THE PREDICTABILITY OF FINANCIAL RATIOS ON CORPORATE FINANCIAL DISTRESS

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ABSTRACT

THE PREDICTABILITY OF FINANCIAL RATIOS ON CORPORATE FINANCIAL DISTRESS

Current fluctuation and uncertainties in the global economics create challenges in the survival of the company. The companies under financial distress have to bear with the distress cost and at high risks to experience bankruptcy. There are a number of financial ratios that one can extract from the company's audited account. However, not every financial ratio has the ability to give an early warning to the financial practitioners that the company is facing distress. Three objectives of this study are (1) to investigate the ability of a set of financial ratios in predicting financial distress, (2) to identify a set of dominance financial ratios in predicting financial distress and (3) to compare the ability of a set of dominance financial ratios in predicting financial distress between consumer products and construction sector. Logit regression analysis was conducted to test the hypotheses. The findings of this study suggested that company with high earnings per shares and return on assets are less likely to experience financial distress. The ratios that able to predict the status of financial distress in both sectors are different. However, there are insufficient proofs to support that liquidity ratio and leverage ratio have the ability to predict corporate financial distress. Since the findings in this field are inconsistent, there is a need to continue the efforts in investigating and developing the financial distress prediction model that can suit to a particular industry, especially in Malaysia context.

ABSTRAK

Keadaan ekonomi yang berubah-ubah merupakan satu cabaran kepada kewujudan sesebuah syarikat. Syarikat yang mengalami kesulitan kewangan terpaksa menampung kos yang tinggi dan kebarangkalian mengalami bankrap adalah tinggi. Beberapa nisbah kewangan boleh didapati daripada laporan kewangan tahunan syarikat. Walaubagaimanapun, bukan semua nisbah kewangan berupaya memberi amaran awal bahawa syarikat berkemungkinan menghadapi kesulitan kewangan. Tiga objektif dalam kajian ini adalah (1) menyelidik keupayaan set nisbah kewangan dalam meramalkan kesulitan kewangan, (2) mengenalpasti set nisbah kewangan yang dominan dalam peramalan kesulitan kewangan dan (3) membandingkan keupayaan set nisbah kewangan yang dominan dalam meramalkan kesulitan kewangan dalam sektor pembuatan dan pembinaan. Analisis regresi logit dijalankan untuk menguji hipotesis dalam kajian ini. Keputusan dalam kajian ini mencadangkan bahawa syarikat yang mempunyai pendapatan per saham dan pulangan aset yang tinggi mempunyai kebarangkalian yang rendah dalam mengalami kesulitan kewangan. Kajian ini juga mendapati nisbah kewangan yang berupaya meramal status kesulitan kewangan di kedua-dua sektor adalah berlainan. Tidak terdapat bukti yang mencukupi untuk menyokong hipotesis bahawa nisbah kecairan dan nisbah kekuatan mampu meramalkan kesulitan kewangan syarikat. Oleh kerana hasil kajian dalam bidang penyelidikan ini adalah tidak konsisten, usaha harus diteruskan dalam menyelidik dan membentuk model peramalan kesulitan kewangan yang dapat diaplikasikan dalam industri yang berbeza-beza terutama dalam konteks Malaysia.

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CHAPTER 1

INTRODUCTION

1.1 Introduction

This chapter is intending to give the reader an understanding on the corporate finance and the significant of corporate financial status of a company to its shareholders, potential investors and customers. The roles play by financial ratios in predicting the company's financial status is discussed. At the end of this chapter, the researcher wishes to draw the readers' attention towards the significant and the objectives of this study.

1.2 Corporate Finance

In the current changing economic, the ability to manage the company efficiently becomes the most challenging tasks for the managers of the companies. In order to monitor the company in a systematic way and ensure the company is making profit over the time, the managers or the directors of the firms are concern on establishing the unique corporate strategies to differentiate their firms with other competitors. On top of these strategies, financial strategy is the most crucial part as the survival of a firm depends on the company's financial condition.

A company with stable and strong financial position will likely to outperform the other competitors since they have enough cash flow to backup all the activities of the firms. A company that has no financial strategy is having a strategy for failure and they are more likely to become financial distressed company. There is no guarantee for business success but creating corporate financial strategy gives a clear guideline and directions to the managers and shareholders. Thus, corporate finance is critical to all firms regardless of the size of the firms.

