Review of Financial Performance and Distress: A Case of Malaysian Construction Companies

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Abstract

Using financial ratios and altman z-score, this study reviews the performance of construction companies in Malaysia before, during and after the crisis. In addition to that, this study assesses and predicts the future performance of these companies. Based on data over a six-year period, the results have shown that the financial performance of the contractors in Hong Kong, as sampled in this study have been deteriorating very fast in the past few years. The results of all financial ratios, together with the prevailing situation of over competition, inelasticity of construction costs and reduced aggregate demand in Malaysia has revealed the extreme difficulty of reversing the financial performance in the coming years.

Keywords: Construction, Malaysia, Altman-Z Distress Score, financial performance

1.0 Introduction

For many construction companies, the main objective or their mission is to continually improve their service's quality to fulfil customer satisfaction. As customer needs and expectations intensify, construction companies strive to build or construct highest quality with minimal cost. This move helps the construction companies to get projects which are crucial in order to sustain their market share or survive. However, it is difficult to sustain a healthy development in the construction industry. The main grave concern is focused on the low and unreliable rate of profitability of the construction industry (Egan, 1998). According to Schellekens (2009), the construction industry has become very complicated such that political and economic trends are increasing the economic pressure. Also, Egan (1998) found that there are many factors that may adversely impact the construction companies in Malaysia in terms of production.

Construction sector continues to be an essential sector in the Malaysian economy, where it lends strength and capability to a host of economic sectors, whilst supporting the social development of the country through the provision of basic infrastructure (Phillip, 2009). He also highlighted that various influencing factors, however, have together presented sizeable challenges to the Malaysian construction industry, especially in the enhancement of productivity on the low and unreliable rate of profitability of the construction industry. The construction sector will continue to play its role as an important element in the national economy, through the strengthening and enabling of the other sectors, while supporting social development and meeting the needs of basic infrastructure requirements (Che-Mat, 2006). There are a few influential factors, in particular, productivity and quality-related factors that have posed significant challenges to the development of the construction industry (ibid.).

The construction industry has remained a very fragmented industry where different activities in the entire value chain of the construction processes are being undertaken by different parties, often undertaken in isolation, thus resulting in inefficiencies (Chan, Tam and Cheung, 2005). In particular, the segregation of design and construction activities which is widely practiced does not encourage consideration for factors like savings in labour utilisation, ease of maintenance, construction safety and the practicality of construction methods (Egan, 1998). As a result of the lack of such integration considerations in the industry, traditional construction processes tend to incur additional costs from rework that normally arise from quality issues, disputes and longer buildings times. It is obvious that such a scenario does not promote efficiency and high standards of quality in construction works, (Egan, 1998).

Due to the problem of escalating costs mentioned earlier, construction companies are therefore striving to reduce and control their cost related activities. These days, all executives in construction companies including project managers, construction manager, or even top management are expected to study, evaluate and analyze the performance of the companies in view of the current issues, business environment and the characteristics of construction industry. This enables the companies to formulate new strategies for their own business survival in the coming years.

The idea of this study was initiated following the sub-prime (raw material) crisis which happened in 2006. The crisis has terrible impact on the manufacture industry and construction industry. The slowdown in the world economy as a result of the financial crisis that began in the US had a terrible impact on the construction industry. The World Economic Outlook Report published by the International Monetary Fund (IMF) in 2008 pronounced that the world economy is entering a major slowdown with global growth projected to slow substantially to 3.9% in 2008 and 3% in 2009 (2007: 5% growth). Global growth prospect was further revised downwards on 6 November 2008 by the IMF to 3.7% in 2008 and 2.2% in

2009 due to falling producer and consumer confidence as a result of the continued financial sector de-leveraging.

Issues have surfaced and great concern has been expressed in the recent years regarding the increasing of material cost, wages, quality culture and political issues in the local construction industry and this has resulted in extensive high costs and time consuming. Nevertheless, the local coincident such as economic and politics has thoroughly impact to the construction industry over the year of 2004 to 2008, which made a lot of developments defer, stop work and abundant. In order to compete in global market and overcome future crisis, it is important for local contractor to review their financial performance. The purpose of this research is therefore to provide an overview of financial performance of selected construction companies by predicting their financial distress over the accounting ratios and distress scoring. In order to formulate a series of new strategies for their business survival in the coming years, this research provides a useful insight for construction companies to understand and be aware of their respective financial performance.

