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Article

Solvency analysis of vanke real estate

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Abstract: The real estate industry has an important impact on the national economy and financial system. The implementation of various new policies, market competition, and economic development have drawn much attention to the solvency of the real estate industry, which is of great significance to the development trend and risk prevention of the entire real estate industry. Therefore, this paper analyzes the solvency of Vanke Real Estate and puts forward corresponding countermeasures, hoping to improve the solvency of Vanke Real Estate and provide certain reference value for the future development of the real estate industry. This paper first analyzes the solvency of Vanke real estate through short-term solvency and long-term solvency, and then analyzes the ranking of Vanke real estate's solvency in the real estate industry through factor analysis. In the process of analysis, typical problems existing in Vanke Real Estate are also found. After in-depth analysis of the reasons, it is found that Vanke Real Estate has inventory overhang, unreasonable capital structure, and insufficient industry competitiveness in terms of solvency and puts forward countermeasures such as strengthening inventory management, optimizing capital structure, and adjusting sales strategy.

Keywords: solvency; liability structure; ratio analysis; vanke real estate

1. Introduction

China's real estate market is one of the largest real estate markets in the world and has an important impact on both the national economy and the financial system. In recent years, although China's real estate market has experienced a rapid growth phase, it has also faced many challenges, such as over-investment, fluctuating house prices, market regulation, and other problems [1]. As one of the leading companies in China's real estate market, Vanke Real Estate occupies an important position in the industry [2]. Founded in 1984, the company has become one of the largest real estate developers in China after years of development, with its business covering real estate development, property management, architectural design, and other fields. Its performance in the real estate market not only directly affects the company's own development but also has a profound impact on the development of the entire industry [3].

With the continuous development and changes in China's real estate market, the importance of corporate solvency is becoming more and more prominent. Solvency analysis helps to assess the ability of enterprises to withstand uncertainties and risks, provides a basis for decision-making for enterprise managers, and also provides an important reference for investors to assess investment risks. From the perspective of the whole industry, the study of Vanke Real Estate's solvency also has far-reaching social significance. It not only reveals the internal operational efficiency and risk control status of real estate enterprises but also helps to promote the real estate industry to develop in a more standardized and transparent direction [4]. By continuously improving the solvency of enterprises, real estate developers can enhance the confidence of the capital market, attract more investment, and promote the benign cycle of the real estate financial market. Therefore, an in-depth study of the solvency of Vanke Real Estate not only helps to understand the financial situation of the enterprise but also has important significance for the development trend and risk prevention of the whole real estate industry.

Solvency is one of the crucial financial indicators in the business activities of enterprises. With the intensification of market competition and the constant changes in the economic environment, enterprises are facing various risks and challenges, and maintaining good solvency is crucial to the survival and development of enterprises [5]. The liabilities of enterprises mainly come from the financing of creditors, including bank loans and bond issuance. The improvement of solvency can protect the interests of creditors and enhance their confidence in the enterprise. The good or bad debt servicing ability directly affects the financing ability of the enterprise, and having a good debt servicing ability can improve the negotiation position of the enterprise in the financing market and increase the choice of financing channels. The solvency of an enterprise is directly related to its image and credibility, and the credibility of an enterprise is built on the basis of a long-term stable repayment record and good credit, which affects the business cooperation and customer relationship. Only with good solvency can an enterprise's reputation and trust be enhanced.

Compared with previous studies, the research method of this paper introduces the factor analysis method in addition to the conventional short-term and long-term solvency analysis, aiming at a more comprehensive assessment of Vanke Real Estate's competitive position in the real estate industry. Through factor analysis, we were able to extract a number of key factors affecting Vanke's solvency and compare them with other major competitors in the industry to clarify Vanke's relative ranking.

In addition, we will also examine Vanke's industry performance in terms of liquidity, profitability, and asset management. This comprehensive analysis method can not only reveal Vanke's strengths and weaknesses in terms of solvency but also provide data support for its future strategic decisions. With an in-depth understanding of Vanke's relative position in the industry, we are better able to develop targeted improvement measures to help improve its overall financial health. Ultimately, this research will provide readers with a multi-dimensional perspective to help them understand Vanke's challenges and opportunities in a dynamic market environment.

In the field of financial management, solvency has always been the focus of attention of corporate management and investors [6]. This indicator is not only related to the short-term liquidity of enterprises but also an important yardstick to assess their long-term stability and sustainable development potential. Solvency has become a topic of discussion for many researchers, scholars, and policymakers, both in the domestic and international arenas. In China, researchers mainly analyze in-depth financial statements of listed companies to grasp the financial status of real estate companies as well as key data such as asset status and liability status to measure their solvency. This approach relies on the statistical analysis of historical data and the accuracy of the firm's future cash flow projections. Although it is a more traditional research method, it still has an irreplaceable role in revealing the solvency of enterprises. In sharp contrast, foreign countries emphasize more on the accumulation of experience and case studies when analyzing the solvency of real estate. For example, some well-known international financial institutions will regularly issue reports on the solvency of the real estate industry, which are usually based on a large number of case studies and the opinions of industry experts, in order to provide more in-depth and practical advice for enterprises to learn from. Researchers have adopted rigorous theoretical frameworks and empirical research methods to carry out multi-faceted and in-depth studies centering on different changes in the market environment and the characteristics of the relevant industries [7]. They use a combination of quantitative and qualitative analysis to explore the various factors affecting the solvency of enterprises in an all-round way, from the macroeconomic environment to the microbusiness strategies. Through data analysis and theoretical application, researchers are able to analyze the reasons for the weakening of solvency from multiple dimensions and put forward practical countermeasures and suggestions for the problems found. These suggestions not only help enterprises optimize their internal management and improve their risk control ability, but also provide theoretical support for relevant government departments to formulate policies and jointly promote the healthy development of the whole society and economy.

