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Financial Performance Evaluation and Risk Evolution of China Merchants Shekou (2015–2024): Evidence from DuPont Analysis and Financial Risk Index

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Abstract. This paper takes China Merchants Shekou as the research object. Based on the financial data of ten consecutive years from 2015 to 2024, it systematically analyses the stage changes in its financial performance from the four dimensions of profitability, solvency, growth capacity and overall financial risk. The research adopts financial ratio analysis, DuPont Analysis and Financial Risk Index (FRI), and combines financial constraint theory, capital structure trade-off theory, enterprise life cycle theory and risk-return trade-off theory to deeply explore its financial evolution characteristics and its inherent mechanism. The research data mainly comes from the company's annual financial report, and Excel is used for processing and visualisation to ensure that the analysis process is clear and the results can be reproduced. The research results show that the profitability and growth capacity of China Merchants Shekou were relatively stable before 2018, but then, under the influence of industry adjustment and tightening financing, its profitability declined, the leverage level increased, the debt repayment pressure increased, and the overall risk structure tended to be complicated. This research provides a reference for real estate companies to evaluate financial stability and make investment decisions during industry cycle changes.

Keywords: China Merchants Shekou, Financial Performance, DuPont Analysis, Financial Risk Index (FRI), Real Estate Finance

1. Introduction

In the past two decades, China's real estate industry has played a key role in promoting economic growth, urbanisation and job creation, and its industrial chain effect accounts for more than 20% of the national GDP [1]. However, in recent years, the growth momentum of the industry has weakened significantly. Since 2021, under the influence of the "three red lines" policy and the tightening of financing, real estate enterprises have generally faced difficulties such as high leverage, low liquidity and profit compression [2]. In addition, the combination of weakening market demand and financial pressure has put the industry into a new stage characterised by "deleveraging, maintaining liquidity and stabilising assets". Against this background, assessing the financial stability and long-term competitiveness of real estate enterprises has become a core issue of concern for investors,

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regulators and policymakers. The enterprise's profitability, solvency and growth capacity constitute the three pillars of its financial health. Systematic analysis of the dynamic changes of these three aspects helps to reveal the operational resilience and risk tolerance of enterprises during the industry adjustment.

As a leading central state-owned enterprise in China, China Merchants Shekou Holding Group is a real estate development and urban complex operator integrating residential development, commercial operation and industrial park construction. Its financial performance is typical and representative. Studying the evolution of its financial structure not only reflects the adaptability of real estate enterprises under macroeconomic regulation, but also provides a reference for risk prevention and strategic transformation of enterprises in the same industry.

Therefore, this paper takes the financial data of China Merchants Shekou from 2015 to 2024 as a sample, and uses financial ratio analysis, DuPont Analysis and Financial Risk Index (FRI) to evaluate its financial performance and risk evolution from the three dimensions of profitability, solvency and growth capacity. This research aims to reveal the dynamic adjustment characteristics of the financial structure of enterprises and provide empirical reference for the stable development and investment decision-making of the real estate industry.

2. Literature review

Profitability, Solvency and growth capacity are the three core dimensions for evaluating the financial performance of enterprises. According to Horton, profitability is a relative indicator of efficiency, used to assess how efficiently a company converts revenue into profit [3]; solvency measures a company's ability to fulfill long-term debt and financial commitments, reflecting its financial health and ability to continue operating [4]; growth capacity describes a company's potential for sustained growth in assets, revenue, and profit, and is an important indicator of a company's long-term competitiveness.

At the macro level, a large number of studies have explored the real estate cycle, price bubbles and their relationship with macroeconomic and financial stability. For example, the research of Glaeser et al. revealed how land finance and local government behaviour jointly shaped the prosperity of the real estate market under China's unique national conditions [5]. In recent years, with the introduction of regulatory policies such as "three red lines", the research focusses on policy effect evaluation. The research of Chu, Deng and Tsang and others shows that the compulsory deleveraging policy significantly exacerbates the risk of stock price collapse of real estate companies, highlighting the capital market transmission effect of the policy impact [6].

