



Financing Structure and Enterprise Value -China Real Estate A-share Listed Companies as an Example

Xianhui Deng^{1,*}, Qiong Deng²

¹WeBank Institute of FinTech, Shenzhen University, Shenzhen, China

²College of Management, Sichuan Agricultural University, Yaan, China

*Dxh3254898101@163.com, 2133262570@qq.com

Abstract. The financing structure holds substantial theoretical and practical significance as a research topic. As a key driver and foundational sector of the national economy, the real estate industry plays a crucial role in economic development. Investigating the influence of financing structure on enterprise value carries profound implications for both societal and economic progress. This study examines 96 real estate companies listed on the Shanghai and Shenzhen stock exchanges within China's A-share market from 2013 to 2022. It evaluates their financing structures from three perspectives: debt financing, equity financing, and endogenous financing. Enterprise value is assessed using Tobin's Q, aiming to analyze the relationship between financing structure and enterprise value.

The results reveal that short-term debt ratio, long-term debt ratio, and bank borrowing ratio are negatively associated with enterprise value. Conversely, the impact of commercial credit financing ratio on enterprise value is relatively insignificant. On the other hand, equity financing ratio and endogenous financing ratio exhibit a positive correlation with enterprise value. Based on these findings, this paper proposes strategies for optimizing financing structures, diversifying financing channels, and strengthening bankruptcy awareness.

Keywords: Financing Structure; Enterprise Value; Listed Real Estate Companies

1 Introduction

In practice, corporate financing decisions are affected by transaction costs and various other factors (Harris & Raviv, 1991)¹. Therefore, the impact of financing structure on corporate value is still an important issue that needs to be discussed in depth. As a highly capital-intensive industry, the real estate industry is particularly dependent on the acquisition of funds. Due to the unique operating mechanism and development characteristics of China's real estate market, such as high leverage, strong regulatory intervention, and the complexity of the financing environment, financing structure decisions are particularly critical to the long-term stability and sustainable development of enterprises.

Although the existing literature has explored the relationship between capital structure and corporate value, there have been relatively few studies on China's real estate industry in recent years, especially the analysis of subdivisions of debt financing (such as debt maturity structure and debt type structure). It is even more scarce. In addition, studies rarely use recent long panel data for Stata analysis. The financing behavior of Chinese real estate companies is significantly different and dynamic. This study can not only reveal how financing structure affects corporate value, but also provide a theoretical basis for real estate companies to optimize financing decisions.

This article uses the listed real estate companies listed in Shanghai and Shenzhen A-shares from 2013 to 2022 as a research sample to empirically analyze the impact of financing structure on corporate value, especially the mechanism at the two levels of debt maturity and debt type, with a view to filling the gaps in the existing literature. It provides empirical support at the micro level and contributes to the sustainable development of China's real estate industry and the stability of its financial market.

2 Hypothesis Development

2.1 Debt Financing and Enterprise Value

The increase in short-term debt will put significant pressure on companies due to the requirement to repay it quickly, especially in the context of declining market demand and slowing real estate sales. This may lead to tight cash flow and ultimately reduce market valuations. Research shows that the ratio of long-term debt to total assets has a significant negative impact on return on assets (Anozie et al., 2023)². Nguyen et al. (2023) also observed a negative relationship between long-term debt ratio and enterprise value³. The persistence of interest payments and repayment obligations on long-term debt increases financial leverage risk and may reduce enterprise value.

In China, bank loans are the main source of financing for real estate companies, accounting for more than half of their total financing (Wang Yue et al., 2023)⁴. However, bank loans often require large amounts of collateral and are accompanied by higher interest rates, which may limit a company's asset liquidity and exacerbate financing risks, which may reduce the value of the company. In contrast, commercial credit financing costs low or even zero for borrowing companies, but over-reliance will expose companies to higher credit risks and debt repayment pressure, which may have a negative impact on corporate value. Based on the above observations, we propose the following hypotheses:

Hypothesis 1: There is a negative correlation between short-term borrowing ratio and firm value and between long-term debt ratio and firm value.

Hypothesis 2: There is a negative correlation between bank lending rates and firm value, and between commercial credit financing rates and firm value.

2.2 Equity Financing and Enterprise Value

Capital structure theory holds that equity financing can reduce financial risk (Modigliani & Miller, 1958)⁵. Equity financing can strengthen the capital base of a company

by introducing new shareholders or increasing the capital contributions of existing shareholders. Equity financing does not need to be repaid, providing companies with a larger scale of funds while reducing financial risk. In addition, equity financing has fewer restrictions on the use of funds, giving companies greater flexibility in financial management. Companies can determine shareholder returns based on their own operating performance, thereby alleviating financial pressure. More importantly, equity financing can also send positive market signals, which may drive up the company's stock price. Based on these advantages, we propose the following hypothesis 3:

Hypothesis 3: Equity financing is positively related to firm value.

