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Does the Capital Structure Influence the Firm Performance of Real Estate Listed Companies Positively Between 2010 to 2020 in China

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Abstract: The financial structure of a firm is often regarded as the most essential factor influencing its operating performance. The real estate industry, as an important part of China's current national economy, is a typical capital-intensive industry with a large demand for capital. However, the industry's characteristics lead to a relatively slow return of capital in the real estate industry, putting pressure on the industry's financing capacity and capital structure. This paper divides the capital structure into two components: gearing ratio and debt structure, and takes China's real estate listed companies from 2010 to 2020 as a sample. The influence of capital structure on the performance of listed companies is examined empirically. It is found that there is a non-linear relationship between gearing and firm performance, i.e. an inverted U-shaped relationship. This paper still holds after robustness tests such as variable substitution, which are hoped to be useful for business performance, future government regulation and policy implementation.

Keywords: capital structure, firm performance, debt structure, real state

1. Introduction

Because of its importance to solvency, profitability, and enterprise value, scholars and practitioners are fascinated by an organization's capital structure. Companies will dynamically modify their debt and equity ratios to optimise their capital structure due to frictions such as tax evasion benefits, bankruptcy costs, agency costs, and knowledge asymmetries. China's real estate market is currently undergoing a time of deep transformation, and the industry is now confronting a new situation of increasingly severe macro-regulation and fierce competition. China's real estate sector increased by leaps and bounds between 2010 and 2020, becoming a significant engine of sustained GDP growth and propelling the rapid expansion of linked industries upstream and downstream of the industry chain. At the same time, the cost of living in cities has risen dramatically. To slow the rapid rise in real estate market values, the government has implemented several policies that have had some success. Changes in the internal and external environment have made it difficult for real estate firms to borrow cash through bank loans and other ways, changing the original capital structure. In recent years, under the guidance of the idea of "no speculation in housing", it has become increasingly difficult for listed real estate companies to raise funds, which in turn affects their investment and operating results. At the same time, restrictive purchase policies have led to a decline in demand,

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which in turn has affected the performance of listed real estate companies, for example, the government work report in 2017 mentioned "no speculation in housing" and the restrictive purchase policies introduced in 2018.It is crucial and necessary to investigate the impact of real estate listed companies' capital structure. So, what are the ramifications of real estate-listed businesses changing their capital structure? This article examines the impact of capital structure on corporate performance in publicly traded real estate enterprises. The internal and external environment, as well as the adoption of new policies, have strained listed real estate businesses' cash flow and created substantial changes in their financing structure in recent years, making it crucial and required to investigate the impact of these changes. Exploring the impact of changes in financial structure is important and vital. Second, the results of this study complement the knowledge system about the link between capital structure and company performance. According to the extant literature, the gearing ratio of publicly traded corporations is linearly connected to the company's performance. The gearing ratio and capital structure of publicly traded real estate companies have an inverted U-shaped relationship, according to this study. This study will examine the effects of a change in capital structure on a sample of Chinese real estate listed businesses from 2010 to 2020. From 2010 to 2020, listed real estate companies in China were used as a sample to investigate the influence of their capital structure. It is explained how capital structure affects corporate performance.

2. Literature Review

The effect of capital structure on firm performance has been a research topic among scholars. The conclusions obtained by scholars in the studies related to capital structure and firm performance have been inconsistent. The impact of the capital debt ratio on firm performance may be positive, negative, or unrelated. Some scholars found that capital structure is significant positive correlation with company performance firm performance, i.e., the higher the level of gearing, the better the firm's performance. Modigliani and Miller argue that capital structure has no relationship with company value and performance [1].

However, Agrawal and Knoeber argue that debt financing can enhance performance through supervision of creditors [2]. Berger and Bonaccorsi di Patti point out that higher financial leverage or lower equity capital ratios are have a significant positive correlation with firm performance [3]. Wei Xu, Ying Gao, and Ying Xing showed a significant positive relationship between asset-liability ratio and firm performance [4]. Feng Wang , taking advantage of samples of listed firms in the tourism industry, found that the gearing ratio of listed companies in tourism was significantly and positively related to firm performance [5]. Dequan Yao and Xiaoxia Chen find that the asset ratio of media-listed companies is significantly related to firm performance [6].