Based on problems identified in this paper, two questions were developed in order to direct the purpose of this research which are (i) How do the construction companies perform before, during and after the crisis and (ii) What does the future hold for construction companies in terms of financial health? The main objective of this research paper is to firstly to review their financial performance and secondly predict their financial distress using relevant accounting ratios. Distress scoring is used to measure the financial health of a company. The method distinguishes between failed and non-failed companies. This score serves as an indicator for companies which will enable them to formulate new strategies to ensure their business survival in the coming years.

In lieu with the sub-prime (raw material) crisis which happened in year 2006, escalating fuel costs, the weakening of US dollar and volatile commodity prices, all exerted downward pressure in year 2007 and global economic slowdown in year 2008. There is therefore a need to understand and review the past financial performance of the local construction companies. This study focuses on the analysis of the financial performance for the selected listed construction companies in BURSA. Specifically the study examines and predicts the level of failure of construction companies selected using Altman Z score – "distress score".

The following section will discuss the background of the study including the macro and micro economics mechanism that have impacted to the construction industry.

1.1 Review of the Global Construction Industry

As mentioned by Shirai (2009), the world economy is currently suffering a global financial and economic crisis that has become severe since the second half of 2008. This global financial situation was triggered by the advent of the subprime mortgage crisis in the United States that became apparent in mid-2007. Europe was the first area affected, thereafter its contagion spread to the rest of the world. East Asia was not spared from the financial turmoil.

The nature of the current global financial crisis is unprecedented in terms of the scale of the problems in the financial sector (particularly in the United States and Europe), the depth and speed of the worldwide contagion (through financial sector linkages as well as trade linkages), and the severity of the recession (particularly in emerging market economies, small countries, and East Asia).

The subprime mortgage crisis in the United States is far more complicated, for several reasons, than any series of crises in the past (e.g., the Great Depression of 1929-1930s, the Savings and Loan crisis in the United States in the 1980s-90s, the Long Term Capital

Management crisis in the United States in 1998, and the bursting of the IT bubble of 2000-01). The subprime mortgage crisis first erupted in the United States before spreading to Europe (Shirai, 2009). Abdul-Rashid et al. (2008) claimed that as in year 2007 was a challenging year for many Malaysian manufacturers as well as other sectors, others including technology and construction. Escalating fuel costs, a weakening US dollar and volatile commodity prices all exerted downward pressure on the overall credit quality of many sub-sectors of the domestic manufacturing and services industries Abdul-Rashid et al. (2008). In 2008, rising operating costs, the continued downward spiral of the greenback and a softer global economy are expected to exert some impact on the credit quality of corporate portfolio. Nonetheless, the authors reiterate that such challenges will not have a uniform effect on all rated issuers. Higher-rated corporate, by virtue of their strong business and financial fundamentals should generally be better poised to weather an economic downturn compared to their weaker-rated counterparts (ibid).

According to Kawai and Wignaraja (2009), the global crisis did not originate in Asia, and, indeed, the direct damage to the financial sector in Asia has been much less than in Europe and the US. Nevertheless, Asian economies have been hit hard by the sharp drop in demand in the developed economies and elsewhere. Most countries in the region are now showing double-digit declines in exports and construction sector. Abdul-Rashid *et al.* (2008) also mentioned that the rising operating costs, the continued downward spiral of the greenback and a softer global economy are expected to exert some impact on the construction industry as well. Higher-rated corporate, by virtue of their strong business and financial fundamentals should generally be better poised to weather an economic downturn compared to their weaker-rated counterparts. The same author also pointed that the US housing slump, which began in 2006, has been dragging its economy as a whole. Real GDP growth for the US is estimated at between 1.9% and 2.2% for 2007, and is expected to slow down markedly in 2008. There are alarming signs of trouble, with declining housing markets that had led to its lowest sales of new homes in 12 years (as of November 2007), the depreciating greenback, a higher unemployment rate of 5.0% in December 2007 (a 2-year high), loftier retail prices for oil and growing deficits in its trade balance and current account. Abdul-Rashid et al. (2008) added that the US current-account deficit is estimated at USD785 billion or 5.7% of its GDP; its trade deficit is estimated at USD754 billion as at end-November 2007.

2.0 Review of the Malaysian Construction Industry

This section provides the background of the construction industry in Malaysia by presenting the background information on the impact of construction on the overall economic growth and development of Malaysia before reviewing the financial performance of the industry as a whole.