1.3 Financial Statement

Financial statements reflect the transaction and other events that have affected the company. The objective of financial statement analysis is to use historical accounting data to help in predicting how well the firm will perform in the future. The directors and managers of the company would be interested in the company's overall financial strength, its growth potential, and the financial effects of the company's pending decisions. Besides the directors and managers, a firm's financial status is one of the most crucial element concerns by the shareholders, investors and public. Shareholders and investors would be interested on the company's ability to pay back the loan and its future profit potential. Potential customers would want to know the ability of the company to carry out its operations effectively.

In order to come out with the company's annual financial accounts, the directors and shareholders have the responsibility to understand the company's financial status, the inflow and outflow of the cash, the income generated and every other details of the running of the company. Basically, financial reports are presented in the form of company balance sheet, income statement, operating cost and financial ratios table. A firm's annual financial report or annual audited report gives the management a clear insight about the status of the firm and their performance within the year. These clues are important to the top management who are responsible to make decision.

1.4 The Predictability of Financial Ratios

As agreed by many practitioners and academicians, financial ratios analysis is an excellent way of looking into a firm's financial status. Financial ratios are often used by the management to evaluate company performance (Wang and Lee, 2007) and to assess the ability of a firm to pay its debts (Abdullah and Ismail, 2008). The financial ratios imply the financial and operational quality of a company to the directors and managers. Therefore they can avoid certain operational and financial loss. As such, the ability to read, understand and interpret financial statement is crucial to the managers and directors. The managers and directors used the company financial report to formulate business strategy and to evaluate company's performance.

One of the useful and informative roles of financial ratios is predicting financial distress. Many studies have been carried out to prove this from various points of view. Financial distress has been defined in many ways, in which, in general it refers to a situation whereby a firm's financial position is not healthy. It is widely recognized that one of the cause of financial failure is poor management. A company will face with financial failure if the managers and directors of the firm unable to manage the company in an efficient way whereby they cannot control the expenses of the company. Due to the inability of the managers and directors, financially distressed firms are more likely to have regular changes in the Board of Directors. Many researchers have agreed that corporate failure is not only influence by financial variables but also macroeconomic and microeconomic variables such as recession. The financial distress models are being used to guide management and investment decisions and are very useful to assist the companies to avoid financial distress.

1.5 Significant of the Study

The predictability of financial ratios on corporate financial distress is crucial to the managers, shareholders and investors because they are using the financial analysis to make important decisions and thus help to identify the financial distress cost if any. If the managers or shareholders failed to notice the financial distress problem within the firm, they may loss their valued customers and suppliers. Further, their key employees will feel stress in work and leave the company. In this connection, company failed to run its daily operation smoothly and loss its market shares to its healthy competitors.

The study aims to provide a reference to the managers and shareholders to avoid from the unnecessary problems such as financial penalties and losing time for negotiating the debt repayment. Managers and Directors of the company shall have sufficient understanding in reading and interpreting the company's financial reports. The failure or misinterpretation of the financial ratios may lead to inefficiency in financial management. As the consequence, company may face with several serious internal and external problems that risk the company to winding up. Besides, the misinterpretation of the financial reports may cause the managers or directors face with criminal charges. Therefore, it is necessary and significant for the managers to understand the financial ratios analysis and act accordingly before the company is consider as financially distress.

Financial ratios are used by most of the company in performance evaluation and decision making process. Based on the data available in the financial statement, there are many ratios available. However, companies in different sectors and industries are having different business environment and nature of operation might have different set of focused ratios. For instance, companies in banking sector might have to demonstrate a stronger ratio in liquidity aspect as compared to those in manufacturing sector in which turnover ratios is more prevalent. Therefore, it is essential for the managers, shareholders and investors to identify the more reliable financial ratios on predicting company financial distress before too late. It is widely recognized that a main cause of financial failure is poor management, and that business operation efficiency is a good reflection of a firm's management (Xu and Wang, 2009).

How to predict financial distress is an important problem in corporate financial management. Therefore, financial distress predictable models which only include the reliable financial ratios that can predict financial distress are needed in helping the managers and shareholders in discovering the early sign of financial distress. Many studies in this field had been conducted since the first study by Altman in 1968. However, the study in this field will never stop with the findings on some significant financial ratios and non financial ratios that can predict corporate financial distress. The changing economic environment might affect the significant of the financial ratios. It is agreed that different sectors have different prediction model that suit with their different business environment.

