684
0	-0.7250	-1.0422	-0.5393	-0.6246	-5.0953	-3.7303***
+1	-13.0229	-8.4856***	-11.0049	-7.0700***	-23.5705	-10.3066***
+2	-6.9649	-4.9150***	-8.6504	-4.9710***	-16.0282	-7.5187***
+3	-2.2107	-2.7916***	-1.5530	-1.7914*	-2.9609	-1.7516*
+4	-2.6843	-3.9998***	-2.3613	-2.8040***	-2.7553	-1.6192
+5	-2.0687	-2.7626***	-2.2970	-2.4991***	-2.9440	-1.9908**
+6	0.4432	0.6493	0.5187	0.6123	-0.7627	-0.6764
+7	0.2498	0.4596	1.0427	1.6644*	-0.4291	-0.4299
+8	-0.6551	-1.3977	-0.8776	-1.5336	-1.8732	-2.1377**
+9	-1.0721	-1.1312	-1.3058	-1.0294	0.4174	0.3346
+10	-0.8493	-1.6717*	-0.5309	-0.8853	-1.6460	-1.6952*

Note: \*, \*\*, \*\*\* denote significance at the 10, 5 and 1 percent level, respectively. AR = average abnormal return.

**Table 5.12: Cumulative average abnormal returns (CAARs) surrounding the announcement day**

Event windows	Emerged firms (1) (n=121)		Emerged firms excluding second-time (2) entry (n=87)		Delisted firms (3) (n=115)		Mean difference (1) vs (3)
	CAAR <sub>t</sub> (%)	<i>t</i> -statistics	CAAR <sub>t</sub> (%)	<i>t</i> -statistics	CAAR <sub>t</sub> (%)	<i>t</i> -statistics	
(-60,0)	-17.3214	-6.3038***	-18.8701	-5.2789***	-24.9131	-6.9241***	7.5917 (4.5273)*
(-10,0)	-6.7470	-4.5557***	-7.0981	-3.7297***	-12.3316	-4.9312***	5.5846 (2.9064)*
(-1, +1)	-16.1097	-8.3293***	-14.2504	-6.6497***	-29.0190	-11.4699***	12.9094 (3.1846)***
(-1, 0)	-3.0868	-2.7523**	-3.2455	-2.1765**	-5.4485	-3.4165***	2.3618 (1.9497)
(0,+1)	-13.7479	-8.1115***	-11.5442	-6.4751***	-28.6658	-11.5284***	14.9179 (3.0092)***
(-60,+60)	-33.1290	-7.1326***	-31.5122	-5.6763***	-84.7726	-13.9529***	51.6436 (7.6477)***

Note: \*, \*\*, \*\*\* denote significance at the 10, 5 and 1 percent level, respectively. AR = average abnormal return.<sup>a</sup> To compare the mean difference, *t*-statistic under the assumption of unequal variances and two-tailed test are utilized. Number in parenthesis is the standard error difference.



**Figure 5.2: Cumulative average abnormal returns (CAARs) surrounding the announcement day of financial distress outcomes (delisted and emerged)**

These results suggest that at the time of the announcement, the capital market differentiates firms based on expected outcomes of distress. In this sense, at the time of firms' financial distress condition announcement, the market is able to anticipate the expected outcomes of financial distress. This concurs with the findings of Rose-Green and Dawkins (2000) who suggest that firms that were subsequently liquidated have greater stock price declines as compared to the reorganized firms in the event of bankruptcy filings, showing that the market has a high degree of insight into the subsequent resolution of bankruptcy. Rose-Green and Dawkins (2000) report that subsequently liquidated firms' have cumulative abnormal returns of -43.75 and -24.76 percent for subsequently reorganized event windows (-1, +1). In this sense, the market is likely to distinguish successfully reorganized companies among the group of financially distressed companies.

Relating the present empirical evidence of the investigated issue to the efficient market hypothesis, it can be suggested that the market is inefficient with regard to the financial distress announcement. The announcements have led to a significant negative effect to the affected companies from day +1 to day +5. The significant negative results are consistent with any of the procedure used (market or market adjusted return), segregating the sample to Main versus ACE market, political versus non-political and emerged versus delisted outcomes. In this case, abnormal profits can be earned by short selling shares of the distressed companies on the day of announcement and buying back the shares on day +6 if short selling is allowed.

There are cases of companies re-entering the financial distress classification, which may distort the main findings demonstrated in Table 5.11. In such cases, these are referred to as “second-time entry” companies.<sup>24</sup> Second-time entry companies are companies that have entered the financial distress classification and have been re-listed in Bursa Malaysia after undergoing a restructuring process. After certain periods, the companies have again been classified as financially distressed since they have triggered one of the criteria outlined by Bursa Malaysia. In this sense, the inclusion of second-time entry companies may produce a downward bias in the average abnormal return. Therefore, to provide further insight into the main findings, second-time entry companies were excluded from the sample of emerged firms.

The estimation results are reported in Table 5.11 and Table 5.12. The results suggest that there is little, if any, evidence of difference in abnormal returns between the full

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<sup>24</sup> Altman and Branch (2015) highlight the recidivism problem where firms that have successfully undergone Chapter 11 reorganization and emerged as continuing entities or are acquired as part of the bankruptcy process refile for bankruptcy protection.

sample of emerged companies and the sample excluding second-time entry companies. This confirms that the initial findings are not driven by those firms that enter financial distress for the second time. Figure 5.2 shows the difference in the price effect between emerged and delisted firms. The findings of the second-time entry companies are presented in Appendix 2 and 3.

The results in Tables 5.9 and 5.10 suggest that there are different stock market reactions to the politically and non-politically connected firms where it indicates that investors value a firm's political connection favourably. It is likely that there might be different effects of the announcement on the financial distress outcomes between the politically and non-politically connected firms. Table 5.13 shows the daily average abnormal returns (AARs) over -10 and +10 periods relative to the event day 0 for emerged and delisted firms of the politically and non-politically connected firms. The findings suggest that politically-connected firms that subsequently emerge show only significant negative returns on day 1 and 2 when compared to the non-politically-connected firms which show significant negative returns on day 1, 2, 3, 4 and 5. Furthermore, in the event of delisting, the non-politically-connected firms are also reported to have more significant negative returns compared to politically-connected firms.

Table 5.14 presents the mean difference in CAARs between the politically and non-politically-connected firms vis-à-vis the outcomes. The findings suggest that in the event of emergence, higher losses are recorded for non-politically-connected firms in all windows. In addition, the findings also suggest that the losses of connected firms are lower than the non-connected firms in all windows in the event of being delisted

from financial distress. Nevertheless, the mean difference in CAARs for all windows between the politically and non-politically-connected firms for both outcomes are not significant except for the (-1, 0) period. The reason for insignificant results could be attributable to the small sample size of politically-connected firms for both outcomes, 25 for emerged and 13 for delisted, respectively. For illustrative purposes, Figure 5.3 plots the CAARs over days -60 to +60 on the outcomes of financial distress between the politically-connected and non-connected firms. As shown in the figure, investors react more negatively to the non-politically connected firms for both outcomes of financial distress. The findings indicate that the reaction of the stock prices to financial distress announcements are influenced by the political synergy of the firm.



**Table 5.13: Daily average abnormal returns (AARs) around financial distress announcement day**

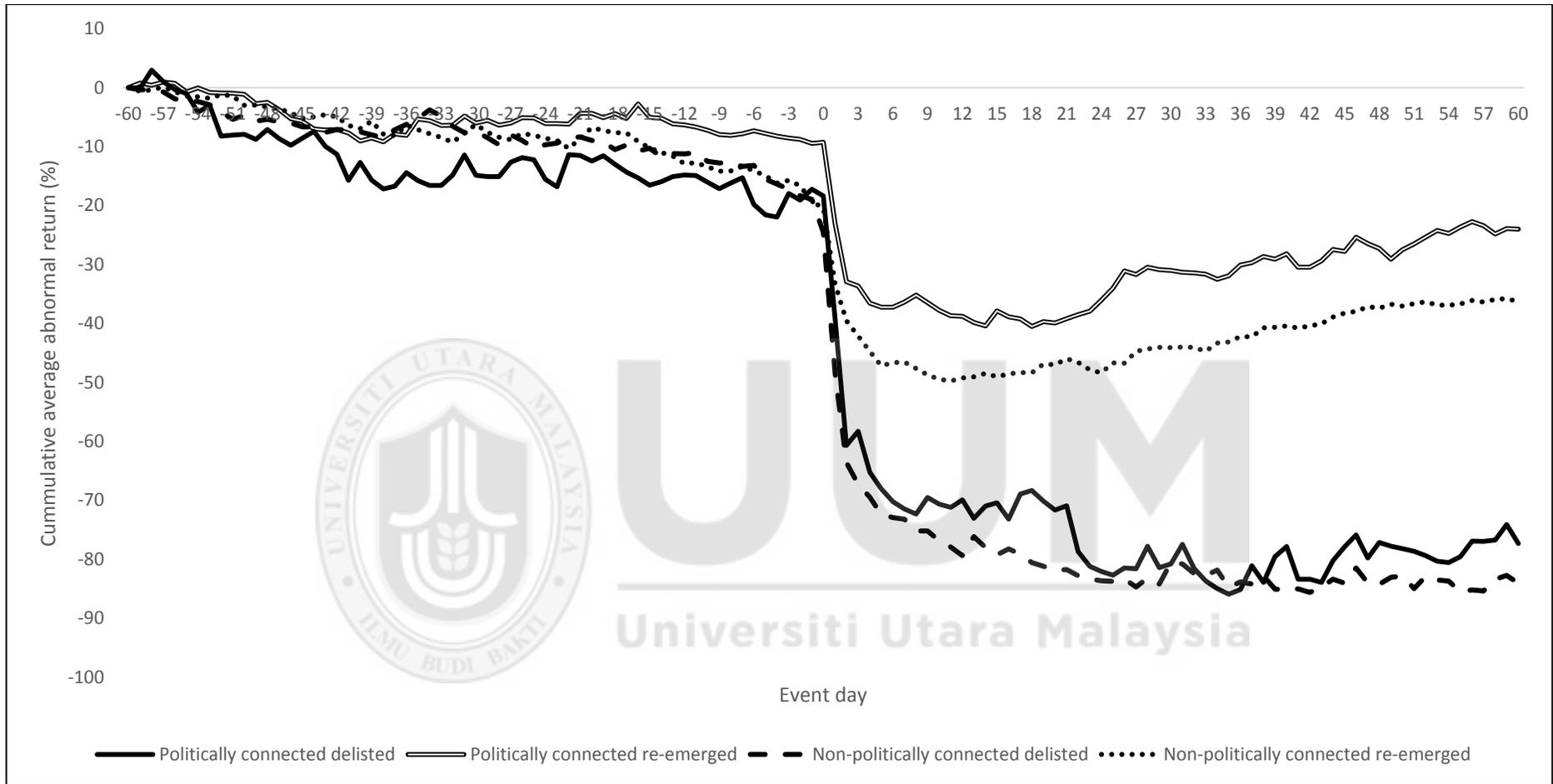
Event day	Emerged firms (n=121)				Delisted firms (n=115)			
	Political connected firms (n=25)		Non-political connected firms (n=96)		Political connected firms (n=13)		Non-political connected firms (n=102)	
	AAR <sub>t</sub> (%)	<i>t</i> -statistics	AAR <sub>t</sub> (%)	<i>t</i> -statistics	AAR <sub>t</sub> (%)	<i>t</i> -statistics	AAR <sub>t</sub> (%)	<i>t</i> -statistics
-10	-0.4999	-0.8031	-0.6877	-1.5409	-1.2270	-0.5078	-1.4294	-1.8899*
-9	-0.8095	-1.5735	-0.7595	-2.2078**	-0.8452	-0.3855	-0.2854	-0.4298
-8	-0.1211	-0.1989	0.0418	0.0674	0.9743	0.3418	0.0253	0.0330
-7	0.4951	0.6331	0.7469	1.2457	0.5072	0.7207	-0.6047	-0.6752
-6	0.3992	0.5262	-0.7136	-1.1551	-4.7202	-1.3127	0.1591	0.1368
-5	-0.2442	-0.1853	-0.8443	-1.3521	-1.9309	-1.0592	-2.3576	-2.6112***
-4	-0.9315	-1.2487	-1.2456	-2.5191***	0.2055	0.1113	-0.8282	-1.1412
-3	-0.4440	-0.5546	0.4626	1.2867	4.1315	0.9268	-0.8565	-0.8453
-2	-0.4577	-0.6012	-0.9333	-1.7714*	-1.1895	-0.5635	-1.0611	-1.1938
-1	-0.9341	-0.9018	-2.7335	-1.9020*	1.9773	0.7267	-0.6502	-0.6346
0	0.1098	0.1161	-0.9424	-1.1191	-0.9802	-0.4970	-5.6198	-3.7127***
+1	-13.2327	-3.9024***	-12.9682	-7.4956***	-21.6536	-3.0091***	-23.8148	-9.8326***
+2	-9.7340	-3.8506***	-6.2438	-3.7650***	-22.2491	-3.9787***	-15.2353	-6.6464***
+3	-0.7736	-0.4628	-2.5849	-2.8766***	2.6680	1.0806	-3.6783	-1.9664**
+4	-2.8917	-2.4959**	-2.6303	-3.3175***	-7.2666	-2.5270**	-2.1803	-1.1604
+5	-0.7206	-0.4535	-2.4197	-2.8510***	-2.8315	-1.1703	-2.9584	-1.8023*
+6	0.1608	0.2002	0.5167	0.6180	-2.7694	-1.0649	-0.5069	-0.4125
+7	0.9138	0.9205	0.0769	0.1210	-1.6072	-0.5689	-0.2789	-0.2607
+8	0.9217	0.8420	-1.0657	-2.0808**	-0.7444	-0.5337	-2.0171	-2.0740*
+9	-1.0515	-1.0611	-1.0774	-0.9220	3.3841	0.6183	0.0393	0.0320
+10	-1.2742	-1.2047	-0.7386	-1.2729	-1.3433	-0.5495	-1.6846	-1.5996

Note: \*, \*\*, \*\*\* denote significance at the 10, 5 and 1 percent level, respectively. AR = average abnormal return.