2.1 Economic Growth And Development

Abdul-Rashid *et al.* (2008) mentioned that over the year of 2006 to 2008 were being a challenging year for Malaysia and the global economy, with the grim prospect of a decelerating American economy. While there is increasing likelihood of a US recession, robust external demand from emerging markets and the EU is expected to cushion the impact of the housing and sub-prime crises in the US, which have been dragging down its economy.

On the other hand, the importance of domestic demand and intra-regional trade to support the Malaysian economy in 2008 and beyond is thus a central theme. The anticipated pick-up in the pace of implementation of the Ninth Malaysia Plan projects and the 5 regional development corridors is also expected to prop up domestic demand and partially shield the economy from the anticipated global economic slowdown.

As discussed by Abdul-Rashid *et al.* (2008), the construction sector posted a slight recovery in 2007, with an average growth of 4.5% (Bank Negara Malaysia, 2008) for the first three quarters of the year that had been spurred by a gradual pick-up in infrastructure developments under the Ninth Malaysia Plan. The positive growth in 2007 compared favourably against the 0.5% contraction in 2006. The same authors Abdul-Rashid *et al.* (2008) also explained that the introduction of the automatic pricing mechanisms for steel and cement, coupled with the spiralling costs of commodities and persistently high oil prices, are expected to exert a negative impact on the margins of construction players that are unable to pass on their heftier expenditure via cost-fluctuation clauses, or to absorb these via broader margins on closed-tender or negotiated contracts. They went to highlight that the ongoing construction and real-estate booms in the GCC and Singapore as well as the emerging economies of Vietnam, Cambodia and India have also led to a brain drain vis-à-vis skilled Malaysian workers; this has in turn led to keener competition for skilled labour, which will drive up manpower costs in the near term.

2.2 Reviewing Financial Performance

2.2.1 Financial Performance

Financial Performance is used to track and review an organization's progress against its strategic plan and specific performance goals. While financial performance measures is important to drive a company or to individual projects to ensure that deadlines are met and costs are controlled, etc., it is essential for the Project Manager to understand how the project itself supports the organization's strategy, and how the project will impact or influence the organization's key plan and growth.

Financial performance measures are intended to help operations analyze their activities from a financial standpoint and provide useful information needed to make good management decisions. Nevertheless, the financial performance measures discussed do not provide any answers. However, the measurements need to be reviewed in relation to each other and to other non-operation activities (Crane, 2008). The financial performance measurement is not possible to control or predict all of the factors that influence the final outcome of any operational decision. Nor is it possible to have available all of the information that would be ideal. But decision making can be improved through using available information and through effective financial planning and analysis (ibid.)

There are many related variables which will affect a company's performance, such as debt maturity that influences company's option in investing. Furthermore, tax rate will also affect company's performance. In this case of this study, examine the impact of accounting ratios base on reviewing company's financial performance will present prove for a company's performance (Zeitun and Tian, 2007).

On the other hand, a study done by Gleason *et al.* (2000) on relationship between culture, capital structure and performance, using data from retailers in fourteen European countries, shows that capital structures differ by the cultural classification of retailers which are strengthen to the inclusion of control variables that will influence capital structure. The finding of this study also shows that retailer performance is not depending on the cultural influence only. Where else, capital structure will influences performance also. In the early study on relationship between capital structure and a firm's reaction to short term financial distress had shown the result that high-leverage firms are more possible than their less-leverages counterparts to react operationally to short-term distress. The high-leverage firms are also more possible to take personal actions such as restructuring assets and lying off employees when performance deteriorates. Apart from that, a firm with high leverage will

react quickly in financial through cutting down dividend, restructuring debt and bankruptcy (Ofek, 1993).

All businesses need capital to operate, to enter into new ventures or to expand the operation. A properly prepared balance sheet reports the amount of cash and other liquid assets available to meet cash needs (Crane, 2008). Similarly, the ability to attract investors is an asset that deserves to be recognized. The capacity to acquire additional cash allows a business to undertake new or expanded activities. Assessing an operation's ability to attract additional capital may be difficult without someone who is willing to lend or invest. The financial ratios, and how they compare to similar operations, provide some indication of the business' credit reserve (ibid.). The same author also discussed in his finding which the common financial information and performance measures frequently used by owners and lenders to evaluate financial health and make risk management decisions. By conducting regular checkups on financial condition and performance, the organizations or companies are more likely to treat causes rather than address only symptoms of problems.

