

## Revisions to Rating Methodologies for “Information Services” and “Nonferrous Metals”

Japan Credit Rating Agency, Ltd. (JCR) hereby announces that it has revised its Rating Methodologies by sector “Information Services” and “Nonferrous Metals.”

JCR revised the Rating Methodologies as a result of considerations that were announced in its press release “JCR Solicits Public Comments on Revisions to Rating Methodologies by Sector ‘Information Services’ and ‘Nonferrous Metals’” dated February 9, 2024, and JCR decided the Rating Methodologies as proposed at the time of requesting the public comments on them. There are no individual ratings that need to be revised as a result of these revisions.

The revised rating methodologies will be posted on the page of “Rating Methodologies: Corporates” ([https://www.jcr.co.jp/en/rrinfo/meth\\_corp/](https://www.jcr.co.jp/en/rrinfo/meth_corp/)) of JCR’s website.

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JCR publishes its press releases regarding the rating actions both in Japanese and in English on the same day. In case that it takes time to translate rating rationale, JCR may publicize the summary version, which will be replaced by the full translated version within three business days. (Regarding Structured Finance products, JCR only publicize the summary version in English.)

## Rating Methodology by Sector **Information Services**

This rating methodology is assumed to be applied to information service providers who are responsible for the construction and operation of information systems, software development, and information processing and providing services, and is mainly concerned with system integrators (SIer), which is a business category that undertakes implementation consulting, design, development, operation, and maintenance as a total for users in a wide range of industries.

### **1. Business base**

SIer has a pyramid structure with the major companies at the top and middle-scale and small- and medium-sized companies spreading out toward the bottom, and large companies are using lower-tier companies as subcontractors to fill their staffing resources. In the rating evaluation, JCR places importance on market position, customer base, and project management skills.

#### (1) Characteristics of industry

##### (i) Market overview

SIer is a business category that has been developed by comprehensively capturing users' needs for outsourcing information system operations, and is basically an industry based on internal demand. In addition to domestic economic trends, the industry is susceptible to the IT investment trends of users, such as renewal cycle of information systems. However, with the advancement of digitalization, the use of IT in various social activities is on the rise. Business relationships are relatively stable due to the importance of IT as a management infrastructure for users. A certain level of IT investment is expected to be maintained even during recessions, and demand volatility is relatively small.

The domestic information services market has been growing and the market size is relatively large. The market is expected to grow thanks to the addition of digital transformation (DX) and other needs to the investments made to improve productivity, which has been the main driver to date.

Meanwhile, overseas markets are expected to grow at a higher rate than the domestic market. In addition to the large European and U.S. markets, which are expected to continue to expand, emerging markets are also expected to grow. Overseas, business practices and laws and regulations are often different from those in Japan, and M&A is generally used for business development.

## (ii) Competitive situation

The information services industry has a large number of small- and medium-sized companies and micro businesses due to its low initial investment and relatively easy entry into the market, and has a pyramid structure with the major companies at the top and middle-scale and small- and medium-sized companies spreading out toward the bottom. When developing large-scale systems on consignment, the major companies assume project management as the prime contractor and subcontract the development process to the multi-tiered subcontractors in many cases.

There are a large number of major companies, including hardware vendors and independent firms. In some cases, such as in the public sector, they win orders through bidding, and there is competition for orders among the different tiers. However, depending on how they were established, the business types and business fields in which they have strengths differ, and there is a certain degree of separation among the providers. Many users' information systems have been developed on a tailor-made basis based on their specific needs. Due to their uniqueness, switching costs to other information services providers are high, and the continuity of transactions is relatively high.

## (iii) Cost structure

Basically, the information services business has a labor-intensive structure, so the main costs are personnel and subcontracting costs. In particular, the larger the prime contractor, the greater the weight of subcontracting costs. In addition to personnel costs, it is not easy to reduce subcontracting costs in order to secure future mobilization capacity. Therefore, downward pressure is likely to be placed on profits when the order environment deteriorates. On the other hand, in a favorable order environment, the ability to mobilize personnel becomes a constraint in getting orders. In addition to productivity improvements such as automation of development, the ability to appropriately control human resources in response to demand is required. In addition, a shortage of human resources is expected in Japan due to the decline in working population, which may lead to a heavier cost burden due to improved compensation and other factors. JCR also focuses on the status of passing on of the price to users.

In contracted system development, attention should be paid to unprofitable projects. Not only development losses may occur due to additional costs, but also opportunity losses may occur due to constraint on human resources. JCR confirms whether appropriate project management and cost control are in place.

