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Bankruptcy risk Analysis using Financial Ratios for Companies of Property Development Sector in The Stock Exchange of Thailand

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Abstract

The objectives of this paper were 1) to analyze the level of risk (financial distress) in Property Development sector companies in the Stock Exchange of Thailand and 2) to study the relationship between financial ratios and the systematic risk (β) of these firms. The samples were 55 companies of Property Development sector in the Stock Exchange of Thailand. The research presented Altman's Z-Score Model as the research instruments and it analyzed the relationship between financial ratios and the systematic risk (β) by Pearson's correlation coefficient. The research found that 1) the level of risk in these companies were very low to bankruptcy chance and 2) The relationship between financial ratios and the systematic risk (β) was at the medium level. The firm's working capital divided by its total assets, the firm's retained earnings divided by its total assets, the firm's earnings before interest and taxes divided by its total assets and the firm's sales divided by its total assets related to systematic risk (β) on the opposite site while the market value of the firm's equity and preferred stock divided by its liabilities related to systematic risk (β) on the same way.

Keywords: Financial Distress; Financial Ratio; Bankruptcy; Altman's Z-score Model

Introduction

The Property Development sector in the Stock Exchange of Thailand, compose of 55 real estate companies, This sector is important for Thailand Economic development at least two reasons: firstly, it is used as a composition of Thailand leading economic indicators processed by Bank of Thailand present in the forms of that cement sales and construction area permission for example; secondly, it reflects the purchasing power or domestic demand of housing that move along the business cycle then the researcher can identify this sector either leadingor lagging economic sector. Nowadays, even if there are a lot of risks for this sector according to the economic fluctuation, the real estate entrepreneurs tend to look for a business opportunity. Thus, the new projects occur in many places by the experienced investors and the new comers investors. The uncertainty of real estate business performance results to high risk of bankruptcy probability as in the past.

The bankruptcy business model developed by Edward Altman in 1968 to forecast the bankruptcy situation of firms in manufacturing industry in the United States. From the old days till now, Altman's model has been widely adopted to evaluate the risk performance that lead some firms to the serious situation. In Thailand, this model is used to identify the risk status of big companies by studying the relationship between key financial ratios and the Z-score that represent the company's performance in each criteria.

The research of Bankruptcy risk analysis using financial ratios for companies of property development sector in the Stock Exchange of Thailand aims to study the financial performance situation of the high sensitive sector in order to justify that the companies in this sector are in what situation when the economic context change.

Research Objectives

1. To analyze the level of risk (financial distress) in Property Development sector companies in the Stock Exchange of Thailand.

2. To study the relationship between financial ratios and the systematic risk (β) of the companies.

Scope of the Study

Information Scope

The financial ratios were calculated from financial statement of the Company of Property Development sector in the Stock Exchange of Thailand that the samples consisted of 55 companies.

Variable Scope

Dependent Variables are risk (Probability of bankruptcy) that calculated by Altman's Z-Score Model and Systematic Risk (β) that calculated from the data of the Stock Exchange of Thailand and Bank of Thailand.

Independent Variables are five financial ratios in Altman's Z-Score Model. The ratios are listed below:

- the firm's working capital divided by its total assets,
- the firm's retained earnings divided by its total assets,
- the firm's earnings before interest and taxes (EBIT) divided by its total assets,
- the market value of the firm's equity and preferred stock divided by its liabilities and
- the firm's sales divided by its total assets.

Time Scope

The study period are 3 years and a half from Q1, 2012 to Q2, 2015 whilst Thailand economic situation stayed on downtrend.

Conceptual Framework of the Study

Learning from the related Literature review, it can conclude and determine the Conceptual framework like the following figures.