3.0 Research Methodology

This chapter discusses the definition and the background of the sample, as well as explaining the variables that will be used in examining the distress score equation together with the theoretical framework for this research. This is followed by a development or applying of the Altman (1993) distress score, discussion on variable measurement and explanation of the analysis techniques.

3.1 Sampling Basis

Although there are 49 companies listed on Bursa Malaysia in the construction sector, only 32 companies was established since 2004. In this study, data extracted from the annual reports of five large companies according to criteria used by Chan *et al.* (2005). These five companies have several common criteria amongst them namely all are local companies or contractors having long history in the construction industry with about the same revenues size, managed by local professionals and all are on the list of approved license contractors for public works.

This research uses secondary data i.e. financial statements of the companies as the primary source of information. Financial statements help assess the financial well-being of the overall operation. Information about the financial results of each ratios and physical assets are important for management decisions. Furthermore, an understanding of the overall financial situation requires three key financial documents namely Balance Sheet, Income Statement and Cash Flow Statement. Financial statements are very useful for both internal and external users. From a management perspective, it provides a discussion on the future directions of the company and a plan to improve the company's performance. From investor's point of view, financial statements provide useful information as it helps to predict future earnings, dividends and free cash flows (Erhardt and Brigham, 2006). The annual report that contains financial statement of the respective construction company can be obtained from the Bursa Malaysia website since 2004 to 2009 which we argued as sufficient time period to reflect the changing economic environment; before the crisis (2004 and 2005), during the crisis (2006 and 2007) and after the crisis (2008 and 2009). A six year sample period is chosen in order to give a reasonable time-frame for the empirical study so as to evaluate the performance and predict by using Altman (1993) distress score to discriminate between failed and non-failed contractors.

3.2 Financial Indicators – Accounting Ratios

Financial performance can be analyzed by single accounting balance sheet and income statement ratios. The following financial ratios have been chosen for the analysis namely (i)

Operating Profit Margin, (ii) Return on Equity, (iii) Return on Assets (iv) Total Assets Turnover (v) Quick Ratio and (vi) Debt Ratio

3.2.1 Altman Z score – "distress Score"

This distress score was briefly introduced in the earlier section whereby Altman (1993) used the multiple discriminate analysis model to combine several financial ratios into a single index, Z-scores, called "distress score". This score is used to predict corporate defaults and an easy-to-calculate control measure for the financial distress status of companies in academic studies. The Z-score uses multiple corporate income and balance sheet values to measure the financial health of a company and used to discriminate between failed and non-failed groups. The equation is shown below:

$$Z = 1.2X(1) + 1.4X(2) + 3.3X(3) + 0.6X(4) + 1.0X(5)$$

Where:

X(1) = working capital / total assets;
X(2) = retained earnings / total assets;
X(3) = Earnings before interest and taxes (EBIT) / total assets;
X(4) = market value equity / book value of total liabilities;
X(5) = Net Sales / total assets;

In applying this score, organisations with a z-score of less than 1.8 implies certainly of imminent failure. However, a score between 1.8 and 2.7 is regarded as a grey area where companies are deemed to be at risk and a score greater than 2.7 indicates a potential for long term solvency (Altman, 1993).

4.0 Research Results

This section presents the results obtained in this study. The first section gives discusses the key characteristic of local construction companies that have been selected for the study. The following sections discuss the findings in relation to the accounting ratios calculated based on past financial performance of each local construction company.

Based on the criteria discussed earlier, the following five companies listed in Bursa Malaysia have been selected. These five are local construction companies and registered under Construction Industry Development Board Malaysia (CIDB). All the data extracted from the annual reports of these five representatives large contractors have been collected for financial analysis.

Table I: Average Annual Revenue

Contractor	Year Established	Licensed Contractor	Average Annual Revenue (2004-2009)
A	1997	CIDB	432,914,655.50
B	1983	CIDB	274,376,456.17
C	1975	CIDB	572,997,166.67
D	1985	CIDB	300,528,135.33
E	1967	CIDB	357,299,351.33

4.1 Accounting Ratios

This section presents the performance of the five companies based on their financial statements as well as based on several important accounting ratios and are explained in greater detail in the following sub-sections.

