

Exhibit 2

Procedures and methodologies used in determining credit ratings

Exhibit 2-1 Credit Rating Process

Credit Rating Process

A brief summary of the credit rating process for all classes except Asset Backed Securities from a request to publication and credit rating review is presented below. When a credit rating is obtained for the first time, the credit rating process will normally take approximately two months to complete.

1. Request for Credit Rating

The credit rating process typically begins with a request by an issuer (obligor) of a bond that will be assigned a credit rating (or a third party who has obtained the consent of the issuer (obligor)).

2. Selection of Responsible Rating Analysts

Following the receipt of the request for a credit rating, analysts are selected, taking into account the industry and the type of the debt to be rated, among other factors. More than two analysts (basically two) are chosen to maintain the objectivity of the analysis undertaken for a credit rating as a Responsible Rating Analyst.

3. Determining whether to initiate a credit rating

When receiving the request for or inquiries about credit ratings, the Responsible General Manager of the Rating Department shall determine whether the cases associated with the relevant requests or inquiries can proceed or not from the perspective of, among other things, assuring appropriate quality in assigning credit ratings, compliance with laws and regulations and protection of investor benefits. JCR has a review function that includes general managers and chief analysts with appropriate experience to review the feasibility of providing a credit rating. The Responsible General Manager of the rating department shall ask for the decision of this review function whether to proceed the case or not, if necessary.

4. Request for the Submission of Data

Responsible Rating Analysts ask the issuer to be rated to submit data necessary for the analysis, including nonpublic information. Although the types of data requested differ depending on the industry and the particular features of the company, they are typically wide-ranging, including a corporate profile, management organization, production, sales, financial statements, business plans, information on subsidiaries and affiliates, and important information such as legal actions, and bond issues. Although JCR already has and keeps public information such as industrial data, industry reference materials, and information on individual companies, JCR is able to determine an even more appropriate credit rating by requesting this type of diverse information from the entity to be rated.

5. Sources of information used in determining credit ratings

JCR has policies and procedures to ensure the quality of information used in determining credit ratings. Responsible Rating Analysts use only the information which met the requirements of the quality standard prescribed in this policy. If Responsible Rating Analysts judge that the information used for determining credit ratings do not satisfy the quality standard, they shall suspend the credit rating activities.

Besides published information, the sources of information include non-public information provided by issuers or their agents. With regard to unsolicited credit ratings, JCR shall assign credit ratings even if part of or all of non-public information cannot be obtained, but if the information used in determining credit ratings satisfies the quality standard.

Information sources used for the corporate credit ratings includes, in general, financial statements and business records provided by issuers, documents and explanations regarding the management policy, documents for products to be rated provided by issuers and statistics and reports about economic and industrial trends published by a neutral institution. JCR may use data, reports and other information or information processing services provided by a third party such as reliable information vendors, etc.

Information herein has been obtained by JCR from the issuers and other sources believed to be accurate and reliable. However, because of the possibility of human or mechanical error as well as other factors, JCR makes no representation or warranty, express or implied, as to accuracy, results, adequacy, timeliness, completeness or merchantability, or fitness for any particular purpose, with respect to any such information.

6. Analysis of Data, etc. and Transmission of Questionnaires

Responsible Rating Analysts perform both quantitative and qualitative analyses of the credit strength of the issuer based on the data submitted by the issuer, as well as financial data, industry data and other relevant information. Based on the results of the analysis, the Responsible Rating Analysts hold discussions to identify questions and issues, and compile these questions and issues into a questionnaire that is sent to the issuer to be rated or is inquired during the interviews.

7. Interviews and interacting with the management of the issuers

There are two kinds of interviews in the interviews with executives and employees of the obligor (issuer) where Responsible Rating Analysts receive an explanation for assigning a credit rating by face-to-face meeting. One is staff interview and another is management interview.

While both interviews are conducted in case where Responsible Rating Analysts consider it necessary, JCR, in principle, conducts interviews when assigning an initial credit rating to an obligor (issuer). Also in principle, a staff interview is conducted when reviewing the credit ratings periodically. In addition, in a periodical credit rating review after the issuer's top management has been replaced considerably, JCR conducts a management interview in many cases where Responsible Rating Analysts consider it necessary to have an interview.

For the interview, Responsible Rating Analysts visit the issuer being rated. They are given the response to the questionnaire that has been sent to the issuer in advance and explanations on the data submitted. They undertake physical inspections, such as visiting a factory, if necessary. The purpose of the interviews and the inspections of plants and other facilities is to obtain information specific to the issuer being rated by confirming and viewing first-hand information that support the financial analysis. In particular, interviews with senior management is a critical source of information in better understanding of the future prospects of the issuer being rated, because they

provide opportunities to hear an accurate vision of the entity being rated and confirm first hand management's policies, strategies, and other important activities.

8. Rating Committee

Based on the analysis of the data submitted and the interviews, the Responsible Rating Analysts discuss the credit strength of the issuer being rated and the details of the debt being rated, and then prepare materials for convening a Rating Committee. When the materials are ready, the Rating Committee is held, where the analysts propose a credit rating and give an explanation of the rationale.

In general, the Rating Committee consists of at least four Rating Committee members, and the primary purpose of Rating Committee is to discuss whether the recommended credit rating arrived at through the various methods of analyses is consistent with the credit rating structure of JCR and whether it is accurate and valid, before a final credit rating decision is made. As a result of the discussion, Responsible Rating Analysts may modify the proposal during the Committee. In such cases, Rating Committee Members discuss about the modified proposal to determine the final credit ratings. If the analyses presented by the Responsible Rating Analysts are considered inadequate or if the analysts' recommendations are considered inappropriate, the Responsible Rating Analysts may be required to undertake a reexamination and reconvene the Rating Committee later.

Each Rating Committee Member who attends the Rating Committee has a voting right. If the Responsible Rating Analyst is one of the Rating Committee Members, he / she also has a voting right. Resolutions at the Committee shall be made by agreement of all attending Rating Committee Members in principle. If the agreement is not reached, items on the agenda shall be discussed in a collegial body consisting of senior Rating Committee Members. Resolutions at such collegial body shall be decided by majority in principle.

9. Informing issuers of rated securities about credit ratings decisions and for appeals of credit rating decisions

After a credit rating has been determined, the issuer or its agents being rated is promptly notified before the publication of the credit rating. This provides the entity being rated with an opportunity to raise an objection against factual errors, etc., so that a more accurate credit rating can be assigned.

Once credit ratings are determined, Responsible Rating Analysts shall promptly explain to the issuers or their agents the determinants of the credit ratings; such as primary information or major topics discussed, by issuing documents, such as draft press releases and other draft public notices associated with giving the credit ratings in question, so that the issuers or their agents could confirm whether there is any misrepresentation of the facts in information used for determining credit ratings or not. Responsible Rating Analysts shall also explain that the issuers or their agents have a right to notice any misrepresentation found by the deadline set out by JCR.

Responsible Rating Analysts may take necessary procedures to publicize the credit ratings timely without extending the deadline, even if the issuers or their agents cannot be likely to finish the confirmation of whether there is any misrepresentation of the facts or not by the deadline set out by JCR, when the reason of such delay is not justifiable nor reasonable.

In cases when the issuers point out misrepresentation of the facts or other considered as justifying examination of the accuracy of credit ratings, other rating analysts shall be appointed to reinvestigate and the Rating Committee to reexamine the credit ratings in question shall be convened only when judged as necessary. In this case, information and data that support the

objection will be requested anew from the entity being rated. In cases when the issuers simply express their oppositional views against the ratings results, no reinvestigation or reexamination shall be conducted.

10. Publication

A credit rating that has been decided will be made public without any delay. For the results of a review of a credit rating that has already been made public, there may be instances where, for unavoidable reasons, they are made public without first obtaining the consent of the rated entity. However, the results of the review and the reasons thereof are, in all cases, explained to the rated entity.

In addition, if any material change is to be made in the rating criteria, etc., the fact that the change will be made and an outline will be announced before it is applied to individual credit ratings. In unavoidable instances, however, JCR may announce the cause, the fact that the change has been made, and an outline at the time the publication of an individual credit rating is made.

The publication will be made through one or more ways, including a news release through the press club at the Tokyo Stock Exchange, distribution to electric media such as Bloomberg and Reuters, and posting on JCR's website.

11. Review of the Credit Rating

As long as there is rated debt outstanding, the performance of the issuer and the events and developments of the industry are monitored, and when there is a need to review the credit rating, a review will be made. If it is deemed necessary to change the credit rating, the credit rating will be changed and the result will be made public. JCR undertakes a regular review of rated debt. If an unexpected or drastic change occurs in the performance of the rated entity or in the business environment that may have a material impact on the creditworthiness of the rated entity, such as a merger or an acquisition, the credit rating will also be reviewed. In principle, JCR interviews the issuers with relevant data and information provided by them when conducting periodical reviews.

JCR reviews the existing credit ratings once a year in principle. However, there are the cases that the review will be done after more than one year, if JCR needs to more time to collect additional information or to adjust the rating review schedule. JCR regularly checks the credit ratings whose latest review timing is more than one year and one month. If JCR finds such cases, it encourages the analysts to conduct a review as fast as possible.

When conducting the review of the credit ratings, JCR basically refers to the same rating policies and methodologies used for assigning an initial credit rating. When revising or establishing credit rating policies and methodologies for assigning an initial credit rating, they shall be applied not only to credit ratings assigned for the first time thereafter but also to credit ratings to be reviewed. When credit rating policies and methodologies used for the review is revised or established, JCR shall apply the revised policies and methodologies when assigning an initial credit rating if necessary.

In case that the establishment or the revisions of the rating policies and methodologies is material, JCR shall publicize the scope of individual credit ratings on which reviews are needed according to the establishment or revisions and a timeframe for such reviews without delay after the publication of the establishment or the revisions.

While there is a likelihood of a change in the credit rating as a result of the review, and when JCR deems it necessary to obtain additional information or make an additional analysis with respect to the event described above for determination of the credit rating, the credit rating will be placed under Credit Monitor and JCR will publish an announcement to that effect to call the attention of investors. After it is placed under Credit Monitor, the credit rating may be changed.

12. Suspension and Withdrawal

JCR may suspend a credit rating if JCR deems that it is temporarily difficult or impossible to review the credit rating when a significant change occurs to the objective circumstances, such as a situation where it becomes difficult or impossible to obtain the necessary information for reviewing the credit rating. Suspension is a temporary measure, and if the event that caused Suspension is unlikely to be resolved, the credit rating will be Withdrawal. The credit rating will be withdrawn if JCR deems that it will be impossible to conduct the rating review into the future, because a significant change has occurred to the objective circumstances such as a lack of issuer cooperation with regard to the provision of information. Such suspension or Withdrawal shall be determined by the Rating Committee.

A credit rating may be withdrawn if JCR deems that it is no longer necessary to sustain the credit rating due to bankruptcy procedures involving the issuer or other circumstances, in the event that the need arises in order to comply with laws and ordinances, or in the event that unavoidable circumstances occur in order to conduct business. A credit rating will also be withdrawn when JCR receives a request from a person who has solicited the rating to withdraw the rating and then accepts the request. Withdrawal at the request of the issuer or the aforementioned reasons shall be implemented by approval of the senior executives of the responsible department.

JCR promptly publicizes Suspension or Withdrawal of credit rating except for the extinction of rated securities or entities. When withdrawing a credit rating after JCR receives a request from a person who has solicited the rating to withdraw it due to the downgrade of its rating and JCR accepts the request, JCR will publicize the fact that it has downgraded the credit rating when announcing the Withdrawal.

13. Unsolicited Credit Ratings

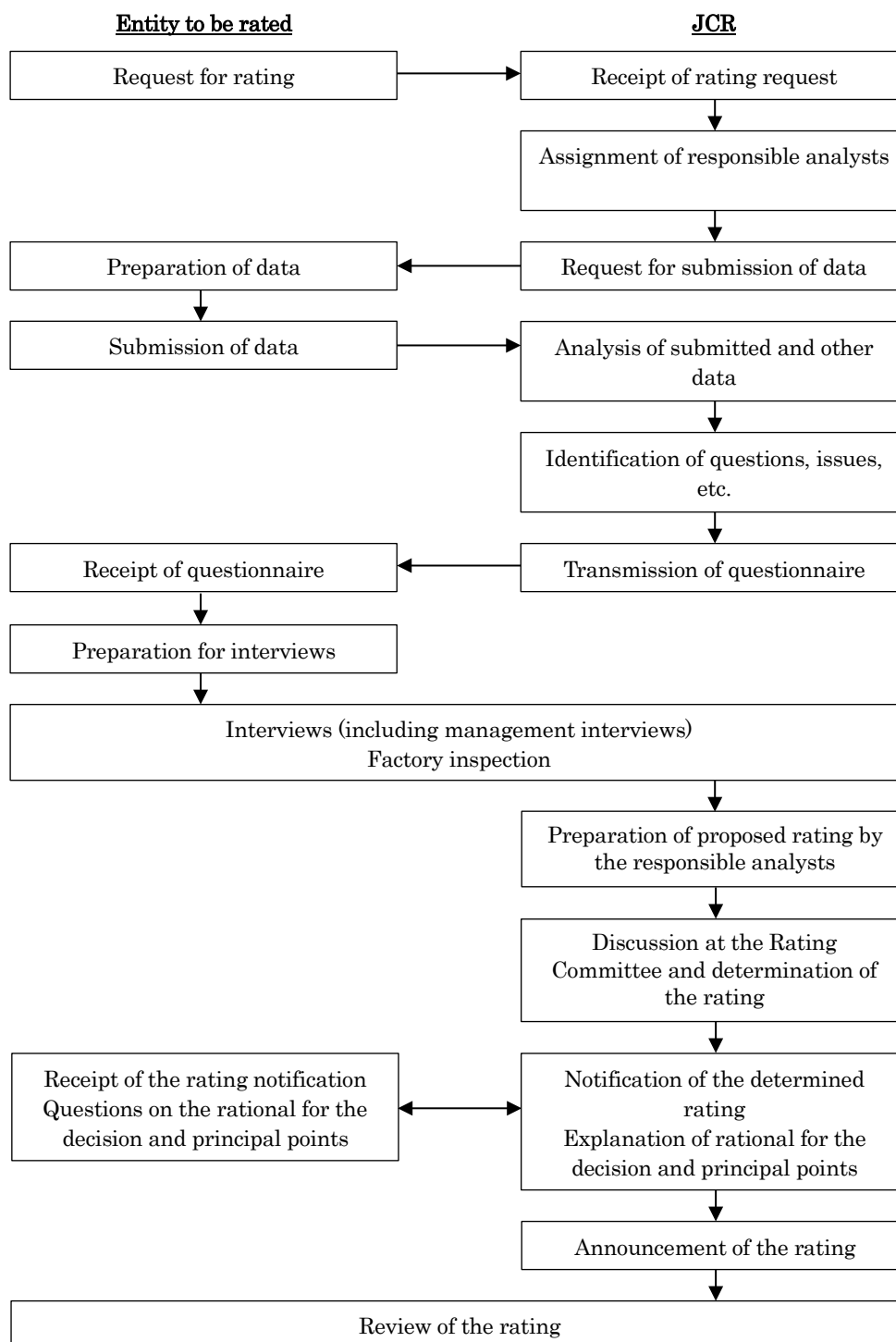
If a publication of a credit rating on an issuer is perceived to contribute to the enhancement of credit rating accuracy because the issuer's market share, for example, is high, JCR shall assign and, if assigned, publicize the unsolicited credit rating without delay with the consent of the issuer. In this case, JCR shall disclose the credit rating not assigned at the request of the issuer by indicating affix, "p", to the rating symbol to identify it as such.

Even in the cases when credit ratings are not solicited by the Stakeholders, JCR shall assign credit ratings based on the same credit rating process, methodologies and information as for a solicited credit rating. Even in the cases when an interview with Stakeholders can be conducted only partially or no such interview can be conducted or when only partial non-public information can be obtained or no such information can be obtained, JCR may assign credit ratings not solicited by the Stakeholders, if it can ensure the quality of information used for such unsolicited credit ratings.

For a credit rating for a sovereign, in some cases, JCR assigns a rating without consent of the applicable nation. In the case of sovereign credit ratings, when assigning and publishing unsolicited credit ratings, the affix, "p", shall not be indicated. In this case, however, JCR shall publish unsolicited credit ratings by publicly stating that such ratings are unsolicited credit ratings.

Appendix I

Process of Corporate Credit Rating



(Note) If an objection against the decision is made by the entity being rated, the details of the objection will be examined, and if deemed necessary, the rating will be reexamined by other analysts and discussed again at the Rating Committee.

Exhibit 2-2 Types of Credit Ratings and Definitions of Rating Symbols

Types of Credit Ratings and Definitions of Rating Symbols

1. Credit Rating Categories and Details

Credit Rating Categories	
Corporations, etc.	<p>Creditworthiness of corporations or similar entities as given below, and creditworthiness of financial instruments such as securities (excluding asset securitization products and other structured financial instruments) that are issued by the relevant corporations or similar entities:</p> <ul style="list-style-type: none"> (i) (Industrial) Corporations, etc. (ii) Financial Institutions, etc. (including insurance companies) (iii) Public Sector Entities (iv) Medical Institutions, Educational Institutions, etc. (v) Sovereign and Overseas Public Sector Entities, etc.
Structured Finance Products, etc.	<p>Creditworthiness of those as given below:</p> <ul style="list-style-type: none"> (i) Asset Securitization Products (ii) Other Structured Finance Products as given below: <ul style="list-style-type: none"> • Securities issued by investment companies or the relevant companies, or loans to the relevant companies • ABCP program (limited to types with the bank's full support) • Repackaged products (limited to single-credit financial products with the credit situation of their underlying assets being deemed effectively the same as the credit situation of the relevant financial products) • Securities issued by companies associated with project finance or the relevant companies, or loans to the relevant companies • Securities issued by companies associated with shipping finance or the relevant companies, or loans to the relevant companies • Other products similar to the above

2. Types of Credit Ratings and Definitions of Rating Symbols for Corporations, etc.

(1) Definition of Default

“Default” means a state in which principal and/or interest payments of financial obligations cannot be made as initially agreed. This includes the state where JCR judges it is impossible that principal and interest payments of the financial obligations can be made as agreed due to filing of a petition for legal proceedings such as Bankruptcy, Corporate Reorganization, Civil Rehabilitation, or Special Liquidation proceedings.