Cloud services and other service-based businesses, in which service providers make capital investments to build services in advance and collect usage fees from multiple users, are spreading. Although the payback period is longer due to the upfront capital burden, it does not depend on human resources and can ensure stable earnings. However, if the number of users falls below expectations, there is a risk that the investment will not be recovered. JCR confirms the impact of these changes in business structure on the overall cost structure.

## (2) Important factors in market position and competitiveness

### (i) Market position

The industry has a pyramid structure, and competitiveness is highly correlated with its hierarchy. JCR focuses on whether the company has the ability to become a prime contractor for contracted system development. In large-scale system development, the prime contractor uses subcontractors to develop the system. The prime contractor is responsible for the overall project, including development costs and development period, and this entails risk. On the other hand, if the project goes smoothly, the prime contractor can earn relatively high earnings, and can also earn continuous earnings by taking on post-development operations and maintenance. The prime contractor who is in such a position is required to have comprehensive capabilities, including not only technical capabilities but also the ability to mobilize personnel. In particular, in the case of mission-critical systems that require high reliability, the top-ranking companies in the industry often serve as prime contractors.

### (ii) Business structure

The main businesses can be broadly classified into (a) contracted system development, (b) system operation and maintenance, (c) business process outsourcing (BPO), and (d) service-based business. Contracted system development is susceptible to users' IT investment trends and demand volatility is relatively high, and there is also a risk of unprofitable projects. On the other hand, system operation and maintenance and BPO are often contracted for relatively long periods of time, and the risk of unprofitable projects is generally low. Many of the service-based businesses are assumed to be used by users over the long term. These businesses generally contribute to stabilization of cash flow, and are expected to provide a certain level of performance support even during a decline in contracted system development. In the rating evaluation, JCR focuses on the business structure of each company based on the characteristics of each of these businesses.

### (iii) Customer base

The information systems of domestic users are highly unique, with requirements and specifications differing from company to company. Therefore, one of the key points for users selecting a prime contractor for system development is whether or not it is familiar with the user's existing systems and business model. As a result, the business relationship between users and prime contractors is considered to become relatively stable. On the other hand, attention should be paid to the in-house production of information system operations by users. JCR confirms the status of transactions with major users and the degree of dispersion by user and industry. Although only a few operators have been able to establish business foundations overseas, JCR pays attention to their future development policies and their progress. Through these attention points, JCR identifies the trends and fluctuation patterns of earnings of the company.

### (iv) Ability to control subcontracting

The larger the prime contractor, the greater the use of subcontracting. In a phase of declining orders for system development, it is necessary to strive to maintain earnings levels by adjusting the amount of orders for

development processes to subcontractors to increase the ratio of in-house production, or by lowering subcontracting unit price to secure a spread with the order unit price. JCR places emphasis on whether the company is managing subcontracting in a balanced manner that also considers securing resources quantitatively and qualitatively when the order environment improves. In addition, since it is considered essential to improve the capabilities of in-house personnel in order to properly manage subcontracting, the status of in-house training and acquisition of qualifications is also a focus of attention.

#### (v) Project management skills

In contracted system development, there are cases where projects become unprofitable because the Company is forced to take measures such as the introduction of additional subcontracting personnel due to (a) unclear requirement definitions in contracts with customers, (b) insufficient follow during the process, and (c) occurrence of defects in the development process. Information services business is a labor-intensive business model, and completely avoiding unprofitable projects would be difficult, but the information services providers are required to take measures to reduce the number of unprofitable projects by strengthening their pre-order screening and review systems during the project process. In the rating evaluation, JCR carefully examines the strengthening in order acceptance policy and project management system in addition to changes in the amount of orders received, and subsequently evaluates profitability.

## 2. Financial base

### (1) Earnings strength

To evaluate the overall earnings strength of the company, which reflects its technological capabilities, project management skills, and ability to respond to changes in demand, JCR focuses on operating income and the ratio of operating income to net sales.

Key financial indicators:

- Operating income
- Operating margin

### (2) Cash flow generation capacity

JCR focuses on the ability to generate cash flow, which is the source of redemption of interest-bearing debt. As SIs generally lack assets that can be pledged as collateral and their financing is limited to maintaining their ability to generate cash flow, cash flow generation capacity is important. JCR also focuses on the balance between interest-bearing debt and cash flow. The methods of recording development costs and payback period differ between contracted development businesses and service-based businesses, and JCR analyzes and evaluates these businesses based on the characteristics of each business model.

