

Will Private Chemical Fiber Companies Benefit From Expanded Upstream Presence?

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Key Takeaways

- Large-sized refining and chemical companies have significantly increased their PX (paraxylene) production capacity in 2019 and will further release a large amount of new PTA (purified terephthalic acid) production capacity in 2020. We expect that the increase in production capacity of PX and PTA, together with the weakening of demand in the sector, will lead to the margins gradually shifted to the downstream sector.
- Aggressively expanding into the upstream sector may weaken companies' credit quality in the short term. Although these companies will benefit from increased self-sufficiency of raw materials, lower cost of goods sold, improved margins, less volatility of profitability, and better ability to ride out the industry down turn, they will face the challenges of increased debt burden, higher financial risks that may not be offset by the improved operating cash flow in a short period of time, and weakened liquidity position.
- For the companies which have pursued expansion in a cautious manner, especially those with stable financial conditions before expansion, have not experienced much change in their credit quality.

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Since 2015, the central government has introduced a series of policies to open up the refining and petrochemical sectors to privately owned companies. Following the release of the policies, some large private chemical fiber companies in Jiangsu Province and Zhejiang Province have made heavy investment in expanding into upstream sector. They have built refining and chemical integration projects with over ten million tons (Mt) of capacity in the east coast of China, aiming at providing complete product offerings that cover refinery, petrochemistry, chemical fiber and textile processing. After being through the research, preparation, investment, and construction in the past few years, these projects are being put into operation around 2019.

Will their operating performance and financial conditions be impacted? Are these companies at the similar development stage? Are there any changes to their credit quality? What factors should we look for in the future? This commentary discusses how these companies' credit quality may change after expansion by using the analytical approaches described in S&P Global (China) Ratings Corporate Methodology and the Supplemental Methodology - Materials Industry.

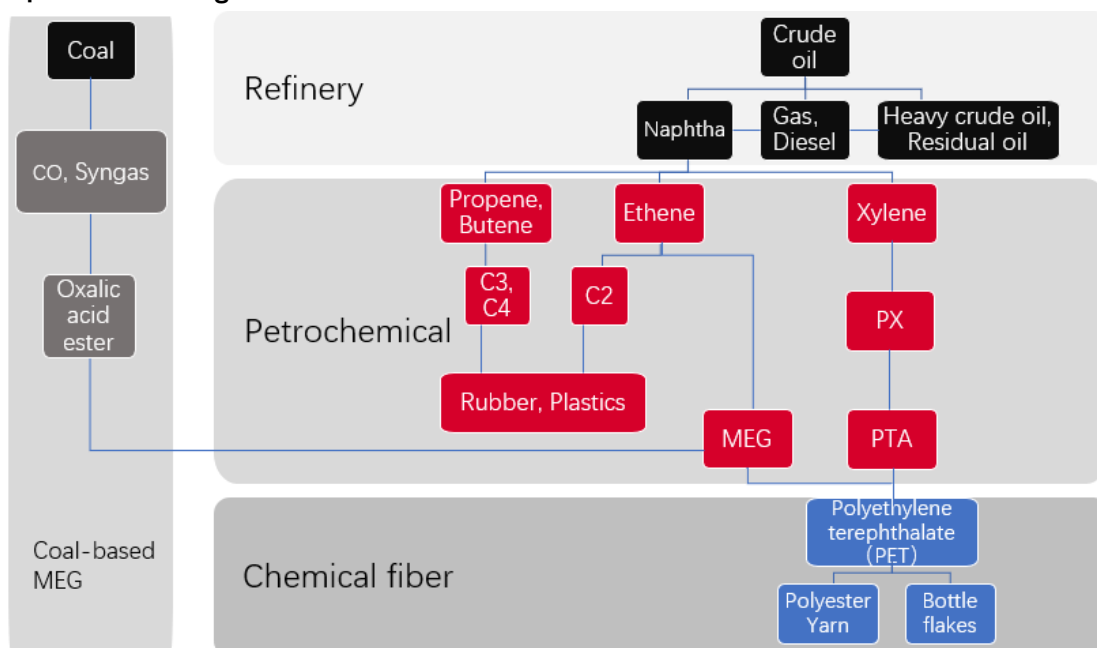
Industry Risk Analysis And Outlook

We expect that the operating environment of the petrochemical industry throughout its value chain, which spans the entire upstream to downstream sectors covering naphtha, paraxylene (PX), purified terephthalic acid (PTA), and chemical fibers, amongst all others, will significantly change over the next one to two years, with a number of refining and chemical projects gradually becoming operational. The most prominent change will be the differentiated profitability in upstream and downstream sectors. We view that the upstream sector will face increasing challenges of overcapacity and pricing pressures, while midstream and downstream sectors will benefit from better profitability owing to decline in raw material costs and stable demand.