At the micro level, the existing research mainly focusses on the financing behaviour, capital structure decision-making or single financial risk of real estate companies. For example, Chan et al. analysed the relationship between capital structure and financial difficulties from the perspective of the "sales championship". However, most of these studies only focus on one aspect of the risk, or rely on cross-sectional data for model testing [7].

Therefore, there are significant shortcomings in the existing research: there is a lack of systematic and dynamic tracking research based on long-term financial data to comprehensively analyse the "profitability-solvency-growth capacity" of typical real estate enterprises. Especially during the structural transformation of the industry from "incremental expansion" to "stock management", there is a lack of in-depth case analysis of the evolution of the financial structure of enterprises and the interaction between different financial capabilities. This research takes the financial data of China Merchants Shekou for ten years as a case study. It aims to deeply explore this micro-level and reveal

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the complete picture and intrinsic mechanism of the internal financial dynamic adjustment of enterprises during the industry transition period.

3. Data and methods

Based on the financial data of China Merchants Shekou from 2015 to 2024, this study systematically analyses the dynamic changes of enterprises in the four dimensions of profitability, solvency, growth capacity and overall financial risk. In terms of indicator design, profitability is measured with Net Income Margin, Return on Equity (ROE) and Return on Total Assets (ROA) as the core indicators, and ROE is decomposed by DuPont Analysis, to identify the internal driving structure of declining profits. In the solvency part, three indicators are selected: Debt Ratio, Current Ratio and Interest Coverage Ratio, and the stability of the capital structure is comprehensively evaluated from a long-term and short-term perspective. Sexuality and debt pressure. The measurement of growth capacity adopts Revenue Growth and Net Income Growth to reflect the sustainability of enterprise business expansion and profit growth.

In addition, this paper constructs the Financial Risk Index (FRI) to comprehensively measure the overall financial risk level. Financial Risk Index (FRI) is based on three key indicators of Gross Profit Margin, Current Ratio and Debt Ratio, which are calculated after standardised processing. The formula is as follows:

$$FRI = w_1 \cdot GPM_n + w_2 \cdot CR_n + w_3 \cdot DR_n \tag{1}$$

The above are the standardized values of each indicator. A positive sign indicates that the indicator is positively correlated with risk (e.g., an increase in the debt ratio means an increase in risk), and a negative sign indicates that it is negatively correlated with risk (e.g., an increase in profitability or liquidity means a decrease in risk).

Overall, based on ten years of continuous financial data, this study systematically depicts the financial structure evolution and risk dynamics of China Merchants Shekou in the industry cycle through the joint application of multi-dimensional indicators and models.

3.1. Profitability analysis

First, in terms of profitability, as shown in Figure 1, the profitability performance of China Merchants Shekou has experienced a complete "up-peak-down" cycle. From 2015 to 2018, these three indicators grew steadily: the Net Income Margin rose from 9.85% to 17.26%, the Return on Equity (ROE) rose from 7.80% to 14.00%, and the Return on Total Assets (ROA) also increased from 2.30% to about 3%. This shows that in the upward stage of the industry, the company has achieved high profitability and capital appreciation.

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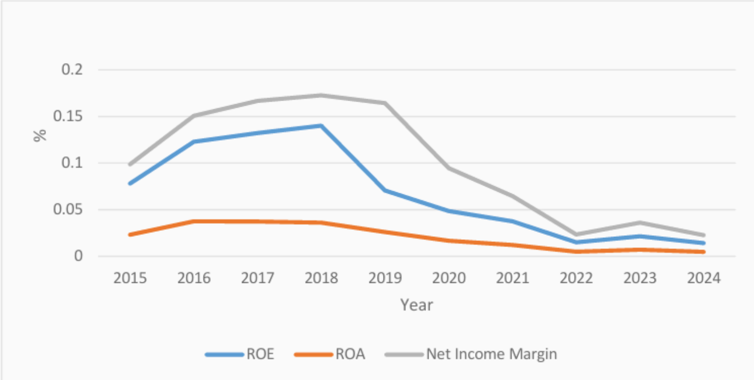

Figure 1. ROE, ROA, Net Income Margin trends of Shekou(2015-2024)

