

**ACCOUNTING RATIOS AND PREDICTION  
OF COMPANIES FAILURE –  
TRADING AND SERVICE INDUSTRY**



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Puan/Cik,

**TAJUK PROJEK:**

**Accounting Ratios and Prediction of Companies Failure – Trading and Services Industry**

Dengan hormatnya perkara tersebut di atas dirujuk.

Sukacita dimaklumkan bahawa Mesyuarat Jawatankuasa Penyelidikan dan Perundingan UiTM Kampus Alor Gajah, Melaka pada 23hb Disember 2002 telah membuat keputusan:

- I. Bersetuju meluluskan cadangan penyelidikan yang dikemukakan oleh puan dan Pn. Zarinah Abdul Rasit dan Pn. Anita Jamil
- II. Tempoh projek penyelidikan ini ialah 12 bulan, iaitu mulai **1hb Januari 2003** hingga **31hb Disember 2003**.
- III. Kos yang diluluskan ialah sebanyak **RM6,950.00** sahaja.
- IV. Penggunaan geran yang diluluskan hanya akan diproses setelah perjanjian ditandatangani.
- V. Semua pembelian peralatan yang kosnya melebihi **RM500.00** satu item perlu menggunakan Pesanan Jabatan Universiti Teknologi MARA (LO). Pihak puan juga dikehendaki mematuhi peraturan penerimaan peralatan.
- VI. Kertaskerja boleh dibentangkan dalam seminar setelah **75% deraf awal laporan akhir** projek dihantar ke Unit Penyelidikan dan Perundingan untuk semakan. Walau bagaimanapun, puan perlu membuat permohonan kepada UPP.
- VII. Pihak puan dikehendaki mengemukakan **Laporan Kemajuan Projek** penyelidikan ini bagi tempoh Jan 2003 sehingga Julai 2003. **Laporan akhir** perlu dihantar sebaik

sahaja projek penyelidikan disediakan. Format laporan akhir boleh diperolehi di Unit Penyelidikan dan Perundingan.

Bersama-sama ini disertakan tiga salinan perjanjian untuk ditandatangani oleh pihak puan. Sila penuhkan perjanjian berkenaan dengan menggunakan pen berdakwa hitam dan kembalikan ke pejabat Unit Penyelidikan dan Perundingan untuk tindakan selanjutnya.

Sekian, terima kasih.

**“SELAMAT MENJALANKAN PENYELIDIKAN”**

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PREDICTION OF COMPANIES FAILURE – TRADING AND SERVICE  
INDUSTRY”**

Merujuk kepada perkara di atas, bersama-sama ini disertakan 3 (tiga) naskah Laporan Akhir Penyelidikan bertajuk “ACCOUNTING RATIOS AND PREDICTION OF COMPANIES FAILURE – TRADING AND SERVICE INDUSTRY”.

Sekian, terima kasih.

Yang benar,

  
.....  
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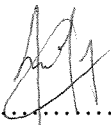
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## ABSTRACT

*This study examines the use of accounting ratios as a prediction of company's failure in trading and services industry on the Main Board of Bursa Malaysia. The accounting ratios were calculated based on the information disclosed in the financial statements of the companies that were listed from 1991 to 2000. The study identifies the relationship between accounting ratios and companies failure. Four accounting ratios were selected and constructed. Each ratio represents the major categories namely liquidity, profitability, gearing and earning per share (EPS).*

*The relevant data were obtained through analysis of annual reports in the Bursa Malaysia library. Further, the study attempts to find out which ratio was the best predictors to predict the company's failure and do the ratios provide information in decision-making process. The findings reveal that all the selected ratios were significant at  $P < 0.01$  and  $P < 0.05$ . Thus, it can be concluded that all the four ratios that been selected were able to predict whether the company is success or failure. The results show that Liquidity ratio (Current ratio) and EPS tend to be the most powerful tool in measuring the performance of trading and service industry. In summary, this study concludes that all the four ratios in the study could be used as predictors for corporate solvency.*

## **CHAPTER ONE**

### **1.0 INTRODUCTION**

Malaysia is one of the developing countries in the world. It can be seen through the booming of its capital market in the early 90's. One of the factors that contributed to these situations was the trading activity in Malaysia. As a trading nation, Malaysia contribution to the export revenues of the GDP was about 14.7%. Employment in this sector was contributed by Agriculture (15.8%), Manufacturing (27.1%) and Service sector (19%).

