

ANALYSIS OF THE SOLVENCY OF CHINESE CONSTRUCTION ENTERPRISES FOR 2024



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Аннотация: В данной работе анализируется краткосрочная и долгосрочная платежеспособность пяти центральных государственных предприятий строительной отрасли Китая на основе восьми ключевых финансовых показателей. Используя финансовые данные за 2024 год, исследуются аспекты ликвидности, структуры капитала и устойчивости денежных потоков. Результаты показывают, что, несмотря на значимые позиции в отрасли, предприятия сталкиваются с финансовыми рисками — низкой краткосрочной ликвидностью и высокой долговой нагрузкой. Платежеспособность строительных компаний во многом определяется отраслевыми циклами, государственной политикой и уровнем поддержки со стороны финансовой системы. Для повышения платежеспособности предприятиям рекомендуется оптимизировать структуру активов, совершенствовать управление денежными потоками и поддерживать взвешенный уровень долговой нагрузки. Эти корпоративные меры целесообразно сочетать с координированными действиями государства и финансовых учреждений, такими как гарантии проектного финансирования и индивидуально адаптированные механизмы кредитования, в целях обеспечения устойчивого развития строительного сектора.

Ключевые слова: Краткосрочная платёжеспособность, Долгосрочная платёжеспособность, Финансовый риск, Строительные предприятия

Annotation. This paper analyzes the short- and long-term solvency of five central state-owned enterprises (SOEs) in China's construction industry based on eight key financial indicators. Using 2024 financial data, it examines aspects of liquidity, capital structure, and cash flow stability. The results show that, despite their strong industry positions, the enterprises face financial risks, manifested in tight short-term liquidity and high long-term leverage. The solvency of construction companies is largely determined by industry cycles, government policies, and the level of support from the financial system. To enhance solvency, enterprises are advised to optimize their asset structure, improve cash flow management, and maintain a balanced level of debt. These corporate measures should be complemented by coordinated actions from the government and financial institutions, such as project financing guarantees and individually tailored credit mechanisms, in order to ensure the sustainable development of the construction sector.

Keywords: Short-term solvency, Long-term solvency, Financial risk, Construction enterprises

INTRODUCTION

Research Background

The construction industry is a key pillar of China's economy, supporting infrastructure, employment, and related sectors. Despite ongoing investment, rising market volatility and competition have increased debt-repayment pressures. For central state-owned enterprises (SOEs), solvency—timely fulfillment of financial obligations—directly affects financing costs, reputation, and long-term sustainability. With the real estate market shifting to stock management and new contracts for listed construction firms falling 3.44% in 2024, short-term liquidity and debt risks have intensified, highlighting the need to assess financial resilience.

Research Significance

Construction firms are capital-intensive, operate over long time horizons, and rely heavily on external financing. Large receivables and slow cash recovery contribute to liquidity

volatility. Their operations are project-based and sensitive to macroeconomic and policy changes. Analyzing both short- and long-term solvency helps to identify systemic risks and informs financial management, investment decisions, and policy-making.

Research Objects and Methods

This study examines five listed central SOEs in China, selected as purposive sample enterprises, using data from their 2024 annual reports. The ratio analysis method is employed to evaluate both short- and long-term solvency using indicators such as the current ratio, quick ratio, debt-to-asset ratio, debt-to-equity ratio, and other relevant ratios. The aim is to identify solvency risks and provide targeted policy and managerial recommendations to support the sustainable development of the construction sector.

1. Introduction to Chinese Construction Enterprises

The following table presents the basic information and key financial indicators of the five listed Chinese

No.	Company Name (Shanghai Stock Exchange Code)	Total Assets (thousand RMB)	Operating Revenue (thousand RMB)	Net Profit (thousand RMB)	Number of Employees
1	Metallurgical Corporation of China Limited (MCC) (601618.SH)	808,015,755	552,024,638	7,904,332	97,489
2	China Railway Group Limited (CREC) (601390.SH)	2,256,413,630	1,157,439,041	30,758,031	297,359
3	China Railway Construction Corporation Limited (CRCC) (601186.SH)	1,862,842,522	1,067,171,337	27,078,377	264,045
4	China Communications Construction Company Limited (CCCC) (601800.SH)	1,858,272,592	771,944,258	30,346,608	137,471
5	Power Construction Corporation of China Limited (PowerChina) (601669.SH)	1,289,001,337	634,552,119	15,825,695	163,912

construction enterprises, based on the consolidated financial statements from their 2024 annual reports^[1-5]:

The selection of these five enterprises for comparative solvency analysis is based on the following considerations:

(1) Industry representativeness.