The research question of this paper is how to choose a good method to evaluate the solvency of Vanke real estate. The analysis of Vanke Real Estate's solvency reveals the common problems of the real estate industry in solvency. Based on these findings, this paper puts forward a series of practical suggestions to help Vanke Real Estate improve its solvency. Through the multi-dimensional analysis method, the research of this paper deeply discusses the solvency of Vanke Real Estate and provides valuable insights and suggestions for the enterprise management and relevant investors, aiming at promoting Vanke Real Estate to maintain its sound financial position in the highly competitive real estate market. The common evaluation method is generally the combination of short-term solvency and long-term solvency. In this paper, the potential research method to solve the problem is to introduce the solvency ranking analysis of Vanke Real estate in the real estate industry. This approach not only makes a horizontal comparison of the solvency of Vanke's properties but also places it in the context of the entire industry, making the analysis more comprehensive and in-depth. In this way, we can identify the strengths and weaknesses of Vanke Real Estate in terms of its solvency to provide a more targeted analysis.

In this paper, the literature review and factor analysis methods were used in order to explore this topic in depth. In the process of writing this paper, I first screened the literature closely related to the topic of this research in the school library, which covered both Chinese and English literature over the past few years, providing a broad knowledge background and a rich source of data for this paper. Subsequently, the data related to the solvency of Vanke Real Estate and other representative enterprises in the same industry were exhaustively collected and organized using the Cathay Pacific database. Through meticulous analysis and organization, a series of reliable data were obtained, which not only reflected the financial status of Vanke Real Estate but also revealed the financial performance of other companies in the industry, and then SPSS16.0 was used to carry out the factor analysis method to show more intuitively the solvency of Vanke Real Estate in the same industry, which laid a solid foundation for the research of this paper.

We expect this study to provide valuable lessons for other real estate companies. When facing similar solvency dilemmas, Vanke's research results can be used as a reference to help them optimize their financial management strategies and improve the efficiency of capital operations so as to occupy a favorable position in the fierce market competition. Through an in-depth analysis of Vanke Real Estate's debt-servicing strategy and its effectiveness, this paper hopes to reveal the risks that real estate companies may overlook in their pursuit of rapid growth and to provide practical guidance and suggestions for other companies in the same industry.

2. Methodology and concepts

2.1. Literature review

This paper provides a comprehensive literature review on the field of debt repayment, aiming to summarize and analyze the current status of Vanke Real Estate's debt repayment ability. Debt repayment has always been the top priority of the enterprise and has had extensive influence in various fields [8]. This review includes several key aspects, such as mode innovation, national policies, and future prospects [9].

In the review of the previous research on solvency by scholars, we can find that solvency has always been one of the most concerned company characteristics by academics and business people, which is also an aspect of the formulation of financial strategy [10]. How to scientifically evaluate solvency is very important. Solvency itself is a part of financial management, but as the evaluation of solvency becomes more and more important in enterprise management, scholars begin to try to carry out theoretical and empirical analysis from different theoretical bases [11]. In general, the research of foreign scholars on solvency mainly focuses on the empirical research of companies and then combines theoretical analysis with different theoretical bases. There are few empirical studies on solvency analysis by Chinese scholars, most of which focus on the impact and current limitations of solvency analysis on corporate value, and the conclusions are not consistent [12].

In the past century, the solvency analysis theory has been continuously developed and improved and has made great contributions to the financial management of enterprises. In particular, American economists and management experts have played a very important role in the theoretical and practical research of corporate solvency analysis. When companies began to pay attention to solvency, they began to pay attention to financial reports, and Costa was the leader [13].

Heidary discussed and compared 42 British companies reporting to the SEC (U.S. Securities and Exchange Commission) with 42 large American companies [14]. The content of the report of the British company is more detailed and richer, focusing on the analysis of risks and uncertainties and including more predictive information. The practice of the British company is more in line with the requirements of the SEC. The report analyzes solvency, risk uncertainty, and other financial information and contains more forward-looking information, which has more reference value and guiding significance. At this time, the necessity of solvency analysis and other financial information analysis is indirectly proposed [15].