(2) Long-term Issuer Rating Scale

AAA	The highest level of certainty of an obligor to honor its financial obligations
AA	A very high level of certainty to honor the financial obligations
A	A high level of certainty to honor the financial obligations
BBB	An adequate level of certainty to honor the financial obligations. However, this certainty is more likely to diminish in the future than with the higher rating categories.
BB	Although the level of certainty to honor the financial obligations is not currently considered problematic, this certainty may not persist in the future.
B	A low level of certainty to honor the financial obligations, giving cause for concern
CCC	There are factors of uncertainty that the financial obligations will be honored, and there is a possibility of default.
CC	A high default risk
C	A very high default risk
LD	JCR judges that while an obligor does not honor part of the agreed to financial obligations, but it honors all its other agreed to financial obligations.
D	JCR judges that all the financial obligations are, in effect, in default.

A plus (+) or minus (-) sign may be affixed to the rating symbols from AA to B to indicate relative standing within each of those rating scales.

- A Long-term Issuer Rating Scale enables comparison of the overall capacity of an obligor (issuer) to honor its entire financial obligations with such overall capacity of others.
- The same Definitions of Rating Symbols and Scales shall be applied to the Ability to Pay Insurance Claims Rating.

(3) Long-term Issue Rating Scale

AAA	The highest level of certainty of an obligor to honor its financial obligations
AA	A very high level of certainty to honor the financial obligations
A	A high level of certainty to honor the financial obligations
BBB	An adequate level of certainty to honor the financial obligations. However, this certainty is more likely to diminish in the future than with the higher rating categories.
BB	Although the level of certainty to honor the financial obligations is not currently considered problematic, this certainty may not persist in the future.
B	A low level of certainty to honor the financial obligations, giving cause for concern
CCC	There are factors of uncertainty that the financial obligations will be honored, and there is a possibility of default.
CC	A high default risk
C	A very high default risk
D	JCR judges that the obligation is in default.

A plus (+) or minus (-) sign may be affixed to the rating symbols from AA to B to indicate relative standing within each of those rating scales.

- A Long-term Issue Rating Scale enables comparison of certainty that the obligations of more than a year will be honored.
- In light of attempting to call investors' attention to this matter, JCR may make notch differences between a Long-term Issue Rating and Long-term Issuer Rating when it considers there is a difference in terms of probability

of recovery between the two as a result of assessing the degree of certainty that the obligation will be honored as agreed.

- (c) A Long-term Issue Rating includes an issuer's specific obligations it owes such as bonds and issue programs (e.g., medium-term note program).
- (d) The same Definitions of Rating Symbols and Scales shall be applied to ratings for hybrid securities such as preferred stock.

(4) Short-term Issuer Rating Scale

J-1	The highest level of certainty of an obligor to honor its short-term financial obligations. Within this rating category, obligations for which the certainty is particularly high are indicated by the symbol J-1+.
J-2	A high level of certainty to honor the short-term financial obligations, but slightly less than J-1
J-3	An adequate level of certainty of an obligor to honor its short-term financial obligations, but susceptible to adverse changes in circumstances
NJ	The certainty of an obligor to honor its short-term financial obligations is less than in the upper-ranking categories.
LD	JCR judges that while an obligor does not honor part of the agreed to financial obligations, but it honors all its other agreed to financial obligations.
D	JCR judges that all the financial obligations are, in effect, in default.

- (a) An Issuer Rating Scale enables comparison of the overall capacity of an obligor (issuer) to honor its entire financial obligations with such overall capacity of others. A Short-term Issuer Rating reflects an issuer's overall capacity to honor its entire financial obligations within a year.

(5) Short-term Issue Rating Scale

J-1	The highest level of certainty of an obligor to honor its short-term financial obligations. Within this rating category, obligations for which the certainty is particularly high are indicated by the symbol J-1+.
J-2	A high level of certainty to honor the short-term financial obligations, but slightly less than J-1
J-3	An adequate level of certainty of an obligor to honor its short-term financial obligations, but susceptible to adverse changes in circumstances
NJ	The certainty of an obligor to honor its short-term financial obligations is less than in the upper-ranking categories.
D	JCR judges that the obligation is in default.

- (a) A Short-term Issue Rating Scale enables comparison of degrees of certainty that the obligations of within a year will be honored.
- (b) A Short-term Issue Rating includes an issuer's specific obligations it owes such as commercial paper programs (including electronic commercial paper).

3. Types of Credit Ratings and Definitions of Rating Symbols for Structured Finance Products, etc.

All the aforementioned Types of Credit Ratings and Definitions of Rating Symbols shall be applied to ratings for Structured Finance Products, etc. For ratings on Investment Corporations, etc., both Issuer Rating and Issue Rating shall be applied.

4. Preliminary Rating

A preliminary rating is a credit rating assigned as a preliminary evaluation while material terms for issue to be rated are not yet finalized. When the issuing terms are finalized, JCR will confirm them and will assign

a credit rating anew. The credit rating determined in this way is sometimes called a final rating. The rating level of the final rating may be different from that of the preliminary rating, depending on the final content of the terms, etc.

5. Unsolicited Credit Rating (“p” Rating)

An unsolicited credit rating is a credit rating assigned without solicitation by an obligor (issuer). JCR will assign an unsolicited credit rating with the consent of an issuer and, when assigned, JCR shall publicize the unsolicited credit rating without delay. In this case, JCR shall make it clear by affixing “p” to the rating symbol that the relevant credit rating is assigned without the solicitation by the issuer. Even for an unsolicited credit rating, JCR will assign the credit rating based on the same credit rating process, information and methodologies as those for a solicited credit rating, in principle. Even in cases where it is impossible to conduct an interview with the issuer or where only partial undisclosed information will be available or none of such information will be obtainable, JCR may assign an unsolicited credit rating when JCR can ensure the quality of the information used for the unsolicited credit rating. For a credit rating for a sovereign, in some cases, JCR may assign a rating without the consent of the applicable nation. Further, JCR will publicize a sovereign credit rating without affixing “p” to the rating symbol even if it is an unsolicited sovereign credit rating, however, JCR shall indicate in its press release that the relevant credit rating is the unsolicited credit rating.

6. Rating Outlook

A Rating Outlook is JCR's opinion regarding the likely direction of an issuer rating or an ability to pay insurance claims rating in one or two years after determination of the rating. A Rating Outlook falls into the following five categories: Positive, Stable, Negative, Developing, or Multiple.

Positive means that a rating may be raised, while Negative means it may be lowered. Stable means that a rating is not likely to change in the foreseeable future.

In a few instances, Developing or Multiple Outlook is assigned. Developing means that a credit rating may be upgraded or downgraded. Multiple means that an issuer has multiple outlooks for its ratings when it is highly likely that a credit rating on individual bonds, bank loans, an issuer rating, etc. will be revised with different directions of rating.

Even in cases where a rating outlook is Positive, Negative, Developing, or Multiple for a credit rating, it does not mean that the credit rating will necessarily be changed and, in the same way, even in cases where a rating outlook is Stable, the credit rating may be changed without changing the outlook in advance.

7. Credit Monitor

While there is a likelihood of a change in the credit rating, because a serious event occurs or is likely to occur such as a serious accident, proposed merger, lawsuit, administrative action, substantial change in business performance or capital enhancement, and when JCR deems it necessary to obtain additional information or make an additional analysis with respect to the event for determination of the credit rating, JCR will at any time place the credit rating under Credit Monitor, initiate a review procedure for the rating and will make a public announcement to that effect. A credit rating under Credit Monitor is identified by prefixing “#” to the rating symbol until its removal.

JCR designates directions to the Credit Monitor placed on all credit ratings, which indicates its opinion regarding the likely direction of the rating. A direction falls under three categories: Positive, Negative, or Developing. Positive means that a rating may be upgraded, while Negative means it may be downgraded. Developing means that a rating may be upgraded or downgraded.

Credit Monitor will be removed usually when JCR obtains the necessary information and completes the analysis about the event. The time to be spent before removing Credit Monitor is usually relatively short.

However, in cases where JCR deems it important to confirm that certain conditions must be satisfied such as the case of approval for a merger by shareholders or the regulatory authority, then the time to the removal of Credit Monitor may become prolonged.

A credit rating under Credit Monitor does not mean that the credit rating will necessarily be changed in the future. In the same way, a credit rating may be changed without being placed under Credit Monitor in advance.

8. Suspension and Withdrawal of Credit Rating

JCR may suspend a credit rating if JCR deems that it is temporarily difficult or impossible to review the credit rating when a significant change occurs to the objective circumstances such as a situation where it becomes difficult or impossible to obtain the necessary information to review the credit rating. Suspension is a temporary measure, and if the event that caused Suspension is unlikely to be resolved, the credit rating will be withdrawn.

A credit rating will be withdrawn if JCR deems that it will be impossible to conduct a rating review into the future, because a significant change occurs to the objective circumstances such as lack of obligor (issuer) cooperation for provision of information. A credit rating may also be withdrawn if JCR deems that it is no longer necessary to sustain the credit rating due to bankruptcy procedures involving the issuer or other circumstances, or in the event that the need arises in order to comply with laws and ordinances, or in the event that unavoidable circumstances occur in order to conduct business. A credit rating will be withdrawn when JCR receives a request from the person who solicited the rating to withdraw the rating and accepts the request.

When any securities or money market instruments to be rated extinct due to reasons such as redemption at maturity, early redemption, withdrawal of shelf registration, or change from preliminary rating to final rating, such ratings shall cease to exist without the need to be withdrawn.

Exhibit 2-3 Rating Criteria

I. Rating Framework

1. Credit Strength

(1) Credit Strength and Likelihood of Recovery

A credit rating is an assessment of one's financial strength, specifically as it relates to one's ability to meet debt obligations (corporate bonds, CP, loans, and other obligations), and pay principal and interest in accordance with financial agreements. Each individual obligation has its own contract, so the likelihood of recovery for each individual obligation, should the issuer go bankrupt, varies according to each contract. A rating is therefore required to determine the likelihood (credit strength) that the obligor will go bankrupt and default on its obligation (be unable to pay) and the likelihood of recovery of the obligation should the obligor go bankrupt.

As such, a rating represents a comprehensive decision on an assessment of an obligor's credit strength and the likelihood of recovery should the obligor bankrupt. But it is ultimately at base only an assessment of an obligor's credit strength as a going concern. The likelihood of the principal and interest being paid on time as specified in the contract is largely dependent on the obligor remaining financially stable and able to generate the required cash flow regularly. In contrast, if the obligor goes into bankruptcy there would be a significant delay in the recovery of the principal and interest. In most cases, even when the probability of recovery seems high, it is extremely difficult to recover 100 percent of the principal and interest, so it is not considered appropriate to use the likelihood of recovery as the core consideration in the assessment of how certain the obligation is likely to be performed.

At JCR, we refer to a rating that provides insight into an obligors' ability as a going concern to perform its obligations as a Long-term Issuer Rating. In determining a Long-term Issuer Rating, specific contractual details, preferred status among obligations, and the degree of recoverability are not taken into consideration, because the purpose of this rating is to get a comprehensive grasp of all of the obligor's obligations. Those individual factors are reflected in the assessment of individual obligations. Therefore, individual obligation ratings of an obligor may diverge upwards or downwards relative to the Long-term Issuer Rating of the same obligor.

(2) Assessment of Credit Strength

Payments of obligations are taken from the cash flow generated from the obligor's daily operating activities. When assessing credit strength, it is therefore important to determine whether the volume (profitability) and stability of this cash flow matches that of the obligation to be repaid. It is extremely important to analyze the relative relationships between cash flow and obligations, because no matter how large the cash flow is, if the obligation is heavy, the obligation to repay it will be a heavy burden. The obligor must be able to support this obligation. At the same time, however, if the cash flow and the obligation are small, the repayment burden will be light.

When assessing credit strength, focus is placed on two main issues. The first is the business foundations (business risks)—whether the obligor will be able to maintain and eventually expand its business foundations over time and generate the required cash flow. The second is the financial foundations (financial risks)—whether the obligor's financial situation will adversely affect the ability to repay obligations.

Payment of obligations is made by refinancing of obligations for financial institutions in

many cases, and cash flows are not usually expected to be used as funds for repayment. In rating analysis on financial institutions, therefore, cash flow analysis is not conducted usually. Decisions on whether or not a financial institution can refinance its debt smoothly are made in light of business foundation, capital adequacy degree, asset quality, earnings power, risk management conditions, liquidity conditions, etc.

There are cases, however, when the obligor's credit strength is not dependent only on specific factors, such as business and financial foundations, but is sustained by credit support from external parties. The JCR recognizes financial support given by parent companies to subsidiaries—the state's financial support to banks based on safety nets such as the Deposit Insurance System—and will consider them when assessing an obligor's credit strength.

(3) Corporate Default Rate Estimation Model (for large enterprises)

JCR has developed a model referred to as Individual Corporate Default Rate Estimation Model for domestic industrial corporations, which is used to estimate default probability of a corporation from financial information on the corporation in order to determine a rating for it that corresponds to such default probability. In the rating process, while the quantitative and qualitative analysis of industries and individual obligors is the core of the research, other results, such as those from the above estimation model, are used as reference data in the process of assessing credit strength as a means to enhance the objectivity of the rating.

(4) Guarantees and Keep-Well Agreements

With obligations supported by a guarantee or keep-well agreement, both the principal obligor and the guarantor (or the provider of the keep-well agreement) are rated individually on their ability to pay principal and interest on the obligation. The higher rating of the two is assigned as the official credit rating for the obligation, but in cases where the rating of the keep-well agreement provider is not significantly higher than that of the principal obligor, a downward rating adjustment by one or more notches may be made on the keep-well agreement provider's rating.

2. Likelihood of Recovery

(1) How the likelihood of recovery is determined

As mentioned above, the core foundation for a rating is the obligor's credit strength (its likelihood of default). The JCR rating codes indicate the degree of likelihood of this kind of default occurring. For the creditor, the likelihood of recovery, should the obligor go into bankruptcy, is also a matter of significant interest. When there is a discrepancy in the likelihood of recovery among individual obligations, to the point of soliciting caution among the investors, there may be cases where the JCR assigns a notch differential (either above or below one or two notches, sometimes more) from the Long-term Issuer Rating.

(2) Assessment of Likelihood of Recovery

In assessing the likelihood of recovery, JCR takes three factors into consideration: (a) the level of credit strength of the obligor (based on the Long-term Issuer Rating); (b) the financial structure of the obligor; and (c) the relative contractual position of the obligation being rated. For these factors, a notch differentiation by a mechanical application is not used. Instead, various factors are considered to comprehensively reach a determination.

(a) Credit Strength of the Obligor (Long-term Issuer Rating)

When an obligor's credit strength is high, the likelihood of default is low; therefore, assessing the chances of default in such a case may seem somewhat superfluous. If the Long-term Issuer Rating falls to BB or lower, JCR may reflect the likelihood of recovery as a notch differential. In the case of subordinated bonds, however, where the likelihood of recovery is clearly below that of other obligations, a notch differential is noted even if the Long-term Issuer Rating is BBB or above.

(b) Financial Structure of the Obligor

In general, the larger the debt is (in relation to readily convertible assets such as cash, deposits, and securities), the lower the chances are of recovery. In turn, the more secured liabilities the obligor owns, the lower the chances are of recovery on unsecured bonds. Thus, the financial structure of the obligor has a material impact on the likelihood of recovery. The JCR uses the ratio of cash and deposits, securities and tangible fixed assets as reference data in assigning notch differentials. In the case of a holding company that relies on external funding to finance its shares, when ranking the recovery of claims, creditors of the parent holding company will rank subordinate to the creditors of the subsidiaries. As structural subordination occurs—taking the ratio of shares held to equity (double leverage rate) into consideration—a notch differential may be assigned between a holding company and a core subsidiary.

(c) Relative Contractual Position of the Obligations Being Rated

When assessing the contractual position of the obligation being rated, it's extremely important to examine (a) the contract details of the obligation and (b) the obligor's financial structure. Subordination provisions, financial covenants and security are among the contractual items that relate to the obligation.

Subordination Provision

When an obligation is subject to a subordination provision, the agreement expressly states that the priority of repayment is subordinate to the unsecured senior obligations and, in the case of bankruptcy; the likelihood of recovery becomes extremely low. Therefore, regardless of the rating assigned to the Long-term Issuer Rating, it will be subject to a notch differentiation. Subordinated bonds (loans) with defined maturity and in perpetual subordinated bonds (loans) are assigned one or more notches and two or more notches downward, respectively, relative to the Long-term Issuer Rating. Furthermore, with respect to a bank's short term subordinated bonds (Tier 3 bonds), with the rating on defined maturity subordinated bonds as the upper limit and in perpetual subordinated bonds as the lower limit, determination will be made upon examination of the likelihood of principal and interest being deferred by the bank's capital adequacy falling below the minimum capital adequacy ratio provided for by the Banking Law.

Financial Covenants

Financial covenants can be divided roughly into negative pledge covenants and other provisions (security switching provisions, profit maintenance provisions, net worth maintenance provisions, dividend restriction provisions), but when comparing the degree of impact of the financial covenants with the rating, negative pledge provisions are the most basic and the most important covenants. When security is provided for other obligations that are included within the scope of the negative pledge, the negative pledge requires that

the obligor provide the equivalent ranked security to the unsecured obligation. The scope provided for is extremely variable, ranging from a broad definition of “other obligations,” which includes bank borrowings and foreign bonds, to narrow definitions such as “other domestic unsecured corporate bonds (excluding bonds with security-switching provisions).” In terms of the recovery of claims, the narrower the scope is, the higher the likelihood is that the creditor will be placed in a subordinate position. Therefore, when the Long-term Issuer Rating is low and there is no negative pledge or a severely limited scope on a negative pledge, the rating may be affected. The effects of financial covenants other than negative pledges on ratings are somewhat indirect, as acceleration only comes into play when the provision has been breached.

Secured Obligations

Secured obligations are repaid ahead of unsecured obligations at the time of collateral disposal and have a higher level of safety compared with unsecured obligations. For obligors whose credit strength is quite low, it is quite possible they will have to repay obligations by disposing of their assets, and the existence or lack of security affects the degree of safety represented by such obligors. In such cases, unsecured obligations may be rated lower than secured obligations. On one hand, when the obligor’s credit strength is relatively high, there may be cases where unsecured obligations are rated lower than secured credits. On the other hand, when the credit strength of the obligor is relatively high, the impact on the degree of safety due to the existence or lack of a security is minimal. Thus, no distinction is given to the rating.

