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Listed Infrastructure Funds

1. Outline

This document describes JCR's rating methodology for investment corporations ("listed infrastructure funds"), investment corporation bonds or borrowings by investment corporations that are listed on Tokyo Stock Exchange ("TSE").

TSE established an infrastructure fund market on April 30, 2015 for listing funds that invest in infrastructure facilities such as solar power generation facilities against a background of the following: (i) Use of funds of private sector and its know-how are increasing required for improvement and management of infrastructure on behalf of public investments by the government and local bodies due to constraints on the financial conditions of the latter and necessity of maintenance/ renewal and new investment of infrastructure, and (ii) Investors' interests in infrastructure investments as a stable asset class that is not easily affected by economic trend are increasing from a perspective of diversification of asset investment.

Infrastructure fund market is based on framework of REIT market. This market targets investment corporations or investment trusts with investments in infrastructure facilities such as solar power generation facilities and others in the same way as REIT market where investment corporations or investment trusts with investments in real estate such as office buildings and condominiums are listed. Listing regulations on infrastructure fund market are set based on characteristics of infrastructure fund market. Taking investment corporations as an example, investors in infrastructure assets (owning investors in cases of direct investment and leasing investors in cases of leasing) are investment corporations, and decision on investment (asset management) is entrusted to an asset management company[1]. On the other hand, operators assume roles of maintenance and management of individual infrastructure assets.

Infrastructure funds include non-listed funds as well as listed infrastructure funds on TSE. JCR has already rated such non-listed funds[2]. This document describes JCR's rating methodology for listed infrastructure funds described above based on their characteristics.

[1] Asset management companies are required to be members of The Investment Trusts Association, Japan

[2] As an example of private funds, JCR has been rating claims for return of Tokumeikumiai investment for term ship investment funds I to III since 2010. JCR rates many project finance instruments for solar power generation.

(Chart 1) Differences between the infrastructure fund market and the REIT market

<table>
<tr><th></th><th>Infrastructure Fund Market</th><th>REIT Market</th></tr>
<tr><td>Target Assets</td><td>▪ Ratio of core assets (assets that are equal to directly held infrastructure assets) to the total assets under management shall be 70% or more.
▪ Ratio of core assets, related assets (assets that illustrate returns from infrastructure assets), and current assets to the total assets under management shall be 95% or more.</td><td>▪ Ratio of core assets (assets that are equal to directly held real estate properties) to the total assets under management shall be 70% or more.
▪ Ratio of core assets, related assets (assets that illustrate returns from real estate properties), and current assets to the total assets under management shall be 95% or more.</td></tr>
<tr><td rowspan="2">Listing Rules</td><td colspan="2">▪ Total assets of JPY 5 billion or more, net assets of JPY 1 billion or more
▪ 1,000 or more investors, and other investor distribution and liquidity criteria
▪ Regular dividend payment (If a fund is unable to pay dividend for one year, it will be delisted.)</td></tr>
<tr><td>▪ Operators shall be selected by an appropriate method</td><td></td></tr>
<tr><td rowspan="2">Timely Disclosure</td><td colspan="2">▪ Disclosure on the issuer, asset management company, and assets under management</td></tr>
<tr><td>▪ Disclosure on operators</td><td></td></tr>
</table>

(Source) TSE Website

2. Funds Structure

While investment corporations are investors for infrastructure assets, management of infrastructure assets is conducted by operators and not by infrastructure funds. For overseas funds and private funds, corporations under umbrella of infrastructure funds often own and manage infrastructure assets. In Japan, under the laws and regulations related to the Act on Special Measures Concerning Taxation, investment corporations are required to have renewable energy facilities as their target assets and to manage such facilities through lease method to meet conditions for their conduit status[3] where they can deduct their dividend payments in order to eliminate double taxation between investment corporations and investors.

