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The Empirical Research on Financial Risk Factors of GEM Companies

LA RECHERCHE EMPIRIQUE SUR LES FACTEURS DE RISQUE FINANCIER DES SOCIETES GEM

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Abstract
GEM has injected fresh blood into the development of China's securities market; it eased the long-term "financing" problem of high-tech SMEs effectively. However, the high risk of the GEM market has caused great concern of all parties. This paper analyzed the factors of affecting financial risk of GEM companies with the regression analysis methods. Empirical results show that GEM Company's financial risk and the scale of equity is a negative correlation, and corporate solvency, profitability, operational capacity, development capacity, investment income and cash flow does not have a significant linear relationship. The paper further proposed the measures of controlling financial risk in the GEM Company.

Key words: GEM; Financial risk; Regression analysis

Résumé
Le GEM a injecté du sang neuf dans le développement du marché chinois sur les valeurs mobilières, il allégé le long terme "financement" problème de PME de haute technologie de manière efficace. Cependant, le risque élevé du marché de GEM a provoqué une grande inquiétude de toutes les parties. Ce document analyse les facteurs qui affectent des risques financiers des sociétés GEM avec les méthodes d'analyse de régression. Les résultats empiriques montrent que le risque financier de la Société GEM et l'échelle de l'équité est une corrélation négative, et la solvabilité des entreprises, la rentabilité, la capacité opérationnelle, la capacité de développement, les revenus d'investissement et les flux de trésorerie n'a pas de relation linéaire significative. Le document propose en outre les mesures de risque financier majoritaire dans la Compagnie du GEM.

Mots clés: GEM; Des risques financiers; L'analyse de régression

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INTRODUCTION

GEM is also called the second board market; it is an effective complement to the Main Board. The different is that GEM mainly provides the financing platform for high-tech enterprises which has better prospects. On 30th October 2009, First batch of 28 GEM companies are allowed to appear on the Shenzhen Stock Exchange in China, which Marks the long-awaited official board market run in China's securities market. The introduction of GEM has great significance; it not only enriches the building of the multi-level capital market system, but also provides the direct financing channels for high-tech SMEs. But, because the GEM companies generally has features such as high-growth, high-tech and small-scale in market positioning, we have to pay a high attention to the risk of GEM companies.

Systematic risk and non-systematic risk constitute the risk of GEM companies. The systemic risk is mainly caused by common factors, including political risk, interest rate risk, exchange rate risk, purchasing power risk and market risk. While Non-systematic risk is closely linked with the operating conditions of the GEM enterprises themselves, including credit risk, financial risk, operational risk, liquidity risk and operational risk. For GEM enterprises, systemic risk is not controllable; we should focus on the non-systematic risk. Financial risk is the core in the composition of non-systematic risk. Therefore, studying the financial risk factors of the GEM companies has very important practical significance.

1. STUDY DESIGN

1.1 The Choice of Samples and Variables

The empirical research samples are selected from the Shenzhen Stock Exchange's Growth Enterprise Market. We extracted the 50 GEM companies as the overall sample of empirical research by random sampling, then removed 21 companies which financial data is incomplete or abnormal values. Finally, 2010 annual financial statement data of remaining 29 companies are selected as the research data.

According to the theoretical knowledge on financial risk analysis of the GEM companies, the paper selected the following seven financial ratios as independent variables of empirical studies:

(1) The indicators reflecting the corporate solvency: X_1= Interest cover = EBIT÷ I;

(2) The indicators reflecting the profitability of the business: X_2 = return on net assets = EBIT ÷ average net assets;

(3) The indicators reflecting the ability of business operations: X_3 = accounts receivable turnover ratio = Operating income ÷ average balance of accounts receivable;

(4) The indicators reflecting the ability of enterprise development: X_4 = the main revenue growth rate = the amount of revenue growth this year ÷Total income last year;

(5) The indicators reflecting the scale of shares: X_5 = equity ratio = equity ÷ total assets;

(6) The indicators reflecting the investment income: X_6= PE ratio = market price per share ÷ earnings per share;

(7) The indicators reflecting the business cash flow: X_7 = Cash flow ratio = net cash flow generated from operating activities ÷ current liabilities.