**Table 5.14: Cumulative average abnormal returns (CAARs) surrounding the announcement day by outcomes**

Sub-sample	(-60, 0)		(-10, 0)		(-1, +1)		(-1, 0)		(0, +1)		(-60, +60)	
	CAARs (%)	<i>t</i> -statistics	CAARs (%)	<i>t</i> -statistics	CAARs (%)	<i>t</i> -statistics	CAARs (%)	<i>t</i> -statistics	CAARs (%)	<i>t</i> -statistics	CAARs (%)	<i>t</i> -statistics
<i>Outcomes</i>												
<i>Emerged</i>												
Politically connected (n = 25)	-10.1943	-2.1638**	-3.4377	-1.5378	-14.0570	-3.8247***	-0.8243	-0.6447	-13.1229	-3.7315***	-25.3306	-3.0615***
Non-politically connected (n = 96)	-19.1774	-5.9510***	-7.6088	-4.3039***	-16.6442	-7.4048***	-3.67597	-2.6829***	-13.9107	-7.1754***	-35.1598	-6.4589***
Mean difference <sup>a</sup>	8.9831 (5.7081)		4.1711 (2.8501)		2.5272 (4.3082)		2.8517 (1.8741)		0.7878 (4.0157)		9.8292 (9.9040)	
<i>Delisted</i>												
Politically connected (n = 13)	-17.2572	-1.3710	-3.0973	-0.3815	-20.6565	-2.1734**	0.9971	0.2659	-22.6338	-2.8246***	-79.8682	-3.4079***
Non-politically connected (n = 102)	-25.8889	-6.9211***	-13.5085	-5.1655***	-30.0848	-11.6416***	-6.27003	-3.6416***	-29.4346	-11.2513***	-85.3977	-13.7412***
Mean difference <sup>a</sup>	8.6317 (13.1316)		10.4112 (8.5287)		9.4283 (9.8495)		7.2671 (4.1263)*		6.8008 (8.4294)		5.5296 (4.6567)	

Note: \*, \*\*, \*\*\* denote significance at the 10, 5 and 1 percent level, respectively. AR = average abnormal return. <sup>a</sup>To compare the mean difference, independent *t*-statistic under the assumption of unequal variances and two-tailed test are utilized. <sup>a</sup>Number in parenthesis is the standard error difference.



**Figure 5.3: Cumulative average abnormal returns (CAARs) surrounding the announcement day of financial distress outcomes (delisted and emerged) on politically connected versus non-politically connected firms**

### **5.3.2 Outcomes of corporate financial distress**

This section provides the empirical results of the second objective which is to determine the characteristics of the emerged companies that survive at the onset of financial distress. The analysis commences with the descriptive statistics to observe the distribution of the data which include the mean, median, minimum, maximum, standard deviation, kurtosis and skewness of the data. The descriptive statistics provide preliminary information on the data and are intended to carefully evaluate the variability of the variables to assess the possibility of biasness that could lead to questionable estimation results in the multivariate settings. In addition, the normality test using Shapiro-Wilk test is also discussed.

The next analysis is by partitioning the sample into emerged and delisted companies and analyse the distribution of the data between the two sub-samples. The analysis of the data distribution includes the mean, median and standard deviation. Further analysis is to investigate the difference between the emerged and delisted companies which is by looking at the mean and median differences by using independent t-test and Mann-Whitney test, respectively. Pearson correlation and variance inflation factor (VIF) are estimated to examine the correlation and multicollinearity of the data. Next, the results of logistic regression are discussed along with the goodness of fit of the estimated model. Finally, the robustness of the model is discussed.

#### **5.3.2.1 Descriptive statistics**

The sample included for the analysis consists of 232 companies. Financially distressed companies that have not completed their restructuring process as at end of 31 December 2014 are excluded from the analysis. The initial process was to check

on data availability of the financial information; this led to the exclusion of 48 companies from the sample. Similar to the procedure in the previous analysis and as has been an accepted convention in previous empirical studies, 12 financial institutions and insurance companies are excluded from the sample due to the fact that financial and insurance companies have different asset-liability structures which disallow the accounting performance comparisons in a straightforward way.

The industry and listing classification of the sample is presented in Table 5.15. The Main Market accounts for 92 percent of the sample with the highest number of observations coming from the industrial products industry which is comprised of 29 percent. This is followed by trading/services, consumer products, properties and construction industry. For the ACE market, the highest number of observations comes from the technology industry that accounts for 5 percent of the sample, followed by industrial products and trading and services industry.

**Table 5.15: Sample description**

Main market	Technology	9
	Industrial Products	63
	Trading/Services	54
	Consumer Products	26
	Construction	25
	Properties	24
	Plantations	8
	Hotels	3
	Infrastructure Project Company (IPC)	2
	Total	214
ACE market	Technology	11
	Industrial Products	4
	Trading/Services	3
	Total	18

In this study, nine independent variables are being analysed to differentiate between emerged and delisted companies. Eight of the variables are continuous variables and

one (political connections) is the categorical variable. Continuous variables are described as variables that have data which can change in an indefinite manner. On the other hand, categorical variables are data classified into groups or categories (for instance, 0 for male and 1 for female; 0 for bankrupt and 1 for healthy company).

The description of the data starts by observing the frequency distributions of variables in terms of mean, median, standard deviation and range of data. Table 5.16 outlines the descriptive statistics of all the variables included as the predictors in the study. The mean of size in the natural logarithm of total assets is 11.97, with the minimum value of 8.60 and maximum value of 15.18. The mean for the total debt to total assets is 61.72 percent, showing that distressed companies, on average, have more debt than assets. The mean of the total asset turnover is 0.53, earnings before interest and tax to interest expense is -5.81 percent, return on assets is -0.28 percent. These indications show that financially distressed companies are not efficient in utilizing assets to generate revenue. On average, the total asset turnover figure suggests that RM1 of total assets could only generate RM0.53 of revenue. The cumulative abnormal return (CAR -1, +1) has a mean value of -0.20 percent with minimum and maximum values of -1.08 percent and 0.12 percent, respectively.

For the dummy variable of political connection, the mean is 0.19. This figure suggests that most of the distressed companies are not politically connected. Furthermore, the mean of the Top 10 largest shareholdings and Top 5 institutional shareholdings is 51 and 33 percent, respectively. This indicates that financially distressed companies are mostly owned by individuals with concentrated ownership structure.

The results from the Shapiro Wilk normality test suggest that seven of the independent variables are not normally distributed. Nevertheless, out of seven independent variables that are not normally distributed, one variable (Top 5 institutional shareholdings) is within the normality threshold with skewness of +/- 1.96 and kurtosis of +/-3.29 as suggested by Field (2005). However, according to the central limit theorem, if sample size  $n$  is more than 30, parametric tests can still be utilized (Field, 2012).

Furthermore, to enrich the descriptive analysis, the distressed companies' characteristics are partitioned between the emerged and delisted firms. In this sense, it looks into the variables that have a significant difference between the group with emerged companies and the group with delisted companies. The results are presented in Table 5.17. The descriptive statistics discuss the mean values of the variables between the emerged and delisted companies. The sample of emerged companies has better mean values than delisted companies for all financial variables. The emerged companies are slightly larger in size, have lower total debt to total assets, and have higher return on assets and total asset turnover, but the differences are insignificant. Both emerged and delisted companies are losing money, as reflected in the negative returns represented by earnings before interest and tax to interest expense, and return on assets. This is as expected since both emerged and delisted companies are financially distressed companies.

**Table 5.16: Data distribution of the independent variables**

Variables	Mean	Median	Standard Deviation	Minimum	Maximum	Skewness	Kurtosis	Shapiro-Wilk test Z value	<i>p</i> -value
Political connection	0.1875	0	0.3913	0	1	1.6013	3.5641	3.7330	0.0001***
CAR (-1, +1)	-0.1977	-0.1281	0.2308	-1.0831	0.1233	-1.4650	5.5151	6.6890	0.0000***
Size (natural log of total assets)	11.9736	11.9101	1.3697	8.5958	15.1843	0.0393	2.9003	-0.2580	0.6019
Total asset turnover	0.5327	0.4250	0.4786	0	2.2400	1.5666	5.4561	6.5700	0.0000***
Earnings before interest and tax to interest expense	-5.8118	-1.8050	12.0411	-62.0710	13.0700	-2.3533	9.3325	7.8050	0.0000***
Total debt to total assets	61.7193	57.1400	42.5417	0	235.2200	1.5224	6.4035	6.0270	0.0000***
Return on assets	-0.2778	-0.1360	0.5320	-3.6654	0.3607	-3.5875	18.3412	8.8150	0.0000***
Top 10 largest shareholdings	0.5136	0.5188	0.1844	0.0985	0.8664	-0.1645	2.2994	1.1970	0.1156
Top 5 institutional shareholdings	0.3270	0.3242	0.2175	0.0010	0.7634	0.2818	1.9364	4.2120	0.0000***

Notes: Shapiro-Wilk test is conducted to test the null of normally distributed. \*, \*\*, \*\*\* denote significance at the 10, 5 and 1 percent level, respectively.

Nevertheless, the emerged companies are reported to have higher earnings before interest and tax to interest expense with significant difference at one percent. This is also supported by the Mann-Whitney test of median difference with a significant value at one percent. Similarly, the cumulative abnormal return (-1, +1) of the emerged firms experience lower negative stock price declines compared to the delisted firms with significant mean and median differences at the one percent level.

With regard to institutional variables, the political connection does not explain the difference between the emerged and delisted companies. The emerged companies have higher proportions for both the Top 10 largest shareholdings and Top 5 institutional shareholdings. The mean and median differences are reported to be significant at one percent, respectively. Furthermore, it is also presented that emerged companies have higher ownership concentration compared to those delisted companies. It is shown that the companies with higher institutional holdings have higher tendency of being rescued in the event of a financially distressed condition. This suggests that large shareholders have an indication that the company could be delisted and thus liquidate their holdings.

In summary, four variables have significant mean differences between the emerged and delisted companies: cumulative abnormal return (1, 1), earnings before interest and tax to interest expense; Top 10 largest shareholdings and Top 5 institutional shareholdings. Similar results are shown for the Mann-Whitney test of median difference. This shows that these three variables have the highest ability to discriminate between the emerged and delisted companies.

**Table 5.17: Data distribution of the independent variables between emerged and delisted companies**

Variables	Group	Mean	Median	Standard Deviation	Mean difference	t-statistics (p-value)	Mann-Whitney test z-statistics (p-value)
Political connection	Emerged	0.2202	0	0.4163	-0.0756	-1.3288 (0.1855)	-1.3260 (0.1848)
	Delisted	0.1446	0	0.3538			
CAR (-1, +1)	Emerged	-0.1362	-0.0953	0.1706	-0.1424	-4.4388*** (0.0000)	-3.9470*** (0.0001)
	Delisted	-0.2786	-0.2307	0.2722			
Size (natural log of total assets)	Emerged	12.0571	11.9821	1.5277	-0.1577	-0.7145 (0.4760)	-0.6970 (0.4857)
	Delisted	11.8993	11.8517	1.2168			
Total asset turnover	Emerged	0.5436	0.4100	0.4942	-0.0207	-0.2674 (0.7895)	-0.0630 (0.9495)
	Delisted	0.5228	0.4300	0.4671			
Earnings before interest and tax to interest expense	Emerged	-2.9980	-1.2115	9.1880	-5.2159	-2.7176*** (0.0073)	-2.5230*** (0.0116)
	Delisted	-8.2138	-2.9090	13.6268			
Total debt to total assets	Emerged	60.4623	63.0400	38.3503	2.3726	0.3410 (0.7335)	-0.718 (0.4730)
	Delisted	62.8349	53.7900	46.1569			
Return on assets	Emerged	-0.2298	-0.1230	0.4624	-0.0911	-1.0551 (0.2931)	-0.8340 (0.4043)
	Delisted	-0.3210	-0.1518	0.5872			
Top 10 largest shareholdings	Emerged	0.5499	0.5714	0.1800	-0.0835	-3.0902*** (0.0023)	-3.3150*** (0.0009)
	Delisted	0.4665	0.4593	0.1804			
Top 5 institutional shareholdings	Emerged	0.3638	0.3623	0.2155	-0.0838	-2.6208*** (0.0095)	-2.6120*** (0.0090)
	Delisted	0.2801	0.2226	0.2121			

Notes: Null hypothesis of Mann-Whitney U-test is median difference between emerged and delisted groups. \*, \*\*, \*\*\* denote significance at the 10, 5 and 1 percent level, respectively.

**Table 5.18: Pearson correlation**

	CAR (1,1)	Size	Total asset turnover	Earnings before interest and tax to interest expense	Total debt to total assets	Return on assets	Political connection	Top 10 largest shareholdings	Top 5 institutional shareholdings
CAR (-1, +1)	1								
Size	0.0766	1							
Total asset turnover	-0.1173	-0.3228***	1						
Earnings before interest and tax to interest expense	0.1148	0.2503***	0.0166	1					
Total debt to total assets	0.0996	-0.0870	-0.0453	-0.0353	1				
Return on assets	0.0696	0.3763***	-0.0217	0.5286***	-0.3649***	1			
Political connection	0.1175	0.2769***	-0.1833**	-0.0343	-0.1344*	0.0655	1		
Top 10 largest shareholdings	-0.0108	0.0900	0.0971	-0.0126	-0.0995	0.0922	0.0393	1	
Top 5 institutional shareholdings	0.0059	0.2853***	-0.0045	0.1001	-0.1316	0.1848**	0.1517**	0.7612***	1

Note: \*, \*\*, \*\*\* denote significance at the 10, 5 and 1 percent level, respectively.

The correlation matrix is presented in Table 5.18. One of the indicators of multicollinearity is high pair-wise correlations among explanatory variables. Multicollinearity is a problem that arises when independent variables are correlated with each other (Menard, 1995). Highly positive correlation among the independent variables is an indicator of collinearity. Collinearity is easily detected but there are few acceptable remedies to it. Deleting variables involved in collinearity may cause risk of omitted variable bias.