Key financial indicators:

- Cash flow from operating activities
- Free cash flow

- EBITDA
- Ratio of interest-bearing debt to EBITDA

### (3) Safety

Slers generally do not require large capital investments, except in cases such as data center construction. The ratio of fixed assets to total assets is low, and many companies have low interest-bearing debt. As a result, they have a good balance between debt and equity and a stable financial base. In recent years, the need for flexible investments, such as upfront investment in service-based businesses and M&A to acquire business foundation and know-how, has increased, and maintaining a good financial structure remains important. JCR therefore places emphasis on equity ratio and other indicators for safety.

Key financial indicators:

- Shareholders' equity
- Equity ratio
- Debt equity ratio

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## Rating Methodology by Sector

### **Nonferrous Metals**

While the nonferrous metals industry includes smelters of copper, zinc, lead, nickel, and other metals, aluminum processing companies (plate, extrusion, and foil manufacturers), and manufacturers of electric wire and other products, JCR covers the smelters of these metals in this rating methodology.

#### 1. Business base

The performance of nonferrous smelters tends to fluctuate depending on nonferrous metal market conditions and exchange rate trends. In addition, the scale of investment in mines is often large, and in some cases, large impairment losses are recorded when mining operations are sluggish. For these reasons, in assigning ratings, JCR focuses on whether a company's mines and smelters are highly competitive, whether it has built a business foundation that is profitable even in fluctuating market conditions, and whether its business portfolio is diversified enough to limit fluctuations in companywide performance.

#### (1) Characteristics of the industry

##### (i) Market overview

Copper is processed into electric wires, wrought copper and copper alloy products, etc. for use in construction, electrical equipment, industrial machinery, automobiles, and others. Zinc is processed into galvanized steel sheets, brass, zinc die-cast alloys, etc. for use in construction, automobiles and others. Lead is used in lead-acid battery electrodes, radiation shielding materials, soundproofing materials, etc, while nickel is used in stainless steel, lithium-ion secondary batteries, etc.

Copper, which has a wide range of applications, is the most widely consumed metal worldwide, followed by zinc, lead, and nickel. Although demand for all these metals is affected by business fluctuations, it is on an increasing trend over the medium to long term. Nonferrous metal production in Japan exceeds domestic consumption, and these metals are exported to China and other Asian countries.

Trading prices are announced by the London Metal Exchange (LME), and refined metals are traded based on the LME price. LME-designated warehouses are located around the world, and changes in their inventories reflect local supply and demand, which in turn affect the LME prices. However, in addition to actual supply and demand trends, the LME prices can also fluctuate significantly due to inflows of speculative funds. Furthermore, metals may be substituted by other metals, as in the past where some of the raw materials were shifted from gold to copper for bonding wire and from nickel to chromium for stainless steel, respectively, when those nonferrous metals prices soared.

##### (ii) Competitive situation

Major nonferrous smelters are engaged in smelting business by owning their own smelters or by investing in

a joint toll smelter. Competition within Japan is limited due to the separation of nonferrous metals by type and user. On the other hand, in Asia, their main export market, they compete with highly competitive Chinese and Korean smelters, and thus the profitability tends to be lower than that of the domestic market.

Global competition is intensifying in the collection of recycled raw materials, mainly E-Scrap (waste substrates for electronic equipment). It is necessary to confirm whether each company is collecting the necessary amount of recycled materials by expanding its overseas collection bases.

### (iii) Cost structure

In the case of copper, the ore cost paid by smelters to mining companies is the LME price minus refining costs (TC/RC = treatment/refining charges). On the other hand, the price of refined metals sold by smelters to customers is the LME price plus a premium (surcharge) that reflects transportation costs and local supply and demand. Therefore, smelters' revenues are the sum of refining costs and premiums converted into yen, plus revenues from by-products such as sulfuric acid, copper slag, and precious metals. Therefore, trends in negotiations between mining companies and smelters on refining costs (ore purchase terms) have a significant impact on their earnings.

Although processes at smelters differ slightly depending on the metals to be smelted and refined and smelting and refining methods, all smelters have furnaces and other large facilities, and make investments for periodic repairs, capacity expansion, and efficiency improvement. As a result, the fixed cost burden, including depreciation and amortization, is high.

The cost of ore production is increasing due to higher and deeper ore deposits in overseas mines and tightened environmental regulations by local governments. In addition, the number of high-grade ores is decreasing. For these reasons, JCR conducts interviews with smelters on the operation status, cost trends, and ore grades of the mines in which they have invested.

