



# Procedures and Methodologies for Determining Credit Ratings

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Version 10

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Egan-Jones Ratings Company, Inc. (“Egan-Jones” or “EJR”) is a credit rating agency established in 1995. Privately owned and operated without affiliation to any financial institution, Egan-Jones is respected for its timely, accurate evaluations of credit quality.

Egan-Jones ratings and research are available via e-mail, its website, and other distribution platforms. EJR is committed to continuously refining its expertise in the analysis of credit quality and is dedicated to maintaining objective and credible opinions within the global financial marketplace.

(This document replaces the prior NRSRO Form Exhibit 2 General Description of the Procedures and Methodologies to Determine Credit Ratings dated July 20, 2018.)

### SEC Requirements

A general description of the procedures and methodologies used to determine credit ratings. The description must be sufficiently detailed to provide users of credit ratings with an understanding of the processes employed in determining credit ratings, including, as applicable, descriptions of: policies for determining whether to initiate a credit rating; a description of the public and non-public sources of information used in determining credit ratings, including information and analysis provided by third-party vendors; whether and, if so, how information about verification performed on assets underlying or referenced by a security or money market instrument issued by an asset pool or as part of any asset-backed or mortgage-backed securities transaction is relied on in determining credit ratings; the quantitative and qualitative models and metrics used to determine credit ratings, including whether and, if so, how assessments of the quality of originators of assets underlying or referenced by a security or money market instrument issued by an asset pool or as part of any asset-backed or mortgage-backed securities transaction factor into the determination of credit ratings; the methodologies by which credit ratings of other credit rating agencies are treated to determine credit ratings for securities or money market instruments issued by an asset pool or as part of any asset-backed or mortgaged-backed securities transaction; the procedures for interacting with the management of a rated obligor or issuer of rated securities or money market instruments; the structure and voting process of committees that review or approve credit ratings; procedures for informing rated obligors or issuers of rated securities or money market instruments about credit rating decisions and for appeals of final or pending credit rating decisions; procedures for monitoring, reviewing, and updating credit ratings, including how frequently credit ratings are reviewed, whether different models or criteria are used for ratings surveillance than for determining initial ratings, whether changes made to models and criteria for determining initial ratings are applied retroactively to existing ratings, and whether changes made to models and criteria for performing ratings surveillance are incorporated into the models and criteria for determining initial ratings; and procedures to withdraw, or suspend the maintenance of, a credit rating. Market participants are provided the opportunity to comment on the methodologies through the EJR’s website (publicly available) for EJR’s consideration.

## Table of Contents

Introduction and Overview .....	1
Limitations and Disclaimers .....	3
Credit Rating Types .....	4
Rating Processes, Procedures and Policies .....	5
Rating Review and Ratings Review and Policy Committee .....	6
Non-Public Information .....	8
Issuer and Client Appeals.....	8
Initiating, Monitoring, Reviewing and Updating Ratings .....	8
Withdrawing Coverage .....	9
Country Risk Issues .....	9
Corporate Governance Issues.....	9
Business and Industry Risk Issues .....	9
Business Risk Profile.....	9
Major Considerations for the Rating Analysis.....	10
Industry Profitability and Cash Flow .....	11
Industry Competitive Conditions .....	12
Industry Stability .....	12
Industry Regulation.....	12
Other Industry Considerations.....	12
Financial Risk Issues .....	13
Overview .....	13
Earnings.....	14
Cash Flow and Coverage .....	14
Balance Sheet and Financial Flexibility Considerations .....	14
Rating the Security.....	16
Additional Comments relating primarily to Corporate Obligors.....	16
Additional Comments Related Solely to Financial Obligors.....	17
Additional Comments Related Solely to Insurance Obligors .....	18
Sovereign and Structured Finance (Non-NRSRO Ratings) .....	19
Sovereign Rating Methodology (Non-NRSRO).....	19
Sovereign Rating Model – Key Variables and Ratios .....	23

Structured Finance Rating Methodology (Non-NRSRO) ..... 24

    Major Considerations..... 24

    Overview ..... 24

    Key Steps in Structured Finance Rating Process ..... 26

    RMBS Rating Model: Key Variables..... 28

    CMO and CDO Rating Model: Key Variables..... 29

Copyright and Disclaimer ..... 30

APPENDIX 1 EGAN-JONES’S RATING PHILOSOPHY ..... 31

    THE DEFINITION OF A “RATING” ..... 31

    STABLE RATING PHILOSOPHY ..... 31

    HIERARCHY PRINCIPLE ..... 32

    QUALITATIVE AND QUANTITATIVE CONSIDERATIONS ..... 32

APPENDIX 2 DEFINITION OF ISSUER RATING ..... 33

APPENDIX 3 GUARANTEES, SECURITY, AND OTHER FORMS OF EXPLICIT SUPPORT ..... 34

    GUARANTEES ..... 34

    KEEP-WELL AGREEMENTS..... 35

    FINANCIAL INSTITUTION SUPPORT AGREEMENTS ..... 35

    COMFORT LETTERS ..... 35

    COLLATERAL, SECURITY AND OTHER SURPPOINT ..... 36

APPENDIX 4 RATING HOLDING COMPANIES AND THEIR SUBSIDIARIES..... 37

    GROUP I – HOLDCO RATING EQUALS GROUP RATING ..... 38

    GROUP II – HOLDCO RATED LOWER ..... 40

    GROUP III – HOLDCO RATED HIGHER..... 41

    GROUP IV – CORPORATE IMPACT ON SUBSIDIARIES..... 42

    GENERAL CONSIDERATIONS FOR HOLDING COMPANY RATINGS ..... 44

        RATIONALE..... 45

        STRUCTURE ..... 45

        QUALITATIVE..... 46

        FINANCIAL STATEMENTS..... 47

APPENDIX 5 PREFERRED SHARE AND HYBRID CRITERIA FOR CORPORATE ISSUERS ..... 48

APPENDIX 6 CREDIT RATING SYMBOLS, NUMBERS, OR SCORES ..... 52

APPENDIX 7 TESTING OF RATING METHODOLOGIES AND RATING MODELS ..... 57

APPENDIX 8 NON-SUBSCRIPTION RATINGS .....	58
APPENDIX 9 EQUIPMENT LEASE AND LOAN METHODOLOGY .....	59
INFORMATION FOR RATINGS.....	61
APPENDIX 10 FUND METHODOLOGY.....	63
ADDITIONAL NOTES .....	65
APPENDIX 11 PROJECT FINANCE & INFRASTRUCTURE .....	67

## Introduction and Overview

This document (the Methodology) aims to provide a general description of the procedures and methodologies used to determine credit ratings; EJR consider ratings to be a short-hand means of expressing its opinion of the creditworthiness of an obligor, a specific class of financial obligations, or a specific financial program (including ratings on medium-term note programs and commercial paper programs). (See Appendix I – Egan-Jones Rating Philosophy). Note, the Methodology is a general description which applies to all types of obligations; where there is a lack of specificity in this Methodology, EJR will use its best judgement in assigning ratings. Where appropriate, EJR takes into consideration the creditworthiness of guarantors, insurers or other forms of credit enhancement, and takes into account the currency in which obligations are denominated. An EJR credit rating is not a recommendation to purchase, sell, or hold a financial obligation. EJR's credit ratings are based on information obtained by Egan-Jones from other sources it considers to be reliable.

EJR is a "Nationally Recognized Statistical Ratings Organization" (NRSRO) for its ratings of general corporate, financial institution and insurance sector firms. EJR does not have NRSRO status for its sovereign ratings and structured finance ratings.

EJR's credit ratings are based on the likelihood of payment, capacity and willingness of the obligor to meet its financial commitment on an obligation in accordance with the terms of the obligation, the nature of and provisions of the obligation, the protection afforded by and relative position of the obligation in the event of bankruptcy, reorganization or other arrangement under the laws of bankruptcy, and other laws affecting creditors' rights.

EJR's credit ratings are expressed in terms of default risk and pertain to the senior obligations of an entity. When junior obligations are rated, they are typically rated lower than senior obligations to reflect their lower priority in bankruptcy. Such differentiations appear when an entity has both senior and subordinated obligations, secured and unsecured obligations, or operating company and holding company obligations.

Egan-Jones methodologies provide issuers, investors and other market participants with additional insight into the rationale behind Egan-Jones' rating opinions in a transparent fashion. In addition to general business and financial risk considerations, this methodology reviews a number of rating considerations used in the Egan-Jones analysis.

In general terms, Egan-Jones ratings are opinions that reflect the creditworthiness of an issuer, a security or an obligation. They are opinions based on an analysis of historical trends and forward-looking measurements that assess an issuer's ability and willingness to make timely payments on outstanding obligations (whether principal, interest, dividend or distributions) with respect to the terms of an obligation.

Egan-Jones rating methodologies include consideration of general business and financial risk factors applicable to most industries in the corporate sector as well as industry-specific issues, regional nuances as well as other more subjective factors and intangible considerations. Egan-Jones' approach is not

based solely on statistical analysis but includes a combination of both quantitative and qualitative considerations.

The considerations outlined in Egan-Jones methodologies are not intended to be exhaustive. In certain cases, a major strength can compensate for a weakness and, conversely, there are cases where one weakness is so critical that it overrides the fact that the company may be strong in most other areas.

Egan-Jones rating methodologies are underpinned by a stable rating philosophy, which means that in order to minimize the rating changes due primarily to economic cycles, Egan-Jones strives to factor the impact of a cyclical economic environment into its rating as applicable. Rating revisions do occur, however, when it is clear that a structural change, either positive or negative, has transpired or appears likely to transpire in the near future.

As a framework, Egan-Jones rating methodologies consist of several components that together form the basis of the ultimate ratings assigned to individual securities. Assessments typically include the industry's business risk profile, the company's general business risk profile, the company's financial risk profile and considerations related to the specific security.

Business risk and financial risk profiles are often inter-related. The financial risk for a company must be considered along with the business risks that it faces. Egan-Jones does not have any set weightings for how these risks are considered in the final rating.

Egan-Jones' public methodologies are available on the Egan-Jones website, and in this internal methodology, the section entitled Rating the Security notes some of the key criteria areas that often apply to corporate ratings.

There are two major considerations that can have a meaningful impact on an individual company in most industry ratings: country risk and corporate governance (which includes management). These areas tend to be regarded more as potential negative issues that could result in a lower rating than otherwise would be the case.

In most cases, Egan-Jones' focus on the two areas is to ensure that the issuer in question does not have any meaningful challenges that are not readily identifiable when reviewing the other business and financial risk considerations.

## Limitations and Disclaimers

All EJR credit ratings and published methods are subject to certain limitations and disclaimers.

**Information:** Adequate information must be available to reach a view on the creditworthiness of the issuer, entity, or transaction in question. This includes publicly available information on the issuer, such as company financial and operational statistics, reports filed with regulatory agencies, and industry and economic reports. In addition, the rating process may incorporate data and insight gathered by EJR. If the available information appears insufficient to form a rating opinion, EJR may decide not to assign or maintain a credit rating.

**Audit:** Egan-Jones does not perform an audit in connection with any credit rating and may rely on unaudited financial information.

**Usage:** EJR's ratings remain its property at all times, and EJR has full discretion to determine if and when to withdraw a rating. Thus, EJR can choose to withdraw a rating at any time and for any reason, for example, due to a lack of information or a lack of market interest.

**Methods:** EJR does not intend to assume, and is not assuming, any responsibility or liability to any party arising out of, or with respect to, its published ratings methodology. Its ratings methodology documents are not intended to and do not form a part of any contract with anyone and no one shall have any right (contractual or otherwise) to enforce any of their provisions, either directly or indirectly. At its sole discretion, EJR may amend its ratings methodology documents and the processes described therein in any way and at any time as EJR may elect.

**Disclosure of Ratings:** Egan-Jones follows the applicable regulatory rules and requirements for the disclosure of ratings. Rating definitions and the terms of use of such ratings are available on the firm's website at [www.EGAN-JONES.com](http://www.EGAN-JONES.com). Published ratings, criteria, and methodologies are available from this site. Policies and procedures concerning conflicts of interest and other relevant topics are also available from this site.

Market participants are provided the opportunity to comment on the methodologies through the EJR's website (publicly available) for EJR's consideration.



## Credit Rating Types

**Commercial Paper or Short-term Ratings:** “Commercial paper” or “short-term” ratings are assigned to those obligations considered short-term in their relevant markets. In the U.S., for example, that means obligations with an original maturity of no more than 365 days (including commercial paper). Short-term ratings are also used to indicate the creditworthiness of an obligor with respect to possible "put" features on long-term obligations. Such cases result in a dual rating in which the short-term rating addresses the inherent 365-day "put" feature, in addition to the usual long-term rating. The short-term ratings are derived from the current senior rating adjusted for short-term debt net of cash compared to market capitalization. If the “net” short-term debt is minimal compared to the issuer’s market capitalization, the short-term rating is adjusted upwards to reflect the belief that risk is reduced. Medium-term notes are assigned long-term ratings.

**Long-term Ratings:** In regard to long-term ratings, EJR's “current” rating for long-term obligations indicates EJR's opinion of credit quality over the next 6 to 12 months, while EJR's "projected" rating applies for longer periods and is provided optionally. Where there may be a major corporate event - such as a merger, acquisition or share repurchase - the projected rating applies in part to credit quality after the event. For example, if an obligor is currently rated “BBB,” and post-merger might be rated “A,” EJR's projected rating might be set at “A-” to reflect the possibility that the transaction does not close. If EJR's certainty regarding future events is particularly low, EJR may reflect that higher level of uncertainty by not issuing a projected rating. EJR may also choose not to present a project rating in some cases.

EJR derives its “watch” assignments from the differences between current and projected ratings. No difference between the two is reflected in a “stable” watch. Higher projected rating results in a “positive” or “POS” watch. Lower projected rating results in a “negative” or “NEG” watch. The absence of a projected rating is denoted by a “developing” or “DEV” watch or no watch being populated.

EJR “local” and “foreign” currency ratings pertain solely to non-NRSRO sovereign and structured finance ratings, where cross-border holdings are more common. See the "Sovereign Rating Methodology," below, for related definitions and methodologies.

## Rating Processes, Procedures and Policies

EJR follows standardized procedures for conducting analysis and rating committees. What follows summarizes EJ's credit rating processes, procedures and policies.

**Proprietary Models:** EJ uses proprietary models to obtain preliminary assessments of issuer credit quality. EJ uses the same model, but applying different "industry credit ratios" for its corporate, financial institution, and insurance company ratings. For sovereign ratings, the model is not a substantial component in the process for determining the credit rating because numerous qualitative factors are more important; see the **Sovereign** Ratings Methodology section. Structured finance ratings use different models for different types of issues; see the Structured Finance Rating Methodology section.

**Peers:** For corporate, financial institution and insurance ratings, EJ compares issuers to other similar companies or "peers" applying metrics that are relevant for making basic assessments of issuer credit quality. Peer selections reflect judgments about the most comparable firms. If a rating report on an issuer was previously published, the model lists the peers shown in the prior report. Analysts may revise or select other peers in order to improve peer comparisons or if a particular peer has been acquired or restructured. Peer revisions do not alter the industry credit ratios used in the model. In cases where an issuer has exceptional or unique qualities it may be difficult to identify or select appropriate peers and other expert analysis is used to arrive at a rating.

**Information Sources:** The first step in the ratings process is to acquire information about the issuer. For publicly-traded issuers, EJ uses financial information from publicly available and recognized reliable sources such as Edgar, IMF, and others. EJ may also use the data provided from clients directly. EJ's model synthesizes the updated current information about the issuer with EJ's previously compiled data and produces an initial implied rating.

**Qualitative and Quantitative Models and Metrics and Credit Quality Ratios:** EJ analysts apply their best judgment, based on their expertise and experience, to arrive at a rating. Models alone, while very useful, cannot completely accurately capture current or projected credit quality. EJ's model usually generate financial data and "implied ratings." EJ's projections, when utilized, factor in expert qualitative judgments as to the likely future performance of an issuer, and reflect expert estimates based upon publicly available information and current market conditions and trends. The elements of projections include assessments of specific industry conditions and general economic trends, issuer behavior and management actions, the creditworthiness of guarantors, insurers or other credit enhancement, the currencies in which the obligations are denominated, the traditional "5C" factors of credit quality (described below), and major corporate events such as mergers, acquisitions or share repurchases. For structured finance issues, the models mainly focus on the default probability and recovery rate of the underlying assets. In cases where timely and accurate data are not available for an issuer, EJ may make best effort estimates and will note such. Assigning ratings involves EJ forming its expert judgments or views about current credit quality and perhaps projected credit quality. Thus, there may be differences between the "implied ratings" generated by the model and the final ratings assigned

by EJR. Rating analysts are required to review the difference between the ratio-implied rating (or “implied rating”) and the assigned rating.

Regarding the credit ratios EJR uses for its analysis, they vary by industry but generally are included in EJR’s rating analysis report. (Note, EJR maintains a copy of the model used to generate credit reports including the ratios and the formulas and weightings of each ratio.) On a periodic basis, the credit quality metrics are adjusted to better reflect the particular market cycle for an industry since many industries are cyclical.

**Assessment Criteria:** Egan-Jones’ rating assessments apply the traditional “5C’s” of credit:

- Character – the integrity of management or in the case of sovereigns, leadership, structure, and policy.
- Capacity – cash flow or liquidity for banks.
- Capital – equity cushion and structure.
- Collateral – support and enhancements of credit.
- Condition – economic and business environment conditions.

Of the 5C’s, Character and Condition are the most subjective. No model can properly capture them. Experiences, and industry and market knowledges, are key.

**Indicative Ratios:** Egan-Jones credit analysis model and reports (excluding structured finance) utilize ratios as indicators of the following:

- (1) The individual credit position of the issuer.
- (2) Analyses of the credit ratios for various credit quality levels.
- (3) A summary of peer issuers for similar industries and market capitalizations.

The implied senior credit rating is derived by comparing an obligor’s position for each credit ratio to industry ratios which as reflect current and prior peer ratios. EJR industry ratios aim to adjust for the cyclicity of particular industries. The credit rating assigned by Egan-Jones reflects its view on future conditions and is not formulaic.

## Rating Review and Ratings Review and Policy Committee

EJR’s rating review follows Commission’s rule 17g-8(d)(1)(x) that an NRSRO rating is reviewed by other analysts, supervisors, or senior managers before a rating action is formally taken (for example, having the work reviewed through a rating committee process), and Commission’s rule 17g-9(c)(2) that at least one individual with an appropriate level of experience in performing credit analysis, but not less than three years, participates in the determination of a credit rating. EJR’s Ratings are reviewed by the Ratings Review and Policy Committee (“RRC”) or by other analysts, supervisors, or senior managers. The RRC is comprised of seasoned rating analysts.

In the case of subscription ratings, generally, a reviewing analyst reviews ratings before publishing. A subsequent RRC review (generally comprised of 3 RRC members) occurs post-publication on a weekly basis as needed: all released reports and ratings of the previous week are reviewed along with changes

in industry ratios for a particular issuer, and differences between the assigned and ratio-implied ratings (e.g., three notches or more). Each RRC member may select items for further discussion, debate or analysis. At the conclusion of the discussion, the RRC votes to either affirm (or not) any ratings. Should a change in rating be required, the Ratings Group will reissue the report, usually within several business days (unless specified), and indicate that the RRC requested a change or qualifier. The RRC maintains minutes to record the identity of those attending the meeting, how each attendee voted, and a summary of the discussion. The Compliance Department ensures that subsequent amended ratings are in fact generated and published in a timely manner. On a periodic basis, the RRC members are requested to make attestations regarding compliance with EJR's Methodologies, expertise to review all credit ratings, and adherence to EJR's policies and procedures to ensure independence of RRC members.