Under the new operating environment, the existing petrochemical and coal chemical companies in the upstream sector, especially those operating with small scale, high cost, and relatively shorter chain of production, will face fierce competitions. On the other hand, those companies that have taken this opportunity to expand into upstream business will face less pressure, benefiting from their complete product offerings that allow them to enjoy the higher margins in the downstream sector when margins in the upstream sector narrow.

Chart 1

Refinery, petrochemical, chemical fiber, and coal-based MEG (mono-ethylene glycol) product offerings

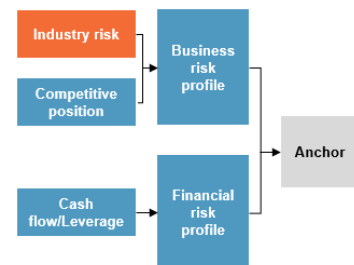


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As the chemical fiber companies' refining and chemical projects are gradually put into operation, the supply and demand landscape of the major products in the industry is changing.

We believe oversupply risk is looming over the PX market. We expect that increase in PTA production capacity will not be able to fully absorb the newly added PX production capacity, leading to PX prices lowering to about CNY 7,000 per ton, a historical low level. According to plans the companies have announced, the production capacity of PX will increase by about 15 Mt in 2019 and 2020, among



We currently assess the industry risk of the commodity chemicals industry as 4 out of the 6-point scale, indicating its medium to high industry risk. Petrochemical and chemical fiber are the subsectors of this industry. We view this industry as being subject to high cyclicality, high pricing volatility for its main products, and high volatility of profitability.

which most of them will be released in 2019. Although China's PTA capacity will also increase by about 15 Mt in 2019 and 2020, this will only consume about 10 Mt of PX and a majority of the PTA capacity will not become operational until the second half of 2020.

In 2018, China consumed about 26 Mt of PX, among which 16 Mt was imported from overseas. In the same year, both the production capacity and consumption of PTA was about 40 Mt. We expect that PX imports will decline after the big refining and chemical projects are gradually put into operation.

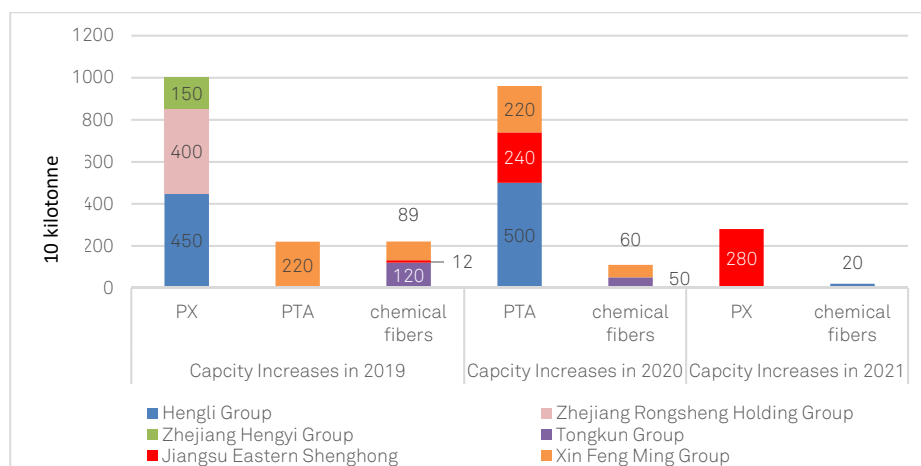
Since the production capacity of PX grows faster than that of PTA, the price of PTA can still hold for a while when the PX price faces downward pressure. However, the price of PTA will not be able to remain at the current level for too long after more production capacity is unlocked in the second half of 2020.

The operating environment of the chemical fiber sector will remain relatively stable in the short term, because most companies have heavily invested in their refining and chemical projects and building PTA capacity, not yet expanding in the chemical fiber sector.

0.66 ton of PX is required for producing 1 ton of PTA. 0.86 ton of PTA and 0.34 ton of MEG (mono-ethylene glycol) are required for producing 1 ton of PET (polyethylene terephthalate).