Judging from the correlation matrix presented in Table 5.18, the pairwise correlations among the variables are relatively moderate with a correlation coefficient of below 0.4, except for relatively high correlations between returns on assets and earnings before interest and tax to interest expense at 0.5286, and between Top 5 institutional shareholdings and Top 10 largest shareholdings at 0.7612. Other ratios that have significant correlations are total asset turnover against size; earnings before interest and tax to interest expense against size; returns on assets against size; political connection against size; Top 5 institutional shareholdings against size; political connection against total asset turnover; return on assets against total debt to total assets; political connection against total debt to total assets; return on assets against Top 5 institutional shareholdings; and Top 5 institutional shareholdings against political connection. Furthermore, it shows that as many as five of the pair-wise correlation coefficients have values greater than or equal to 0.3 and they are significant, at least at the five percent level. Another seven of the pair-wise coefficients are greater than 0.1 and significant at least at the 10 percent level.

Further analysis is made in order to substantiate the possibility of collinearity by using the linear regression model to analyse the tolerance statistics of the independent variables. A tolerance statistic of less than 0.20 is cause for concern whereas a tolerance of less than 0.10 almost certainly indicates a serious collinearity problem (Menard, 1995). In addition, the Variance Inflation Factor (VIF) is also reported. VIF is the ratio of a variable's actual variance to the perfect variance of zero collinearity. A VIF of less than 3 would suggest that multicollinearity is not a threat to this study (Montgomery and Peck, 1992; Pompe and Bilderbeek, 2005). From the collinearity statistics in Table 5.19, all tolerance statistics exceed 0.20 indicating that there is no serious problem of collinearity. Similarly, the VIF for all independent variables are less or close to 3. Hence, both statistics show that there is no multi-collinearity problem exist in this study. As such, all the independent variables can be included in the logistic regression analysis.

**Table 5.19: Variance inflation factors**

Variables	VIF	Tolerance
Political connection against other independent variables	1.15	0.8725
CAR (-1, +1) against other independent variables	1.08	0.9238
Size (natural log total assets) against other independent variables	1.52	0.6562
Total asset turnover against other independent variables	1.23	0.8106
Earnings before interest and tax to interest expense against other independent variables	1.84	0.5431
Total debt to total assets against other independent variables	1.81	0.5512
Return on assets against other independent variables	2.76	0.3626
Top 10 largest shareholdings against other independent variables	2.88	0.3473
Top 5 institutional shareholdings against other independent variables	3.07	0.3253

*Notes:* The variance inflation factor is computed using the following formula:  $1/(1 - R^2)$ . It estimates whether the magnitude of the changes in the variance of an estimated regression coefficient is "inflated" due to collinearity with other independent variables in the model.

### 5.3.2.2 Analysis of results and discussions

This section discussed the findings using logistic regression analysis. Table 5.20 reports the logistic regression results. To estimate the parameters of Model 1 to Model 3, companies announcing distress from 2001 to 2009 were utilized. Meanwhile for the holdout sample, companies announcing financial distress from 2010 onwards were used which is subject to the final outcomes of the companies. The holdout sample tests the estimation models (Model 1 to Model 3) by using the sample not from the same pool of the estimation sample since it could overstate the predictive ability. Shumway (2001) and Campbell, Hilscher and Szilagyi (2008) use the expanding window method to generate their distress scores to ensure that the results do not use similar data for the estimation models.

In the regression, Model 1 refers to the financial independent variables. The variable of earnings before interest and tax (EBIT) to interest expense is significant with the expected sign. Higher coverage should entail a higher probability of emerging from the financially distressed condition. The result indicates that the likelihood of survival during difficult times could be assessed by looking at whether companies are able to service the interest of their loans. Even though the level of debt (total debt to total assets) is not significant in explaining the outcomes of the financial distress condition, it is shown that companies that are unable to generate income to cover interest are prone to be delisted. Likewise, it is also shown, in Table 5.17, that the EBIT to interest expense of emerged companies is significantly higher than delisted companies; suggesting that delisted companies have lower coverage of interest expense compared to emerged companies.

**Table 5.20: Logistic regression estimation results**

Variable	Expected sign	Panel A: Parameter estimates		
		Model 1	Model 2	Model 3
Total asset turnover	+	0.167 (0.384)	0.273 (0.401)	0.387 (0.467)
EBIT to interest expense	+	0.049* (0.027)	0.045* (0.026)	0.085** (0.038)
Total debt to total asset	-	0.001 (0.005)	-0.001 (0.005)	-0.002 (0.006)
Return on assets	+	-0.100 (0.547)	-0.219 (0.551)	-0.851 (0.687)
Size	+	0.075 (0.150)	0.067 (0.153)	0.139 (0.186)
CAR (-1,+1)	+		2.268*** (0.862)	2.463*** (0.982)
Political connection	+			0.777 (0.534)
Top 10 largest shareholdings	+			4.471** (1.969)
Top 5 institutional shareholdings	+			-0.564 (1.570)
Constant		-1.012 (1.957)	-0.396 (2.019)	-3.571 (2.555)
Panel B: Model goodness of fit				
Hosmer-Lemeshow		6.042 (8 degree of freedom, <i>p</i> -value =0.643)	3.804 (8 degree of freedom, <i>p</i> -value =0.874)	6.507 (8 degree of freedom, <i>p</i> -value =0.591)
-2 Log likelihood		192.527	184.538	154.293
$\chi^2$		7.650(5)	15.639(6)**	32.799(9)***
Cox-Snell's R <sup>2</sup>		0.051	0.102	0.214
Nagelkerke's R <sup>2</sup>		0.069	0.137	0.287
Area under ROC curve (AUROC)		0.621 (SE=0.047, z=13.257)	0.673 (SE=0.045, z=14.932)	0.777 (SE=0.041, z=18.947)
Accuracy ratio		0.242	0.346	0.554

Note: \*, \*\*, \*\*\* denote significance at the 10, 5 and 1 percent, respectively. Number in parenthesis is the standard error. Accuracy ratio = 2\*(AUC-0.5). SE refers to standard errors and z refers to the z-statistic for the difference between AUC and the random model (AUC of 0.50). Model 1 includes only financial variables. Model 2 includes financial and market variables. Model 3 includes financial variables, market variables and institutional variables.

In the next regression, Model 2 is tested to investigate the effect of market variables (cumulative abnormal return) on the probability of emerging from financial distress. The results suggest that the cumulative abnormal return of day (-1, 1) is able to predict the emerged companies. The coefficient is statistically significant at the one percent level. The positive sign of CAR (-1, +1) suggests that the higher the CAR level (-1, +1), the higher is the likelihood of companies to emerge from financially distressed situation. The regression result is consistent with the earlier estimation results using market reaction studies in Section 5.3.1.2 where the results suggest that, at the time of the financial distress announcement, the capital market is able to differentiate firms based on the expected outcomes of financial distress. The result is consistent to Barniv *et al.* (2002), Lin *et al.* (2008) and Balios *et al.* (2016), in which firms with higher stock returns are found significantly have higher probability of being restructured among the financially distressed firms. It shows that stock returns could differentiate the successfully reorganized firms to those that are failed to reorganized during the restructuring period. The variable of EBIT to interest expense again enters the specification and is significant at the 10 percent level.

In order to observe whether a better model could be formed, all the firm-specific financial variables, market variables and institutional variables are included in the specification. Model 3 explains the results of the estimation. The results suggest that earnings before interest and tax to interest expense, CAR (-1, +1) and Top 10 largest shareholders are significant at the five percent level. All the significant variables are showing the expected sign. The significance of the Top 10 largest shareholders' variable could be interpreted as the higher concentration ownership structure level having a higher tendency of emerging from the financial distress condition. This

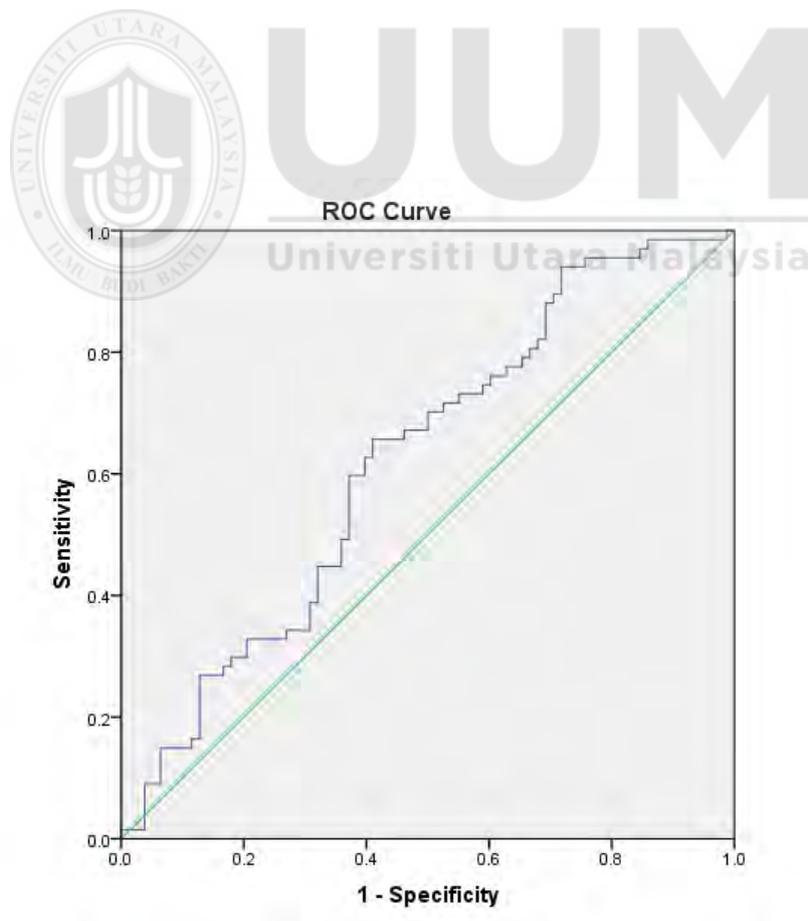
concur with Kim *et al.* (2016), who found that a higher level of ownership concentration increases the likelihood of survival of the distressed firms in Korea. In this sense, financially distressed companies with high ownership concentration have a higher probability of surviving since there are less information asymmetries between the shareholders and managers of the company. Therefore, consensus on any decision could be reached since there are less information asymmetries. Conflicts between the two parties are less likely to be triggered and the likelihood of successful restructuring is high. The significance of higher concentration ownership structure also supports the agency theory. It suggests that controlling mechanism from the ownership concentration could align and induce the managers' objective towards maximizing the shareholders' interests.

However, institutional ownership (Top 5 institutional shareholdings) turns out to be insignificantly related in predicting the emerged companies. The estimation results also suggest insignificance concerning the role of political connection in predicting emerged companies in the event of financial distress. The results indirectly support the estimation results in section 5.3.1.2 (Table 5.14) where the results indicate that even though politically-connected firms experience lower negative returns compared to non-politically-connected firms, there is no significant difference of returns between the emerged and delisted companies.

Panel B of Table 5.20 also presents the model fit measures. The Cox-Snell's R-squared and Nagelkerke's R-squared tests show a relative increase in the model's performance when additional variables are added to the specification. Furthermore, the Hosmer-Lemeshow test suggests that all three models are adequate and that the

models fit the data (Hosmer *et al.*, 2013). Further robustness checks to validate the predictive accuracy of the models' estimates using a logistic regression is to examine the area under the ROC curve (Bauer and Agarwal, 2014).

Figures 5.4, 5.5 and 5.6 present the ROC curves for Models 1, 2 and 3, respectively. Clearly, the three models perform and predict failure better than a random model. Sobehart and Keenan (2001) reaffirm this when they explain that the area under the ROC curve (AUROC) may indicate the predictive accuracy of a model. Model 3 has an AUROC of 0.777, which emphasises acceptable discriminatory performance of the logistic regression in identifying emerged and delisted companies (Hosmer *et al.*, 2013).<sup>25</sup> Model 1 has an AUROC of 0.621 and Model 2 has an AUROC of 0.676.



**Figure 5.4: Receiver Operating Characteristic (ROC) curve of Model 1**

<sup>25</sup> The discriminatory explanation is on page 96.

