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Research on the Influence of the Capital Structure of the Listed Real Estate Companies on the Performance of the Company

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Abstract. In the background of the government ' s reform and regulation of the real estate industry, the capital structure of real estate company will face a new round of shuffle, so as to directly influence the operation performance of the company. In order to explore the relationship between the capital structure of the real estate listed company and the company ' s operating performance, the paper selects the Shenzhen A - share real estate listed company as the sample , uses the capital structure and the long - term debt ratio as the explanatory variable, validates the research hypothesis by factor analysis and regression analysis, and analyzes the effect of the capital structure on the operation performance.

Introduction

The real estate industry is a long recovery period of the industry, the demand for capital is huge, capital chain rupture may lead to collapse of Real Estate Company. At present, the Real Estate Company financing channel of our country is narrow, rely heavily on bank loan [1]. in the real estate market demand, rising prices under the condition of optimization of Real Estate Company capital structure, reduce capital the cost is currently China's real estate industry need to solve the problem. The impact of capital structure of listed real estate companies on business performance, explore the development regularity of the real estate industry, improve the management of Real Estate Company, has great practical significance to improve the performance of the company.

An Empirical Analysis of the Influence of Capital Structure of Real Estate Listed Companies on the Performance of Operation

Sample Source and Selection

According to the China Commission released the industry guidelines, the 2016 Chinese listed companies in the real estate industry data, in order to ensure the comparability, this paper selects the Shenzhen A shares of the company as the main objects, and to exclude the B-share Companies, finally get the research Sample Firms [2].

Explained variable. Because this study is to explore the real estate listed companies capital structure on the impact of corporate performance. Therefore, in the course of the study, we choose the corporate performance as the explanatory variable of empirical research. The performance of corporate performance is in many aspects, except the ability of the company to operate. It is also shown in the profitability of the company and the liquidity of funds [3]. This study selects the gross sales margin and the net sales interest rate, which reflect the sales profitability. The total asset return rate and net asset return rate, which reflect the profitability of the company's assets, are used as indicators to measure the operating performance[2].

Explanatory variable. The ratio of capital structure choice often as the research field, research object, research objective and method are different. The choice of corporate debt ratio, long-term debt ratio as explanatory variables. The asset liability ratio refers to the ratio of total liabilities to total assets, reflecting the degree of corporate liabilities and long-term solvency [4]. the rate increase will weaken the total assets of the company for the protection of total liabilities, on the contrary will be enhanced.

Controlled variable. In the process of corporate performance to study the effect of capital structure, the researchers found that the operating performance of the company is not only restricted by the company's capital structure, but also influenced by the size of the company and the company's growth capacity and other factors, the empirical study on firm size of total assets to measure the growth ability of company net profit growth rate. These two factors as control variables.

Sample data

Table 1 Statistical Table of Relevant Data of Sample Company

stock code	profit margin (%)	gross profit margin (%)	rate of return on total assets (%)	Return on Net Assets (%)	asset-liability ratio (%)	long-term liability rate (%)	Size(million)	Grow
002146	10.98	28.52	3.00	14.03	78.6	15.96	10,287,133	0.75
00926	7.67	22.37	5.93	22.41	73.54	26.77	4,553,750	1.24
00517	9.18	29.03	1.45	3.17	54.34	10.24	793,462	0.34
00615	4.48	17.75	14.26	49.72	71.31	15.13	681,726	0.46
00656	6.36	28.41	1.68	10.44	83.95	23.91	10,924,916	1.10
000046	25.07	48.16	2.37	18.53	87.19	31.48	11,835,620	1.30
000616	17.96	21.69	2.61	5.17	49.43	18.23	876,374	1.16
002244	11.92	32.27	4.44	17.15	74.11	20.56	4,223,022	1.21
000671	7.74	25.56	2.56	13.05	80.42	23.39	7,017,330	1.07
000031	7.40	34.26	3.02	16.39	81.58	31.26	6,127,695	1.00
000732	8.54	29.90	1.57	7.81	79.87	29.68	8,478,163	1.69
000402	14.18	30.03	3.16	11.44	72.41	19.29	11,283,551	1.24
000736	2.50	24.44	0.71	1.93	63.44	23.25	812,694	0.38
000514	11.33	34.97	6.69	13.08	48.91	6.39	658,203	16.64
000620	6.20	26.52	1.70	8.52	80.05	20.34	3,399,415	0.73
000540	16.99	35.44	5.64	24.11	76.61	9.59	5,540,015	1.63
000631	9.93	27.69	2.25	6.68	66.28	22.64	1,663,940	1.12
002208	4.67	25.56	1.51	6.14	75.37	32.84	978,059	1.19
000863	15.32	39.57	0.91	4.06	77.64	25.94	1,347,658	0.72
000043	2.17	20.18	1.35	6.20	78.25	5.7	2173319	0.40
000667	12.67	36.06	4.22	11.4	62.95	23.73	1,799,554	1.55
000797	5.36	31.47	4.40	31.76	86.16	31.38	998,914	1.12
000838	6.03	23.54	2.30	7.31	68.50	26.91	530,320	1.33
000882	16.32	31.32	1.75	3.58	51.05	18.47	1,360,658	2.97
000002	11.79	29.41	3.58	18.41	80.54	30.79	83,067,421	1.16
002016	4.59	30.43	1.89	5.57	66.06	17.47	504,076	4.35
000014	4.69	20.91	2.79	6.58	57.60	7.61	87,381	0.54
000006	23.93	29.13	6.19	15.88	61.05	25.08	1,317,039	1.87
000718	12.86	34.26	6.46	16.64	61.16	9.34	2,119,286	1.19
000011	14.56	39.8	6.53	13.62	52.03	23.31	437,976	0.38