Chart 2

The newly added production capacity of those companies that integrated the refining and chemical business and the chemical fiber business



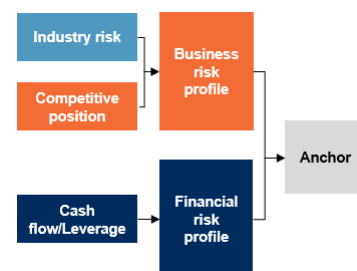
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Will companies be able to benefit from integrating chemical fiber business and refining and petrochemical business given the big refining and chemical projects are likely to cause oversupply once put into operation? We will further analyze the competitive positions and business risk profiles of the market players in the following section.

Competitive Positions And Business Risk Analysis

We view that refining and chemical integration projects will enhance the companies' profit generation capability, the ability to ride out the cycles, and their competitive positions in the industry, thereby strengthening their business risk profiles. The companies will be able to reach economy of scale and increase bargain power with the mass expansion, in our view. Meanwhile, the advanced equipment installed during the expansion has also enhanced their environmental protection and safety management capabilities as well as lowered their costs. In addition, the ability to provide complete product offerings will help them reduce volatility throughout business cycles.



We view that the strategy of building refining and chemical integration projects will positively impact the companies' business risk profiles, as integration is the growing trend in the industry. Some large refining and chemical projects are led by the biggest PTA and chemical fiber producers in China and the world. Before the expansion drive, a large amount of PX, the major raw material for producing PTA, was imported from Japan, Korea, and Taiwan, so the companies' input costs were subject to the PX price charged by the foreign suppliers. As a result, their profits were mainly generated from processing charges and their gross margins were thin and volatile. Therefore, expanding into the upstream sector was not intended for selling PX but rather for achieving self-sufficiency of PX so that they no longer rely on imports. At the same time, the companies would be able to save tariffs and freight costs as well as reduce their PX cost to the lowest level possible in the industry, benefiting from the better economy of scale and the improved operating efficiency by using the newly installed equipment. Because of such a strategy, even if an industry downturn occurs, the impact on these companies' operations should be limited due to their integrated business models. In addition, the successful operation of the large refining and chemical projects indicates that these companies have good project management capabilities and operating strategies.

We view that large refining and chemical projects can increase the scale and scope of the companies' product offerings, enabling them to generate high revenues on a sustained basis. These companies will also enjoy less volatility in profits and cash flow due to the different cyclical characteristics of different products.

Furthermore, the newly installed equipment for these projects have better flexibility during production, as the load of the equipment, the raw material ratios and the mix of output can all be adjusted according to the changing market needs, which optimizes the companies' operating structure and improves earnings.

Peer Comparison

We have selected 5 companies in the industry for peer comparison purpose and have found that they have adopted different expansion strategies according to their distinct characteristics. From a credit perspective, we view that Hengli, Rongshen, Hengyi may strengthen their business risk profile following the successful completion of these projects in 2019 while the other two would solidify their current business risk profile.

Hengli Group Co Ltd. (Hengli Group) is one of the largest PTA manufacturers in China, with PTA production capacity of 6.6 Mt per year. Since PTA generally lacks product differentiation and generates relatively low margin, meanwhile, the company has initiated its business from the downstream areas such as polyester chips, polyester films, textile yarn, yarn for industrial applications, and textile processing, etc. These products provided in the downstream sector has relatively high added value, which enhances the company's profitability. Hengli Group's refining and chemical project, which has a processing capacity of 20 Mt with large scale and advanced equipment installed, has already been put into operation. This not only provides a good solution to the raw materials supply of the company but also lowers its cost. The expanded product lines and more comprehensive coverage throughout the value chain of the industry have improved the stability of its profitability. In addition, the company plans to increase its PTA production capacity by about 5 Mt, which will further enlarge its business scale. In summary, we view that expanding into upstream sector will significantly improve Hengli Group's business risk profile.