All are core players in national infrastructure, transportation, and energy projects, reflecting the sector's structure and policy context, including "Belt and Road" and "Going Global" initiatives.

(2) Comparable scale and financial structure.

Each manages assets over one trillion RMB with proportionate revenues, ensuring solvency differences stem from management and capital structure rather than size.

(3) Labor-intensive operations.

Large workforces drive high personnel costs and complex project management, impacting cash flow and short-term liquidity.

(4) Profitability and capital-accumulation disparities.

Despite similar asset bases, net profits vary significantly, affecting internal capital generation and resilience to leverage risks.

(5) Data reliability and comparability.

As listed SOEs under uniform Chinese Accounting Standards, all provide audited, transparent financial statements suitable for cross-sectional analysis.

2. Short-term Solvency Analysis

Short-term solvency focuses on a company's ability to use current assets to repay current liabilities within one year. It reflects both the liquidity of assets and the management of short-term obligations^[6]. A comprehensive evaluation of short-term solvency typically involves current ratio, quick ratio, cash ratio, and net operating cash flow to current liabilities ratio.

2.1 Current Ratio

Current Ratio = Current Assets ÷ Current Liabilities.

A higher ratio indicates stronger short-term solvency, while a lower one implies liquidity pressure.

However, an excessively high ratio may suggest idle assets and inefficient capital use. For construction enterprises, the healthy range is typically 1.5–2.0.

The current ratios of the five construction enterprises in 2024 are as follows:

No.	Company	Current Assets (thousand RMB)	Current Liabilities (thousand RMB)	Current Ratio
1	MCC	599,767,170	573,629,900	1.05
2	CREC	1,264,092,495	1,276,197,151	0.99
3	CRCC	1,143,974,775	1,112,754,359	1.03
4	CCCC	788,925,197	868,807,903	0.91
5	PowerChina	532,807,365	603,778,189	0.88

All five enterprises report current ratios below 1.5, indicating limited liquidity across the industry. Three companies—CREC, CCCC, and PowerChina—fall below 1.0, revealing heightened short-term repayment risk. PowerChina (0.88) shows the weakest liquidity position.

It is recommended to closely monitor the current ratios of these companies and require disclosure of debt repayment plans, including asset liquidation strategies and refinancing arrangements, to prevent systemic debt risk.

The comparison of current ratios (2024 vs. 2023):

No.	Company	2024 Current Ratio	2023 Current Ratio	Change YoY
1	MCC	1.05	1.08	-0.03
2	CREC	0.99	1.00	-0.01
3	CRCC	1.03	1.07	-0.04
4	CCCC	0.91	0.90	+0.01
5	PowerChina	0.88	0.84	+0.04

Three firms (MCC, CREC, CRCC) recorded slight declines, while CCCC and PowerChina improved marginally but remained below the safe threshold. The overall decline reflects ongoing liquidity strain, with current liabilities growing faster than assets.

2.2 Quick Ratio

Quick Ratio=Quick Assets÷Current Liabilities.

A low quick ratio indicates weak short-term solvency and potential liquidity risk. Conversely, a very high quick ratio may indicate inefficient use of funds and underutilized assets. For construction enterprises, a ratio near 1.0 is generally considered healthy.

The 2024 quick ratios of the five construction enterprises are as follows:

No.	Company	Quick Assets (thousand RMB)	Current Liabilities (thousand RMB)	Quick Ratio
1	MCC	321,715,507	573,629,900	0.56
2	CREC	554,493,400	1,276,197,151	0.43
3	CRCC	462,690,376	1,112,754,359	0.42
4	CCCC	337,558,232	868,807,903	0.39
5	PowerChina	294,597,803	603,778,189	0.49

All five enterprises report quick ratios below 0.6, far under the 1.0 benchmark, indicating that core liquid assets are insufficient to cover current liabilities. CCCC (0.39) shows the weakest liquidity, with only 39% of current liabilities covered by quick assets, followed by CRCC (0.42) and CREC (0.43). MCC (0.56) and PowerChina (0.49) also remain below safe levels, revealing widespread liquidity strain.