Note : The data is sourced from the NetEase Network

Research hypotheses. The purpose of this empirical study is to test the relationship between the asset-liability ratio, the long-term debt ratio and the operating performance of the company [2],

based on the existing research results in academic circles, the following hypotheses are put forward:

Hypothesis 1: There is a positive correlation between the asset-liability ratio and the operating performance of listed real estate companies.

Hypothesis 2: The long - term debt ratio of real estate listed companies is positively related to the performance of the company.

The empirical method and model

Factor Analysis： The factor analysis is used to reflect the relationship between the minority factor variables are related to each other, thus representing a correlation between the original variables and the representative factor, this method can be used to select the factor from the complex relationship in effect is the main explanatory variables in this study, the use of factor analysis on sales gross margin [5]., sales net interest rate, rate of return on assets, net assets return rate of four indicators by factor analysis, so as to obtain the comprehensive index, and use this comprehensive index to reflect the company's operating performance.

Factor analysis: Method is used to obtain the comprehensive index F, and the regression analysis of this index is carried out. The regression relationship between this comprehensive index and asset-liability ratio D, long term debt ratio D_1 is established respectively. If the correlation coefficient obtained is positive, then the capital structure has a positive correlation with the company's operating performance, and vice versa, there is a negative correlation between the capital structure and the company's operating performance [2]. To validate assumptions , the following models were constructed :

Model1：F=C+ D+ Grow+ Size

Model2：F=C+ $_1D_1$+ $_1$Grow+ $_1$Size

Empirical analysis

Factor analysis. The use of SPSS software for factor analysis, specific table 2:

Table 2 Total Variance Extraction Table

divisor	Initial Eigenvalues			Post - rotation factor extraction results		
	sum	variance %	accumulate %	sum	variance %	accumulate %
1	1.857	46.42	46.42	1.855	46.386	46.386
2	1.626	40.64	87.06	1.627	40.674	87.060
3	0.383	9.58	96.64			
4	0.134	3.36	100.00			

By Table 2 , we can find that the variance of factor 1 is 46.42 % , the variance of factor 2 is 40.64 % , and the sum of the cumulative contribution rate of these two factors will reach 87.06 % , so we can use these two factors as main components.

Establishment of Factor Load Matrix. From table 2 , we can see that factor 1 and factor 2 reflect the main part of the company's performance. So we choose these two factors to calculate the factor load matrix [6]. After rotated, the factor load matrix is shown in the following table 3:

Table 3 Factor load matrix

divisor	divisor 1	divisor 2
gross profit margin	0.150	0.893
profit margin	-0.001	0.905
rate of return on total assets	0.961	-0.062
Return on Net Assets	0.954	-0.079

As can be seen from Table 3 , in the first main factor, the total asset return rate and the return rate of net assets are larger, so the total asset return rate has the largest contribution to the return rate of the net assets. The two factors mainly reflect the profitability of the assets. In the second main factor, the sales gross profit rate and the sales net interest rate contribute most, so the sales gross profit rate

and the sales net interest rate contribution are greatest, and the factor mainly reflects the sales profitability.