1.6 Research Problem Statements

As mentioned by Sun and Li (2007), with the gradually perfection of stock market mechanisms and bankruptcy laws, financial distress not only makes the company suffer great economic loss but also directly affect its survival and growth. Therefore, an effective way to predict financial distress is crucial in assisting and facilitating the management of the company to act immediately before the financial problems are getting worse and it is too late to take remedial action. Although there were many attempts to promote various methodological approaches to predict financial distress, the usefulness of financial ratio has been acknowledged by many. As mentioned by Ugurlu and Aksoy (2006), the early researchers were focused on the comparison of the values of financial ratios in failed and non-failed firms. Their findings supported that the ratios of the failed firms were poorer compared to healthy firms. There were many studies being constructed on finding the significant financial ratios in financial distress prediction model until today.

Financial distress is used to indicate a condition where the firms are facing the inability to repay the money to creditors. Sometimes financial distress can lead to bankruptcy. Baldwin and Scott (1983) argue that when a firm's business deteriorates to the point where it cannot meet its financial obligations, the firm is said to have entered the state of financial distress. The first signals of distress are usually violations of debt covenants coupled with the omission or reduction of dividends. Whitaker in 1999 argued that the first year in which cash flows are less than current maturities' long term debt show that the firm is entering into financial distress. Therefore, the key indicator in identifying firms in financial distress is their inability to meet contractual debt obligations. As suggested by Wruck (1990), firms enter financial distress as the result of economic distress, declines in their performance and poor management.

Urgulu and Aksoy in 2006 found that the financial distressed firms are relatively larger in size and use higher leverage than the non-distress firms. Elloumi and Gueyle (2001) argue that it is assumed that financially distress firms would more likely to have boards of directors containing fewer outsiders since high insiders representation on the boards is associated with lower board involvement in strategic decision making. Some of the researchers defined firms that have experienced long run negative earnings per share are considered as financially distress. Being interested in the predictability of the financial ratios in corporate financial distress, the following problem statements are arising in this study:

(1) To what extent do the financial ratios in helping the managers in corporate management, especially in predicting corporate financial distress?

(2) Which financial ratios that the managers must focused to avoid corporate from facing financial distress?

(3) Does the sector of consumer products and construction have the same indicators in predicting financial distress?

1.7 Research Objectives

Therefore, to answer on the above research problem statements, the objectives if this study is as below:

(1) To investigate the ability of a set of financial ratios in predicting corporate financial distress

(2) To identify a set of dominance financial ratios in predicting corporate financial distress

(3) To compare the ability of a set of dominance financial ratios in predicting corporate financial distress between consumer products and construction sector.

1.8 Conclusion

A company must have financial strategies that can guide and give directions to the managers and directors in formulating the company's daily operation. Financial statements provide useful information. Managers and directors must have the ability to analyse and interpret the financial statement based on their industry benchmarks. It was agreed that financial ratios and non financial indicators can predict corporate financial distressed. However, there are limited cases in finding the reliable financial ratios that can predict corporate financial distress in Malaysia. Although previous studies have suggested a number of financial distressed prediction models, they are unequivocal in many aspects. Thus, future research in this field in Malaysia environment is required.

CHAPTER 2

LITERATURE REVIEW

2.1 Introduction

This chapter highlights the results and findings of the previous study that related to the predictability of financial ratios in corporate financial distress. Previous study had included the financial ratios and non financial ratios in predicting corporate financial distress and the results generated are inconsistent. Besides, the character of financially distressed firms and the suitable methodology in prediction model had become an interested topic being discussed in previous study. Therefore, after observing and review on previous study, this chapter able to contribute on the research design in this study.

2.2 Financial Distress

The ability to anticipate financial distress and corporate bankruptcy is considered necessary to the users of financial statements especially to those who use them in their planning process such as the managers, investors, creditors and auditors (Wan Ismail, Raja Ahmad, Kamarudin and Yahaya, 2005). Researchers had put their interest in predicting the financial distress model to guide the policy makers and managers to take corrective measures and possible failure prevention in the firms.

According to Ugurlu and Aksoy (2006), the prediction of financial distress had been a field of study by many researchers during the last 70 years. Most of the corporate failures have occurred after the economic crisis which implies that economic downturns and the industry characteristics seem to emphasize the impact of incorrect policies adopted by the corporations. Ko and Lin (2006) agreed that corporate financial distress forecasting plays an increasing important role because the radical changes in the global economy. It helps the professionals and the public to make a more precise decision in the current intense commercial competition environment.