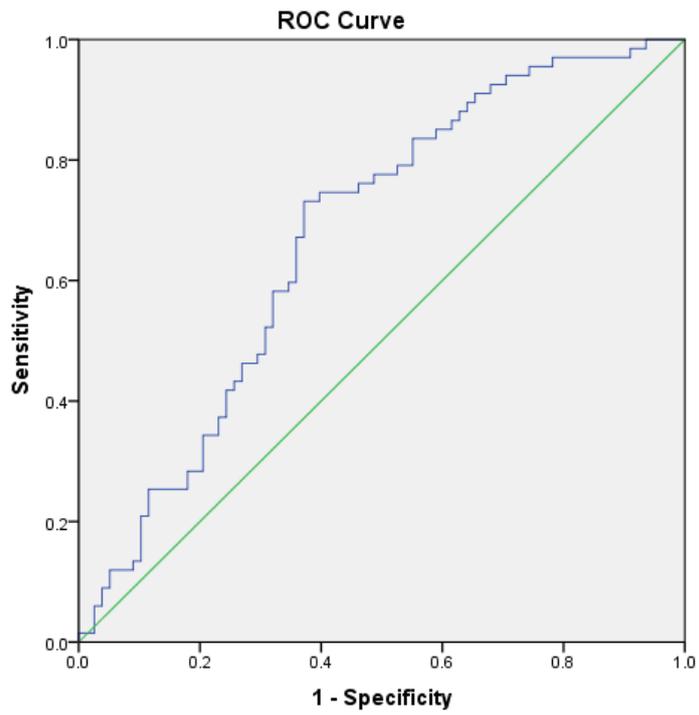


Figure 5.5: Receiver Operating Characteristic (ROC) curve of Model 2

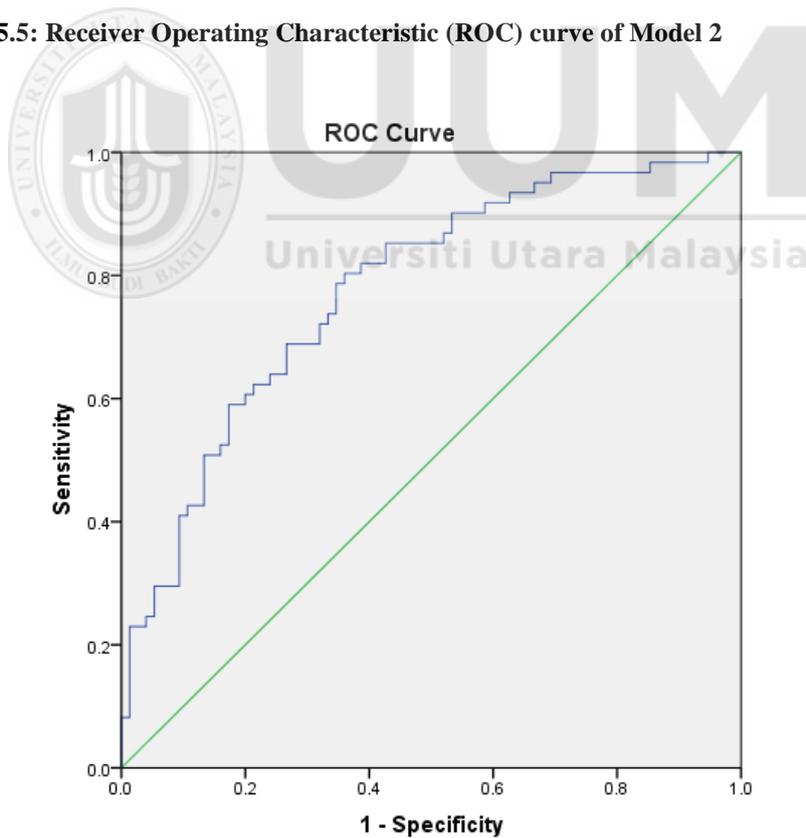


Figure 5.6: Receiver Operating Characteristic (ROC) curve of Model 3

A considerable increase in AUROC is observed when the market variables and institutional variables are added into the specification. The z-statistic values illustrate that all models significantly outperform the random classification model. Model 1 reports z-statistics of 13.26, Model 2 has z-statistics of 14.93, and Model 3 has z-statistics of 18.95. Furthermore, to statistically test the predictive accuracy between two models, the difference in the areas under the two ROC curves is tested using the normally distributed z-statistic proposed by Hanley and McNeil (1983) as in Equation 17 on page 98.

Table 5.21 reports the z-statistics of Model 3 relative to the other two models. Since Model 3 includes all the firm-specific financial variables, market variables and institutional variables, it is tested to determine whether the difference is significant when the variables are added into the specification. The results suggest that there is a significant difference between the AUROCs of Model 3 with Model 1 and Model 2. Z-statistics for difference in area under ROC between Model 3 and Model 1 (with only financial variables) and between Model 3 and Model 2 (with financial variables and market variable) are 2.507 and 1.701 respectively. This suggests that the inclusion of the institutional variables and market variables significantly improve the predictive accuracy of the model.<sup>26</sup>

**Table 5.21: Z-statistics for difference between models**

Z-statistics for difference in area under ROC	
Model 3 vs. Model 1	2.507
Model 3 vs. Model 2	1.701

<sup>26</sup> Since the models are applied using the same data, their correlation is likely to be positive. Hence, assuming a zero correlation means the denominator in Equation (17) has been over-estimated (i.e., the z-statistic is biased downwards).

Table 5.22 shows the classification results. In the estimation sample, Model 1 with only financial independent variables has an overall accuracy of 57.5 percent. By including the cumulative abnormal return to test the effect of market variables, Model 2 accuracy rate increase to 62.1 percent. Model 3 which includes all the firm-specific financial variables, market variables and institutional variables has the highest accuracy rate of 69.1 percent. For prediction purposes, the sample of listed companies falling into financial distress from 2010 to 2013 were used.

Using the parameter estimates from the estimation sample, the data from the holdout sample were then entered into the coefficient of estimated model to give the holdout sample classification accuracy rate. For the holdout sample, Model 1 which is developed using only financial variables has an overall accuracy rate of 67.5 percent. Model 2 has an overall accuracy rate of 77.5 percent. However, Model 3 which is formed by the financial variables, market variables and institutional variables shows an overall accuracy rate of 57.5 percent.

**Table 5.22: Classification results**

	<b>Emerged</b>	<b>Delisted</b>	<b>Overall</b>
<b>Estimation sample (n=192)</b>			
Model 1	50.7	62.8	57.5
Model 2	59.7	64.1	62.1
Model 3	63.9	73.3	69.1
<b>Holdout sample (n=40)</b>			
Model 1	27.3	82.8	67.5
Model 2	18.2	100	77.5
Model 3	81.8	48.3	57.5

*Notes:* Cases correctly classified. Model 1: Model developed with only financial variables, Model 2: Model developed with financial variables and market variables, Model 3: Model developed with financial variables, market variables and institutional variables.

### **5.3.3 Long-run share price performance of emerged financially distressed companies**

This section provides the empirical results of the third objective which is to evaluate whether the long-run share price performance of the emerged companies after the restructuring period is better than a comparable benchmark. The next sub-section provides the descriptive statistics of the sample of the emerged companies. It is followed by the empirical findings and discussion of the results.

#### **5.3.1.1 Descriptive statistics**

In this analysis, only companies that have emerged from the financially distressed condition are included. The initial number of emerging financially distressed companies is 134 and the total number of companies included for the analysis is 114. As has been the case in previous studies, six financial institutions and insurance companies are excluded since the accounting presentations of their financial statements are significantly different from those in other sectors.

In addition, 14 companies are excluded due to re-entry into the Practice Notes for the second time within the three-year period. The possible reason of this exclusion is that the use of these companies could underestimate the estimation results of the long run as the affected companies are considered fragile by re-entering the phase of financial distress within the study period.

**Table 5.23: Sample description**

	Distribution by industry		Second-time entry
Main Market	Technology	7	3*
	Industrial Products	28	5
	Trading/Services	27	7*
	Consumer Products	7	2
	Construction	12	2*
	Properties	16	2
	Plantations	7	0
	Hotels	1	1
	Infrastructure Project Company	2	0
	Total	107	22
ACE Market	Technology	4	0
	Industrial Products	1	0
	Trading/Services	2	0
	Total	7	0

\*The total number of companies in these industries is calculated as cases since there are second-time entry companies and eventually emerged for the second time entry. Similar companies that have emerged for the second time are considered as another case. This would mean for that same company, there are two cases.

The industry and listing classification of the sample is presented in Table 5.23. The Main Market accounts for 94 percent of the sample and only six percent of the sample is from the ACE market. Industrial products and trading/services are the industries with the highest number of emerged companies which account for 25 percent. The technology industry accounts for 10 percent of the sample, followed by consumer products industry (6 percent), plantations (6 percent), hotels (2 percent) and infrastructure project companies (1 percent). This is followed by properties, construction industry, technology, plantation, and consumer products. The infrastructure project company and hotels industry each contributes two percent and one percent, respectively. For the ACE market, the highest number comes from the technology industry that accounts for five percent of the sample, followed by trading and services, and industrial products. There are a total of 22 second-time entry companies and eventually emerged following second-time entry. The industry with

the most second time entry which emerged comes from the trading and services industry with seven companies, followed by industrial products.

### **5.3.1.2 Cumulative abnormal returns (CARs)**

Table 5.24 presents the equally weighted CARs using the EMAS index return and KLCI index return as the market return. According to Fama (1998), longer-horizon returns have a tendency of exhibiting positive skewness which is usually more crucial in the case of smaller firms. In addition, Kausar *et al.* (2009) reveal that a small number of extreme outliers could highly influence the abnormal returns and lead to bias estimation results. Therefore, to reduce the impact of extreme outliers in our analysis, extreme outliers are identified and excluded from the analysis.<sup>27</sup>

Panel A shows the abnormal returns of all the sample firms. The results of the analysis suggest that all the holding periods' CARs are negative with significant difference from zero for the six months, one year, 18 months, two years and three-years period. The emerged companies underperformed the EMAS index by 12.24 percent on average for a six-month period. The average CARs for longer run report -14.83 percent for the one year, -21.96 percent for the 18 months, -26.48 percent for the two years and -25.82 percent for the three years. Parallel results using KLCI weighted index as a proxy of the market return report similar results to those using EMAS index, although of a larger magnitude. The post-emergence CARs, on average, report larger negatives and are significantly different from zero.

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<sup>27</sup> The Z-scores of the abnormal returns is used to help to identify the outliers. The Z-score for a value is equal to the difference between the value and the mean, divided by the standard deviation. Z-score of less than -3.0 and greater than +3.0 indicates an outlier value.

**Table 5.24: Cumulative abnormal returns (CAR)**

Event period	Abnormal returns using EMAS Index as market return				Abnormal returns using KLCI Index as market return			
	Mean abnormal returns (%)	<i>t</i> -statistics	Median abnormal return (%)	<i>z</i> -statistics	Mean abnormal returns (%)	<i>t</i> -statistics	Median abnormal return (%)	<i>z</i> -statistics
Panel A: All companies (n=114)								
3 months	-2.53	-0.7745	-9.76	-2.007**	-2.55	-0.7734	-8.92	-2.018**
6 months	-12.24	-3.2873***	-22.48	-3.394***	-12.66	-3.3825***	-22.77	-3.492***
1 year	-14.83	-2.6798***	-19.68	-3.373***	-16.02	-2.8561***	-19.43	-3.528***
18 months	-21.96	-3.6454***	-19.00	-3.617***	-23.69	-3.8441***	-21.69	-3.800***
2 years	-26.48	-3.9084***	-21.85	-3.733***	-24.65	-3.0345***	-22.01	-3.726***
3 years	-25.82	-3.3547***	-27.30	-3.138***	-24.72	-2.9354***	-25.97	-3.049***
Panel B: Exclude second time entry companies (n=92)								
3 months	-3.50	-0.9840	-9.81	-2.103**	-3.52	-0.9811	-8.50	-2.130**
6 months	-12.08	-2.9132***	-20.71	-3.022***	-12.47	-2.9879***	-22.16	-3.135***
1 year	-16.79	-3.0221***	-19.18	-3.415***	-17.87	-3.1786***	-19.20	-3.547***
18 months	-22.17	-3.5135***	-17.64	-3.423***	-23.71	-3.6773***	-20.21	-3.590***
2 years	-27.46	-3.8312***	-18.39	-3.558***	-29.50	-4.0134***	-19.66	-3.728***
3 years	-26.08	-3.0822***	-25.28	-2.857***	-27.76	-3.2217***	-25.40	-2.939***

Note: \*, \*\*, \*\*\* denote significance at the 10, 5 and 1 percent level, respectively, using two-tailed test. Wilcoxon signed rank-test are used is used for the median.

Event period	Abnormal returns using EMAS Index as market return				Abnormal returns using KLCI Index as market return			
	Mean abnormal returns (%)	t-statistics	Median abnormal return (%)	z-statistics	Mean abnormal returns (%)	t-statistics	Median abnormal return (%)	z-statistics
Panel C: Exclude second time entry companies and political connection (n=76)								
3 months	-7.85	-2.3204**	-10.27	-2.739***	-7.91	-2.3143**	-10.78	-2.770***
6 months	-14.88	-3.4742***	-22.52	-3.313***	-15.19	-3.5281***	-23.71	-3.404***
1 year	-22.02	-3.8494***	-24.19	-3.764***	-22.98	-3.9649***	-26.10	-3.862***
18 months	-23.38	-3.2795***	-17.90	-3.232***	-24.72	-3.3943***	-20.47	-3.369***
2 years	-28.50	-3.6194***	-20.65	-3.418***	-30.30	-3.7543***	-20.62	-3.537***
3 years	-27.59	-2.8768***	-27.30	-2.615***	-29.26	-2.9994***	-26.75	-2.739***
Panel D: Political connected companies (n=15)								
3 months	11.90	1.0766	0.24	0.341	11.99	1.0810	-0.38	0.341
6 months	2.29	0.1831	6.41	0.17	1.53	0.1210	4.59	0.057
1 year	-3.34	-0.2858	-6.10	-0.454	-5.14	-0.4308	-6.35	-0.625
18 months	-15.97	-1.2322	-13.54	-1.136	-18.57	-1.3916	-12.76	-1.363
2 years	-21.94	-1.2315	-3.01	-0.973	-25.31	-1.3752	-5.02	-1.224
3 years	-18.29	-1.0820	-7.47	-1.036	-20.05	-1.1507	-9.17	-0.973

Note: \*, \*\*, \*\*\* denote significance at the 10, 5 and 1 percent level, respectively, using two-tailed test. Wilcoxon signed rank-test are used is used for the median.

The CARs are reported as -12.66 percent for the six months, -16.02 percent for the one year, -23.69 percent for the 18 months, -24.65 percent for the two years and -24.72 percent for the three-years period. It is not surprising since the KLCI index is comprised of the Main market companies measured by market capitalization. Overall, the post-emergence CARs using EMAS and KLCI index as market returns, are all negative, suggesting that the emerged financially distressed companies underperform the market portfolio. Further support of negative post-emergence CARs is contained in Ahmad *et al.* (2008) who find that daily cumulative average abnormal returns over the 200 days after emergence are -30.3 percent and 28.2 percent for KLCI and EMAS Index, respectively. Similarly, the corresponding median abnormal returns of all periods are negative and statistically significant, further supporting the mean abnormal returns results.

The main results in Panel A of Table 5.24 report the underperformance of the emerged firms. However, there are cases of companies re-entering the financial distress classification (referred to as second time entry companies)<sup>28</sup> Therefore, to verify whether the main findings are not influenced by these companies, the second-time entry companies are excluded from the sample of emerged firms. The results obtained, shown in Panel B of Table 5.24, remain consistent with the main results, where there exist significant negative post-emergence CARs in the short term and longer-term period.