Data Source: China Merchants Shekou Annual Report

However, it is worth noting that since 2019, most of the company's profit indicators have entered the downward channel, and the downward trend has not been reversed until 2024. The Net Income Margin fell to 2.26%, down about 87% from the peak; the Return on Equity (ROE) fell to 1.41%, and the return on shareholder capital decreased significantly. At the same time, the Return on Total Assets (ROA) dropped from 2.30% in 2015 to 0.47% in 2024, indicating that the huge asset scale of the enterprise (total assets in 2024 is about 860.3 billion yuan) has not brought about corresponding revenue growth, and the efficiency of asset utilisation has dropped significantly. The rise in financial expenses has become a key pressure point - the company's interest expenditure has increased from 1.454 billion yuan in 2015 to 3.596 billion yuan in 2024, an increase of as high as 147%, and the erosion effect of financial costs on the profit margin is increasingly significant.

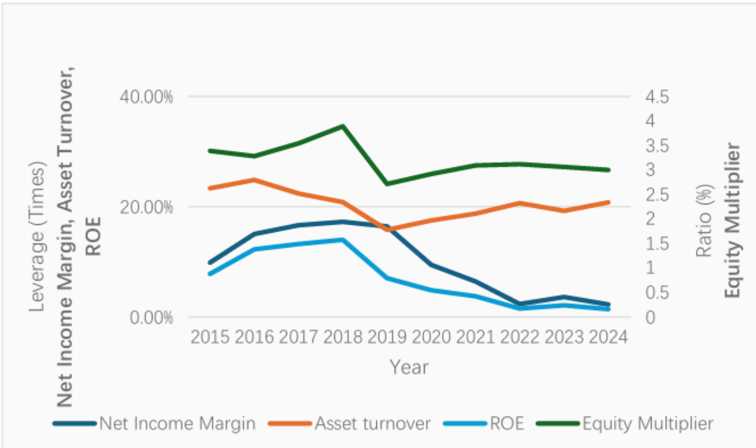

Figure 2. Trends of Shekou DuPont framework(2015-2024)

Data Source: China Merchants Shekou Annual Report

In order to further reveal the intrinsic structure of the decline in the Return on Equity (ROE), this paper uses DuPont Analysis to decompose Return on Equity (ROE). The results show that (as shown in Figure 2), the decline in Return on Equity (ROE) is mainly driven by the narrowing of the Net Income Margin and the decline in the asset turnover rate. At the same time, the equity multiplier (financial leverage) has continued to decline since 2018, but the amplification effect is limited. Specifically, the Net Income Margin decreased from 17.26% to 2.26%, the asset turnover ratio

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decreased from 0.23 to 0.21, and the equity multiplier decreased from 3.89 to 3.00. The combined changes of these three factors caused the Return on Equity (ROE) to drop from 14.0% to 1.4%.

In general, the profitability of China Merchants Shekou has declined significantly since 2018. The decline in profitability and return on capital shows that the company has limited risk resistance in the face of industry cycle adjustment. To some extent, this trend has weakened the company's internal capital accumulation and financial resilience, providing an important background for the subsequent analysis of its solvency.

3.2. Solvency analysis

Under the background of the continuous pressure on profitability, the debt repayment structure and financial stability of China Merchants Shekou are becoming more and more noteworthy. Secondly, regarding solvency, as shown in Figure 3, the company has maintained a highly leveraged operating model for a long time, showing obvious financial risk characteristics.

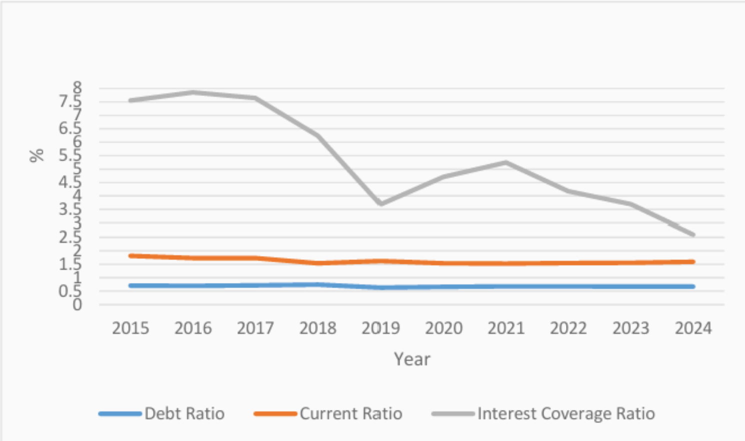

Figure 3. Debt Ratio, current ratio, interest Coverage Ratio trends in Shekou(2015-2024)