Same as Hengli Group, Zhejiang Rongsheng Holding Group Co., Ltd. (Rongsheng Group), is also one of the largest PTA manufacturers in China, with capacity of over 6 Mt (equity). Its products are competitive, including not only PTA but also products in the downstream sector such as polyester films and polyester yarns. Rongsheng Group has added 1.6 Mt PX capacity recently, which

We have assessed the competitive positions of the selected companies through analyzing their competitive advantages, scale/scope/diversity (SSD), operating efficiency, and profitability. We view that the key driver is operating efficiency (focusing on cash cost), followed by SSD and then competitive advantage. Lastly, we assess their cost control through analyzing their profitability, which we also use as a final check point for our previous analysis.

expanded its product offerings and improved profitability. Zhejiang Petrochemical Co., Ltd., (Zhejiang Petrochemical), a joint venture led by Rongsheng Group, has just completed its first phase, bringing about 20 Mt of oil refining capacity. This will not only provide raw materials solution to the company, but also reduce its cost and expand its coverage throughout the value chain of the industry, thereby improving its competitive position in the market.

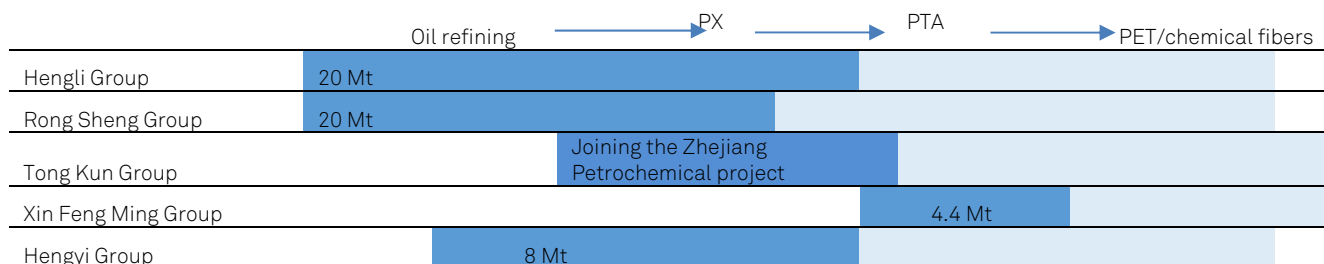
Tongkun Group Co., Ltd. (Tongkun Group) and Xin Feng Ming Group Co., Ltd. (Xin Feng Ming Group) are the two largest chemical fiber companies in China. Since the chemical fiber market is not considered a highly consolidated market, the asset size of the top two players are much smaller compared to the leading PTA manufacturers in the upstream sector. However, their products have higher added value, are better differentiated, and generate higher margins than PTA. Besides, Tongkun Group owns over 3 Mt of PTA production capacity, enjoying better economy of scale, and having more comprehensive product offerings compared to Xin Feng Ming Group. It did not build large refining and chemical projects by itself, but has adopted another expansion strategy by investing in Zhejiang Petrochemical, the joint venture led by Rongsheng Group. Xin Feng Ming Group has taken a different approach, as it chooses to expand into PTA sector, which is closer to the downstream sector and therefore resulting in a shorter span on the value chain of the industry as compared to Tongkun Group. Both Tongkun Group and Xin Feng Ming Group are of relatively smaller scale and have not improved their operations as much compared to the other 3 selected peers after expansion.

Zhejiang Hengyi Group Co., Ltd. (Hengyi Group), another large PTA manufacturer in China, has over 6 Mt of PTA capacity (equity). The 3 joint ventures that Hengyi Group and Rong Sheng Group built together have provided altogether 13 Mt PTA capacity. Recently, they announced the plan to add another 6 Mt of capacity. Hengyi Group, Rong Sheng Group, and Hengli Group, the 3 largest PTA manufacturers in China, have produced half of China's PTA. Although Hengyi Group also manufactures and distributes chemical fiber products, the profitability of its downstream segment is relatively low. We view that the company's refining and chemical project with 8 Mt capacity in Brunei will be able to meet most of the company's needs for raw materials, despite that the project is of smaller scale compared to that of Hengli Group and Rongsheng Group. Meanwhile, the company has increased its product offerings by actively developing the caprolactam business.

We expect that large refining and chemical projects will improve the level and stability of the companies' profitability. For Rongsheng Group and Hengyi Group, their major product PTA has less product differentiation and generates relatively low margins. Therefore building refining and chemical projects will lower their costs and expand their EBITDA margins. For Tongkun Group and Xin Feng Ming Group, their major product polyester yarns are profitable, leaving little room for margin improvement, while joining refining and chemical projects or expanding into other sectors of the industry can reduce the volatility of their profitability.