## (2) Key factors in market position and competitiveness

### (i) Market position

Since smelters are generally more cost competitive the larger the scale of production, JCR confirms their production volume and market share. In addition, some Japanese smelters have invested in smelters not only in Japan but also in East Asia, so JCR looks at the overall supply capacity of the group as a whole as a factor in its judgment.

### (ii) Upstream development

The oligopoly of nonferrous majors and rising demand for ore in emerging countries have strengthened the voice of mines' sides. In order to stably procure ore, it is important to expand into the mining business, which is upstream of the smelting business. By increasing the ratio of ore procured from mining interests to the overall volume of ores procured (proprietary ore ratio), the company can secure procurement routes and also capture profits from the mines in its financial results.



When investing in a mine that is already in operation, the business risk is small, but the amount required to acquire the interest becomes large. On the other hand, when starting from exploration, the investment amount is relatively small, but a long period of time is required before commercialization. Even after commercialization, there is a possibility that the minable ore volume and mining costs will differ from assumptions based on exploration results, and in some cases, additional environmental investment will be required, and business risk is large. In addition, changes in local government policies, such as stricter ore export regulations and higher tax rates, may affect the earnings strength of mining operations.

Given these factors, JCR analyzes mining investment projects from the perspectives of business risk, including country risk, total investment amount and payback period, progress of the project, and changes in the proprietary ore ratio after the mine goes into operation or after the acquisition of the interest.

### (iii) Technical strengths

JCR focuses on whether the company has the technology to efficiently recover valuable metals in its smelting operations. The company is expected to raise its earnings strength by recovering and selling many types of valuable metals. In addition, recycled raw materials contain many impurities, which can easily cause production problems. Technology to properly treat impurities is important to expand the use of recycled raw materials.

In addition to mining technology in the mine development stage, the mining business requires a variety of know-how including that for handling impurities in ore and dealing with adverse weather conditions even after operations begin. JCR assesses whether each company has these technologies and is able to operate the mines smoothly.

### (iv) Business structure

The share of smelting and mining operations in net sales and operating income varies from company to company. There are also some differences in the businesses other than smelting and mining. In addition to the market size, growth potential, market share, and competitive situation of each business, JCR also checks whether the company as a whole is able to control fluctuations in its business performance.

Of the businesses other than nonferrous smelting and mining, in the electronics related business, in which many companies are engaged, products are fast becoming commoditized, and competition with Asian companies in South Korea, Taiwan, and China is fierce. Therefore, continuous R&D and sales of new products are required. In addition, in the automotive related business, growth in domestic automobile production is unlikely and automakers and parts manufacturers are severely demanding lighter weight and cost reductions, so JCR believes that its abilities to develop products that meet user needs, expand overseas development, and be cost competitive are important.

## 2. Financial base

### (1) Earnings strength

JCR places importance on earnings strength from the perspective of maintaining and expanding business. However, since the company is susceptible to the effects of nonferrous metal market conditions and exchange rate fluctuations, JCR evaluates it within a certain cycle, rather than examining it based on the only results of one fiscal period. As the mining business tends to have a large impact on business performance, JCR looks at the profit contribution from this business including the equity in earnings of affiliates. In addition, JCR focuses on whether the company has an earnings strength that can secure a certain level of profit even when the nonferrous metal market declines, through diversification of its business portfolio and other measures.

Key financial indicators:

- Operating income and ordinary income
- Equity in earnings of affiliates
- ROA

### (2) Cash flow generation capacity

In addition to the constant burden of investment for facility renewal, the acquisition of mining interests often requires a large amount of funds. It is necessary to confirm that each company's investments are generating results as planned and the repayment of external debt is progressing using the generated cash flow. While a temporary increase in interest-bearing debt is inevitable with acquisitions of mining interests and other activities, JCR focuses on whether the company has an ability to generate enough cash flow to restore its financial structure to the previous financial structure over the medium term.

Key financial indicators:

- Cash flow from operating activities
- Cash flow from investing activities
- Ratio of interest-bearing debt to EBITDA

### (3) Safety

Nonferrous smelters are subject to significant performance volatility and need to maintain a certain level of financial soundness as a buffer in the event of performance deterioration. It is also important to ensure a sound financial structure from the perspective of enabling smooth financing in situations where large cash outflows are required, such as mining investments. In analyzing these indicators, JCR does not only focus on temporary levels, but also takes into account their financial management policy and medium- to long-term trends before reflecting them in the rating.

Key financial indicators:

- Interest-bearing debt
- Equity capital and equity ratio
- Debt equity ratio



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