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S&P Global China Ratings

## Surveillance Credit Rating Report:

# China State Construction SilkRoad Construction Investment Group Co., Ltd.

Issuer Credit Rating*：$A_{spc}$；Outlook: Stable

**September 28, 2021**

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*This rating is an Issuer Credit Rating (ICR). An ICR reflects our view of the senior unsecured credit rating of an issuer and is not specific to an individual issuance that it may issue.

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The rating presented in this report is effective from the rating date, until and unless we make any further updates.

This document is prepared in both English and Chinese. The English translation is for reference only, and the Chinese version will prevail in the event of any inconsistency between the English version and the Chinese version.

# Tear Sheet

| Company Name | Rating Type | Current Rating | Rating Date | Outlook/CreditWatch |
|---|---|---|---|---|
| China State Construction SilkRoad Construction Investment Group Co., Ltd. | Issuer Credit Rating | $A_{spc}$ | September 28, 2021 | Stable |

**Industry Classification:** Transportation Infrastructure.

**Company Overview:** China State Construction SilkRoad Construction Investment Group Co., Ltd.("CSCEC SilkRoad" or "company ") is a wholly owned subsidiary of China State Construction Engineering Corporation Ltd. ("CSCEC" or "parent"). The company facilitates the development of CSCEC's infrastructure construction business through investing in various infrastructure projects. The company earns the bulk of its revenue and profits from EPC, management fees and investment. Being a general contractor, its earnings also come from difference in profits between general contractor and subcontractors. The company mainly sources the funding for its public-private partnership (PPP) projects from project loans and partly funds its equity investment in PPP projects from management fees and profits from other projects. Management fees and profits from projects also contribute to principal and interest payments. By the end of June 2021, the company had seven PPP projects underway with total investment of around RMB 40 billion. In addition, the company also invested in two PPP projects with minority shareholding.

**Economy and Industry Trends:** China is recovering from the slowdown in economic growth caused by COVID-19, and we expect full-year economic growth of 8% for 2021. Infrastructure investment continues to play an important role in economic growth, and growth of infrastructure fixed asset investment is set to remain stable as before the epidemic. PPP is one of the main methods in infrastructure investment but its growth may slow. At the same time, most PPP projects underway in the market are still under construction. Given that relatively few PPP projects have entered operations, there is limited track record in the timeliness of payments through government pay or viability gap funding (VGF) mechanisms.

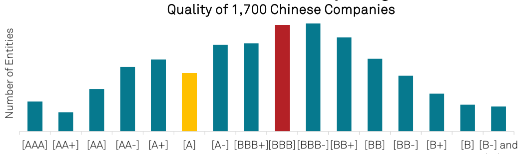
**Credit Highlights:** In our view, the company's investment projects have relatively high quality. Its investment activity requires the prior approval of CSCEC. All PPP projects underway are on the Ministry of Finance's China PPP Integrated Information Platform Management Database (PPP Management Database), and project repayments are included in the local government fiscal budget. We view that the company's projects have good regional exposure as they are all based in Xi'an. However, having all projects based in one city leads to some concentration risk. The majority of PPP projects are under construction, tempering our view of its business risk profile. We expect the company's leverage ratio to remain high (at around 10-15 times in the near term) amid ongoing investment and construction of PPP projects. However, we expect project repayment plus EBITDA to interest coverage ratio to remain stable as projects enter operation. At the same time, the company's debt is mainly PPP project loans. The loan period aligns with the projects' operation period with some repayment flexibility. Therefore we view its financial risk profile as significant. The company is a wholly owned subsidiary of CSCEC, and we expect it to be of high importance to its parent.

**Key Metrics：**

| | 2019A | 2020A | 2021F |
|---|---|---|---|
| Total Debt/(EBITDA+expected project payment) | 15.1 | 18.5 | 10.0-15.0 |
| (EBITDA+expected project payment) interest coverage (x) | 1.6 | 1.3 | 2.0-3.0 |
| Coverage of project loan principal and interest by min. guaranteed payment (x) | | 1.3-2.4 | |

Note: Above data adjusted by S&P Global (China) Ratings. A- actual, E-estimated F-forecast. The coverage ratio of debt principal and interest of the project is the minimum range of the predicted value of each project in the first three years of the operation period.

Position of CSCEC SilkRoad's Credit Quality Among Indicative Credit Quality of 1,700 Chinese Companies




Note: The red bar represents the median indicative credit quality of top 1700 entities, and the yellow bar represents the position of CSCEC SilkRoad.
Source: "Turning a Corner: China Corporate Outlook 2021", January 11, 2021.


**Rating Snapshot：**

| | |
|---|---|
| **Issuer Credit Rating：** | **$A_{spc}$/Stable** |
| **Business Risk Profile：** | **4/Fair** |
| Industry Risk： | 2/Low |
| Competitive Position： | 4/Fair |
| Financial Risk Profile： | 4/Significant |
| **Anchor：** | **bb+** |
| **Adjustments** | |
| Diversity： | Neutral (no adjustment) |
| Capital Structure： | Neutral (no adjustment) |
| Financial Policy： | Neutral (no adjustment) |
| Liquidity： | Adequate (no adjustment) |
| Management & Governance： | Neutral (no adjustment) |
| Holistic Adjustment： | -1 |
| **Stand-alone Credit Profile：** | **$bb_{spc}$** |
| **External Influence：** | **+6** |

**Business Risk Profile:** We view the company's business risk profile as fair, reflecting the relatively high quality of its investment projects. Its investment activity requires the prior approval of CSCEC and comes under the parent's strict supervision. All PPP projects underway are included in the PPP Management Database and comprise of either government-pay or VGF return mechanisms. We view that the company's projects have good regional exposure, although all projects are concentrated in one city. Tempering these strengths are the lack of track record of stable operations and project repayments. The majority of projects are under construction, while a few projects have entered trial operation.

**Financial Risk Profile:** We view the company's financial risk profile as significant. With the majority of projects under construction, we expect the company's leverage ratio to remain at a high level as construction progresses. However, its EBITDA and total project repayment could provide good interest coverage. Thanks to its relatively good financing structure, we expect project repayment to cover both interest and principal payment when major projects enter operation. PPP project financing offers some flexibility, which may mitigate some pressure from the risk of untimely collection of project repayment.

**Comparable Rating Analysis:** The one-notch downward adjustment mainly reflects our view on the concentration risk that all the company's projects are located in Xi'an City.

**External Influence:** The company is a wholly owned subsidiary of CSCEC. In our opinion, CSCEC has very strong indicative credit quality. The company plays an important role in carrying out and developing CSCEC's infrastructure business strategy, and acts as CSCEC's main executor of infrastructure development in northwest China. We expect the company to continue in these roles in the future. In our view, CSCEC's strict management of the company's investment operations and finances will continue for the foreseeable future, strengthening their linkage and allowing CSCEC to be in a position where it can provide timely extraordinary support when needed. At the same time, we do not expect CSCEC to sell or divest the company. Therefore, we view this company of high importance to CSCEC.

**Peer Comparison**: (2018-2019 average value, RMB, millions)

| | CSCEC SilkRoad | CSCEC FangCheng | CCCC Investment | CCCC Urban | CRCC Investment |
|---|---|---|---|---|---|
| Total Revenue | 6,564.9 | 8,248.4 | 7,104.2 | 7,723.5 | 22,117.8 |
| EBITDA | 740.2 | 1,449.8 | 4,403.7 | 1,843.4 | 3,744.2 |
| Debt/EBITDA (x) | 14.7 | 16.7 | 8.7 | 6.3 | 17.3 |
| EBITDA Interest Coverage Ratio (x) | 1.6 | 3.3 | 3.7 | 3.4 | 1.3 |

Note: Above data adjusted by S&P Global (China) Ratings; Source: CSCEC SilkRoad data includes data adjusted to account for off-balance sheet items. Peer company information from public information, adjusted by S&P Global (China) Ratings.