The industry benchmarks are varying for different sectors. Smith and Liou (2007) had identified some sub-sectors whose inclusion would make traditional models vulnerable to errors. Financial distress not only makes the company suffer great economic loss but also directly affect its survival and development (Sun and Li, 2008a). Financial distress is a situation where a firm's operating cash flow are not sufficient to satisfy current obligations and the firm is forced to take corrective action (Ross, Westerfield and Jaffe, 2005). Thus, it is crucial to study on the financial distress predictors models that applicable to vary industry sectors. Distress can be due to external factors, internal factors, or a combination of both (Smith and Graves, 2005). Financial distress early warning system can play an important role in preventing companies from running into bankruptcy (Sun and Li, 2009b).

2.3 Financial Ratios in predicting Corporate Financial Distress

Financial ratios are commonly used as evaluation criteria in order to evaluate the financial performance of the company and the financial ratios variables remain the primary variables for predicting corporate financial distress (Lieu, Lin and Yu, 2008). However, some financial ratios have quite similar patterns and therefore it would be inefficient to take all financial ratios into consideration for evaluation (Wang and Lee, 2008). Accounting ratios are widely used for many purposes. Abdullah and Ismail (2008) in their paper stated that accounting ratios are used to assess the ability of a firm to pay its debts, and to evaluate a business and its managerial success.

As mentioned by previous researchers, the information from ratio analysis can be used to forecast the efficiency and profitability of a company. Besides, ratios analysis is often used by the management to determine their financial position and to avoid business failures. Whittington (1980) classified accounting ratios into normative and positive uses. From the normative point of view, a firm's accounting ratio is typically compared with its industry benchmark. While under the positive accounting theory, an accounting ratio is used in estimating empirical relationship for predictive purposes.

The early researchers had focused on the comparison of the values of financial ratios in failed and non-failed firms. They intend to find the crucial financial ratios that can best predicting a firm's financial distress and guide the managers and shareholders in avoiding corporate financial distress before too late. Financial ratios are used to discriminate failing and non-failing firms and the previous researchers found that the failing firms exhibit significantly different ratio measurement that continuing entities (Urgulu and Aksoy, 2006). Financial variables proxy for the ability to pay, profitability, asset utilization, growth and cash flow (Wang and Li, 2007).

Over the years, there are many different financial ratios that found to be the indicators for financial distress. Abdullah and Ismail (2008) in their paper indicated since there are no standardization of disclosure practice, companies attached different ratios in their published statements. They found that investment ratios are the most common types of ratios disclosure in the annual financial statement of the listed companies, followed by profitability and efficiency ratios. As agreed by Appiah and Abor (2009), the ratios and its dimensions used to distinguish between failed and non-failed firms and predict corporate health were useful but could also be misleading in the midst of creative accounting.

Ganesalingam and Kumar (2001) in their study found three financial ratios that could be used as operational representative for future decision making process, namely liquidity ratio, debt ratio and profitability ratio. Wan Ismail *et al.* (2005) identified five ratios that are significant to predict the corporate failures, including natural logarithm of total assets, current ratios, retain earnings over total assets, earnings before interest and taxes over standard deviation of three years, and book value of equity over total liabilities. Ugurlu and Aksoy (2006) found that financial ratios have a superior discriminating power where profitability, liquidity and solvency ratios are major predictors in corporate failure, which are similar to the findings of Ganesalingam and Kumar in year 2001.

In 2007, Wang and Li found seven financial ratios that can predict financial distress, that are growth rate per share of equity, net return on assets, earnings per shares, interest coverage, net profit margin, retain earnings ratios and total assets turnover. Lieu, Lin and Yu (2008) in their study concluded that financial structure, solvency, profitability, and cash flow indicators are the principal financial ratios variables in predicting financial distress. Altman (1968) identified five financial ratios that are important as bankruptcy predictors, the ratios are working capital/ total assets, retained earnings/ total assets, earnings before interest and taxes/ total assets, market value of equity/ book value of total debts, and sales/ total debts. According to Appiah and Abor (2009), the net profit margin is superior to the gross profit margin to discriminating between failed and non-failed firms. Wu, Liang and Yang (2008) had identify significant financial ratios in constructing their models based on previous study, the ratios chosen are profitability ratio, debt asset ratio, inventory ratio, receivable ratio, total assets turnover, earnings index and cash flow index.