Chart 3

Paths of expansion into the upstream sector



Note: Light blue refers to the existing product offerings before expanding into the refining and chemical business. Dark blue

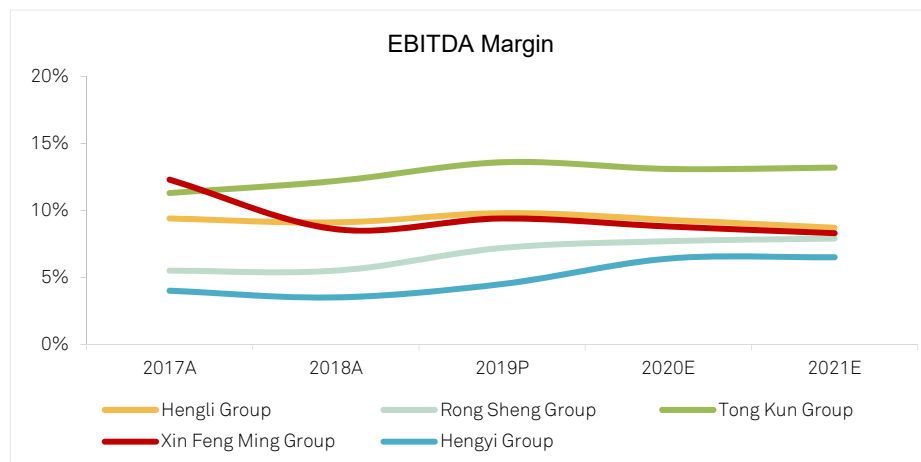
refers to the product offerings added after the expansion.

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Chart 4

EBITDA margins of the selected samples



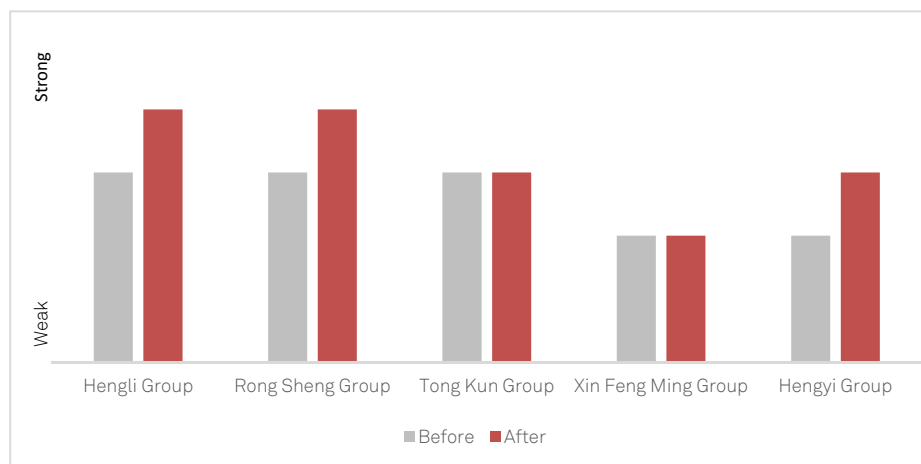
P: Projection, E: estimation.

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Chart 5

Business risk profiles before and after the expansion



Note 1: The scores in chart are given based on the rough judgement of the public information and should not be used as scores to constitute rating opinions.

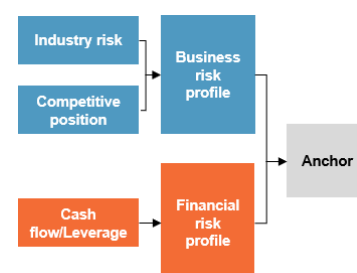
Note 2: "After" indicates the year of 2019.

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Financial Risk Analysis

We view that the selected samples have benefited from the expansion from a business perspective, but their financial risk profiles may have been affected to varying degrees due to the large capital investments made in the expansion. The rising interest expenses and increase in



working capital outflow may also put pressure on their liquidity positions in the short-term.

We view that Hengli Group, Rongsheng Group and Hengyi Group will face higher financial risks compared to the other 2 selected companies, and their debt to EBITDA (the core ratio for assessing their financial risks) increased to above 10x in 2018. Despite that deleveraging is the trend over the mid-to-long term, we view that the progress will be very slow and the financial risks for these 3 companies will remain high. Conversely, the financial leverage of Tongkun Group and Xin Feng Ming Group should remain stable because of their healthy financial conditions before expansion, lower debt burden, and less-aggressive expansion strategies.