The firms should strengthen cash reserves, accelerate receivables collection, and disclose short-term debt repayment plans to maintain financial stability.

2.3 Cash Ratio

Cash Ratio=Cash and Cash Equivalents÷Current Liabilities.

A higher ratio signals stronger liquidity and lower financial risk, while a very low ratio indicates reliance on other current assets or external financing to meet obligations. However, an excessively high ratio may also suggest that the enterprise holds too much idle cash, which is not efficiently utilized for investment or business expansion.

The cash ratios of the five construction enterprises in 2024:

No.	Company	Cash and Cash Equivalents (thousand RMB)	Current Liabilities (thousand RMB)	Cash Ratio
1	MCC	52,561,621	573,629,900	0.09
2	CREC	262,086,796	1,276,197,151	0.21
3	CRCC	187,236,231	1,112,754,359	0.17
4	CCCC	142,977,468	868,807,903	0.17
5	PowerChina	115,058,233	603,778,189	0.19

The cash ratios of the five construction enterprises in 2024 reflect a constrained cash liquidity position. Cash and cash equivalents cover only a limited portion of their short-term liabilities. Among the five firms MCC (0.09) exhibits the weakest cash ratio, indicating the greatest short-term liquidity pressure.

Overall, the companies demonstrate limited immediate liquidity and a heavy dependence on receivables or external borrowing for debt servicing. To mitigate cash flow strain, the firms should enhance cash management, maintain adequate reserves, and diversify short-term financing channels.

2.4 Net Operating Cash Flow to Current Liabilities Ratio

Net Operating Cash Flow to Current Liabilities Ratio=Net Operating Cash Flow÷ Current Liabilities.

A ratio above 100% indicates full coverage of current liabilities through operations, while values below 50% signal potential liquidity risk—particularly for capital-intensive industries such as construction.

The net operating cash flow to current liabilities ratios for the five construction enterprises in 2024:

No.	Company	Net Operating Cash Flow (thousand RMB)	Current Liabilities (thousand RMB)	Net Operating Cash flow to Current Liabilities Ratio
1	MCC	7,847,704	573,629,900	0.01
2	CREC	28,051,091	1,276,197,151	0.02
3	CRCC	-31,423,832	1,112,754,359	-0.03
4	CCCC	12,506,417	868,807,903	0.01
5	PowerChina	24,545,698	603,778,189	0.04

The results indicate that the operating cash inflows of these enterprises cannot effectively support the repayment of current liabilities, implying a certain degree of short-term debt pressure. Most companies rely on external financing or asset liquidation to bridge cash flow gaps. CRCC's negative figure reflects a net operational cash outflow, posing a significant financial stability risk. Although PowerChina (0.04) shows the highest ratio, it is still well below a safe threshold.

3. Long-Term Solvency Analysis

Long-term solvency measures a company's ability to repay debts with maturities over one year, including interest. It indicates financial stability, debt risk, and future financing capacity. Key aspects include capital structure, profitability, and cash flow performance. Common indicators are debt-to-asset ratio, debt-to-equity ratio, equity multiplier, and debt to tangible net worth ratio, which together reflect financial leverage, funding stability, and repayment capability.

3.1 Debt-to-Asset Ratio

Debt-to-Asset Ratio = Total Liabilities ÷ Total Assets × 100%.

A higher ratio signals greater debt reliance and repayment pressure, while a lower ratio indicates a more stable, equity-based structure. Industry context matters: capital-intensive sectors can tolerate higher ratios. In construction, 40–60 % is generally considered sound.

The debt-to-asset ratios of the five construction enterprises in 2024:

No.	Company	Total Liabilities (thousand RMB)	Total Assets (thousand RMB)	Debt-to-Asset Ratio (%)
1	MCC	625,679,889	808,015,755	77.43
2	CREC	1,746,273,748	2,256,413,630	77.39
3	CRCC	1,440,245,700	1,862,842,522	77.31
4	CCCC	1,390,457,601	1,858,272,593	74.83
5	PowerChina	1,017,424,198	1,289,001,337	78.93

In 2024, the five construction firms showed high debt levels (>70%): PowerChina (78.93%) had the highest, and CCCC (74.83%) the lowest, indicating heavy debt reliance and increased financial risk.