1.2 Research Methods

At present, research methods of financial risk includes financial leverage coefficient, probability analysis and asset-liability ratio method. Probability analysis contains a lot of subjective factors in the process of practice; it is not suitable for reaching. Asset-liability ratio method choose the asset-liability ratio as an indicator measuring of the size of financial risk, However, the asset-liability ratio does not have unity for financial risk, only if connects with the appropriate indicators, it has a certain value. Compared with the latter two methods, financial leverage coefficient chooses financial leverage as a measure of the size of the financial risk. Financial leverage is a sensitivity of on earnings per share to the changes of EBIT; it can better reflect the correlation between the financial risk and income. In general, the greater of the financial leverage, indicates the greater effect of the financial leverage, the greater flexibility of EBIT margin for the sovereignty of return on capital, the greater financial risk. Therefore, this paper used financial leverage coefficient to measure GEM financial risk in the research process.

1.3 Study Hypothesis

Based on related financial theory, we have made related research hypotheses from the perspective of theory.

1.3.1 The Negative Correlation Between the Solvency of Corporate and the Financial Risk

The solvency of corporate is the ability to repay maturing debt, the paper select interest coverage as representative indicators reflecting the solvency of corporate. Interest coverage ratio reflects not only the size of enterprise profitability, but also the level of assurance of the profitability to maturing debt. The greater of interest cover, the stronger of the ability to repay debt maturity, the lower of the possibility of financial risk. So, the solvency of corporate and financial risk shows the negative correlation in theory.

1.3.2 The Negative Correlation Between the Profitability of Corporate and the Financial Risk

The profitability of enterprises is their ability to add the value of funds, which usually reflects the size and level of amount of revenue for the company. The profitability of enterprise is the core of measuring the value of corporate; it is also the most powerful protection of debt to be repaid. GEM Company's financial risk will declined as the increase of the profitability.

1.3.3 The Negative Correlation Between the Operating Ability of Enterprises and the Financial Risk

The operating ability of enterprises based on the constraints of external market environment, is the effect of achieving the objective of the financial through deploying internal human resources and means of production. The stronger of the ability of operation, the higher of efficiency in the use of human resources and means of production, the production efficiency will improve and profitability will increase, then the financial risk will fall.

1.3.4 The Negative Correlation Between the Development Capacities of Enterprises and the Financial Risk

The development capacity of enterprises is a potential ability to enlarge scale and enhance strength On the basis of survival. The stronger of the development capacity of enterprises, the better of the company's future growth, the greater of the potential investment value, the company's future financing capacity and profitability will be improved; the financial risks of the company will be coming down.

1.3.5 The Negative Correlation Between the Scale of Shares and the Financial Risk

The capital structure is constituted by the outstanding debt, equity and other derivative securities. In the ratio of capital, the greater of the proportion of equity size, the smaller of the liability scale, the debt and interest paid regularly by Companies will be reduced, the financial risk will fall. Therefore, the larger of the scale of shares, the lower of the financial risk.

1.3.6 The Negative Correlation Between the Investment Income and the Financial Risk

From the perspective of investors, investors get more return from the enterprise, indicating that enterprises have high returns, which make the higher level of earnings per share; price-earnings ratio has dropped, so that it reduces the market risk of corporate effectively, financial risk level can be well controlled.

1.3.7 The Negative Correlation Between the Business Cash Flow and the Financial Risk

The stronger of the ability of generating net cash flow from the process of business activities show that the stronger of the ability to pay current liabilities, the stronger of the ability of cash flow ,so it will not appear financing risk caused from corporate unable to meet short-term debt.

2. EMPIRICAL RESULTS AND ANALYSIS

This paper conducted the correlation analysis and the multiple linear regression analysis to the selected sample data using SPSS17.0 statistical analysis software.

2.1 Correlation Analysis

Before conducting multiple linear regression analysis, firstly we analyzed the correlation to the selected seven indicators and the financial leverage, the results are shown in Table 1: Financial leverage with equity ratio was significantly negatively correlated, financial leverage with the interest coverage ratio was significantly correlated, but financial leverage with return on net assets, accounts receivable turnover ratio, the main business growth, earnings, cash flow ratio was not significantly correlation. After determining the correlation between variables, we will conduct multiple regression analysis to study whether a causal relationship between the independent variable and dependent variable.