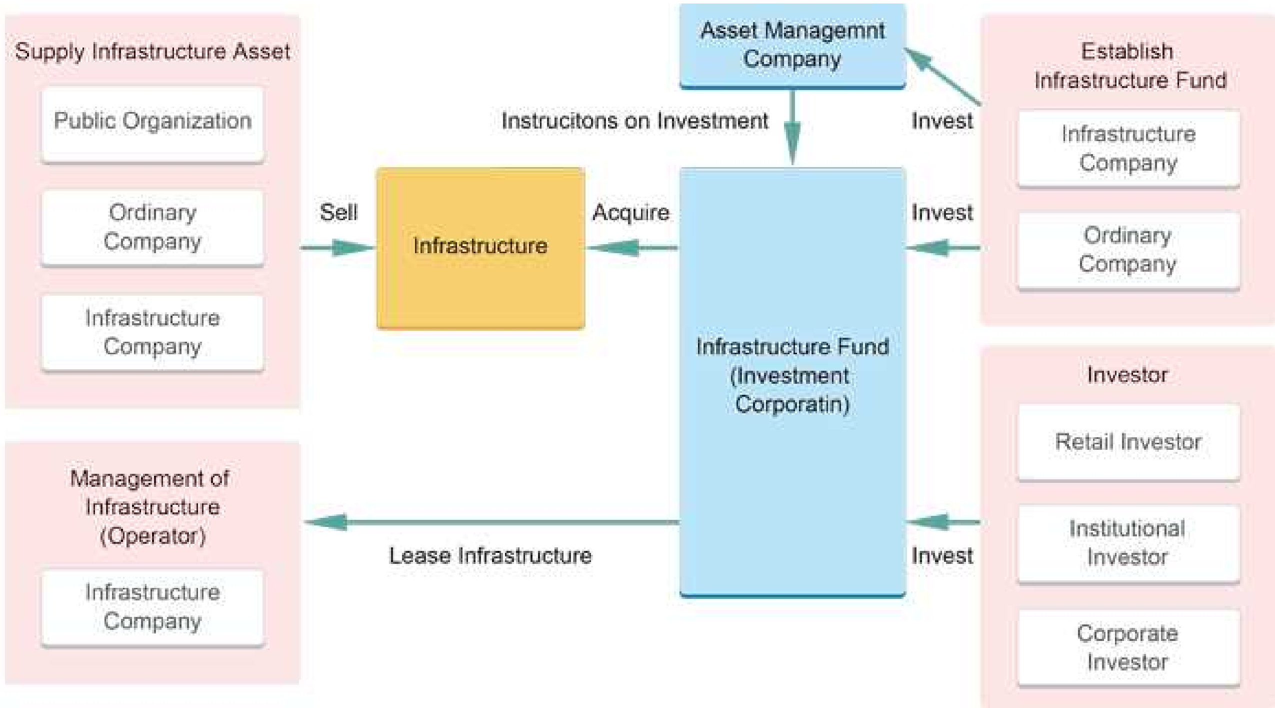
As cash flows of infrastructure funds rely on management of infrastructure assets, listing rules to ensure appropriate and stable infrastructure fund management and disclosure rules on operators who assume management of infrastructure fund are defined at TSE.

Target Infrastructure for listed infrastructure funds are limited to facilities, for which 1 year, in principle, has passed since commencement of operations and stable earnings are being generated.

[3] Infrastructure assets applicable for other specified assets (typically real estate) may enjoy conduit status for tax purposes without abiding by special requirements for renewable energy facilities.

(1) Example of Structure of Listed Infrastructure Funds for Investment Corporations

(Chart 2) Structure of TSE Listed Infrastructure Funds



(Source) TSE Website

(2) Investment Assets

Under TSE's listing rules, ratio of core assets (assets that are equal to directly held infrastructure assets) to the total assets under management shall be 70% or more, and ratio of core assets, related assets (assets that illustrate returns from infrastructure assets), and current assets to the total assets under management shall be 95% or more. In light of the requirements for conduit status described above, investment targets will be exclusively renewable energy facilities for the time being.