(3) The Thinking Behind Notching-up

In assigning a rating on individual obligations that is higher than the Long-term Issuer Rating (a notching-up), taking into account the likelihood of recovery, JCR considers three points of importance: (a) that there is not only a partial coverage of the principal and interest paid on the obligation, but also an ability to cover larger amounts than that of the total; (b) that obligations can be performed before too long before repayments are made after defaulting; and (c) that the likelihood of recovery is not influenced by the post-default credit conditions of the obligor. Collateral on securities that have both credit strength and liquidity (such as government bonds) and collateral on deposits (the risk of loss of value due to an offset needs to be low) may be considered as satisfying such conditions. However, in a case where, although secured, there are other obligors with higher seniority and the likelihood of recovery is low, they would not be eligible for notching-up. In addition, under corporate rehabilitation proceedings, special care must be taken when dealing with the possibility of limitations being imposed on exercising security rights. At any rate, the above factors are taken into account for each individual case to determine the eligibility for notching-up.

3. About Outlook on the Future

A credit rating assesses an obligor’s ability to perform its obligations over time. Thus, estimating the ability to generate income in the future and predicting future financial conditions is important. In analyzing the obligor, therefore, JCR makes assessments after taking into account the obligor’s future plans for capital investments and financing. In other words, based on today’s financial statements and management plans, and taking into consideration the examination of industry trends and business foundations, a view is formed based on estimations of future balance sheets and profits and losses, the future trend of management indicators are forecast. In such cases,

JCR also analyzes the obligation's sensitivity to changes in economic conditions and considers all "worse case scenarios." The indicators used in analysis differ depending on countries in which a corporation is located, laws and regulations, accounting system, industrial line, business category, etc.

In assessing ratings, JCR makes its determination based on an outlook of the conditions and business environment of obligors over a span of three years. However, if it can be foreseen that the obligor will face a large redemption of bonds five years from now, for example, such risks that are substantially longer than a span of three years will be taken into account when assigning ratings.

4. Short-term Rating

(1) Relationship Between Long-term and Short-term Ratings

JCR divides the ratings into long-term ratings used for obligations over one year and short-term ratings used for obligations within one year, and uses different rating symbols for each rating.

While the long-term ratings indicate the certainty of performance of medium- to long-term obligations, short-term ratings indicate the certainty of short-term obligations, normally within one year. At the same time, however, short-term credit strength cannot be divorced from medium- and long-term credit strength. For example, an outlook that predicts the degree of certainty of the obligor performing under medium- and long-term obligations will also have a significant impact on the short-term funding through which the obligor's relationship with customers and banks is directly affected. Furthermore, among the short-term ratings, CP ratings are assigned in respect to CP issuing limits that are maintained over a medium- to long-term period. Therefore, when determining short-term ratings, the JCR creates a three-year outlook on the obligor's conditions and business environment, just the same as it does for a long-term rating. The assessment of medium- and long-term credit strength thus forms the basis of JCR's determination of short-term ratings. As a result, there is some correspondence between short-term ratings and long-term ratings as shown in the table below.

However, the correspondence indicated in the table is simply an indication. Assigned ratings may differ on individual issues. This is because, as noted below, in short-term ratings, liquidity analysis is added to the assessment of medium- and long-term credit strengths, but the liquidity conditions (the ratio of liquid assets and liquidity at hand to assets – liabilities, fund flow patterns, and the like), which are the subject of the analysis, differ widely across industries, business and individual companies.

(cover) Correspondence between Long-term Rating and Short-term Rating

Long-term Rating	Short-term Rating		
AAA	J-1+		
AA+	J-1+		
AA	J-1+		
AA-	J-1+		
A+	J-1+	J-1	
A		J-1	
A-		J-1	J-2
BBB+		J-2	
BBB		J-2	
BBB-		J-2	J-3
BB+		J-3	
BB		J-3	NJ
BB-			NJ
B+			NJ
B			NJ
B-			NJ
CCC			NJ
CC			NJ
C			NJ
LD			LD
D			D

(note) Corresponds set out above are purely indications and in each specific case different ratings maybe assigned as a result

(2) Focus on Liquidity Analysis in Short-term Rating

The basic thinking behind the analysis of short-term ratings does not differ significantly from that of long-term ratings, but in a short-term rating, the weight is placed in the relatively near future and liquidity analysis is added. In a liquidity analysis, the following components are examined: (a) contents and the level of liquidity; (b) funds flow conditions; (c) ability to raise funds; (d) CP issuance limits and uses of funds.

(a) Content and the Level of Liquidity

Liquidity is the primary source for short-term fund settlements and consists of cash and deposits, to which securities are added. An assessment is made, however, by calculating the real liquidity level by deducting from it the funds that are already earmarked for such uses as temporary employment of funds for capital investments, and discounting the value of securities and other similar instruments according to the degree of liquidity.

(b) Funds Flow Conditions

In order to assess the certainty of the funds settlement, the stability of funds flow on a monthly and weekly basis is assessed. Using a funds flow table, timing and quantitative and qualitative matching are confirmed. Attention is placed on the following funds flow patterns: funds flow pattern of adjusting imbalances in ordinary revenues and expenditures using short-term funds; financing capital investments using fixed liabilities and retained earnings; and financing closings and seasonal needs with short-term funds.

(c) Ability to Raise Funds

From the perspective of examining the capacity to raise funds, JCR assesses unrealized gains in the obligor's assets and the capacity to provide collateral. A judgment is made on the obligor's potential ability to finance at a crunch time by examining its long-term relationships with financial institutions, including its main bank, through analysis of the amount of borrowings, directors originated or seconded from the financial institution, and the cross-holding of shares.

(d) CP Issuance Limits and Use of Funds

In rating CPs, JCR also analyzes the issuance limit and the use of funds. For example, in refinancing, the following factors are considered: the existing outstanding balances (Is the proportion of CPs among all obligations excessive?); the funds flow pattern if they are used as working capital (Is the issuing limit appropriate in relation to the amounts needed). Comparisons will then be made with respect to the investment size and overall strength of the company. Through these types of analyses, JCR makes a judgment on whether, after issuing CPs, an impact on the obligor's financial conditions would cause a material change in its balance sheet or funds flow.

(3) Backup Line

While the uses of funds raised through issuing CPs are diverse, CP is generally issued to help finance working capital and settlement funds that are commonly refinanced through issuing CPs. There is a risk, however, that due to some unforeseen factors and the market's experiencing turbulence, refinancing using CPs may become impossible. These events may occur due to factors not related to changes in the credit risks of the issuer and can be considered market risks. A backup line is a credit facility negotiated with a bank in advance to provide a backup source of funding should such a market risk occur. This is separate from a normal bank guarantee. A backup line is a tool to supplement the availability of CP settlement funds and is not a credit enhancement like a bank guarantee. (If, for example, an issuer is faced with a credit risk deterioration, a loan for CP settlement funds may not be executed). Therefore, the level of the backup line is not related to the CP credit risk (rating). However, JCR takes the view that ensuring sufficient liquidity against market risks is necessary. If the liquidity in hand is cash—deposits or bank credit lines that have been adequately secured—then establishment of a backup line is not needed. But if liquidity is lacking, a backup line is required.

Methods to assess the backup line are as follows.

- (a) A healthy level of liquidity sufficient to cover the CP issuance line is estimated considering the corporate performance outlook, changes in funds demand, use of funds and other similar factors.
- (b) Real liquidity in hand is calculated. The liquidity is composed of cash and deposits and liquid securities. However, a downward adjustment needs to be made by deducting those assets that are being used as security against obligations, or discounting those whose liquidity is low, while liquidity supplements such as commitment line and overdraft facilities from financial institutions are added.
- (c) Deficiency of liquidity in hand calculated by (a) and (b) above should be

II. Credit Rating Methodology by Class

a. Corporate

An assessment of corporate credit strength is performed based on identification of risks peculiar to the corporation and then compared against the analysis of the business and financial foundations corresponding to these risks. A rating for a corporate entity remains susceptible to a sovereign rating in a given country. However, there are some exceptions when (i) the entity has strong support from its parent company outside the country and (ii) it has a stable and solid earnings base in foreign countries, strong ability to raise funds in the international capital markets and a relatively sound financial structure. However, in the case of (ii), a country ceiling based on the assessment of authorities' likelihood to impose restrictions on foreign currency transactions will be the maximum limit for its rating.

Below, principally focusing on ordinary industrial corporations, an overview of the assessment of credit strength will be presented, separating the process into business foundation, financial foundation, and the use of the credit risk estimation model.

1. Business Foundation

JCR assesses business foundation of the corporation by studying factors centered on the following (1) to (3). For industrial corporations, JCR forecasts and estimates future cash flows based on evaluation of the business foundation.

(1) Properties of the Industry (Industry Trends)

It is important, first of all, to adequately examine the properties of the industry in which the corporation being rated operates. A precise assessment of the industry is an important tool in gaining an accurate understanding of the corporate performance of the company being rated, and it is also efficient in projecting difficulties or risks that the corporation may be confronted with in the future.

For example, whether the industry to which the corporation belongs is a growing industry or a mature industry will significantly influence the corporation's future performance. Some industries will suffer instability in performance over the short-term due to product and material prices; some relatively stable industries will not be significantly affected by economic changes.

Specific items to be examined would include:

- Size of the market. Purely domestic market or a global market?
- Degree of dependence on specific industries. Trends in the customer industries.
- Growing industry or mature industry?
- Industry structure. Is it an oligopoly or a highly competitive industry?
- Is it a regulated industry backed by policies? If so, what is the outlook for future liberalization?
- Is the industry a commodity-type industry or stable industry?
- Trends in technological innovation. If the pace of technological innovation is quick then the degree of business risk would be that much higher and the ability to generate profits to recover the investment within a short period is needed.
- Identification of problems and issues faced by the industry. For example, supply and demand balances, international competition, availability of materials, system issues and the

like.

Those are general items to be examined but, in addition to them, for each company of a particular industry, an assessment of its future ability to generate income is made from a perspective specific to the industry. For example, when it comes to site-oriented industries such as retail, electrical railways, or real estate, JCR makes its analysis, in combination with analyzing the general demand trends (for example, personal consumption), by placing weight on the potential for development and the competitive conditions of the principal business region in which the corporation operates and the expansion plans of their competitors. In addition, because corporations are generally diversified in the businesses in which they are engaged, the examination will also need to cover multiple industries in which they operate. In such a case, examinations based on the perspectives discussed above will be performed for each industry.

(2) Position in Industry and Competitiveness

The position of corporate entities rated in the industry and what features they possess are examined from the following perspectives.

- Position within the industry (ranking, market share). Is the corporation in a monopolistic position, or is it merely a marginal supplier?
- Is its market share increasing or decreasing?
- Characteristics, strengths, and weaknesses in the industry.

(3) Properties of Corporate Entities

Even among corporations in the same industry, management resources and styles differ among companies, causing corporation-specific risks to arise. Examination will focus on the following items.

(i) History

This is the history of the founding of the company, which may have a strong influence on the basic character of the corporation and the formation of corporate culture. It is not simply a review of history, but also has significance in assessing current and future conditions of the corporation's business base.

(ii) Management

Identifying and understanding the capabilities, performance, and stance of senior management are essential in undertaking a rating. Directly querying top management about what management policies are being formulated in response to changing environments and what measures are being taken to achieve management goals is extremely useful in ascertaining the direction of management. In principle, when undertaking a rating, interviews are held with top management to obtain insight into management policies and similar items of importance.

(iii) Organization

An assessment is made of whether the organizational composition and staff posting are appropriate to meet the management policies of the company, of whether the organization has become rigid, and of other issues in relation to management philosophy, employees' motivation, and corporate culture.

(iv) Shareholders and Affiliations

The number and proportion of shares held by the major shareholders is checked. The stable shareholders, capital affiliations, financing affiliations, and other similar matters concerning corporate shareholders will be considered. For changes in major shareholders, the background to the changes and the effect they may have on management policies is examined. Being a member of a specific group can lead to stability of product sales, securing of materials, financing, and other benefits, but these examinations focus on the significance of the corporation's being a member of the group with respect to avoiding management risks.

(v) Employees

Identification will be made of the special features of the employee structure in comparison with competitors in the industry, in terms of the number, age composition, average number employment years, wage levels, and relationships with the labor union. Per capita efficiencies will also be examined.

(vi) Sales Composition

Corporate management has become increasingly diverse, and there is an increasing number of companies engaged in diverse fields. The examinations discussed above will be conducted for each business that a company is engaged in and include the sales composition balance among industries.

(vii) Production and Sales Conditions

Production and sales results by divisions will be traced, and analysis will break this down into volume and pricing factors. The results will be reconciled against economic changes and industry trends, to highlight the special qualities of the corporation being rated and the assessed relation to management policies, and similar criteria.

- Status of product customers and source of materials
- Selling method (direct or through a sales agency)

(viii) Status of Capital Investments

The characteristics of production facilities differ according to industry and business. There are differences in whether mass production or small-lot production of a variety of products is used, whether production is located close to the consuming region or the materials-production region, or whether it is concentrated production or dispersed production, and similar matters.

The following points are checked and judgments are made against the industry and business.

- Relative level of production facilities and technology. Existence of originality.
- Status of overseas expansion (overseas installation of production or sales base) and future direction.
- Capital investment trends (content, amount, investment effects).
- Identification of production and sales results by division.

(ix) Technology Level and Research and Development Capabilities

Technological abilities and development abilities are a source of corporate growth and are critical factors in making judgments about the future of a corporation. This is a particularly important factor in industries where technological innovations are rapid. The risks are significant in areas where enormous investments are required. The overall strength of the

company will be examined, using a comparative analysis of historical development results, originality of production methods and ownership of patents, research and development organization and changes to its staffing, proportion of R&D expenses to sales, and other relevant indices.

(x) Subsidiaries and Affiliates

If the corporation being rated has subsidiaries and affiliates, it will be necessary to assess the business foundation of the overall group, including the subsidiaries and affiliates. In rating the parent company of a corporate group, JCR compiles and analyzes individual data of the group companies on a consolidated basis, to realistically determine the ability of the group as a whole to repay obligations.

(xi) Management Plan

Examination of management plans based on future management policies is extremely important in deciding a rating. Information on management philosophy, policies regarding medium- and long-term plans, and actions taken for issues at hand, which is the sort of information obtained from the direct interviews with senior management, will be focal points when making rating decisions. Together with analyses of data on the management plans of the corporation being rated (production and sales plans, capital investment plans, profit-and-loss plans, projected balance sheets, projected cash flow statements, and other materials), information obtained in interviews will be taken into account, and comprehensive judgments will be made of the appropriateness of management plans and the ability of management to achieve them. Management plans are directly linked to future cash flow outlook and debt trends, and its assessment is significant because it concentrates all of the analyses that have been performed from different perspectives into one.

2. Financial Foundation

After taking into account the financial management policies learned from interviews with the management, the balance sheet is analyzed to identify the actual financial status of the company. Judgments on the health and sustainability of the company are made by examining the soundness of asset composition, balance in the capital structure, degree of leeway and safety in funding. The principal matters examined and the matters to which attention are paid are as follows.

(1) Major Matters

For accounts on the balance sheet, changes and the reasons for them will be analyzed, and the soundness and liquidity of items will be examined. Scrutiny of the details of items is important in linking financial condition to profitability or to production and sales conditions, so examinations will include the correlation of the related items.

(2) Capital Composition

For capital composition, the short-term liquidity of funds and long-term stability of capital will be examined by looking at the balance between assets and capital or investments, and the source of financing.

(i) Liquidity

There are some latent inconsistencies between liquidity and safety of funds on the one hand and the ability to generate income on the other. For example, while on the surface the

liquidity ratio may be favorable, there may be cases where there are dead stocks, bad loans, or shortfalls in purchase obligations due to inadequate credit strength. The degree of equilibrium may also differ according to differences in the rate of growth and peculiarities of the industry or business. The cost composition, production period, procurement and sales conditions, and seasonal changes are taken into account.

(ii) Stability

A basic condition for a sound rating is for a corporation to be generating a reasonable level of income and exhibiting some stability, but even if there is some volatility in the ability to generate income, whether the capital composition provides it with the strength to withstand such volatility will be examined.

For long-term stability, the principal ratios concerning a company's operations will be analyzed, such as its debt equity ratio, fixed asset ratio, ratio of fixed assets to long-term capital, and other similar ratios. These ratios differ depending upon the industry and business, and especially concerning dependence on external contracting, operational structure, and sales organizations. Care is taken in making the assessments.

(iii) Funding

By linking actual and projected profit-and-loss results, as well as actual financial conditions and investment plans, a corporation's financing and use of funds are identified and the pattern of its ability to pay its obligations and its skill in raising and investing funds are examined. Banking relationships and changes in relationships will also be looked at, but in particular, the corporation's relationships with financial institutions and its ability to raise funds are looked at regularly, because they are critical for rating the corporation.

(3) Financial Indicators

A corporation's ability to generate income and its financial conditions are reflections of its past performance, and such factors provide important data for analysis. Based on an analysis of these financial indices, projections will be made of how the management indicators will change in the future.

Insight into the various factors behind the numbers is also needed, not limited to a simple tracing of numbers and judgment of relative performance of indicators among competitors in the same industry or business type, but also analyzing the numbers in the context of corporate trends, changes in the business foundation, management policies, and other qualitative elements. These are tied together in profitability forecasts. In undertaking a rating, analyses are performed by confirming the qualitative factors against management indices, and the results of the analysis of management indices are used as leads in examining qualitative factors.

In determining a rating, a wide variety of indices—including profitability, safety and size—are analyzed, and an assessment is made of a corporation's profitability and the degree of stability in its financial foundations. Specifically, sales, profits, outstanding debt, and other actual values and financial indices are computed, and time-series comparisons and comparative analysis are performed.

The two following points are important in analyzing financial indices. First, financial statements are the result of past management, while ratings are assessments of future ability to pay obligations. Analysis of current status and projecting future profitability and financial conditions will be important. Second, it is not enough to trace movements of numbers over time. These movements must be understood in the context of the qualitative factors behind them. The

high profitability of a corporation is due to the corporation producing a quality of product that competitors cannot imitate. The reason for a corporation's payables cycle being stretched may, for example, be due to the pressure created by products whose recovery is slow. Evaluations are made based on actual conditions. Along with understanding background factors through changes in numbers, qualitative information obtained through interviews and meetings with a corporation are examined using actual financial data.