## Declaration

No association that may affect the independence, objectivity and unbiasedness of the rating process exists between S&P Global (China) Ratings or its analysts and the rated entity, other than the engagement as a result of this credit rating project.

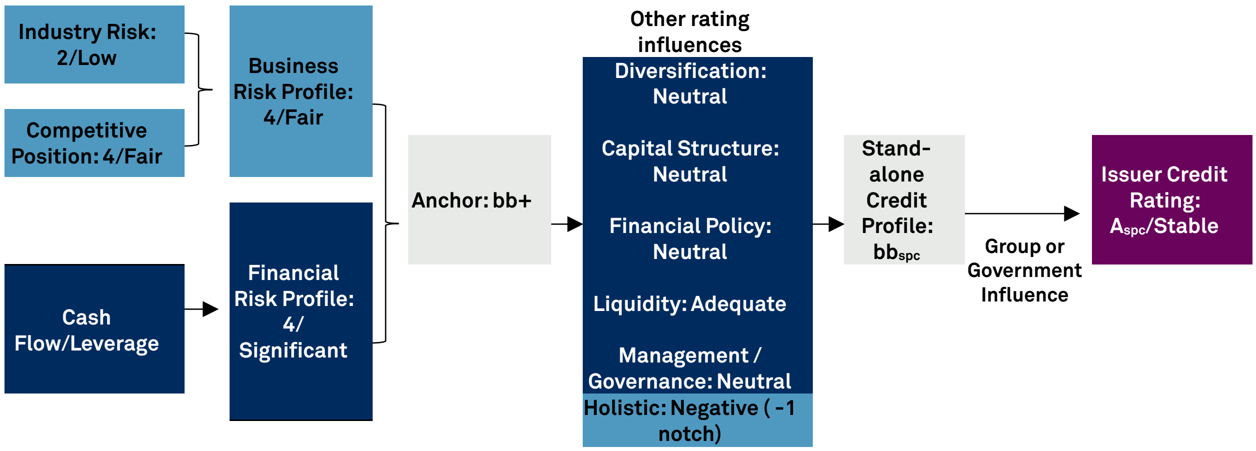
S&P Global (China) Ratings and its analysts have conducted on-site investigations and observed their fiduciary duties, thus have confidence to assure that this rating report adheres to principles of truthfulness, objectivity and unbiasedness.

S&P Global (China) Ratings arrived at analytical conclusions presented in this credit rating report based on its own methodologies and procedures and did not change any of its rating opinions as a result of any inappropriate influence from the rated entity or any other organization(s) or individual(s).

This credit rating report is used to support related decision making, and does not constitute a conclusion or recommendation that any particular decision(s) should be made.

## Rating Summary

| Company Name | Rating Type | Current Rating | Rating Date | Outlook/CreditWatch |
|---|---|---|---|---|
| China State Construction SilkRoad Investment Group Co., Ltd. | Issuer Credit Rating | $A_{spc}$ | September 28, 2021 | Stable |




## Credit Highlights

| Strengths | Weaknesses |
|---|---|
| The company has a strict project investment policy and approval process. Projects can only be implemented upon approval of CSCEC. | The company has some geographic concentration risks as currently all PPP projects are located in a single area. Nonetheless, the regional exposure is good, despite the area's debt burden being relatively heavy. |
| The company's projects are of relatively high quality. All PPP projects underway are on the PPP Management Database, and project receipts or VGF payments are included in the local government budget. | Given that the majority of projects are still under construction, the operations of these projects may pose some challenges to the company. There is some uncertainty on how they operate these assets. |
| The company's projects have no market risk exposure as return mechanisms are either government-pay or VGF. | We view the company's financial leverage to be high, and a large number of projects still require ongoing capital investment. |
| We consider its importance to CSCEC as high; as a wholly owned subsidiary of CSCEC, the company plays an important strategic role in developing its parent's infrastructure construction business. | |

## Outlook

The stable outlook on CSCEC SilkRoad reflects our view that the company would successfully complete its current PPP projects and enter operation over the next 24 months. We also expect the company to continue to hold its strict investment approval process and investment standards for new investment projects. The company's debt level is expected to grow as its ongoing investment projects progress. However, as the projects gradually enter operation and gradually deliver returns, the leverage ratio and interest coverage ratio would remain relatively stable. As a wholly owned subsidiary of CSCEC, CSCEC SilkRoad 's strategic role of developing the infrastructure investment in the northwest China market would remain unchanged, and would continue to receive support from its parent CSCEC.

Upside scenario:

We might consider upgrading the rating of CSCEC SilkRoad if:

1) The company's business risk profile improves while maintaining its current financial risk profile. Improvements to its business risk profile may include: i) the company developing a track record in project repayments after they enter operation, reducing the uncertainty in project repayments; or ii) new investment projects expanding to multiple cities, reducing its geographic concentration risk. Or

2) As the project continues to collect repayments, the company gradually uses these proceeds to pay back its PPP project loans, reducing the company's financial risk on a sustainable basis. Or

3) The importance of the company within the CSCEC group increases.

Downside scenario:

We might consider lowering the rating of the company if:

1) The company's business risk profile deteriorates. This scenario could occur if i) there is a significant relaxation of the company and CSCEC's requirements for management and investment of projects; or ii) the company's future projects have weaker regional exposure, or iii) poor operation of completed projects, seriously affecting project payback. Or

2) Group support is weakened. This scenario could occur if the company's importance to CSCEC is lowered, or CSCEC's indicative credit quality deteriorates significantly on a prolonged period, resulting in declining indicative support ability. Or

3) The company's authority over the financial management of its projects changes significantly.

In our view, the last two scenarios are unlikely to occur in the foreseeable future.

## Assumptions and Forecasts

### Assumptions

- China continues to recover from the slowdown in economic growth caused by COVID-19, with full-year economic growth of 8% for 2021. Growth of infrastructure investment remains stable as before the epidemic.
- In 2021-2022, the company's capital expenditure on PPP project construction is about RMB 6 billion to RMB 11 billion per year. New investment projects enter an intensive investment period in 2022.
- From 2021 to 2022, PPP projects entering operation generate about RMB 1.2 billion to RMB 2.6 billion in repayments every year.
- In 2021-2022, the company's EBITDA generated from project management fees remains at RMB 900 million to RMB 1.2 billion.
- From 2021 to 2022, the annual loan and interest repayment of PPP projects entering operation is around RMB 1.4 billion to RMB 1.8 billion.

## Forecasts

**CSCEC SilkRoad ——Key Metrics**

| | 2019A | 2020A | 2021F |
|---|---|---|---|
| Debt/EBITDA (x) | 15.1 | 18.5 | 24.0-30.0 |
| EBITDA interest coverage ratio (x) | 1.6 | 1.3 | 0.5-1.5 |
| EBITDA margin (%) | 12.0 | 11.5 | 10.0-13.0 |
| Adjustments for expected project receipts from PPP projects to cash flow for repayments: | | | |
| Debt/(EBITDA+expected project repayments) (x) | 15.1 | 18.5 | 10.0-15.0 |
| (EBITDA+expected project repayments) interest coverage ratio (x) | 1.6 | 1.3 | 2.0-3.0 |
| Minimum payment to principal and interest of PPP project debt coverage ratio (x) | | 1.3-2.4 | |

Note: Adjusted by S&P Global (China) Ratings. A—actual. F—Forecast. The minimum payment to principal and interest of PPP project debt coverage ratio is the minimum range of the predicted value of each project in the first three years of the operation period.