Data Source: China Merchants Shekou Annual Report

The continuous deterioration of the Interest Coverage Ratio is a key signal that reflects the decline in the company's core profitability. The indicator decreased from 7.56 times the relative health in 2015 to 2.60 times in 2024. At the same time, the Debt Ratio of the company's debt structure is still very high, and the risk of long-term debt repayment is still serious. What's more, between 2015 and 2024, the company's debt ratio was above 65% for most of the time, and reached a peak of 74.3% in 2018.

Although it has fallen slightly to 66.7% in recent years, the overall level is still at risk, indicating that the company relies heavily on debt. In terms of short-term debt repayment capacity, the current ratio is between 1.5 and 1.8, slightly below the conventional security threshold of 2.0, which means that the company's short-term assets have a relatively limited capacity to cover current liabilities. Overall, the combined changes in these three indicators reveal structural concerns about the fragile security margins for debt service and their financial health.

3.3. Growth capacity analysis

Third, from the perspective of growth capacity, as shown in Figure 4, the company's growth trend shows significant volatility and stage characteristics.

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The growth rate of revenue experienced two rounds of rapid growth in 2016 and 2020, reaching 29.16% and 32.71% respectively. However, since 2021, the growth rate of revenue has slowed down significantly, falling to the negative range (-4.37%) in 2023 and only slightly rising to 2.25% in 2024. The Net Income Growth rate fluctuates more. The indicator fell sharply after reaching a peak of 97.54% in 2016, and showed several significant declines in 2020, 2022 and 2024 (-23.58%, -58.89% and -36.09% respectively).

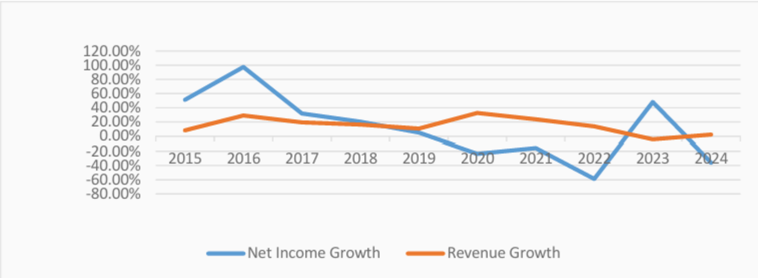

Figure 4. Revenue growth & Net Income growth trends in Shekou(2015-2024)

Data Source: China Merchants Shekou Annual Report

In general, the significant fluctuation of the growth rate shows that China Merchants Shekou is facing a potential problem of insufficient driving force in its main business, and it is mainly affected by the external macro environment. The company needs to find a stable growth model.

Overall, the company's growth rate remained high from 2016 to 2020, benefitting from the prosperity of the industry and the expansion of sales. However, after 2021, the growth rate will fluctuate more significantly, presenting a cyclical model of "first rise and then fall", indicating that the company has gradually transitioned from the high growth stage to the stable mature stage.

3.4. Financial Risk Index (FRI) analysis

The Financial Risk Index (FRI) reveals how the company's profitability, leverage ratio, and liquidity jointly shape its overall financial risk profile.

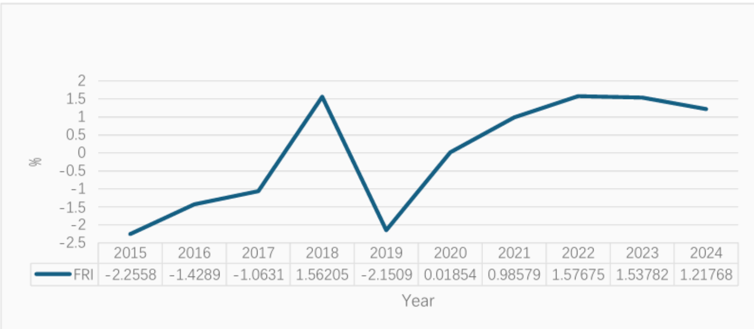

Figure 5. Financial Risk Index (FRI) of China Merchants Shekou trend (2015-2024)