However, some of the companies may not be stable through out the years. Due to the economic slow down melting economic growth, a number of companies have gone into bankrupt and from ceased its operation. Zulkarnain et. Al. (2001), reported that 91 public listed firms were identified as failures in 2001. This uneasy situation do not occurs on the spot. It may show some indicator or symptom. Since the shareholders cannot identify these signals, there should be an indicator to measure the uneasy trend. For this reason, ratio analysis should be used to enable the shareholder to make diagnosis.

The Malaysian economy has rebounded strongly in 2000 after recovering from the sharp output decline in 1998 and early 1999 following the financial crisis. The introduction of selective capital controls and pegging of the Ringgit have made the stable economic environment possible. Real Gross Domestic Product (GDP) registered a growth of 7.5% in 2000 and is forecast at 7% in 2001.

Growth is expected to remain broad-based with all sectors anticipated to register positive growths. The growth is to be emanated mainly from the stronger expansion of the manufacturing and services sectors. These sectors are also expected to continue to employ the highest number of registered workers in the country. Manufacturing sector is projected to continue to register growth of 12% to retain its position as leading sector in the economy.

The construction sector is envisaged to expand more strongly at 5.5% given the anticipated higher private sector investment in privatized infrastructure projects and social amenities. Growth in the agriculture sector is projected at 1.8% on account of higher production from palm oil and rubber, while growth of the mining sector is projected at 1.7% due to higher gas output.

Driven by the higher level of economic activities, the service sector is projected to register growth of 5.2% supported mainly by sustained growth in the transport, storage, communication, finance, insurance, real estate and business services sub sectors. The share of sector output to real GDP is as follows:

<b>Sectors</b>	<b>Share to real GDP</b>	
	<b>2000</b>	<b>2001</b>
Agriculture, livestock, forestry and fishing sector	8.8%	8.3%
Mining	6.8%	6.4%
Manufacturing	32.6%	34.1%
Construction	3.4%	3.4%
Services	53%	52.1%

Despite the strong indications that sustainable growth is achievable, some downside risks exist. These risk include the possibility of larger than anticipated slowing down of US economy, which affecting electronics sector, unexpected slower private consumption and lower private investment, both domestic and foreign.

The underlying risk in the economy may affect certain company; there is a possibility that the growth of the companies in the above-mentioned sectors may not be stable through the years. Companies that has been failed to survive in dealing with the economic impact, finally may have to cease its operation or even worst of declaring bankrupt. Since 1990 to 2000 few companies have to cease its operation.

The problem facing by the bankers are to views bank credit evaluation. What is the best method to evaluate company performance? There is no proper indicator of “health” of the company performance. It is difficult for them to bridge loan requested by the company. Investors also are having problem in deciding whether to buy or take over the company. The investors must make sure that the companies have a potential growth in the future. The question of how to determine the potential growth of the company will be answer if there is some method that can predict the company’s growth or failure.

This uneasy situation does not occur on the spot, the companies’ financial difficulties to struggle to survive may happen in stages before they decide to withdraw from the market. There are certain symptom or indicator in measuring the possibility of companies’ failure that can help the shareholders in their decision-making. For this reason, ratio analysis could be the tool or measurement for the shareholders to make earlier stage diagnosis.

## **1.1 BACKGROUND OF THE PROBLEM**

Failure is defined as the inability to pay financial obligations as they mature. The company failure will be determine from the study conducted by William H. Beaver in 1966. The behavior of the failed firms will generate lower sales. They have poorer cash flow and net income positions and they incur more debt. The ratio that can determine the failure company is solvency ratios. Failure companies also can determine by law under Bankruptcy Act 1967. Base on the

Malaysian Bankruptcy Act 1967 section 3, 33 and 36 (definition and criteria) states failure companies are companies that are unable to meet its debt.

Accounting procedures provide many indicators that can be used by the management in predicting companies' performance such as share prices, profit figures, sales revenue etc. Nevertheless, Letza and Wood (1992) identified the classic symptom shown by majority of failed business. For example low profitability, high gearing and low liquidity that often referred as "The Bermuda Triangle". The path normally begins with company experiencing low profitability. Once there are problems with profitability, the company may start borrowing money; the higher the proportion of borrowing in relation to asset, the higher is the gearing level. Company at this stage can make profit, but the income is barely sufficient to cover interest repayments.