Conversely, Booth et al. researched the relationship between capital structure and firm performance in an empirical analysis using a sample of developing country data, and by building a regression model, the results showed that capital structure in a developing country impacted significantly negatively on firm performance [7]. A negative link between leverage and performance(earning before interest and tax to total assets is China firms) was also discovered by Haung and Song [8]. In his study, Pathak discovered that there is a clear negative correlation between debt levels and firm performance, which is in contrast to the findings of many studies conducted in Western economies, but is consistent with certain studies conducted in Asian countries [9]. Vithessanthi and Tongurai find that in the sample of Thai listed companies, gearing ratio is significantly negatively related to company performance [10].

In summary, if debt financing enables a company's creditors to monitor its behaviour more systematically and better, then more leveraged companies are more likely to achieve better returns than less leveraged companies. As asset as the gearing ratio increases, firm performance can improve significantly. However, as gearing ratios increase further, the company's risk of insolvency increases,

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and when the company's financial distress cost outweighs the benefits of corporate finance, its performance declines. That is, as the gearing ratio increases, the performance of the company increases and then decreases. Therefore, the following hypothesis in this paper is that there is an Inverse U-shaped relationship.

3. Methodology

This article looks at a firm's financing structure through the composition of its long-term capital and the proportion of each amount. The tax-deductible effect and the protection of control affect corporate performance. Interest costs arising from corporate debt are tax deductible because they are pre-tax items. Secondly, equity issuance carries the risk of dilution of equity. As a result of these two factors, debt is an important means of financing a company. Therefore, this paper uses the gearing ratio to measure the structure of corporate finance and proposes:

H1: There is an inverted U-shaped relationship between a company's gearing and its performance. This project will use the results of correlation analysis effects of capital structure and firm performance to analyze.

This paper takes Chinese listed real estate companies from 2010 to 2020 as the sample, and the sample selection process is as follows: first, real estate companies listed in China are selected; second, the data of each of the above companies from 2010 to 2020 are selected, and the sample of companies constitutes the panel data. The raw data are all obtained from the WIND database, and all variables are tailed at the 1% and 99% levels to eliminate the influence of some extreme values on the research results.

Table 1: Explanation and definition of main variables.

Variables	Name and calculation description
ROE	Return on net assets, equal to net income divided by net assets
ROA	Return on assets, equal to net income divided by total assets
DEBT	Gearing ratio, equal to total liabilities divided by total assets

For hypothesis H1, this paper uses model for regression.

$$PERt + 1 = \alpha 1 + \beta 1 * DEBTt * DEBTt + \beta 2 * DEBTt + \beta 3 * CONTROLVt + YEAR + IND + \varepsilon \quad (1)$$

In the above model, PER represents the performance of the company. This paper proposes to use return on net assets (ROE) (1). In the above model, PER represents the company's performance. This paper proposes to use ROE to measure the company's performance. In the robustness test, the return on total assets (ROA) is an alternative indicator of firm performance. DEBT is used as a proxy for the debt ratio and represents the negative equity ratio. DEBT represents the asset debt ratio. According to hypothesis H1, coefficient β1 is negative, and coefficient β2 is positive.

Two primary variables in this paper measure firm performance, and the primary body test, return on net assets (ROE), is used in this paper. In contrast, In the robustness test, ROA is proposed as an alternative variable to measure firm performance (Huayu Shen and Xiaohui Wu, 2018).

In order to make sure the robustness of the results of this paper, the ROA is used as a proxy for ROE. ROA is used as proxies for ROE. Model (1) is the regression result of ROA instead of ROE. Table 6 shows the results, which shows that ROA has an inverted U-shaped relationship with gearing.

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4. Results

Descriptive statistical analysis of all variables in this paper. The mean value of ROE is 0.135, the variance is 0.012, and the maximum and minimum values are 0.147 and -0.112, respectively, indicating that the performance of companies in the sample varies significantly, and the average return on net assets of listed real estate companies is 13.48%; the mean value of ROA is 0.339, the standard deviation is 0.009, indicating that the return on assets of companies varies significantly. The mean value of ROA is 0.043, the standard deviation is 0.054, and the maximum and minimum values are 0.201 and -0.230, respectively, which indicates that the difference in ROA among companies is noticeable. The average ROA of listed real estate companies is 3.39%.