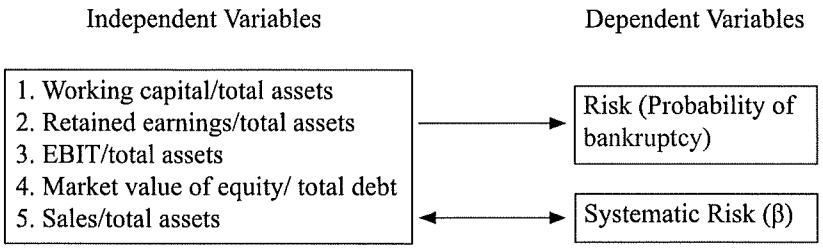

Figure 1: The Conceptual Framework

Literature Review

Altman (2002) studied about Revisiting Credit Scoring Models in a Basel 2 Environment. It found that two of the more prominent credit scoring techniques, Z-Score and KMV's EDF models, are reviewed. Both models are assessed with respect to default probabilities in general and in particular. The next study confirmed by Chuvakhin and Germenian (2003) in Predicting bankruptcy in the WorldCom age that prudent use of credit risk modeling will help companies avoid extreme losses related to a key customer's bankruptcy. Then Sanobar (2012) proved the Altman's Z-score can be applied to modern economy to predict distress and bankruptcy one, two and three years in advance. For studying in Thailand case, Pinitkul and Rattapongpinyo (2013) researched the Analysis of risk by financial ratios for service industry in Commercial sector in the stock exchange of Thailand. The results of this research were service industry in Commercial sector with was relatively low level of risk. The last study create the inspiration for the research of Bankruptcy risk Analysis using Financial Ratios for Companies of Property Development Sector in The Stock Exchange of Thailand because it did not have a case of applying Alman's Z-score model for the risky sector like property development sector before.

Research Methodology

Source of Information

Secondary data used in financial ratios calculating come from for balance sheet and income statement of Company of Property

Development sector companies from the first quarter of 2012 (Q1/2012) to the second quarter of 2015 (Q2/2015). These data was collected from the websites of Stock Exchange of Thailand (http://www.settrade.com). The information of systematic risk (β) was collected from websites of Bank of Thailand (http://www.bot.or.th) and the websites of Stock Exchange of Thailand (http://www.settrade.com) too.

Data Analysis

- To analyze the level of risk (financial distress) this study used Altman's Z-Score Model. The model assigns a firm a Z score derived from 5 weighted variables:

$$Z= 1.2X_1+1.4X_2+3.3X_3+0.6X_4+0.999X_5$$

where

Z = the discriminant score,

X_1 = the firm's working capital divided by its total assets,

X_2 = the firm's retained earnings divided by its total assets,

X_3 = the firm's earnings before interest and taxes divided by its total assets,

X_4 = the market value of the firm's equity and preferred stock divided by its liabilities and

X_5 = the firm's sales divided by its total assets.

(All of X_i weighted by asset size of 55 companies.)

The final number-the Z-score- will yield a number between -4 and +8. Scores that add to Z-score<1.81 have a high probability of bankruptcy or distress zone, while Z-scores>2.67 represent financial soundness or safe zone. The gray zone of ignorance exists when firms have Z-score between 1.81 and 2.67.

- To study the relationship between financial ratios and the systematic risk (β) use financial ratios from Altman's Z-Score model and systematic risk (β) calculated from Capital Asset Pricing Model (CAPM) ,that describes the relationship between risk and expected return that used in pricing for risky securities.

Here is the formula:

$$E(R_i)=R_f+\beta_i (E(R_m)-R_f$$

Where:

$E(R_i)$ = Expected return

R_f = Risk free rate (Government bond)

$E(R_m)$ = Expected market return

β^i = Systematic risk (Change in each security return when market return change or $\Delta R_i / \Delta R_m$)

The relationship between financial ratios and systematic risk (β) was analyzed by Pearson's correlation coefficient.

Results

The Level of Risk (Financial Distress) in Property Development Sector Companies in the Stock Exchange of Thailand.

Figure 2: Level of Risk (Financial Distress) in Property Development Sector Companies in the Stock Exchange of Thailand.

The result showed that the Z-score decreased slightly during the first quarter of 2012 (Q1/2012) and the fourth quarter of 2014 (Q4/2014). However, most of them stayed above 2.67 that meant financial soundness or safe zone except the first quarter (Q1) and the second quarter

(Q2) of 2015, it came to 2.57 and 2.13 respectively, but it did not go through the Distress zone. In the first quarter (Q1) and the second quarter (Q2) of 2015, it shows Z-score between 1.81 and 2.67 or within Gray zone because the market has various risks in Property Development sector companies. Since the economic was continually recession for 3 years then the consumer postponed housing purchase, the household debt burden was high and the housing price went up by market price mechanism while the customer's income did not follow by the housing price.

On the other hand, the Z-score in Property Development sector of Thailand has not through the Distress zone (score <1.81). The lowest score was 2.13 in the second quarter of 2015 (Q2/2015). Thus, the risk in this sector was very low to bankruptcy in conclusion.

The Relationship between Financial Ratios and the Systematic Risk (B).

X_1 (The firm's working capital divided by its total assets) related to systematic risk (β) at 0.61 on the opposite site.

X_2 (The firm's retained earnings divided by its total assets) related to systematic risk (β) at 0.38 on the opposite site.

X_3 (The firm's earnings before interest and taxes divided by its total assets) related to systematic risk (β) at 0.29 on the opposite site.

X_4 (The market value of the firm's equity and preferred stock divided by its liabilities) related to systematic risk (β) at 0.22 on the same way.

X_5 (The firm's sales divided by its total assets) related to systematic risk (β) at 0.26 on the opposite site.