At present, solvency analysis has been closely linked with enterprise evaluation. In China, there are many works introducing solvency and other financial information, but there are still a hundred schools of thought. Huang proposed the cash flow analysis earlier [16], and Guo proposed the trend analysis and forecast analysis on the basis of conventional analysis [17]. At present, more scholars “diagnose” enterprises by combining the analysis of debt capacity and other financial information with performance evaluation, such as Jiang [18] and Peng [19]. Most of these works involve three parts of traditional financial analysis: solvency analysis, operating capacity analysis, and profitability analysis. First of all, this paper determines the important position of Vanke Real Estate in the real estate industry and analyzes the solvency of Vanke Real Estate, which has strong practical significance and industry representation. After that, not only the short-term solvency analysis and long-term solvency analysis, but also the use of big data and intelligent technology to carry out comparative analysis between the same industry.

This paper analyzes the impact of national policies on the solvency of Vanke real estate. For example, China has issued three red-line policies in 2020, aiming to control the debt level of real estate enterprises and reduce systemic financial risks. Although the “three red lines” policy has to some extent controlled the debt level of real estate enterprises and reduced financial risks, it has also brought some challenges. For example, some enterprises are under financial pressure and need to ease their financial situation by means of price reduction and promotion, which may have a certain impact on market prices [20].

Finally, this paper discusses the prospect of the research on the solvency of enterprises in the future. The solvency will continue to play an important role, and a better analysis method should continue to be developed.

2.2. Concept

2.2.1. Liquidity ratio analysis

Solvency is the ability of a company to repay its long-term and short-term debts with its assets. Whether a company can develop healthily and sustainably depends on whether it has enough capital and whether it can pay off its debts in time [21]. Enterprise solvency is the main index reflecting the financial status and operating ability of the enterprise, which can help the decision makers of the enterprise to find the enterprise positioning and also can let the stakeholders better understand the enterprise. In modern enterprises, solvency is a very important index that can be used to measure a company’s operation status, financial status, and strategy. The solvency of a company is greatly affected in all aspects of its operation, investment, and financing.

2.2.2. Short-term solvency concepts

Short-term solvency analysis is also called liquidity analysis. Analyzing the short-term solvency of an enterprise can often provide investors and creditors with information related to the solvency of the enterprise, usually through the analysis of the current ratio, quick ratio, and cash ratio to determine the short-term solvency of an enterprise [22].

Current ratio = current assets/current liabilities. The higher the current ratio is, the better the liquidity of assets and the better the short-term solvency of the enterprise; on the contrary, the worse it is [23]. However, if the current ratio is too high, it may cause asset depreciation and make enterprises unable to invest, so enterprises should try to maintain the current ratio at a reasonable level [24].

Quick ratio = quick assets/current liabilities. Quick assets are the current assets after removing the poor liquidity and unstable inventory, so compared with the current ratio, it can more accurately reflect the short-term solvency of the enterprise [25]. When the quick ratio is less than 1, it indicates that the short-term solvency of the enterprise is poor; when the quick ratio is greater than 1, it represents that the enterprise has too many quick assets, which is not conducive to the enterprise to obtain the income, but the standard of the quick ratio is also according to the different enterprises, and there is a slight change [26].

Cash ratio = (cash + valuable securities)/current liabilities. However, in general, companies do not need to have sufficient monetary funds to ensure that they can repay their liabilities so that they can use cash more wisely to increase profits [27].

2.2.3. The concept of long-term solvency

Long-term solvency analysis refers to the analysis of the enterprise's ability to pay long-term debt principal and interest on time. Long-term solvency can effectively determine whether the enterprise is in financial difficulties and is the basis for evaluating the operating results of the enterprise as well as predicting the direction of the enterprise's future financing [28].

Assets-liability ratio = total liabilities/total assets. This index refers to the proportion of total liabilities in the total assets of the enterprise. This index reflects the proportion of the assets provided by the company's creditors in the company's total assets but also reflects the degree of risk of the enterprise's loans and the enterprise's ability to raise debt to operate [29].

Equity ratio = total liabilities/owners' equity. In a general sense, the equity ratio reflects the number of shares held by the company's shareholders and also provides a sideways view of the company's borrowing and operating conditions [30]. In general, a higher index means less solvency.

3. Solvency analysis of Vanke real estate

Despite its remarkable achievements in the real estate sector, Vanke Real Estate is facing challenges in various aspects, such as market fluctuations, policy adjustments, and fierce competition in the industry [31]. The regulatory policies implemented by the PRC (People's Republic of China) government on the real estate market are constantly changing, and the market demand is becoming increasingly diversified and individualized, all of which have brought certain uncertainties to Vanke's development. At the same time, the competition in the international market has become increasingly fierce, requiring Vanke to continuously improve its competitiveness and innovation ability [32].

The solvency of Vanke Real Estate is a key indicator to assess its financial soundness and risk-taking ability [33]. Based on the financial statements of Vanke Real Estate from 2019 to 2023, the solvency status of Vanke Real Estate can be understood by analyzing its current ratio, quick ratio, cash ratio, gearing ratio, and equity ratio. Meanwhile, by comparing and analyzing Vanke Real Estate with other enterprises in the same industry through factor analysis, it can more accurately assess its solvency, which helps to formulate effective financial strategies to enhance the company's solvency and soundness [34].