Non-subscription ratings (which often involve private placements) are generally reviewed by the RRC, other analysts, supervisors, or senior managers before a rating action is formally taken. It occurs generally on a daily basis, and may be conducted web-based. To conduct the rating review, the RRC member(s) may provide their votes and comments, if applicable. Comments will be provided if the RRC's decision is different from the analyst's proposed rating. The RRC members may request a meeting for discussion as needed, and the meeting minutes will be provided. In case the rating review is conducted by other analysts, supervisors, or senior managers, if the reviewer disagrees with analyst, that reviewer or analyst may request additional RRC member(s) to review as needed. The RRC reserves the right to review, vote, and override the ratings.

The RRC may invite an alternate RRC member for rating review. If the RRC is not available for any reason such as the RRC members being tainted, absent, or lacking expertise in certain area, ratings will be reviewed by other analysts, supervisors, or senior managers. RRC may also delegate other analyst(s) to perform certain rating review.

A number of RRC members may be involved in a rating review. In case where three members are voting, the majority vote will be used. In the event there is not a majority vote, the median vote of the RRC votes shall be used.

In certain prescribed instances, the RRC members may recuse themselves from the review and voting on specific issuers. Generally, this is because of a carve-out exception from the Firm's Code, or for some other identified conflict of interest, or for any other reasons. In such cases of a recusal, that recusal is documented in the RRC materials or minutes, reviewed by the Compliance Department. The RRC members may own shares in publicly-traded issuers, provided that they have requested and been granted an exception from the Code by the Compliance Department. As part of this exception and in compliance with applicable NRSRO regulations related to conflicts, EJR identifies this conflict and the RRC member is not involved in the rating, approval, or supervision of that issuer's work product and rating. Any exceptions or waivers shall be evaluated and approved by the Compliance Department.

Above rules, including the recusal rules, may apply to the rating analysts and reviewers as well as to the RRC wherever is applicable.

To ensure the independence and objectivity of the rating process, the Ratings Group is required to provide a report to the RRC annually. The report provides information on those cases whereby there has been a significant change of ratings during the year and identifies cases whereby the assigned ratings

differ from the rating implied by the credit analysis models. Via such reviews, the RRC members are provided with an opportunity to ask the Ratings Group detailed questions about the operation of the rating process and to provide input on how the process can be enhanced.

Rating review and essential supporting information shall be documented. The RRC oversees the rating review process to ensure that the rating review is adequate for issuing ratings with quality and integrity. The RRC reports to the Board.

## Non-Public Information

EJR might obtain material non-public information during the process of assigning or reviewing ratings. EJ has strict policies for maintaining such information as confidential.

## Issuer and Client Appeals

Excluding ratings generated for subscribers or private ratings, EJ generally does not provide issuers with their ratings unless requested, whereupon the published rating is provided if the issuer releases EJ from liability related to EJ's rating. If an issuer or a client (subscriber, private placement client, or third-party client, as applicable) disagrees with an EJ rating, EJ requests that they provide written support for their objection including any relevant materials and such information will be shared with the RRC. Depending on the decision of the RRC, EJ might re-issue its rating report.

## Initiating, Monitoring, Reviewing and Updating Ratings

In general, for the majority of corporate credits, EJ's credit analysts review and update ratings on a quarterly, semi-annual, or annual basis, generally triggered by earnings releases. Ratings for the corporate, financial, and insurance issuers are updated on at least an annual basis upon availability of data. EJ's sovereign and structured ratings are updated on an as-needed basis. Ongoing monitoring of current news and events may trigger off-cycle reviews. The Ratings Group has discretion to choose to initiate new coverage on companies deemed by Egan-Jones or clients to be of interest or that appear in news reports and analyses, earnings releases, or other publicly available information. As described above, the firm uses an integrated model which compares the publicly available financial information for both initial and ongoing ratings analyses. The data used in the model are sourced from widely-used data providers which obtain their information from issuers. Since the data-providers have been vetted by numerous users, EJ generally does not independently verify data from well recognized providers. For a private rating, the client may provide the confidential data to EJ.

EJ regularly monitors news events to assess whether developments may impact rated issuers. Additionally, for its corporate, financial industry, and insurance ratings, EJ uses a monthly quantitative screen, the "Rating Change Anticipator" or "RCA" to identify possible changes in credit quality. Issuers with significant changes in their RCA scores are often added to the list of companies for updated

reports. Changes to the underlying model are propagated forward only; EJR generally does not back-rate using updated models drawing on older data.

## Withdrawing Coverage

When EJR decides to drop subscription coverage of an issuer, it publishes a report indicating coverage has been dropped and in most cases, the reasons for such. A withdrawn rating is normally indicated by the symbol “NR” (not rated). In some cases, obtaining financials for the issuer becomes impossible and generating a report becomes difficult. Coverage is often withdrawn when an issuer has not been reported upon for more than three years and for other reasons.

Withdrawal of non-subscription ratings is discussed in Appendix 8 NON-SUBSCRIPTION RATINGS.

## Country Risk Issues

Governments often intervene in their economies and occasionally make substantial changes that can significantly affect a company’s ability to meet its financial obligations. Therefore, considerations include the company’s main location or country of operation, the extent of government intervention and support and the degree of economic and political stability. As such, the sovereign rating itself may in some cases be a limiting factor in an entity’s rating, particularly when the sovereign has a lower rating and the entity does not have meaningful diversification outside its domestic economy.

## Corporate Governance Issues

Effective corporate governance requires a healthy tension between management, the board of directors and the public. There is no single approach that will be optimal for all companies. A good board will have a profound impact on a company. In cases where Egan-Jones believes corporate governance is inadequate, it attempts to flag short-comings.

## Business and Industry Risk Issues

### Business Risk Profile

In many cases, Egan-Jones will determine the issuer rating for an entity (see the Appendix II for the definition of issuer rating) through a three-stage process as shown in the diagram that follows.

In evaluating the issuer, it is useful to consider industry risk issues such as:

- Profitability and cash flow
- Competitive landscape
- Stability
- Regulation

- Other inherent industry considerations

Although there is an overlap in some instances, Egan-Jones has found that considering these five measures in a separate fashion is a useful way of approaching this analysis.

Using the same factors across different industries provides a common base with which to compare the business risks of various industries, even when they are distinctly different. In all cases, Egan-Jones uses historical performance and its own experience to determine an opinion on the future, which is the primary focus.

It is important to note that any ratings for company-specific business and financial risks should not be taken as final issuer ratings. For example, an individual company may fit into the “A” range with respect to the analysis of its business risk, but its financial metrics could be more in the “BB” category. It would be incorrect to believe that the final issuer rating in this case would be either “A” or “BB”. In determining the final issuer rating, both of these two major areas must be considered.

## Major Considerations for the Rating Analysis

### Stage 1: Industry Business Risk Analysis

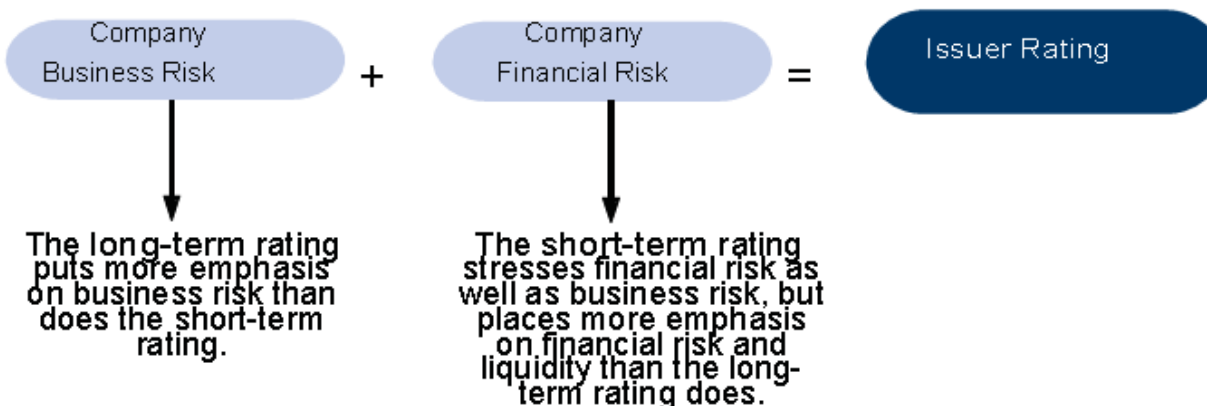
(Consider the overall business risk for the industry)



### Stage 2: Issuer Rating

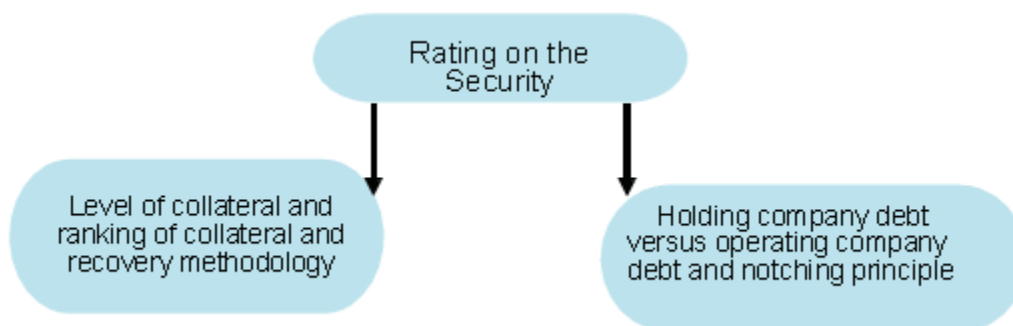
Consider the strength of the individual issuer:

- assess the company’s business risk compared with the industry’s,
- assess the company’s financial risk, and
- combined, these factors will determine the company’s issuer rating.



### Stage 3: Rating the Security

Consider covenant and ranking issues that exist for specific securities, using the issuer rating to determine specific security ratings.



The following provides some examples of the type of aspects that Egan-Jones could consider in the analysis of the five noted areas. All comments in the following sections are for illustrative purposes. The actual areas of consideration will be determined as those that are most applicable to the specific industry and credit being analyzed.

#### Industry Profitability and Cash Flow

- Breadth of product line and product differentiation (commodity versus brand).
- Benefits of economies of scale and size in operations.
- Concentration risk of customers and suppliers.
- Cost and availability of production inputs.
- Labor relations conditions – the likely future availability and cost of labor.
- Organic growth potential of the industry (i.e., expanding or contracting).
- Sensitivity to energy and transportation costs and capital intensity.
- Are costs heavily fixed or variable and which reduced if needed?
- Efficiency of production processes and equipment.



### Industry Competitive Conditions

- The level of barriers to entry into the industry. Is regulation or national security a factor in restricting competition?
- Is the industry dominated by a few large producers or is it fragmented?
- Is unique technology or a unique blend of labor required?
- Does the industry serve local markets, or does it serve national or global markets where it is subject to more competition?

### Industry Stability

- How economy-sensitive are sales and earnings and how much do they fluctuate in a recession?
- Is there any seasonality in sales? Seasonal sales create issues with working capital and short-term debt levels.
- Consider overall industry capacity versus market demand.
- Is it necessary to accumulate large inventories for sales throughout a cycle?
- What is the producer discipline with respect to volume and pricing objectives?

### Industry Regulation

- Is the industry heavily regulated?
- Do trends in regulation create a threat to the targeted credit?
- Does regulation restrict future market entry?

### Other Industry Considerations

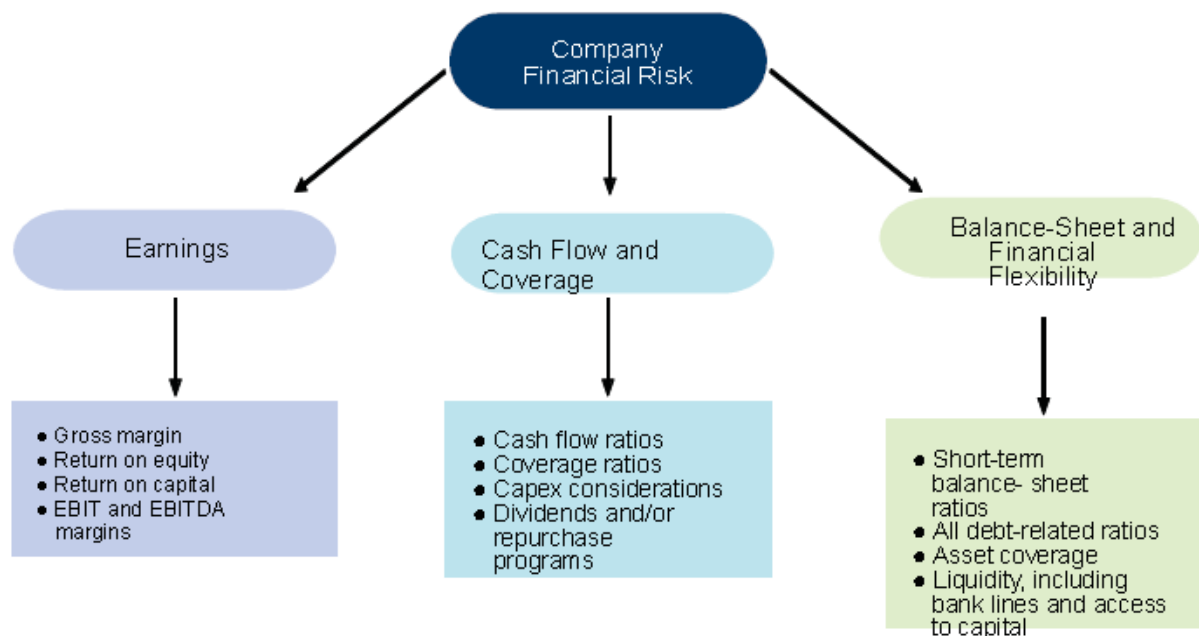
- Buyer Behavior – are buyer tastes changing?
- Technology – does the credit face a threat or opportunity from changes in technology?
- Such as obsolescence, product substitution, labor disputes and change in consumer preference in the industry?
- Shifts in industry players - whether the nature of the industry changes as a result of the entry or exit of major industry participants.

## Financial Risk Issues

### Overview

- The graphic below is a visual display of financial risk profile considerations.
- Adjustments in key ratios for risks related to a variety of areas. In some cases, a relationship with a parent or associated company will also be important.
- While past metrics are important, any final rating will incorporate Egan-Jones’ opinion on future metrics, a subjective but critical consideration.
- The financial ratios for an entity can be influenced by both accounting methods such as Generally Accepted Accounting Principles (GAAP) and International Financial Reporting Standards (IFRS) and therefore might need adjustment.

### Key Financial Risk Metrics



The following financial considerations are typically part of the analysis for corporate credits. Since it is not possible to completely separate business and financial risks, many of the following financial considerations are typically part of the analysis for corporate credits. Since it is not possible to completely separate business and financial risks, many of the following “typical ratios” will relate to both areas. The typical ratios in this section represent some of the more common key metrics used by Egan-Jones for corporate credits, but there will be cases where a ratio may be less relevant for the credit being considered and as such, the ratios identified below should be considered as examples. The Egan-Jones report will provide more information on the ratios that are considered as most important for the individual credit.

## Earnings

Egan-Jones earnings analysis focuses on core earnings or earnings before non-recurring items and, in doing so, considers issues such as the sources, mix and quality of revenue; the volatility or stability of revenue; the underlying cost base (e.g., the company is a low-cost producer); optimal product pricing; and potential growth opportunities. Accordingly, earnings as presented in the financial statements are often adjusted for non-recurring items or items not considered part of ongoing operations.

### Typical Earnings Ratios

- EBIT margin.
- EBIT interest coverage.
- EBITDA interest coverage.
- Net margin.
- Return on equity.
- Return on capital.

## Cash Flow and Coverage

- Egan-Jones cash flow analysis focuses on the core ability of the company to generate cash flow to service current debt obligations and other cash requirements as well as on the future direction of cash flow. From a credit analysis perspective, insufficient cash sources can create financial flexibility problems, even though net income metrics may be favorable.
- Egan-Jones evaluates the sustainability and quality of a company's core cash flow by focusing on cash flow from operations and free cash flow before and after working capital changes. Using core or normalized earnings as a base, Egan-Jones adjusts cash flow from operations for as many non-recurring items as relevant. As with earnings, the impact that non-core factors have on cash flow may also be an important reality.
- In terms of outlook, Egan-Jones focuses on the projected free cash flow, the liquidity and coverage ratios and the company's ability to internally versus externally fund debt reduction, future capital expenditures and dividend and/or stock repurchase programs, as applicable.

### Typical Cash Flow Ratios

- Cash flow-to-debt.
- Adjusted cash flow-to-adjusted debt.
- Cash flow-to-net debt.
- Adjusted cash flow-to-adjusted net debt.
- Debt-to-EBITDA.

## Balance Sheet and Financial Flexibility Considerations

- As part of determining the overall financial risk profile, Egan-Jones evaluates various other factors to measure the strength and quality of the company's assets and its financial flexibility. From a balance-sheet perspective, Egan-Jones focuses on the quality and composition of assets,

including goodwill and other intangibles; off-balance-sheet risk; and capital considerations such as the quality of capital, leverage, asset quality and the ability to raise new capital.

- Egan-Jones also reviews the company's strategies for growth, including capital expenditures and plans for maintenance or expansion, and the expected source of funding for these requirements, including bank lines and related covenants. Where the numbers are considered significant and the adjustments would meaningfully affect the credit analysis, Egan-Jones adjusts certain ratios for items such as operating leases, derivatives, securitizations, hybrid issues, off-balance-sheet liabilities and various other accounting issues.

#### **Typical Balance-Sheet Ratios**

- Current ratio
- Non-monetary working capital
- Inventory turnover (days)
- Debt-to-EBITDA
- Debt-to-capital
- Adjusted debt-to-capital
- Net debt-to-capital

## Rating the Security

With respect to Stage 3 as noted in the first diagram above, the following comments describe how the issuer rating is used to determine ratings on individual securities:

- Egan-Jones uses a hierarchy in rating long-term debt that affects issuers that have classes of debt that do not rank equally. In most cases, lower-ranking classes would receive a lower Egan-Jones rating. For more detail on this subject, please refer to Appendix 1, Egan-Jones' Rating Philosophy.
- In some cases, issued debt is secured by collateral. This is more typical in the non-investment-grade spectrum. In such cases, Egan-Jones evaluates the likely credit support and adjusts its rating to reflect such support.
- For information on guarantees and support, please refer to Appendix 3.
- The existence of holding companies can have a meaningful impact on individual security ratings. For such situations, Egan-Jones more detail on this subject, please refer to the criteria Appendix 4, Rating Holding Companies and Their Subsidiaries.
- For information on preferred and hybrid considerations, please refer to the appendix, Egan-Jones Criteria: Preferred Share and Hybrid Criteria for Corporate Issuers.