## Adjusted Financials and Ratios

**Adjusted Financials and Ratios**

| (RMB, millions) | 2018A | 2019A | 2020A | 2021.1-6 |
|---|---|---|---|---|
| Revenue | 5,604.8 | 7,524.9 | 9,053.5 | 6,336.5 |
| EBITDA | 576.8 | 903.7 | 1,037.0 | 653.1 |
| Operating cash flow | 227.9 | 36.9 | 1.6 | -- |
| Debt | 8,280.8 | 13,680.3 | 19,215.1 | -- |
| EBITDA margin (%) | 10.3 | 12.0 | 11.5 | 10.3 |
| EBITDA interest coverage ratio (x) | 1.7 | 1.6 | 1.3 | -- |
| Debt/EBITDA (x) | 14.4 | 15.1 | 18.5 | -- |

Note: 1. For main adjustments to financial data, please refer to Table 2; 2. A represents Actual; 3. "--" represents interim data not available.

## Related Methodologies and Research

Related methodologies:

- S&P Global (China) Ratings-Corporate Methodology, 28 July 2020
- S&P Global (China) Ratings Supplemental Methodology—Transportation infrastructure Industry, 21 May 2019
- S&P Global (China) Ratings General Considerations on Rating Modifiers and Relative Ranking, 21 May 2019

Related research:

- Understanding S&P Global (China) Rating Corporate Methodology,28 July 2020
- Commentary: Understanding S&P Global (China) Ratings General Considerations On Rating Modifiers and Relative Ranking Methodology,29 June 2020
- Commentary: Understanding S&P Global (China) Ratings Approach To Support,8 May 2019

# Historical Credit Rating Information

## Issuer Credit Ratings

| Rating Type | Ratings | Outlook | Rating Date | Analysts | Related Reports |
|---|---|---|---|---|---|
| Initial Rating | $A_{spc}$ | Stable | 2020-12-28 | Huang Wang, Renyuan Zhang, Yingxue Ren, Kexin Wang | Credit Rating Report: China State Construction SilkRoad Construction Investment Group Co., Ltd., December 28, 2020 |
| Surveillance | $A_{spc}$ | Stable | 2021-9-28 | Huang Wang, Renyuan Zhang, Yingxue Ren, Kexin Wang | Current Report |

Related Methodologies and Models: Please refer to "Related Methodologies and Research" in the report.

## Surveillance Purpose

In accordance with S&P Global (China) Ratings' surveillance plan, we shall monitor the credit quality of the rated issuer on a periodic and an ongoing basis. This is periodic surveillance of the rated issuer.

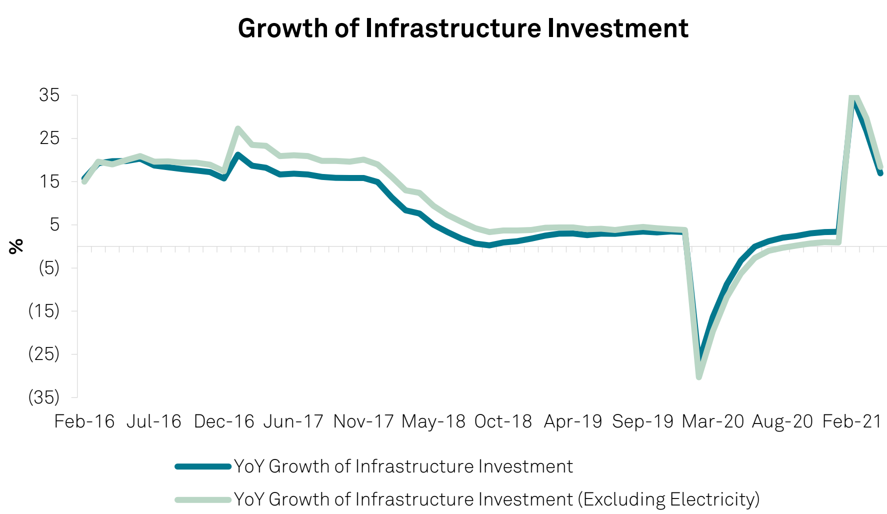
## Economic and Industry Trends

China is recovering from the slowdown in economic growth caused by COVID-19. As consumption growth continues to pick up, there is no sign yet that investment and net exports are flaming out. However, the overall nature of the recovery has been unbalanced. Large parts of the manufacturing sector are operating at or above capacity while other industries such as personal services and tourism are still facing weak demand. Despite potential tailwinds such as a slower-than-expected vaccine rollout and a tightening policy environment, we expect full-year economic growth of 8% for 2021 as the economy continues to gradually rotate towards private consumption, a necessary step if growth is to maintain momentum.

**As an important driver of economic growth, infrastructure investment is expected to maintain stable growth.**

In our view, infrastructure investment has played an important role in driving China's economic growth in recent years and will continue to do so, with growth of infrastructure investment expected to remain stable. Recent years have however seen a decline in infrastructure investment growth. In 2019, total infrastructure investment (excluding electricity) increased 3.8% year-over-year. Amid the COVID-19 outbreak, infrastructure investment fell sharply at the beginning of 2020. However, the economic recovery and issuance of special bonds since then have seen a rapid uptick in infrastructure investment. Proposals announced in November 2020 regarding China's 14th Five-Year Plan and long-term goals for 2035 saw central authorities emphasize the need to promote infrastructure construction as a whole, with plans to speed up completion of infrastructure in under-developed regions, as well as promotion of new infrastructure, new urbanization projects, transportation, water conservation and other major projects. We expect infrastructure construction to remain central to efforts promoting stable economic development in the future. The rapid growth of infrastructure investment in the first quarter of 2021 was mainly due to the low starting base, given the impact of COVID-19 in the first quarter of 2020. Going forward, we expect infrastructure investment to maintain the stable growth patterns seen prior to the pandemic.

Chart 1



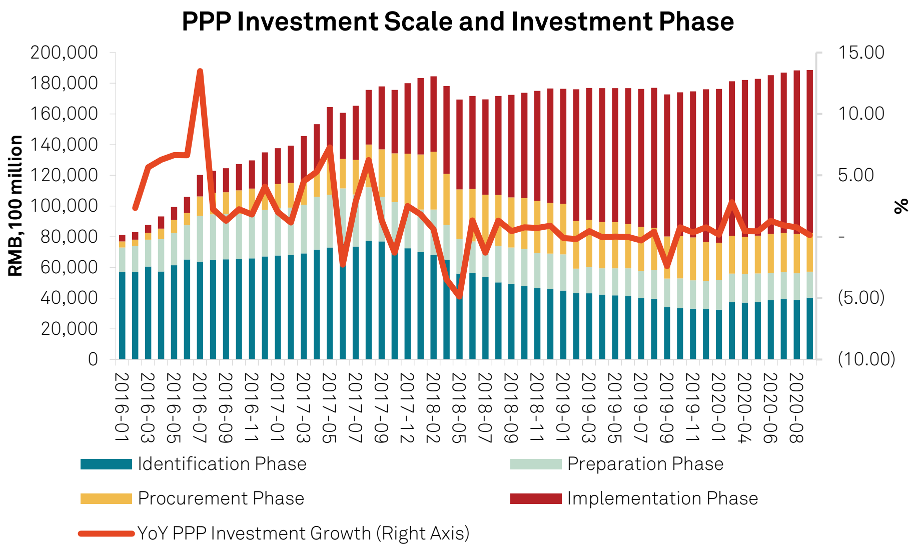

Source: Wind, S&P Global (China) Ratings

Looking ahead, we expect future PPP projects to continue to be of high quality. The state continues to oversee the quality of PPP projects, and the dynamic management mechanism is set to remain in place. Since 2014, PPP projects in China have gone through four phases: popularization and application, rapid development, tightened supervision, and standardized development. In 2014, authorities began to promote PPP. The State Council, the Ministry of Finance and other departments successively launched a series of policies in that year, with the aim of standardizing local government debt financing mechanisms and promoting cooperation between the government and private capital. As these policies and other measures were rolled out, a PPP process was established, leading to rapid development of this mode of investment. In November 2017, in order to prevent and control hidden debt risk brought about by PPP and to standardize operations of projects, the Ministry of Finance issued document [2017] No. 92, requiring strict enforcement of database standards for new projects, and for a review and clean-up of projects currently on the PPP Management Database, thus tightening supervision of PPP. According to the Ministry of Finance, as of April 23, 2018, 1,695 projects were removed from the PPP Management Database, involving RMB 1.8 trillion of investment. 2,005 projects were required to make changes to meet PPP standards, involving RMB 3.1 trillion of investment. The quality of PPP projects improved as a result, with significant improvements to completion rates. Following the November 2017 measures, PPP entered a period of stable development. Since October 2018, the State Council, the Ministry of Finance and other institutions have issued a number of policies to guide the standardized development of PPP, making clear provisions for the compliance of PPP, responsibility over financial expenditure and supportive policies.