3.1. Short-term solvency analysis

3.1.1. Liquidity ratio analysis

The current ratio reflects whether a company can cover its short-term debts in the short term. By collecting the current assets and current liabilities data from the company's financial statements, we can calculate and analyze the current ratio of Vanke Real Estate in the last five years. As shown in **Table 1**, the current ratio of Vanke Real Estate in recent years is greater than 1 but less than 2, which indicates that the company's solvency also has some problems. Of course, in the process of analysis, it is also necessary to consider the characteristics of the industry because the ideal value of the current ratio may be different for different industries. For example, in this paper, the real estate industry has a long construction period, and it can be seen from **Table 1** that Vanke Real Estate's current liabilities are larger, so the current ratio standard can be appropriately reduced. However, because the size of current assets is also larger, the current ratio of Vanke Real Estate in the past five years is greater than 1 but has not reached 2, indicating that Vanke Real Estate's current ratio still has a certain amount of room to rise. The current ratio of Vanke Real Estate shows an overall trend of growth, indicating that Vanke Real Estate is developing in a good direction as a whole.

Table 1. Vanke real estate current ratio in 2019–2023.

Particular year	2019	2020	2021	2022	2023
Current asset	14,389.89	15,473.87	16,002.68	14,153.56	11,502.60
Current liability	12,726.10	13,174.92	13,114.46	10,778.01	8,217.85
Current ratio (%)	113.07	117.45	122.02	131.32	139.97

Data source: 2019–2023 Vanke Real Estate Annual Report.

3.1.2. Quick ratio analysis

The quick ratio is a more restrictive form of the current ratio that excludes the effect of inventories on liquidity and focuses more on liquid assets. Quick assets usually include cash, short-term investments, and accounts receivable, but not inventories. This is because inventories are not always quickly realized in the short term, so the quick ratio more accurately reflects the ability of a company to cope with sudden capital needs [35]. It is also important to analyze the quick ratio of Vanke Real Estate in detail. By analyzing the quick ratio, we can more comprehensively evaluate the company's ability to cope with unpredictable risks in the short term.

We can see from **Table 2** that Vanke Real Estate's quick ratio is less than 1 from 2019 to 2023, indicating that quick assets are less than current liabilities. The quick ratio of Vanke Real Estate has been slowly decreasing from 2019 to 2020, which is largely because China's real estate is close to saturation and most people's willingness to buy houses has been gradually weakened, especially in 2021. The quick ratio plummeted from 41.39% in 2020 to 17.98%, which is due to the impact of the New Crown Epidemic in 2020, and the people's purchasing power generally declined. It is not until 2022 that it rises again to 47.16%, in which changes in national policies and government support are key factors that help Vanke Real Estate's quick ratio rise.

Table 2. Vanke real estate quick ratio in 2019–2023.

Particular year	2019	2020	2021	2022	2023
Quick assets	5447.69	5453.24	2358.29	5083.00	4485.65
Current liability	12,726.10	13,174.92	13,114.46	10,778.01	8,217.85
Quick ratio (%)	42.81	41.39	17.98	47.16	54.58

Data source: 2019–2023 Vanke Real Estate Annual Report.

3.1.3. Cash ratio analysis

Usually, we think that the cash ratio can more accurately reflect the ability of the enterprise to directly repay current liabilities; this ratio is more appropriate between 20% and 30%. In this case, the enterprise only needs to use part of the inventory, accounts receivable, and other assets, plus part of the cash can repay current liabilities; this time, there will not appear too many idle funds and will not appear the situation of a cash shortage [36].

From **Table 3**, we can see that from 2019 to 2023, the cash ratio of Vanke Real Estate is lower than 20%, and there is even a decrease in the cash ratio in 2021 and 2023, which indicates that Vanke Real Estate does not have a strong ability to repay its current liabilities directly, and there is a great possibility that Vanke Real Estate will not be able to repay its short-term borrowings in time. The low cash ratio represents less cash that can be liquid, but at the same time, the amount of current liabilities of Vanke Real Estate is still large, which also shows that Vanke Real Estate does not utilize the current liabilities well. In this situation, if no effective measures are taken to optimize the capital structure or improve the financial position, it may lead the company into more complicated financial difficulties. Therefore, the management of Vanke Real Estate must improve the efficiency of capital utilization, rationally plan the debt repayment schedule, as well as enhance the solvency of the enterprise.

Table 3. Vanke real estate cash ratios in 2019–2023.

Particular year	2019	2020	2021	2022	2023
Cash	1661.94	1952.30	1493.52	1372.07	998.13
Current liability	12,726.10	13,174.92	13,114.46	10,778.01	8217.85
Cash ratio (%)	13.06	14.82	11.39	12.73	12.14

Data source: 2019–2023 Vanke Real Estate Annual Report.

3.2. Long-term solvency analysis

Long-term solvency is one of the most important indicators to assess the financial stability and sustainability of a company. In this paper, we will conduct an in-depth analysis of Vanke Real Estate's long-term solvency, including gearing ratio, equity ratio, and other aspects. Through these analyses, we will be able to gain a comprehensive understanding of the company's performance in long-term debt management, providing valuable references and suggestions for investors and managers. H2: The digital economy drives the transformation and upgrading of the manufacturing industry by improving the resource allocation ability of manufacturing enterprises.