(3) Assumed Infrastructure Facilities

(i) Assets Defined under Listing Regulations

Renewable energy facilities (solar power, wind power, biomass, geothermal heat, etc.)

Right to operate public facilities (Concession)

(ii) Target Assets Defined under Enforcement regulations of Listing Regulations

Transportation related (energy ship, road, railway, port facilities, airport)

Energy related (electric facilities (power plants), gas facilities, oil/ gas pipeline)

Other (water supply and sewage services, electrical telecommunications facilities, wireless equipment)

3. Possible Risks

(1) Infrastructure-specific Risks

Site related: Is site ensured firmly for the assumed management period? Are there any problems with boundary confirmation? Are there any problems with relations with land owners or residents in the neighborhood?

Location: Ensuring of access to necessary infrastructure including road, water supply and sewage services, electricity, and risks in relation to natural disasters such as storm and flood damage, earthquake, tsunami, and intensity of solar radiation and its variability in cases of solar power.

Development/ Operation: Asset impairment/ destruction due to accidents/ disasters caused by facility design or management, degradation, performance guarantee by facility manufacturers, etc. for equipment used, fluctuations in cash flows due to operational skill

Inflation: Substantial drop of revenue, increase of expenses and financing cost, etc.

Management Cost: Increase of costs including raw materials, land rent and land cost due to individual factors

Performance Risk: Suppliers, customers, etc.

(2) Risks related to framework of Infrastructure Funds and feed-in tariff (“FIT”) system

Requirements for Conduit Status: Under the laws and regulations related to the Act on Special Measures Concerning Taxation, in cases of renewable energy facilities as a target asset, investment corporations are required to manage such facilities through lease method for conduit status, namely a factor for permission for treatment of elimination of double taxation between investment corporations and investors through deductibility of their dividend payments. Period in which conduit status is permitted is limited to 20 years. As long as the current framework continues into the future, it is considered that as termination of period, in which investment corporations can enjoy conduit status, approaches, a possibility of decline of yield on dividend payments after the termination will be perceived. A possibility that this expectation may have the fund’s financing and capital increase can be a risk.

FIT system: The current FIT system will end at the end of March 2021. In what ways the FIT price can be determined in the future will have a significant impact on feasibility of renewable energy facilities which depend on the FIT system. It is also important whether the FIT system can be extended or how electricity sales in electricity market that do not rely on FIT can be developed. Under the electricity system reform that is discussed by the central government, investment burden of thermal power as back-up power capacity for solar power, etc. is also being discussed. There are also risks that a new framework for the electricity system to be introduced may directly or indirectly have impact on profits of solar power generation business.

Fund management by asset management companies: Issues in relation to investment policies and capacity to carry out those policies of asset management companies: A possibility that infrastructure is purchased with inappropriate price in cases where sponsor is seller of infrastructure and at the same time is involved with asset management company, and lack of preventive measures against conflict of interest

(3) Risk in relation to Financing

Constraint on Capital Increase due to Disorder of Capital Market: A possibility that purchase of infrastructure is restricted by a worsening of infrastructure fund's financial level or by keeping a certain financial level.

Refinancing when financial market is in disorder: Concentration of repayment schedules and lack of means to ensure liquidity such as establishment of commitment line

4. Rating Methodology

(1) Analysis Points

Given that listed infrastructure funds have many infrastructure projects under its operations, the following can be points for making analysis of them: (i) assessment of feasibility of individual projects as in the case of project finance; (ii) assessment of portfolio as assembly of individual projects; (iii) capacity of asset management company; (iv) capacity of operator for individual infrastructure assets; (v) financial management policy: (vi) sponsor; (vii) performance and management of infrastructure facilities; and (viii) tax.

(i) Individual Infrastructure Projects

JCR assesses feasibility and characteristics of individual investment projects for individual Infrastructure assets such as solar power, wind power, biomass, airport, road, etc.