In our opinion, the PPP model remains an important channel for infrastructure construction in China, but there is some pressure in terms of its growth rate. PPP is an effective market-oriented model for promotion of infrastructure construction. It helps avoid increased potential hidden debts among local governments and can also prevent local governments from having to pay significant construction funds in a short period of time, helping authorities better control growth of local government debt. However, we expect that PPP growth may slow down in future, mainly based on two factors. First, the number of projects that can meet the PPP standards is decreasing as such standards become stricter. Second, with the ongoing implementation of PPP, the proportion of local government's financial expenditure on PPP in regional fiscal budgets would gradually approach the upper limit of regulatory requirements. At the same time, PPP projects may be crowded out to some extent amid large-scale issuance of local government special bonds.

**In our opinion, the PPP model remains an important channel for infrastructure construction in China, but there is some pressure in terms of its growth rate.**

Chart 2




Source: Wind, S&P Global (China)Ratings


For investors, we view that some challenges exist regarding good management and operation of PPP projects. At present, major construction companies are the main driving force of PPP investment. Such entities have mature and well-established operational procedures, and possess the technical know-how for project financing and construction. However, PPP projects are still a relatively new concept for them. On one hand, operating infrastructure assets and carrying out traditional construction business are two very different skillsets. On the other hand, most PPP projects in the market are still under construction – there are relatively few projects that have entered long-term, stable operations. In terms of payment, it remains to be seen whether government-pay or VGF mechanisms can be sufficient and timely.

## Anchor

## Company Description

China State Construction SilkRoad Construction Investment Group Co., Ltd. ("CSCEC SilkRoad" or "the company") was established in 2016 and is a 100% wholly owned first-tier subsidiary of China State Construction Engineering Corporation Ltd. (“CSCEC" or "parent”). CSCEC SilkRoad and China State Construction Northwestern Regional Headquarters take a "one team, two brands" approach to their business. In 2018, CSCEC injected capital into CSCEC SilkRoad, with the company’s registered capital increasing from RMB 500 million to RMB 2 billion. As of July 2021, the company had registered capital of RMB 3 billion.

The company is principally engaged in PPP infrastructure investment, and it is also looking to exploit its market position to develop its engineering, procurement and construction (EPC) business. As a major infrastructure investment company under CSCEC, the company is responsible for promoting the development of its parent’s infrastructure business.

The company is engaged in two main business models: investment in PPP projects and EPC contracting. For PPP projects, the company is responsible for financing, investment, construction and subsequent operations. This process sees the company take some subcontracted profits and further investment income is shared among stakeholders. For its EPC business, the company uses its market reputation and client resources to undertake general contractor mandates, which are then subcontracted to CSCEC's engineering bureaus. According to the nature and structure of PPP projects, most of the company's PPP projects rely on project repayments to cover principal and interest payments. Such income can also contribute to PPP project loan repayments.

In addition to projects undertaken in its own name, the company also works on investment projects in the name of CSCEC. For projects undertaken under the CSCEC brand, we understand that although these projects are not reflected in its financial statements, it holds investment and management rights, and has debt payment obligations for the project loans. Therefore, we have consolidated the corresponding assets, debts and income for such projects into CSCEC SilkRoad's financial statements, to better reflect the actual operation and financial burden of the company. Unless otherwise specified, the investment status, assets, income, project repayments and financial leverage in this report are in accordance with the above adjustments. By the end of June 2021, the company had 7 PPP projects underway, representing total investment of about RMB 40 billion. See Appendix 1 for further details of the company's PPP projects.

## Business Risk Profile

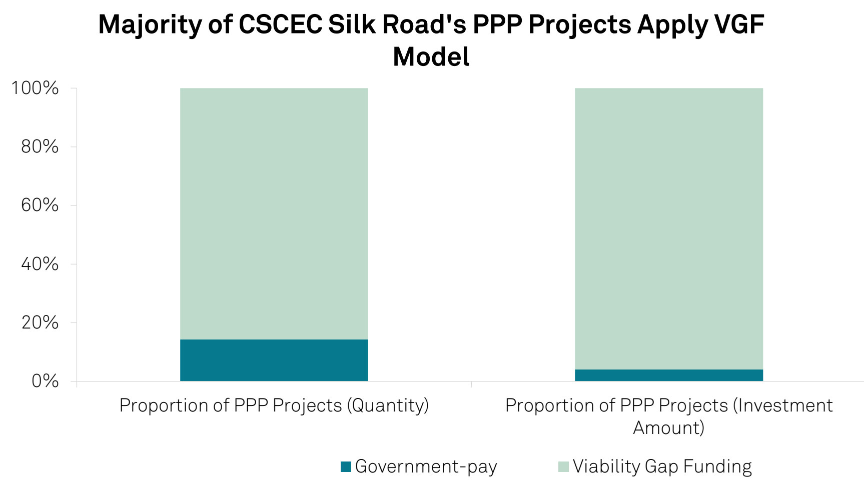
In our view, the company's "fair" business risk profile reflects its strict approach to investment, as well as the company's relatively good investment project return mechanisms, which we consider to have limited market risk exposure. Tempering these strengths are geographic concentration risks as the company's investments are concentrated in one region with relatively strong economic conditions but relatively heavy debt burden. In addition, the majority of the company's PPP projects remain under construction. Some projects that have entered trial operation are gradually receiving repayments, but a wider timeframe is needed to gauge the stability of such repayments.

In our view, the company has developed a sound investment approval policy and process and has maintained good discipline over its investments. The supervision of CSCEC over all the company's projects ensures their overall quality. CSCEC SilkRoad , as a wholly owned subsidiary, bases its investment policy on that of its parent. According to internal regulations, all investment projects need to be submitted to CSCEC for full approval, and CSCEC has the final say on investment decisions. The parent company not only decides whether to invest in the project, but also controls the investment amount, investment method, financing amount and investment structure. Under this strict approach to investment, all the company's PPP projects are included in the Ministry of Finance's PPP Management Database and China Public Private Partnerships Center (CPPPC), and government-pay and VGF are included in the local government's fiscal budget.

**The company requires approval from CSCEC for all of its project investments. All projects are on the PPP Management Database, and payments through government-pay and VGF mechanisms are included in the local government's fiscal budget.**

For the projects in which the company has invested, we view their return mechanisms as good, with low market risk exposure. As of the end of June 2021, among the company's seven PPP projects, one had a government-pay mechanism, with total investment of RMB 1.63 billion. The six other projects operate through VGF mechanisms, with total investment of RMB 38.4 billion. None of them follow a purely user-pay mechanism. For the six VGF projects, project repayments can cover the required investment amount. Such a return mechanism determines that the company's cash flows are more dependent on government payments which have been incorporated into its budget, and are not easily affected by market fluctuations or actual charges on the facilities.