2.3 Endogenous Financing and Enterprise Value

According to the pecking order theory (Myers & Majluf, 1984)⁶, endogenous financing is considered to be the optimal choice for enterprises to raise funds, followed by debt financing and finally equity financing. Qiao Rui et al. (2019)⁷ found that in my country's real estate listed companies, endogenous financing is significantly positively related to operating performance. Endogenous financing has unique advantages, including autonomy in funding sources, higher autonomy, lower costs and stronger risk resistance. These features enable businesses to more effectively support their growth and development. Based on these advantages, we propose the following hypothesis 4:

Hypothesis 4: Endogenous financing is positively related to firm value.

3 Sample Selection and Data Sources

The data for this study comes from the Cathay Pacific database, covering 2013 to 2022. The sample selection criteria include: only A-share listed real estate companies are included, and companies that issue B/H shares and ST/*ST/PT labels are excluded, as well as companies with debt-to-asset ratios outside the range of 0–1 or incomplete data. At the same time, the research subjects are limited to companies listed before December 31, 2009, and continuous variables are winsorized. Finally, 96 representative real estate listed companies were selected for empirical analysis.

4 Variable Definitions

The variable types, symbols, and meanings are shown in Table 1.

Table 1. Variable definitions

Variable	Description
Q	(value of equity + value of debt) / book value of total assets at the end of the period
SD	Short-term liabilities/total assets at year-end
LD	Long-term liabilities/total assets at year-end

BD	(Short-term borrowings + long-term borrowings)/total assets at the end of the year
CD	(Notes payable + receipts in advance + accounts payable)/total assets at year-end
EFR	Equity + capital surplus/total assets
IFR	(Depreciation of fixed assets + surplus + unappropriated earnings)/Total assets
Size	Ln (total assets)
Grow	The annual revenue growth rate

5 Regression Model

In order to test the influence of financing structure of real estate listed companies on enterprise value, this paper establishes the following regression model:

$$Q = \beta_0 + \beta_1 SD + \beta_2 LD + \beta_3 SIZE + \beta_4 Grow + \varepsilon \quad (1)$$

$$Q = \beta_0 + \beta_1 BD + \beta_2 CD + \beta_3 SIZE + \beta_4 Grow + \varepsilon \quad (2)$$

$$Q = \beta_0 + \beta_1 EFR + \beta_2 SIZE + \beta_3 Grow + \varepsilon \quad (3)$$

$$Q = \beta_0 + \beta_1 IFR + \beta_2 SIZE + \beta_3 Grow + \varepsilon \quad (4)$$

Where the explanatory variable is the Tobin's Q value of enterprise value, in addition, is the constant term, represents the coefficients of the explanatory variables (=1,2,3,4), and is the residual term.

6 Empirical Results

6.1 Descriptive Statistics

The results of the regression analysis revealed the following key findings (Table 2): (1) In the financing structure, the short-term debt ratio averages over 46%, the long-term debt ratio exceeds 19%, and bank borrowings and commercial credit financing both account for 19%. The ratio of equity financing to endogenous financing is close, indicating that listed real estate companies prefer debt financing, and the debt structure is unbalanced and may be inefficient. (2) The average Tobin Q value is 1.263, and the maximum value is 3.632, indicating that the overall enterprise value is high, but the difference is significant. Overall, the financing structure of listed real estate companies is unbalanced, with a high proportion of short-term debt, heavy reliance on bank loans and commercial credit, limited equity and endogenous financing, single financing channels, and obvious debt dependence.

Table 2. Descriptive statistics

Variable	Obs	Mean	Std	Min	Max
<i>Q</i>	389	1.263	0.498	0.830	3.632
<i>SD</i>	389	0.468	0.138	0.097	0.832
<i>LD</i>	389	0.199	0.109	0.000	0.446
<i>BD</i>	389	0.196	0.108	0.000	0.549
<i>CD</i>	389	0.197	0.126	0.007	0.526
<i>EFR</i>	389	0.148	0.128	0.012	0.878
<i>IFR</i>	389	0.141	0.098	-0.379	0.434
<i>SIZE</i>	389	24.123	1.580	19.551	27.511
<i>GROW</i>	389	4.485	14.814	-26.032	98.024

6.2 Results of the Regression Analysis

Table 3 revealed the following key findings from the regression analysis. First, for Chinese real estate listed companies, both short-term debt ratio and long-term debt ratio have a significant negative correlation with corporate value, and pass the test at the 1% significance level. Bank borrowing ratio and enterprise value also show a significant negative relationship. According to the financial distress theory (Myers, 1977)⁸, if a company is unable to repay short-term debt on time, is overly dependent on debt, and is unable to utilize the leverage effect brought by debt financing, it will increase financial risks, thereby producing negative effects. For example, the share price of Chinese company Evergrande Group fell sharply in 2021 due to excessive short-term debt. However, no significant correlation between business credit financing ratio and firm value has been observed so far. On the contrary, equity financing ratio shows a significant positive relationship with corporate value. In addition, even without adding control variables, the endogenous financing ratio is significantly and positively related to firm value. This shows that real estate tends to use financing methods with lower financing costs and relatively small risks to help increase corporate value.