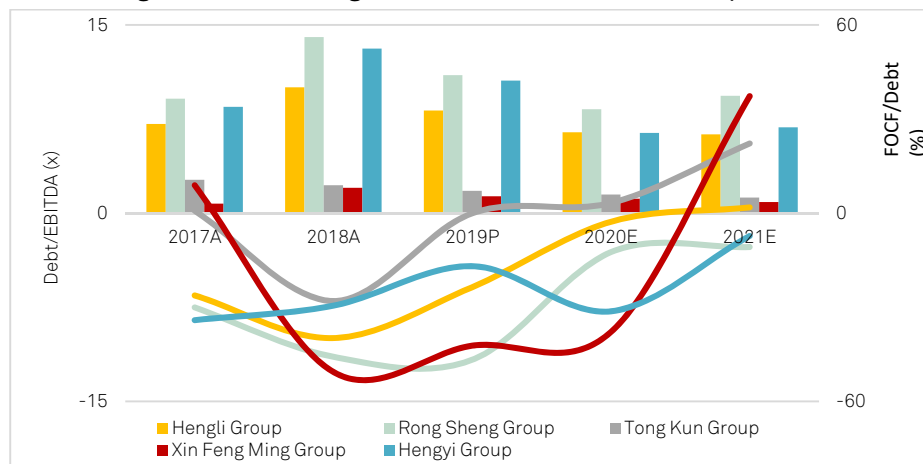
We view the companies' cash flow are experiencing the most vulnerable period after huge capital expenditures, when their abilities to properly manage existing capital and seek additional funding are tested. All of the selected companies have reported negative free operating cash flow (FOCF) due to large amount of capital expenditures and working capital outflow in 2017 and 2018. They have to raise new capital to fill the funding gap. We anticipate that these companies will continue to incur large capital expenditures over the next 1 to 2 years, and their FOCF will remain negative. If their capital expenditures turn out to be even higher than our base case assumption, it might take longer for their FOCF to turn positive.

The refining and chemical projects built by Hengli Group and Rongsheng Group are large in scale and request high capital investment. Therefore they are faced with larger funding gap and higher liquidity pressure compared to the other 3 selected companies. Tongkun Group faces the least financial pressure among all the selected companies and we expect that it will be first one to turn FOCF to positive, because of its smaller capital expenditures as a project participant and strong cash generation capability.

Chart 6

Financial metrics of the selected companies will be pressured after expansion and then rebound

The leverage and cash flow generation of the selected companies.



P: Projection, E: estimation.

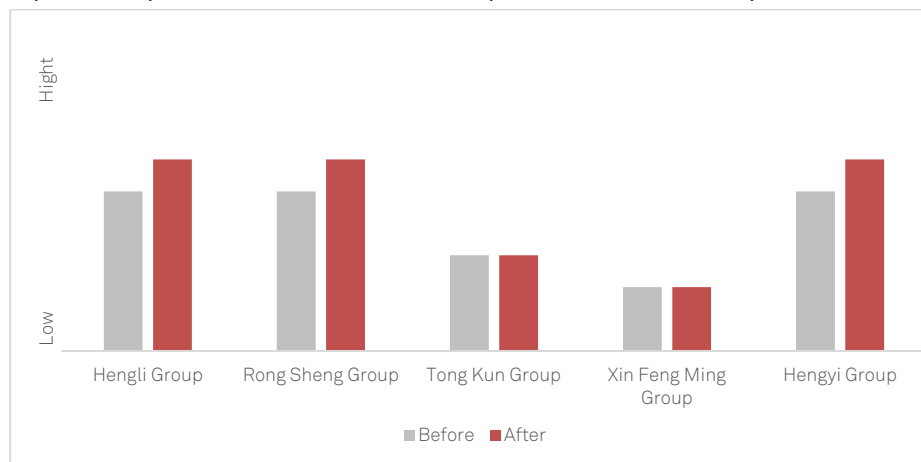
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Chart 7

The financial risks of some selected companies have increased after expansion

A peer comparison of the selected companies' financial risk profiles before and after the expansion



Note 1: long bar indicates higher financial risk and short bar indicates lower financial risk. The scores in chart are given based on the rough judgement of the public information and should not be used as scores to constitute rating opinions.