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<sup>28</sup> The second-time entry companies are companies that have entered financial distress classification and have been re-listed in Bursa Malaysia after undergoing a restructuring process. After certain periods, the companies have again been classified as financially distressed since they have triggered one of the criteria outlined by Bursa Malaysia.

As has been shown in the market reaction analysis in Section 5.3.1.2, the estimation results show that there are discrepancies in how investors react to financial distress announcements with regard to political connection. The investors react less negatively in the politically-connected firms compared to the non-connected firms. The reason for these findings could be due to investors perceiving political connections as favourable since politically-connected firms enjoy financial support or assistance from the government when faced with distressed financial conditions (Faccio *et al.*, 2006). Furthermore, some studies empirically find that political connection could enhance firm value (Johnson and Mitton, 2003; Faccio *et al.*, 2006; Faccio, 2010; Boubakri *et al.*, 2012). Therefore, it is expected that politically-connected companies would experience higher abnormal returns compared to non-connected companies. Thus, in order to have insight into the role of political connection in the event of post restructuring, the subsequent analysis sets out to explore the impact of political connection by excluding the politically-connected companies from the analysis.

The results in Panel C Table 5.24 suggest similar negative and significant post-emergence CARs reported but with a larger magnitude for all holding periods. The average CARs using the EMAS Index as a proxy for market return are reported as -7.85 percent for the three months, -14.88 percent for the six months, -22.02 percent for the one year, -23.38 percent for the 18 months, -28.50 percent for the two years and -27.59 percent for the three years. Similarly, the negative and significant CARs are reported for all holding periods using the KLCI Index as the market return.

The results in Panel D Table 5.24 give some evidence of the role of political connection; as such, the sample of the emerged politically-connected companies is separated to give a clear picture of their post-emergence performance. The results suggest that emerged politically-connected companies report positive CARs in the short term holding periods and negative CARs for one year, 18 months, two years and three years but are not significantly different from zero. Similarly, the median abnormal returns are statistically insignificant from zero for all periods.

The estimation results are indirectly in agreement with Hotchkiss (1995) who found that 40 percent of the firms emerging from Chapter 11 continue to experience operating losses in the three years after emergence and nearly one third of the firms require a second bankruptcy filing or distressed restructuring. In addition, Komera and Lukose (2013) show that 30 percent of the companies continue to report negative operating performance in the post-bankruptcy period using a sample of Indian listed companies. Moreover, our results are also consistent with the findings of Hotchkiss and Mooradian (1997), Gilson (1997) and Komera and Lukose (2013). Komera and Lukose (2013) find mean returns ranging from -28.41 percent to -31.26 percent for up to 12 months after their emergence from bankruptcy. However, the finding in this study is inconsistent with the results in the United States presented by Eberhart *et al.* (1999) as they found large and positive excess returns following the emergence from bankruptcy.

### **5.3.1.3 Buy and hold abnormal returns (BHARs)**

Table 5.25 presents the BHARs using the EMAS index return as the market return. To simplify exposition, the subsequent analysis uses the EMAS index as the proxy of

market return since the estimation results shown in Table 5.24 are almost similar between the EMAS Index and the KLCI index. In addition, the use of the KLCI index may produce a downward bias due to different fundamental values between the emerged financially distressed companies and the companies constituted in the KLCI Index. The advantage of using the BHARs procedure is that it permits the actual measurement of stock returns that accurately represent the investors' actual experience (Barber and Lyon, 1997; Lyon *et al.*, 1999). In addition, Gompers and Lerner (2003) also argue that the tendency of the CAR method to misrepresent performance when the returns are highly volatile. Therefore, following Barber and Lyon's (1997) recommendation of using BHARs over CARs for longer horizons, further evidence on the long run performance using BHARs is presented.

In Panel A of Table 5.25, all the holding periods' BHARs are negative and significantly different from zero for all holding periods. The average BHARs reported -4.96 percent for the three months, -14.59 percent for the six months, -20.57 percent for the one year, -27.67 percent for the 18 months, -35.83 percent for the two years and -47.38 percent for the three years. The negative BHARs are significant at the one percent level except for the three months holding periods which is significant at the 10 percent level. The bootstrapped skewness-adjusted *t*-statistics reaffirm the statistical significance of the standard cross-sectional *t*-test statistics except for the three-month holding period. Similarly, the corresponding median abnormal returns of all periods are negative and statistically significant, further supporting the mean abnormal returns results. Using BHARs procedure, Jory and Madura (2010) and Komera and Lukose (2013) also present evidence of significant and negative returns after emerging from bankruptcy.

**Table 5.25: Buy and hold returns with market index**

Event period	Mean abnormal returns (%)	t-statistics	Bootstrapped skewness-adjusted t-statistics	Median abnormal return (%)	z-statistics
Panel A: All companies (n=114)					
3 months	-4.96	-1.7116*	-1.53	-10.68	-2.92***
6 months	-14.59	-4.4683***	-3.71***	-24.82	-4.51***
1 year	-20.57	-4.8036***	-3.05***	-27.89	-5.28***
18 months	-27.65	-5.8861***	-4.77***	-33.89	-5.64***
2 years	-35.83	-7.4244***	-2.90***	-47.44	-6.50***
3 years	-47.38	-7.8989***	-6.55***	-67.08	-6.30***
Panel B: Exclude second time entry companies (n=92)					
3 months	-6.65	-2.2010**	-1.76*	-11.37	-3.12***
6 months	-14.20	-3.9059***	-3.40***	-22.48	-4.001***
1 year	-22.19	-4.9199***	-2.47***	-28.33	-5.22***
18 months	-26.77	-5.3554***	-3.28***	-32.90	-5.27***
2 years	-34.62	-7.1681***	-4.31***	-42.70	-5.79***
3 years	-42.83	-6.3265***	-5.46***	-63.50	-5.35***
Panel C: Exclude second time companies entry and political connection (n=76)					
3 months	-9.80	-3.2862***	-2.54***	-12.81	-3.54***
6 months	-18.72	-5.4235***	-5.34***	-25.53	-4.52***
1 year	-27.00	-6.2340***	-3.45***	-32.59	-5.28***
18 months	-31.93	-6.4311***	-3.23***	-33.37	-5.37***
2 years	-36.12	-6.8626***	-4.21***	-45.61	-5.40***
3 years	-46.57	-6.5978***	-5.62***	-64.45	-5.16***
Panel D: Political connected companies (n=15)					
3 months	12.56	1.0453	0.94	0.14	0.227
6 months	1.60	0.1437	0.10	5.36	-0.227
1 year	-12.01	-1.3881	-0.50	-12.78	-1.42
18 months	-22.89	-2.6181**	-1.79*	-18.69	-2.22**
2 years	-26.71	-2.1563**	-0.93	-22.38	-2.35**
3 years	-39.18	-2.6708**	-0.85	-52.15	-2.29**

Note: \*, \*\*, \*\*\* denote significance at the 10, 5 and 1 percent level, respectively, using two-tailed test. Wilcoxon signed rank-test is used for the median.

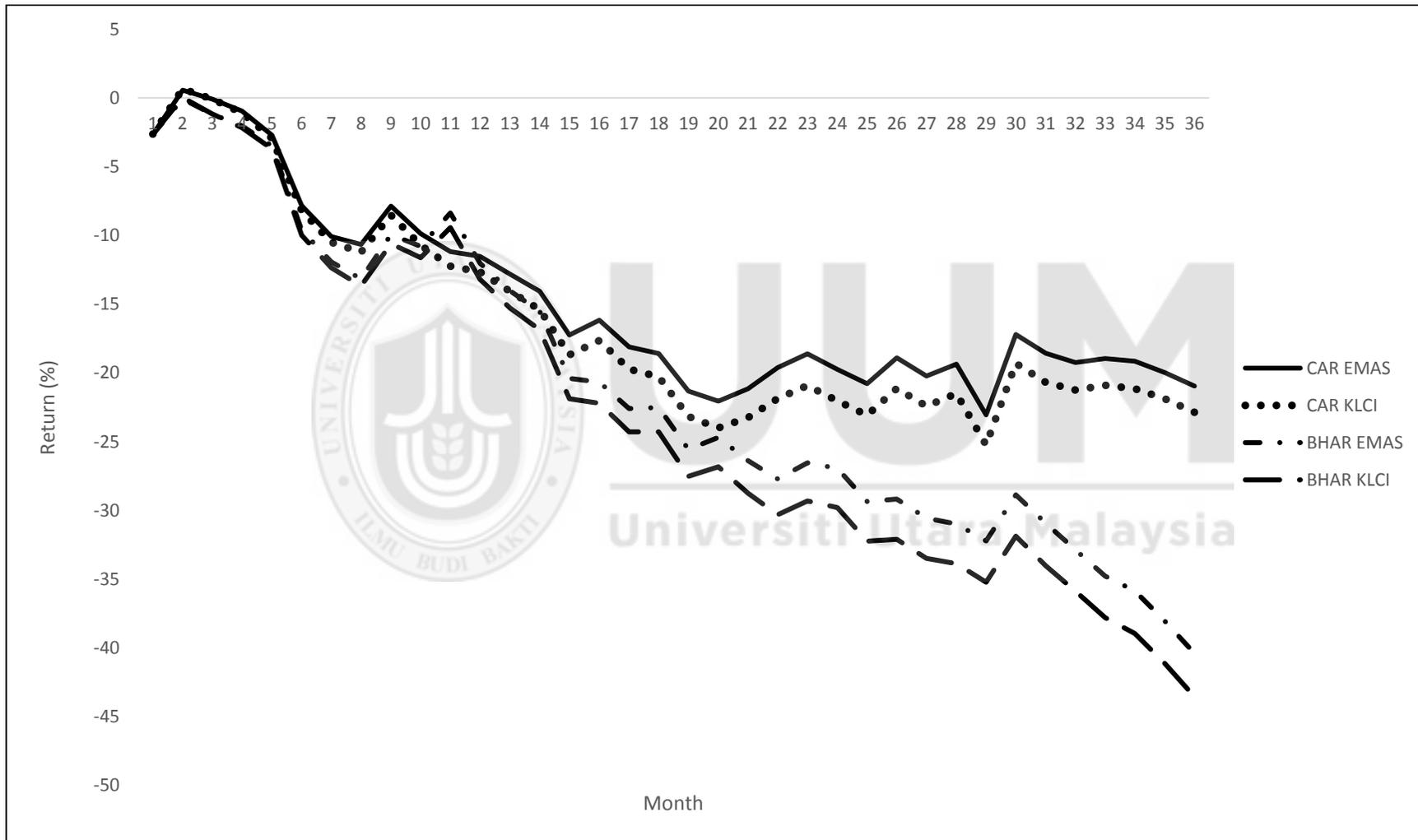


Figure 5.7: Buy and Hold Abnormal Returns (BHARs) and Cumulative Abnormal Returns (CARs) of EMAS and KLCI Index as proxy

Panel B of Table 5.25 reports the findings of BHARs of emerged companies by excluding second-time entry companies. The average BHARs are negative and significant at least at the five percent significant level. The mean BHARs returns reported larger negatives ranging from -6.65 percent to -42.83 percent, with the highest losses for holding periods of three years after their emergence from financial distress. The bootstrapped skewness-adjusted *t*-statistics reaffirms the statistical significance of the standard cross-sectional *t*-test statistics. Similarly, the corresponding median abnormal returns of all periods are negative and statistically significant.

Further analysis is made by excluding the politically-connected firms and second-time entry firms from the sample. The estimation results do not alter the earlier results of the negative post-emergence BHARs as shown in Panel A and B of Table 5.25. The average three-month, six-month, one-year, 18-month, two-year and three-year results are all negative and significantly different from zero at one percent significance level. The three-year BHARs report the highest losses of -46.57 percent. The bootstrapped skewness-adjusted *t*-statistics reaffirm the statistical significance of the standard cross-sectional *t*-test statistics. Similarly, the corresponding median abnormal returns of all periods are negative and statistically significant, further supporting the mean abnormal returns results. Therefore, use of the BHARs procedure supports the earlier results of using the cumulative mean abnormal returns (CAR) where the emerged or reorganized companies underperform the market portfolio.

This study then proceeds on by analysing BHARs for politically-connected companies in order to see effect of these group in the main result. Even though the politically-connected companies reported positive holding periods' BHARs, it is not significantly different from zero for the three-month and six month holding periods. The significant and negative BHARs are reported for the 18 months, two-year and three year holding period, ranging from -22.85 percent to -39.18 percent. The median abnormal returns for these three event windows are also negative and significant at the five percent level. Nevertheless, the bootstrapped skewness-adjusted *t*-statistics only support the significance of the 18-month period at the 10 percent significance level. The inconsistent results could be due the small sample size of politically-connected companies with only 15 companies.

For illustrative purposes, Figure 5.7 displays the mean BHARS and CARs over three-year post-emergence performance for both proxies of the market return, EMAS and KLCI Index. As can be observed, the BHARS and CARs display similar patterns that the post-emergence performance declines over the three years after the companies are relisted in Bursa Malaysia. In conclusion, the returns are negative irrespective of the approach to calculate the abnormal returns and the market indices employed. The findings of significant and negative returns indicate that it is against or reject the hypothesis of market efficiency in the post-emergence of financial distress period.

#### **5.3.1.4 Size and market-to-book value matched cumulative annual returns (CARs)**

As pointed out by Barber and Lyon (1997), using the matching companies approach could eliminate the new listing bias, the rebalancing bias, and the skewness problem; thus, the subsequent analysis following this approach. Table 5.26 presents the CARs using the matching companies' approach where it is benchmarked on either size or size and market-to-book value. Section 4.3 explained the procedure of selecting the matching companies. For the initial analysis, the sample is matched to the nearest size (market value) and the results are shown in Panel A and B of Table 5.26.