Chart 3

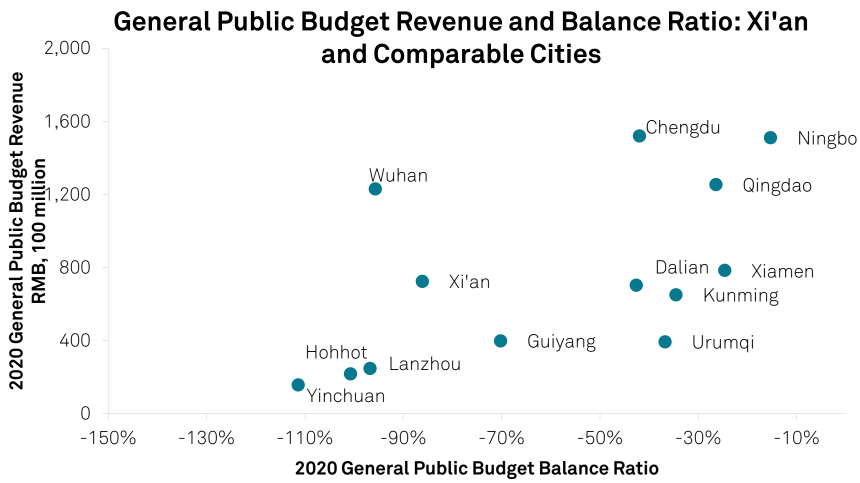



Source: CSCEC Silk Road, National PPP Integrated Information Platform Management Database, S&P Global (China) Ratings.


In our view, the regional exposure for the company's projects are good. Currently all of its PPP projects are in Xi'an, a key city in northwest China and one of nine "central cities" in China. Although the region's debt burden is relatively heavy, its overall economic and fiscal condition is relatively good. At present, the company has plans to gradually expand investment to projects in other areas, but there is some uncertainty over their implementation.

**In our view, the regional exposure for the projects are good, as shown by its good economic and fiscal condition.**

Chart 4




Source: Local governments, S&P Global (China) Ratings.



The majority of the company's PPP projects are under construction, and there remains some uncertainty over how future operations will affect the business. By the end of June 2021, most of the company's seven PPP projects were under construction, but some sections of its pipeline tunnel project and "Xingfulin Belt" project have had a trial run. Although the company's PPP projects do not rely on fees generated from the projects for principal and interest repayments, to receive the project repayment from the governments, the company still needs to meet local government requirements through continuous project management and day-to-day operations (such as maintenance of infrastructure). The local government's assessment outcome is directly related to the project repayments. Therefore, in future, the company would still need to maintain high-quality operations to receive timely and full collection of repayments through government-pay or VGF mechanisms as agreed. At present, the company has set up an operations department to take charge of operations of future projects, formulating different operation guidelines for main infrastructure types. However, some uncertainty remains over the effect of future operations, as well as the ability to meet local government requirements and receipt of corresponding repayments. For the first half of 2021, the company received about RMB 600 million in repayments from projects under trial operation.

## Financial Risk Profile

We view the company's financial risk as significant. The majority of projects are under construction, and as that work progresses, we expect the company to maintain a high level of leverage. However, the company's EBITDA and total project repayments provide relatively good coverage of interest. Thanks to their relatively good financing structure, we expect that once the company's main projects enter operation, they will be able to provide better coverage of principal and interest repayments. PPP project financing provides some flexibility over repayments, allowing the company, to some extent, to handle repayment pressure caused by untimely collection of project repayments.

As construction progresses, we expect the company's funding requirement to keep growing and its leverage level to remain at its currently high level. At present, most of the company's seven PPP projects are still under construction and some projects are set to enter operation over 2021-2022. As construction continues, the company will continue to use project construction loans. We estimate that the company's capital expenditure for PPP projects will be around RMB 6-11 billion per year for the next two years. At the same time, as some of its existing projects are due to begin collecting funds and repaying project loans from 2021, and construction for new projects won't enter a heavy construction stage until 2022, we expect 2021 to see a temporary improvement in the company's leverage. In the long term, we do however expect the company to maintain its high leverage level amid ongoing new projects.

The company's EBITDA and project repayments can, in our view, provide relatively high coverage of the company's interest expense. Having looked at the company's main financing approach, we believe demand for the company to repay principal and interest during project construction is very low, and that repayment pressure usually emerges once a project begins operation. Although the company's leverage ratio is expected to remain at a high level during project construction, once more projects enter operation, the coverage ratio of the company's EBITDA and total project repayments to interest expense would gradually improve.

We expect the company's PPP projects to cover their respective principal and interest repayments relatively well upon entering operation. As the company's PPP projects have either government-pay or VGF return mechanisms, relatively few of the projects are highly dependent on operators for user payments. We anticipate that in the first three years of entering operation, the company's main projects will have an (EBITDA + accumulated project repayments)/principal and interest repayment ratio of around 1.3-2.4 times.

At the same time, the company's interest-bearing debt structure can, in our view, help maintain some flexibility over debt servicing. The company's debts are mainly project loans corresponding to PPP projects, and their repayment periods are largely in tandem with the projects' operation cycles. Thanks to its good relationship with financial institutions, the company can cope with some of the repayment pressure caused by the potential for any project's untimely collection of PPP project payments by adjusting its repayment schedule plan. As of June 2021, the company's head office had obtained around RMB 4.2 billion in credit lines from major financial institutions, which were entirely undrawn.

Table 1

| Adjusted Key Financial Data (RMB, millions) | | | | | |
|---|---|---|---|---|---|
| | 2018A | 2019A | 2020A | 2021.1-6 | 2021F |
| Revenue | 5,604.8 | 7,524.9 | 9,053.5 | 6,336.5 | We expect that the company's EBITDA (mostly comprised of management fees) to remain between RMB 900 million and RMB 1.2 billion.<br>We estimate capital expenditure for PPP project to be about RMB 6-11 billion per year. |
| EBITDA | 576.8 | 903.7 | 1,037.0 | 653.1 | |
| FFO | 227.9 | 36.9 | 1.6 | -- | |
| CFO | (116.6) | (6,131.3) | (1,775.5) | (1,664.0) | |
| Interest expense | 346.8 | 576.1 | 795.8 | -- | |
| Debt | 8,280.8 | 13,680.3 | 19,215.1 | -- | |
| Total equity | 1,620.4 | 3,153.3 | 4,777.8 | 5,084.7 | |
| Adjusted Financial Ratios | | | | | |
| Debt / EBITDA (x) | 14.4 | 15.1 | 18.5 | -- | 24.0-30.0 |
| EBITDA interest coverage (x) | 1.7 | 1.6 | 1.3 | -- | 0.5-1.5 |
| Adjustments for expected project receipts from PPP projects to cash flow for repayments: | | | | | |
| Debt/(EBITDA+expected project payment) (x) | 14.4 | 15.1 | 18.5 | -- | 10.0-15.0 |
| (EBITDA+expected project payment) interest coverage (x) | 1.7 | 1.6 | 1.3 | -- | 2.0-3.0 |
| Minimum payment to principal and interest of PPP project debt coverage ratio (x) | | | | 1.3-2.4 | |

Note: adjusted by S&P Global (China) Ratings. A—actual. F—Forecasted. The minimum payment to principal and interest of PPP project debt coverage ratio is the minimum range of the predicted value of each project in the first three years of the operation period. "--" represents interim data not available.

Source: information provided by the company, S&P Global (China) Ratings.

Table 2

| CSCEC SilkRoad —Reconciliation of 2020 Reported Data with S&P Global (China) Ratings' Adjustments (RMB, millions) | | | | | | | |
|---|---|---|---|---|---|---|---|
| | Total assets | Debt | Equity attributable to parent | EBITDA | Interest expense | EBITDA | CFO |
| Reported | 3,169.7 | 613.7 | 1,900.1 | 211.1 | 5.4 | 211.1 | 81.9 |
| | | | | | | | |
| Interest expense | | | | | 0.7 | (5.4) | (4.7) |
| Interest and dividend income | | | | | | 26.5 | |
| Current taxes | | | | | | (35.5) | |
| Operating leases | 9.6 | 9.6 | | 6.2 | | 5.5 | |
| Accessible cash and liquid investments | | (797.3) | | | | | |

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| Depreciation and amortization adjustment | | | | | | | 5.5 |
| Adjustment for items not included in the statement | 34,493.0 | 19,389.2 | 1,098.7 | 819.8 | 789.7 | (200.6) | (1,858.2) |
| Total adjustments | 34,502.6 | 18,601.4 | 1,098.7 | 826.0 | 790.4 | (209.5) | (1,857.4) |
| **S&P Global (China) Ratings' Adjusted Amounts** | | | | | | | |
| | Total assets | Debt | Equity attributable to parent | EBITDA | Interest expense | FFO | CFO |
| Adjusted | 37,672.3 | 19,215.1 | 2,998.8 | 1,037.0 | 795.8 | 1.6 | (1,775.5) |

Source: company audit report, information provided by the company, S&P Global (China)Ratings.