3.2.1. Asset-liability ratio analysis

From **Table 4**, it can be seen that the gearing ratio of Vanke Real Estate reached 84.35% in 2019, and in 2020, it is still higher than 80%, although it decreases. In recent years, China's land resources have been relatively scarce; however, Vanke Real Estate continues to carry out land development projects and increased a large number of long-term loans to maintain the operation of the enterprise, which also led to the company's debt level continuing to increase. 2020, under the influence of the policy of the "Three Red Lines", the company's gearing ratio gradually declined, and the long-term debt servicing ability was guaranteed, but overall, the gearing ratio reached 84.35% in 2019, although it decreased but was still higher than 80%. In 2020, under the influence of the "Three Red Lines" policy, the company's gearing ratio will gradually decrease, and its long-term solvency will be guaranteed, but overall, the gearing ratio is still at a high level.

Table 4. Vanke real estate gearing metrics, 2019–2023 (100Million).

Particular year	2019	2020	2021	2022	2023
Total assets	17,299.29	18,691.77	19,386.38	17,571.24	15,048.50
Total liability	14,593.50	15,193.32	15,458.65	13,521.32	11,019.16
Gearing	84.35	81.28	79.74	76.95	73.22

Data source: 2019–2023 Vanke Real Estate Annual Report.

3.2.2. Analysis of equity ratios

The equity ratio is used to reflect the stability of the basic financing structure of the enterprise and can also be used to measure the degree of protection of creditors' rights and interests in the event of bankruptcy. According to traditional theory, an equity ratio of 100% is appropriate, which means that the capital of the shareholders of the enterprise is sufficient to repay the capital provided by the debtors, and the solvency of the enterprise is also high.

As can be seen from **Table 5**, the equity ratio of Vanke Real Estate is at a high level, which is not lower than 270% from 2019 to 2023 and even reaches 539% in 2019. In 2020–2023 it starts to decrease year by year, but it is still some distance away from 100%. This shows that Vanke Real Estate's main source of funding is debt rather than through shareholders' contributions, so although it can reduce financial costs, it increases long-term liabilities, which leads to the elevation of its debt level, reduces the long-term solvency of Vanke Real Estate, and increases the possibility of Vanke Real Estate's default on debt repayment, which adds a certain degree of difficulty to the repayment of debt in the future, and at the same time, there is a certain probability that it will reduce the credibility of the enterprise.

Table 5. Vanke real estate equity ratio metrics in 2019–2023 (100 Million).

Particular year	**2019**	**2020**	**2021**	**2022**	**2023**
Shareholders' equity	2705.79	3498.44	3927.72	4056.36	4029.33
Total liability	14,593.50	15,193.32	15,458.65	13,521.32	11,019.16
Equity ratio	539.34	434.29	393.58	333.34	273.47

Data source: 2019-2023 Vanke Real Estate Annual Report.

3.3. Comparative analysis with other enterprises in the same industry

The real estate industry, as a key economic field, has experienced changes from the big rise to the fall of the house price in recent years. Through the comparative analysis with other enterprises in the same industry, we can understand the positioning and competitive advantages of Vanke Real Estate in the industry and find out the existing problems and the space for improvement to guide the future development strategy and decision-making.

The principle of factor analysis is to convert raw indicators with strong correlations into factors that are independent of each other. What needs to be tested before conducting factor analysis is whether there is a strong correlation between the original indicators. In this paper, SPSS16.0 is used to convert 6 economic indicators: x1-current ratio; x2-current ratio; x3-cash ratio; x4-gear balance ratio; x5-working capital; and x6-equity multiplier. Bartlett's test was obtained after processing, and the F-value was equal to 672.765, the F-value was significant, and the significance was less than 0.005, which indicated that the data taken satisfied the normal overall distribution: the KMO value was equal to 0.666 in **Table 6**, which was greater than 0.5 indicating that the correlation between the variables can be explained by the other variables, and therefore it is suitable to do the factor analysis.

Table 6. KMO and bartlett's test table.

KMO Quantity of Sample Suitability		0.666
Bartlett's test of sphericity	Approximate chi-square (math.)	672.765
	(number of) Degrees of freedom (physics)	15
	Significance	0.000

Using statistical software SPSS16.0 to conduct factor analysis of the six financial indicators, the root of the characteristics and the degree of variance explained to the eigenvalue is greater than 1 as the standard selection of the main factor, so the selection of the two main factors, the use of the two main factors instead of the original six factors of the cumulative contribution rate of 67.073% in **Table 7**. At the same time, it can also be seen from the gravel in **Figure 1**. The eigenvalue of factor 1 is around 2.7, the eigenvalue of factor 2 is around 1.4, and the eigenvalues of the rest of the factors are less than or equal to 1, especially factor 6, whose eigenvalue is only around 0.1, from which it can be concluded that factor 1 and factor 2, that is, the solvency and the operating ability, can be analyzed as the extracted factors.