On the other hand, Wan Ismail *et al.*, (2005) suggested six ratios that cannot differentiate between financially distress firms and healthy firms, that are earnings before interest and taxes over total assets, sales over total cost, earnings before interest and taxes over total sales, net income over sales, natural logarithm of ratios of sales over total assets, and working capital over long term liabilities. Wan Ismail *et al.* explained that their result will have several beneficial applications, particularly in Malaysian environment.

Financial ratios variables were the main one at one and two years prior to distress, while three years prior to distress there was one financial ratio variable and two ownership structure variables that showed significant differences (Lieu, Lin and Yu, 2008). Ugurlu and Aksoy (2006) suggested that financial ratios could be useful in the prediction of failure for at least five years prior to failure. An advantage of using financial ratios in prediction model is that they surrogate for important attributes of a firm's financial condition such as liquidity, solvency and profitability (Sriram, 2008).

Although ratios can be a powerful tool in analyzing companies, they must be used with caution, particularly in making comparison among companies across countries because there are differences in accounting methods and estimates made by companies. The findings of previous study are differing because different context are used in the study. Besides, the different benchmarks for vary sectors had resulted in differences in the significant financial ratios that used to predict financial distress. Sriram (2008) found that the variables that were significant in signaling financial health one year prior to bankruptcy using Altman's model for traditional firms are working capital ratio, retain earnings ratio and earnings ratio. While only the working capital and earnings ratios were significant for service firms, for two years and one year prior to actual failure.

2.4 Non Financial Indicators in Predicting Corporate Financial Distress

Researchers had put effort on studying the applicable of non-financial ratios in predicting corporate financial distress. Corporate failure is not only influence by financial variables but also macroeconomic and microeconomic variables such as recession and corporate structure. Elloumi and Gueyle (2001) in their paper found that board composition does contribute to explain financial distress beyond financial indicators. They concluded that outside director's ownership and directorship affect the likelihood of financial distress and CEO turnover able to distinct between financially distressed firms and healthy firms. A firm's financial distress is associated with board composition changes whereby boards shift to higher numbers of directors who are creditors block holders subsequent to the onset of financial distress (Gilson, 1990). Wang and Li (2007) defined non financial variables as those depict corporate governance characteristics, as well as ownership reformation of corporations.

A research in Malaysia context was carried out by Abdullah in year 2006. The study investigated the Malaysian Listed Companies and seeks to examine the influence of board independence, CEO duality and ownership structures on the firm financial distress status. Abdullah (2006) found that board independence and CEO duality are not associated with financial distress status. This findings are contradicts that of Elloumi and Gueyle (2001). On the other hand, Abdullah (2006) found a result that consistent with the findings of Elloumi and Gueyle (2001) which suggested that management and non-executive directors' interests are associated negatively with financial distress. The expected return to the shareholders is another factor that used as operational representative for managers for future decision making process (Ganesalingam and Kumar, 2001). In 2007, Wang and Li found two non financial variables that can predict financial distress, that are ownership concentration coefficient and pledge.

2.5 Characteristic of Financially Distressed Firms

Researchers had been discussed about the characteristic of distressed firms some thirty years ago. As cited in Elloumi and Gueyle's paper in year 2001, Baldwin and Scott (1983) stated that the firm is said to have entered the state of financial distress when the firm cannot meets its financial obligations. The first signals of distress are usually violations of debt covenants coupled with the omission or reduction of dividends. Whitaker (1999) defines entry into financial distress as the first year in which cash flows are less than current maturities' long term debt. Wu, Liang and Yang (2008) defined financial distress of an organization as a condition where obligations are not met, or are met with difficulty.

A firm's financial distress is associated with board composition changes (Gilson, 1990). Wruck (1990) argues that firms enter financial distress as the result of economic distress, declines in their performance and poor management. While Elloumi and Gueyle (2001) stated that firms that have experienced negative earnings per share during the five years are considered financially distressed. Besides, Elloumi and Gueyle (2001) assumed that financially distressed firms would more likely have boards of directors containing fewer outsiders and they found that financial distressed firms show higher leverage and lower level of liquidity. Claessens, Djankov and Klapper (2003) in their study defined firms that having an interest coverage ratio of less than one as financially distressed firms. Interest coverage ratio is the ratio of interest expenses to earnings.

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