## Additional Comments relating primarily to Corporate Obligors

EJR's Corporate Methodology utilizes its overall Methodology described above, the "5C's", and is also forward thinking. In addition to the considerations described in the above paragraphs, EJR attempts to gauge the obligor's ability to adjust to prospective events. Among the questions EJR considers are the following: How dynamic is management and is it adaptable to changing business environmental and economic conditions? How do management decisions affect credit quality? Do mergers actually fit? Potential adverse impacts of stock re-purchases on a company's liquidity position and whether it is financed by cash on hand or does a company have to issue additional debt to achieve the purpose?

From a quantitative perspective, EJR focuses on an obligor's ability to meet debt service obligations and the relative strength of coverage, and the robustness of the cash flow. Past results are not always predictive; most creditors are focused on prospective results. EJR's analysis scores a company's recent results with what is called an "implied rating," and forward projections include the same. However, the "implied rating" only gets one part of the way there. The qualitative factors previously mentioned carry significant weight in determining a company's prospective credit quality.

In the case of announced or likely share repurchases, EJR uses its best judgment to estimate the likely share repurchases over several years and reflects such judgment in the assumptions used for forecasting financial statements. A share repurchase would reduce cash and/or increase debt and reduce shareholders' equity. In the case of merger and acquisition announcement, EJR attempts to determine the expected funding for a pending transaction, and reflect the impact of such funding in its projections. EJR's report normally calculates the combined trailing twelve months (TTM) operating income of the two

firms and their combined TTM interest expense reflecting estimates of additional funding cost. In cases of a share-for-share combination, there would be no transaction-related additional funding costs.

Depending on economic cycles, buyout risks may be a significant concern. In the event of a buyout, credit quality could decline several full letter grades. While buyouts are often difficult to predict, EJR attempts to evaluate the feasibility of a buyout, and in turn, the impact on credit quality and ratings. In performing its buyout analysis, EJR attempts to make reasonable assumptions concerning the cost and availability of funds and any resulting increase in leverage as would impact upon credit quality. The vulnerability to buyouts varies by industry and the potential threat to any particular firm's credit quality may vary dramatically.

Assigned ratings reflect times of economic stress and restricted capital availability. Firms having high operating and financial leverage are often more vulnerable, while utility-type firms are often in better shape. On the other hand, when economic stresses diminish, firms with higher operating and financial leverage often enjoy greater improvement.

EJR's process for assigning ratings are consistent with the EJR Code of Conduct (previously EJR Code of Ethics), Compliance Manual, and documented in detail via EJR's published methodologies and its internal policies and procedures. The Rating Process above addresses EJR's general approach to initiating and monitoring ratings, review by the RRC, and updating of ratings.

## Additional Comments Related Solely to Financial Obligors

The Egan-Jones finance rating methodology revolves around the traditional

"CAMEL" analysis employed by seasoned bank analysts over the decades. Those characteristics are:

- Capital – equity cushion that is not diluted by unreserved, nonperforming assets.
- Asset Quality – the quality of the financial institutions assets typically measured by the lack of non-performing assets, nonaccrual assets, and corresponding reserve coverage. Typically, EJR considers restructured loans (as oppose to simple refinancing) in reserve coverage ratios.
- Management – the integrity of management including business practices, quality of public disclosures, and corporate governance.
- Earnings – the level of earnings and most importantly, the quality of earnings.
- Liquidity – asset liquidity in effect (i.e., the measure of how long an institution can last in a period of distress and its ability to quickly liquidate assets to meet obligations).

Excluding "Management," the above characteristics are primarily quantitative characteristics but each has some qualitative components. In the case of asset quality, the level of reserve coverage and the institution's success in restructuring loans are relevant to overall asset quality.

Earnings are another factor that has some qualitative characteristics. Institutions that do not attempt to manage earnings are generally viewed favorably. EJR heavily stresses a bank's quality of earnings.

Where there is organic profitability growth or is profitability generated through nontraditional banking activities or outright accounting gymnastics.

The quality of a financial institution's management team can be determined by the quality of the results as well as the timeliness and thoroughness of public disclosures. Weak management teams tend to employ high levels of "window dressing" to give the illusion of profitability. Also, financial institutions which significantly under-reserve or which are quick to reclassify loans to performing are generally viewed negatively.

In asset quality-related issues, EJR applies a strict reserve coverage rule. Typically, if a bank's coverage of non-performers (including past dues and restructured credits) is lower than 90% it is viewed negatively. Reserve shortfalls do dilute a bank's equity, and EJR looks at the true capital picture (including equity dilution if any) of a bank and makes its assessment accordingly.

On Capital, EJR considers whether a bank can organically grow capital and whether real earnings are sufficient for adequate internal capital generation.

EJR's process for assigning ratings are consistent with the EJR Ratings Code of Conduct and documented in detail in a combination of the EJR's published methodologies and its internal policies and procedures. The Rating Process above addresses EJR's general approach to initiating and monitoring ratings, review by the RRC, and updating of ratings. To ensure the independence and objectivity of the rating process, the chief credit officer (CCO) is required to provide a report to the RRC of EJR annually. The report provides the members an opportunity to ask the CCO detailed questions about the operation of the rating process and to provide input on how the process may be enhanced.

## Additional Comments Related Solely to Insurance Obligors

Egan-Jones takes the view that insurance obligors have the characteristics of both corporate and financial institution obligors. Like corporate obligors, insurance firms must properly manage their books of business so as to maintain and enhance their business positions and properly charge for the insurance they issue. Like financial obligors, the quality of assets and liabilities is critical to insurance companies to ensure that obligations can be met on a timely basis. The largest recent failures in the insurance industry have been attributed to less diversified and poorly assessed risks associated with structured assets.

Egan-Jones views claims-paying obligations as senior to senior unsecured debt obligations. In the event of financial stress, state insurance regulators (the primary regulators for insurance firms based in the US) will customarily treat claims holders as senior to debt holders. Furthermore, based on its actions in the Ambac case, the Wisconsin regulator treated the holders of credit default obligations as subordinated to the holders of Ambac's traditional product of municipal bond insurance. It is not apparent that the unequal treatment was caused by a retail / institution split, since the holders of both types of insurance were heavily represented by institutional investors. Perhaps the more relevant distinction is that one type of insurance (mortgage and credit default support) was underpriced and under-reserved, while municipal debt obligations experienced minimal defaults.

The duration or tenor of claims (and thus claims paying ability) can be, but is not always, shorter than for senior unsecured debt. Basically, it depends on the type of claim. In the event of an insurance company's financial collapse, however, the state regulators overseeing rehabilitation process will treat holders of insurance in a manner senior to that of debt holders.

In rating claims-paying ability, EJR adjusts its initial senior unsecured rating to reflect financial flexibility. The ratings categories are the same as those used for the senior unsecured ratings.

EJR's method for assigning ratings is consistent with the EJR Ratings Code of Conduct and documented in detail in a combination of the EJR's published methodologies and its internal policies and procedures. The Rating Process above addresses EJR's general approach to initiating and monitoring ratings, review by the RRC, and updating of ratings.

## Sovereign and Structured Finance (Non-NRSRO Ratings)

As part of a settlement offer, Egan-Jones agreed to the revocation of its NRSRO registrations for the classes of (a) issuers of asset-backed securities and (b) issuers of government, municipal and foreign government securities. Egan-Jones consented to the issuance of the Order by the Commission, without admitting or denying the findings set forth in the Order. The firm's prior ratings for Sovereign and Structured Finance debt are separated on its website to clearly indicate that the ratings are non-NRSRO. EJR will continue to rate Sovereign and Structured Finance debt but such ratings will be clearly marked as non-NRSRO.

Egan-Jones expects to reapply for NRSRO licenses to rate Sovereign and Structured Finance debt after eighteen months. Egan-Jones NRSRO status licenses for Corporate, Financial Industry and Insurance Companies are not affected by the settlement of the regulatory action.

## Sovereign Rating Methodology (Non-NRSRO)

**Scope and Limitations:** Sovereign Issuer Credit Quality Ratings (CQR) are a forward-looking assessment of a sovereign's capacity and willingness to honor its existing and future obligations in full and on time. Sovereigns are assigned two CQRs: a Local-Currency CQR, which reflects the likelihood of default on debt issued and payable in the currency of the sovereign, and a Foreign-Currency CQR, which is an assessment of the credit risk associated with debt issued and payable in foreign currencies.

**Key Rating Drivers:** EJR's approach to sovereign risk analysis is a synthesis of quantitative and qualitative judgments. The quantitative factors EJR uses are:

- Debt in relation to GDP.
- Surplus or deficit in relation to GDP.
- Debt plus potential under-funding of major banks in relation to GDP.



- Interest expense in relation to taxes.
- GDP growth.
- Foreign reserves in relation to debt.

Debt levels for many sovereign issuers have increased at an accelerating rate over the past decade, affecting implied ratings. EJR also considers unemployment levels and funding costs.

EJR recognizes that no model can fully capture all the relevant influences on sovereign creditworthiness, meaning that the its sovereign ratings can and do differ from those implied by the rating model. Some of the qualitative factors that impact its ultimate assessment of credit quality include the flexibility, stability and overall strength of the economy, efficiency of tax collection, acceptance of contract law, ease of doing business, trade balances, prospects for future growth and health and monetary policy, and economic freedom. These subjective and dynamic qualitative issues are not captured by the model but affect sovereign ratings.

**Country Risk versus Sovereign Risk:** Country risk and sovereign CQR are related but distinct concepts. The former refers to the risks associated with doing business in a particular country, while sovereign CQR's more narrowly focus on the risk of a government defaulting on its debt obligations. Risks to doing business may include weak property rights, unpredictable tax and legal regimes, volatile operating environments, and currency conversion risks.

**Defining a Sovereign:** From a rating perspective, a sovereign issuer is a government (usually national or federal) that de facto exercises primary authority over a recognized jurisdiction. Central banks, like other public policy institutions, are agents of the sovereign, though their debt could be assigned ratings that differ from those of the sovereign. Because the sovereign is the highest authority and has the power to enforce its will in the jurisdiction it governs, creditors have limited legal or other recourse in the event that the sovereign is unable or unwilling to service its debt. This is also the case at the international level, given the limitations of international law and its enforceability with respect to sovereign nations. Consequently, whether in terms of local- or foreign-currency debt, the analysis of sovereign credit risk must take into account willingness to pay, as well as financial capacity.

**Sovereign Debt and Default:** EJR's sovereign CQR relates to the probability of default on debt owed to private creditors, particularly debt issued in public markets. Failure to honor a debt obligation or an unequivocal guarantee would be considered a rating event. If the affected debt is material relative to the total amount of sovereign debt, the sovereign's CQR could be lowered to Default ("D"). Default by a wholly state-owned and/or -controlled issuer generally would not be considered to be a sovereign default event, even if the default is a direct result of actions by the sovereign. The sovereign's liability, like that of any other shareholder, is limited and does not extend to ensuring that all creditors are made good. Payment defaults on sovereign debt obligations owed to private creditors (e.g., loans to the sovereign by commercial banks) would result in the CQR being lowered to "D." Similarly, if a rated sovereign's debt is subject to a stressed debt exchange (SDE), a "D" rating would probably be assigned. Shortly following effective date of an SDE, the sovereign CQR would likely be lifted out of "D" to a rating appropriate for its prospects on a forward-looking basis. In contrast, agreed debt relief actions to expunge debt by international financial institutions are generally viewed as positive developments for sovereign creditworthiness and CQR's.

**Local versus Foreign Currency CQR's:** EJR assigns Local and Foreign Currency CQRs to sovereigns according to its published rating definitions. Compared with non-sovereign entities that are subject to bankruptcy, the sovereign has greater scope to default selectively. From a sovereign credit perspective, the distinction between foreign and local obligations (in terms of currency denomination of debt) is very important. The markets in which debt is issued and the character of holders (e.g., resident versus non-resident) are also factors. A Local Currency Ratings may register above Foreign Currency Ratings reflecting the sovereign's greater access to local currency.

Tax and other receipts are generally made in local currency and most sovereigns in theory could print currency to fund themselves. Many sovereigns have preferential access to domestic capital markets which may be a more reliable source of funding than international capital markets, especially during periods of distress. A sovereign may choose not to default on limited foreign debt even as it restructures its local-currency debt. Many sovereigns receive most of their income in local currency and their ability to repay foreign currency denominated debt depends on capacity to generate foreign currency and the market's willingness exchange foreign for local currency.

**Peer Analysis:** Indicators of sovereign creditworthiness are compared across countries and over time using peers selected by Egan-Jones using its best judgment for a range of credit quality factors. However, there is not a simple linear relationship between sovereign ratings and every metric that EJR considers in its rating analysis. It also reflects qualitative factors that influence the ability and willingness of a sovereign to honor its financial obligations. These intangible influences on sovereign creditworthiness in part explain why so-called advanced economies are able to sustain much higher debt burden. These factors include strong institutions; respect for the rule of law and property rights; stable and flexible political systems; wealthy and diversified economies; and financing flexibility. Advanced economies are typically less prone to shocks. These strengths greatly enhance the capacity of the sovereign to tolerate greater debt burden and hence tend to be associated with higher sovereign credit ratings.

**Global Reserve Currency Country (GRCC):** A country whose currency is recognized in all major markets as the global reserve currency (the GRCC) has a different status from other sovereign issuers. In this respect, it has no clear "peers." Such a country enjoys greater financial flexibility and can maintain significantly greater nominal debt loads than other non-global reserve countries. EJR shares the opinion, for example, that England enjoyed GRCC status for about two centuries, from 1730 to 1930. Currently, only the United States unambiguously holds GRCC status. In practical terms, on a prospective basis, the foreign and local currency obligations of GRCC status countries are undifferentiated.

**Surveillance:** All rated sovereigns are subject to ongoing surveillance to ensure that ratings remain accurate. Sovereign credit quality tends to change more slowly than credit quality in other areas, so updates for sovereigns are generally less frequent. EJR aims to update its sovereign CQR's periodically.

**Structural Features:** Economies with higher domestic savings relative to GDP are generally more agile in responding to shocks. Openness to international flows of investment and trade, and effective legal and institutional mechanisms are also positive factors. These economies tend to suffer smaller output losses and less variability in tax receipts and government expenditure demands. The sovereigns of economies

that exhibit such structural characteristics tend to be more highly rated than those that are more rigid and less able absorb shocks.

**Political Risk:** In the context of sovereign credit analysis, political risk refers to the political capacity of the sovereign to mobilize resources as necessary in order to honor their financial obligations. Rule of law and respect for property rights provide confidence that political and civil institutions have strong commitment and capacity to honor financial obligations.

Political risk factors relevant to sovereign creditworthiness include the legitimacy of the political regime, effectiveness of government to formulate and implement credible policies, suppression of corruption; and assessments as to the likelihood of civil conflict and war. Political and social tensions bear importantly on sovereign creditworthiness. A high degree of consensus among the body politic on major social and economic issues is associated with stable and predictable economic policies. Conversely, countries riven by divisions along lines of income distribution, race, religion, or regional differences tend to encounter greater challenges to authority, which may undermine effective economic and financial policymaking. Powerful vested interests may block essential structural reforms. Relations with the international community and major global or regional powers may also influence the sovereign risk assessment. Unwillingness or inability to obtain policy-conditional financing from international financial institutions (IFI's) such as the IMF narrows sovereign financing options and negatively influences the sovereign credit ratings. By contrast, well designed and internationally funded economic programs can stabilize local financial markets, normalize private capital flows, and lay foundations for sustained recovery. Nonetheless, emergency financial support from the IFIs is a sign of distress indicating that the sovereign credit profile and rating have deteriorated in the months leading to the arrival of external assistance.

**Banking Sector:** A sound, well supervised and regulated banking and financial system is a positive sovereign rating factor. The direct financial risks to the sovereign's creditworthiness reduced, and economic performance is enhanced. An efficient and effective financial system encourages domestic savings and investment and may offer a less expensive alternative to international capital markets as a source of funding.

There are two principal risks posed to sovereign creditworthiness by the domestic banking sector macroeconomic instability and contingent liability. The recapitalizations of weak banking systems have historically resulted in significant increases in government debt burdens. Risks to macroeconomic stability rise when weak banking systems amplify rather than absorb shocks to the economy, for example by exacerbating exchange rate over-shooting in response to external shocks due to currency mismatches on bank balance sheets. The failure of a single large bank can result in a collapse in confidence in the whole system, prompting deposit and capital flight and disrupting the ability of the sovereign to finance itself in domestic and international financial markets.

Government intervention to prevent systemic bank failure is the rule. This intervention often goes beyond supervision and regulation to include financial support and possibly the nationalization of bank liabilities to ensure the solvency of the system. The capacity of the sovereign to intervene in support of the banking sector without materially impairing its own creditworthiness is a function of the credibility of the central bank as a lender of last resort and the capacity of the government to absorb domestic

banking and financial-sector liabilities without threatening its own solvency and financing capacity. EJR analyses measures the underfunding of banks and adjusts the sovereign debt and credit rating for any underfunding.

**Direct and Indirect Debt or Liabilities:** EJR's main measures of sovereign indebtedness are gross general government debt, as defined by the IMF. EJR's view is that gross government debt is the most relevant and comprehensive measure of sovereign indebtedness and the one that lends itself best to cross-sovereign comparative analysis. The contingent liabilities of governments are many and varied, ranging from expectations or commitments for pension and healthcare programs to infrastructure investment arising from years of public under-investment. Such exposures are considered indirectly.

**Capital Market Access:** A sovereign's ability to fund itself at sustainable yields is critical. During times of stress, the willingness and terms granted by other country central bankers for such funding often becomes a driving factor in the short-run for determining credit quality. This assessment is reflected in EJR's analysis of sovereign debt dynamics in determining whether a particular sovereign can retain or restore market access at sustainable yields.

In times of crisis or market stress, the loss of bond market access and policy-conditional external support for sovereign issuers are not consistent with the maintenance of high Investment grade ratings. High levels of financial intermediation indicated by measures such as domestic credit and broad money to GDP are often associated with a greater capacity to sustain and fund a given domestic debt burden. Similarly, countries with high rates of domestic savings are, other things being equal, able to sustain larger fiscal imbalances and debt load than low-savings economies where government borrowing can quickly absorb domestic savings leading the sovereign and the private sector to have to borrow externally. A proven track record of access to funding from international capital markets is a positive rating factor.

## Sovereign Rating Model – Key Variables and Ratios

- **Debt:** Short term and long term direct debt of the sovereign as defined by the IMF
- **GDP:** Nominal (i.e., not adjusted for inflation) Gross Domestic Product as reported by the country. Note, periodically, there are slight changes in the definitions of the GDP as reported by countries, but few significantly skew the overall sovereign analysis.
- **Government Surplus or Deficit as a Percentage of GDP:** The ratio of government deficit, defined as the general government deficit or surplus divided by the nominal GDP. For reported periods, in the EU, this figure is provided by Eurostat or other reliable data sources.
- **Adjusted Debt:** "Debt" (above) adjusted by EJR's estimate of the capital shortfall of the country's 10 largest banks. Generally, such a shortfall is determined by summing of the 10 largest banks' assets, multiplying 10%, and reducing the product by the sum of the banks' market capitalization. (The concept is that the market capitalization of each bank should equal or exceed 10% of total assets.)
- **Adjusted Debt to GDP:** "Adjusted Debt" divided by the "GDP."
- **Interest Expense:** The interest expense reported by the sovereign entity in its financial reports. Some of the reported interest expense might be non-cash.