Many financial data are used in assessing size, profitability, and safety. The indicators used in analysis differ depending on countries in which a corporation is located, laws and regulations, accounting system, industrial line, business category, etc. The major indicators used include the following:

- (i) Indices relating to size: Sales, operating profit, equity
- (ii) Indices relating to profitability: Operating margin, return on total assets
- (iii) Indices relating to safety: Interest coverage ratio, interest bearing debt / EBITDA, debt to equity ratio, equity ratio

b. Financial Institutions (Banks)

The following applies to banks, financial institutions other than banks that take deposits such as cooperative financial institutions, and other financial institutions in Japan. JCR applies this rating methodology with the necessary changes in the indicators for analysis and safety net to overseas banks and other financial institutions, based on laws, accounting system, financial administration in which these entities are located.

JCR determines the ratings of banks based on an evaluation of the credibility of individual banks by focusing on their business and financial bases, while taking into account the safety net.

1. Business base

(1) Characteristics of the industry

The deposit and loan business is the main income source for ordinary banks. A feature of this business is that it always enjoys a certain level of demand, and the business is carried out based on relationships with customers. In addition, because it is a stock business, the stability of the business base is relatively high, once it is established. However, demand from companies for financing through loans, which has been the backbone of the deposit and loan business, has been contracting with the transfer of domestic manufacturing bases to overseas locations, the shift to the use of direct financing, and other structural factors. Given the fact that there are a large number of players in a contracting market, and given that achieving differentiation is difficult because copying products and services is easy, competition to offer better interest rates is intensifying. These factors explain the recent sluggish earnings from this business. To maintain the business bases while offering customers an appropriate level of interest rates that enables banks to absorb expenses for bad loans and other costs, it is essential for banks to have strong ties with customers and superior brand power, and the ability to judge investment risk and returns.

To bolster their financial strength, some banks focus on consumer financing, nonrecourse real estate financing, overseas credits, and investments in new financial instruments. These initiatives have, however, caused problems for some banks. In the consumer financing business, some banks are facing declining demand, a result of the revision of the Money Lending Business Act, as well as the issue of returning excessive interest payments. In addition, a number of banks were forced to record significant expenses for credits related to real estate and overseas businesses. In some cases, banks recorded heavy losses from investments in securitization products. For these reasons, in assigning a rating to banks, it is important to assess how appropriately they are incorporating new risks that may take place when they develop financing business, other than their traditional deposit and loan business.

To bolster earnings, in addition to income from the deposit and loan business, banks are focusing on non-financing business. Here, however, income from the settlement business and the asset management business is steady, but demand in the investment trust sales business and the investment banking business—for many banks, areas of focus—tends to be highly susceptible to the market situation. As a result, it is particularly important to incorporate the magnitude of volatility into the assessment of the business base.

When internet banking and other similar services are provided by banks, because customers do not value their relationships with the banks, and because the costs of changing services are low, customers frequently change providers. As a result, it is essential for banks to strengthen brand value, differentiate products and service channels, and take steps to optimize investment, funding, and costs, to ensure that they can offer attractive interest rates.

(2) Key factors in market position and competitiveness

JCR evaluates the characteristics of the business base, which is the source of competitiveness, by referring to the scale of items such as the amount of funds, the outstanding balance of loans, the turnover of services, and market share. It also focuses on the strength of relationships with customers and the brand name. The closeness of relationships with specific regions is particularly important for regional financial institutions. If a regional financial institution has a certain presence in a specific region, it has a chance to become a price leader in interest rates and other areas. In contrast, the higher the number of financial institutions competing within the same operating region, the more severe the competition for interest rates and other matters. This is very likely to have a negative impact on profitability.

With respect to the business base, JCR evaluates stability and growth potential. First, it evaluates the trends and volatility of demand and the competitive environment surrounding the individual main businesses of banks, by referring to the number of customers, turnover, income, and rates in the past. To evaluate the stability of the business base, JCR also conducts qualitative examinations of each business. In evaluating these businesses, it is important to evaluate the superiority of services and the strength of channels. In addition to business categories, JCR focuses on customer attributes and product characteristics. It evaluates deposits by analyzing their makeup by depositors, types, and terms, and it evaluates loans by analyzing their makeup by borrowers, industries, and the company size.

The business base of banks is affected noticeably by the macroeconomic environment. For this reason, the operating regions in which banks are based and the diversification of their operating areas are critical. If a bank operates only in specific regions, JCR examines the management environment of the main operating region, including the economic scale, industrial structure, growth potential, and competitive landscape. Based on this examination, JCR focuses on the position and roles of the bank in those regions.

In accordance with laws and regulations, operations of “shinkin” banks and credit associations are limited to certain areas. As a result, their operating areas are generally smaller than those of regional banks. Banks whose operations are closely based in the limited areas enjoy advantages in the form of strong ties with customers. On the other hand, their operating results tend to be affected by local economic trends. Attention needs to be paid to these features.

When evaluating the stability of the business foundation, JCR also focuses on the diversity of the businesses. When the businesses of a banking group are diversified to encompass businesses other than banking, for instance because of conglomeration, the bank can enjoy diversified earnings sources, but it may also face a higher number of risks. Therefore, JCR confirms whether or not trends in the group’s specific businesses excessively affect the results of the overall performance of the group.

(3) Stability of the financial system

Banks form a financial system by connecting with each other through the granting credits and settling of payments. If the financial system is shaken, usually by worsening business conditions or a series of bank failures, then even though an individual bank might have a sound financial condition, it may lose the trust of the market, and find it difficult to raise funds through deposits and market financing. A series of bankruptcies may also raise the risk of losses on assets. For these reasons, if the financial system is unstable, even relatively sound banks may have restrictions in their ratings.

(4) Management team and strategies

JCR judges management strategies and stances in the future by interviewing senior officers, analyzing management performance in the past (including comparisons of plans and results), and examining medium-term management plans, and management policies. When it comes to management policies, JCR focuses in particular on the fact of whether or not a bank pays attention to the balance between the strengthening of profitability and risk management. Whether or not a bank has in every organization a corporate culture of valuing risk management is also critical. It is noteworthy that, generally speaking, in the case of “shinkin” banks and credit associations, the personal quality and leadership of the manager tends to influence the management of the institutions more than that of banks. JCR focuses on whether or not strong leadership is effectively conducted for the improvement of not only earnings capabilities, but also risk management and compliance.

2. Financial base

(1) Earnings strength

Because banks take on risks when they grant credit, invest in assets, and engage in other activities in their main business, it is inevitable that they will incur credit costs and losses from investments in the market. When assigning a credit rating to banks, JCR first evaluates the level and stability of the banks’ basic earnings capabilities, which reflects their ability to absorb credit costs and other costs incurred from asset management.

To measure basic earnings capabilities, JCR primarily examines core gross profit and core net business profit. It also analyzes management efficiency, mainly through overhead ratio. JCR judges the medium-term trends of core net business profit by taking into account factors that produce temporary fluctuations in income, such as interest and dividend income from securities and income from the cancellation of investment trusts. To evaluate stability, JCR refers to past performance, and focuses on the diversification of earnings and earnings sources, as well as the nature of each type of earnings. Generally speaking, the stability of earnings from loans, compensation for the administration of pension, and other stock earnings, including the holding, receiving, and entrusting of assets, is high. In contrast, earnings based on flows, such as income from relatively short-term project financing, sales fees for financial products, and fees for investment banking operations, are susceptible to market shifts. Therefore, JCR focuses on whether or not the banks are excessively dependent on these earnings.

If high earning capabilities are supported by unduly aggressive risk taking, net income, which is the bottom line, often becomes unstable, because of credit costs and other expenses. In particular, credit costs often become a factor that depresses income. Therefore, after examining basic earnings capabilities, JCR also examines earnings capabilities after deducting credit costs. Even among banks that have the same level of earnings after the deduction of credit costs, certain banks have strong earnings capabilities combined with aggressive risk taking and large credit costs, while other banks do not aggressively take risks and have low basic earnings capabilities but also low credit costs. This is caused by the difference in the business model adopted by each bank. JCR notes that the volatility of the credit costs of aggressive risk takers is generally large, and their earnings after the deduction of credit costs are often distressed at the time of adverse market conditions.

Key financial indicators:

- Core gross profit
- Core net business profit
- Loan and deposit rate margin (including expenses), overall interest rate spread

- Net fees and commissions / Core gross profit
- ROA (core net business profit basis)
- Overhead ratio (core gross profit basis)

(2) Loan assets

With respect to credit risks associated with loans and bonds, JCR judges the possibility of the incurrence of credit costs based on information about the situation of the concentration of credits on the groups of certain industries or borrowers, the scale of nonperforming loans, the structure of credit examinations and management, standards and results of self-assessment (including borrowers' categories and collateral evaluation), the status of write-off and allowances, and actual credit costs in the past. JCR compares a possibility of occurrence of credit costs with earnings or capital to assess risk tolerance.

The concentration of credits on specific industries or borrowers quite often results in deterioration of the management of banks. Therefore, JCR checks the business performance and the coverage of borrowers of large-scale loans. When analyzing information, JCR pays attention to differences among banks in the level of the application of examination standards and the judgment on borrowers' categories. These differences arise because each bank adopts its own standards and application methods. In addition, JCR focuses on banks' conservativeness about write-off and allowances.

Key financial indicators:

- Non-performing loan ratio (Non-performing loans based on the Financial Reconstruction Law, etc.)
- Non-performing loan ratio (after the deduction of an allowance for credit losses and before partial direct write-offs)
- Classified loan ratio
- Coverage ratio ((Collateral and guarantees + allowances) / Total bad loans)
- Ratio of the allowance for credit losses
- Credit cost ratio (Credit costs / Total loans)
- Credit costs / Core net business profit
- Large-scale loans / Total credits
- Non-coverage portion of large-scale bad loans / Core net business profit

(3) Securities and other assets managed in the market

Securities, derivatives transactions, and other assets that are managed in the market are subject to interest rate risks, foreign exchange risks, credit risks, and stock price volatility risks. JCR judges the level of these risks based on the outstanding balance of stocks, fund investments, structured bonds, securitization products, and other high risk products. In determination of interest rate risk, JCR uses duration, outlier ratio, etc. in addition to basis point value of the securities as a reference. In determination of price fluctuation risk, JCR uses ratio of balance of equity securities to Tier1 capital and ratio of balance of other securities to Tier1 capital as a reference. When analyzing the gain / loss on valuation of securities, JCR pays attention to holding categories and the difference in methods of calculating fair value. When examining small regional financial institutions that often have restrictions in securing adequate human resources, JCR checks whether or not they have organizations and human resources that ensure they appropriately analyze risks and flexibly respond to changes in the market.

When banks handle products such as structured bonds and securitization products, it is easy for the banks to increase the outstanding balance of these products, but because of the nature of

the complexity of the products, the banks often adopt lax investment judgments or product management. If investments in these products are large compared with the capital of the relevant banks, JCR closely examines whether banks have made an appropriate investment judgment and adopted appropriate product management.

Shinkin banks and credit associations view the difference between deposits and loans as spare funds. These funds, excluding securities, are deposited in central financial institutions and other institutions. The yields on such deposits are usually only slightly better than interest rates in the market, and so the deposits cannot be considered an effective investment in terms of income. However, JCR positively evaluates such deposits because they help to reduce credit risks to a certain extent and supplement the liquidity of funds.

Key financial indicators:

- Basis point value of the securities
- Outstanding balance of stocks / Tier1 capital

(4) Risk management structure

JCR examines whether or not banks manage the range of risks that they face from a comprehensive perspective. It also examines methods and preconditions of such risk management. With respect to comprehensive risk management, because the level of risks that are recognized varies depending on methods and preconditions (holding periods, the confidence level, and analysis periods in the case of VaR), it is difficult to make simple comparisons among banks. Consequently, JCR evaluates banks' risk management mainly by focusing on how the management of the banks understands its risk taking, and how it uses that understanding when it develops management plans and capital policies. A key point in risk management is whether or not mutual checking among organizations or staff in charge is effective. In particular, JCR pays attention to the point that mutual checking is more likely to be ineffective at shinkin banks and other small-scale institutions. No matter how well risk management is executed, this factor is not often regarded as positive for the evaluation of credibility, but if risk management is believed to be insufficient, this can become a negative factor.

In addition, JCR examines the size of operational risks and other risks that the banks have when they carry out operations, and the relevant risk management structure. In particular, if internet banks and asset management banks face these risks, the impact on their business foundations can be very significant. Therefore, JCR carefully monitors the responses of such banks. For system risks, JCR examines whether or not steps (such as the setting up of backup systems) are taken to ensure the continuity of operations from the perspective of the Business Continuity Plan (BCP).

(5) Liquidity of funds

JCR evaluates liquidity mainly by analyzing the basic structure of the balance (matching) of the period of investments and funding, and the ratio of stable deposits to overall funding. A low proportion of funding in the market and from corporations with a high proportion of individual deposits is generally evaluated positively from the perspective of stable liquidity. However, if the proportion of term deposits with high interest rates is high as a percentage of overall individual deposits, these funds are likely to swiftly outflow when the management of banks faces a strenuous situation. When appropriate, JCR checks loan to deposit ratio, securities to deposit ratio, ratio of liquid deposit to total deposit amount, ratio of individual deposit to total deposit amount, etc.

In addition, to evaluate the structure to manage liquidity risks, JCR examines the balance of

funding mainly by referring to assets and deposits that can be promptly cashed. JCR also confirms that funds are managed in accordance with the prevailing situation, such as normal times, problematic times, and crisis times, and it confirms the contingency plan for times when funding is difficult. The fact that funding stability is supplemented by parent banks and other organizations is evaluated positively.

(6) Capital adequacy

JCR examines the capital of banks as the ultimate buffer that absorbs the various risks the banks have by analyzing both the regulatory capital adequacy and the actual capital adequacy. JCR undertakes these analyses by taking into account the balance with credit risks, market risks, and other risks. In principle, JCR values capital on a consolidated basis more than that on a non-consolidated basis. When banks, such as mega banks and certain regional banks, have developed a banking group, JCR focuses more on capital on a group consolidated basis.

Monitoring the regulatory capital adequacy ratio becomes particularly important when banks have difficulty achieving the ratio. This is because whether or not the capital level required under the rules can be comfortably achieved will significantly impact on relations with authorities and the winning of the confidence of creditors and the financial market, which are essential factors for the ongoing management of banking operations.

While JCR evaluates the actual capital adequacy with a view to full implementation of Basel III, JCR recognizes equity content of parts of items that are subject to the transitional arrangements. When evaluating the actual capital adequacy, JCR adjusts Tier1 capital for international standard banks and core capital for domestic standard banks.

JCR does not recognize equity content of Tier2 capital eligible under domestic standard Basel II and allowance for bad loan in principle. For items, for which fluctuations are considered large such as unrealized gains (losses) on investment securities, JCR factors in them in a conservative fashion. JCR devalues equity content of public funds (preferred stock or common stock) because such funds are to be repaid in the future. Although JCR recognizes equity content of hybrid products that are calculated into Tier1 capital or core capital, JCR may devalue equity content of instruments that are highly likely to be redeemed or repaid.

When measuring the capital adequacy, risks are examined based on regulatory risk assets. In addition to this, JCR compares risks that are not used for the calculation of the capital adequacy ratio, including the price volatility risk of shares, the interest rate risk, and the risk of credit concentration. It also examines if the leverage against total assets is not excessively high.

In evaluating capital, JCR also examines whether or not a bank has a range of funding methods. Unlike shares, investments in shinkin banks and credit associations are not traded in the market. For this reason, funding of shinkin banks and credit associations is believed to be less flexible than that of banks.

Key financial indicators:

(Uniform International Standards)

- Total capital ratio
- Tier1 ratio
- Common equity Tier1 ratio
- Adjusted Tier1 ratio

(Domestic Standards)

- Core capital ratio
- Adjusted core capital ratio

3. Safety net

The financial system has adopted a number of measures (the prudence policy) to ensure that it functions steadily and effectively. These measures comprise ex-ante measures, including capital adequacy ratio rules, early correction measures and other rules related to balance sheets, and ex-post measures (the safety net), including a deposit guarantee system.

The possibility and extent of the protection offered by the safety net varies depending on laws and regulations at the relevant time, the state of the financial system, the stance of financial authorities, and the role played by individual financial institutions in the financial system. Moreover, the need to protect each different product, even provided by the same bank, varies from the perspective of the stability of the financial system. The safety net is reflected in accordance with the position and the prevailing status of banks and individual products.

From the perspective of the national and regional financial systems, particularly strong protection is expected to be provided to major banks or other financial institutions that are believed to play a key role in the regions. For this reason, the long-term issuer rating of such financial institutions is, in principle, BBB- or higher. JCR believes that the protection provided by the safety net is not a factor that can raise the rating level, but offers the floor (the lowest level) of ratings.

Shinkin banks and credit associations can receive capital support, management recommendations, and other support from the central financial institutions in the industry, in addition to the safety net provided by the government. This can be evaluated as a function that supplements their credibility to a certain extent. However, there may be times when priority is placed on the soundness of the central financial institutions themselves. In this case, the extent, scale, and timing of support given to shinkin banks and credit associations may become inadequate. JCR determines ratings with this factor, among others, taken into account.

In terms of support, regional banks affiliated with Japanese mega bank groups also receive support from their parent banks or groups (hereinafter, “Parent Banks etc.”); however, JCR shall not determine the rating on these banks based on the creditworthiness of Parent Banks etc. solely on the ground that they are under the umbrella of mega bank groups. In case where their strategic importance to Parent Banks etc. is unclear and, historically speaking, the affiliation was the result of capital support made at the time of disposal of non-performing loans in a financial crisis, rather than due to strategic importance, it is difficult to strongly reflect support from Parent Banks etc. into the rating. However, even when regional banks were in fact affiliated with the groups in such a way, if it is judged that Parent Banks etc. will take reasonable responsibility for their business management, JCR shall take into account possible additional support from Parent Banks etc. in its rating decision. In so doing, JCR shall refer to whether or not the regional banks are consolidated with Parent Banks etc., degree of Parent Banks etc.’s involvement in ordinary business management, and use of Parent Banks etc.’s brands by the regional banks in their operations, while giving due consideration to actual support.

c. Broker-Dealer (Securities companies)

The following applies to securities companies in Japan. JCR applies this rating methodology with the necessary changes in the indicators for analysis to overseas securities companies, based on laws, accounting system, financial administration in which these entities are located.