Table 2: Descriptive statistical analysis.

Variables	Sample size	Maximum value	Minimum value	Average value	Standard deviation	Median	Variance	Kurtosis	Skewness
ROE	1389	14.68	-11.15	13.484	1.114	13.8	1.241	0.627	-1.177
ROA	1389	5.04	-2.1	3.392	0.868	3.045	0.753	-0.404	0.589
DEBT	1389	33.17	64.62	74.742	4.544	75.405	20.65	0.729	-1.002

Table 3: Results of correlation analysis of capital structure and firm performance.

	Debt to asset ratio(%)	ROE(%)	ROA(%)
Debt to asset ratio(%)	1389	14.68	-11.15
ROE(%)	1389	5.04	-2.1
ROA(%)	1389	33.17	64.62
Note:Pearson			

The Pearson and correlation coefficients and significance between the main dependent and independent variables are shown in Table 3. The correlation coefficients between ROE and ROA are 0.575 and 0.589 and are statistically positive at the level of 0.01, implying that ROA can be used as a proxy for ROE. This suggests that ROA can be used as a proxy for ROE. The ROE and DEBT correlation coefficients are -0.335 and -0.291, respectively, with a significant negative correlation at the 0.01 level, showing that the two variables are related. The negative linear link between ROE and DEBT exists. Without considering other factors, there is a negative link between ROE and the negative asset debt ratio. It is consistent with H1's anticipation when other circumstances are not considered.

5. Discussion

The study demonstrates a relationship between capital structure and corporate performance. Consistent with the hypothesis, ROE negatively correlates with the gearing ratio. The experiment provides new insight into the relationship between ROE and DEBT. According to existing studies in the literature, there is a linear association between listed firms' negative equity debt ratio and corporate performance. According to the current study, the gearing ratio and the capital structure of publicly traded real estate companies have an inverted U-shaped relationship. According to the current study, the debt ratio and capital structure of publicly traded real estate companies have an inverted U-shaped relationship. The reliability of this data is impacted by the delisting of some

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companies in the period, and policies vary from country to country. Future research could combine industry analyses from multiple nations to examine the impact of multinational corporations' capital structures on other industrial sectors. Furthermore, to assess the impact of the unique breakdown of capital structure variables, comparisons might be made between multinational corporations in the same industry and local companies without overseas affiliates. In the debt structure, listed real estate companies should not only reduce their debt. In the debt structure, listed real estate companies should not only reduce the debt ratio, especially short-term debt financing, but also increase medium- and long-term debt financing, and enhance the role of medium- and long-term debt in enhancing corporate performance.

6. Conclusion

Using a sample of listed real estate businesses in China from 2010 to 2020, this article investigates the influence of capital structure on the performance of listed real estate companies. Besides, on the performance of publicly traded real estate enterprises and the outcomes, it is discovered that there is a non-linear, inverted U-shaped link between gearing and firm performance. A recommendation can be made based on the findings of this paper. Actual estate-listed firms must have the correct degree of understanding of short-term bank loans. When financing with short-term bank loans, listed real estate companies must understand the appropriate gearing ratio, as an excessively high gearing ratio will result in the company's cost of insolvency risk being greater than the revenue generated by the debt, resulting in a decrease in the company's ROE, which provides a scientific foundation for listed real estate businesses' financing decisions and policy formation by regulators. Listed real estate businesses should expand their funding options and experiment with new financing solutions. Traditionally, China's publicly traded real estate companies have relied heavily on credit, resulting in a high debt to equity ratios. The overall debt ratio is extremely high. As a result, listed Chinese real estate companies can raise cash on the international market in addition to issuing shares on the Shanghai and Shenzhen stock exchanges. They can also raise funds in the overseas market, issue long-term corporate bonds in the capital market, and actively investigate financing channels such as trusts to reduce the debt ratio of real estate firms and improve the equity ratio, in addition to stock financing in Shanghai and Shenzhen. In terms of financing innovation, publicly traded real estate companies can try to issue preference shares, hybrid bonds, develop equity pledge financing, merger financing, or trust financing, and reduce short-term financing bonds while increasing equity to long-term debt financing ratios, among other things.

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