- **Taxes:** The total tax receipts reported by the sovereign. Tax receipts generally do not include social, healthcare, and other receipts reported by the sovereign.
- **Interest Expense to Taxes:** "Interest Expense" divided by "Taxes."
- **GDP Growth:** The annual increase in nominal "GDP."
- **Foreign Reserves:** The balance of a sovereign's foreign reserves as reported to Eurostat and other statistical data sources.
- **Foreign Reserves to Debt:** "Foreign Reserves" divided by "Debt."

## Structured Finance Rating Methodology (Non-NRSRO)

### Major Considerations

The credit analysis on structured finance products mainly takes 2 factors into consideration: collateral assets performance risk and portfolio management risk.

The Portfolio Management Risk is related to the portfolio manager's skill and is always qualitative, which as a result, is not included in the model to assess the implied ratings. This factor functions as an adjustment from the implied ratings to the assigned ratings.

The Collateral Assets Performance Risk describes the uncertainty from the asset side, including but not limited to the assets repurchase, prepayment, default and recovery. The risk is distributed to each tranche of the same deal through the cash flow waterfall structure. The distributed risk then determines the implied rating for the specific tranche.

### Overview

In assessing the credit quality of structured finance products, EJR takes multiple factors into consideration, including but not limited to: the performance of the underlying assets, the level of subordination, and the overall trends impacting the likelihood of fully and timely payments. Different models are adopted according to the type of structured finance instruments in question:

**Residential Mortgage-Backed Security (RMBS):** EJR attempts to determine the true level of credit support for various tranches by subtracting from the calculated credit support the various delinquencies (30, 60 and 90+ days, when available) and any bankruptcies, foreclosures, and real estate owned. The result is EJR's "adjusted current credit support" or "current credit support." EJR assesses the level of losses and delinquencies in the underlying assets, as are reported mainly by Bloomberg or data vendors. Using this data, EJR's proprietary model estimates likely current and potential future losses to calculate the EJR "adjusted current credit support". The EJR "adjusted current credit support" is then compared to an EJR credit matrix, which calibrates minimum support levels by rating levels - the higher the level, the higher the implied rating – to obtain the implied credit rating. The Ratings Group analyzes the implied rating in conjunction with its assessment of whether historical and expected future performance may differ in order to arrive at a final rating.

**Collateralized Mortgage Obligation (CMO):** EJR bases the final rating of the CMO product on an implied rating, which is derived by comparing the expected loss of various tranches to the EJR expected loss

matrix. The detailed information on the underlying assets is provided by clients directly. Using this data, EJR converts the portfolio into a number of identical independent assets and calculates an independence factor. EJR then determines the default and recovery rates of the portfolio through the survival analysis. By applying the binomial expansion method to collateral assets analysis and using the waterfall structure to construct tranche cash flow, EJR estimates the expected loss of each tranche and determines the implied rating – the higher the expected loss, the lower the implied rating. The Ratings Group analyzes the implied rating in conjunction with its assessment of whether historical and expected future performance may differ in order to arrive at a final rating.

**Collateralized Debt/Loan Obligation (CDO/CLO):** EJR obtains an implied rating on the CDO/CLO product by comparing the highest collateral asset default rate tolerance of the various tranches to an EJR bank default rate matrix. The portfolio information is often provided by clients. Considering the pooled assets as a bucket, EJR applies the default rate of the top notch to the portfolio and then constructs the tranche cash flow through the waterfall structure. The cash flow of the rated tranche is then tested to determine whether the expected principal and interest is satisfied. The applied default rate keeps moving to the lower rating notch until it passes the cash flow test. This particular notch then indicates the implied rating. The Ratings Group analyzes the implied rating in conjunction with its assessment of whether historical and expected future performance may differ in order to arrive at a final rating.

**Recent Regulations – the European Union:** The European regulation on credit rating agencies (CRAs) requires CRAs to add symbols to denote the ratings of structured finance (SF) instruments. To follow the regulation, EJR will assign the “(sf)” modifier to any related ratings. Where applicable, an “AAA” rating in structured finance would denote by “AAA(sf)”; the “(sf)” symbol only indicates that the security is a structured finance instrument. The following asset types are generally considered SF transactions and would therefore be assigned the “sf” modifier: asset-backed securities (ABS), residential mortgage-backed securities (RMBS), commercial mortgage-backed securities (CMBS), collateralized debt obligations (CDOs), insurance securitizations, and asset-backed commercial paper (ABCP) programs. Covered bonds, enhanced equipment trust certificates (EETCs), future flow securitizations, municipal student loan securities, and corporate securitizations are generally not considered SF securities, and thus, they are not assigned the “sf” modifier.

**Recent Regulations – Dodd-Frank and SEC Rule 17g-5:** To encourage competition and address perceived conflicts of interest, the SEC implemented Rule 17g-5 in June 2010 and amended November 2014 requiring that transaction sponsors share the information provided to hire CRAs in determining SF ratings with other non-hired CRAs. Those transactions subject to the “sf” modifier are typically viewed as subject to Rule-17g-5. Under the rule, CRAs must maintain on a password-protected Web site a list of each SF product for which it currently is in the process of determining an initial credit rating in chronological order and identifying the type of SF product, the name of the issuer, the date the rating process was initiated, and the web site address where the arranger has posted the information for the hired CRA to access. Arrangers must provide written representation to the hired CRA that they will make information provided for determining both the initial rating and ongoing surveillance accessible to other CRAs; a CRA cannot rate a SF security unless it receives this written representation. EJR has not been a hired CRA and therefore has not posted related information to its website.



Additionally, the Dodd-Frank Act changed the requirement regarding the level of information review to be undertaken by CRAs. The change requires reasonable investigation of the factual information in its rating process and verification of that information from independent sources including assessing the following:

- Quality and viability of parties to the transaction.
- Financial and legal structure of the transaction.
- Legal opinions are consistent with and supportive of EJR's rating opinion.
- Reasonableness of underlying model assumptions in relation to the assets analyzed.
- Reasonableness and adequacy of the information received to perform surveillance to maintain the ratings.

EJR relies on independent third parties for the information used in its analysis.

### Key Steps in Structured Finance Rating Process

- Asset analysis
- Financial structure and cash flow analysis.
- Originator and servicer review.
- Counterparty analysis.
- Transaction documentation and legal analysis.
- Representations and warranties and SEC Rule 17g-7.
- Final ratings
- Surveillance

**Asset Analysis:** The credit analysis model summarizes information on the performance of the asset pool, 30, 60 and 90+ day delinquencies, bankruptcies, foreclosures, real estate owned, assets correlation, average life, payment history, recovery and prepayments. Additional considerations are property locations, concentrations, prior credit characteristics, risk factors, borrower data, and trends. An acceleration in the delinquencies and losses for the pool would generally be considered a negative event. The source of the data used by EJR is from the loan service trustee reports compiled and maintained on data vendors, clients and other reliable sources. Note, the data is assumed to be accurate and EJR makes the best effort to control the data quality, but EJR does not confirm its accuracy.

**Financial Structure and Cash Flow Analysis:** Analyzing the financial structure of the transaction involves analyzing the payment priority waterfall and credit enhancement as provided by the arranger. EJR uses cash flow models to determine the adequacy of the credit enhancement structure using the default, recovery and/or loss expectations. Where applicable, prepayment, interest rate, default timing, and stress scenario assumptions as described in published asset-specific and global criteria are applied as inputs to the model. Via its model, EJR aims to determine the true level of credit support for various tranches by subtracting from the calculated credit support the various delinquencies (30, 60 and 90+ day delinquencies when available), bankruptcies, foreclosures, and real estate owned in order to obtain EJR "adjusted current credit support" or "current credit support." EJR "adjusted current credit support" is then compared to an EJR credit matrix which calibrates minimum support levels by rating levels (the higher the level, the higher the implied rating) in order to obtain an implied credit rating. The Ratings

Group analyzes the implied rating in conjunction with its assessment of any difference between historical performance and expected future performance, and then assigns a rating.

**Limits on Originator and Servicer Reviews:** While EJR's analysis of the credit quality of the underlying collateral in SF transactions is the key part of the rating process, the risk caused by operational weaknesses is often not apparent in the collateral characteristics but manifests itself in pool performance. EJR believes conducting originator and servicer reviews can provide a qualitative indication of the risk in SF transactions attributable to an originator level of risk management and disclosure and the quality of the servicers operations. Information on the originator and servicer is often not publicly available. When available, EJR uses such information in its analysis. The factors which would go into a thorough servicer analysis include corporate stability, financial condition, management and staff experience, technological capabilities, policies and procedures, controls, and historical servicing performance.

**Limits on Counterparty Analysis:** Counterparty analysis is critical when the counter party is providing credit support to the security, a prime example being that of a monoline insurance firm's support. EJR can usually obtain information on financial firms providing support. However, obtaining relevant credit information on other counterparties is difficult and is normally not conducted.

**Absence of Transaction Document and Legal Analysis Review:** EJR does not review the transaction documents addressing the characteristics of the underlying assets pool to confirm structure, duties of the transaction parties, servicing and reporting provisions or the representations and warranties, as would be provided by the transaction parties. The publicly available representations and warranties provide assurances that certain facts about the collateral and transaction parties can be relied upon.

**Assigning the Ratings:** After an analysis is completed, the rating is assigned and listed in the rating analysis report (RAR). Such ratings are subsequently reviewed by the RRC. Rating file documents notes are retained by EJR.

**Surveillance:** EJR's surveillance of existing transactions follows the same approach and adheres to the same regulatory requirements as those for assigning new ratings, as described above. All transactions are monitored on an ongoing basis with an updated rating action (affirmed, upgraded, or downgraded). Transactions are monitored for variations in performance that are outside the norm for stipulated collateral, or deviations from EJR's initial performance expectations. Rating actions for transactions may occur frequently, particularly if performance of the underlying pool of assets exhibits rapid deterioration.

EJR's method for assigning ratings are consistent with the EJR Ratings Code of Conduct and documented in detail in a combination of the EJR's published methodologies and its internal policies and procedures. The Rating Process above addresses EJR's general approach to initiating and monitoring ratings, review by the RRC, and updating of ratings. To ensure the independence and objectivity of the rating process, the Ratings Group is required to provide a report to the RRC annually. The report provides the RRC members an opportunity to ask the Ratings Group detailed questions about the operation of the rating process and to provide input on how the process may be enhanced.



## RMBS Rating Model: Key Variables

- **MTG\_PREPAY\_SPD\_TYP:** The base case prepayment assumption and prepayment speed type. Based on this, the prepayment type, and other optional assumptions, the MBS projected cash flows are generated.
- **PREPAY SPEED VECTOR: Types of Vectors**
  - 1). 1 2 3 4 5 Projected and 1 month intervals for the entered speeds
  - 2). 2 12 R 20 Projected 2 ramping over 12 Months to 20 CDR
  - 3). 0 2 4 6 O= Origination 2 4 6 (maps into WALA)
  - 4). 0 2 12R 20 O= ORIGINATION 2 CPR ramping over 12 to 20 CDR
- **DEFAULT PERCENT:** Rate of default on loans backing the tranche.
- **DEFAULT SPEED VECTOR:** MBS default/loss speed assumption. Based on this, the default/loss assumption, the prepayment type and speed, the MBS projected cash-flows are generated.
- **LOSS SEVERITY:** Percentage of loss to the principal balance of a loan at the time of default. Based on this and other assumptions, the MBS projected cash-flows are generated.
- **MTG WAL:** Weighted average time until the receipt of all principal payments.
- **PROJ\_CUMUL\_LOSS\_LIQUIDATION\_PCT:** Represents the percentage of the current loans that will have to default in order to get to the dollar figure of the loss generated.
- **MTG AMT OUT FACE:** The current amount of the original face that is outstanding.
- **MTG POOL FACTOR:** Current collateral balance divided by the original collateral balance.
- **MTG WACPN:** Current weighted average of the interest rates of the loans in a given pool or collateral group.
- **CURR CUM LOSS AMT:** Current amount of cumulative loss on the underlying loans comprising the collateral specific to the group to which the security belongs. Cumulative loss is loss that will not be recovered and has been taken as a write-off on the balance sheet.
- **MTG PL CPR 3M:** Constant Prepayment Rate pertaining to the 3-month horizon, which indicates historical prepayment of the underlying collateral.
- **MTG VPR 1M:** Voluntary Prepayment Rate for 1 month.
- **MTG CDR 1M:** Conditional Default Rate for 1 month.
- **MTG SEV 1M:** Non-payments from default for 1 month.
- **EJR Implied Rating:** The rating is implied by the comparison of the EJR adjusted credit support and the EJR min. subordination levels.
- **ORIG CREDIT SUPPORT:** Original credit support percentage for a CMO class/tranche from other subordinate classes in the same deal.
- **CURR CREDIT SUPPORT:** Current credit support percentage for a CMO class/tranche from other subordinate classes in the same deal.
- **MTG WHLN 30DLQ:** Percentage of loans which are 30 days delinquent.
- **MTG WHLN 60DLQ:** Percentage of loans which are 60 days delinquent.
- **MTG WHLN 90DLQ:** Percentage of loans which are 90 days delinquent.
- **BANKRUPT PCT:** Current percentage of the loans comprising the collateral that is bankrupt.
- **MTG WHLN FCLS:** Percentage of loans forcing the mortgage holder to seize the property of a homeowner who is delinquent in mortgage and interest payments.

- **EJR Adjusted Current Credit Support:** The factor which gives market participants the ability to view their support coverage, should the entire pipeline of delinquencies default. The result is calculated as:

$$\text{EJR Adjusted Current Credit Support} = \text{Current Credit Support} - (\text{MTG\_WHLN\_30DLQ} * 0.3 + \text{MTG\_WHLN\_60DLQ} * 0.6 + \text{MTG\_WHLN\_90DLQ} * 0.9) * 0.6$$

### CMO and CDO Rating Model: Key Variables

- **Independence Factor:** Measurement of the correlation between the portfolio assets. A higher value translates to more independent individual assets. The value equals the number of converted identical independent assets.
- **Non-Performing Rate:** The default intensity, i.e., the default probability in a unit time period.
- **Default Rate:** The default probability over the weighted average life of the portfolio.
- **Weighted Average Life (WAL):** The weighted average of the remaining life of portfolio assets according to the contract.
- **Recovery Rate:** The percentage amount of the defaulted payment expected to be recovered later.
- **Discount Margin:** The discount rate indicated by the market price.
- **Severity:** 1 – Recovery Rate
- **Fair Value:** The present value of the tranche cash flow discounted by the purchase yield.
- **Default Probability Tolerance:** The highest default rate that the pooled assets can bear for the rated tranche to get the expected principal and interest payback.

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## APPENDIX 1 EGAN-JONES'S RATING PHILOSOPHY

### THE DEFINITION OF A "RATING"

In general terms, ratings are opinions that reflect the creditworthiness of an issuer, a security, or an obligation. They are opinions based on forward-looking measurements that assess an issuer's ability and willingness to make timely payments on outstanding obligations (whether principal, interest, dividend, or distributions) with respect to the terms of an obligation. Ratings for structured finance vehicles reflect an opinion of the ability of the pooled assets to fund repayment to investors according to each security's stated payment obligation. Ratings are opinions based on the quantitative and qualitative analysis of information sourced and received by Egan-Jones, which information is not audited or verified by Egan-Jones. Ratings are not buy, hold or sell recommendations and they do not address the market price of a security. Ratings may be upgraded, downgraded, placed under review, confirmed and discontinued. The following outline three important base principles underlying Egan-Jones Corporate ratings:

### STABLE RATING PHILOSOPHY

Egan-Jones believes that there is more value to the investor when a rating does not fluctuate purely with the fortunes of the economy. Therefore, Egan-Jones strives to look through the cycles when considering the impact of economic cyclicity. In short, Egan-Jones emphasizes the differences between structural versus cyclical changes.

The economic environment will impact the performance of most issuers which Egan-Jones rates and since the growth rate of the economy is continually changing, so too is its impact on issuers. Egan-Jones approaches the reality of a cyclical economic environment by employing a rating philosophy which emphasizes stability. Hence, a company which is heavily impacted by a cyclical environment will generally be assigned a lower rating to reflect this factor, all else being equal. While the future will likely look good during an upturn and bleak during a downturn, the rating effectively captures this volatility. While there may be instances when a period of protracted economic growth or contraction impacts the fortunes of an entity and a rating change required, Egan-Jones seeks to minimize rating changes which are due primarily to global economic changes. The goal of each rating is to provide a forward looking assessment of the credit quality of the issuer. Consequently, Egan-Jones takes a longer-term "through the cycle" view of the issuer and as such, rating changes are not based solely on normal cycles in the economy. Rating revisions do occur when it is clear that a structural change, either positive or negative, has transpired or appears likely to transpire in the future. The most difficult period of assessment for a rating agency is the latter stages of a long/deep recession, particularly if it was much worse than originally expected. The recession may cause structural changes in industrial sectors; the financial strength of governments, businesses, and individuals; and the attitudes of tax payers or residents. It is at this stage that some ratings may appear to "lag" the economic cycle and further rating actions may occur.

## HIERARCHY PRINCIPLE

In rating long-term debt, Egan-Jones considers the ranking of the debt relative to issuer obligations noting that the starting point for such ranking is the most senior level of debt. When issuers have classes of debt that do not rank equally, in most cases, lower ranking classes would receive a lower Egan-Jones rating. In the investment grade sector, the difference between a debt class and the immediate junior ranking obligation is typically no more than one rating notch. For non-investment grade ratings, the rating differential is one or more rating notch, due largely to the increased importance of recovery expectations. In general, lower ranking debt will receive a lower rating than prior ranking debt. The following sets out some exceptions to this general guideline:

1. Where there is very little debt outstanding in one category and Egan-Jones has a degree of comfort that the issuer will not be increasing the debt in this category in the future, Egan-Jones may assign the same rating to the debt in the next subordinated ranking category.
2. Egan-Jones may consider different levels of ranking debt to have similar default risk and thus assign the same rating to each. Generally, Egan-Jones takes off one rating notch for each level of subordination. Egan-Jones may consider increasing the gap between levels of debt by more than one-rating level. The most common considerations for this action would include:
  - a. Where the senior debt is a non-investment grade rating, it may be appropriate to increase the relative gap as the chances of the issuer being involved in a default situation are higher relative to better rated issuers.
  - b. Where there is a large amount of lower ranking subordinated debt, the holders of this debt may be taking on significantly more risk than would be the case with senior debt holders.
  - c. Major benefits or detractions from a covenant standpoint.

## QUALITATIVE AND QUANTITATIVE CONSIDERATIONS

A rating is a forward looking opinion and as such requires that judgments be made about the future. Accordingly, a rating must balance both qualitative and quantitative considerations, essentially using past performance as a relative, rather than absolute, guide. The current state of affairs is a very important consideration; however, an Egan-Jones rating is not based solely on a statistical analysis of the present situation. A rating considers many intangibles and, therefore, while future quantitative projections are analyzed and considered, many subjective factors are also recognized and considered. This third principle also applies to Egan-Jones Structured Finance ratings.

## APPENDIX 2 DEFINITION OF ISSUER RATING

Egan-Jones corporate rating analysis begins with an evaluation of the fundamental creditworthiness of the issuer, which is reflected in an issuer rating. Issuer ratings address the overall credit strength of the issuer. Unlike ratings on individual securities or classes of securities, issuer ratings are based on the entity itself and do not include consideration for security or ranking. Ratings that apply to actual securities (secured or unsecured) may be higher, lower or equal to the issuer rating for a given entity.