This is to be followed by cash flow crisis and liquidity is in a desperate state. At this point company can no longer take up loan and enters the final stage of failure. There are factors that contributed to companies' failure i.e. the foreign exchange rate effect, economic stability as well as the inflationary effect on the economy. Besides the fore mentioned indicators, accounting ratios are used to measures company failures.



Ratio is a mathematical explanation of relation between 2 items. It is a comparison of two figures. It can be easily explained by stating the quotation as one or by percentage or by times. To make a ratio meaningful the both figures used must have a logical or cause and affect relationship. Ratio can be very useful to evaluate the relative performance of company, gives signal to the management about the business performance, provide a mean of understanding a business's operation and interpreting business account and also can assist in forecasting for planning and making policies.

According to Letza and Wood (1992) all these symptoms can be measured in terms of analysis profitability ratio, liquidity ratio and turnover ratio. Based on these ratios, they can further classified into a few other ratio according to their functions. Whittington (1980) identified 2 principal uses of financial ratios. The traditional, normative use of the measurement of a firm's ratio compared with a standard and the positive use in estimating empirical relationships usually for predictive purposes.

Accounting ratio is a technique used to evaluate the performance of a company. Accounting ratio is one number expressed in terms of another. It is often of considerable aid to the users of financial statements. Types of ratios that will be used are Liquidity ratios, Profitability ratios and Gearing ratios.

The ratios under Liquidity ratios including Quick Assets Ratio, Stock Turnover Ratio, Debtors turnover ratio and Creditors Turnover ratio. Profitability ratios consists of Return on Capital Employed, Gross Profit Ratio, Net profit ratio, Expense ratio, Asset turnover ratio, Earning per share (EPS) and Price/Earnings ratio (P/E ratio). Gearing ratios comprises of Capital Gearing, Debt/equity ratio and Interest Times Covered.

As discuss earlier, there are many indicators that can be used by the management in predicting the company's performance. Based on the studies conducted by researchers, the financial ratios are considered to be useful for predicting the financial difficulties of the companies.(Horrigan,1965; Mc Donald,1984; Letza and Wood,1992). Therefore, this study will select the financial or accounting ratios as a measurement of the company's performance.

Ratios can be divided into five categories namely profitability, gearing, liquidity, asset turnover and return on investment. However, this study will focus on the three major ratios. They are gearing, liquidity and profitability. This is inconsistent with many studies that been conducted by the researchers.(Fitzpatrick,1932; Merwins, 1942).The recent study conducted by Letza and Wood (1992) found that among others these are the most powerful tools to measure the companies performance, whether the company is fail or not.

## 1.2 RESEARCH QUESTIONS

Based on the studies conducted overseas, ratio analysis is the best indicators to predict the company's failure. This is because; the empirical studies have proved that the ratio analysis can be used for such purposes (Mc Donald, 1984). However, in Malaysia there was few studies have used accounting ratios to predict the companies' failures. Perhaps, the use of financial ratios would enable us to answer the questions on the relationship between financial ratios and company failure. Or perhaps there is any symptoms showing the company is going to fail. Maybe the use of specified financial ratios could give the best indicator to predict the company failure and whether financial ratio can provide information in decision-making process. Systematic investigation on the use of financial ratios would enables us to answer the following questions:

- 1.2.1 Is there any relationship between financial ratios and company failure?
- 1.2.2 Is there any symptom showing the company is going to fail?
- 1.2.3 Which financial ratio is the best indicator to predict the company failure?
- 1.2.4 Does financial ratio provides information in decision-making process?

### **1.3 RESEARCH OBJECTIVES**

The purpose of this study is to investigate the relationship between the financial ratios and the company failure. The objectives of this study can be summarized as follows:

- 1.3.1 To determine any relationship between financial ratios and company failure.
- 1.3.2 To identify which financial ratio provide the best indicator to predict the company failure.
- 1.3.3 To examine whether the financial ratio provide information in decision-making process.
- 1.3.4 To identify whether financial ratios can help the management in decision-making process.