1. Business base

(1) Characteristics of the industry

The business environment surrounding securities companies has changed drastically since Japan's deregulation of its financial markets, the so-called Japan's Financial Big Bang. Following the reforms, which included the liberalization of market entry through a shift from a licensing to a registration system and the expansion of sales channels through the introduction of securities intermediation, bank-affiliated, foreign-based, online, and other types of securities companies have all increased their shares. The complete liberalization of stock brokerage commissions in 1999, in particular, had a great impact on the business management of securities companies. Commission rates have been reduced significantly along with an increase in Internet trading, and efforts toward diversification of income sources have become inevitable for many securities companies. As a result, such reorganizational activities as mergers between securities companies and affiliations with financial groups have been increasing. At present, each megabank group includes large securities companies that are developing alliances with their affiliated banks, and competition is growing among the groups. Companies in the industry have been changing along with the diversified offering of products and services as above. Growth of the industry as a whole, however, has not been achieved, due to such factors as the lowering of commission rates due to increasing competition, stagnant flow of funds from savings to investment, and sluggish domestic capital market.

Among the diversified businesses of securities companies, some of the major services now being offered include brokerage, investment banking, and asset management. While earnings from asset management and maintenance services are relatively stable, earnings from brokerage and investment banking services can vary significantly, depending on the volume of customer orders, and economic conditions can have a dramatic impact on the market size itself. In investment banking, business portfolios change rapidly, and sometimes it may cause significant increases in particular types of risks. In general, securities companies experience substantial fluctuations in their earnings and asset and liability values.

In assessing a credit rating for a securities company, a detailed analysis of changes in profit and loss under the assumption that they will experience high volatility, rather than assessing them at a particular point in time, is more important than in other industries. JCR makes its decisions based on market cycles and changes in services associated with these cycles.

Based on their operational structures, major securities companies can be divided into large securities companies, which operate globally and offer services for both retailers and wholesalers, quasi-major securities companies, which concentrate on domestic retail services, and Internet securities companies, which provide individual investors with online trading services.

In retail securities business, the prevalence of online securities companies that provide individual investors with convenient margin trading services for stock transactions at low commission rates has been significant. Assets in custody, however, are concentrated in large securities companies, giving evidence to their large customer bases. Direct customer services at large and quasi-major securities companies also focus on the sales of bonds and investment trusts

and offer services for managing individual financial assets. The development of the Internet, improvement of transaction systems, and diversification of forms of trading have been creating an environment that allows individual investors to enjoy convenience in gathering information and carrying out transactions. Securities companies need to accurately understand investors' behavioral changes and promptly respond to customer needs.

Primary players in the wholesale securities business include large securities companies and large foreign-based financial institutions that provide institutional investors with brokerage services, stock and bond underwriting services, trading services, principal investment operation services, and merger and acquisition advisory services, among others. This business is not only affected in its earnings by the macroeconomic environment but, as it may carry long-term low-liquidity assets, has a risk of incurring a serious loss from trends in stock prices, interest rates, and exchange rates. Companies involved in this business must closely observe the direction of international financial regulations and supervision and their effects.

(2) Important factors in market position and competitiveness

Any credit rating assessment of a securities company needs to take into account the inevitable effect of market fluctuations as a characteristic of the industry. Therefore, the ability to stabilize business performance as much as possible is important, in which the strength of the customer base and diversity of income sources are key determinants.

The customer base is an important factor in ensuring future earnings, which supports the turnover and covering of expenses during times of a sluggish market. Using such indicators as stock prices, the number of accounts, changes in the balance of assets in custody, and results indicated by league tables of stocks, bonds, and mergers and acquisitions as time series data, JCR examines the conditions and scopes of business in terms of both overseas and domestic investors. Because these indicators are affected by the market conditions, JCR monitors medium- and long-term trends and changes in market shares rather than temporary fluctuations, and checks for movements and structural changes in the overall industry and individual companies.

Changes in stock trading prices affect the earnings of securities companies, particularly Internet securities companies, operating mostly in retail securities businesses. JCR analyzes the causes and effects of large market share fluctuations on the future profits and losses of individual companies.

JCR focuses on changes in the number of accounts and the balance of assets in custody as indicators of the growth potential and sales strategy of individual companies. In doing so, JCR monitors not only the changes, but account activities, acquisition of affluent customers and active account users, changes in the commodity composition of assets in custody, and the effect of market price fluctuations on the amount of assets in custody.

League tables and the number of lead managers suggest the strength of a wholesaler's customer base. In addition to temporary business performance, JCR monitors changes in customer groups and each customer's share as a percentage of transactions to assess whether major customers and continuous and multifaceted transactions are maintained.

In regard to diversification of income sources, JCR examines the variation of segments, products, regions, and customer groups. In particular, JCR focuses on income from agency commissions and interest rates in the investment trust segment and the weight of stable income relatively invulnerable to market conditions, such as earnings in the asset management segment.

(3) Management strategy and policy

The environment surrounding securities companies rapidly changes, and the effects of

competitive environment and regulatory changes in addition to economic and financial conditions and market trends must be accurately understood to flexibly and promptly allocate management resources. JCR further considers the ability of companies to operate dynamic businesses in cooperation with affiliated and partner companies, aiming to respond to increasingly diversified customer needs and provide products and services with higher value added.

While diversification of income sources through new operations and business acquisition is effective as a strategy for growth and differentiation, expenses and/or risk-taking may increase in the process of diversification. Expected outcomes may not be achieved, which may reduce profit and impair financial performance. Taking such aspects into consideration, JCR determines whether the diversification is appropriate in light of the size of individual companies, management policy, income plans, the amount of capital, risk management system, and other factors.

Maintaining skilled human resources and appropriate personnel allocation are important in differentiation from other companies and continuous business expansion. Particularly when a business is purchased, JCR not only surveys the progress of the overall plan, but also takes a good look at the human resources and teams playing the central roles in the operations.

The increasing importance of securities companies in the strategy of megabank groups enhances the connection in relation to capital, human resources, marketing and financing activities, and the credibility of the groups is emphasized in credit rating assessments.

2. Financial base

(1) Earnings strength

For securities companies with rapidly fluctuating earnings, JCR focuses on their profit levels or its stability and trends, and changes in their net operating revenue structures, rather than temporary profit levels. While high market volatility makes assessment through comparison of plans difficult, side-by-side comparison is effective, in which any different movement from other companies is analyzed to find the causes and the effects on future profits and financial strength.

As noted earlier, diversity in terms of both customer base and income sources is the basis of estimating future earning capacity and stability of earnings. In addition, lowering the break-even point by attempting to make expenses variable in preparation for market fluctuations is important. In particular, JCR pays attention to changes in personnel and system expenses. Given the intensifying competition, differentiation of products and distribution channels and improvement of efficiency are also areas of focus when determining a credit rating. In investment banking operations, expertise and skilled human resources are important in evading price competition.

Key financial indicators:

- Net operating revenue and ordinary income
- Ratio of ordinary income to net sales (ordinary income/ net operating revenue)
- Structure of net operating revenue
- Stock-related earnings ratio (stock brokerage commission + financial income) / net operating revenue) ... for Internet securities companies
- Amount of assets in custody and the rate of changes in the amount of assets in custody
- Selling, general and administrative expenses, and their constituents
- Ratio of Selling, general and administrative expenses (Selling, general and administrative expenses / Net operating revenue)

(2) Risk profile, including asset quality and risk management system

Securities companies increase their trading assets by using low-priced funds acquired in the market or make principal investments to operate business by temporarily using their own balance

sheets, and asset liquidity for contingencies is extremely important. Despite the high liquidity of most securities company assets, some wholesalers hold low-liquidity assets exposed to a high risk of price fluctuations. JCR investigates a company's policy in regard to acquiring and retaining such assets; changes in the balance; changes in the levels of various types of risk; the balance between capital and risk; the management's risk recognition; the conducting of appropriate management, reporting, and verification; and the executing of appropriate responses to market fluctuations. An integrated risk management system, centralized risk management of the entire group, and prompt and flexible management decisions are important for financial groups having multiple segments or affiliated companies.

Medium-term low-liquidity assets are held in principal investment operations, which may result in a large loss, depending on the environment. JCR observes the investment balance, status of asset turnover, exit strategy, and its progress.

Some overseas businesses experienced large losses the past. Given those lessons, each company has improved its risk management. Diversified customer needs, however, have made products and transactions more complex, requiring more meticulous management. In market cycles, excess risk may be taken to seek earnings. Focusing on an increase in leverage and changes in asset components, whether appropriate management is maintained must be assessed.

In general, retail securities business is considered to have a relatively limited business risk. Nevertheless, changes in management policy, such as entry into new operations, changes in the business environment, such as regulatory changes and IT innovation, and other changes may rapidly increase the risk. JCR monitors any change in risk appetite as a result of modified management strategy and assesses whether the risk is managed within the company's management capacity.

Internet securities businesses have suffered losses in margin trading and futures and option trading in the past. JCR evaluates whether the companies have established a system that allows appropriate responses to a sudden change or unexpected movement in the market.

(3) Capital adequacy

Capital adequacy affects the ability to execute trading operations, principal investment operations, underwriting operations, and competitiveness. The amount of capital is important because the size of capital will be the last support if periodic results continue to be a loss. JCR assesses whether a capital level adequate for the risk is maintained and whether flexible and appropriate responses are made in view of future changes in capital regulations.

JCR examines level of capital or shareholders' equity, gross leverage or adjusted leverage (total assets - assets related to repurchase transactions / net assets) to examine capital adequacy. For large securities companies, to which the same capital regulation (Basel III) as banks is applied, JCR places importance on capital adequacy ratio, Tier1 ratio or common equity Tier1 ratio. While JCR evaluates the capital adequacy with a view to full implementation of Basel III, JCR recognizes equity content of parts of items that are subject to the transitional arrangements.

Meanwhile, JCR places importance on net capital regulation ratio for other securities companies. The weighting of retail securities business is large at second-tier securities companies and Internet securities companies, and their risk is considered smaller than that of large securities companies.

JCR does not evaluate capital adequacy or financial soundness by gross leverage or net capital regulation ratio alone because of large fluctuations in securities holding positions and risk amounts for securities companies in general. In cases where ratios change significantly, it is important to examine whether the background factors are temporary ones or whether such factors

are medium- and long-term trends.

Key financial indicators:

- Capital or Shareholders' equity
- Capital Adequacy Ratio (specified in Basel III : when applicable)
- Tier1 ratio (specified in Basel III : when applicable)
- Common equity Tier1 ratio
- Net capital regulation ratio
- Gross leverage (total assets / net assets)

(4) Financing and liquidity

For securities companies, stable and cost-efficient financing to quickly respond to an increase in trading assets and margin trading is the key to ensuring earnings opportunities. To prepare for such contingencies as rapid market fluctuations, whether measures to respond to crisis have been planned, whether ready liquidity funds capable of covering fund requirements for the time being are maintained, and whether stress test and monitoring are appropriately carried out must be a focus.

For financing, JCR examines the stability of short-term financing, medium- and long-term financing policy, balance between long-term and short-term financing, debt repayment and redemption schedules and the funds required, diversification of sources of financing, assets to secure a switch to collateralized financing, and relationships with financial institutions through the financing limit.

Large securities companies operating global businesses face strong demands to improve and maintain the liquidity of the entire group and maintain sources of financing in major financial markets. JCR also examines whether the acquisition of low-liquidity assets is paid with capital and long-term debt and whether funds are appropriately managed among the affiliated companies in the group.

d. Insurance (Life Insurance)

The following mainly applies to life insurance companies in Japan. The credit ratings of a life insurance company is assessed by focusing on the characteristics of its life insurance business, business base, management team, management policies, financial performance, investment, liquidity, capital adequacy, financial flexibility, and risk management. JCR applies this rating methodology with the necessary changes in the indicators for analysis to overseas life insurance companies and insurance groups, based on laws, accounting system, financial administration in which these entities are located.

1. Business base

(1) Characteristics of the industry

While total amount of insurance in force with respect to death benefit products, which were core earnings sources for life insurance companies traditionally, has been on the decline against the background of aging society with fewer children, needs for protection with respect to risk of longevity such as third sector insurance and annuity products have risen. As a result, product mix for life insurance companies has been changing gradually.

In addition to entry barriers to life insurance business as shown by its license system, in cases where complicated and long-term protection insurance products are sold through a channel representing one insurance company exclusively, it is difficult to compare products and price competition is not likely to occur. Meanwhile, sales by comparison by insurance agencies representing multiple insurance companies, which are emerging channels, can more easily cause competition, placing downward pressure on profitability of life insurance companies gradually.

Policies in force of death benefit products can generate relatively stable cash flow by avoiding high investment risk while maintaining the amount of policies required to benefit from the law of large numbers, based on rigid underwriting standards. On the other hand, if operations are inconsistent with the appropriate management of insurance liabilities, such as inadequate management of interest rate risks, a loss margin on long-term life insurance products may put pressure on profitability. The quality of asset liability management affects a company's levels and stability of earnings and cash flow.

While there is growth potential in third sector insurance products against the background of the increasing social needs for these products, these products should be designed based on appropriate risk management in addition to safety margins because of uncertainty about incidence rate of insured events.

As for investment insurance products, insurance-related profit or loss on such products is limited and profitability is low. Variable annuities with guaranteed minimum benefits have a complex risk profile, and ensuring future earnings from such products may not be easy, given the rapid increase in market risk volatility without adequate preparations for risk management.

Life insurance companies are supervised by the Financial Services Agency and required to calculate their solvency margin which indicates the adequacy of their risk buffer. Although the solvency margin ratio contributes to the promotion of risk management of life insurance companies to a degree, there have been some life insurance companies that have gone bankrupt with a solvency margin ratio exceeding 200%—the threshold rate where prompt corrective measures are taken. The calculation standards for the solvency margin ratio will be revised in the future, which is expected to facilitate an understanding of true level of financial soundness.

The insurance policies of the failed insurance company may be continued through policy transfers, mergers, and stock acquisition by another insurance company. Policy reserves, however,

are reduced in some cases. Excluding policies with high assumed interest rates, up to 90% of policy reserves at the time of bankruptcy are compensated for by the Life Insurance Policyholders Protection Corporation of Japan, and the remaining 10% are determined based on reorganization strategies. The policy conditions may be revised, such as in assumed interest rate and policy reserve reductions. Part of the funding of the Life Insurance Policyholders Protection Corporation of Japan comes from sound life insurance companies' contributions, and any bankruptcy imposes a certain financial burden on those sound life insurance companies.

(2) Important factors in market position and competitiveness

Such factors as customer base, product composition, market characteristics, sale channel system, conditions of business diversification, and conditions of niche markets are analyzed to forecast future performance. Examples of sources of competitiveness include brand power that can promote customer trust, high business efficiency that can maximize price competitiveness without sacrificing profitability, and a sales channel that can provide access to superior customers.

JCR places high values on profitability, risk profile and conditions of diversification of product portfolio when making analysis of a product. In general, those products that facilitate capital accumulation through long-term stable earnings are more positively assessed than those products whose earnings are highly volatile. Insurance products are not patented, and development of best-selling products is often imitated by competitors. Differentiation based on salability is, thus, not easy.

For life insurance companies, economies of scale may allow a business base strengthening that involves large IT investments. If competing life insurance companies sell products of the same types, business efficiency higher than that of other companies based on economies of scale may become a source of competitiveness. The unit cost of each insurance company, therefore, is also analyzed.

Meanwhile, the scale does not guarantee success. Niche players in specific markets that are capable of defending themselves from competitors may increase their earnings strength in the future. There may be cases in which the high added value of products and services is increased by effectively and flexibly providing policy coverage and services that appeal to a specific customer base or sales channel to acquire policyholders with specific needs without sacrificing the risk-adjusted returns.

Sales channels are analyzed based on the strength of their connection with specific life insurance companies in each channel, conditions of diversification, cost efficiency, and other perspectives. Whether the life insurance companies to be analyzed are continuously acquiring high-quality insurance policies from each sales channel under adequate internal management is assessed.

(3) Management strategy and policy

Strategy development and performance by the management team are carefully studied. An understanding of the management strategy allows more in-depth evaluation than simple quantitative analysis. Allocation of management resources is an internal factor that can be controlled by management and has an impact on competitive strength, profitability and financial strength of each company. From the viewpoint of the details of its strategy, the effectiveness of the business, the durability against financial risk, and other such matters, the validity of management vision, ability to execute strategy, and other skills are analyzed. In addition to an appropriate understanding by management of risks, whether or not a culture placing emphasis on risk management takes root in the organization is an important point.

2. Financial base

(1) Performance and earnings strength

In evaluating financial performance, JCR focuses on the ability of an insurance company's strategy to connect competitiveness with profitability as well as financial results, growth potential, and quality. JCR also pays attention to sales activities. Given that sales of whole life medical insurance products in addition to conventional death benefit products have been on the rise in recent years, JCR makes an analysis of business performance based on multiple indicators including total amount of insurance in force, annualized premiums, and total assets.

JCR's income analysis includes past earning trends, future earnings, and the stability and quality of earnings. For participating policies (with-profits policies), policyholder dividends are considered as a cost of acquiring customers, and profit after payment of policyholder dividends is taken as criteria for profitability. Additional information on transfer to and reversal of policy reserves associated with variable annuities with guaranteed minimum benefits is analyzed, including an analysis of adjusted and unadjusted basic profit; analysis of mortality, interest, and expense gains; analysis of factors that increase or decrease MCEV* or Market Consistent Embedded Value; and sensitivity analysis associated with MCEV.

*MCEV: One of the indicators of enterprise value and performance used by life insurance companies. It is a total value of "modified net assets" calculated from balance sheet and off-balance unrealized gains or losses and "value of policies in force," which is present value of future profits generated by the policies in force.

An insurance company's earning capacity helps strengthen the capital through internal reserves, one of the major rating viewpoints in evaluating its financial base. Many management teams use income indicators for major strategic targets, and the appropriateness of such targets and the ability to execute strategy, i.e., the capabilities of the management, are likely to affect earnings.

In making analyses, JCR considers a company's future performance, in which the possibility of changes in the income structure brought about by changes in the industry environment and management strategy, in addition to past business performance trends, is considered. Given the cases where variable annuities with high underwriting risk have been sold largely before Lehman Shock, JCR focuses on risk-adjusted returns of high-risk products and considers the effect of them on earnings and financial standing.