Given the lack of impact from security or ranking considerations, issuer ratings generally provide an opinion of default risk for all industry sectors. As such, issuer ratings in the banking sector relate to the final credit opinion on a bank that incorporates both the intrinsic rating and support considerations, if any.

Egan-Jones typically assigns issuer ratings on a long-term basis using its Long Term Obligations rating scale; however, Egan-Jones might assign a short-term issuer rating using its Commercial Paper and Short Term Debt rating scale to reflect the issuer's overall creditworthiness over a short-term time horizon.

## APPENDIX 3 GUARANTEES, SECURITY, AND OTHER FORMS OF EXPLICIT SUPPORT

Parent companies with favorable credit ratings often give some form of explicit support to a weaker subsidiary or affiliated company. If structured properly, the credit rating of the entity receiving support can be elevated to a level that would be unattainable if the entity were evaluated on a standalone basis. There are generally four types of explicit support that EJR will consider: (1) guarantees; (2) keep-well agreements (also referred to as credit support agreements); (3) foreign financial institution support agreements; and (4) comfort letters. If the explicit support provided is with respect to obligations other than those that are generally rated by EJR (i.e., other than principal and interest), the requirements set out below may not apply. Legal systems and laws vary from jurisdiction to jurisdiction and these criteria may be modified where appropriate as required by local laws and precedents, particularly with respect to guarantees.

Separate from any explicit support, EJR may consider business and reputational interests that could motivate a parent or affiliated company to support an issuer. In the absence of such implicit considerations or in combination with explicit support, EJR may look to the rating of the parent or the related entity on the basis of such implicit support in appropriate circumstances (see “International Financial Institution Support Agreements” below, for example).

### GUARANTEES

A financial guarantee is a contract under which a guarantor agrees to become responsible for the financial obligations of a principal debtor to a third-party creditor. Of the three forms of explicit support EJR considers (guarantees, keep-well agreements and comfort letters); guarantees provide the strongest support as they create a legally enforceable obligation on the part of the guarantor to service the subsidiary’s debt. This legally enforceable obligation of the guarantor may allow EJR to rate the subsidiary at the same level as the guarantor. When rating specific securities, EJR will consider if the guarantee relates to all obligations of the issuer or if it only applies to specific securities.

EJR recognizes that each financial guarantee is unique and drafted to address specific circumstances. Therefore, while EJR generally expects guarantees to display the following characteristics, each guarantee is reviewed on a case-by-case basis.

- The guarantee is an absolute, direct, irrevocable, unconditional and continuing obligation of the guarantor.
- The guarantee will not terminate until full payment of sum due. EJR will consider language that allows the guarantor to terminate the guarantee only if the rating of the supported entity would not be negatively affected by such termination.
- The guarantee ranks senior to or pari-passu with the guarantor’s senior unsecured obligations. On occasion, a guarantor will provide a guarantee that will rank equally with its subordinate debt. In these circumstances, any reliance of the guarantor’s rating will be at the subordinate debt level.

- The guarantor waives all defenses that would otherwise be available to guarantors and waives the enforceability or pursuit of the underlying obligation against the principal debtor.
- The guarantor waives all rights of subrogation, reimbursement, contribution, indemnified offset or participation against the principal debtor until the guaranteed obligations are paid in full.
- The trustee, on behalf of bondholders, is a party to the guarantee and the guarantee states that the guarantee is enforceable by the trustee on behalf of bondholders.
- The guarantee is binding on successors and assigns of the guarantor.
- The guarantee may not be amended or modified without the written consent of the third-party creditor relying on the guarantee.

### KEEP-WELL AGREEMENTS

Keep-well agreements between a parent company and subsidiary typically contain provisions whereby the parent agrees to maintain a given level of equity in the subsidiary or agrees to ensure that certain financial ratios are maintained by the subsidiary. Unlike a guarantee, a keep-well agreement does not create a legal obligation on the part of a parent to honor a subsidiary's debts and EJR is therefore less likely to permit it to provide support to the subsidiary's rating. However, to the extent that a keep-well agreement contains obligations that are material to the financial strength of the subsidiary and provided that the agreement contains language to the effect that the obligations of the parent are enforceable by the trustee on behalf of bondholders, keep-well agreements may result in support for a subsidiary's rating.

### FINANCIAL INSTITUTION SUPPORT AGREEMENTS

These support agreements typically contain provisions that the parent will ensure that its domestic subsidiary will at all times satisfy regulatory capital requirements, along with a promise to provide any liquidity necessary to fulfill obligations to depositors or policyholders. A number of factors may allow EJR to place greater weight on these agreements than it would for keep-well agreements, including the following:

- The fact that, for a highly rated financial institution, allowing a subsidiary to fail could have severe ramifications on the entity's other operations.
- Domestic financial institutions that are large borrowers need to take great care to maintain depositor and investor confidence.
- Domestic financial institutions are regulated by authorities that closely monitor their financial health.

### COMFORT LETTERS

Unlike a guarantee or a keep-well agreement, a comfort letter is not a contractual agreement; rather, it is a letter that may be provided to creditors of a subsidiary borrower by the subsidiary's parent company. Comfort letters typically address the parent's current policies and intentions with respect to the subsidiary.

Comfort letters are the least preferred method of offering explicit support for a rating as jurisprudence suggests they are unenforceable and provide no legal basis on which a creditor can pursue a parent



company to recover defaulted obligations of a subsidiary. Notwithstanding the lack of a legal obligation, reputation and commercial considerations may, nonetheless, lead a parent to honor a subsidiary's debt.

#### COLLATERAL, SECURITY AND OTHER SURPPORT

The creditworthiness of an issue can be enhanced by the addition of collateral or other security. While the rating assigned is a function of numerous factors and is ultimately reflects the judgment of the rating analysts, in general, collateral or other security can significantly reduce both the probability of default and in turn, the loss given default. For example, if an issuer's unsupported probability of default is deemed to be 10% over the term of the transaction and the loss given default is 50%, then it is reasonable to assume the loss to the investor would be in the area of 5% (that is 10% times 50%). However, if security of equal to 70% of the original transaction is provided, then the loss to the investor would normally be calculated as follows: 100% less the 70% secured resulting in an unsecured claim of 30%. Regarding the 30%, the probability of loss times the loss given default yields a product of merely 1.5% (that is, 30% times 10% times 50%). However, as a practical matter, the net loss would be greater because of the time and costs associated with the liquidation process. Providing an offset is the high likelihood that the secured debtholders are paid first so the business is not disrupted. Regarding the rating, the providing of security can be viewed as significantly reducing both the probability of default and the loss given default and as a result, enhancing the true creditworthiness of the transaction.

In some cases, EJR might deem the most appropriate method for evaluating credit quality is the collateral, that is the extent to which debt is covered by asset values, or Loan to Value ("LTV"). Likewise, EJR might focus on the extent by which debt service is covered but not have access or have comfort with other typical credit quality measures. Additionally, EJR will consider and use other measures which have become accepted by the rating industry as reasonable predictors of credit quality.

## APPENDIX 4 RATING HOLDING COMPANIES AND THEIR SUBSIDIARIES

This documents the EJR approach to rating holding companies. As corporate families that employ a holding company and one or more subsidiaries can range in complexity, they have been grouped into three broad categories shown below. The terms holding company (holdco) and parent company are mostly interchangeable here (a holdco is normally a special-purpose vehicle with no operations designed to hold investments in subsidiaries, etc.; a parent company may have operations at that level and also hold investments in subsidiaries). It will be noted where the presence of operations could be material to the outcome.

The review here pertains to the assessment of a holdco's issuer rating, not the ratings of individual securities. Generally, an issuer rating reflects the probability of a company defaulting, given its total indebtedness, without regard to the ranking of the individual debt securities. Holding companies are a special case as they are not operating companies, per se. Hence the holdco probability of default is based directly or indirectly on a number of items including: (i) holdco financial/liquidity risk (ii) the probability of default of the subsidiaries, (iii) the way in which the group is bound together and (iv) any other factors that may reduce/increase the holdco's risk profile.

As the foregoing factors vary greatly from holdco to holdco, EJR has grouped the examples into three broad categories. Group I includes examples where the holdco rating is the same as the rating for the operating group (i.e., a consolidated credit). Groups II and III include examples where the holdco is viewed separately, with its rating lower or higher than the underlying operating group depending on the circumstances. Group IV includes examples where the holdco can impact the ratings of its subsidiaries.

The section below includes a number of general considerations that should be taken into account when evaluating holding companies. These include the holding company rationale, the structures, qualitative issues and the financial statements. It is important to review this information as it forms the basis that underpins the analytical approach outlined in the examples shown below.

To establish ratings of holding companies and their subsidiaries, EJR would typically follow these steps. First, a stand-alone initial rating of the subsidiaries and the parent (to the extent it has operations) is determined. This is done by considering the risk factors of the industry and the financial risk of the issuer. Next, any special legal, structural or other factors (as outlined below) are reviewed. Finally, the ratings of the parent and the subsidiaries are reassessed in light of these special legal, structural or other factors to determine final ratings for the parent and the subsidiaries. The process can be a circular one in that the initial ratings of the parent and the subsidiaries may go through a process of blending or reconciliation until the final determination is made.

### Group I – Holdco Rating Equals Group Rating

- Corporate groups that are considered a single consolidated credit, where they are operationally and/or financially integrated or tied using cross-guarantees (i.e., there would be a collective default).

- The group's issuer rating would be based on a blend of the relevant industry methodologies.
- Typically, these corporate families are included in one EJR report that uses the consolidated financial statements. The resulting issuer rating would become the reference point for the ratings of the individual securities.

#### **Group II – Holdco Rated Lower**

- Corporate groups that are not considered a single consolidated credit, where the holdco and its subsidiaries would have separate issuer ratings (i.e., there could be two or more default probabilities).
- The issuer rating for each subsidiary would be derived using the respective EJR industry methodology.
- The holdco's issuer rating could be notched down from the blended credit strength of the underlying subsidiaries, based on (i) the degree of support from its subsidiaries/investments, (ii) structural/legal subordination, (iii) double leverage and (iv) other factors as discussed below.
- Typically, these families are divided and covered in separate EJR reports, based on their respective financial statements.

#### **Group III – Holdco Rated Higher**

- Corporate groups that are not considered a single consolidated credit, where the holdco and its subsidiaries would have separate issuer ratings.
- The holdco's issuer rating would not be notched down and could be notched up from the blended credit strength of the underlying subsidiaries based on the presence of a number of positive factors discussed below.

#### **Group IV – Holdco Impact on Subsidiaries**

- Miscellaneous situations, other than the above, where the credit profile of a holdco can further impact the ratings of its subsidiaries.

#### **Summary of Cases**

The examples below illustrate how EJR would assign a rating to various types of holding companies in each of the three categories. The cases cover the more common situations and, in tandem with the comments above and the General Considerations section below, provide a fairly comprehensive framework. More complex situations might require looking to the rationale used in two or more cases.

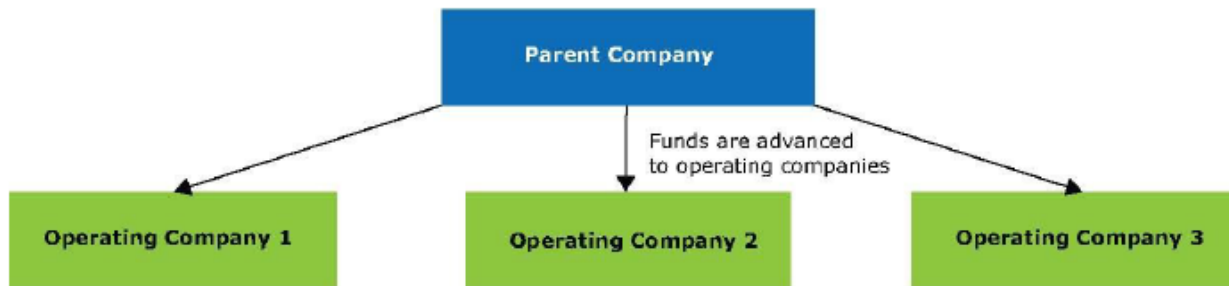
#### **GROUP I – HOLDCO RATING EQUALS GROUP RATING**

These groups are considered a single consolidated credit and are operationally/financially integrated or tied using cross-guarantees. Case 1a to Case 1c below provide examples of these situations. The rating takes into account the strength of all the individual companies in the group and they are not assigned

individual ratings. Any companies that are subsequently acquired and remain as separate legal entities (for tax, jurisdictional or other reasons) but are operationally integrated and/or guaranteed would be consolidated from a credit perspective and would not receive their own issuer rating.

**1a. Holdco Advances to Subsidiary**

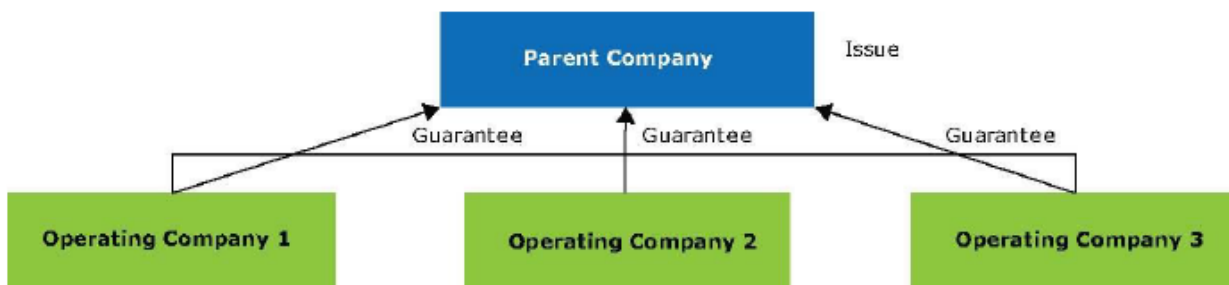
The holdco borrows funds and advances them to the operating companies. This structure is often used when an organization wants to centralize and control overall borrowing. The operating companies may be restricted from any substantial borrowing themselves by covenants. While some borrowing by operating companies may be permitted, such as bank debt for working capital purposes, this is usually for small limited amounts over short time periods. Since there are no significant creditors at the operating level, creditors at the holdco level have recourse to the operating companies by way of the common equity in the event of default.



**ANALYTICAL APPROACH** – The holdco’s credit rating reflects the overall strength of the operating companies, assuming the operating companies are restricted from borrowing on their own, except for small amounts. There is no reduction in the rating for structural subordination. This principle typically breaks down if debt becomes meaningful at the operating entities.

**1b. Operating Companies Guarantee Holdco**

The holdco and operating companies borrow funds. To prevent structural subordination, the operating companies guarantee the debt issued by the holdco.



**ANALYTICAL APPROACH** – When the holdco debt is guaranteed, the holdco issuer rating would be the same as the blended rating of the operating companies, without structural subordination.

**1c. Income Funds and REITs**

Income funds can issue debt at the fund level (normally a trust) and /or at the operating company (including a limited partnership and/or a taxable corporation). The operating company services the debt at all levels.

**ANALYTICAL APPROACH** – Income funds/REITs can have unique legal structures involving trusts, limited partnerships and operating companies. When there is borrowing at different levels, the ranking needs to be reviewed to determine if all debt is pari-passu. Hence the operating company and fund level debt ratings would reflect the overall business risk and the consolidated financial profile. Intercompany debt would not be a factor in the rating, as long as it is structured to serve only as a means of transferring cash flow from the operating company to the fund.

## GROUP II – HOLDCO RATED LOWER

These are groups that are not consolidated credits – specifically, the holdco and the subsidiaries have separate default probabilities and separate ratings. Here the entities must be assessed individually, although still within the group dynamic.

In these cases, it is critical to understand the holdco’s relationship with its subsidiaries. Specifically, it is important to confirm that the creditors of the holdco do not have direct recourse to the subsidiaries (structurally subordinated). Here the holdco debt effectively ranks behind the debt at the operating company (opco) since opco creditors have first recourse to the assets and cash flow of the opco. Also, it is important to confirm that the creditors of the subsidiaries do not have recourse to the holdco.

Where the holdco and subsidiary ratings, although separate, move in lockstep, there may be a case for only one issuer rating for the group. In these cases, it is unlikely that one member would default on its own.

### 2a. Traditional Structure

The holdco has one or two primary operating companies. Both the holdco and operating subsidiaries borrow material amounts from outside the group. The holdco’s funds are passed down by way of equity investments in the operating companies permitting additional indebtedness at the opco level (i.e., double leverage). There may be small amounts of intercompany debt and preferred shares. The debt is structurally subordinate to the operating company’s debt. The holding company’s rating must take this into consideration. The debt obligations of the operating company must be settled first in bankruptcy.

**ANALYTICAL APPROACH** – The holdco debt is normally rated lower than the debt of the operating company by at least one notch (due to structural subordination). In this case, creditors at the holdco level are one step removed from the assets and cash flow at the operating level.

High debt at the holdco can lead to a larger rating differential. If the holdco’s deconsolidated debt levels are less than 20% of the capital structure, a one rating notch differential would be appropriate. As the ratio increases above 20%, the chances for more than a one notch differential increase, and although EJR will consider this metric in relation to other factors on a case-by-case basis, entities with greater than 30% are more likely to be viewed as situations where more than one notch may be appropriate. If the holdco functions as both a holding company and an operating company, there may be more latitude

when assessing the leverage at this level. If the holdco debt is quite large, the subsidiary ratings may also be negatively impacted (see case 4d below).

### GROUP III – HOLDCO RATED HIGHER

These are corporate groups that are not consolidated credits. Here the holdco's issuer rating would likely be notched higher than normally would be the case, given the credit quality of its subsidiaries/investments. The higher notching is based on the presence of a number of additional positive factors. The weighting of these factors is determined solely by EJR to ensure the enhancements are clearly beneficial and can differentiate from holdco's in Case 2a above.

#### 3a. Conglomerate Structure

The holdco has a number of large and small operating companies/investments. Both the holdco and operating subsidiaries borrow outside the group, as in 2a above. Even so, the holdco's rating equals or is a notch above the ratings of its subsidiaries due to a number of credit enhancing factors.

**ANALYTICAL APPROACH** – Determine the individual rating for each operating company. From these, a blended rating is established. Depending on the outcome of the factors below, the rating of the holdco has the potential to be the same or above the blended average of subsidiary ratings, based on a review of the following:

- The degree of leverage at the holdco level on a deconsolidated basis. Debt levels of less than 20% on a deconsolidated basis are acceptable. If leverage is in excess of 30% on a deconsolidated basis, its leverage may be a limiting factor.
- The amount of liquidity (i.e., committed credit lines, near liquid assets) committed as credit support.
- The size of cash inflows from all the subsidiaries to see if they meet the cash needs of the holding company, including dividends, operating expense and interest expense. Specifically review the relative size of each subsidiary and the ability to maintain its dividends.
- The diversification of the cash flow from the subsidiaries and investments (by geography, industry, product, etc.). The greater the variety and independence of the individual cash flow streams, the stronger the case for the holdco's credit rating to equal or exceed the underlying investments.

#### 3b. Enhancement

The holdco's rating is above the rating of a major subsidiary due to other enhancements that benefit its creditors.

**ANALYTICAL APPROACH** – The holdco may provide a number of enhancements to allow its rating to be higher than that of its major subsidiary. While there may be exceptions on a case-by-case basis, achieving a higher rating would typically require that all of the following conditions are met:

- (a) Assets pledged as collateral (i.e., cash or shares if the subsidiary is publicly traded).