Table 7. Total variance explained.

	Initial eigenvalue			**Extract the sum of the squares of the loads**		
Ingredient	**Total**	**Percentage of variance**	**Cumulative %**	**Total**	**Percentage of variance**	**Cumulative %**
1	2.692	44.872	44.872	2.692	44.872	44.872
2	1.332	22.200	67.073	1.332	22.200	67.073
3	0.998	16.629	83.701			
4	0.528	8.796	92.498			
5	0.361	6.018	98.515			
6	0.089	1.485	100.000			

Extraction method: principal component analysis.

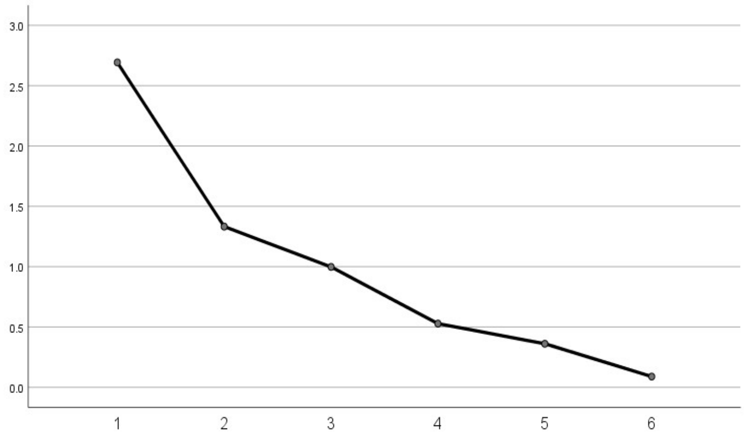

Figure 1. Gravel diagram.

From the comprehensive ranking, Vanke Real Estate is ranked 23rd among 42 enterprises in **Table 8**, which is in the middle position. Vanke Real Estate's operating ability is ahead, but its debt serviceability is behind, which indicates that the enterprise faces a large debt service risk and especially needs to strengthen its financial risk control. From the individual ranking, although Vanke Real Estate's operating ability is outstanding, its debt servicing ability is poor, which indicates that Vanke Real Estate is still in the growth stage and may have a faster development trend in the future, and it should have a balanced development of all aspects of its financial ability, which is beneficial to the long-term development of the enterprise.

Strong operating ability shows that the enterprise can meet the short-term demand, but it does not represent the long-term development of the enterprise. The solvency of Vanke Real Estate is weak, even if the operating capacity is strong, but still may not be able to achieve long-term stable development because the selection of this table is the listed companies in the ability of the real estate company, so after comprehensive consideration, Vanke Real Estate is currently in the real estate industry as a whole in the front-end, but solvency compared with other enterprises in the industry there are still some shortcomings, which need to be further improved and strengthened by the company. This requires the company to further improve and strengthen.

Table 8. Comprehensive ranking of enterprises.

Stock code	Company abbreviation	Solvency	Operating ability	*F*
000002	Vanke A	23	2	23
000004	Shenzhen Zhenye A	31	32	31
000005	brand new	1	40	1
000006	beautiful ecology	13	16	13
000007	Shenzhen Property A	35	21	35
000010	Shahe Shares	20	12	20
000011	FCFA	17	13	17
000012	Grand Hyatt City (hotel chain)	10	41	10
000014	Shenzanda A	14	28	14
000016	Hualian Holdings	28	11	28
000017	China Continent Holdings Limited	42	17	42
000018	China Aviation Shanda (abbr.)	33	3	33
000019	Northern International	11	22	11
000020	OCTA	5	31	5
000021	Tianjian Group	7	29	7
000023	Financial Street	29	5	29
000025	Shandong Road and Bridge	32	20	32
000026	Yudai (or central Chongqing) district of Chongqing municipality, formerly in Sichuan	30	15	30
000027	Rongan Real Estate	16	26	16
000028	Guangyu Development	2	33	2
000029	Zhongtian Financial	34	14	34
000030	Rheinland Sports	9	35	9
000031	I love my house.	25	4	25
000032	Guangdong Hongyuan A	27	7	27
000034	Sunshine Shares	26	8	26
000035	Aoyuan Meigu	21	27	21
000036	HNA Investment	36	42	36
000037	Xinhua News Agency	19	36	19

Table 8. (*Continued*).

Stock code	Company abbreviation	Solvency	Operating ability	*F*
000038	High-tech development	41	19	41
000040	Shunfa Hengye (1946), PRC politician and diplomat	4	30	4
000042	Jinke Co.	22	9	22
000043	Wonderful Homes	18	25	18
000045	Rongfeng Holdings	40	23	40
000046	Sunshine City	39	1	39
000048	Cameron Technology Corporation (Taiwan)	37	6	37
000049	Suning Global (PRC media company)	8	18	8
000050	Xinneng Taishan (city in Shandong)	24	24	24
000055	Thai Harvest Group	3	34	3
000056	China Communications Land (CCL), China’s largest real estate developer	38	10	38
000058	China Wuyi	6	37	6
000059	Finance and Trust Development	15	39	15
000060	Impressions of San Xiang Xiang	12	38	12

4. Analysis of problems in Vanke real estate’s solvency

With the continuous development of China’s real estate market, the solvency of real estate enterprises has become a crucial aspect of financial management. In this context, it is crucial to conduct a comprehensive and in-depth analysis of the solvency of Vanke Real Estate, an industry leader, to reveal the existing problems. In this paper, the problems of Vanke Real Estate’s solvency are explained in detail, mainly including the backlog of inventory, unreasonable capital structure, and the lack of competitiveness of Vanke Real Estate’s industry.