The results in Panel A show that the CARs are negative and statistically significant to at least the 10 percent significance level for five event windows. The mean CARs from six months is -8.82 percent, decreasing gradually to -18.62 percent by the third year. This suggests that the emerged companies significantly underperform relative to the size-matched companies for the entire three-year window. In comparison, the average CARs' of size matching companies approach are slightly higher than average CARs using market index as a proxy (Table 5.24) although displaying a similar pattern of negative returns. In addition, further analysis of excluding the political connection and second entry of distressed companies (Table 5.26: Panel B) produces negative and significant CARs for the six months, one-year and 18-months holding period, ranging from -12.03 to -15.22 percent. The parallel median abnormal returns also display similar findings, further supporting the mean abnormal returns result.

**Table 5.26: Size and market-to-book matched cumulative annual returns (CARs)**

Event period	Mean abnormal returns (%)	t-statistics	Median abnormal return (%)	z-statistics
Matching with size				
Panel A: All companies (n=113)				
3 months	-0.56	-0.1396	-2.86	-0.735
6 months	-8.82	-1.9078*	-11.50	-2.177**
1 year	-12.69	-1.9569**	-14.91	-2.036**
18 months	-16.67	-2.4241**	-18.63	-2.451***
2 years	-19.94	-2.4323**	-20.62	-2.252**
3 years	-18.62	-1.7345*	-20.78	-1.861*
Panel B: Exclude second time companies and political connection (n=76)				
3 months	-5.56	-1.2651	-7.65	-1.522
6 months	-12.03	-2.5455**	-11.27	-2.362**
1 year	-15.22	-1.9096*	-15.18	-1.859*
18 months	-14.12	-1.6727*	-15.17	-1.764*
2 years	-14.55	-1.6423	-18.81	-1.679*
3 years	-8.12	-0.6170	-10.53	-0.968
Matching with size and market-to-book value				
Panel C: All companies (n=103)				
3 months	-3.36	-0.8132	-5.43	-1.158
6 months	-9.56	-1.8996*	-9.93	2.388**
1 year	-11.16	-1.7518*	-12.58	-2.302**
18 months	-14.74	-2.1068**	-20.58	-2.465***
2 years	-13.78	-1.7773*	-22.04	-1.927**
3 years	-7.77	-0.8198	-9.72	-0.972
Panel D: Exclude second-entry companies and political connection (n=70)				
3 months	-4.71	-1.0546	-5.38	-1.115
6 months	-11.38	-2.2782**	-9.72	-2.203**
1 year	-15.96	-2.6086***	-13.91	-2.377**
18 months	-12.84	-1.4725	-21.86	-1.779*
2 years	-11.01	-1.1955	-27.01	-1.421
3 years	-2.59	-0.2101	-10.36	-0.500

Note: \*, \*\*, \*\*\* denote significance at the 10, 5 and 1 percent level, respectively, using two-tailed test. Wilcoxon signed rank-test is used for the median.

Furthermore, Panels C and D show the results of using the sample matched on size and market-to-book value. The matching companies are selected according to the size and market-to-book value using Euclidean Distance procedure to select the closest matching to that of the emerged distressed company. The mean CARs are all negative for all periods but the significant mean abnormal returns are reported for the six months, one-year, 18 months and two-years period. The average CARs reported -9.56 percent ( $p < 0.10$ ) for the six months, -11.16 percent ( $p < 0.10$ ) for the one year, -14.74 percent ( $p < 0.05$ ) for the 18 months and -13.78 percent ( $p < 0.10$ ) for the two years. Excluding the second-time entry and politically-connected companies, the average CARs reported -11.38 percent ( $p < 0.05$ ) for the six months and -15.96 percent ( $p < 0.01$ ) for the one year. For the other holding periods, the emerged financially distressed companies insignificantly underperform relative to size and market-to-book value matched companies. The median abnormal returns also report similar patterns.

In summary, these findings suggest that emerged financially distressed companies experience abnormal negative returns (six months and one-year period after emergence) when compared to companies sharing either similar size or similar size and market-to-book value. These findings support the empirical evidence of Jory and Madura and Komera and Lukose (2013).

#### **5.3.1.5 Size and market-to-book value matched buy and hold returns (BHARs)**

Table 5.27 presents the BHARs using a matching companies approach. Panel A and B of Table 5.27 show the size-matched BHARs. The results in Panel A show that the BHARs are negative for all holding periods except for the three-month, which

display similar findings to the CARs previously discussed in Table 5.26. The negative and significant BHARs of -10.81 percent, -14.84 percent, -17.80 percent, -24.24 percent and -30.33 percent are seen in the six-months, one-year, 18-month, two-years and three-years holding periods, respectively. The bootstrapped skewness-adjusted  $t$ -statistics reaffirms the statistical significance of the standard cross-sectional  $t$ -test statistics. The results indicate that, on average, investors that buy the emerged financially distressed companies' shares in the month the companies have been declared as "healthy" and holding them for a three-year period will generate significant negative abnormal returns. This result is consistent with Ahmad *et al.* (2008) who found that the first 200 days of returns after emergence is -30.3 percent and -28.2 percent using two proxies of market returns, the Kuala Lumpur Composite Index and EMAS Index, respectively. The negative and significant findings is in line with studies of Jory and Komera (2010) and Komera Lukose (2013). Using BHARs industry and size matched, Jory and Madura (2010) find negative and significant abnormal returns for one month, 3-month and 6-month holding periods. In addition, Komera and Lukose (2013) find returns ranging from -28.41 percent to -31.26 percent for twelve months after the emergence from bankruptcy for the case of Indian listed companies.

**Table 5.27: Size and market-to-book value matched buy and hold returns**

Event period	Mean abnormal returns (%)	<i>t</i> -statistics	Bootstrapped skewness-adjusted <i>t</i> -statistics	Median abnormal return (%)	<i>z</i> -statistics
Matching with size					
Panel A: All companies (n=112)					
3 months	-3.10	-0.8310	-0.77	-4.00	-1.298
6 months	-10.81	-2.3979**	-2.14**	-11.74	-2.610***
1 year	-14.84	-2.3728**	-1.91*	-16.70	-2.932***
18 months	-17.80	-2.8534***	-2.49***	-18.65	-3.429***
2 years	-24.24	-3.5966***	-3.42***	-23.33	-3.584***
3 years	-30.33	-3.3924***	-2.96***	-22.01	-3.489***
Panel B: Exclude second time entry companies and political connection (n=76)					
3 months	-6.52	-1.5780	-1.43	-10.70	-2.061**
6 months	-12.85	-2.6179***	-2.67***	-11.90	-2.598***
1 year	-11.80	-1.4960	-1.13	-17.02	-2.371**
18 months	-11.10	-1.5731	-1.27	-18.26	-2.413**
2 years	-18.60	-2.5919***	-2.13**	-19.99	-2.884***
3 years	-18.72	-1.5981	-1.37	-16.09	-2.034**

Note: \*, \*\*, \*\*\* denote significance at the 10, 5 and 1 percent level, respectively, using two-tailed test. Wilcoxon signed rank-test is used for the median.

Event period	Mean abnormal returns (%)	<i>t</i> -statistics	Bootstrapped skewness-adjusted <i>t</i> -statistics	Median abnormal return (%)	<i>z</i> -statistics
Matching with size and market-to-book value					
Panel C: All companies (n=102)					
3 months	-3.84	-1.1052	-1.02	-6.51	-1.530
6 months	-8.93	-1.7903*	-1.35	-13.62	-2.642***
1 year	-14.16	-2.5613***	-2.00**	-16.40	-3.394***
18 months	-17.38	-2.9796***	-2.51***	-27.12	-3.584***
2 years	-17.56	-2.0381**	-1.49	-19.48	-3.028***
3 years	-29.15	-2.7410***	-2.70***	-15.21	-2.982***
Panel D: Exclude second-entry companies and political connection (n=69)					
3 months	-3.99	-1.0417	-0.95	-6.51	-1.277
6 months	-11.15	-2.6219***	-2.55***	-15.22	-2.514***
1 year	-10.79	-1.5222	-1.03	-16.40	-2.661***
18 months	-14.30	-1.8645*	-1.53	-27.25	-2.484***
2 years	-14.67	-1.3048	-0.97	-19.00	-1.955**
3 years	-22.98	-1.7168*	-1.63*	-15.02	-1.748*

Note: \*, \*\*, \*\*\* denote significance at the 10, 5 and 1 percent level, respectively, using two-tailed test. Wilcoxon signed rank-test are used is used for the median.

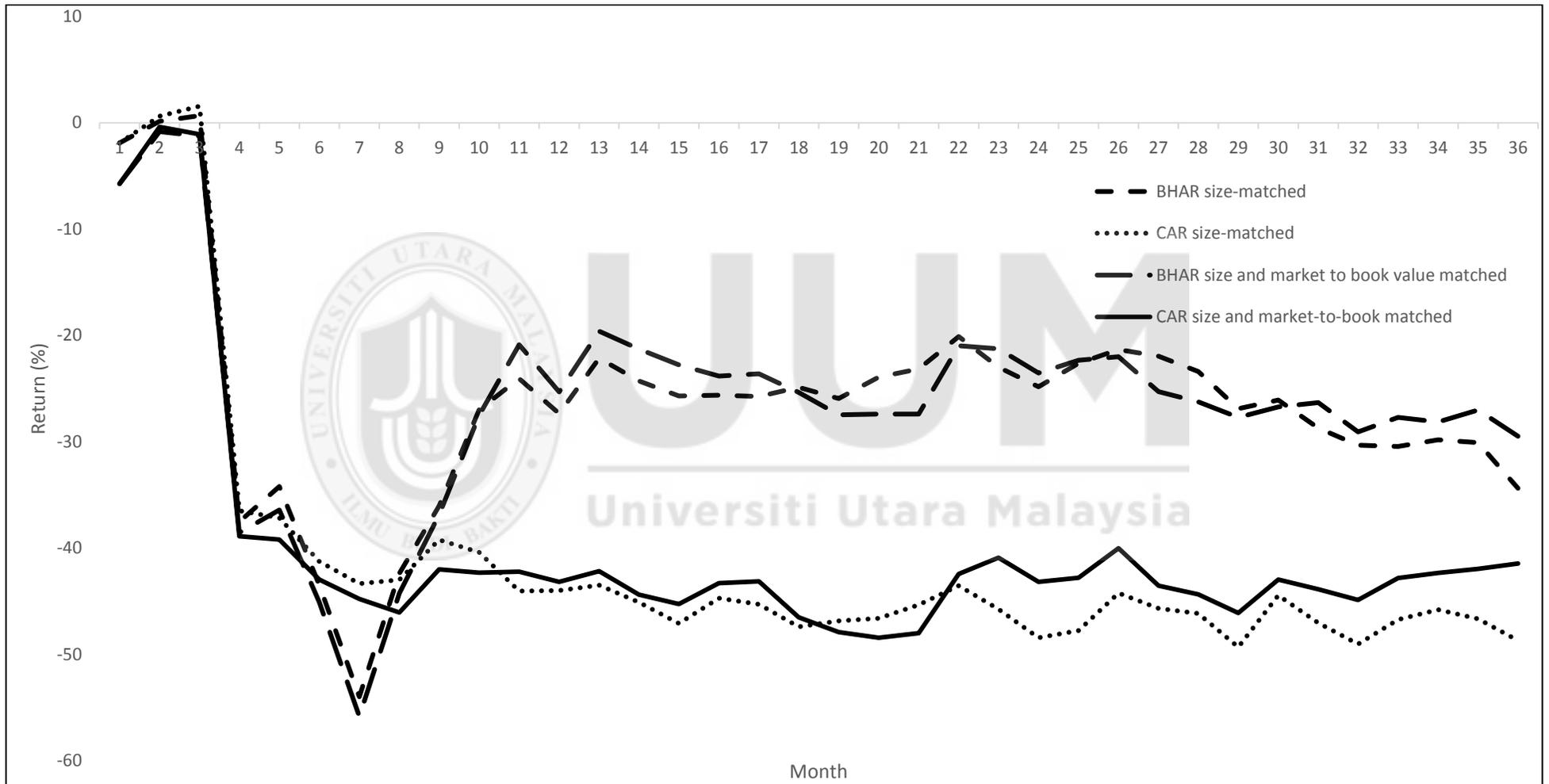


Figure 5.8: Buy and Hold Abnormal Returns (BHARs) and Cumulative Abnormal Returns (CARs) of size-matched and market-to-book matched

In the next analysis, political connection and second entry of emerged companies are excluded from the analysis. The BHARs are negative in all holding periods with the significant results reported for the six-months and two-year holding periods with -12.85 percent ( $p = 0.01$ ) and 18.60 percent ( $p = 0.01$ ), respectively.

Panel C and D show the results of using the sample matched on size and market-to-book value. The reported long run underperformance is significant to at least the 10 percent significance level for five holding periods. The highest underperformance of -29.15 percent is found in the three-year holding period. Excluding the politically-connected firms and second entry distressed firms produced negative and significant BHARs in the six months, 18 months and three-year holding periods. For illustrative purposes, Figure 5.8 displays the mean BHARS and CARs over three-years post-emergence performance for size matched and size and market-to-book value matched. As can be observed, the BHARs and CARs display almost similar patterns where the post-emergence performance decline over the three years after the companies are relisted in Bursa Malaysia. In summary, the returns are negative irrespective of the approach to calculate the abnormal returns and the matching procedure employed; it is worth noting, here, that the findings are moderately sensitive to the methodological approach employed. These findings of negative abnormal performance suggest that it contradicts with the Efficient Market Hypothesis and indicates information inefficiency on the market.

#### **5.4 Summary of the chapter**

This chapter has outlined the estimation findings and discusses the findings of the study. The chapter was divided into three sections representing the three objectives

of the study. The empirical results were analysed using three different approaches. The first objective concerning the market reactions of the financial distress announcement was analysed using two event study procedures (Market Adjusted Return and Market Model). The initial findings suggest significant large and negative abnormal returns around the days surrounding the bankruptcy announcement irrespective of the event study procedures, the listing markets (Main market vs. ACE market) and whether the companies are politically connected. Further analysis on the outcomes of distress (emerged vs. delisted) suggests that the financially distressed companies that were eventually delisted experienced higher losses than the emerged companies.