4.1.1 Annual Turnover

The total annual output of these five selected contractors is shown in the following table:

Table II – Annual Turnover (2004-2009)

Contractor	RM (Million)					
	2004	**2005**	**2006**	**2007**	**2008**	**2009**
A	258	249	443	526	663	459
B	228	233	286	289	277	334
C	409	465	492	608	677	788
D	266	253	318	366	270	330
E	500	434	400	187	300	334

Turnover represents mainly the group's gross billing value of contracting work to third party and relates companies. It is clear that from the Table II above for Contractor B and D, their annual turnover showed an increase in 2006 and 2007, but signalled a prominent decrease trend in 2008 onwards. However, some contractors like Contractor B and E, the turnover began to fall from as early as 2004.

4.1.2 Profitability

Earnings before interest and tax (EBIT) margin represents the operating profit (loss) before interest, taxation and share of associates' profits or losses, expressed as a percentage over sales. The overall trend, as reflected in *Table III* below shows that most contractors' EBIT margin such as B,C and E started to deteriorate in 2006, improved somewhat in 2008. Except for Contractor E, which despite drop in sales during the economic downturn, were able to improve profit margin. This was done by achieving a percentage reduction in cost of goods sold which was higher than the percentage reduction in sales, through cost control measures. Contractor E also turned around from an operating loss to an operating profit position in 2008 mainly due to extra dividend income from unlisted investment.

Table III: Operating Profit Margin (%)

	2004	**2005**	**2006**	**2007**	**2008**	**2009**
A	9.57	12.75	9.33	9.51	5.94	8.63
B	3.28	5.40	4.63	2.44	0.92	-7.20
C	1.32	1.06	1.30	1.40	1.19	1.46
D	67.62	65.36	74.23	24.42	55.49	92.80
E	6.25	-0.99	0.28	-11.79	54.77	11.21

4.1.3 Return on Equity (ROE)

Return on Equity represents the profit (loss) after interest, taxes and share of profit or loss of associates, which are divided by the shareholders' funds. When computing this ratio, in addition to profit and loss from the parent and subsidiary companies, shares from associated companies are also included. While the main business of these contractors were in

construction, their associated companies were engaged in activities like manufacturing and trading of building materials, civil engineering, building maintenance, property development and management.

Table IV: Return on Equity (%)

Contractor	2004	2005	2006	2007	2008	2009
A	-10.25	16.67	18.95	18.38	8.88	9.84
B	6.95	8.49	7.37	3.83	0.37	-22.97
C	8.04	5.07	7.77	11.25	6.92	8.45
D	5.18	6.09	6.17	0.23	5.52	9.20
E	2.42	-8.06	-3.15	-28.29	91.98	4.98

All contractors (except E) showed a drop in ROE in 2007 to 2008, as shown in *Table IV* above. However, Contractor B and E continued this decreasing trend in 2008 to 2009. Contractor E, they had a loss of equity in year 2005 to 2007 but managed to reverse the situation in 2008. Despite had a very low EBIT margin (less than 1.5%), Contractor C was able to achieve a ROE of 8.45%, due to reduced finance costs and increased amount of share of profits of associated which merely engaged in the provision of engineering design, asset management and maintenance service.

4.1.4 Return on Assets (ROA) and Total Asset Turnover

Return on Assets measures the rate of return of operating profits (loss) before interest, taxes and share of associate's profit or losses, over total assets employed. It is an indicator of true productivity of the contractors' asset in generating returns.

Table V: Return on Asset (%)

Contractor	RM (Million)					
	2004	**2005**	**2006**	**2007**	**2008**	**2009**
A	-4.95	6.15	5.80	4.68	2.33	2.99
B	3.53	4.71	3.65	1.79	0.16	-8.33
C	1.36	0.76	0.93	1.43	1.06	1.33
D	4.04	4.13	4.41	0.16	3.39	5.37
E	0.48	-1.42	-0.50	-4.51	25.43	1.07

Table V shows that for most firms, there was a declining trend in the ratio since 2006 to 2007 and 2007 to 2008, although there were a few cases of improvement in 2007 to 2008. In particular, Company D improved its ROA in 2007 and 2008 by improving profit from core activities and a reduction of nineteen percent of its total asset base.