- (b) As well, the presence of the following items bolsters the enhancement and strengthens the case for a higher rating.
- (c) Significant, reliable cash inflow that exceeds borrowings and operating costs (i.e., dividend income
- (d) from the major subsidiary)
- (e) Additional assets that can be added and pledged should the assets in (b) decline
- (f) Committed credit lines that exceed third-party borrowing
- (g) Other near-liquid investments
- (h) Limitations on third-party indebtedness and/or new issuance tests
- (i) Voting control of the major subsidiary but with a structure that limits involvement in the day-to-day management of the subsidiary
- (j) A history of a conservative use of leverage, etc.

#### GROUP IV – CORPORATE IMPACT ON SUBSIDIARIES

There are situations where the ratings of operating subsidiaries can be affected by the financial risk at the corporate level. Specifically, there are situations where a subsidiary's rating derived using the relevant methodology is further adjusted to take into consideration positive or negative credit implications at the corporate level.

##### **4a. Multinational Guarantee**

A strong company with substantial operations can guarantee the debt of its subsidiaries operating in different parts of the world. In these cases, the subsidiaries would issue debt locally where they operate (i.e., commercial paper).

**ANALYTICAL APPROACH** – Multinational companies may use subsidiaries to borrow in local markets and provide an unconditional guarantee to the operating company to allow it to borrow using the same rating. This is often the case when the subsidiary is smaller and, without the guarantee, it would likely be rated lower than the parent company. Besides a full guarantee, other alternatives include keep-well arrangements, but the strength of the support depends on the details of the agreement.

##### **4b. Strong Intent**

A company with strong operations of its own may support an operating company, but without any formal guarantees or keep-wells. The company may show and indicate its intent to support a wholly-owned operating company, without having the legal obligation to do so. The company usually does this to preserve its equity investment and will add additional equity to the operating company and add other general support.

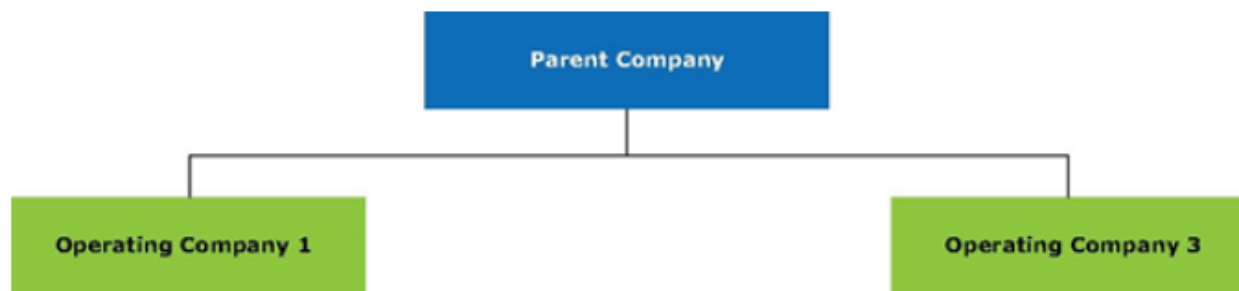
**ANALYTICAL APPROACH** – In such cases, the company's rating is considered when rating the operating company (e.g., some subsidiaries have their foreign parent's support but not a direct guarantee or keep-well). While the rating on the operating company is a consideration, without a guarantee it may be below that of the parent. A close examination of the relationship between the company and operating

subsidiary is required. A full review of maximum liability to the parent and reputational risk is required for each entity within the organization.

If there is a major problem at the operating company, however, particularly if support could severely affect the strength of the parent company, this support would likely be withdrawn. As such, future intent has limitations. Nevertheless, there is often a rationale whereby the support from the parent company can be given some consideration in ratings for the operating companies. In those cases, where EJR believes that the parent company support is not strong, ratings for the operating companies would de-emphasize the strength of the parent company. In the case of an Operating Company having minority interests, the minority interest could pose challenges to the holding company rating even when there is a high level of control.

#### 4c. Ring-Fencing Protection

Operating companies can be ring-fenced through covenants or, in some cases (e.g., utilities and financial companies), through the presence of a strong regulator. Covenants and subsidiary regulatory capital requirements may limit dividends and intercompany cash transfers and set other restrictions on the operating companies and the parent company.



**ANALYTICAL APPROACH** – Because covenants can be broken and regulators provide different degrees of protection, cases vary. Ring-fence protection can allow for a different rating for the operating company, but it must be examined case by case to see how tight the ring-fencing protection is. By their nature, covenants must be considered on a case-by-case basis. Regulators also exhibit varying degrees of control, and each case must be examined to understand how much credit is due to the existence of a regulator. Because many of these considerations include subjective aspects, it is often the case that even with tight ring-fencing actions, there is typically a limit between the difference that can exist between the ratings assigned to a parent company and the related ring-fenced operating entities.

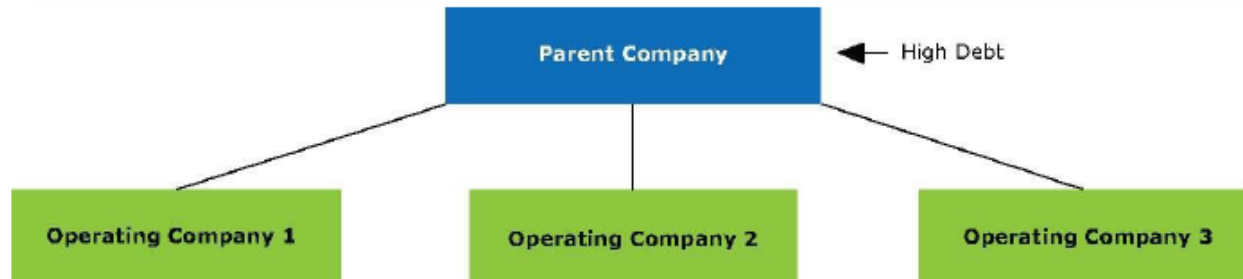
#### 4d. Conglomerate Structure – Leveraged

This is a similar case to the one discussed in 2a. The difference here is that the company is highly leveraged at the corporate level, possibly due to the financing of an acquisition. While the analysis in the first two steps remains the same, the third step notes the very high debt levels at the corporate level.

**ANALYTICAL APPROACH** – Same as for 2a above, except for the degree of leverage. The degree of leverage includes the relative size of the debt at the corporate level (likely well exceeding 30% of



deconsolidated capital), but also the relative size of the group’s overall indebtedness when including the corporate debt. Here, not only would the rating be lower at the corporate level, the credit risk from the corporate leverage negatively impacts the ratings of the subsidiaries. In this case, all the individual ratings in the group are negatively impacted.



#### 4e. Captive Finance Companies

In cases where a company with substantial manufacturing or other operations owns a captive finance company (CFP), the rating of the CFP takes into account the relationship with and the creditworthiness of the parent. Depending on the degree of independence/support, the CFP’s rating can range from above to below the parent’s rating.

#### ANALYTICAL APPROACH

- A CFP could be rated higher than the parent, depending on the value and first claim ability of the CFP assets, the relationship between the CFP and the parent, the stand-alone strength of the CFP and how strong the base operating company ratings are to begin with. In most cases, the difference in ratings between the CFP and the parent would be limited to one notch. To exceed this limit, the CFP would have to be less than 50% controlled by the parent and there would have to be some comfort that the CFP had a franchise that would not be meaningfully damaged by major challenges at the parent.
- A CFP could be rated lower than the parent when the stand-alone strength of the CFP would be considered as below the rating of the parent, when the produce financing activity is not considered as “core” to the parent, when there are products financed beyond the parent’s activities that have meaningful challenges/weaknesses and when there is not an acceptable support agreement (such as a guarantee) in place.
- Credits that are rated equal to the parent company would have characteristics that practically fall between the two aforementioned situations.

### GENERAL CONSIDERATIONS FOR HOLDING COMPANY RATINGS

The case examples above should be considered in light of the four sections below. Each section provides a number of considerations that help with the assessment of the, at times, complex nature of holding companies. In turn, this helps with the identification of risk and the assessment of the degree of risk. As

there is no one-size-fits-all approach, the weighting of these considerations is dependent on the specific facts of the group being evaluated.

## RATIONALE

Understanding the reasons for the use of a holding company can help with the overall credit assessment. There can be a number of potential benefits to a corporate family when operating under a holding company. There can be disadvantages as well. Some of the more important factors include the following:

### Advantages:

- (a) **Better access to liquidity** – In some instances, parent companies have better liquidity than their operating companies because of (i) multiple income streams, (ii) other liquid holdings or, in many cases, (iii) having the ability to sell shares in their investments.
- (b) **Superior diversification** – Parent companies can be better diversified, with a few or many operating subsidiaries in (i) regulated or non-regulated sectors, (ii) different geographies and (iii) different industries, etc.
- (c) **Tax advantages** – Parent companies often have more opportunities for group tax planning.

### Disadvantages:

- (a) **Structural subordination** – The parent company's third-party debt is normally subordinate to the operating company's third-party debt.
- (b) **Double leverage** – This occurs when the parent company issues third-party debt and advances it to the operating company in the form of equity, which allows the operating company to borrow against it.
- (c) **Tax deductibility** – Total interest at the parent company may not be fully tax deductible if its income is modest.

## STRUCTURE

It is important to review a group's functional and legal structure using a simplified organizational chart. The existence of intercompany agreements and the potential to commingle funds are normally important factors in the evaluation. When such factors are extensive, it typically reduces the distance between ratings at the different entities.

- (a) **Members of the group** – All key subsidiaries should be identified to ensure all material assets, investments and operations are included. Determine the quality and value of the assets and the entity's financial strength. Determine the subsidiaries' diversity and market position.
- (b) **Method of ownership** – The holdco may hold intercompany preferred shares and debt, as well as equity in the subsidiaries.
- (c) **Minority interest** – Identify any ownership by third parties in the subsidiaries. Review whether this affects voting control and governance, limiting the holdco's role in operating, distribution

and strategic decisions. When third-party ownership is material, the holdco should limit the deemed credit support from that subsidiary.

- (d) Funding** – External funds may be raised at either the holdco or subsidiary level, or both. Internal cash flows may circulate freely within the group or be restricted. The holdco may have a bank facility that restricts the subsidiaries from borrowing, which may create a consolidated credit. If the subsidiaries are also able to borrow, the credit may need to be reviewed on a deconsolidated basis, including intercompany cash flow (dividends, interest, management fees, etc.).
- (e) Double leverage** – Funds borrowed by the holdco can be passed down by way of equity investments, mirror-image lending, subordinated lending, etc. If it is passed down by making equity investment in the subsidiary and the subsidiary uses the increased equity base to increase borrowing, double leverage is created. If it is passed down using intercompany debt, the debt may rank below (subordinated) or equally with the subsidiary’s third-party other debt.
- (f) Special intercompany funding** – Some groups use a combination of reciprocal debt and preferred shares between a holdco and subsidiary in their tax planning. They are normally excluded from capital or cash flow calculations.
- (g) Cross-guarantees** – Guarantees up to and down from the holdco can be used to bolster the credit strength of a smaller subsidiary or to consolidate the entire group from a credit perspective.
- (h) Integration** – The group is integrated operationally (with support between the holdco and subsidiaries), as opposed to a pool of independent investments (with little support from the holdco).
- (i) Holdco liquidity** – The holdco may have assets such as cash, marketable securities, etc. that may result in additional credit support in addition to credit support received from the subsidiaries. A holdco can also sell shares in the investments depending on (i) the amount of time involved and (ii) any additional issues if selling from a control position.
- (j) Reporting issuer** – If the parent and/or operating companies are not reporting issuers, there may be limitations in raising new funds if only the private markets are available. This could increase the potential for the group to commingle funds.

## QUALITATIVE

In assessing the degree to which a parent company would provide credit support to an operating company, or vice versa, it is important to understand how critical the operating company is to the parent company and the group overall. Also note that, while it may be possible for the parent company to abandon a subsidiary, it may not be practical to do so because of the integration and/or interdependence of the businesses. Bankruptcy courts are less likely to view a holdco and subsidiary as separate entities if their operations are integrated (i.e. piercing the corporate veil).

(a) **Holdco leverage** – Holdcos with meaningful debt could put pressure on operating companies to maintain dividends by restricting subsidiary expenses and capital expenditures, which could be problematic over the longer term.

(b) **Inferred support** – There may be brand-name or other negative market and/or customer consequences that could lead to a parent company supporting an operating entity even when it could walk away from the investment.

(c) **Intent** – The following factors are used to assess the relationship between a parent and its operating companies:

- Cross-default provisions.
- Economic incentives for the parent to support the subsidiary.
- Statements made by the parent company in support of the subsidiary, publicly or privately.
- The extent of parent company management control of the subsidiary.
- The effect on investor confidence if the parent company supported or didn't support the subsidiary.
- Whether the strategic importance of the subsidiary to the parent is critical.
- Shared name and reputation risk between the parent and subsidiary.
- Whether the parent and subsidiary are located in the same country.
- Past and/or ongoing tangible support provided by the parent.
- The size of the subsidiary in terms of total investment.
- The size of debt at the subsidiary that the parent would support.
- The parent's financial capacity to provide support.

## FINANCIAL STATEMENTS

a) **Cash inflow** – EJR might review the source of the holdco's cash inflow to assess how stable it is. One way to assess the stability of incoming dividends is to understand the dividend payout ratio at the operating entities. Normally a higher dividend payout ratio carries more risk in times of stress.

b) **Dividend restrictions** – If there is regulation at the operating level, there could be meaningful restrictions on its ability to pay dividends. This could also be the case when entities are in different countries.

c) **Cash outflow** – EJR reviews how the holdco uses its cash to support liquidity and any deficiencies. This may include internal funding to support the group, strategic investing and ways potential shortfalls could be addressed, such as cutting common dividends, dividend reinvestment plan (DRIP) programs, etc.

d) **Additional assets** – Some holdcos have meaningful amounts of cash and marketable securities on hand that could bolster the liquidity provided by cash inflows. EJR will normally take a conservative view in assigning additional credit for cash and securities unless there is strong tangible evidence that these resources will not be used for acquisitions, dividends or share buybacks or be transferred to subsidiaries.

e) **Future Prospects** – An understanding of the holdco's future intentions can be relevant to help determine if the holdco intends to maintain its current credit profile over the longer term.

## APPENDIX 5 PREFERRED SHARE AND HYBRID CRITERIA

The following outlines the EJR rating approach to preferred shares and hybrid instruments including the manner in which EJR assesses the “equity weighting” to be given to a hybrid or preferred security/instruments, as well as the rating of the hybrid or preferred share instrument itself. In general, preferred shares are considered subordinate to debt and EJR’s ratings are reflective of that fact with the norm being a one cut notch from the subordinated debt rating and typically at least two notches down from the Company’s senior unsecured rating. Exceptions are when a company has few slices of capital such as merely having preferred stock and common equity (and no intention to issue debt), in which case the preferred would probably not be notched down to the extent it normally would be. Another exception is when preferred shares have a term (i.e., term preferred) which is shorter than a material portion of the company’s debt or when the preferred shares are issued by the entity generating cash and debt is at the holding company level (i.e., structural subordination). Additional complexities arise in the case of cross jurisdictional holdings. In the case of perpetual preferred and perpetual hybrid instruments, the face value or principal (in the case of many hybrids) can be deferred indefinitely in the case of an ongoing enterprise. Therefore, adjustments should be made to measure credit quality.

Concerning whether preferred should be treated as equity, the below sections provide some guidance.

### Background

When assessing the equity weighting as applied to hybrids or preferred shares, the key question is: “How closely does the instrument replicate the characteristics of common equity?” Common equity has the following attributes: (1) no maturity date, i.e., “Permanence,” as discussed below; (2) given its junior ranking, common equity provides a buffer or loss absorption mechanism for all other creditors, i.e., “Subordination” (see below); and (3) no ongoing payments that could trigger default if missed, i.e., “Legal” (see below). In many cases, hybrids and preferred shares will have some, but not all, of these attributes. These attributes constitute the three key factors considered by EJR in evaluating the financial risks and benefits that a hybrid brings to an issuer.

“Hybrid” is a term used by EJR to describe financial instruments that combine certain characteristics of both debt and equity. Hybrids typically combine the equity features of preferred securities with the tax deductibility of debt instruments. There is a wide variety of hybrid combinations in the marketplace, with new versions emerging from time to time. Investors are attracted to hybrids because the coupon rates are normally high, relative to the general credit quality (i.e., default probability) of the issuer. This compensates investors for some combination of risks that are not present with more traditional “plain vanilla” types of debt.

The more common such risks include: (1) hybrids are normally deeply subordinate in the capital structure, meaning that holders have a very junior claim in the event of default and bankruptcy; (2) many hybrids allow the issuer some ability to defer interest payments for up to five years without triggering a default; (3) hybrids may allow the issuer the ability to repay obligations in common stock, and (4) hybrids are often very long-term in nature and are, in some cases, perpetual.

Preferred shares are normally less complicated than hybrids and, next to common equity, hold the ranking as the most junior security. As discussed herein, preferred shares are by definition equity and typically command a very high level of equity weighting. EJR believes that there is a difference between debt and equity, regardless of the features that might attract equity weighting. As such, all things being equal, preferred share instruments will typically garner higher equity weighting than debt hybrid instruments.

In assessing the equity weighting to apply to a hybrid or preferred share instrument, EJR will consider the factors of Permanence, Subordination and Legal, noting that the relative proportion of preferred to hybrid shares to common equity is also an important factor to be discussed separately within these criteria.

### **Permanence**

In order to receive the highest level of equity treatment, the security should be close to perpetual status, with no maturity or cash repayment requirement, as with common equity. Since it is rare to find perpetual securities with no call provisions, this attribute is sometimes achieved by having coupon and principal payments paid with common shares. If this is at the issuer's option, it is known as a "soft retraction" feature. Preferred shares with a "hard" retraction feature can only be repaid with cash at the issuer's option. Those securities where market reset mechanisms could lead to redemption if the coupon cost became prohibitively expensive in relation to then-current market rates are typically treated as debt-like, if the reset feature increases the chance that they would be redeemed for cash at some point in the future. Securities for which a trustee is required to sell stock into the open market to raise cash to pay off the hybrid are not considered valuable from an equity treatment perspective.

The subjective issue of issuer intent can play a key role in determining Permanence. For example, virtually all new issues of hybrids today have call options allowing for redemption within five years of issue. Regardless of payment in kind (PIK) or deferral options, it is difficult to give equity consideration to securities if the issuer is likely to redeem them for cash after only five years, unless there is some assurance that it will be replaced with a similar or better security, in terms of equity consideration. There are also cases where the pricing penalty at the end of five years becomes so severe that it increases the probability that the issuer would use a call feature to redeem the securities. As such, while a hybrid may be perpetual on a legal basis (since there is no legal mandatory redemption or ability for the holder to retract for cash), it would not be given equity consideration if, in all likelihood, redemption after five years is expected. Gauging the issuer's intent, therefore, becomes a very important consideration, and hybrids that must be evaluated in the context of an issuer's future capital structure plans.

This may raise the related question as to why EJR is comfortable in treating preferred shares as 100% equity, even though the issuer typically has the ability to redeem the preferred shares with debt financing. Its rationale involves the following considerations:

(i) As already noted, EJR only treats preferred shares as equity when it believes that the issuer has no intent to replace the preferred shares with debt in the future.