The second objective was to investigate the predictors of the outcome of distress resolution whether the companies are emerged or delisted. The findings suggest that earnings before interest and tax to interest expense, CAR (-1, +1) and Top 10 largest shareholders and the political connection are positive and significant in predicting the probability of emerging from financial distress.

The third objective was to evaluate the long-run share price performance of the emerged companies after the restructuring period. Using cumulative abnormal returns (CARs) and Buy-and-hold abnormal return (BHAR) on the estimated returns over a period of three years, the findings suggest that post-emergence performance declines over the three years after the companies are relisted in Bursa Malaysia. The estimation results are consistent irrespective of the approach to calculate the abnormal returns and the matching procedure employed.

## **CHAPTER SIX**

### **DISCUSSION AND CONCLUSION**

#### **6.1 Introduction**

This chapter begins with the restatement of the objectives of this study. This is followed by a summary of the findings of the study and the implications of the study. The final section offers possible recommendations for future research in order to give a clearer picture of the researched issue.

#### **6.2 Restatement of objectives**

There are three objectives for implementing this study. The first objective is to compare stock market reactions to financial distress announcements by delisted and emerged companies. The main idea is to seek the answer of whether the market could differentiate outcome of the financial distress which is between “value” (emerged) and “less value” (delisted). Even though the event of distress is associated with a negative news, firms that are able to restructure their financial condition and be considered as emerging should be seen as favourable or positive. In this sense, the market might react positively to the emerged firms.

The second objective of this thesis is to investigate the predictors of the outcome of distress resolution. This is a continuation of the first objective by exploring the characteristics of the firms that are able to restructure their financial condition and emerge from the financially distressed condition. Utilizing logistic regression analysis, the financial variables, market variables and institutional variables are

included to predict whether the financially distressed firms will emerge or be delisted from Bursa Malaysia. Based on predictive accuracy rate, the logistic models, using a combination of variables, predict better than the models with either financial variables only or institutional variables.

The restructured companies which eventually emerged from the financially distressed condition should perform at least at par as their counterparts. Therefore, this led to the third objective of this study which is to evaluate whether the long-run share price performance of the emerged companies after the restructuring period is better than a comparable benchmark.

### **6.3 Summary of findings**

Bursa Malaysia (formerly known as Kuala Lumpur Stock Exchange) introduced a separate classification for financially distressed companies, or Practice Note 4 (PN4) companies in 2001. Amendments have been made to enhance the criteria with the introduction of Practice Note 17, which is meant for the Main Market companies. With respect to the ACE market, the financially distressed companies are governed by Guidance Note 3. The financially distressed companies' condition is monitored to improve their financial condition in order to remain as listed entities.

For the first objective, the results suggest that, at the time of the financial distress announcement, the capital market differentiates firms based on the expected outcomes of the financial distress situation. In this sense, at the time of firms' announcements of the financially distressed condition, the market is able to

anticipate the expected outcomes of the financial distress. In addition, there are different stock market reactions to the politically and non-politically connected firms where it indicates that investors value a firm's political connection favourably. The findings suggest that, in the event of emergence, higher losses are recorded for non-politically-connected firms in all windows. This constitutes evidence of investors' belief that political connection can give extra mileage to firms' recovery. In this sense, the share price response on distress announcement is tied to the political connection of the companies.

For the second objective, the results suggest that earnings before interest and tax to interest expense, CAR (-1, +1), and Top 10 largest shareholders predict the outcomes of the financial distress. Financially distressed companies with higher earnings before interest and tax to interest expense are more likely to emerge from financial distress. The cumulative abnormal return of day (-1, 1) is also able to predict the emerged companies when the companies are announced as being financially distressed. For institutional variables, companies with the Top 10 largest shareholders have a higher possibility of emerging in the event of financial distress. The findings in this study also suggest that models with financial variables, market variables and institutional variables have better prediction ability compared to models with only firm-specific variables or models with firm-specific and market variables. Based on the overall accuracy of classification results, the logistic regression is able to predict 69.1 percent of the estimation sample while for the holdout sample, the overall accuracy rate is 57.5 percent.

For the third objective, the results suggest that, the BHARs and CARs display almost similar patterns where the post-emergence performance declines over the three years following companies being relisted in Bursa Malaysia. In summary, the returns are negative irrespective of the approach to calculate the abnormal returns and the matching procedure employed. This shows that investors do not believe that the companies have successfully restructured their financial condition and continue to have negative perception towards these companies.

#### **6.4 Implications of the results**

The findings of this study provide important implications for policy-makers, firms and potential investors in understanding financially distressed listed companies. First, investors expect the event of financial distress even before the announcement is made. As expected, the market reacts negatively to the financial distress announcement. Furthermore, the market is able to identify or distinguish between the companies that are successful in the restructuring and those that will be delisted from Bursa Malaysia. Even though the market is able to differentiate between the emerged and delisted, both events have negative reactions, as evidenced by the negative abnormal returns. This suggests that, in the event of financial distress, the market or investors perceive that successful restructuring does not create value as financially distressed companies cannot recoup the lost value during the financial distress condition. In this sense, investors should not invest in firms that are expected to be in a financially distressed condition nor in companies that have better restructured and relisted in Bursa Malaysia. This can be done by regular checks on the Bursa Malaysia website on companies listed under Practice Note 17 and Guidance Note 3 for the respective Main Market and ACE Market.

Second, the significant earnings before interest and tax to interest expense, CAR (-1, +1), and Top 10 largest shareholders of financially distressed firms that are likely to emerge or delist could be used as part of the evaluation by creditors, regulators and investors. For the regulators, this could shorten the time taken to evaluate the reorganization plan proposed by the affected firms and thus reduce the cost related to the restructuring process. As for the creditors, they could utilize the models in negotiating the terms during the negotiation process of the financially distressed firms. In this sense, judgement on the negotiation could be made in a constructive manner since the possible outcomes of the distressed could be predicted. In addition, these variables could help investors in evaluating the outcomes of the financially distressed companies and strategize their investment plan.

Third, the stock performance of the emerged companies declines over the three years following the companies being relisted in Bursa Malaysia. The returns are negative irrespective of the approach to calculate the abnormal returns and the market indices employed. This implies that companies emerging from financial distress demonstrate unfavourable performance even though they have been classified as “healthy” by the stock exchange regulator. Therefore, attention should be given to these formerly financially distressed companies to seek the reasons for declining share price performance after the companies were allowed to continue to be listed following the restructuring process. Regulators should strengthen the evaluation process of the financially distressed companies before they are allowed to be relisted. Moreover, the negative abnormal returns would also indicate that investors should not invest in

companies that had emerged from financial distressed situation as it would reduce their shareholders' wealth.

## **6.5 Limitations and recommendations for future research**

There are several directions or opportunities in which research on corporate restructuring might evolve and could yield valuable knowledge. Those opportunities for future investigation are listed below.

First, panel structure dataset might be used to verify the results of this study. This could improve the econometric approach by adopting a multi-period approach, as suggested by Shumway (2001). Estimating using a panel model could remove firm-specific effects from the estimation and address the autocorrelation and heteroscedasticity of the error terms. As such, it could improve the overall quality of the regressions. Apart from using a sample from a single small economy, a sample from other countries could be used to verify the results of the current study.

Second, politically-connected firms are identified if they are included as in the samples in the studies of Faccio (2006), Mitchell & Joseph (2010), Bliss *et al.* (2011), Chen *et al.* (2013), and Fung *et al.* (2015). However, some companies could be more politically-connected than others. Therefore, the effect of political connections on the outcomes could be refined further by considering the strength of the connections. In this sense, the political index to represent the strength of the political connections could be developed (Tao *et al.*, 2017). Furthermore, the usage of the political index could differentiate the different power of the connected

individual which may impact the firm in a different way. The usage of a binary measure could undervalue the true level of the political connections since it could have simply considered one dimension and omitted the variations in other dimensions.

Third, there is evidence of non-listed private companies that wish to be listed by acquiring distressed companies rather than going through formal IPO application. The willingness of private firms to acquire ownership of distressed companies via the restructuring procedure could be seen as a possible potential area of research. In this sense, a comparison of this type of 'backdoor' listing can be made with the normal application of IPO in order to observe the difference of long run performance within the types of public listing.

Fourth, the nature of restructuring efforts could be examined by considering internal and external restructuring procedures that could lead to better performance after the restructuring period. This issue could be addressed further by having clear distinction between the internal and external restructuring procedure.<sup>29</sup> The long-run share price performance or operating performance of the emerged companies after the restructuring period may enrich the current empirical results.

Fifth, the present work might be repeated using the sample of small companies or Small and Medium Enterprise (SMEs). SMEs play a pivotal role as the main contributors of Malaysia's economics growth with the recorded average annual rate

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<sup>29</sup> Internal restructuring refers to a condition where previous shareholders retained their ownership and external restructuring refers to previous shareholders selling their ownership.

of 6.3 percent compared to 4.5 percent for the overall GDP growth during the period 2004 to 2009 (National SME Development Council, 2011). The results would be important because the occurrence of failure in SMEs is more common than in large companies (Bradley et al., 1984). However, there might be problems in gaining access to the financial data.

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## APPENDICES

### Appendix 1: List of politically connected companies

ABRAR CORPORATION BERHAD (OILCORP BERHAD)	Fung <i>et al.</i> (2015)
ACTACORP HOLDINGS BERHAD	Chen <i>et al.</i> (2013)
ANTAH HOLDING BERHAD	Fung <i>et al.</i> (2015)
AOKAM PERDANA BHD	Fung <i>et al.</i> (2015)
AUSTRAL AMALGAMATED BERHAD	Fung <i>et al.</i> (2015)
BSA INTERNATIONAL BERHAD	Mitchell & Joseph (2010)
CONSTRUCTION AND SUPPLIES HOUSE BERHAD	Faccio (2006)
CSM CORPORATION BERHAD	Chen <i>et al.</i> (2013)
DATAPREP HOLDINGS BHD	Chen <i>et al.</i> (2013)
DATAPREP HOLDINGS BHD	Chen <i>et al.</i> (2013)
ECM LIBRA FINANCIAL GROUP BERHAD	Fung <i>et al.</i> (2015)
EKRAN BERHAD	Fung <i>et al.</i> (2015)
FABER GROUP BERHAD	Fung <i>et al.</i> (2015)
FCW HOLDINGS BERHAD	Chen <i>et al.</i> (2013)
GEORGE TOWN HOLDINGS BERHAD	Chen <i>et al.</i> (2013)
GOLD BRIDGE ENGINEERING & CONSTRUCTION BERHAD	Mitchell & Joseph (2010)
HO HUP CONSTRUCTION COMPANY BHD	Fung <i>et al.</i> (2015)
IDAMAN UNGGUL BERHAD (IDRIS HYDRAULIC (MALAYSIA) BERHAD)	Fung <i>et al.</i> (2015)
KELANAMAS INDUSTRIES BERHAD (MP TECHNOLOGY RESOURCES BERHAD)	Chen <i>et al.</i> (2013)
KRETAM HOLDINGS BERHAD	Fung <i>et al.</i> (2015)
KUMPULAN FIMA BERHAD	Fung <i>et al.</i> (2015)
LION CORPORATION BERHAD	Fung <i>et al.</i> (2015)

LION CORPORATION BERHAD	Fung <i>et al.</i> (2015)
MAA HOLDINGS BERHAD	Fung <i>et al.</i> (2015)
METROPLEX BERHAD	Chen <i>et al.</i> (2013)
MYCOM BERHAD	Fung <i>et al.</i> (2015)
OILCORP BERHAD (ABRAR CORPORATION BERHAD)	Fung <i>et al.</i> (2015)
PAN MALAYSIA CAPITAL BERHAD	Mitchell & Joseph (2010)
PAN MALAYSIA CAPITAL BERHAD	Mitchell & Joseph (2010)
PAN MALAYSIA HOLDINGS BERHAD	Fung <i>et al.</i> (2015)
PAN MALAYSIA HOLDINGS BERHAD	Fung <i>et al.</i> (2015)
PARK MAY BERHAD	Chen <i>et al.</i> (2013)
PARK MAY BERHAD	Chen <i>et al.</i> (2013)
PECD BERHAD	Fung <i>et al.</i> (2015)
PRIME UTILITIES BERHAD	Fung <i>et al.</i> (2015)
PROMET BERHAD	Bliss <i>et al.</i> (2011)
PSC INDUSTRIES BERHAD	Chen <i>et al.</i> (2013)
PUTERA CAPITAL BERHAD	Fung <i>et al.</i> (2015)
RAMUNIA HOLDINGS BERHAD	Fung <i>et al.</i> (2015)
SETRON (MALAYSIA) BHD	Fung <i>et al.</i> (2015)
SISTEM TELEVISYEN MALAYSIA BERHAD	Fung <i>et al.</i> (2015)
SUNWAY BUILDING TECHNOLOGY BERHAD	Bliss <i>et al.</i> (2011)
TAIPING CONSOLIDATED BERHAD	Fung <i>et al.</i> (2015)
TIME ENGINEERING BERHAD	Fung <i>et al.</i> (2015)
TONGKAH HOLDINGS BERHAD	Fung <i>et al.</i> (2015)
TRANSMILE GROUP BERHAD	Fung <i>et al.</i> (2015)
UNIPHOENIX CORPORATION BERHAD	Chen <i>et al.</i> (2013)

WEMBLEY INDUSTRIES HOLDINGS BERHAD	Fung <i>et al.</i> (2015)
WESTMONT INDUSTRIES BERHAD	Chen <i>et al.</i> (2013)
WING TIEK HOLDINGS BERHAD	Chen <i>et al.</i> (2013)