Generally, a debt-to-asset ratio above 70 % serves as a warning signal that requires management attention. Enterprises should manage debt, optimize assets and liabilities, control leverage, and improve capital efficiency to reduce financial risks and ensure long-term stability.

The comparison of debt-to-asset ratios (2024 vs. 2023):

No.	Company	2024 (%)	2023 (%)	Change (pp)
1	MCC	77.43	74.61	+2.82
2	CREC	77.39	74.86	+2.53
3	CRCC	77.31	74.92	+2.39
4	CCCC	74.83	72.74	+2.09
5	PowerChina	78.93	77.51	+1.42

All five enterprises experienced an increase in their debt-to-asset ratios in 2024, with rises ranging from 1.42 to 2.82 percentage points. The largest increase occurred in MCC (+2.82 pp). This overall upward trend suggests growing reliance on external financing to support business expansion or operational needs, reflecting an increasing debt burden across the sector.

3.2 Debt-to-Equity Ratio

Debt-to-Equity Ratio = Total Liabilities ÷ Total Shareholders' Equity.

A higher ratio shows heavy reliance on debt, increasing repayment risk, while a lower ratio reflects a more stable, equity-based structure. In construction, a 1:1 ratio is generally considered reasonable.

The debt-to-equity ratios of the five construction enterprises in 2024:

No.	Company	Total Liabilities (thousand RMB)	Total Shareholders' Equity (thousand RMB)	Debt-to-Equity Ratio
1	MCC	625,679,889	182,335,866	3.43
2	CREC	1,746,273,748	510,139,882	3.42
3	CRCC	1,440,245,700	422,596,822	3.41
4	CCCC	1,390,457,601	467,814,991	2.97
5	PowerChina	1,017,424,198	271,577,138	3.75

In 2024, all five construction firms had high ratios: PowerChina (3.75) was the highest, followed by MCC (3.43), CREC (3.42), CRCC (3.41), and CCCC (2.97). This indicates dominant debt financing, higher interest burden, and increased financial risk.

The companies should align debt with profitability and cash flow, control leverage, and optimize capital structure to enhance risk resilience and ensure sustainable financing.

3.3 Equity Multiplier

Equity Multiplier = Total Assets ÷ Total Shareholders' Equity.

A higher multiplier indicates greater reliance on debt to finance assets, enhancing potential returns but increasing financial and liquidity risks. A lower multiplier reflects a more stable, equity-based structure. In DuPont analysis, it directly affects return on equity by amplifying shareholder returns.

The equity multipliers of the five construction enterprises in 2024:

No.	Company	Total Assets (thousand RMB)	Total Shareholders' Equity (thousand RMB)	Equity Multiplier
1	MCC	808,015,755	182,335,866	4.43
2	CREC	2,256,413,630	510,139,882	4.42
3	CRCC	1,862,842,522	422,596,822	4.41
4	CCCC	1,858,272,593	467,814,991	3.97
5	PowerChina	1,289,001,337	271,577,138	4.75

In 2024, the five construction firms had high multipliers: PowerChina (4.75) was highest, indicating strong leverage, while CCCC (3.97) was lowest, reflecting a more conservative capital structure. Companies should balance leverage, profitability, and cash flow to optimize capital structure, control risk, and ensure sustainable growth.

3.4 Debt to Tangible Net Worth Ratio

Debt to Tangible Net Worth Ratio = Total Liabilities ÷ Tangible Net Worth.

Lower ratios indicate stronger creditor protection and financial stability, while higher ratios signal heavy reliance on debt and weaker tangible asset backing.

The debt to tangible net worth ratios of the five construction enterprises in 2024:

No.	Company	Total Liabilities (thousand RMB)	Tangible Net Worth (thousand RMB)	Debt to Tangible Net Worth Ratio
1	MCC	625,679,889	148,642,352	4.21
2	CREC	1,746,273,748	256,957,887	6.80
3	CRCC	1,440,245,700	305,544,671	4.71
4	CCCC	1,390,457,601	255,017,241	5.45
5	PowerChina	1,017,424,198	2,308,396	441

In 2024, the five construction firms showed very high ratios: PowerChina (441) was extreme, with almost all equity in intangibles, while MCC (4.21), CRCC (4.71), CCCC (5.45), and CREC (6.80) also had high leverage. These results highlight the industry's limited tangible equity and the need for careful debt management to reduce long-term solvency risk.