Discussion

The Level of Risk (Financial Distress) in Property Development Sector Companies in the Stock Exchange of Thailand

From the research result showed that there was a little chance for Bankruptcy in this sector, however it occurred as a result of using big firms performance and all of these must operate under the SET

regulations, then the financial statement that assumed to reflect their operation are quite well but it cannot represent the whole real estate companies. This issue conformed to the research result of the Analysis of risk by financial ratios for service industry in Commercial sector in the stock exchange of Thailand (Pinitkul and Rattapongpinyo, 2013).

The Relationship between Financial Ratios and the Systematic Risk (B) of the Property Development Sector Companies

The firm's working capital divided by its total assets that is a measure of liquid assets in relation to the firm's size. The difference between current liabilities represents working capital. A positive working capital indicates a firm's ability to pay its bills. A business entity with a negative working capital will experience difficulty meeting its obligations (Altman, 2000; Chuvakhin and Germania, 2003.)Thus, this ratio related to systematic risk on the opposite site.

The firm's retained earnings divided by its total assets. This ratio represents a measure of cumulative profitability reflecting the firm's age as well as its earning power. A history of profitable operations and reduced debt is signified by firms that retain earnings or reinvest operational profits. Low retained earnings may indicate a poor business year or reduced longevity for the firm (Altman, 2002); as a result, this ratio related to systematic risk on the opposite site.

Earnings before interest and taxes (EBIT)/total assets is a measure of an organization's operating efficiency separated from any leverage effects that is a true depiction of asset production. This ratio estimates cash supply available for allocation to creditors, the government and shareholders (Altman, 2002).So for that reason, this ratio related to systematic on the opposite site.

The market value of the firm's equity and preferred stock divided by its liabilities. The stock market, the primary estimate of firm's worth, suggests that price changes may foreshadow pending problems if a firm's liabilities exceed its assets that ratio is a more effective financial

distress predictor than net worth /total debt (Altman, 2002). Thus, this ratio related to systematic risk on the same way.

The last ratio, sales/total assets signifies a standard turnover measure that unfortunately varies from one industry to another. Yet, the ratio is an indicator of a firm's efficient use of assets to create sales (Chuvakhin and Germenian, 2003). Therefore, this ratio related to systematic risk on the opposite site.

Conclusion and Recommendation

Conclusion

The research paper summarized that the risk in Property Development sector companies in the Stock Exchange of Thailand showed very low risk to bankruptcy from the result calculation on Altman's Z-Score Model. The relationship between financial ratios and the systematic risk showed that the firm's working capital divided by its total assets, the firm's retained earnings divided by its total assets, the firm's earnings before interest and taxes divided by its total assets and the firm's sales divided by its total assets related to systematic risk (β) on the opposite site, except the market value of the firm's equity and preferred stock divided by its liabilities related to systematic risk (β) on the same way.

Recommendations

The research recommendations have showed only the bankruptcy situation of the Property Development sector companies in Stock Exchange of Thailand, but when using the research results for security investment, the investors must consider the forecasting model of the property sector with others related factors such social and economic environments, timing for investment and the fundamental analysis of each firm before investment decision making. Moreover, next study should compare another model with Alman's model for efficiency forecasting risk level in any sector. In the long-run, the research should concentrate on studying the suitable model by adapting Altman's Model for Thailand context.

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References

Altman, E. (1968) Financial Ratios: Discriminant Analysis and the Prediction of Corporate Bankruptcy. *Journal of Finance* 23(4): 589-609.

Altman, E. (2002) *Revisiting Credit Scoring Models in a Basel 2 Environment*. New York University. London Risk Books.

Chuvakhin, N. and Gertmenian, L. (2003) Predicting Bankruptcy in the WorldCom Age. *Graziadio Business Review* 6(1). [Online URL: https://gbr.pepperdine.edu/2010/08/predicting-bankruptcy-in-the-worldcom-age/] Accessed on June 10, 2015.

Peetawan, S. (2003) Application of Bankruptcy Model to Listed Companies in the Stock Exchange of Thailand Previously Classified in the Rehabilitation Group. *University of Thai Chamber of Commerce Journal* 27(1): 80-98.

Pinitkul, W. and Rattapongpinyo, T. (2013) *The Analysis of Risk by Financial Ratios for Service Industry in Commercial Sector in the Stock Exchange of Thailand*. Proceeding of 6th National Conference on Business and Economy, 530-542.

Sanobar, A. (2012) Business Bankruptcy Prediction Models: A Significant Study of the Altman's Z-Score Model. *Asian Journal of Management Research* 10(3): 212-219.

Sara, M. (2013) Revaluation and Altman's Z-score-the Case of the Serbian Capital Market. *International Journal of Finance and Accounting* 25(2): 13-18.