(ii) While this may appear to be a subjective standard, it is important to note that a company has the flexibility to alter its capital structure in various ways at any time. Even common equity can change quickly, if a company decides to buy back stock or pay a meaningful special dividend. It views these events as similar to an unexpected reversal in a company's desire to maintain its outstanding preferred equity.

(iii) When EJR assesses an issuer's financial risk, a critical component of its assessment is its opinion as to the appropriate capital structure. If this changes for any reason, rating changes are possible. The treatment of preferred shares is not an isolated item, but is viewed by EJR as part of its overall expectation for an entity's future capital structure.

(iv) Notwithstanding the ability of companies to issue moderate amounts of preferred equity to be treated as equity, there is no "free lunch." All preferred share dividend payments (not just those in excess of the 20% threshold) are considered in such metrics as the fixed charge coverage and the analysis of free cash flow.

(v) It is not an event of default for preferred dividends to be undeclared. While it is true that this does not typically occur until a company is under severe stress, the same holds true for common dividends. As noted above, EJR assesses both in the context of free cash flow. Preferred share dividends are seldom the leading factor for cash flow issues, which are more commonly the result of items such as reduced business prospects, high debt levels, common dividends and capital expenditure.

(vi) Historically, there have been few instances of companies that have altered their views on preferred shares such that they are replaced with debt, and EJR expectations have been proven wrong.

### **Subordination**

Although not equivalent to the lowest-ranking status of common equity, most hybrid instruments are deeply subordinated. Hybrids typically rank just above any traditional outstanding preferred shares, which would rank last in line before common equity. Hybrids provide a cushion for higher-ranking debt holders and creditors in cases of bankruptcy.

### **Legal**

Debt has a contractual obligation to pay principal and interest, with omission resulting in default or bankruptcy. Cross default triggers being common. While an issuer will go to great lengths to maintain common share dividends, this is not a fixed requirement that could lead to default if omitted. In a crisis, reducing or omitting the common share dividend is an option that the issuer will likely consider. While preferred shares typically have the ability to indefinitely avoid declaring a dividend, hybrids typically only have the ability to defer coupon payments without triggering default for a set period of time. While both preferred and common dividends can be missed without triggering default, an issuer is typically more reluctant to omit a preferred dividend payment (noting that common dividends may not be paid if preferred shares are in arrears).

Nevertheless, consideration must be given to the fact that taking these options could impact future issuance for the company, and that headline risk is possible and some payment options may have a

dilutive aspect that the company may wish to avoid. These considerations represent challenges that are all part of the complexity in assessing the correct equity weighting for hybrids.

In general, the easier and longer an issuer can pass on payments, the more equity-like is the security in question. In the event that the deferral option is used, the ability to pay an accumulated obligation with equity is a valuable one.

Permanence (including issuer intent) and Legal considerations are typically the key drivers differentiating hybrids from one another, and can lead to diverse equity weightings. The EJR treatment of individual instruments uses a blend of qualitative and quantitative considerations that will all relate to the three overriding factors mentioned above. Assessing equity weighting for hybrids is not simply a quantitative exercise.



## APPENDIX 6 CREDIT RATING SYMBOLS, NUMBERS, OR SCORES

Credit ratings are based, in varying degrees, on the following considerations:

- Likelihood of payment-capacity and willingness of the obligor to meet its financial commitment on an obligation in accordance with the terms of the obligation;
- Nature of and provisions of the obligation;
- Protection afforded by, and relative position of, the obligation in the event of bankruptcy, reorganization, or other arrangement under the laws of bankruptcy and other laws affecting creditors' rights.
- The credit rating definitions are expressed in terms of default risk. As such, they pertain to senior obligations of an entity. Junior obligations are typically rated lower than senior obligations, to reflect the lower priority in bankruptcy, as noted above. (Such differentiation applies when an entity has both senior and subordinated obligations, secured and unsecured obligations, or operating company and holding company obligations.)
- EJR derives its "watch" assignments from the difference between the current and projected ratings. No difference between the two results in a "stable" watch, a higher projected rating results in a "positive" or "POS" watch and a lower projected rating results in a "negative" or "NEG" watch. The absence of a projected rating results in a "developing" or "DEV" watch or no watch being populated. The addition of a POS or NEG is at the discretion of the analyst or Rating Committee and usually results from the direction the rate is expected to move over time.
- For structured finance rating, EJR will assign the "(sf)" modifier to any related ratings. Where applicable, an "AAA" rating in structured finance would denote by "AAA(sf)"; the "(sf)" symbol only indicates that the security is a structured finance instrument. The following asset types are generally considered SF transactions and would therefore be assigned the "sf" modifier: asset-backed securities (ABS), residential mortgage-backed securities (RMBS), commercial mortgage-backed securities (CMBS), collateralized debt obligations (CDOs), insurance securitizations, and asset-backed commercial paper (ABCP) programs.

**Credit Rating Scale**

Long-Term Credit Rating	Short-Term Credit Rating
AAA	
AA+	
AA	A1+
AA-	
A+	A1
A	
A-	A2
BBB+	
BBB	A3
BBB-	
BB+	
BB	
BB-	B
B+	
B	
B-	
CCC+	
CCC	
CCC-	C
CC	
C	
D	D

**Long-Term Credit Ratings**

**AAA**

An obligation rated 'AAA' has the highest rating assigned by Egan-Jones. The obligor's capacity to meet its financial commitment on the obligation is extremely strong.

**AA**

An obligation rated 'AA' differs from the highest-rated obligations only to a small degree. The obligor's capacity to meet its financial commitment on the obligation is very strong.

A

An obligation rated 'A' is somewhat more susceptible to the adverse effects of changes in circumstances and economic conditions than obligations in higher-rated categories. However, the obligor's capacity to meet its financial commitment on the obligation is still strong.

BBB

An obligation rated 'BBB' exhibits adequate protection parameters. However, adverse economic conditions or changing circumstances are more likely to lead to a weakened capacity of the obligor to meet its financial commitment on the obligation.

BB, B, CCC, CC, and C

Obligations rated 'BB', 'B', 'CCC', 'CC', and 'C' are regarded as having significant speculative characteristics. 'BB' indicates the least degree of speculation and 'C' the highest. While such obligations will likely have some quality and protective characteristics, these may be outweighed by large uncertainties or major exposures to adverse conditions.

BB

An obligation rated 'BB' is less vulnerable to nonpayment than other speculative issues. However, it faces major ongoing uncertainties or exposure to adverse business, financial, or economic conditions which could lead to the obligor's inadequate capacity to meet its financial commitment on the obligation.

B

An obligation rated 'B' is more vulnerable to nonpayment than obligations rated 'BB', but the obligor currently has the capacity to meet its financial commitment on the obligation. Adverse business, financial, or economic conditions will likely impair the obligor's capacity or willingness to meet its financial commitment on the obligation.

CCC

An obligation rated 'CCC' is currently vulnerable to nonpayment, and is dependent upon favorable business, financial, and economic conditions for the obligor to meet its financial commitment on the obligation. In the event of adverse business, financial, or economic conditions, the obligor is not likely to have the capacity to meet its financial commitment on the obligation.

CC

An obligation rated 'CC' is currently highly vulnerable to nonpayment.

C

A subordinated debt or preferred stock obligation rated 'C' is currently highly vulnerable to nonpayment. The 'C' rating may be used to cover a situation where a bankruptcy petition has been filed or similar action taken, but payments on this obligation are being continued. A 'C' also will be assigned to a preferred stock issue in arrears on dividends or sinking fund payments, but that is currently paying.

D

An obligation rated 'D' is in payment default. The 'D' rating category is used when payments on an obligation are not made on the date due even if the applicable grace period has not expired, unless Egan-Jones believes that such payments will be made during such grace period. The 'D' rating also will be used upon the filing of a bankruptcy petition or the taking of a similar action if payments on an obligation are jeopardized.

Plus (+) or minus (-)

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

NR

This indicates that no rating has been requested, that there is insufficient information on which to base a rating, or that Egan-Jones does not rate a particular obligation as a matter of policy.

### **Short-Term Credit Ratings**

A-1

A short-term obligation rated 'A-1' is rated in the highest category by Egan-Jones. The obligor's capacity to meet its financial commitment on the obligation is strong. Within this category, certain obligations are designated with a plus sign (+). This indicates that the obligor's capacity to meet its financial commitment on these obligations is extremely strong.

A-2

A short-term obligation rated 'A-2' is somewhat more susceptible to the adverse effects of changes in circumstances and economic conditions than obligations in higher rating categories. However, the obligor's capacity to meet its financial commitment on the obligation is satisfactory.

A-3

A short-term obligation rated 'A-3' exhibits adequate protection parameters. However, adverse economic conditions or changing circumstances are more likely to lead to a weakened capacity of the obligor to meet its financial commitment on the obligation.

B

A short-term obligation rated 'B' is regarded as having significant speculative characteristics. Ratings of 'B-1', 'B-2', and 'B-3' may be assigned to indicate finer distinctions within the 'B' category. The obligor currently has the capacity to meet its financial commitment on the obligation; however, it faces major ongoing uncertainties which could lead to the obligor's inadequate capacity to meet its financial commitment on the obligation.

C

A short-term obligation rated 'C' is currently vulnerable to nonpayment and is dependent upon favorable business, financial, and economic conditions for the obligor to meet its financial commitment on the obligation.

D

A short-term obligation rated 'D' is in payment default. The 'D' rating category is used when payments on an obligation are not made on the date due even if the applicable grace period has not expired, unless Egan-Jones believes that such payments will be made during such grace period. The 'D' rating also will be used upon the filing of a bankruptcy petition or the taking of a similar action if payments on an obligation are jeopardized.

## APPENDIX 7 TESTING OF RATING METHODOLOGIES AND RATING MODELS

There are numerous steps required for the testing and validation of the rating methodologies and models. Testing is conducted to confirm that the firm's approach is sound. In testing and validating its Methodologies EJR takes the following approach for randomly chosen credits:

<b>Data Capture</b>	ensure that the appropriate data is being capture for the issue
<b>Data Validation</b>	ensure that the data captured is accurate
<b>Data Placement</b>	ensure that the data is being properly inputted
<b>Data Projection (where applicable)</b>	ensure that the assumptions are properly being applied in calculating the projected financial statements while projected rating is presented
<b>Ratio Selection</b>	ensure that the proper credit ratios are being selected for the issuer
<b>Ratio Calculation</b>	ensure that the ratios are being properly calculated
<b>Peer Selection</b>	ensure that the selected peers are comparable to the issuer
<b>Industry Ratios</b>	ensure that industry ratios provide a reasonable representation of the spectrum of credit quality for the industry
<b>Implied Senior Rating</b>	ensure that the issuer's credit position is properly translated into the Implied Senior Rating
<b>Publication</b>	ensure that the report is properly published and that the action is recorded in the publication log and in the rating database.
<b>Rating Review</b>	ensure that the rating actions are properly presented to the RRC.

In the case that no financial model is used, the rating analysis and key calculation that reflect the rating methodology shall be tested by the same approach above as appropriate.

## APPENDIX 8 NON-SUBSCRIPTION RATINGS

A non-subscription rating, which includes private placements, are generally prepared for a restricted audience, where the rating, any supporting report, and knowledge of the rating, are circumscribed in accordance with the terms of the arrangement between EJR and the issuer or third party.

Non-subscription ratings may include issuer participation, be based on publicly available information, and may be initiated by Egan-Jones, the Issuer or an interested third party. Non-subscription ratings may be used for a variety of reasons including, but not limited to an issuer request for the purposes of issuing debt to a small number of investors who intend to use the rating as a rating opinion; a rating opinion requested by an investor, regulator, government, or other interested third party; analyze transaction party and/or counterparty credit exposure for Structured Finance ratings. The sharing of all knowledge, information and records regarding a non-subscription rating is limited in accordance with the terms of the arrangement with the issuer, investor, or third party who requested the rating and in adherence to Egan-Jones policies and procedures.

The first step in the ratings process is to acquire information about the issuer. For publicly-traded issuers, EJR uses financial information from publicly available and recognized reliable sources such as Edgar, IMF, and others. EJR may also use the non-public information provided from clients directly, especially for non-subscription ratings.

EJR analysts apply the same methodology, policies and procedures as the subscription ratings but in the case of corporate ratings, often with a focus on EBITDA and cashflow measures rather than earnings. When assessing the credit rating, EJR will determine on the most appropriate metrics including credit industry ratios, loan to value, debt service coverage and other measures.

For non-subscription ratings (which includes private placements), EJR provides confidential, unmonitored, unpublished indicative ratings at its sole discretion. The indicative rating generally includes a rating range or an approximate rating based on the limited information provided, has a certain validation period (such as 30 days, etc.), and is not approved by the RRC. Documentation evidencing the delivery of indicative ratings shall be retained, as applicable.

Before issuing the final rating, non-subscription ratings are generally reviewed by the RRC, other analysts, supervisors, or senior managers before a rating action is formally taken. Detailed voting process can be found in “Rating Review and Ratings Review and Policy Committee” section. After the rating approval, the rating report will be delivered to the client solely unless other delivery requests are given by the client.

EJR provides a private rating and its surveillance based on client’s request. The Ratings Group provides the initial private rating report, in which a notification of one-year rating validation period from the date of issuance of rating is included unless specified otherwise. Ratings expire if not followed with surveillance ratings.

## APPENDIX 9 EQUIPMENT LEASE AND LOAN METHODOLOGY

This document describes EJR's approach to rating equipment assets (i.e., loans and leases) which do not contain a waterfall liability structure. In contrast to transactions with security or collateral whereby the analysis is based primarily on the credit quality of the obligor, in the case of pooled assets, the emphasis of the analysis is on the underlying assets and the performance of the pooled assets.

Funding equipment via leases or loans provides an efficient means for meeting the needs of obligors and investors. Using such a structure facilitates the distribution of risk and yet avails the obligors of low-cost funding. Below is a description of the methodology used by Egan-Jones for rating such transactions. The key steps in the rating process are listed below and described in greater detail:

- Asset analysis
- Financial structure, cash flows, expected losses, resulting liability coverage, and a comparison to the implied rating matrix
- Originator and servicer review
- Credit support analysis
- Transaction documentation and legal analysis
- Final ratings
- Surveillance.

Asset and Obligor Analysis includes a review of the type of equipment, usage, industry trends, value deterioration, remarketing process and costs, and residual value assumptions. Key considerations are the performance of the asset pool, delinquencies, bankruptcies, foreclosures, assets owned, and prepayments. Additional considerations are the spread between assets values and liabilities, condition of the assets, concentrations, prior credit characteristics, risk factors, obligor data, and trends. An acceleration in the delinquencies and losses for the pool would generally be considered a negative event. EJR makes best efforts to review the time, cost, and potential losses associated with remarketing assets and, where appropriate, the reasonableness of residual value assumptions.

Financial Structure, Cash-flows, Expected Losses, Resulting Liability Coverage, and a Comparison to the Implied Rating Matrix analyzing the financial structure of the transaction involve analyzing the payment priority and credit enhancements. EJR uses cash flow models to determine the adequacy of the credit enhancement structure using the default, recovery and/or loss expectations. EJR aims to determine the true level of credit support by subtracting from the calculated credit support the various delinquencies (30, 60 and 90+ day delinquencies when available), bankruptcies, foreclosures, and assets owned in order to obtain EJR "adjusted asset coverage" or "adjusted credit support." In addition, an evaluation is made of the debt service coverage. EJR then compares the two coverage measures to an EJR credit matrix which calibrates minimum support levels by rating levels (the higher the level, the higher the implied rating) in order to obtain an implied credit rating. Ratings analysts review the implied rating in conjunction with its assessment of any difference between historical performance and expected future performance, and evaluates the likely future coverage.



Below is an analysis framework for a simple transaction:

Year	Contracted Equip Income	Shortfall	Realized Equip Income	Expected Residual Values	Realized Residual	Total Revenue	Principal at \$80
	<u>1</u>	<u>2</u>	<u>3=2-1</u>	<u>4</u>	<u>5</u>	<u>6=3+5</u>	<u>7</u>
1	23.0	0.5	22.5			22.5	16
2	23.0	1.0	22.0			22.0	16
3	23.0	0.5	22.5			22.5	16
4	23.0	0.5	22.5			22.5	16
5	23.0	0.0	23.0	30.0	41.0	64.0	16
<u>Debt Service Coverage</u>				<u>Liability Coverage</u>			
Year	Interest at 5%	Total DebtPmt	Debt Serv Coverage	Asset Value	Principal	Liability Coverage	
	<u>8</u>	<u>9=(7+8)</u>	<u>10=6/9</u>	<u>11</u>	<u>12</u>	<u>13=11/12</u>	
1	4.0	20.0	1.13	100.0	80	125%	
2	3.2	19.2	1.15	82.5	64	129%	
3	2.4	18.4	1.22	65.0	48	135%	
4	1.6	17.6	1.28	47.5	32	148%	
5	0.8	16.8	3.81	30.0	16	188%	

In the above simplistic example, \$100 of equipment is financed using \$80 of debt at 5.0%, and the contracted annual equipment income is \$23 per annum. The equipment is assumed to experience real depreciation of \$17.5 per annum. The resulting debt service coverage is listed above in column 10 and the resulting liability coverage is listed column 13. As illustrated above, assuming the projections are accurate, credit quality improves steadily over the term of the transaction. The rating(s) assigned is ultimately based on judgment of analysts, but the debt service coverage and liability coverage are significant components. Below section is the information sought on transactions to be rated.

**Originator and Servicer Reviews:** While EJR’s analysis of the credit quality of the underlying collateral is the key part of the rating process, the risk caused by operational weaknesses is often not apparent in the collateral characteristics but manifests itself in pool performance. EJR believes conducting originator and servicer reviews provides a limited indication of the risk attributable to an originator level of risk management and disclosure. The factors which might be included in a servicer analysis include corporate stability, financial condition, management and staff experience, technological capabilities, policies and procedures, controls, and historical servicing performance. Below section is information for ratings.

**Credit Support Analysis:** In some cases there is credit support; a prime example being that of a monoline insurance firm’s support. If such support is provided, EJR will include it in assigning a rating.

**Transaction Document and Legal Analysis Review:** EJR does not review the transaction documents addressing the characteristics of the underlying assets pool to confirm structure, duties of the transaction parties, servicing and reporting provisions or the representations and warranties, as would be provided by the transaction parties. The publicly available representations and warranties provide assurances that certain facts about the collateral and transaction parties can be relied upon.

**Assigning the Ratings:** After an analysis is completed, the rating is assigned and listed in the rating analysis report (RAR). Such ratings are subsequently reviewed. Rating file documents notes are retained by EJR.

**Surveillance:** EJR's surveillance of existing transactions follows the same approach and adheres to the same regulatory requirements as those for assigning new ratings, as described above. Transactions are monitored on an ongoing basis with an updated rating action (affirmed, upgraded, or downgraded). Transactions are monitored for variations in performance that are outside the norm for stipulated collateral, or deviations from EJR's initial performance expectations. Rating actions for transactions may occur frequently particularly if performance of the underlying pool of assets exhibits rapid deterioration.