Table 1
Correlations

		Return on net assets	Interest cover	Accounts receivable turnover ratio	The main revenue growth rate	Equity ratio	PE ratio	Cash flow ratio
Financial leverage	Pearson Correlation	.136	.458	.004	.268	-.586	.295	-.146
	Sig.(1-tailed)	.242	.006	.492	.080	.000	.060	.225
	N	29	29	29	29	29	29	29

2.2 Multiple Linear Regression Analysis

Selecting the seven indicators as independent variables and financial leverage as observed variables, we used stepwise regression method to research on financial risk factors of GEM. The results of multiple regression analysis in Table 2 and Table 3:

Table 2
Coefficients

	Model	unstandardized Coefficients B	Std Error	Standardized Coefficients Beta	t	Sig.
1	(Constant)	1.324	.112		11.824	.000
	Equity ratio	-.493	.131	-.586	-3.756	.001

Form Table 2 and Table 3, we can see that the interest coverage ratio, return on net assets, accounts receivable turnover ratio, the main revenue growth, earnings, cash flow ratio of regression coefficient levels were significantly greater than 0.05, it did not pass the t test of 95% significant level, only the equity ratio of the regression coefficients is less than 0.05 significance level, passing the t test of the 95% significant level. It reveals that equity ratio and financial leverage is significant linear relationship in selected indicators. Thus, we can draw the regression equation: Y=1.324-0.493x5

Table 3
Excluded Variables

	Model	Beta In	t	Sig.	Partial Correlation	Collinearity Statistics Tolerance
1	Interest cover	.270[a]	1.643	.112	.307	.847
	Return on net assets	.273[a]	1.780	.087	.330	.954
	Accounts receivable turnover ratio	.057[a]	.356	.725	.070	.992
	The main revenue growth rate	.222[a]	1.447	.160	.273	.993
	PE ratio	.060[a]	.343	.734	.067	.824
	Cash flow ratio	.297[a]	1.591	.124	.298	.660

Table 4
ANOVA

	Model	Sum of Squares	df	Mean Square	F	Sig.
1	Regression	.087	1	.087	14.104	.001
	Residual	.167 27	.006			
	Total	.255	28			

Table 5
Model Summary

Model	R	R^2	Adjusted R Square	Std.Error of the Estimate
1	.586a	.343	.319	.0787273

From Table 4 we can see, F = 14.104, P = 0.001, indicating a highly significant regression equation. Table 5 shows R^2 = 0.343, after adjusted R2 = 0.319, we think that goodness of fit is acceptable.

2.3 Empirical Results

Through the above empirical studies, we have come to financial risk and the scale of equity is negative correlation, which is consistent with the hypothesis proposed by us. Meanwhile, the empirical results also show that the financial risks and other factors do not have a significant linear relationship, which is inconsistent with previous theoretical assumptions. Because there are many indicators to measure corporate solvency, profitability, operational abilities, a single indicator is difficult to reflect the ability of business-related aspects accurately; therefore, it is also reasonable that theoretical and empirical research results are not exactly the same. In addition, the GEM Listing company information incomplete and not timely will also have some impact on empirical results.

3. THE MEASURES OF FINANCIAL RISK CONTROL

3.1 Raise Awareness of Financial Risks

Financial risk exist in all aspects of the financial management of GEM listed companies, any part of the negligence may cause the serious financial risk, GEM's senior managers should firmly establish the awareness of financial risk management, Improving financial risk prevention work from all aspects of the enterprise. As more high-tech companies listing in GEM, the team of GEM listed companies will keep rising. However, the GEM listed companies are mostly private enterprises, the company's structure and system-building is not sound, coupled with business founders are mostly technical background, Lack of financial management knowledge. Therefore, the GEM listed companies have huge potential financial risks. The senior managers of listed companies should strengthen the knowledge of financial management, change awareness of risk management, and make the financial risk management into the core of risk management system.

3.2 Build Early Warning Indicator System for Financial Risk Management

The GEM listed companies can build financial risk early warning indicator system to guard against the daily of the financial risk. The key of the system is how to select financial indicators which can reflect of corporate solvency, profitability, operating capabilities and other aspects. Through analysis of these key financial indicators, we can have a clear understanding to the level of the company's financial risk, then conduct professional analysis and find out the main financial risk factors and develop targeted control measures.

3.3 Finding the Optimal Capital Structure, Reducing the Risk of Debt Financing

GEM provide a channel for financial intermediation, it solves the problem of financing for SMEs which is difficult before. The proportion of debt financing has declined in the Gem's capital structure, Capital structure has been optimized. However, the financial risks caused from debt financing remain exist. The GEM listed companies should optimize the structure of capital and arrange rationally the proportion of the sovereignty of capital and debt capital, capital ratio, reducing the financial risk caused by an irrational capital structure.

CONCLUSION

The GEM provide growth opportunities for GEM listed companies, GEM listed companies can access to funds needed for their own development using financing platform provided by GEM. However, the opportunities and risks co-exist, the GEM listed companies have market opportunities, they must also be vigilant delisting risk, especially to prevent and control their own financial risk. Only the GEM listed companies who always set awareness of risk can embark on a healthier growth path.

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