4.1. Inventory backlog

In the past five years, Vanke real estate has been greater than 1 in the current ratio, but the quick ratio is less than 50% and has a large portion of the inventory backlog; even in 2021, it reached 17.98%. On the one hand, due to the saturation of China’s real estate volume in recent years, the state’s control over the real estate industry is more stringent, so it is much more difficult to obtain land, and the available profit is also reduced, which also directly leads to the longer time to pay off the debt of Vanke Real Estate. The pressure becomes bigger. On the other hand, Vanke Real Estate showed a high degree of caution in the face of the uncertainty of today’s market by making provision for inventory impairment to ensure that the value of inventory on its balance sheet could truly reflect the current market conditions and the actual operating results of the company.

4.2. Inadequate capital structure

The irrationality of capital structure is also a significant problem facing the solvency of Vanke Real Estate. The capital structure of an enterprise is directly related to its long-term solvency and financial stability. If the capital structure is unreasonable, over-reliance on debt financing, or other imbalances exist, it may increase the financial risk of the enterprise and reduce its solvency. The solution to this problem requires an in-depth analysis of the company's capital structure, including the composition of the balance sheet, the ratio of debt and equity, the maturity of debt, and interest rates. By adjusting the capital structure and optimizing the company's financial position, it can improve its long-term solvency and reduce financial risks.

4.3. Lack of competitiveness in the industry

Compared with other enterprises in the same industry, the solvency of Vanke Real Estate is in the middle position, and there is a deficiency compared with enterprises in the same position, such as Joy City and Guangyu Development, which is mainly due to the lack of competitiveness of Vanke Real Estate in the industry. The real estate industry itself does not have strong liquidity; it is also sensitive to political development characteristics, making Vanke real estate easy to face greater liquidity risk. The real estate industry in which Vanke Real Estate is located has always been highly competitive, with greater pressure to compete for market share. In the case of fierce competition in the industry, the market position of the enterprise may also change, and the enterprise faces the pressure of losing market share well more intense competition, which tends to weaken the solvency of the enterprise. Competition in the real estate industry often involves product quality, price, marketing, and other aspects. If the enterprise cannot occupy a favorable position in this fierce competition, it may face the risk of a decline in sales and profits, which will lead to a decline in solvency.

Taken together, Vanke Real Estate's problems in solvency mainly include the lack of a reasonable short-term debt repayment plan, unreasonable capital structure, and insufficient competitiveness in the industry. In response to these problems, the enterprise needs to formulate a scientific financial plan, optimize its capital structure, and enhance its competitiveness to ensure that it maintains a sound financial position and sustained development in the ever-changing market environment. These efforts not only help to improve the solvency of enterprises but also help to cope with the various challenges of the external environment and maintain the sustainable development of enterprises.

4.4. Discussion

In recent years, the state has strictly regulated the real estate market, and the financing of the company has been well controlled. However, in China, real estate companies still mainly rely on debt financing for their operations [37]. As the leader of the real estate industry, Vanke Group's solvency index plays a good role as a model in the industry, which can reflect the common problems in the industry more precisely. In this paper, through the short-term solvency, long-term solvency, and comparative analysis of Vanke Real Estate, we get that Vanke Real Estate has the problems of inventory backlog, unreasonable capital structure, and insufficient competitiveness in the industry, which requires Vanke Real Estate to improve its solvency by strengthening the inventory management, optimizing the capital structure, and adjusting the sales strategy. Under the current social situation, in-depth understanding of the solvency of enterprises can not only help enterprises reasonably plan the future development trend but also enable suppliers, consumers, and other stakeholders to have a clearer understanding of enterprises and help them make reasonable decisions. Although the solvency of Vanke Real Estate is in the middle level of the industry, the enterprise itself is located at the front end of the real estate industry, which means that Vanke Real Estate should be more demanding on itself to improve its solvency to the upstream level of the real estate industry. Due to the fact that it is difficult to study the solvency of real estate enterprises, coupled with the fact that the development of China's capital market is relatively late, the theoretical study of enterprise solvency is still not perfect [38]. Therefore, this paper only takes Vanke as a typical case, and it is expected to be able to optimize the solvency of China's listed companies to provide reference and reference [39]. It is also hoped that there will be studies to make up for this deficit in the future.