For indicators for earnings power, JCR refers to financial results and future profit analysis. Analysis of investment-related profit or loss concentrates on interest income from interest-bearing bonds while paying also attention to assumed interest rates.

JCR makes an analysis of insurance-related profit or loss including insurance revenue, payments for insurance claims, annuities, benefits, cash surrender value, transfer to and reversal of policy reserves, and expense payments. In addition to focus on mortality gains from death benefit products and third sector insurance, JCR also pays attention to changes to the cost structure, policy retention rate, price policy, and other factors for expense gains or losses. For medical and nursing care insurance, there might be more cases than cases for death benefit products where an actual incidence rate is differ from the expected incidence rate based on the past data against the background of progress in medical technology and changes to various systems related to medical and nursing services. For whole life medical insurance products and whole life nursing care insurance, it is necessary to set an expected incidence rate in consideration of normally anticipated events such as a rise in incidence rate according to the aging. If these products are not designed to

cope well with a risk of higher actual incidence rate than the expected incidence rate, profits from these products might be lower in future years than assumed initially. JCR therefore focuses on scenario tests for incidence and the results of such scenario tests, and refers to them when making an analysis.

In cases where savings insurance products are sold by agencies of financial institutions, JCR focuses on sensitivity of the products to changes to economic and financial environments and the investment related to the sensitivity. JCR also focuses on scenario tests based on characteristics of risks for the products sold through channels described above and the results of such scenario tests, and refers to them when making an analysis.

Key financial indicators:

- Basic profit
- Mortality gains / losses
- Operating profits / losses
- Investment profits / losses
- Factors of increase/decrease in value of policies in force and sensitivity (referred when available)
- Investment-related profits / losses
- Total amount of insurance in force
- Annualized premiums
- Total assets

(2) Risk profile, such as asset quality

Life insurance companies carry a certain level of investment risk based on the business characteristics that facilitate forecasts of payments of key product premiums, and each company has a different asset allocation as well as risk profile and returns on each asset. JCR analyzes whether companies carry out asset management with a controllable risk profile and ensure risk-adjusted returns while controlling interest rate risks through investment appropriate for the debt characteristics. Considering that risk profiles and investment returns vary depending on the investment style or type of working assets, such factors as techniques of asset liability management and risk management, and composition of working assets are also analyzed. Working assets are evaluated in view not only of asset quality but the effect of diversification and other aspects.

(3) Liquidity

Liquidity is analyzed based on whether it allows prompt payment of insurance benefits in a stress scenario, taking into account the risk of price fluctuations. Liquidity is affected by such factors as the composition of working assets, deduction of cancelled products, presence of fair value adjustment function, sales channels, and customer base. JCR takes into account an analysis of cancellation behavior with respect to a phase of an increase in interest rates in light of ALM system of each company. For example, it should be reminded that cancellation behaviors of policyholders might differ when savings insurance products were sold through sales staff channel from such behaviors when these products were sold through agencies such as financial institutions.

Key financial indicators:

- Liquidity levels (of cash and cash equivalents, government bonds, etc.) and component ratio of major assets

(4) Capital adequacy

In addition to making an analysis of capital adequacy of real equity capital in light of an assessment of market value of assets and liabilities combined (based on economic value), JCR refers to indicators under the current regulations. JCR takes into consideration investment risk, underwriting risk and operational risk when evaluating capital adequacy of real equity capital. JCR also pays attention to an interest rate risk of assets and liabilities combined based on an internal model of each insurance company. As assessment methods of market value of assets and liabilities combined are not considered the same completely among individual companies, JCR makes analyses of various figures in terms of internal control while also paying attention to characteristics of calculation method of each company.

JCR takes into consideration the following as items constituting a modified equity capital when referring to the indicators under the current regulations: Excess of cash surrender value over policy reserve in light of economic value of contracts with negative spread as much as possible, part of valuation difference on securities, accumulated redeemed foundation funds, reserve for redemption of foundation funds, reserve for price fluctuations, contingency reserve, unappropriated reserve for policyholder dividends, and other legal reserves in addition to surplus (after deduction of distributed income) and accumulated redeemed foundation funds for a mutual company or capital stock and capital surplus for a joint-stock company. A stress test of unrealized profits and losses on stocks is performed in addition to the financial results of a single year. Hybrid securities, which combine the elements of liabilities and capital, are also taken into the analysis of capital adequacy. With respect to risk quantity, in case of price fluctuation risks related to stocks, for example, a risk coefficient based on volatility is given that takes into account changes in stock prices over a long period of time.

Key financial indicators:

- Equity ratio

(5) Financial flexibility

The ability to flexibly raise funds in various markets when a large amount of capital is needed is assessed. Additionally, when a company has a large amount of unrealized gains, JCR focuses on whether it can realize such gains without impairing its business. The ability to create future internal reserves is also a positive factor in financial flexibility.

(6) Risk management system

How much the management strategy primarily for profit and risk management has penetrated into the entire company is assessed. More specifically, the level of penetration and sharing of risk preferences consistent with the internal risk tolerance, improvement of risk management and control system on top management's initiative, the internal system incorporating the risk control process, and efforts to raise risk awareness at the business unit level are among the aspects to be evaluated. The status of risk governance is also analyzed from the perspective of governance and organizational structure of risk management functions. Further, the internal unity of the risk management system, appropriateness of risk measuring and monitoring, alert level for each type of risk, and maximum limit for risk are also evaluated. JCR analyzes each insurance company's responses to the appearance of unexpected risk in view of timely detection and control of newly emerging risk and how it applies the lessons learned from the emergence of new risk.

The allocation of required capital and economic capital to each risk, strategic measures based on indicators of economic risk and returns, an understanding of the effect of strategic measures on the regulatory required equity capital, a strategic asset allocation within the range of risk tolerance

specified in advance, risk-adjusted pricing based on the study of risk and returns of insurance products, the suspension of sales or re-pricing of insurance policies in response to a deviation of the results of risk and return analysis from the initial assumptions, and a capital plan based on the process of optimizing decisions on risk and returns are some of the criteria for evaluating the strategy for optimization of risk-adjusted returns.

e. Insurance (Non-life Insurance)

The following mainly applies to non-life insurance companies in Japan. When determining the credit rating of a non-life insurance company, the characteristics of that company's non-life insurance business, business base, management team, management policies, financial performance, investment, liquidity, capital adequacy, financial flexibility, and risk management are all analyzed. JCR applies this rating methodology with the necessary changes in the indicators for analysis to overseas non-life insurance companies and insurance groups, based on laws, accounting system, financial administration in which these entities are located. JCR also applies this rating methodology with the necessary changes in the indicators for analysis to Japan Earthquake Reinsurance Co., Ltd. that is a part of the earthquake insurance system on dwelling risks, in which both public and private get involved, focusing on this institution.

1. Business base

(1) Characteristics of the industry

Major non-life insurance products include auto insurance, fire insurance, and marine insurance among other types. Trends in the non-life insurance market may be affected significantly by the state of economic activities, growth of the domestic economy, and the level of insurance payments resulting from, in particular, natural disasters, such as typhoons and earthquakes. The limited scale of the Japanese economy and restrictions on economic activities constrain growth in demand for traditional non-life insurance and intensify price competition, requiring companies to adjust their prices and improve business efficiency to increase profitability. In the retail segment, the profitability of core products, such as auto insurance, is squeezed without flexible rate price adjustments in reference to the reference loss cost rates by General Insurance Rating Organization of Japan. As for non-life insurance in the corporate segment which is more customized than the one in the retail segment, profitability suffers without competition based on appropriate pricing through the establishment of risk-based management. Business environment surrounding non-life insurance companies in Japan is severe, and frequency of accidents for the core automobile insurance has been increasing against the background of the aging society. While a base for curb on price competition is now being established as shown by the fact that three big non-life insurance groups account for 90% of market in terms of net premiums written, despite progress in reorganization of industry, there might be a possibility that non-life insurance companies with conventional business models centered on agencies will face fiercer competition with direct general insurance companies. It is important for a non-life insurance group or a non-life insurance company to improve operational quality with enhancement of systems being the core and to improve the earnings structure by strengthening competitive strength and operational efficiency through the improved operational quality.

Although there are non-life insurance groups promoting diversification of the core earnings sources and risk diversification including acquisitions of overseas non-life insurance companies based in advanced countries in addition to the domestic business, multiple non-life insurance groups rely heavily on domestic non-life business for their business base and earnings base. Multiple non-life insurance groups and non-life insurance companies took measures to reduce various risks, they are still exposed to price fluctuation risk with respect to relatively large cross-shareholding and catastrophe risk.

Non-life insurance companies are supervised by the Financial Services Agency and required to calculate their solvency margin ratio, which indicates the adequacy of their risk buffer.

Although the solvency margin regulation contributes to the promotion of risk management of non-life insurance companies to a degree, there have been some non-life insurance companies that have gone bankrupt with a solvency margin ratio exceeding 200%—the threshold rate below which prompt corrective measures are taken. The calculation standards for the solvency margin ratio will be revised in the future, which is expected to facilitate an understanding of true level of financial soundness.

(2) Key factors in market position and competitiveness

Such factors as customer base, product composition, market characteristics, sales channel systems, conditions of business diversification, and conditions of niche markets are analyzed to forecast future performance. Examples of sources of competitiveness include brand power that can promote customer trust, high business efficiency that can maximize price competitiveness without sacrificing profitability, and sales channels that can provide access to superior customers.

An analysis of a product is performed from such perspectives as its profitability, its risk profile, and diversification of the product portfolio. Insurance products are not patented, and the development of best-selling products is often imitated by competitors. Differentiation based on salability is, thus, not easy.

For non-life insurance companies, economies of scale may allow a business base strengthening that involves large IT investments. If competing non-life insurance companies sell products of the same types, business efficiency higher than that of other companies based on economies of scale may become a source of competitiveness.

Meanwhile, the scale does not guarantee success. Niche players in specific markets that are capable of defending themselves from competitors may increase their earnings strength in the future. There may be cases in which the high added value of products and services is increased by effectively and flexibly providing superior policy coverage and services that appeal to a specific customer base or sales channel to acquire policyholders with specific needs without sacrificing the risk-adjusted returns.

Sales channels are analyzed based on the strength of their connection with specific non-life insurance companies in each channel, conditions of diversification, cost efficiency, and other perspectives. Whether the non-life insurance companies to be analyzed are continuously acquiring high-quality insurance policies from each sales channel under adequate internal management is assessed.

(3) Management strategy and policy

Allocation of management resources is an internal factor that can be controlled by management and has an impact on competitive strength, profitability and financial strength of each company. From the viewpoint of the details of its strategy, the effectiveness of the business, the durability against financial risk, and other such matters, the validity of management vision, ability to execute strategy, and other skills are analyzed. In addition to an appropriate understanding by management of risks, whether or not a culture placing emphasis on risk management takes root in the organization is an important point.

2. Financial base

(1) Earnings strength

In evaluating financial performance, JCR focuses on the ability of an insurance company's strategy to connect competitiveness with profitability. A non-life insurance company's earning capacity helps strengthen the capital through internal reserves, one of the major indicators to

assess its financial base. Many management teams use income indicators for major strategic targets, and the appropriateness of such targets and the ability to execute strategy, i.e., the capabilities of the management, are likely to affect earnings.

JCR analyzes a non-life insurance company from the viewpoint of financial results, growth potential, and quality. JCR's income analysis includes past earning trends, future earnings, and the stability of earnings.

Earning power is assessed using return on asset as well as return on equity and other indicators as reference, taking into account the effect of return on assets and financial structure of the insurance company. And JCR focuses on such factors as the loss ratio, expense ratio, combined ratio, and growth in premium income for each major product and the entire company. To determine each company's earning power, the current and expected loss ratio, expense ratio, and other indicators are analyzed and evaluated while also considering its pricing and underwriting capabilities and business efficiency. In view of the competitive environment, such indicators are analyzed not only in terms of their absolute values, but also in comparison to those of competitors.

While catastrophe risk such as risk from typhoon and earthquake can lead to a large gross payment of insurance claims, each non-life insurance company controls net payment in consideration of recovered reinsurance claim by arranging reinsurance scheme. As for earnings, companies control the volatility of their income for the period through the reversal of contingency reserves.

For investment-related profit, JCR makes analysis of interest income from interest-bearing bonds primarily. For business efficiency, JCR also pays attention to changes in the cost structure, rate of renewed policies, price policy, and other factors. Capital gains or losses cannot be expected on a regular basis in most cases, and this is considered in the analysis.

JCR considers the risk level of each item when assessing the companies' earning power. Product diversification has caused differences in the risk coverage depending on the product, and simple comparison of indicators may be misleading. In its analysis, therefore, JCR also considers the differences in the levels of risk to be covered. Savings-type insurance is analyzed taking into account that the operating environment may distort the income structure due to a product's characteristics. The statuses of income stability and income source diversification are examined as the basis of determining the quality of income.

In its credit ratings, JCR considers a company's future performance, in which the possibility of changes in the income structure brought about by changes in the industry environment and management strategy, in addition to past business performance trends, is considered. Because there may be some insurance companies that are currently making high profits and have higher risk profiles than their competitors, JCR focuses on risk-adjusted returns and considers the effect of high-risk products on financial affairs.

Key financial indicators:

- Return on assets
- Premium income
- Loss ratio
- Expense ratio
- Income balance ratio (or Combined ratio)

(2) Risk profile, such as asset quality

Non-life insurance companies carry a certain level of investment risk based on the business characteristics that facilitate forecasts of payments of key product premiums, and each company has a different asset allocation as well as risk profile and returns on each asset. JCR analyzes

whether insurance companies ensure risk-adjusted returns while controlling interest rate risks through investment appropriate for the debt characteristics. Considering that risk profiles and investment returns vary depending on the investment style or type of working assets, such factors as techniques of asset liability management and risk management, composition of working assets, and financial derivatives are also analyzed. Working assets are evaluated in view of not only asset quality but also the effect of diversification and other aspects.

Key financial indicators:

- Component ratio of major assets

(3) Liquidity

JCR analyzes liquidity adequacy in the event that a catastrophe risk occur does occur. JCR also analyzes whether a non-life insurance company ensures liquidity that allows prompt payment of insurance claims in a stress scenario of financial market and other.

Key financial indicators:

- Level of liquidity of current deposits, government bonds, etc.

(4) Capital adequacy

In addition to making an analysis of capital adequacy of real equity capital in light of an assessment of market value of assets and liabilities combined (based on economic value), JCR refers to indicators under the current regulations. JCR takes into consideration investment risk, underwriting risk and operational risk when evaluating capital adequacy of real equity capital. JCR also pays attention to an interest rate risk of assets and liabilities combined based on an internal model of each insurance company. As assessment methods of market value of assets and liabilities combined are not considered the same completely among individual companies, JCR makes analyses of various figures in terms of internal control while also paying attention to characteristics of calculation method of each company.

The ability to increase internal reserves based on stable and strong earning power has a positive effect on the evaluation of equity capital adequacy. Insurance groups in need of large capital are evaluated for their equity capital adequacy with the recognition of such effect. Some non-life insurance groups perform risk-based capital management as a group, and JCR focuses on the state of group based capital management as well. To what extent a tail risk has been incorporated to improve the risk buffer is also observed.

As a modified equity capital when referring to the indicators under the current regulations, JCR takes into account equity capital (after deduction of distributed income) reserve for price fluctuations, catastrophe loss reserve, gains (losses) on valuation of available-for-sale securities, etc. JCR also focuses on the level of core capital excluding gain on valuation of available-for-sale securities, etc. A stress test of unrealized profits and losses on stocks is performed in addition to the financial results of a single year. Hybrid securities, which combine the elements of liabilities and capital, are also taken into the analysis of capital adequacy. For price fluctuation risks related to stocks, a risk coefficient based on volatility is ascertained that takes into account changes in stock prices over a long period of time.

Key financial indicators:

- Equity ratio

(5) Financial flexibility

The ability to flexibly raise funds in various markets when a large amount of capital is needed is assessed. Additionally, when a company has a large amount of unrealized gains, JCR focuses on

whether it can realize such gains without impairing its business. The ability to create future internal reserves is also a positive factor in financial flexibility.

(6) Risk management system

How much the management strategy primarily for profit and risk management has penetrated into the entire company is assessed. More specifically, the level of penetration and sharing of risk preferences consistent with the internal risk tolerance, support for risk management and control system by top management, the internal system incorporating the risk control process, and efforts to raise risk awareness at the business unit level are among the aspects to be evaluated. The status of risk governance is also analyzed from the perspective of governance and organizational structure of risk management functions. Further, the internal unity of the risk management system, appropriateness of risk measuring and monitoring, alert level for each type of risk, and maximum limit for risk are also evaluated. JCR analyzes each insurance company's responses to the appearance of unexpected risk in view of timely detection and control of newly emerging risk and how it applies the lessons learned from the emergence of new risk.

The allocation of the required capital and economic capital to risk assets, strategic measures based on indicators of economic risk and returns, an understanding of the effect of strategic measures on the regulatory required equity capital, a strategic asset allocation within the range of risk tolerance specified in advance, risk-adjusted pricing based on the study of risk and returns of insurance products, the suspension of sales or re-pricing of insurance policies in response to a deviation of the results of risk and return analysis from the initial assumptions, and a capital plan based on the process of optimizing decisions on risk and returns are some of the criteria for evaluating the strategy for optimization of risk-adjusted returns.

f. Issuers of Government Securities, Municipal Securities or Securities Issued by a Foreign Government

Sovereign and Public Sector Entities

I. Sovereign

1. Sovereign Credit Rating

An issuer rating of the sovereign shows the government's ability and willingness to fulfill its debt obligations by grading in the rating scale. A sovereign borrower is usually the government or the central bank, although it could vary depending on the legal norm defined by each country. Major difference between the sovereign and the corporate is that the former has the power to levy taxes and the right of issuing currency. It does not abide by the bankruptcy laws and could not disappear like the latter, either. All of which are attributable to the fact that the government has sovereignty of a country. An individual bond rating may be different from the issuer rating as the bond could have degrees of certainty in the repayment depending on its signed contracts, and could default selectively. Rating symbols for sovereigns is used according to JCR's "Types of Credit Ratings and Definitions of Rating Symbols".