Table 4 Factor Score Matrix

divisor	divisor 1	divisor 2
gross profit margin	0.038	0.554
profit margin	-0.043	0.555
rate of return on total assets	0.519	0.002
Return on Net Assets	0.516	-0.008

According to table 4 the factor 1, factor 2 standardized score coefficient and combined with the original value of the variable can be calculated, the first principal factor and second factor scores of F1 and F2, respectively:

$F_1=0.038*X_1-0.043*X_2+0.519*X_3+0.516*X_4$

$F_2=0.554*X_1+0.555*X_2+0.002*X_3-0.008*X_4$

X1、X2、X3、X4 is the standard value of the original variable sales gross profit rate, sales net interest rate, total asset return rate and net asset return rate respectively.

The main factor obtained by the above factor analysis obtains the comprehensive performance index F of each company F_1 and F_2:

F=(0.46386* F1+0.40674* F2)/0.8706

Regression analysis

Select the D asset liability ratio and operating performance index of F regression analysis, the analysis results are as follows:

Table 5 Analysis of the relationship between D and F

	Coefficients	standard error	t Stat	P-value
C	9.5398	5.9467	1.6042	0.1207
D	0.0614	0.0825	0.7441	0.0454
SIZE	2.5508	5.9346	0.4306	0.6702
GROW	0.2548	0.3086	0.8255	0.4165

The regression equation can be obtained from Table 5 above :

F=9.5398+0.0614D+2.5508Size+0.2548Grow

From the data of table 5, we can see that the regression coefficient of asset-liability ratio is 0.0614, which indicates that under the condition of constant company size and growth ability, asset-liability ratio increases by 1%. The operating performance increased by 614 yuan, and there was a positive correlation between the debt ratio and the operating performance. The regression coefficient of the company size (total assets SIZE) was 2.5508. It means that under the condition that the ratio of assets to liabilities and the growth ability of the company remain unchanged, the total assets increase by 10,000 yuan per year. The regression coefficient of the growth ability of the company is 0.2548, which indicates that under the condition that the ratio of assets and liabilities and the size of the company remain unchanged. The growth ability of the company increased by 1%, and the operating performance increased by 2,548 yuan.

The long - term debt ratio D1 and the operating performance indicator F are selected for regression analysis , and the results are as follows :

Table 6 Analysis of the relationship between D_1 and F

	Coefficients	standard error	t Stat	P-value
C	11.1599	2.3218	4.8067	0.0001
D_1	0.1342	0.1024	1.3111	0.0201
SIZE	4.7823	5.8285	0.3137	0.7562
GROW	0.2618	0.2900	0.9026	0.3750

The regression equation can be derived from the above table: $F=11.1599+0.1342D_1+4.7823Size+0.2618Grow$

From the data of table 6, we can see that the regression coefficient of long-term debt ratio is 0.1342, which indicates that the long-term debt ratio increases by one percentage per year under the condition of constant company size and growth ability. The operating performance increased by 1,342 yuan, and the long-term debt ratio was positively correlated with the operating performance. The regression coefficient of the company size (total assets SIZE) was 4.7823 respectively. It means that under the condition that the ratio of assets to liabilities and the growth ability of the company remain unchanged, the total assets increase by 10,000 yuan per year. The performance of the company increased by 47,823 yuan. The growth ability of the company was 0.2618, which indicated that the ratio of assets and liabilities and the growth ability of the company remained unchanged. For each increase in the company's growth capacity by 1%, the operating performance is increased by $2,618, which is consistent with our previous assumptions.

Conclusions and suggestions

The analysis found that the asset liability ratio, long-term debt ratio and firm performance are positively related. The significant long-term debt rate. Due to the particularity of the real estate industry, the development and construction of a long time, so in the financing process, should reduce the short-term loan increase long-term debt, such debt repayment and development time matching, can reduce the financial risk. But because of China's real estate industry, asset liability ratio is too high, with an average of around 70%, so we must reduce the asset liability ratio, long-term debt ratio can be adjusted. In order to maintain the good development of the real estate industry and avoid financial risks, it is necessary to vigorously develop China's bond the market, the Real Estate Company can issue corporate bonds to obtain long-term funds, actively expand financing channels, but also innovation of financing channels, establish diversified financing channels [8]. In addition, also the operating performance of the company affected by company size, growth ability. The larger the company, the ability to grow stronger, the performance is more significant. For small and medium-sized Real Estate Company, should pay attention to the long-term development of the company, enhance the company's scale, to create better benefits [9].

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