4. Macro and Structural Reasons for the Weak Solvency in the Construction Industry

The construction industry's weak solvency is driven by both macroeconomic conditions and structural factors.

1. Capital-Intensive, Long-Cycle Projects: Funds are tied up in work-in-progress, contract assets, and receivables for extended periods. Although these appear as current assets, their limited liquidity lowers quick and current ratios, weakening short-term repayment capacity.

2. Macro Demand and Cost Pressures: In 2024, the total value of newly signed contracts of 30 listed construction companies in China amounted to CNY 18,441.76 billion, representing a year-on-year decrease of 3.44% compared with 2023. Slowing real estate growth, oversupply in commercial properties, cautious developer investment, rising material and labor costs, as well as tighter financing compress margins and reduce operating cash flow.

3. Debt Structure and Settlement Practices: The "construction first, settlement later" model creates high receivables and payables, with actual cash for debt repayment often insufficient^[7]. Companies may delay payments to suppliers, forming a "high receivables–high payables" cycle that heightens liquidity risk.

4. Rising Leverage: From 2020–2024, the average asset-liability ratio of listed construction firms rose from 74.76% to 77%, with increasing capitalized and interest-bearing debt, showing growing reliance on external financing.

Overall, long project cycles, tight liquidity, rising debt, and slow receivables make even large, asset-rich firms vulnerable to both short- and long-term solvency pressures.

5. Policy Recommendations

To mitigate solvency risks in the construction industry, reforms are needed at the government, financial, and enterprise levels.

Government Level:

Reform investment and payment mechanisms: Ensure full-cycle project funding guarantees, clarify budgets before construction, and integrate local projects into special bonds or fiscal management.

Improve payment assurance: Implement phased settlements, mandatory payment guarantees, and stronger supervision.

Promote PPP and EPC+F models: Encourage private capital participation to reduce government debt burden.

Support internationalization: Facilitate overseas projects and foreign cooperation, diversifying market risk.

Strengthen credit and receivables management: Establish national platforms for receivable registration and credit information sharing.

Financial Level:

Enhance financing and guarantee systems: Allocate dedicated construction loan quotas, raise credit limits, and offer preferential rates.

Promote supply chain and receivables financing: Unlock cash flow via factoring and pledge financing.

Innovate tools like "factoring + guarantees": Reduce financing barriers and share credit risk.

Accelerate overseas capital recovery: Optimize fund repatriation and reduce idle capital.

Enterprise Level:

Optimize capital structure and management: Use cash pools, strengthen receivables management, and enforce clear payment terms.

Adopt light-asset and digital models: Subcontract, digitize, and improve turnover efficiency.

Diversify business strategies: Expand into infrastructure operation, environmental protection, new energy, and consulting to stabilize cash flow.

Promote integrated industrial chain development: Consolidate resources, improve coordination, and enhance supply chain efficiency for cost control and resilience.

Coordinated efforts by the government, financial institutions, and enterprises can help to lower leverage, improve liquidity, and strengthen both short- and long-term solvency across the industry.

CONCLUSION

This study evaluates the solvency of five SOEs in China using eight financial indicators that cover both short- and long-term aspects of financial stability. The analysis reveals that these firms face significant financial pressures and solvency risks. Short-term solvency is constrained, as reflected in low current, quick, and cash ratios. Long-term solvency shows a heavy reliance on debt: debt-to-asset ratios often exceed 70%, while high debt-to-equity and equity multiplier values indicate highly leveraged capital structures.

Structural factors—long project cycles, capital-intensive models, reliance on external financing, and industry-specific payment practices—amplify repayment risks, especially under macroeconomic slowdown or fiscal tightening.

Opportunities arise from ongoing industry transformation toward greener, smarter, more digital, and overseas operations. Enterprises should optimize asset structures and project portfolios, reduce accounts receivable, strengthen cash flow management, control leverage, improve capital efficiency, and enhance internal profitability through technological and managerial upgrades.

Solvency also relies on coordinated support from both the government and financial institutions: the government can strengthen project funding guarantees and ensure phased payments, while financial institutions can offer dedicated construction financing and supply-chain solutions. For overseas projects, cross-border fund management can stabilize cash flow and diversify risk.

Overall, by combining policy support, financial tools, internal management, and international expansion, construction enterprises can secure short-term debt repayment while achieving long-term financial stability.

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