2. Local Currency Rating and Foreign Currency Rating

A sovereign debtor has the power to levy taxes that can allow it to ensure financial sources for fulfilling its debt obligations and the right of issuing currency. For the payment of foreign currency debts, the debtor needs to convert its local currency to a foreign currency or to procure a foreign currency in the markets. The payment of local currency debts is hence less constrained. Considering such difference, JCR may assign different ratings to the local currency rating and the foreign currency rating. In normal cases, the former is higher than the latter. The following factors are taken into account for notching the difference: financial and monetary conditions of the sovereign that can affect effectuality in the use of power to levy taxes and the right of issuing currency; degree of development of the domestic financial markets; level of foreign exchange reserves; and monetary union or adoption of a pegged exchange rate regime, which could abate constraints on foreign currencies.

3. Outline of Rating Process and Evaluation Factors

It is important to have a framework of systematic rating process for an increased objectivity and accuracy of the sovereign rating. For this purpose, JCR uses its "Sovereign Evaluation System" which covers the steps of quantitative and qualitative evaluations.

In assessing a sovereign's ability and willingness to fulfill its debt obligations, following seven factors are considered. (1) soundness of the government's **fiscal base** is extremely important because this directly affects its debt payment capacity. (2) the country's **external position** is considered critical for the nation's debt payment capacity concerning its external debts including those at the private sector. (3) a solid **economic base** ensures growth and thereby sustainable expansion of tax and other sources of funding for the government. (4) the sustainable economic growth in turn largely depends on the stability of **social and political bases**. (5) **financial system**

assumes a vital role that supplies necessary capital for economic growth into the future. (6) implementation of appropriate **economic policies** is essential for an increased stability and sustainable growth of the economy. The sovereign's willingness to fulfill debt obligations, together with its environmental conditions, is also examined in light of the past experiences. (7) **international relations** are assessed in view of whether the nation's economic activities have an international environment in which they can sustain their ways. It should be noted that these evaluation factors are overlapping and interrelated each other and their relative degrees of relevance can vary by the country and the period of time.

[JCR mainly considers seven factors for ratings]

(1) Fiscal base
Trends in the fiscal balance
Conditions of the government debt
Debt payment schedule
(2) External position
Conditions of external debt
Trends in the balance of payments
Impacts of the currency system
(3) Economic base
Fundamentals of economic development
Economic achievements
Growth potential
(4) Social and political bases
Political and social stability
State of governance
(5) Financial system
Framework of financial regulations and supervision
Lenders financial conditions and trends of asset values
International financial conditions
(6) Economic policies
Policy recognition
Policy effectiveness
Policy sustainability
(7) International relations
Political, Economic, and security stability

(1) Fiscal Base

Fiscal base has a significant impact on a government's capacity to fulfill its debt obligations. A nation's fiscal base is analyzed from stand point of its soundness and sustainability by assessing trends in the fiscal balance, terms and conditions of the government debt, and debt payment schedule. In making an analysis of the fiscal base, JCR uses best available data with respect to the general government, which includes local governments and social security funds in addition to the central government.

For the fiscal balance, trends in the balance itself and the government revenue and expenditure structure are evaluated. The assessment starts with analyzing trends in the fiscal balance in the past by comparing them to GDP in the same period and then checks whether the

government has been conducting financial management with discipline. It is assumed highly likely that a country with deteriorated fiscal balance could manage to find appropriate measures to recover its fiscal soundness in the future if the country has a track record in maintaining a fiscal discipline under the changing economic environment. In the revenue structure, the tax bases including direct and indirect taxes are at primary focus of analysis. Cases where a country heavily relies on certain natural resources or specific industries require especial attention in light of the stability of revenue. For the expenditure structure, JCR firstly grasps whether the expenditure size is appropriate relative to the revenue size and then assesses the expenditure structure, in which major points of focus are cost of social security, subsidy, public investment, interest expense, etc. The point is whether the fiscal discipline is not compromised, and whether the expenditure structure does not induce fiscal rigidity. It should be noted that the reduction in public investment has an impact on the long-term competitiveness and growth potential by way of impairment in the social capital formation.

For the government debt, its size relative to GDP is firstly assessed in the historical records. As a rule, a government's debt is an accumulation of the past fiscal deficits, and deemed desirable if it is small. Its bearable size, however, could differ, depending on the possible margin for revenue expansion as well as the level of interest rates. JCR also checks whether the government debt is not uncontrollable in size and/or not uncontrollable in structure. The government debt is examined secondly by breakdown in terms of currency composition and duration, etc. In addition, JCR examines contingent and potential liabilities of the government, if identified as such, which could arise from financial institutions or state-owned enterprises of significant presence, as well as the nation's pension and social security systems. The debt in foreign currency always requires attention to its risk in which the burden of the debt changes by the exchange rate fluctuations.

The debt payment schedule is analyzed in terms of balance between the debt and the available revenue which includes tax, non-tax revenue and proceeds from the government bond issues. Debt payment accompanies higher financing risks than otherwise if there is a concentration in debt service and maturity, and/or a major dependence on the foreign investors. It is from these perspectives that the analysis of the domestic bond markets, which covers market size, liquidity, interest rate level, composition of investors, etc., is deemed important.

(2) External Position

The external position of a national economy has a significant importance to know the sovereign debtor's capacity to fulfill its external debt obligations and therefore deserve scrutiny against historical records of the nation's international balance of payments.

The external position is analyzed from the standpoint of its stability and sustainability by looking into a comprehensive picture about the general conditions of external debt, trends in the balance of payments and the impact of the currency system. Under circumstances where the external position deteriorates, there might arise needs for the government to support or assume the payment of certain debts of the private sector in order to contain the problem before it spreads to the entire macro economy. The analysis is therefore applied to the gross external debt including that of the private sector.

General conditions of the external debt are analyzed from its composition by periods, borrowers and lenders, and historical changes thereof, as well as by comparison with the size of the economy. Also important are the balance of assets and liabilities, and their categorizations and historical changes, as found in the official statistics on international investment position. A special attention is paid at the foreign exchange reserve, since it is the nation's ultimate countable

assets for international payment of the debt. Its level of adequacy is judged country by country, and the amount is desired to be greater if a given country owes greater to short-term capital inflows and/or portfolio investment which are deemed riskier of capital flight than long-term and direct investments. JCR also gives consideration as an avenue of credit enhancement to certain international arrangements, such as currency swap agreements for a contingent supply of foreign exchanges and the empowerment of the European Central Bank in euro zone member countries.

The international balance of payments consists of current account, capital account and financial account. For the current account, JCR grasps trends in the balance of its individual items and conducts structural analysis. A purpose of such analysis is to assess the nation's capacity to acquire foreign currencies and the stability of such capacity, for which its export competitiveness is a good indicator. The export of goods and services can, by the way, indicate a sustainable level of external borrowing if it is analyzed in comparison with the amounts of external debt balance and annual debt payment. Since the current account balance equals national savings minus investment, it is also important to grasp its historical trend from the standpoint of international flow of funds. Key points in checking the capital and the financial accounts include their size relative to the current account and the nation's economy, presence and degree of regulatory constraints against capital flows and foreign exchange transactions, as well as transactional breakdown of the financial account and the stability of each component or the room for improvement thereof. It is particularly important for the countries of current account deficit to establish by such analysis how their financing is sustainable.

Lastly, the nation's currency system is examined along with its precise features. The floating exchange rate system, which tends to give an automatic adjustment against certain macroeconomic imbalances, is less problematic than the fixed exchange rate system, including the pegged currency system. The latter requires especial attention because it not only causes friction in the macroeconomic imbalance adjustment but also may induce large amount of capital inflows and outflows if there is a significant gap in interest rates between the domestic and the foreign markets. In the case of countries of membership in a monetary union like the euro-zone, while the capital movement can be easily made across the region, being free from constraints of foreign exchanges, they might find it difficult to make an adjustment to the possible macroeconomic imbalance between the member countries. It is therefore important to understand both advantages and disadvantages case by case. A country which adopts an international currency has an advantageous position to ensure international capital. The United States enjoys this advantage to the full as the single most important key currency issuer.

(3) Economic Base

A strong economic base supports stability of the nation's public finance and banking, as well as politics and society itself, and increases effectiveness of market mechanism and economic policy. The economic base is analyzed to assess its stability and sustainability in view of the fundamentals of economic development, history of economic achievements and the growth potential.

The analysis of fundamentals of economic development covers the nation's territory, natural resources, demography and infrastructures, depending on relevance. Countries with affluent natural resources tend to have superior prospects of economic development. However, it is not a sufficient condition. Even if a country is blessed with natural resources, economic development could be hard if it fails in effective use of these resources. On the other hand, a country of little endowment can grow if it aspires for an open economy and succeeds in industrialization.

History of economic achievements can be measured firstly by GDP per capita as a typical

indicator of economic success at a given time and then analysis of backgrounds for its evolution. GDP per capita, an indicator of the level of national's average income, can also suggest that the greater it is, the greater potential for tax increase and other sources of finance for the government. The historical analysis of its backgrounds covers the evolution of the nation's economic systems and the degree of market economy's development. While types of the economic system can vary by the country and the time, it is important to check how the market mechanism is actually functioning or not. Development of market economy allows efficient allocation of resources and thereby becomes instrumental for promotion of a long-term economic growth.

The growth potential is analyzed from economic structure and transition of economic growth rates in recent years. Structural characteristics are more emphasized than cyclical aspects. The economic structure is examined at its subcategories, i.e. industrial, import/export and employment structures, and hence assessment is made how the structural change undergoes towards the higher productivity and the greater diversity free from dependency on a specific industry. Major issues on the industrial structure are the level of maturity and external competitiveness of key industries, as well as their systemic and regulatory backgrounds. Import/export structure is measured by major export and import products and counterparty countries, and prices. The degree of economic openness counts, as well. It is important to check whether a country's exports are concentrated on specific products or counterparties and thereby a small environmental change could jeopardize the whole economy. The employment structure is seen from the number of employees by industry, the labor force population and the number of the unemployed, etc. For the economic growth transition, the records of GDP growth rate is reviewed from the standpoint whether the growth can be recognized as sustainable without forming twists by inflation, asset price bubbles, external imbalance, etc. while giving consideration also to a potential growth rate. The review of GDP growth also requires a detailed structural analysis on the demand by components of recent years. Major concerns of such analysis are structural impediments against the growth, influence of foreign economies and effects from economic and financial policies.

(4) Social and Political Bases

The social and political bases give a country a foundation of economic activities and policy implementation, of which assessment is made by analyzing them from the standpoint of its stability and governance. The political and social stability is examined firstly by a review of historical changes in the political and social systems, and then the formation of the government's political base. The stability in the entire society comes to scrutiny thereafter, by looking into religion, ethnicity, political thoughts, and income gaps, etc. The possibility of a mutiny and civil war or an unpredictable overthrowing of the government is kept in mind, foreseeing chances, albeit rare, in which the legitimacy of a given sovereign debtor could be denied as a consequence of wars and revolutions. For the governance, the assessment is made by analyzing how the rule of the law is established, corruption is controlled, and the quality of public service is maintained. Administrative transparency and the independence of the judiciary, the central bank and the media are also important. Reference is made to relevant indicators in the official reports of the World Bank and other international organizations.

(5) Financial system

A stable and efficient function of the financial system is vital for a sustainable economic growth and the maintenance of a sound public finance. As long as the financial system is sound, the economy gets a stable supply of funds necessary for the growth. The authorities are expected

to maintain effective regulations and supervision over the system, so that it could be protected from chances of financial crisis preemptively. On the contrary, a fragile financial system can interfere with economic activities and even set off a crisis. It is for such importance that the financial system under crisis often receives measures of public aids such as injection of public funds and debt guarantees. The analysis of a nation's financial system, therefore, is indispensable also from the perspective of the government's contingent liability. The analysis is focused on the banking sector as the centerpiece of a financial system.

For the assessment of stability in a financial system, it is necessary to examine its formation and characteristics, framework of financial regulations and supervision, lenders' financial conditions, the trends of asset values, and international financial conditions. The formation and characteristics of the financial system means types and sizes of participating financial institutions, institutional characteristics such as degree of market concentration, level of maturity at the money and the capital markets. The framework of financial regulation and supervision includes the one of macro prudence (a part of which is policy adjustment to relevant international frameworks such as Basel regulations). The lenders' financial condition is measured by soundness of assets, capital adequacy, funding structure, liquidity and profitability, etc. The trends of asset values is examined to check if there is no occurrence of asset bubbles in light of the conditions of lending and other supply of funds in the private sector and money supply, as well as interest rates. A hike of asset prices which is alien to the real economy can have a significant adverse impact on the financial system in the subsequent process of consolidation. In addition, in today's world where financial institutions have accumulated a gigantic volume of assets and the financial markets have been globalized, there is an increasing possibility in which one country's crisis spills over to other countries. So is the magnitude of damage in such cases. Accordingly, JCR tries to keep up with possible occurrence of management problems at large banks and of asset price consolidations, as well as consequential risk of their international spillover which might cause a declined liquidity across the border. It is desirable to employ statistics of an internationally recognized common standard to analyze such international issues of the financial system.

(6) Economic Policy

The economic policy is a way or a set of measures for the government and the central bank to cope with various policy objectives for the national economy. It is analyzed from the standpoint if it is effective and sustainable, starting with the policy recognition itself at relevant authorities.

The way of policy recognition at the government and the central bank makes the first issue for the analysis. A proper recognition of current policy challenges help establish a foundation to take appropriate policy measures to handle them. So is a strong commitment. The second comes the examination of respective policies in detail, checking if they are consistent to each other and if they are effective. The degree of their flexibility in policy implementation is also reviewed in the record. Finally, the sustainability of the policies is evaluated based on the records of their implementation, public support thereto, and international environment at the time, etc. The records of success to overcome economic and financial crises in the past give some credential to the authorities about sustainability of their policies. If the administration changes, the predictability of policies still can sustain, provided they have public support on the back of an advanced political system. Uncertainty arises over the sustainability of policies, on the other hand, when there is a problem at the administration over succession or the concentration of power. It is also necessary to check fully whether the policies are justifiable in the given

international environment.

(7) International Relations

International relations are examined if there is stability and if there is presence or degrees of credit enhancement from political, economic and security perspectives. From the political perspective, firstly, the country's existing positioning in the international society is assessed. It is important to check how the country is internationally recognized or if the country has established political relationships in some multilateral framework. From the economic perspective, assessment is made how the country has a ground on which it can conduct international trades and finance without restriction. From the security perspective, the country's geopolitical situation is analyzed, in particular if there is any disadvantage in carrying out the economic activity, such as a risk of war. Meanwhile, regional integrations such as EU or NAFTA as well as international organizations are also taken into consideration, if the country has some arrangement with them, and depending on the actual conditions of such arrangement.

4. Country Ceiling

A country ceiling reflects JCR's assessment of authorities' likelihood to impose restrictions on foreign currency transactions made by a corporate entity in the country to fulfill its debt obligations, such as conversion of local currency into foreign currency and remittance of foreign currency outside the country. It serves as a maximum limit for the entity's foreign currency rating and in most cases is higher than the sovereign foreign currency rating.

A country ceiling only applies to a foreign currency rating. This is mainly because authorities generally have limited capability to procure or issue foreign currency as compared to local currency. Therefore, authorities sometimes impose restrictions on foreign currency transactions of an entity in the country when they run into difficulties financing repayment of its debt in foreign currency.

A country ceiling will be determined, based on the overall assessment of the currency in circulation, foreign exchange regime, trade settlement and capital control, economic policies and foreign debts as well as responses to crises. In most cases, a country ceiling will be increased by zero-three notches from the sovereign foreign currency rating. However, countries like the US and Japan or in the Euro area may not come under the above criteria mainly because they adopt hard currencies and therefore have only limited likelihood to restrict foreign currency transactions.

In most cases, a country ceiling is a maximum limit for the foreign currency rating of an entity in the country. However, there may be some exceptions when agreements are in place among countries such as multilateral development banks and when strong support is provided to the entity by its parent company outside the country.

II. Public Sector Entities

1. Credit Rating Methodology

For the rating of government-affiliated institutions such as state-owned banks and enterprises, JCR gauges the strength of their relationship with the relevant government by reviewing if they have legal support, their importance in the government's industrial policy, etc., and judges to what extent the government's creditworthiness should be reflected in their ratings. At the same time, JCR analyzes and assesses the financial position and business risks of such entities to draw the judgment. As a result, ratings on public sector entities can be equal to or lower than those of the relevant government. This rating methodology is applied to foreign public sector entities.

2. Key factors in the evaluation

JCR measures the strength of relationship between the public entity and the relevant government from various angles, with attaching importance to the following five factors. Each factor has its own evaluation weight. Basically, JCR considers that factor (1) weighs most among the five factors below, but such weightings are not strictly fixed. When appropriate, JCR may change the weights depending on types and situations of the entities reviewed.

(1) Strength of legal protection including regulatory protection

If government protection of a public sector entity is stipulated under legislation including the law for its inception, that can be a positive factor in assessing the strength of its relationship with the government. Such protection may include, for example, (i) explicit guarantees by law, (ii) government support defined by law, and (iii) laws to provide budgetary support such as operational subsidies, official loans, and interest payment allowances for bond issues.

In addition, the existence of protective governmental regulations can also be a positive factor in evaluating the strength of the entity's relationship with the government. For example, the government can restrict new market entry with a licensing system to control competition in the domestic market. It is also necessary to foresee future of the government's regulatory moves. The forecast takes into consideration matters such as the regulatory authority's policy towards privatization, and the external environment and the existence of social or political organizations which may influence the authority's policies.

(2) Strength of government support other than the above-mentioned

It is also necessary to analyze the measures for credit enhancement by way of economic and regulatory supports by the government, which does not necessarily have clear legal grounds such as a founding law. Such supports may include: (i) explicit guarantees not based on any legislation, (ii) the government's will to support the entity to fulfill its liabilities in case it falls into a financial difficulty and (iii) an indirect subsidy and assistance in a broad sense such as creation of a general economic and social environment that can contribute to enhancing the credit quality of the entity. With regard to the government supports other than explicit guarantees, it is important how the government sets up and maintains the overall regulatory, economic and political environment. In that case, it is necessary to analyze whether the government has capacity and will to create a business environment to the future managerial advantage of the entity.

(3) Strength of capital relationship

If the government intends to continue holding an equity stake in a public sector entity, that can be evaluated positively in assessing its relationship with the government as it may indicate the government's will to maintain its power to control the management of the entity. However, it should be noted that the government's equity holding does not necessarily mean it is fully responsible for the entity's obligation of debt payment. If the government holds more than 50% of the entity's shares, it is generally considered more likely than not to intervene in its management when it falls into a financial difficulty, as compared to the case where a government stake is less. This may not be the case all the time, however.