Table VI: Total Assets Turnover

Contractor	RM (Million)					
	2004	**2005**	**2006**	**2007**	**2008**	**2009**
A	1.09	0.81	1.05	0.91	0.94	0.64
B	1.25	1.25	1.25	1.14	1.01	1.15
C	1.15	1.09	0.88	1.09	1.39	1.41
D	0.09	0.09	0.08	0.26	0.07	0.08
E	0.65	0.50	0.44	0.25	0.50	0.57

Likewise, *Table IV* shows that, in general, the majority of contractors experienced deterioration in its asset turnover since 2006 to 2007 and 2007 to 2008, indicating that the firms' assets have not be well utilized during the periods of reduced construction orders.

4.1.5 Liquidity

Quick ratio in Table 9 measures the contractors' ability to meet obligations of all creditors by liquid assets and without becoming insolvent. There were two contractors with ratios remained below 1 for all years since 2004, but these ratios showed signs of worsening in 2007 and 2008. This is considered unsatisfactory. For Crest builder, the low ratio in 2008 as 0.01 could be explained by the fact that the company's "properties under development" include as inventory under current assets were not counted as liquid assets in the computation of the ratio. However, Company D managed to improve its liquidity ratio to 2.70 in 2009.

Table VII: Quick Ratio (%)

Contractor	RM (Million)					
	2004	**2005**	**2006**	**2007**	**2008**	**2009**
A	1.04	0.87	1.43	1.38	1.45	1.24
B	1.29	1.16	0.89	0.90	0.74	0.82
C	0.60	0.92	0.97	0.62	0.66	0.71
D	8.43	3.52	0.32	0.36	0.01	2.70
E	0.26	0.35	0.36	0.41	0.70	0.77

4.1.6 Market Performance

Table 10 shows the earnings (loss) per share for each contractor over the past six years. This measures the profit attribute to ordinary shareholders, which is available to holders of each share. It indicates how much return is generated from the shareholders' investment. From the shareholders' perspective, investment in these contractors had brought decreasing returns, in some cases even negative returns.

Due to the economic crisis which happened in year 2008, the majority of the contractors earning per share had fallen from 2007 levels by around 80-95%. Contractor B suffered an extremely drop in their share prices of about 100 per cent over their 2008 level and received a negative returns in 2009. It seems that the market's expectation of their future financial performance remain unlikely.

Table VIII: Earnings per Share (RM)

Contractor	RM (Million)					
	2004	**2005**	**2006**	**2007**	**2008**	**2009**
A	-17.64	28.33	36.21	10.80	5.69	7.57
B	15.00	19.00	18.00	9.00	0.70	-51.90
C	5.89	5.01	6.33	8.60	5.17	7.13
D	14.30	10.32	16.39	32.46	9.95	8.85
E	3.55	-10.87	-3.95	-29.60	134.19	5.30

4.1.7 Debt Financing

Debt ratio indicated in Table 11 measure the percentage of total assets financed by debts. A lower ratio measures a less risky capital structure and the contractor will be less

prone to risks such as failure to meet interest and capital repayment, liquidity problems and business failure. On the whole, the contractors have shown conservative financial management practice by keeping the debt ratios at reasonably low levels. Contractor C and E had comparatively higher ratios due to high levels of short-term and long term bank borrowings and finance lease obligations.

Table IX: Debt Ratio (%)

Contractor	RM (Million)					
	2004	**2005**	**2006**	**2007**	**2008**	**2009**
A	0.64	0.67	0.71	0.77	0.71	0.68
B	0.43	0.45	0.54	0.52	0.60	0.67
C	0.82	0.87	0.89	0.85	0.84	0.84
D	0.32	0.32	0.25	0.39	0.39	0.44
E	0.84	0.84	0.85	0.83	0.63	0.98

4.2 Distress Ratio (z-score)

To reiterate, according to Altman, business with a z-score less than 1.8 implies certainly of imminent failure. However, a score between 1.8 and 2.7 is regarded as a grey area where companies are deemed to be at risk and a score greater than 2.7 indicates a potential for long term solvency. Referring to Table 12, the five contractors selected for this study, the average z-score over the past six years indicate a declining trend with 2009 score below 1.8, suggesting a tendency for these firms to become more at risk to business failure. The deterioration in z-score is particularly acute in 2009 for most firms.