## INFORMATION FOR RATINGS

### **Sponsor/organizer/servicer:**

- Description of the firm and its principals
- Organizational charts
- Strategy, market position, focus
- Three years audited financial statements and pro formas
- Regulatory and compliance issues, litigation (current and pending)
- Recent developments
- Description warehouse lines and debt terms
- Origination process
- Training
- Underwriting process
- Documentation administration
- Performance on prior programs
- Servicing, billing, and collection expertise/ process
- Cash controls
- Equipment support expertise
- Remarketing expertise

### **Sponsor/organizer/servicer information specific to transaction:**

- Underwriting criteria
- Underwriting approval and exception reporting
- Servicing and collections policies and procedures

- Contract amendment and modification procedures
- Charge-off and repossession policies and procedures
- Collateral Data/Portfolio Stratification

**Description of the equipment:**

- Type of equipment and manufacturers
- Age
- Usage
- Maintenance
- Remarketing
- Valuation support
- Residual value support

**Portfolio data:**

- Obligors – profile, selection
- Underlying lease or note terms, original and remaining, yields, periodicity
- Delinquencies, contract modifications, defaults, and charge-offs/ losses
- Remarketing experience/ recoveries
- Obligor concentrations
- Obligor industry distribution
- Geographic distribution and concentrations;
- Original and remaining terms
- Vendor concentrations

EJR's method for assigning ratings is consistent with the EJ Ratings Code of Conduct and documented in detail in a combination of the EJ's published methodologies and its internal policies and procedures. The Rating Process above addresses EJ's general approach to initiating and monitoring ratings, review by the RRC, and updating of ratings.

## APPENDIX 10 FUND METHODOLOGY

In this report, EJR presents its methodology for rating funds. The universe includes all types of funds globally such as exchange-traded funds, model-driven funds, short and long duration funds, and portfolios, warehouses, and other similar vehicles (collectively “Funds” or “Fund”).

The methodology provides information on the credit quality/support of assets targeted for investment by funds, measured in the context of the portfolio’s Weighted Average Life (“WAL”), which is the key duration benchmark used to determine the portfolio’s expected loss. EJR’s rating addresses the composite expected losses from an investment in the fund. Qualitative considerations may affect the rating, such as the strength of the fund manager or sponsor, or a material and persistent deviation from the fund’s strategy. In determining whether a fund can be rated, Egan-Jones considers the availability and quality of information regarding the financial instruments held in the fund.

Funds are distinct from long-term fixed income financial instruments in several respects. From a strictly legal perspective, fund equity investors own shares (rather than the underlying debt instruments themselves) that represent an interest in a portfolio of financial instruments. The shares are generally undated, but investors expect to be able to redeem them on demand, subject to short transaction settlement periods. Investors buy Fund shares over a variable investment horizon often linked to the investment objective of the Fund rather than to any of the underlying investments.

### Overview of the Methodology

The Fund methodology is based primarily on an assessment of a Fund’s portfolio credit strength. EJR assessment of credit quality is based on metrics EJR believes are appropriate including traditional credit metrics, loan to value, summary metrics and other measures. However, adjustments may be made if the Fund holds unrated financial instruments and/or the use of derivatives. The portfolio’s expected or sample WAL is used as the benchmark for measuring its expected loss. In some exceptional cases, the rating may be influenced by the financial strength of the sponsor and its adherence to articulated Fund strategies.

### Credit Matrix, Portfolio Expected Loss, and Weighted Average Life

A specified amount of expected loss is derived using a Credit Matrix, which compiles: 1) each financial instrument’s actual, estimated or derived long-term rating and 2) the expected loss associated with that rating based on a comparison of the expected loss for such rating given the financial instrument’s maturity using Egan-Jones expected loss table. The expected loss of the portfolio’s financial instruments is then aggregated to determine “Portfolio Expected Loss”. The Weighted Average Life (“WAL”) is derived based on the remaining lives of the underlying financial instruments. If all the Fund assets are not known, a sampling or judgement might be utilized for determining the WAL. Ultimately, the level of WAL is a matter of judgement.

The ratings of the underlying financial instruments are subject to review by a rating committee. Financial instruments that are not rated by Egan-Jones’ are assessed based on other sources of information and through the use of other analytic techniques. In those cases where EJR derives a rating for a financial

instrument, EJR typically derives the senior unsecured rating and then makes adjustments for the seniority and other characteristics. For example, in the case of senior secured debt, EJR would typically up-notched from the senior unsecured level. Conversely, in the case of subordinated debt and preferred stock, there would be down-notching. In the case of common stock, there would typically be an additional down-notching. In assessing these financial instruments, EJR considers the Fund manager’s internal credit assessment of such financial instruments as well as the process used to arrive at the assessments. A statistical sampling of the portfolio (minimum of 10%) will be conducted for existing Funds; for de novo Funds, analysts may weigh prior experience of the Fund manager and expected results for the Fund.

Maturities	AA to A	BBB+ to BBB	BB+ to BB	B+ to B-	CCC to CC
2 <sup>nd</sup> year	Amounts				
4 <sup>th</sup> year					
6 <sup>th</sup> year					
8 <sup>th</sup> year					
10 <sup>th</sup> year					

**Adjustment for Portfolio Diversification**

Fund diversification may allow Fund investors to realize yields from some Fund holdings as an offset to possible losses from other holdings. For example, if a Fund holds investments in only a single firm, and there is a default, the investor normally could not expect to realize any coupon income and would be left with an expected loss. In a diversified Fund, by contrast, a Fund investor may benefit from yields from other holdings, which should offset at least in part the default loss. The level of diversification Fundis a matter of judgment. For example, analysts may consider that the Fund diversification after the “ramp-up” period for a de novo portfolio or Fund or similar vehicle. The possible levels of Fund diversification are expressed over three categories: high, medium, and low based on the following guidelines:

- Maximum single issuer holding 2% or less – high
- Maximum single issuer holding > 2% to 4% – medium
- Maximum single issuer holding > 4% to 6% – low
- Other – Non-diversified

**Adjusting for Expected Losses to arrive at the Fund Rating**

The portfolio yield is adjusted to reflect diversification to take account of expected portfolio losses by the following approach;

1. Factors of 75% for high diversification, 50% for medium diversification, 25% for low diversification and 20% for Non-diversified are applied against the Fund expected return to arrive at the Adjusted Portfolio Return. For example, if the composite yield of a Fund is 10% and the diversification is low, the Adjusted Portfolio Yield is 2.5%.

2. Estimated Losses are then reduced by the Adjusted Portfolio Return. For example, if the Estimated Loss is 4% and the Adjusted Portfolio Return is 2.5%, the Adjusted Expected Losses would be 1.5%.
3. Compare the Adjusted Expected Losses to the Expected Loss in view of the WAL using the Credit Matrix to arrive at the Fund rating. The upper limit on the rating is generally six rating notches above the weighted average rating of the bond Fund's holdings.

### Leverage

If we are rating the debt and/or preferred capital associated with the Fund (collectively the “Fund Capital”), after deriving a rating for the Fund, we will make a determination of whether the return on the assets is sufficient to cover the interest and/or dividends (collectively the “Yield”) on the Fund Capital. If the Fund assets include a material portion of equity-like instruments, we might consider the return on equity, asset appreciation, or similar measures as indicators of the expected yield on Fund assets, such as Capital Asset Pricing Model (“CAPM”). Provided the returns on the Fund assets exceed the yield on the Fund Capital, the difference shall be referred to as the “Excess Yield”. (The estimated loss on the Fund assets shall be adjusted by considering the Excess Yield (such as subtracting Excess Yield from the estimated loss on the Fund assets, or other adjustment as appropriate). In assigning a rating to the various capital components of the Fund, we might also consider the amount and composition of capital subordinate to the instrument being rated. The adjusted estimated loss shall then be compared to the corresponding rating levels for various estimated loss and considered in deriving the Fund Capital ratings.

### ADDITIONAL NOTES

#### Derivatives:

Funds may use derivative products for a variety of purposes, including hedging interest rate, currency, and other market risks; substituting for a direct investment in an underlying instrument; or seeking to increase returns. Adjustments to the Credit Matrix may be made if the use of derivatives for hedging purposes is material. The analysis of hedging derivatives only evaluates for potential added credit risk and does not attempt to take into account elements of market risk, which may be inherent to these derivatives. Certain derivative instruments, such as credit default swaps (CDS) and forward purchase contracts, can create direct credit exposure to a referenced security. For these types of derivatives, EJR considers the notional amount of the referenced security in its assessment of portfolio credit quality through the use of Egan-Jones’ Credit Matrix.

#### Impact of the Fund Manager and Sponsor

The primary consideration in arriving at a Fund rating is the composition of a Fund’s portfolio. Analysis of the implied credit in view of the underlying assets serves to confirm whether the Fund is in adherence to its stated strategy and guidelines. Since the Fund’s assets normally are legally segregated from the assets of the Fund’s sponsor or manager, the financial state of the Fund’s sponsor and manager themselves has no bearing on the credit quality of the Fund’s assets in the vast majority of cases. In

exceptional cases, however, the rating may be influenced by weakness of the Fund manager or Fund sponsor. Weak Fund managers or sponsors may deviate from the bond Fund's strategy, potentially resulting in a deterioration of Fund management, staffing, and overall credit quality.

**Monitoring Practices:**

To support its published rating opinions, Egan-Jones' analysts rely on regular information flows from the Fund company, independent third party administrators, and publicly available sources. Such information, including portfolio data, is updated and reviewed at least annually to ensure that the Fund's portfolio and management approach remain consistent with the Fund strategy and rating.

## APPENDIX 11 PROJECT FINANCE & INFRASTRUCTURE

This section provides guidance on project finance and infrastructure transactions (collectively Project Finance). Project Finance is the long-term financing of infrastructure, energy and other large-scale projects based upon the projected cash flows of the project. Some projects may still be in the planning stages or be under construction, while others are already operational. The project debt is most commonly non-recourse and may be secured by a first priority lien on all of the project's equity and assets, including rights to revenue under the project's contracts, so that investors are able to assume control of a project in an event of default.

In most Project Finance transactions, the project is organized as a bankruptcy-remote special purpose entity, such that the investors' interest in the project is shielded from financial difficulties that may affect the project's parent or equity holders. Assets that have been financed using this structure include but are not limited to pipelines, refineries, power generation facilities (renewable and non-renewable), toll roads, airports, docking facilities, mines, and various industrial facilities. EJR's approach to evaluating Project Finance transactions focuses on the project's ability to produce a stable revenue stream so that it can meet its financial obligations. The below table provides a summary.

**Operating Environment** - whether the project makes market sense, whether there is a need for the proposed facility, whether the environment will support the project, whether the proper licenses can be procured in a reasonable amount of time and at a reasonable cost, and ultimately whether investor can expect to see a return of their capital on time and in full. Factors vary by project, location, timing, and a variety of other variables.

**Market Positioning/ Strategy** - Projects that generate a substantial portion of their revenues from contracted sources are likely to be viewed as strong. EJR may evaluate the various counterparties to determine the quality of the project's cash flows. Although contracted cash flows should provide a project with a stable source of revenue, cash flows generated from weak counterparties could have a negative impact on a project's quality of cash flow. This is especially true if most cash flows are generated from counterparties whose credit quality is weaker than the project's credit quality.

**Construction Process and Risk** - In order for the project to meet its debt service payments, the project must typically be built on time and operate as originally expected. Construction is generally one of the most significant risks in a project because of the project's reliance on a limited number of assets to generate revenue.

Typically, a contractor with extensive experience building similar projects will be expected to complete construction on time and within budget. A contractor with limited experience constructing similar assets may have difficulty completing the project on time and within budget. The rating on a project's debt may be linked to the contractor's creditworthiness if EJR determines the contractor is irreplaceable or if there is a large amount of funding required to replace the contractor or break the EPC contract.

A strong project may be supported by a construction contract that includes financial bonuses and penalties for the contractor to build the project according to the original schedule and budget.



Appropriate liquidated damages provisions that align the economic incentives of the contractor and the project, and compensate the project for any loss or delay in production are positive.

**Operator** - The project operator is responsible for managing the project's overall operations. It is responsible for ensuring the physical plant is well maintained and is operating in an optimal manner. EJR will generally review the operator's experience with similar assets in order to determine if it can operate the project efficiently. EJR might also consider the operator's contractual agreement with the project in order to ensure its interests are aligned with those of debt investors. An effective contract usually includes financial bonuses and penalties that are based on the overall performance of the project.

**Technology** - The technology selected by the sponsor has a direct impact on the overall success of the project. EJR believes projects that utilize proven technology are more likely to experience success than projects that rely on untested technology. Many projects that rely on new technology have encountered severe operational issues that resulted in payment defaults and minimal recovery values. EJR typically reviews independent engineer reports and feasibility studies to determine if the project's technology is considered proven.

**Counter Parties** - Projects rely on a number of counterparties in order to operate effectively and generate revenue. The rating on a project could be limited to counterparty's rating or credit assessment under certain situations. Specifically, ratings on a project may be linked to counterparty if such entity has agreed to purchase all of the project's production for a certain period of time. The rating on the project could also be limited to the counterparty if such entity is providing a unique service and cannot be replaced. Major counterparties in a typical project finance transaction may include:

- **Power purchasers:** This category typically includes PPA off takers or merchant markets. For an offtake that is contractually obligated to purchase energy from a power project for a certain period of time, would be viewed as strong as long as the offtake's corporate rating or credit assessment is equivalent to or higher than the rating on the securities.
- **Suppliers:** This category typically includes fuel providers for power plants or raw material suppliers that are critical to the normal functioning of the project. EJR may evaluate the operational capacity, replaceability and credit quality of suppliers if they provide a critical function.
- **Service Providers:** This category typically includes O&M, technology or original equipment providers. EJR may assess the replaceability of the service party, specifically evaluating if the service provided is standard with market rate contracts and if there are adequate funds for replacement. If either the services or the equipment provided is proprietary, then the operational ability and credit quality of the service provider may be a key credit constraint on the project debt's rating.
- **Sponsors:** While project debt ratings are generally de-coupled from the sponsor's rating, a weak transaction structure may expose the project debt to the credit risk of the sponsor. In some instances, a well-capitalized parent of a subsidiary that is a service provider will guaranty the obligations of that service provider for the benefit of the project, in which case EJR would typically assess the strength of that guaranty and the guarantor's creditworthiness.

A PPA that permits curtailment and is based strictly on energy payments, or an EPC agreement with a contractor that has experienced financial difficulties, offers limited warranties of short duration, and provides no guarantee from a creditworthy parent would be considered weak.

**Financial Profile** - The Financial Risk Profile is determined by reviewing the expected financial performance. The amount of debt to be issued is an important factor in determining whether the leverage is appropriate at a given rating level. Overall cashflow expectations, availability of reserves, and leverage metrics, such as debt service coverage and expected outstanding debt at time of issuance and at maturity, are also evaluated.

The transaction structure chosen by the sponsor directly affects the likelihood that debt holders will be paid timely interest and repaid their principal by the maturity date. EJR typically evaluates the characteristics that enable the project to exist on a standalone basis without a linkage to its sponsor or parent. Although details will vary by transaction, as a general matter the primary requirements for de-linking the rating of the project debt to the rating of the sponsor or parent are:

- The project entity is structured as a limited purpose, bankruptcy-remote entity
- The debt investors have a security interest in the assets and equity of the project
- The project is contractually entitled to a cash flow stream that can support the proposed debt service under varying levels of financial stress

Most project finance transactions utilize a special purpose vehicle (“SPV”) as the issuer of non-recourse debt to reduce the risk that a project could be consolidated with a parent/sponsor in a bankruptcy or insolvency. The rating on the project debt may be limited to the sponsor’s or parent’s creditworthiness if EJR determines that the SPV is not adequately ring-fenced. In analyzing the debt repayment profile, EJR will generally rate transactions with fully amortizing structures with level debt service payments higher than transactions with a balloon payment that needs to be refinanced. EJR may also evaluate a project’s cash management system. A strong project generally segregates project funds, and uses an investment grade banking institution with significant assets and experience in cash management as a trustee or depository.

The financial risk profile is normally determined by evaluating the predictability and stability of the cash flows. Specifically, EJR typically evaluates the debt service coverage ratios and leverage metrics, refinancing risk, and the availability of liquidity. Each factor is described in detail below.

**Debt Service Coverage & Leverage** - EJR’s general approach is to evaluate the project’s operations, expenses, technology, and financial obligations, to gain insight into a project’s cash flow profile. EJR may utilize various financial metrics when evaluating a project, but the primary driver is the debt service coverage (“DSC”). DSCs provide insight into the project’s ability to service its financial obligations. EJR expects that an investment grade project could repay its debt under several scenarios, including those involving severe stress. The range of DSCs in the table below assumes that a project has a relatively stable cash flow profile. Projects that have volatile cash flows may need higher DSCs than projects with similar ratings and stable cash flows.

**Median Debt Service Coverage Ratios:**

AA	A	BBB	BB	B	CCC
<b>Over or equal to 3.5</b>	1.80 - 3.50	1.30 - 1.80	1.15 - 1.30	1.00 - 1.15	Less than 1.00

While DSCs constitute a critical part of the analysis, an assessment of the project debt’s amortization schedule may also significantly impact EJR’s view of the financial risk profile. For example, in the case of Term Loan B structures with periodic 1% mandatory amortization, lower amounts of cash flows will be required to meet a targeted debt service amount than in a transaction where full amortization occurs within the same timeframe. In Term Loan B structures or similar transactions, it is difficult to compare financial metrics purely based on DSCs. Consequently, EJR may evaluate the project on the basis of residual debt remaining at maturity and the likelihood of the debt being serviced if refinanced at a higher rate. For gas- or coal-fired power assets, EJR may quantify financial risk by looking at the project in terms of debt/KW. Amortizing structures where the debt is completely paid off are considered the most stable. Interest-only structures with no or minimal expected amortization are considered the weakest, all other things being equal.

A. Refinancing Risk - For projects where the debt is not scheduled to fully amortize by the maturity date, EJR typically assesses that the amount of cash a project can generate after its maturity date may be compared to the expected outstanding debt at maturity to determine the likelihood it will be able to be refinanced. EJR believes that a project’s debt will be refinanced if its post-maturity cash flows are reasonably expected to exceed the outstanding debt amount.

B. Liquidity Risk - Projects are operating assets and may experience intermittent operational problems. EJR generally expects investment grade projects to have significant liquidity, typically in the form of a debt service reserve account, to pay the project’s financial obligations during periods when the project is offline or experiencing financial stress. Investment grade projects will likely have a debt service reserve account sized to pay interest for a six to twelve month period and distribution tests to trap cash in case the project experiences stress. The reserve account could either be cash-funded or back-stopped by a letter of credit from a financial institution whose rating or credit assessment does not act as a constraint on the project debt’s rating.

Most projects also provide liquidity for maintenance expenses using a separate account either prefunded by the sponsor or funded and consistently replenished by project revenues over the course of the transaction. For some commodity related projects, there might also be a separate working capital account in order to provide the project with additional liquidity.

C. Sovereign Consideration - The ownership of a project by a sovereign or a project’s exposure to sovereign credit risk may impact a project’s credit quality. Sovereign risk may be considered when either the project or any material counterparty is located in a country with a hazardous environment

for normal business activities or where the contractual basis of economic activities may not be honored.

After the initial rating is assigned, EJR typically continues to monitor the transaction until the notes are fully repaid. EJR's surveillance process for project finance transactions generally involves a periodic review of the following:

- Periodic reports to determine if all payment obligations are being met
- Trends in financial performance of the transaction
- Financial performance and condition of the operator or sponsor
- State of the industry to which the project pertains

The information gathered during surveillance will indicate whether the credit quality of the transaction has changed from the time of the initial rating assignment or the most recent review that may result in a change to the transaction's rating.