Also important is the purpose of government's equity holding. For example, if it is to prevent foreign companies from controlling the entity, it can be expected that the government will promote policies to protect the entity's market and keep its business environment secured. Furthermore, it is necessary to check if the government has plans to privatize the entity or change the shareholding ratio.

(4) Importance in the government's industrial policy

It is necessary to analyze the importance of a public sector entity in light of the government's national policies including energy policy, industrial policy, social security policy and defense policy. If the entity is given a greater importance, that can be positively evaluated, in assessing the strength of its relationship with the government or vice versa.

(5) Strength of personnel relationship with government

A public entity's strong personnel relationship with the government can be positively evaluated in assessing the strength of its relationship with the government. If the government participates in the management of the entity or it has the power to appoint management of the entity, it is necessary to check whether there is any legal ground for it.

In assigning the credit standing of a public sector entity, JCR judges the strength of its relationship with a government by analyzing and evaluating the above-mentioned five factors. However, it should be noted that the entity's strong relationship with the government can be a negative factor from the viewpoint of creditworthiness on the basis of its financial and operating performance. For example, a high government equity stake can be an impediment to the entity's efforts to enhance its management efficiency and run its business in keeping with market principles. It can also lead to moral hazard. In addition, a regulation that restricts investment in the entity by foreign companies can be a negative factor in a long-term perspective as it may restrain its overseas fund raising. Therefore, a comprehensive evaluation based on all these factors is required in the final phase of the rating process for a government-affiliated entity.

Exhibit 2-4 Rating Assessment and in-house financial evaluation system

Rating Assessment and in-house financial evaluation system

JCR conducts rating assessment on the ground of all available information about the issuer or any other object entity, which is obtained from the entity itself as well as other sources. They collect not only the issuer-specific information but also the one which belongs to its business environment. JCR usually requires the issuer submission of all the disclosure documents and relevant published materials as well as some non-public information in the area of planning, new products, etc. As a rule, after the assigned analysts have exercised thorough examination on the numbers and information thus accepted, JCR gives management interviews, often by visiting the premises of the issuer, for the purposes of verification, clarification and augmentation of the given information and the resulted initial assessment.

To each case JCR applies the standard set of credit analysis employing quantitative, qualitative and statistical methodologies. Analysts have intranet access to the internal database and financial evaluation systems for their analytical works and reference on their desktops. They also make inputs from their research, and derive various financial ratios, graphs and charts that allow them to “eye-ball” the issuer’s relative standing in the categories of industry and credit rating, as well as along the historical trends. The credit rating database covers macro, industrial and publicized corporate information; of historical records of bonds and other financial instruments; and JCR ratings including their historical migration and average rates of default by rating category; as well as clients and relating news and reports.

JCR maintains statistical credit models of its own development. Analysts are required to run them on each case to come up with the estimated probabilities of default on cumulative basis from one to several years of near future. The result of model rating, which is denoted by regular JCR rating symbols assigned by the computer on the basis of the probability of default and the historical study of defaults, makes a part of the documentation that analysts prepare for the presentation in the Rating Committee. The model rating does not necessarily coincide with the analyst judgment and they are responsible to defend their cases in the Committee meetings whenever the discrepancy happens.

Exhibit 2-5 External data sources used in the rating assessment

External data sources used in the rating assessment

List of external data sources

External Data Sources	Department	Usage
Toyo Keizai Inc.	Corporate Rating Dept.	"JCR Indicators" (A spreadsheet displaying information derived from financial statements and financial ratios) Comparison sheet of financial ratios (with other entities in the same industrial sector and in the same rating category) Comparison sheet showing ranking by financial ratio
Kinyutosyo Consultant Corp. "Nationwide Shinkin Bank Financial Statements"	Financial Institution Rating Dept.	Same as above.
Kinyutosyo Consultant Corp. "Nationwide Shinyo Kumiai Bank Financial Statements"	Corporate Rating Dept.	Same as above.
EIU Data Services	International Dept.	"Economic, Fiscal and External Indicators" used for sovereign credit rating analyses
IMF International Financial Statistics and other statistics	International Dept.	Same as above.
CEIC Data Company Ltd.	International Dept.	Same as above.
World Bank Global Development Finance	International Dept.	Same as above.
OECD Economic Outlook	International Dept.	Same as above.
Bankscope	International Dept.	Financial data used for rating analysis of financial institutions

Exhibit 2-6 Rating Committee Rules**Rating Committee Rules****Article 1 General Rules**

1. JCR shall establish the Rating Committee (hereinafter referred to as the “Committee,”) in accordance with Article 5 of the Organization Rules.
2. The Committee may hold more than one meeting simultaneously, if required.

Article 2 Purpose

The purpose of the Committee shall be to consider and determine credit ratings in relation to the credit rating business (including the credit rating outlook, and credit monitor and its likely direction of a credit rating. The same shall apply hereinafter).

Article 3 Definitions

In the Rating Committee Rules (hereinafter referred to as the “Rules”), the following definitions shall be used:

- (1) General Manager of Rating Department/Division (Department/Division hereinafter “Department”): the general manager of departments in charge of credit ratings set out in the Organization Rules (excluding the SME Rating Division)
- (2) Responsible General Manager: a general manager of the department that is in charge of assigning a credit rating to a subject entity
- (3) General Manager of Department (GMD): a General Manager of the department shall lead and supervise staff members under instructions of the General Manager, and administer the items to be handled by his department.
- (4) Rating Analysts: the chief analysts, senior analysts and analysts described in the Organization Rules
- (5) Responsible Rating Analyst: an responsible credit analyst who is appointed by the General Manager of Rating Department as a person who routinely monitors the credit standing of an issuer and conducts the analysis and assessment necessary for assigning a credit rating (including rating analysts appointed by the responsible manager of rating department as a person who temporarily acts for the assigned credit rating analyst and conducts the analysis and assessment necessary for consideration at the Rating Committee or the Credit Rating Council).
- (6) Chief Responsible Rating Analyst: a chief responsible rating analyst appointed by the general manager of the rating department as the principal responsible rating analyst who has the role of the chief responsible rating analyst set out in Article 295, Paragraph 3, Item 4 of the Cabinet Office Ordinance Concerning the Financial Instruments and Exchange Act (Cabinet Office Ordinance No. 52 of 2007)
- (7) Responsible Rating Director: a Board Member who supervises any rating department/division (department/division that is in charge of assigning credit ratings)

- (8) Credit Rating Business: the credit rating business set forth in Article 2, Paragraph 35 of the Financial Instruments and Exchange Act (Act No. 25 of 1948)
- (9) Credit Ratings: Credit ratings in relation to the credit rating business
- (10) Stakeholder: the stakeholders set forth in Article 66-33, Paragraph 2 of the Financial Instruments and Exchange Act (Act No. 25 of 1948)
- (11) Asset Securitization Products: the asset securitization products set forth in Article 295, Paragraph 3, Item 1 of the Cabinet Office Ordinance Concerning the Financial Instruments and Exchange Act (Cabinet Office Ordinance No. 52 of 2007)
- (12) Rating Committee, Etc.: the Rating Committee or the Credit Rating Council
- (13) The Committee: the Rating Committee

Article 4 Function

1. Credit ratings shall be assigned by resolution of the Committee or the Credit Rating Council in accordance with this Rules and the Credit Rating Council Rules. Issues for consideration in assigning an individual credit rating shall first be submitted to the Committee, and only those issues that were not resolved by agreement at the Committee shall be submitted to the Credit Rating Council.
2. When assigning a preliminary credit rating, the Committee may resolve in advance to use a preliminary credit rating (including a credit rating outlook, and credit monitor and its likely direction of a credit rating. The same shall apply hereinafter) as a final credit rating of a product when the product is actually issued in the future, by designating the preliminary credit rating as the credit rating (the final credit rating) to be assigned when the product is actually issued in the future, on the premise that the chief responsible rating analyst confirms the product design, issue terms and the status of the issuer at the time the product is actually issued and that the Responsible General Manager gives approval (the procedures above set forth herein shall be hereinafter referred to as the “Simplified Method”). To apply the Simplified Method to a credit rating, the criteria set separately shall be met.
3. When assigning a credit rating to an asset securitization product that constitutes a short-term receivable, the Committee may resolve in advance to use a credit rating determined at the time of designation as the credit rating of the individual product when it is actually issued, by designating it the credit rating of the asset securitization product, on the premise that the chief responsible rating analyst confirms the issue terms of the product and the status of underlying assets at the time the individual product is actually issued, that a standardized analytical method is applied, and that the responsible manager of the rating department gives approval (the procedures above set forth herein shall hereinafter be referred to as the “SF Short-Term Stylized Simplified Method”). To apply the SF Short-Term Stylized Simplified Method to a credit rating, the criteria set separately shall be met.
4. When assigning a credit rating to an asset securitization product the credibility of which is effectively linked to a credit rating of a certain corporation, etc. and assigning a credit rating to a structured finance product the credibility of which is effectively linked to the credit rating of a single corporation, etc., the Committee may resolve in advance to use the credit rating of the corporation, etc. to which the credit standing is linked as the credit rating of the product by designating the credit rating as an object of the easy review method based on the Simplified

Method, on the premise that the responsible manager of the rating department grants approval and that certain conditions are met when the credit rating is reviewed (the procedures above set forth herein shall be hereinafter referred to as the “Simplified Method-Based Easy Review Method”). To apply the Simplified Method-Based Easy Review Method to a credit rating, the criteria set separately shall be met.

Article 5 *Constituent Members*

1. The constituent members of the Committee (meaning those who participate in resolutions. The same shall apply hereinafter) shall comprise the Rating Committee members appointed by the Responsible General Manager.
2. The Responsible General Manager or a Rating Committee member appointed by the responsible General Manager shall become the Committee Chairman.
3. Responsible Rating directors and the Compliance Officer may attend the Committee. However, they cannot participate in resolutions.
4. Rating Committee members and Responsible Rating Directors shall not attend the Committee when any of the following applies:
 - A Rating Committee member or a Responsible Rating Director holds securities issued by the stakeholder or derivative instruments of these securities (“Holds” includes cases in which a Rating Committee member can execute a voting right or any other rights or make a demand as a shareholder of the issuer based on a money trust agreement, etc. and cases in which a Rating Committee member has the authority necessary to invest in securities under a discretionary investment contract, etc.)
 - A Rating Committee member or a Responsible Rating Director holds securities or derivatives instruments issued by an associate of the stakeholder (“Holds” includes cases in which a Rating Committee member can execute a voting right or any other rights or make a demand as a shareholder of the issuer based on a money trust agreement, etc. and cases in which a Rating Committee member has the authority necessary to invest in securities under a discretionary investment contract, etc.)
 - A Rating Committee member or a Responsible Rating Director had at any time in the last year or currently has an employment relationship that could cause a conflict of interest with the stakeholder (including a case in which a Rating Committee member was an officer or held an equivalent position) or some other important business relationship with a stakeholder
 - A Rating Committee member or a Responsible Rating Director is a relative of a person who is an officer or holds an equivalent position at the stakeholder (spouse or blood relative or an in-law within the first degree of kinship)
 - A Rating Committee member or a Responsible Rating Director has a personal relationship that could cause an actual or apparent conflict of interest with an officer or an employee of a stakeholder or an agent thereof and the Chief Compliance Officer judges that the

relationship does cause conflict of interest

5. At least one third or more of the Rating Committee members may not participate in a succession of resolutions concerning a credit rating on matters of interest to the same stakeholder. For a credit rating of an instrument other than asset securitization products, when two or more credit ratings are assigned to the same product during the same business year, they shall be regarded as one credit rating. When holding a Committee meeting, persons who should be excluded from the constituent members of the Committee shall be appointed in accordance with the provision above in this Paragraph. (The procedure to exclude persons from the constituent members of the Rating Committee, Etc. shall be hereinafter referred to as the “Rotation”)
6. When requesting the convening of the Credit Rating Council because an agreement was not reached at the Committee (the Committee in this case shall be hereinafter referred to as the “Initial Committee” in this Paragraph), the Initial Committee shall be treated as if it had not met for the purpose of the Rotation at the said Credit Rating Council. The Initial Committee shall also be treated as if it had not met for the purpose of the Rotation at the Rating Committees, Etc. to be held after the said Credit Rating Council.
7. When convening the Committee to reconsider a credit rating, the resolution at the Rating Committee, etc. that conducted the initial consideration (hereinafter referred to as the “Initial Rating Committee, Etc.” in this Paragraph) shall be treated as if it was cancelled, and the Initial Rating Committee, Etc. shall be treated as if it had not met for the purpose of the Rotation at the Committee that makes the reconsideration. The Initial Rating Committee, Etc. shall also be treated as if it had not met for the Rotation at the Rating Committees, Etc. to be held after the Committee that conducted the reconsideration.
8. At least one or more of the Rating Committee members shall have experience in performing credit analysis for not less than three years.

Article 6 *Convocation*

The Committee shall be convened by the responsible manager of the rating department as needed at the request of a Rating Committee member or assigned rating analyst, taking the appropriateness of the Rating Committee members into account.

Article 7 *Matters to Be Submitted to the Committee*

The following shall be submitted to the Committee:

- (1) Matters related to the assignment of a credit rating (including reviews)
- (2) Matters related to the confirmation of a credit rating (limited to those matters which the responsible manager of the rating department deems necessary to submit to the Committee)

Article 8 *Quorum*

The Committee shall come into effect with the attendance of four or more Rating Committee

members.

Article 9 *Points to Be Checked*

1. To commence consideration, the Committee Chairman shall check whether the following conditions are met based on the method separately set forth. If any of the conditions cannot be confirmed (including a case in which the inability to meet a condition becomes apparent after commencing consideration), the Committee shall not proceed.
 - (1) The Rating Committee members and the rating analysts have the requisite knowledge and skills to assign the credit rating.
 - (2) The information used to assign the credit rating is of adequate quality.
 - (3) There is not or could not be a conflict of interest among JCR, the Rating Committee members, Responsible Rating Director attended to the Rating Committee and the responsible rating analysts as to a credit rating, or if there could be a conflict of interest, measures to avoid it are taken.
 - (4) If the design of a product to be considered is markedly different from that of a product that has previously been assigned a credit rating, there is no substantial doubt about the possibility of assigning an appropriate credit rating in consideration of the complexity or design of the product or the lack of clear data on the underlying assets, etc. That the design of an asset securitization product is markedly different from that of an asset securitization product that was previously assigned a credit rating means that the existing rating policies and methodologies, etc. cannot apply as is or that the application of the existing rating policies and methodologies, etc. is considered inappropriate, for instance because the new method of cash flow analysis and new legal consideration becomes necessary.
2. Even if the Committee does not proceed with a credit rating based on the provision of the preceding Paragraph, on the grounds that an actual or potential conflict of interest among the Rating Committee members or Responsible Rating Directors attended to the Rating Committee could not be ruled out and a measure to avoid the conflict of interest could not be confirmed, the Committee shall proceed if it is confirmed through the procedures set forth in the preceding Paragraph that the grounds have subsequently been removed.

Article 10 *Resolution Method*

1. Resolutions at the Committee shall be made by agreement of all attending Rating Committee members.
2. If the agreement is not reached, items on the agenda shall be submitted to the Credit Rating Council. However, if the Chairman deems it necessary, a resolution may be made by a majority of the attending Rating Committee members. In the case of tie vote, the Chairman shall decide. The decision of the necessity shall be made mainly by considering whether it will take time to hold a credit rating council and investors may suffer from such elapsed time to assign the credit rating or not. The decision of the necessity to resolve by a majority vote shall be recorded clearly in the rating committee minutes.

3. In case that a credit rating was determined by the majority vote or the chairman's decision according to the article above, the Chairman shall report the result to the rating council promptly after the rating committee.

Article 11 *Determination of Credit Rating in Emergency*

If the Committee cannot meet as the Rating Committee members are unable to convene due to a holiday, business trip, accident, disaster, or other contingency, and if it is a matter of urgency, a credit rating may be determined by holding the Committee meeting through such methods as telephone and electronic mail at the discretion of the Responsible General Manager. In this case, the Committee shall have a quorum with the participation of three or more Rating Committee members. However, the result of this credit rating shall be subject to the *ex post facto* approval of an ordinary Committee meeting at the earliest opportunity.

Article 12 *Publication, etc.*

1. Procedures for disseminating a credit rating determined in accordance with the preceding two Articles shall be taken after the result is reported by the Responsible General Manager or the Responsible Rating Analyst to the stakeholder designated by rated entities (it may be an arranger in the case of structured finance products, etc.) and procedures for the stakeholder to check whether there is any factual errors in the principal information used by JCR to assign the credit rating (hereinafter referred to as the "Factual Error") are taken.
2. After a credit rating is determined in accordance with the preceding two Articles, the Responsible General Manager shall instruct another assigned rating analyst to conduct a re-examination and convene the Committee for reconsideration if necessary. If the stakeholder simply expresses an objection to the credit rating result, the re-examination and the re-consideration shall not be conducted.

Article 13 *Acting Officers*

For the procedures set forth in Article 4, Article 6, Article 11 and Article 12, Paragraph 1 of the Rules, if the Responsible General Manager is absent, a General Manager of another rating department or a GMD of the rating department shall act in his/her stead, and if the chief responsible rating analyst is absent, the responsible General Manager or the chief analyst appointed by the responsible General Manager shall act in his/her stead.

Article 14 *Secretariat*

A secretariat shall be set up in the Credit Rating Administration Division.

Article 15 *Revision and Rescission*

Revisions to, and the rescission of, the Rules shall be carried out by the Board of Directors.

Supplementary Provisions

Introduced on April 1, 1985
Revised on April 1, 1995
Revised on April 1, 1997
Revised on May 20, 2004
Revised on April 28, 2005 and enacted on May 31, 2005
Revised on May 9, 2005 and enacted on May 31, 2005
Revised on December 11, 2008
Revised on October 7, 2009
Revised on July 22, 2010 and enacted on July 30, 2010
Revised on March 26, 2012
Revised on December 19, 2012
Revised on June 19, 2015
Revised on November 18, 2016

Exhibit 2-7 Disclosure of Procedures and Methodologies

The following is corporate Internet Web site address which contains more information about procedures and methodologies.

<http://www.jcr.co.jp/en/rinfo>