**Appendix 2: List of second-time entry companies into financial distress classification**

<b>Company Name</b>	<b>Date of first entry</b>	<b>Date of second entry</b>
ABRAR CORPORATION BERHAD (OILCORP BERHAD)	23/02/2001	23/09/2009
AMSTEEL CORPORATION BERHAD (AMSTEEL CORPORATION BERHAD)	25/05/2001	08/05/2006
ANGKASA MARKETING BHD (SILVERSTONE CORPORATION BERHAD)	20/05/2002	08/05/2006
ARTWRIGHT HOLDINGS BERHAD (AHB HOLDINGS BERHAD)	22/02/2001	31/10/2014
BERJUNTAI TIN DREDGING BERHAD (INTEGRATED RUBBER CORPORATION BERHAD)	26/02/2001	27/12/2012
DATAPREP HOLDINGS BHD (DATAPREP HOLDINGS BHD)	26/02/2001	08/05/2006
FOREMOST HOLDINGS BERHAD (HOCK LOK SIEW CORPORATION BERHAD)	10/05/2006	30/04/2012
GEAHIN ENGINEERING BERHAD (MAXBIZ CORPORATION BERHAD)	26/02/2001	18/01/2011
GENERAL LUMBER FABRICATORS & BUILDERS BHD (MAXTRAL INDUSTRY BERHAD)	04/03/2002	21/12/2012
GLOBAL CARRIERS BERHAD (GLOBAL CARRIERS BERHAD)	26/02/2001	01/03/2013
INNOVEST BERHAD (INNOVEST BERHAD)	23/02/2001	08/05/2003
KELANAMAS INDUSTRIES BERHAD (MP TECHNOLOGY RESOURCES BERHAD)	20/02/2001	26/01/2007

LION CORPORATION BERHAD (LION CORPORATION BERHAD)	26/02/2001	25/10/2013
MALAYSIAN GENERAL INVESTMENT CORPORATION BERHAD (SUMATEC RESOURCES BERHAD)	20/02/2001	29/04/2011
MAY PLASTICS INDUSTRIES BHD (KSU HOLDINGS BERHAD)	26/02/2001	20/08/2003
MBF CAPITAL BERHAD (MBF CORPORATION BERHAD)	23/02/2001	09/05/2006
MEASUREX CORPORATION BERHAD (PAXELEN CORPORATION BERHAD)	26/02/2001	08/05/2006
MECHMAR CORPORATION (MALAYSIA) BERHAD (MECHMAR CORPORATION (MALAYSIA) BERHAD)	05/05/2006	03/03/2009
MITHRIL BERHAD (TAJO BHD)	23/02/2001	30/08/2010
MOL.COM BERHAD (MOL.COM BERHAD)	07/09/2001	08/05/2006
NAUTICALINK BERHAD (KOSMO TECHNOLOGY INDUSTRIAL BERHAD)	23/02/2001	06/05/2008
PAN MALAYSIA HOLDINGS BERHAD (PAN MALAYSIA HOLDINGS BERHAD)	26/02/2001	02/03/2006
PAN MALAYSIAN INDUSTRIES BERHAD (PAN MALAYSIAN INDUSTRIES BERHAD)	08/03/2006	31/05/2013
PANCARAN IKRAB BHD (DCEIL INTERNATIONAL BERHAD)	23/02/2001	30/08/2006
PARIT PERAK HOLDINGS BERHAD (LIQUA HEALTH CORPORATION BERHAD)	23/02/2001	23/04/2008
PARK MAY BERHAD (PARK MAY BERHAD)	21/02/2001	12/03/2003
PENAS CORPORATION	23/02/2001	25/02/2010

BERHAD (VTI VINTAGE BERHAD)		
SELOGA HOLDINGS BERHAD (SELOGA HOLDINGS BERHAD)	01/03/2001	11/05/2006
TAP RESOURCES BERHAD (TAP RESOURCES BERHAD)	27/06/2002	08/05/2006



**Appendix 3: Daily average abnormal returns (AARs) around financial distress announcement day**

Event day	Emerged firms (n=121)			
	No second-time entry (n=87)		Second-time entry (n=34)	
	AAR <sub>t</sub> (%)	<i>t</i> -statistics	AAR <sub>t</sub> (%)	<i>t</i> -statistics
-10	-0.5085	-1.0842	-1.0081	-1.6930*
-9	-0.9121	-2.6889***	-0.4057	-0.7057
-8	0.1974	0.2979	-0.4762	-0.7742
-7	0.6840	1.0839	0.7227	0.9372
-6	-0.7535	-1.1217	0.2066	0.3256
-5	-1.1892	-1.7200*	0.4793	0.5181
-4	-0.8840	-1.9169*	-1.9399	-2.1114**
-3	0.2561	0.6211	0.3243	0.6196
-2	-0.7429	-1.3652	-1.0709	-1.3901
-1	-2.7062	-1.7053*	-1.4803	-1.9211**
0	-0.5393	-0.6246	-1.2004	-1.0598
+1	-11.0049	-7.0700***	-18.1865	-5.0057***
+2	-8.6504	-4.9710***	-2.6519	-1.1849
+3	-1.5530	-1.7914*	-3.8935	-2.2537**
+4	-2.3613	-2.8040***	-3.5109	-3.3927***
+5	-2.2970	-2.4991***	-1.4845	-1.1705
+6	0.5187	0.6123	0.2499	0.2242
+7	1.0427	1.6644*	-1.7791	-1.7514*
+8	-0.8776	-1.5336	-0.0855	-0.1064
+9	-1.3058	-1.0294	-0.4741	-0.5053
+10	-0.5309	-0.8853	-1.6641	-1.7402*

Note: \*, \*\*, \*\*\* denote significance at the 10, 5 and 1 percent level, respectively. AR = average abnormal return.

**Appendix 4: Cumulative average abnormal returns (CAARs) surrounding the financial distress announcement date**

Event window	Emerged firms (n=121)			
	No second-time entry (n=87)		Second-time entry (n=34)	
	CAAR <sub>t</sub> (%)	<i>t</i> -statistics	CAAR <sub>t</sub> (%)	<i>t</i> -statistics
(-60,0)	-18.8701	-5.2789***	-13.3585	-3.8825***
(-10,0)	-7.0981	-3.7297***	-5.8486	-2.8545***
(-1, +1)	-14.2504	-6.6497***	-20.8671	-5.0864***
(-1,0)	-3.2455	-2.1765**	-2.6807	-2.2314**
(0,+1)	-11.5442	-6.4751***	-19.3869	-5.0672***
(-60,+60)	-31.5122	-5.6763***	-37.2661	-4.3633***

Note: \*, \*\*, \*\*\* denote significance at the 10, 5 and 1 percent level, respectively. AR = average abnormal return.



**Appendix 5: Daily average abnormal returns (AARs) around financial distress announcement day**

Event day	Emerged firms (n=87)			
	Upliftment (n=50)		Reverse listing/Share exchange (n=37)	
	AAR <sub>t</sub> (%)	<i>t</i> -statistics	AAR <sub>t</sub> (%)	<i>t</i> -statistics
-10	-0.4050	-0.6303	-0.6485	-0.9404
-9	-0.8763	-2.2504**	-0.9604	-1.5847
-8	-0.6489	-0.6715	1.3411	1.6200
-7	1.1955	1.1559	-0.0073	-0.0147
-6	-1.3513	-1.3671	0.0543	0.0647
-5	-1.6604	-1.4647	-0.5524	-1.0055
-4	-1.6484	-2.7513***	0.1489	0.2143
-3	0.3499	0.5182	0.1293	0.3805
-2	-1.2891	-1.6068	-0.0047	-0.0069
-1	-1.1418	-1.7646*	-4.8204	-1.3288
0	-0.5618	-0.7972	-0.5089	-0.2812
+1	-13.1958	-5.7879***	-8.0443	-4.2249***
+2	-11.6978	-4.1746***	-4.5323	-3.4283***
+3	-1.0942	-0.8901	-2.1731	-1.8214*
+4	-3.5431	-2.9570***	-0.7644	-0.6922
+5	-1.3365	-1.1004	-3.5948	-2.5741***
+6	1.0430	1.2537	-0.1898	-0.1148
+7	0.7109	0.8969	1.4910	1.4628
+8	-0.8021	-0.9429	-0.9797	-1.3748
+9	0.3383	0.4236	-3.5275	-1.2774
+10	0.2253	0.2746	-1.5528	-1.8159*

Note: \*, \*\*, \*\*\* denote significance at the 10, 5 and 1 percent level, respectively. AR = average abnormal return. For this estimation, the second-time entry companies are excluded from the sample.

**Appendix 6: Cumulative average abnormal returns (CAARs) surrounding the financial distress announcement date**

Event window	Emerged firms (n=87)			
	Upliftment (n=50)		Reverse listing/Share exchange (n=37)	
	CAAR <sub>t</sub> (%)	<i>t</i> -statistics	CAAR <sub>t</sub> (%)	<i>t</i> -statistics
(-60,0)	-18.9570	-5.7216***	-18.7528	-2.6110***
(-10,0)	-8.0374	-4.2453***	-5.8288	-1.5763
(-1, +1)	-14.8993	-6.1789***	-13.3735	-3.4456***
(-1,0)	-1.7035	-1.7790*	-5.3292	-1.6374*
(0,+1)	-13.7575	-5.8693***	-8.5532	-3.1622***
(-60,+60)	-33.4280	-6.2116***	-28.9234	-2.6456***

Note: \*, \*\*, \*\*\* denote significance at the 10, 5 and 1 percent level, respectively. AR = average abnormal return. For this estimation, the second-time entry companies are excluded from the sample.

**Appendix 7: Daily average abnormal returns (AARs) around financial distress announcement day by excluding the second-time entry companies**

Event day	Emerged firms (n=87)				Delisted firms (n=98)			
	Political connected firms (n=16)		Non-political connected firms (n=71)		Political connected firms (n=12)		Non-political connected firms (n=86)	
	AAR <sub>t</sub> (%)	<i>t</i> -statistics	AAR <sub>t</sub> (%)	<i>t</i> -statistics	AAR <sub>t</sub> (%)	<i>t</i> -statistics	AAR <sub>t</sub> (%)	<i>t</i> -statistics
-10	0.2653	0.4203	-0.6829	-1.2274	-1.2476	-0.4749	-1.5931	-1.9941**
-9	-0.5132	-0.8320	-1.0020	-2.5515***	-0.6296	-0.2654	-0.4981	-0.7194
-8	0.0005	0.0005	0.2418	0.3065	1.0140	0.3273	-0.1753	-0.2007
-7	0.5466	0.5328	0.7149	0.9653	0.5850	0.7692	-0.3077	-0.3091
-6	-0.0262	-0.0446	-0.9174	-1.1287	-4.8557	-1.2430	-0.3821	-0.2994
-5	-0.7574	-0.7101	-1.2865	-1.5788	-0.6616	-0.4651	-2.0664	-2.3621**
-4	-0.9188	-1.3451	-0.8762	-1.6060	0.2575	0.1283	-0.9532	-1.2347
-3	-0.6228	-0.6755	0.4542	0.9868	4.5203	0.9364	-1.7211	-1.5756
-2	0.0046	0.0050	-0.9113	-1.4374	-1.5118	-0.6666	-1.2937	-1.2455
-1	-1.1303	-1.0526	-3.0614	-1.5860	2.4341	0.8348	0.4477	0.4460
0	-0.6023	-0.4646	-0.5250	-0.5146	0.3915	0.2541	-5.5757	-3.6768***
+1	-14.6048	-3.0261***	-10.1937	-6.4840***	-20.8576	-2.6827***	-23.0285	-9.1937***
+2	-9.9322	-2.6472***	-8.3616	-4.2490***	-23.1819	-3.8675***	-17.0225	-7.5001***
+3	0.3933	0.1793	-1.9916	-2.1181**	2.8127	1.0497	-3.7143	-1.6957*
+4	-2.2434	-1.3925	-2.3879	-2.4600***	-8.3283	-2.8667***	-2.2771	-1.0565
+5	0.4132	0.1787	-2.9077	-2.9303***	-2.1268	-0.8453	-2.7329	-1.4730
+6	-1.1625	-1.4171	0.8976	0.8815	-2.9751	-1.0556	-0.2839	-0.1965
+7	1.6179	1.1012	0.9131	1.3107	-1.7690	-0.5770	-0.1313	-0.1107
+8	2.2523	1.4121	-1.5830	-2.7494***	-1.2517	-0.8862	-2.4585	-2.3007**
+9	-1.5131	-1.5622	-1.2590	-0.8167	4.6895	0.8116	-0.0585	-0.0424
+10	-1.1871	-1.1555	-0.3830	-0.5479	-1.9357	-0.7508	-1.7810	-1.5426

Note: \*, \*\*, \*\*\* denote significance at the 10, 5 and 1 percent level, respectively. AR = average abnormal return.

**Appendix 8: Cumulative average abnormal returns (CAARs) surrounding the announcement day by outcomes by excluding the second-time entry companies**

Event window	Emerged firms (n=87)				Delisted firms (n=98)			
	Political connected firms (n=16)		Non-political connected firms (n=71)		Political connected firms (n=12)		Non-political connected firms (n=86)	
	CAAR <sub>t</sub> (%)	<i>t</i> -statistics	CAAR <sub>t</sub> (%)	<i>t</i> -statistics	CAAR <sub>t</sub> (%)	<i>t</i> -statistics	CAAR <sub>t</sub> (%)	<i>t</i> -statistics
(-60,0)	-13.6113	-2.2281**	-20.0552	-4.8183***	-13.0257	-1.0107	-28.6613	-7.1194***
(-10,0)	-3.7540	-1.3709	-7.8517	-3.4952***	0.2962	0.0369	-14.1188	-5.0189***
(-1, +1)	-16.3374	-3.1735***	-13.7801	-5.8145***	-18.0320	-1.8158*	-28.1564	-10.8968***
(-1,0)	-1.7326	-1.0564	-3.5864	-2.0023**	2.8256	0.7939	-5.1280	-2.9945***
(0,+1)	-15.2071	-3.0280***	-10.7187	-5.7178***	-20.4661	-2.4404***	-28.6041	-10.2987***
(-60,+60)	-23.6865	-2.1700**	-33.2758	-5.2351***	-71.7930	-3.0016***	-91.3615	-13.3376***

Note: \*, \*\*, \*\*\* denote significance at the 10, 5 and 1 percent level, respectively. AR = average abnormal return. <sup>a</sup>To compare the mean difference, *t*-statistic under the assumption of unequal variances and two-tailed test are utilized. Number in parenthesis is the standard error difference.