## Peer Comparison

We selected CSCEC FangCheng Investment & Development Group Co., Ltd. ("CSCEC FangCheng"), CCCC Investment Company Limited ("CCCC Investment"), CCCC Urban Holding Company Limited ("CCCC Urban") and China Railway Construction Investment Group Co.,Ltd. ("CRCC Investment") as peers to CSCEC SilkRoad. These four companies all act as the main investment platforms for large-scale central government -owned construction enterprises in China. We view them as having strong comparability with the company in terms of business and finance risk profiles.

In our opinion, the total assets and newly signed orders of CSCEC SilkRoad are lower than those of its peers. This is mainly because of the company's location in the northwest market, and its relatively short history. These factors mean it has fewer investment projects at hand, resulting in it having lower total asset size than its peers. We regard the company as an important internal infrastructure investment platform for CSCEC thanks to its role in developing and promoting its parent's business in the northwest China. CSCEC FangCheng is more focused on urban redevelopment and land reclamation. Such projects typically involve significant sums of money, with long development periods. CSCEC FangCheng signed many new orders over 2017 and 2018, which it is expected to continue working on for some time. Therefore, in 2019, the company limited the scale of its newly signed orders to better control its overall leverage ratio. CRCC Investment is an important investment platform for China Railway Construction Co., Ltd., and its investment business includes infrastructure investment, urban redevelopment and land development, so it has larger scale. Compared with its peers, CCCC Investment has fewer projects in its inventory. In our opinion, for certain companies, the investment amount can somewhat reflect the entity's ability to develop its business in the market and its importance to its parent group. However, for investment business, we believe that the company's investment strategy, control over investment, project risk management, investment management and subsequent operational capability can have a greater bearing on the entity's business, as opposed to the scale of its investments.

In our view, CSCEC SilkRoad 's investment projects are concentrated in a single region, which is an area comparable to other regions where its peers operate. However, concentrating all projects within one region carries a geographic concentration risk. At the same time, the area in which CSCEC SilkRoad is investing has a heavier debt burden than other regions where its peers operate. The regional exposure of CSCEC

FangCheng and CCCC Urban's projects are relatively strong among the group of peers, with stronger regional economic and financial situations. This may also be linked to the two companies being principally engaged in urban development. The regional exposure of CCCC Investment and CRCC Investment is in the middle of the peer group.

For most of the peer group, most PPP projects are under construction and few have entered operation. In this respect, there is relatively little differentiation between the companies. This is chiefly because PPP projects are generally under construction for 3-5 years. At present, most PPP projects in China are still in the construction phase, after the large-scale adoption of PPP in 2017. Over the next 1-2 years, each company may see a large number of their projects enter operation. We anticipate some challenges for CSCEC SilkRoad and its peers in terms of operations for its infrastructure projects. Some uncertainty remains over whether the PPP projects and other investment and financing initiatives for these companies can meet government requirements after entering operation. The companies can obtain stable and sufficient project repayments if meeting these operational requirements.

In terms of financing, we believe the investment and financing projects of CSCEC SilkRoad and its peers can be characterized by their large investment amount and relatively long payback period, so they are all of higher leverage, and their financial risks are basically similar.

Table 3

## Business Profile

| | CSCEC Silkroad | CSCEC FangCheng | CCCC investment | CCCC Urban | CRCC investment |
|---|---|---|---|---|---|
| Number of cities covered by investment and financing projects | 1 | 9 | 14 | 11 | 10 |
| Main business | Infrastructure investment | Urban development | Infrastructure investment + urban development + real estate | Urban development | Infrastructure investment + urban development |
| Number of PPP and BOT projects under control | 7 | 5 | 13 | 2 | 3 |
| Number of other controlled projects | 0 | 18 | 8 | 9 | 9 |
| Number of PPP and BOT projects entering the operation period | 0 | 0 | 4 | 0 | 4 |
| Top three cities for investment and financing projects | Xi'an | Beijing, Tianjin, Xi'an | Zhangjiakou, Chengdu, Wenzhou | Zhuhai, Ningbo, Linyi | Chengdu, Beijing, Zhangjiajie |
| Regional exposure | Relatively Good | Very Good | Relatively Good | Very Good | Relatively Good |

| 2019 Operation data (RMB, 100 million) | | | | | |
|---|---|---|---|---|---|
| New contracts | 295.2 | 19.4 | N.A. | N.A. | 831.6 |
| Revenue | 75.2 | 79.8 | 77.0 | 108.9 | 276.3 |
| Cash and cash equivalent | 24.7 | 78.1 | 65.0 | 60.5 | 41.6 |
| Long-term receivables | 51.1 | 304.8 | 352.2 | 101.2 | 183.4 |
| Long-term equity investment | 3.3 | 30.6 | 45.3 | 28.5 | 100.9 |
| Inventory | 0.0 | 21.8 | 171.7 | 77.2 | 56.2 |
| Intangible assets | 130.0 | 0.0 | 160.7 | 0.1 | 517.0 |
| Total assets | 258.2 | 628.4 | 966.9 | 325.9 | 1,205.8 |
| **Financial situation (average in 2018-2019, RMB, millions)** | | | | | |
| | CSCEC SilkRoad | CSCEC FangCheng | CCCC investment | CCCC Urban | CRCC investment |
| Revenue | 6,564.9 | 8,248.4 | 7,104.2 | 7,723.5 | 22,117.8 |
| EBITDA (adjusted) | 740.2 | 1,449.8 | 4,403.7 | 1,843.4 | 3,744.2 |
| Interest expense(adjusted) | 461.4 | 488.3 | 1,224.3 | 566.2 | 2,836.5 |
| CFO | (2,068.7) | (4,448.9) | (6,596.1) | 2,206.1 | (793.9) |
| FOCF | (2,072.4) | (4,461.0) | (8,603.2) | 2,083.0 | (11,683.7) |
| Debt (adjusted) | 10,979.7 | 21,923.7 | 38,719.4 | 10,508.4 | 64,916.5 |
| Shareholders' equity | 2,386.9 | 13,680.8 | 26,373.3 | 8,058.8 | 18,682.8 |
| **Financial ratio** | | | | | |
| Debt / EBITDA (x) | 14.7 | 16.7 | 8.7 | 6.3 | 17.3 |
| EBITDA interest coverage (x) | 1.6 | 3.3 | 3.7 | 3.4 | 1.3 |
| CFO / Debt (%) | (15.4) | (20.2) | (17.2) | 21.0 | (2.1) |
| FOCF / Debt (%) | (15.4) | (20.3) | (23.4) | 19.8 | (18.9) |

Source: CSCEC SilkRoad data include off-balance sheet items. Operations data for four peer companies (CSCEC FangCheng, CCCC investment, CCCC Urban and CRCC investment) all from public information. Due to the limited disclosure of public information, operation data for CSCEC FangCheng is as of end of 2019, data for other peers is as of June 2020. S&P Global (China) Ratings.

## Stand-alone Credit Profile

### Liquidity

We view the company's liquidity as adequate and expect liquidity sources to cover more than 1.2 times of liquidity uses in the next year. The company's main liquidity uses over the next year will be ongoing investment in PPP projects. At present, all loans for PPP projects under construction have been received and can basically meet the company’s capital expenditure requirements. Projects entering operation would gradually face increased capital demand for scheduled principal and interest repayments, which can be met through returns from PPP projects repayments and retained income associated with project construction.