Table X: Distress Ratio

Contractor	RM (Million)					
	2004	**2005**	**2006**	**2007**	**2008**	**2009**
A	2.12	1.63	1.85	1.59	1.62	1.32
B	3.08	2.74	2.22	2.60	1.58	1.55
C	1.34	1.24	1.08	1.38	1.58	1.41
D	0.32	0.32	0.25	0.39	0.38	0.44
E	0.84	0.84	0.85	0.83	0.63	0.98

The above financial analysis shows the deteriorating financial situation of the five representative contractors in Malaysia. By applying Altman (1993) Z-scoring, five out of these five major companies in 2008 and 2009 exhibited a very high likelihood of imminent failure which with a distress scores below 1.8. Perhaps, this scenario was likely significant after an economic crisis from year 2006 to 2008. The distress ratios recorded in these major construction firms are quite alarming, signaling a critical situation for the construction industry.

Contractor B had an average z-score 2.29 over these six years, 2004 to 2009, in between of 1.8 and 2.7 is regarded as a grey area where Contractor B is deemed to be at risk. Despite the higher z-score of its, Contractor B also faced a deteriorating in the z-score during economic crisis

It can be seen that the five representative contractors in Malaysia showed deteriorating financial situation during financial crisis. Furthermore, by applying Altman (1993) Z-scoring,

these five major companies in 2008 and 2009 exhibited a very high likelihood of imminent failure which with a distress scores below 1.8.

5.0 Conclusion and Recommendations

The present study has made a significant contribution to the literature of the local construction companies. By providing recent empirical data on the performance of the construction environment, this present study with its limitations makes an important addition to the empirical literature on this important segment of the Malaysia construction industry. As such, the data may be used to provide Malaysia construction industry with crucial information and will enable them to assess and monitor the financial distress over the accounting ratios and distress scoring

The purpose of this study is also to strengthen the local construction companies to review, understand and beware from their past financial performance in order to eliminate any inconsistencies happened in future, and to ensure best value is achieved for the company by establishing or formulate a series of new strategies respectively.

By studying the financial measurements and the distress scoring based on past financial performance, this research identified the limitations of the data selection methods, supporting the requirements for a more rigorous local construction companies' financial performance measurement system that can be used to predict their future distress in order to compete in their own business survival and overcome future crisis.

Nevertheless, this research is motivated and good to determine and analyze the characteristic of local construction industry by reviewing their past financial performance and to formulate new strategies for their business survival in the coming years.

This study finds that the construction industry in Malaysia has reached the state of grim struggle as revealed from the above financial analysis. Domestic contractors should work their way out of this small city region and to transform into a cross-region or multi-national company playing the game of global competition and following the rules of global market in order to survive or compete among rival (Abdul-Rashid *et al.*, 2008).

Last but not least, the findings and conclusions of this research are in line with the study by Chan, Tam and Cheung (2005) who has more relevance since it attempts to study the distress scoring of local construction companies by reviewed their past financial performance in order to formulate new strategies for their own business survival in the coming years.

The present study has certain limitations that need to be taken into consideration in reviewing its results. Firstly, this study only focused on few accounting ratio from reviewed its past financial performance which are identified using the Altman (1993) distress score equation. Secondly, the collection of the data in this study is restricted to the financial data of the local construction companies listed in Bursa Malaysia for the last six years (2004 to 2009). Therefore, the study does not attempt to analyse the financial performance of the local construction companies beyond this period. Thirdly, this study only focuses on the local construction companies listed in Bursa Malaysia. Thus, this study does not include unlisted local construction companies or those listed in other stock exchange. Lastly, another limitation of the study is that only relates to a small sample size. More work needs to be undertaken to examine the results of all financial ratios, together with the prevailing situation of over competition, inelasticity of construction cost and reduced aggregate local demand of all the public listed construction companies in Malaysia, for a longer period.

This research highlighted the impact of sub-prime crisis and economic crisis to the construction company performance and reviewing their past financial performance to predict their financial distress. There is still further knowledge for research to find out whether the results of this study can be extended to other local sector or industry. A useful extension to

this research is to conduct a study that attempts to find out whether the distress score point is really prediction upon the number of years in operation; which may in accordance with the life stage theory. Future research should obtain more data before a more conclusive finding can be reached, for instance data from six years to fifteen years in order to obtain a more meaningful result.

In addition, future studies may focus on the comparison of local construction companies with other countries. This might prove useful in ascertaining how the distress scoring could predict and formulate new strategies for their own business survival in the coming years. In lieu with the national, regional, and global economies, macroeconomics is one of the most general fields in economics. Suggested future research to study aggregated indicators such as GDP, unemployment rates, and price indices to understand and enhance the whole research explanation. In addition, the macroeconomics forecasts are used by both governments and large corporations to assist in the development and evaluation of economic policy and business strategy

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