Data Source: China Merchants Shekou Annual Report

As shown in Figure 5, the Financial Risk Index (FRI) of China Merchants Shekou fluctuated greatly from 2015 to 2019. From 2015 to 2017, Financial Risk Index (FRI) rose from -2.26 to -1.06, showing a gradual increase in financial risks; in 2018, it reached 1.56, reflecting the expansion of

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liabilities and the intensification of leverage; in 2019, it decreased to -2.15, indicating that the company has achieved Risk mitigation in stages. However, since 2020, Financial Risk Index (FRI) has turned positive and maintained a high level of about 1.5, indicating that profit pressure and tight liquidity coexist, and the overall stability has declined. While Financial Risk Index (FRI) fell to 1.22 in 2024, the risk level is still higher than before, and the effect of deleveraging and profit recovery is limited.

Overall, the rise of Financial Risk Index (FRI) reveals the main financial pressures faced by companies in the post-cycle phase: declining profits, heavy liabilities and underliquidity, reflecting that risks have shifted from leverage expansion to management and liquidity-dominated.

4. Discussion

The above analysis of the financial performance of China Merchants Shekou from 2015 to 2024 reveals the changes in the financial trajectory of a representative enterprise under the background of the structural adjustment of China's real estate industry. This section aims to integrate the assessment results of profitability, solvency, growth capacity and overall risk, and deeply explore the driving factors and mechanisms behind its financial performance.

This discussion also makes an in-depth analysis of the financial performance of China Merchants Shekou from the four theoretical perspectives of Financial Constraint Theory [8], Capital Structure Trade-off Theory [9], Enterprise Life Cycle Theory [10]. The framework provides theoretical support for understanding the financial evolution of China Merchants Shekou in the context of the restructuring of China's real estate industry.

4.1. Dual pressures on profitability: financing and efficiency

The systematic decline in China Merchants Shekou's profitability since 2018 stems from the vulnerability of its profit structure. DuPont Analysis shows that the decline in the Return on Equity (ROE) is caused by a variety of factors: a decline in Net Income Margin, a decrease in asset turnover and a decline in equity multipliers.

The significant decline in Net Income Margin is mainly due to two factors. First, against the background of the tightening financing environment, the company's "price-for-volume" sales strategy to accelerate cash recovery directly compresses the gross margin. Secondly, more importantly, the excessive growth of interest expenditure in the past decade shows that the financial burden accumulated by early high-leverage expansion has seriously eroded profits during the industry downturn.

At the same time, the asset turnover rate remains almost unchanged, reflecting that the company's huge asset scale has failed to bring corresponding revenue growth and the efficiency of asset operation has declined. This may be related to the slowdown in the decentralisation of stock assets and the more cautious new investment. Although the decline in the equity multiplier reflects the company's efforts to "deleverage", its positive impact on the Return on Equity (ROE) is completely offset by a greater decline in profitability and operational efficiency. This change is in line with the expectations of the Financial Constraints Theory: when external financing channels are restricted, companies will be forced to prioritise the security of cash flow, even if this move means the need to sacrifice the profit margin.

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4.2. High leverage, repayment risk

The company's debt repayment capacity index shows that during the downturn in the industry, it is unsustainable to depend on the "high leverage and high turnover" business model for a long time. The sharp decline in the Interest Coverage Ratio is a key warning signal, this means that the company's ability to use interest before interest and tax (EBIT) to repay interest on debt is very weak, and the buffer space is extremely limited

The persistent sluggish debt ratio shows that the company's capital structure has not changed fundamentally, and the dependence on debt financing is still high. At the same time, the current ratio continues to be lower than the company's normal security threshold, reflecting the lack of short-term liquidity. The combined changes in these three indicators illustrate the structural dilemma faced by the company: the decline in profits has weakened the fundamental source of debt repayment, while high debt levels and short-term liquidity tightening have exacerbated financial risks. This situation is consistent with the Capital Structure Trade-off Theory: when the debt level exceeds the optimal range, the resulting cost of financial difficulties (such as increased debt repayment pressure and financing difficulties) will begin to seriously erode the company's value.