Table 4

| Principal Liquidity Sources | Principal Liquidity Uses |
| --- | --- |
| Consolidated cash and cash equivalents of around RMB 3.4 billion; | About RMB 1.4-1.8 billion in debt and interest maturing in the next 12 months; |
| Total undrawn existing project loans of around RMB 10 billion; | About RMB 7.0-10.0 billion in capital expenditure on PPP project construction over the next 12 months; |
| In the next 12 months, about RMB 1.6-2.6 billion to be collected from PPP project repayments; | About RMB 300-400 million dividends to the parent company over the next 12 months. |
| In the next 12 months, project management fees of about RMB 0.9 -1.2 billion. | |

Note: Data as of end of June 2021.

Source: Data provided by the company, S&P Global (China) Ratings.

Table 5

Debt and Interest Maturity Overview

| Year | Amount (RMB, millions) |
| --- | --- |
| 2021 | 1,006.6 |
| 2022 | 1,613.2 |
| 2023 | 1,388.0 |
| 2024 | 2,025.1 |
| 2025 | 2,213.8 |
| Total | 8,246.8 |

Note: Data as of end of 2020.

Source: Data provided by the company, S&P Global (China) Ratings.

## Comparable Rating Analysis

We make a one-notch downward adjustment from the company's anchor to reflect the risk related to all PPP projects being concentrated within one region. This high degree of concentration exposes all project income to regional policy changes or financial pressure, while the company's business development is also restricted by the project availability within the region.

## Past Debt Performance

According to the "Company Credit Report" and other relevant materials provided by the client, as of August 31, 2021, the company's debt obligations had been repaid on time, with no delay in payment of principal and interest. According to public information, as of the date of this report the company has no record of credit default in the open market.

## Issuer Credit Rating

As a wholly owned subsidiary of CSCEC, we consider the company as being of high importance to its parent CSCEC. As one of China's largest construction company and among the largest in the world, CSCEC is also among the country's largest real estate developers. Under the indirect control of the State-owned Assets Supervision and Administration Commission (SASAC) under the State Council (through a 56.3% stake), CSCEC has strong technical prowess and performance on difficult and complex projects, as well as outstanding scale advantages, excellent operating efficiency and cost control ability. Its financial risk is relatively low. Meanwhile, as the leader in the construction industry, CSCEC can receive a high level of support from the government. In our view, CSCEC has very strong indicative credit quality.

In our view, the high level of importance of CSCEC SilkRoad to CSCEC is mainly reflected in the following aspects:

**We view CSCEC SilkRoad as being of high importance to CSCEC. Their synergy is strengthened by the strict management of CSCEC over its subsidiary. CSCEC is unlikely to sell or divest the company in the future.**

- CSCEC has full control over CSCEC SilkRoad, its 100% wholly owned subsidiary.
- As an important entity under CSCEC in promoting its infrastructure construction business, CSCEC SilkRoad plays an important strategic role in the implementation and rapid development of CSCEC's infrastructure business and has made major contributions to its parent's strategic development in the infrastructure sector. In the next 3-5 years, we do not expect CSCEC to change direction on treating its infrastructure construction and operation business as an important area of development.
- CSCEC has very strict control over its investment business. All investment and financing plans for the company's projects require full approval from CSCEC, and CSCEC closely tracks the implementation of each project. Its strict investment approval procedures and oversight of the company enable CSCEC to provide timely support in the extreme situation where the company may face a significant number of serious delays in collecting project payments.
- CSCEC SilkRoad relies on CSCEC and benefits from various resources and advantages brought by the group's reputation. Meanwhile, CSCEC SilkRoad has carried out many PPP investment activities in the name of CSCEC. Its performance in the credit market has had a significant impact on the reputation of the CSCEC group.
- CSCEC is unlikely to divest or sell the company. As of July 2021, the company's paid-in capital increased from RMB 1.17 billion to RMB 2.80 billion.
- The two pillar businesses of CSCEC remain engineering and construction and real estate development. Infrastructure is an important segment for the future development of CSCEC. In our opinion, investment business is of lower importance to CSCEC than the abovementioned businesses. Therefore, the importance of investment business to CSCEC has not reached critical level.

## Rating Score Snapshot

Issuer Credit Rating

$A_{spc}$/Stable

Business Risk Profile：4/Fair

Industry Risk Ranking：2/Low

Competitive Position：4/Fair

Financial Risk Profile：4/Significant

Anchor：bb+

Adjustments

Diversification: Neutral (no influence)

Capital Structure: Neutral (no influence)

Financial Policy: Neutral (no influence)

Liquidity: Adequate (no influence)

Management and Governance: Neutral (no influence)

Holistic：Negative (-1 notch)

Stand-alone Credit Profile：$bb_{spc}$

External Influence：+6

# Appendix

## Appendix 1： Rated Entity's Main Investment Projects

PPP Projects Underway as of end of June, 2021

| Project | Included in PPP Management Database (Y/N) | Payment Government | City | Total investment (RMB, 100 millions) | Construction Start date | Expected Operation Start date | Return Mechanism |
|---|---|---|---|---|---|---|---|
| Xi'an Utility Tunnel | Yes | Xi'an city, Lantian, Huxian, Yanliang, Lintong district | Xi'an | 92.2 | 2016-09-01 | 2021 | Viability Gap Funding |
| Science and Technology Road No.8 | Yes | Xi'an high-tech Zone | Xi'an | 34.2 | 2018-06-28 | 2022 | Viability Gap Funding |
| Beichen Avenue | Yes | Xi'an city | Xi'an | 38.6 | 2018-12-15 | 2022 | Viability Gap Funding |
| Sponge City | Yes | Xi'an City | Xi'an | 16.3 | 2018-01-29 | 2022 | Government-pay |
| 3A hospital | Yes | Xi'an Economic Development Zone | Xi'an | 23.4 | 2020-06-01 | 2022 | Viability Gap Funding |
| Xingfulin belt | Yes | Xi'an city | Xi'an | 122.0 | 2017-10-01 | 2021 | Viability Gap Funding |
| Chanba Ecological Zone Renovation | Yes | Chanba Ecological Zone | Xi'an | 73.6 | 2019-06-10 | 2023 | Viability Gap Funding |
| Total | | | | 400.4 | | | |

Note: 1. The total investment of project is from the disclosure in PPP management database of China Public Private Partnerships Center.

Data source: provided by the company, PPP management database of China Public Private Partnerships Center, and S&P Global (China) Ratings.

