

A Study of Financial Distress Prediction of Chinese Growth Enterprises

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Abstract

In the past three decades, China has made enormous progress in its economic development. With the development of Chinese economy, growth enterprises, particularly those enterprises that either have high technology or use good business ideas and growth potential, have become important in the industrialization process in China. Furthermore, the continued health of growth enterprises is essential to China's global economic competitiveness (CSRC, 2008).

In order to provide a fund raising venue and an exit ground for high-growth and high-risk enterprises in all industries, the Hong Kong Exchanges and Clearing Limited (HKEx) established the Hong Kong Growth Enterprise Market (GEM) in 1999. The GEM has lowered the entry barriers to attract an increasing number of growth enterprises to capitalize on this market.

There is no doubt that the GEMs with a lower entry threshold enable growth enterprises with growth potential but without a proven track record of performance to capitalize on the growth opportunities of China by raising expansion capital on a well-established market (Vong and Zhao, 2008). Nevertheless, the future performance of growth companies, particularly those without a profit track record, is susceptible to great uncertainty.

Because of the high financial risk and imperfections in the financial constitution of growth enterprises, the investors are cautious about investing in GEM in Hong Kong and in the newly established GEM in mainland China (Chen, Sun and Zhang, 2005). Therefore, it has become very

important to develop a reliable financial distress prediction model which covers appropriate predictors to predict the financial distress of growth enterprises on the GEM. The present study, using the data of growth enterprises on Hong Kong GEM, made the first attempt to construct a financial distress prediction model for Chinese growth enterprises. The methods including Mann-Whitney-Wilcoxon (MWW), factor analysis and logistic regression, were then applied to analyse the data. One financial distress model which included financial factors and another financial distress model which included non-financial and macroeconomic factors were constructed in the method section. Based on these two models, the present study developed a financial distress prediction model, which used not only financial factors but also non-financial and macroeconomic factors.

In the existing literature, financial variables (ratios or factors) were the most frequently used predictors in the models that forecast corporate financial distress. Some important research studies suggested they were the most important predictors for forecasting the financial distress (Altman, 1968; Altman, Haldeman and Narayanan, 1977; Ohlson, 1980). In contrast, the present study's findings are different and significant: the logistic regression model that included firm-specific non-financial and macroeconomic factors was better in predicting growth enterprises' financial distress than the model which included firm-specific financial factors. Furthermore, the model incorporating firm-specific financial, firm-specific non-financial and macroeconomic factors was better than the model which included firm-specific financial factors in financial distress prediction. The investors or potential investors can benefit from these findings on financial distress prediction because these findings would enable them to better assess the probability of the growth enterprises experiencing financial distress in the near future.

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List of Abbreviations

AIES	artificial intelligent expert system
AIM	Alternative Investment Market
ANN	Artificial Neural Networks
ASX	Australian Stock Exchange
CSRC	China Securities Regulatory Commission
EIU	Economist Intelligence Unit
FDI	foreign direct investment
GDP	gross domestic product
GEM	Growth Enterprise Market
GNP	gross national product
GPL	general price level
HKEx	Hong Kong Exchanges and Clearing Limited
HKSE	Hong Kong Stock Exchange
IPO	Initial Public Offering
ITDRS	Information Transparency and Disclosure Ranking System
LA	logistic analysis
MDA	multiple discriminant analysis
MNL	multinomial logistic
MWW	Mann-Whitney-Wilcoxon
NBSC	National Bureau of Statistics of China
NCF	Normalised Cost of Failure

NN	neural networks
OECD	Organization for Economic Cooperation and Development
PPP	purchasing power parity
ROA	return on assets ratio
ROE	return on ordinary shareholders' equity ratio
RP	recursive partitioning
RPA	Recursive Partitioning Algorithm
SEC	Securities and Exchange Commission
SFI	Securities and Futures Institute
SME	small and medium-sized enterprise
SSE	Shanghai Stock Exchange
SZSE	Shenzhen Stock Exchange
TSE	Taiwan Stocks Exchange
TSEC	Taiwan Stock Exchange Corporation
WTO	World Trade Organization