(ii) Portfolio

JCR assesses portfolio's cash flow generation capacity, stability/ variability and degree of diversification of projects (including geography, use, off-taker, use period, suspension period, etc.). In cases where there are projects with high disaster risk or operational risk, in particular, JCR confirms that whether investment corporations can go on repaying their debts using cash flows from projects in operation, even if such risky projects are suspended. JCR checks total cash flows from individual investment projects and their stability. Under the structure, cash flows of investment corporations rely on rent generated from infrastructure that is leased to operator. For this reason, JCR also examines carefully conditions under leasing agreement (calculation method of rent, cancellation before expiry, etc.).

(iii) Asset management companies

Fund management performance significantly depends on (i) an appropriate acquisition price and (ii) an appropriate/ conservative management policy. Capacity to acquire infrastructure is capacity to purchase good projects for appropriate volume with an appropriate price for a long period of time. Capacity to identify good properties as well as capacity to search for and create projects is also required. Investment corporations invest in projects structured by their sponsors and third parties. Sourcing of such projects, due diligence management system and management philosophy are extremely important. JCR also examines growth strategies, conditions of pipelines supporting such strategies, way of asset diversification in the medium and long run, whether they concentrate its assets to specific asset types, handling after termination of the FIT period, etc.

(iv) Operator

Appropriate management, control, repair, and others are required for infrastructure assets to ensure cash flow generation capacity, maintenance of performance and safety for a long period of time. Even in cases of solar power plants which do not require much works, maintenance work including periodic inspection and mowing is essential, because such plants are sometimes located in a remote mountain area or at the coast. JCR examines carefully whether the operator can appropriately manage facilities as an operator, whether it can fast recognize abnormality when any of abnormality occurs and has knowledge and capacity to take necessary actions.

(v) Financial Management Policy

JCR pays attention to appropriate maintenance of liabilities/ capital in line with increasing asset conditions, and the following are the points for this purpose:

- Asset conditions and leverage control through capital increase, borrowings or issue of Investment corporation bonds
- Diversification of due dates of borrowings and investment corporation bonds and diversification of maturity periods
- Capacity to tackle fluctuations in financial market and contingency plan for refinancing risk
- Covenants, available capacity and existence or non-existence of collateral

(vi) Sponsor

Sponsor will be involved with activities of investment corporations in terms of bringing of investment projects, asset management, operator, etc. In cases where investment corporations significantly rely on sponsor’s capacity and human resources, assessment of sponsor’s capacity to manage business and business continuity will be reflected in creditworthiness of investment corporations for infrastructure funds.

(vii) Performance and management of Infrastructure Facilities

Ensuring sufficient performance through initial design/ construction is important for infrastructure assets. Recovery of performance by repairs later is considered difficult in many cases from economic and technological perspectives. Unlike in the case of REIT's commercial facilities, these infrastructure assets are located sometimes in a tough natural environment, for example, in a remote mountain area or at the coast. Preparations for natural disasters and flood disasters should be watched in light of Japan's climate.