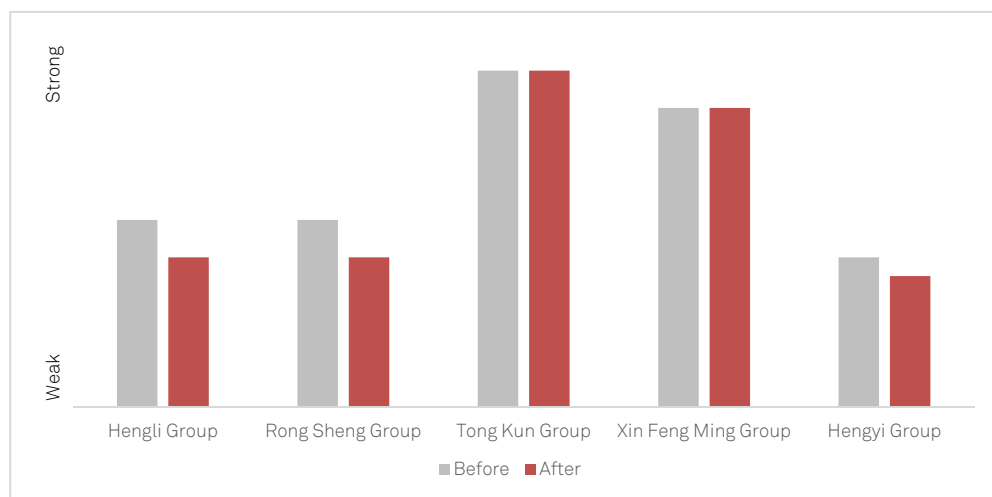
Note 2: "After" indicates the year of 2019.

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We assess the companies' standalone credit quality based on our analysis of their business risk profiles and financial risk profiles, amongst other things. We believe that the improving operating performance of Hengli Group, Rongsheng Group and Hengyi Group will not be quickly translated into cash inflow to relieve their elevated financial risks, leading to higher credit risks in the short term. If their profit generation turns out to be in line with our expectations and capital expenditures decline, their financial profiles should improve over the long run, thereby reducing credit risks. The credit profiles of Tongkun Group and Xin Feng Ming Group have not changed much, as their financial risks remain low and business operations have only slightly improved after expansion.

Chart 8

Standalone credit quality of the selected companies (before considering other influences)

Note 1: The scores in chart are given based on the rough judgement of the public information and should not be used as scores to

The financial analysis in this commentary has been conducted based on the consolidated financial statements of the groups rather than the financials of the listed companies. We view that it is unlikely to insulate the listed companies, which built the big refining and chemical projects, from the groups as they are subject to the tight control of the respective groups.

constitute rating opinions.

Note 2: "After" indicates the year of 2019.

Source: S&P Global (China) Ratings.

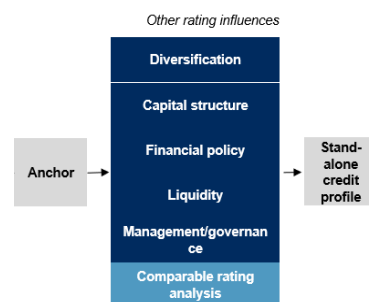
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Other Factors Considered

All of the selected companies have adequate capital structures. A typical big refining and chemical project has long payback period, which could last for 7 to 10 years or even longer before breakeven. Therefore the ability to secure long-term funding is essential for this kind of project, which is normally supported by bank loans syndicated by policy banks or large commercial banks. Such bank loans are usually of long tenors and are structured to match the construction progress of the projects.

In evaluating liquidity, we consider that Hengli Group, Rongsheng Group, and Hengyi Group may face higher pressure than the other 2 selected companies. Currently, the first phase of construction for many big refining and chemical projects have been completed, with large capital spending already incurred. Meanwhile, rising interest expenses and increase in working capital outflow arising from purchasing additional raw materials to support the expansion projects is also likely to pressure their liquidity. The second phase of the refining and chemical projects for Rongsheng Group and Hengyi Group will request capital investment in the near term, which may further weaken their liquidity positions.

According to S&P Global (China) Ratings Corporate Methodology, we assess the credit quality of corporate issuers by considering both issuers' standalone credit quality and group influences. In this commentary, we have assessed the financial performance of the selected companies on a consolidated basis because we view that it is unlikely to insulate the listed companies from their groups as they are subject to tight group controls. Sometimes a large amount of debt is booked on groups' consolidated balance sheets but absent from the balance sheets of listed companies. In this situation, the credit risk of the issuers will be underestimated if we only assess the reported financials of the listed companies. Therefore, we will review the consolidated financials of the groups for a comprehensive analysis of the credit risks embedded.



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