4.3. Evolving stages of growth

The sharp fluctuations in the company's growth capacity, especially the growth of net profit, is significantly higher than the growth of revenue, marks a fundamental change in its growth driving force. Revenue growth slowed down and there was negative growth in 2023, indicating that the peak of overall market demand has passed, and the era of growth that depends on scale expansion is basically over.

The huge fluctuation of net income further reveals the instability of the company's profit model during the industry adjustment period. This transformation of growth drivers is consistent with the description of mature enterprises in the Enterprise Life Cycle Theory. The financial performance of China Merchants Shekou shows that its operational focus has shifted from the pursuit of rapid expansion of rapid market share to maintaining stable operation and cash flow security in the stock market. This transformation of growth model is the inevitable result of its adaptation to the new industrial environment.

4.4. The new drivers of financial risk

The evolution of the Financial Risk Index (FRI) quantifies the structural transformation of the company's overall financial risk. After 2019, Financial Risk Index (FRI) changed from negative to positive and remained high, which clearly shows that the company's overall risk level has risen systematically.

The main sources of risk have changed. Initially, the risk was mainly dominated by the high debt-equity ratio (leverage-driven). Recently, despite the decline in the level of leverage, the continuous decline in gross margin and the continuous slump in the current ratio have made the decline in profitability and liquidity pressure the main drivers of current risks. This transformation means that even if the company successfully achieves further "deleveraging", it is difficult to significantly reduce its overall financial risk if it cannot effectively improve the profitability and operating cash flow of its core business. This confirms the complexity of the risk-return trade-off: the improvement of a single indicator (such as reducing the debt ratio) may not necessarily reduce the overall risk, and

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the company's financial vulnerability may still be high when other risks (such as profitability and liquidity) are aggravated at the same time.

5. Conclusion

This study uses the financial data of China Merchants Shekou from 2015 to 2024 as the sample. By applying financial ratio analysis, DuPont Analysis, and the Financial Risk Index (FRI) model, it systematically evaluated the evolution characteristics of the company's financial performance from three dimensions: profitability, solvency, and growth capacity. The aim of the study is to reveal the dynamic changes in the financial structure of enterprises under the background of the adjustment of the real estate industry, and to provide references for the stable development of the industry.

The research results show that 2018 was an important turning point for the profitability of China Merchants Shekou, and since then, the profitability has declined significantly. DuPont Analysis shows that the decline in Net Income Margin, the decline in asset turnover and the decline in leverage ratio have all led to a sharp decline in the Return on Equity (ROE). In terms of solvency, China Merchants Shekou has maintained a high leverage structure, and the Interest Coverage Ratio has continued to decline, indicating that liquidity pressure has increased and financial costs have risen. Growth indicators show obvious periodic fluctuations. After a period of rapid expansion, the growth rate of revenue and profit has slowed down. The Financial Risk Index (FRI) further shows that since 2020, financial risks have increased, and the risk types have also changed from leverage-driven to profitability and liquidity-driven, reflecting the structural vulnerabilities faced by enterprises in the process of deleveraging. From a theoretical point of view, this study integrates Financial Constraints Theory, Capital Structure Trade-off Theory, Enterprise Life Cycle Theory and Risk–Return Trade-off Theory to explain how real estate enterprises adjust their financial behaviour in a credit crunch environment. The results of this study help to gain a deeper understanding of the internal transmission mechanism of financial risks in capital-intensive industries.

From a practical perspective, this study emphasises the need for real estate developers to maintain a cautious level of leverage, improve asset utilisation, and improve the quality of operating cash flow. Expanding complementary businesses such as property management and service operations also helps to enhance the long-term financial stability and resilience of enterprises. Although this study provides valuable insights, it is limited to the analysis of individual cases.

Although China Merchants Shekou is a large-scale state-owned developer, future research should expand the scope of the sample, include multiple companies, and incorporate dynamic variables such as cash flow, market value and credit risk indicators. This will help to have a more comprehensive understanding of the financial resilience and risk changes in China's real estate industry.

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