## Appendix 2： Key Financial Data

### CSCEC SilkRoad: Key Financial Data (RMB, in millions)

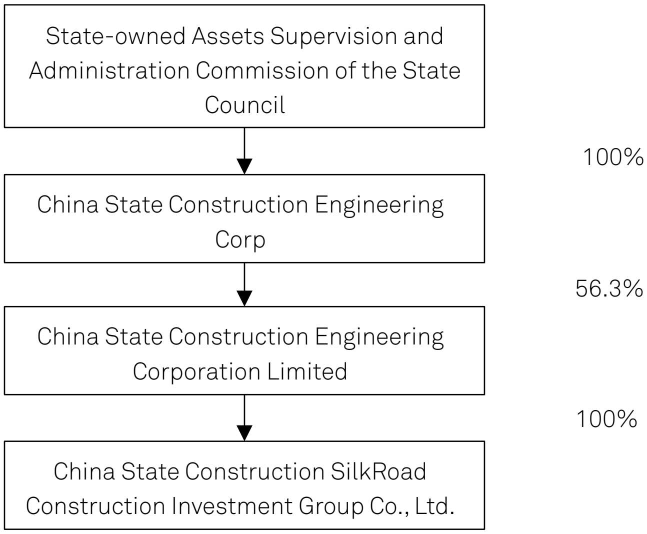
| | 2018 | 2019 | 2020 | 2021.1-6 |
|---|---|---|---|---|
| Cash and cash equivalent | 683.3 | 1,145.2 | 1,594.6 | 1,120.9 |
| Fixed assets | 0.8 | 1.8 | 2.5 | 2.2 |
| Total assets | 887.3 | 1418.0 | 3,169.7 | 3,178.4 |
| Short term borrowings | 0.0 | 0.0 | 500.5 | 0.0 |
| Notes payable | 0.0 | 0.0 | 0.0 | 0.0 |
| Non-current liabilities due within one year | 0.0 | 0.0 | 0.1 | 1.8 |
| Long term borrowings | 0.0 | 0.0 | 113.0 | 493.0 |
| Bonds payable | 0.0 | 0.0 | 0.0 | 0.0 |
| Shareholders' equity | 872.7 | 1,381.1 | 1,950.2 | 2,082.8 |
| Revenue | 80.8 | 271.8 | 429.6 | 832.6 |
| COGS | 11.0 | 13.8 | 102.6 | 686.4 |
| Selling expenses | 0.0 | 0.0 | 0.0 | 0.0 |
| Administrative expenses | 59.7 | 65.8 | 95.0 | 21.9 |
| Financial expenses | 7.6 | (15.2) | (13.0) | 0.7 |
| Total profit | 3.1 | 210.1 | 220.5 | 110.2 |
| Net profit | 1.5 | 178.5 | 185.2 | 83.0 |
| Cash inflow from operating activities | 252.3 | 281.6 | 1,423.8 | 801.9 |
| Cash outflow from operating activities | 255.8 | 121.0 | 1,341.9 | 1,196.6 |
| Net cash flow from operating activities | (3.4) | 160.6 | 81.9 | (394.7) |
| Cash inflow from investment activities | 24.6 | 255.6 | 5.8 | 0.0 |
| Cash outflow from investment activities | 90.0 | 293.5 | 624.4 | 2.4 |
| Net cash flow from investing activities | (65.4) | (37.9) | (618.5) | (2.4) |
| Cash inflow from financing activities | 1,126.2 | 333.0 | 1,077.1 | 431.0 |
| Cash outflow from financing activities | 645.1 | 0.0 | 84.7 | 507.7 |
| Net cash flow from financing activities | 481.1 | 333.0 | 992.3 | (76.7) |

### Adjusted financial data and indicators

| | | | | |
|---|---|---|---|---|
| Debt | 8,280.8 | 13,680.3 | 19,215.1 | -- |
| EBITDA | 576.8 | 903.7 | 1,037.0 | 653.1 |
| FFO | 227.9 | 36.9 | 1.6 | -- |
| CFO | (116.6) | (6,131.3) | (1,775.5) | (1,664.0) |
| FOCF | (117.4) | (6,137.8) | (1,779.2) | (1,666.4) |
| DCF | (353.8) | (6,484.2) | (1,964.4) | (1,666.4) |
| EBITDA margin (%) | 10.3 | 12.0 | 11.5 | 10.3 |
| ROC（%） | 9.0 | 7.3 | 5.3 | -- |
| EBITDA interest coverage (x) | 1.7 | 1.6 | 1.3 | -- |
| FFO interest coverage (x) | 1.7 | 1.1 | 1.0 | -- |
| Debt / EBITDA (x) | 14.4 | 15.1 | 18.5 | -- |
| FFO / Debt (%) | 2.8 | 0.3 | 0.0 | -- |
| CFO / Debt (%) | (1.4) | (44.8) | (9.2) | -- |
| FOCF / Debt (%) | (1.4) | (44.9) | (9.3) | -- |
| DCF / Debt (%) | (4.3) | (47.4) | (10.2) | -- |

Note: 1. The financial data in the above table is based on the 2018-2019 audit report of CSCEC SilkRoad audited by PwC Zhongtian and 2020 audit report of CSCEC SilkRoad audited by Tianzhi International; 2. The adjusted financial data and indicators are those adjusted by S&P Global (China) Ratings; 3. "--" represents interim data not available.
Source: company audit report, S&P Global (China) Ratings.

## Appendix 3: Ownership Structure of the Rated Entity as of end of June 2021




## Appendix 4: Organizational Structure of the Rated Entity as of end of June 2021

For organizational chart, please refer to the Chinese report.

## Appendix 5: Key Terms

| Key terms |
|---|
| EBITDA (reported) = Revenue - COGS - SG&A - R&D + D&A(reported) - Taxes and surcharges - Other operating expenses(income) |
| EBITDA = EBITDA (reported) + OLA rent - Capitalized development cost + Capitalized interest in COGS + Dividend received from equity investments + Other adjustments |
| D&A = D&A (reported)+ OLA depreciation + Other adjustments |
| EBIT = EBITDA (reported) + OLA rent - Capitalized development cost + Capitalized interest in COGS - D&A + Non-operating income (expense) + Other adjustments |
| Interest expense = Interest expense (reported) + Capitalized interest + OLA interest expense + Hybrid dividend accrual + Other adjustments |
| Cash interest paid = Cash Interest expense + Hybrid dividend cash payment + Other adjustments |
| FFO = EBITDA - Interest expense + Interest and dividend income - Current tax + Other adjustments |
| CFO = CFO (reported) + OLA depreciation - Capitalized development cost - Hybrid dividend cash payment - Cash interest expense + Dividends received + Other adjustments |
| Capital expenditure = Capital expenditure (reported)- Capitalized development cost + Other adjustments |
| FOCF = CFO - Capital expenditure |
| Dividends = Cash dividends + Dividends to minority interest - Hybrid dividend cash payments |
| DCF = FOCF - Dividends |
| Short-term debt = Shot-term loan + Financial liabilities held for trading + (Account payable - margin for payables) + Current portion of non-current liabilities (interest-bearing) + Interest payable + Other interest-bearing short-term debt |
| Long-term debt = Long-term loan + Bond + Financial lease payable + Lease obligation + Provisions - Guarantees & litigations + Other interest-bearing long-term debt |
| Debt = Short-term debt + Long-term debt + OLA debt - Surplus cash + Asset retirement obligation debt adjustment + Hybrid securities + External guarantees & litigations + Other adjustments |
| Capital = Total equity - Hybrid securities + Debt + Deferred taxes + Other adjustments |
| EBITDA interest coverage = EBITDA/Interest expense |
| FFO interest coverage = (FFO + Interest expense)/ Cash interest paid |

| | |
|---|---|
| ROC = EBIT/Two-year average capital | |
| EBITDA Margin = EBITDA/Revenue | |

## Appendix 6： Ratings Definitions

| Category | Definition |
|---|---|
| $AAA_{spc}$ | The obligor's repayment ability is extremely strong, generally not impacted by any adverse economic environment, and the default risk is extremely low. |
| $AA_{spc}$ | The repayment ability is very strong, not considerably impacted by any adverse economic environment, and the default risk is very low. |
| $A_{spc}$ | The repayment ability is comparatively strong, comparatively vulnerable to the impact of adverse economic environment, and the default risk is comparatively low. |
| $BBB_{spc}$ | The repayment ability is average, comparatively impacted by adverse economic environment, and the default risk is average. |
| $BB_{spc}$ | The repayment ability is comparatively weak, materially impacted by adverse economic environment, and the default risk is comparatively high. |
| $B_{spc}$ | The repayment ability relies comparatively on fair economic environment and the default risk is very high. |
| $CCC_{spc}$ | The repayment ability relies extremely on fair economic environment and the default risk is extremely high. |
| $CC_{spc}$ | Lower protection in situation of bankruptcy or reorganization and the repayment of debt may not be generally guaranteed. |
| $C_{spc}$ | Unable to repay the debt. |

*Ratings from 'AA' to 'CCC' may be modified by the addition of a plus (+) or minus (-) sign to show relative standing within the rating categories.

## Appendix 7： Surveillance Plan

S&P Ratings (China) Co., Ltd. shall monitor the credit quality of the rated issuer on a periodic and an ongoing basis. If any material credit events are likely to change the credit quality of the issuer, we will conduct ad-hoc surveillance, and determine whether the outstanding ratings need to be adjusted.