The paper proceeds with a section outlining recent researchers on the accounting ratios and prediction of companies' failure. This is followed by the research design and methodology and the result from the findings. Lastly the conclusion made from the findings.

## **CHAPTER TWO**

### **2.0 LITERATURE REVIEW**

#### **2.1 INTRODUCTION**

Over the past two decades the issue of companies failures and insolvency prediction have received considerable attention by researchers especially in the industrial countries. This issue has been highlighted especially after the burst of financial crisis in late 1980s and 1990s. As a result of that Malaysian economy has been badly affected and many companies have been faced with the financial difficulties. Therefore this incident has encouraged investigation to develop a warning signal as to mitigate the incidence of corporate failure among Malaysian business firms.

There are many indicators that can be used by the management or researchers in predicting the company's performance. Based on the studies conducted by the researchers, the financial ratios are considered as to be very useful in predicting the financial difficulties of the companies. (Horrigan, 1965; Mc Donald, 1984; Letza and Wood, 1992).

Numerous studies have been conducted to measure the corporate failures. Altman (1968) was the first person that has successfully measure the insolvency companies by using the accounting ratios. His prediction model has been widely adopted by the researcher due to its accuracy and he been declared as the dean of insolvency.

In 1978, another study has been conducted by Springate in Canada, where he evaluated the company performance according to its size. The study revealed that accounting ratios could best distinguished between sound business and those that actually failed. The similar study has been conducted by Fulmer (1984) where he reported that the accounting ratios shows a 98% accuracy rate in classifying the companies one year prior to fail.

The issue of interest is not the reasons of why company fails but the ability to predict the companies' performance through the use of accounting ratios. Even though there are many other alternatives that can be used, previous literature have proved that accounting ratios is one of the most powerful tool to predict the companies' failure.

## **2.2 ACCOUNTING RATIOS**

Accounting ratios for predictive purposes have been use widely for all kinds of purposes. These involve the assessment of a business's past, present and also for future prospect. Whittington (1980) mentions an alternative use of ratios

that has become increasingly common in relation to both financial accounting and management accounting data. Assessment of the ability of a firm to pay its debts, the evaluation of business and managerial success and firms' performance are some of the purposes of accounting ratio use by the users. According to Barnes (1987), from the research he reviewed that accounting ratio are good indicators of a firm's financial and business performance. Therefore, the accounting ratios may be used to forecast future performance and characteristic.

Many researchers have use accounting ratios to predict business failure. Beaver (1966), Altman (1968), Winakor and Smith (1931), Fitzpatrick (1932) are example of researchers that has been testing statistical models that use accounting ratios to predict business failure.

The initial study on financial ratios and companies' failure has been conducted in the early 1930's. Winakor and Smith (1931) has studied a sample of 183 companies that were failed and non-failed. They concluded that the ratio of net working capital over total asset which is under gearing ratio provide the most accurate and steady indicator of failure.

Another research which is conducted by Fitzpatrick (1932) contributed with another powerful indicators. He concluded that profitability ratio and gearing ratio are the best predictors of companies' failure. This study has been supported by Melvin (1942) where he found that three ratios were very sensitive predictors

of discontinuance. These ratios are gearing ratio, profitability ratio and liquidity ratio. His study also has been regarded as the best study of the predictive power of the accounting ratios. (Horrigan, 1965).

This study is also inconsistent with a study conducted by Beaver (1968) where he has proved empirically that accounting ratios of profitability and gearing has some signals on the failure companies. Further beaver found that the non-liquid asset measure predicts failure better than the liquid asset. It also has been supported by Altman (1968) where he found out that ratios measuring profitability, liquidity and gearing prevailed as the most significant indicators.

Ratio is a mathematical explanation of relation between two items. In accounting, it is a comparison of two figures. A ratio is simply the relationship, normally stated as a percentage, between two financial statements amounts. They can be used as norm/benchmarks for the industry. These ratio are useful in determine the performance of the industry over a period of time. Apart from that, ratios can predict the future prospects of the company (Letza and Wood, 1992).

Ratios can be divided into five categories namely profitability, gearing (solvency), liquidity, asset turnover and return on investment. However, this study will focus on the three major ratios. The ratios that been selected were liquidity, profitability and gearing (solvency). This is inconsistent with the studies that conducted by many researchers (Fitzpatrick, 1932; Mervins, 1942; Horrigan,