Table 3. Financing structure and enterprise value

	(1)	(2)	(3)	(4)
	<i>Q</i>	<i>Q</i>	<i>Q</i>	<i>Q</i>
<i>SD</i>	-0.592***			
	(-3.270)			
<i>LD</i>	-1.034***			
	(-4.720)			
<i>BD</i>		-0.711***		
		(-3.660)		
<i>CD</i>		-0.099		

		(-0.589)		
<i>EFR</i>			1.359***	
			(6.740)	
<i>IFR</i>				0.8274***
				(3.2790)
<i>SIZE</i>	-0.143***	-0.180***	-0.110***	
	(-9.264)	(-13.728)	(-6.757)	
<i>GROW</i>	0.001	0.001	0.000	
	(0.955)	(1.022)	(0.338)	
<i>_cons</i>	5.182***	5.763***	3.711***	1.1430***
	(16.002)	(18.195)	(8.995)	(26.3426)
<i>N</i>	389	389	389	389
<i>r2_a</i>	0.362	0.346	0.396	0.0242
<i>F</i>	56.069	52.301	85.821	10.7518

***, **, and * indicate two-tailed significance at the 1%, 5%, and 10% significance levels, respectively.

7 Conclusion

Based on the study's findings, the following recommendations are proposed:

Optimize financing structure: Real estate companies should balance short-term and long-term liabilities, control the proportion of bank loans, increase equity financing and endogenous financing, and make rational use of commercial credit financing. The government is better to set up special funds or provide low-interest loans to help companies alleviate short-term financing pressure and help companies transform their financing structure. It is also possible to further simplify the financing approval procedures, lower the threshold for equity financing, and encourage companies to issue stocks for financing through legislation and formulation of relevant policies.

Innovate financing channels: Real estate companies should explore international financing practices and broaden financing channels. The government can promote securities market reforms, such as simplifying the IPO process for companies and lowering the listing threshold; it can also support real estate companies to try new financing tools such as asset securitization to help companies obtain funds at a lower cost; it can also help real estate companies enter the international capital market and attract foreign investment.

Enhance bankruptcy awareness: Companies must enhance bankruptcy risk awareness, manage financing structures well, and prevent bankruptcy. The government should continuously adjust and improve the bankruptcy law, forcing the management

of real estate companies to enhance bankruptcy awareness, while protecting the legitimate rights and interests of creditors and promoting them to fully play their supervisory and restraining role.

References

1. Harris, Milton, & Raviv, Artur. (1991) The theory of capital structure. *The Journal of Finance*, 46: 297–355. <https://doi.org/10.1111/j.1540-6261.1991.tb03753.x>.
2. Anozie, Obinna R., Muritala, Taofeeq A., Innim, Victor E., & Yisau, N. S. (2023) Impact of capital structure on financial performance of oil and gas firms in Nigeria. *Future Business Journal*, 9: 11. <https://doi.org/10.1186/s43093-023-00189-1>.
3. Nguyen, S. L., Pham, C. D., Truong, T. V., Phi, T. V., Le, L. T., & Vu, T. T. T. (2023). Relationship between Capital Structure and Firm Profitability: Evidence from Vietnamese Listed Companies. *International Journal of Financial Studies*, 11(1), 45. <https://doi.org/10.3390/ijfs11010045>.
4. Wang, Y., Wang, D., & Li, M. (2023). A study on financing issues in the real estate industry. *China Economist*, 04, 41–43.
5. Modigliani, F., & Miller, M. H. (1958). The cost of capital, corporation finance and the theory of investment. *The American economic review*, 48(3), 261–297.
6. Myers, Stewart C. (1984) Corporate Financing and Investment Decisions When Firms have Information that Investors do not have.
7. Liu, N., Qiao, R., & Dong, H. (2019). A study on the relationship between debt financing and operating performance of real estate listed companies. *Engineering Economics*, 29(1), 72–75.
8. Myers, S. C. (1977). Determinants of corporate borrowing. *Journal of financial economics*, 5(2), 147–175.

Open Access This chapter is licensed under the terms of the Creative Commons Attribution-NonCommercial 4.0 International License (<http://creativecommons.org/licenses/by-nc/4.0/>), which permits any noncommercial use, sharing, adaptation, distribution and reproduction in any medium or format, as long as you give appropriate credit to the original author(s) and the source, provide a link to the Creative Commons license and indicate if changes were made.

The images or other third party material in this chapter are included in the chapter's Creative Commons license, unless indicated otherwise in a credit line to the material. If material is not included in the chapter's Creative Commons license and your intended use is not permitted by statutory regulation or exceeds the permitted use, you will need to obtain permission directly from the copyright holder.