(viii) Tax

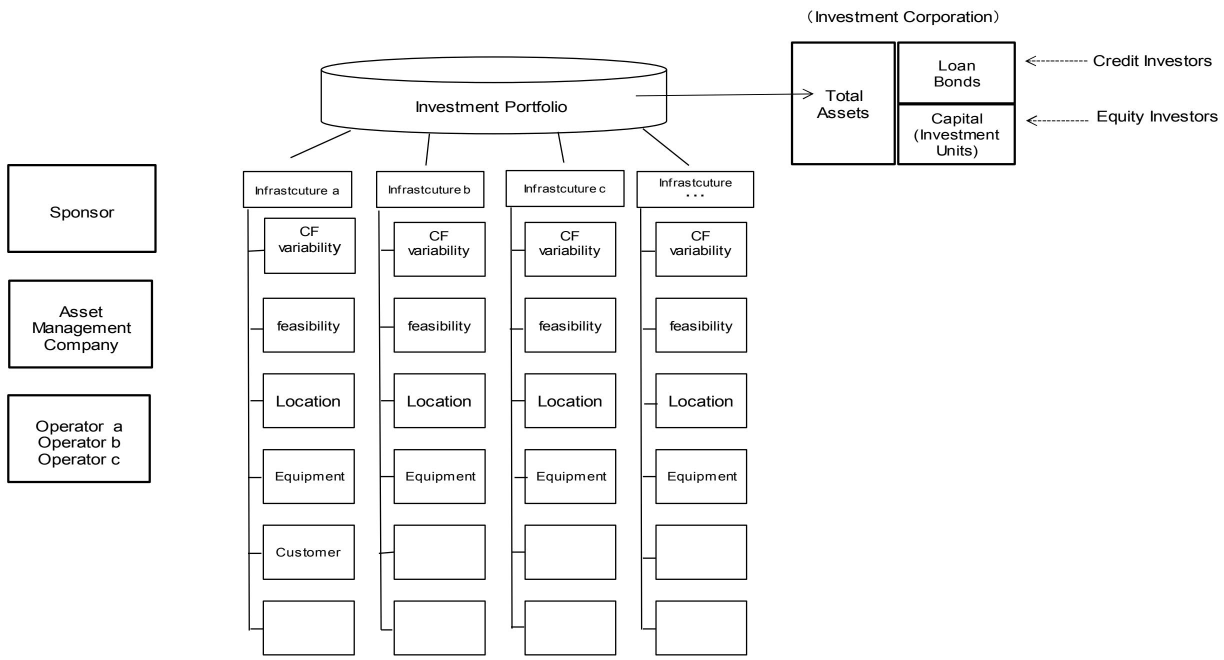
Changes in tax system have a significant impact on fund's management policy. JCR takes into account that changes to the current requirements for conduit status expected in the future can have impact on assessment of individual funds and on overall market trend for infrastructure funds as well.

(2) Incorporation into Rating

(i) Individual Infrastructure Projects

JCR assesses listed infrastructure funds based on the points described above in terms of many projects as a bottom structure, portfolio as an upper structure above this structure, abilities of sponsor, asset management company and operators as parties to the overall structure.

(Chart 3) Image of Infrastructure Fund



(ii) Whether investment corporations can realize their growth strategies and diversification effects and whether they can continue appropriate repairs depend on knowledge and know-how of sponsor, asset management company and operator. For this reason, JCR assesses them in terms of qualitative factors, track records, fullness of system, etc.

(iii) JCR assesses financial strategies and capacity to carry out such strategies for investment corporations. JCR checks management companies' financial strategies including future plans for borrowings and bond issuance, diversification of repayment periods, measures against refinancing risks such as establishment of commitment line, plan for capital increase, etc. JCR also confirms their preparations for cases where they encounter market disorder or timing is off for capital increase. It is important to confirm policies such as a target debt service coverage ratio (DSCR) level, content of covenants, collateral[4], etc. JCR considers management companies are required to make a decision on financial management at an appropriate time and to well communicate with markets through investor relations and other means that allows the first requirement.

(iv) Financial Analysis

As an indicator for profitability for funds, portfolio NOI yield is important. As indicators for financial stability or certainty of interest and principal payments during the term, JCR places much value on DSCR or loan life coverage ratio (LLCR). JCR examines whether the funds can ensure a required level of DSCR and LLCR under stressful conditions. LTV ratio is an indicator based on asset liquidity (sale possibility in secondary market) and there are only a few cases for sales of infrastructure assets as compared with real estate, aircraft or ship. There is also little information that can be used for check of appropriateness of selling prices. From these perspectives, JCR considers it is not appropriate to take LTV ratio as a main indicator for ratings on infrastructure funds.

[4] In cases where ratio of secured debts to total debts or ratio of pledged assets to total assets is high, JCR may incorporate subordination feature for individual borrowings.

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