5. Countermeasures to improve the solvency of vanke real estate

With the fluctuation of the real estate market and the change in the economic environment, improving the solvency of the enterprise has become an important task that Vanke Real Estate must face. To effectively resolve the challenges faced, this paper will deeply discuss countermeasures such as formulating a reasonable short-term debt repayment plan, optimizing capital structure, and adjusting sales strategy to provide comprehensive and in-depth guidance for improving the solvency of Vanke Real Estate.

5.1. Enhance inventory management and rationalize planning

To improve the economic efficiency of enterprises, it is necessary to strengthen the work of inventory management. The real estate market itself is a large inventory market; the high price of real estate has led to a reduction in the amount of people buying; at the same time, the hands of the enterprise inventory will be more, so in the real estate enterprise, inventory management is particularly important. Inventory liquidity is weak but also reflects the difficulty of realizing, and the degree of realizing exactly in a certain aspect represents the enterprise's solvency [40]. The use of scientific data analysis and supply chain optimization strategies enables inventory to be classified, inventoried, and its demand forecast. Therefore, on this basis, a reasonable procurement plan and storage program are designed to ensure the effective use of inventory and prevent excess or shortage. This will not only reduce costs but also increase customer satisfaction and market share.

5.2. Optimize capital structure and reduce financial risk

The rationality of the capital structure is directly related to the long-term solvency and financial stability of the company. To optimize the capital structure, it is necessary to analyze the company's financial situation in depth, including the proportion of debt, the term of debt, and interest rates. With the help of the financial professional team, an accurate risk assessment is carried out to find out the existing problems and potential risk points [41]. Secondly, diversified financing channels can be considered to reduce the reliance on a single source of financing, including bank loans, bond issuance, equity financing, and other methods. By reasonably matching these financing methods, the financing cost can be reduced and the financial pressure can be alleviated. In addition, enterprises can also optimize internal capital operations, improve asset turnover, reduce the time of capital occupation, and increase the efficiency of the use of the enterprise's funds. This helps to improve the profitability of the enterprise, thus improving the capital structure and reducing financial risks.

5.3. Adjusting sales strategies to improve core competitiveness

Adjustment of sales strategy is crucial to improving the core competitiveness of enterprises. Firstly, competitiveness can be improved through product differentiation by gaining a deeper understanding of the needs of target customers, launching products in line with market trends and consumer tastes, and increasing the added value of products [42]. This helps to increase sales price and profitability. Secondly, it is recommended to strengthen marketing efforts to increase brand awareness, attract more customers, and expand sales through more effective marketing, advertising, and promotional activities. This can be done by cooperating with internet platforms and adopting new media, such as social media, for advertising to increase brand exposure. Thirdly, enterprises should establish good cooperative relationships with the upstream and downstream of the supply chain to optimize resource allocation and reduce production costs. By improving production efficiency and optimizing supply chain management, the enterprise can achieve cost control while maintaining product quality, thus improving its core competitiveness and enhancing the solvency of Vanke Real Estate.

6. Conclusion

In recent years, the state has strictly regulated the real estate market, and the financing of the company has been well controlled. However, in China, real estate companies still mainly rely on debt financing for their operations. As the leader of the real estate industry, Vanke Group's solvency index plays a good role as a model in the industry, which can reflect the common problems in the industry more precisely. Through short-term solvency, long-term solvency, and comparative analysis, it is clear that Vanke Real Estate faces issues such as inventory backlog, irrational capital structure, and insufficient industry competitiveness. To improve its solvency, Vanke must strengthen inventory management, optimize its capital structure, and adjust its sales strategy. Although the company ranks at the middle level in terms of solvency, its prominent position in the real estate industry demands a higher standard. Due to the relatively late development of China's capital market and the complexity of studying the solvency of real estate enterprises, this paper only uses Vanke as a typical case. It is expected to provide useful references to optimize the solvency of China's listed companies.

This paper enriches the study of solvency in real estate enterprises, particularly in the context of Vanke Real Estate. By applying factor analysis and comparing it with other enterprises in the same industry, the paper provides a detailed examination of Vanke's short-term and long-term solvency. Furthermore, it bridges gaps in the literature by identifying solvency risks unique to China's real estate market while highlighting Vanke's response to market regulation and financial management. The study offers new insights into the dynamics of solvency in a highly competitive and regulated market, expanding the theoretical discourse on real estate finance.

The findings of this study are not only significant for Vanke Real Estate but also have broader implications for other real estate enterprises. Strengthening inventory management, optimizing capital structure, and adjusting sales strategies are actionable insights that can improve the solvency and financial health of firms. For managers and financial decision-makers, the study provides a roadmap for mitigating solvency risks, especially in markets with high regulation and competition. Additionally, this research can assist government regulators in understanding how real estate firms manage debt and the impact of policy changes on their solvency.

Future research could extend the analysis by considering the impact of external factors such as macroeconomic shifts, interest rate changes, and government regulations on the solvency of real estate firms. Comparative studies between different regions or countries with varying levels of market maturity and regulation would also be beneficial. Furthermore, integrating qualitative analysis such as management strategies and leadership decisions could provide a more holistic understanding of how firms navigate solvency challenges. Another area for exploration is the role of digital transformation in optimizing financial management and enhancing the solvency of real estate enterprises.

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