Article Title: Criteria | Corporates | General: Recovery Rating Criteria For Speculative-Grade Corporate Issuers Data: (EDITOR'S NOTE: —On June 27, 2023, we republished this criteria article to make nonmaterial changes related to the archival of "Issue Credit Rating Methodology For Nonbank Financial Services Companies," Dec. 9, 2014. See the "Revisions And Updates" section for details.) 1. This article describes S&P; Global Ratings' criteria for corporate recovery ratings. This article is related to our criteria article "Principles Of Credit Ratings," published Feb. 16, 2011, and is intended to be read in conjunction with "Sector And Industry Variables: Recovery Rating Criteria For Speculative-Grade Corporate Issuers," published March 7, 2022. 2. This paragraph has been deleted. A. SCOPE 3. These criteria are used to determine recovery ratings for the debt of issuers rated under our corporate methodology--or other methodologies used to rate corporate entities--with a speculative-grade rating, that is, a global-scale issuer credit rating (ICR) of 'BB+' or lower, including: Corporate issuers expected to restructure or file for insolvency in our Group A or Group B jurisdictions (see "Methodology: Jurisdiction Ranking Assessments"). Certain financial institutions and insurance issuers rated under our corporate ratings methodology that we expect to restructure or file for insolvency in our Group A or Group B jurisdictions. 4. For those companies not in the scope of this criteria, see the "Scope Exclusions" section at the end of this article. 5. This paragraph has been deleted. 6. This paragraph has been deleted. 7. This paragraph has been deleted. B. FRAMEWORK 8. These criteria outline our methodology for assigning recovery ratings, which estimate the percentage of principal and accrued interest due at the point of hypothetical default on a company's debt instruments that can be recovered following its emergence from a hypothetical bankruptcy. We round recovery rates down to the nearest 5%, and present them within a range of expectations that correspond to specific recovery ratings, which range from '1+' to '6' (see table 1). We generally then use the recovery rating and the ICR to derive the debt issue credit rating. Debt issues that have materially stronger recovery ratings will generally have higher issue credit ratings than debt issues with lower recovery ratings for a given ICR. 9. Our recovery ratings are not precise numerical recovery estimates. Instead, they indicate our estimated recovery expectations for debt with a specific ranking or seniority. That's because recovery rates are difficult to accurately predict given the large number of variables that determine actual recovery and uncertainty about when and if a company might actually default. The historical distribution of actual recoveries has varied widely. These variables include general macroeconomic and credit market conditions. Other variables include the relative seniority of claims, and the differences in negotiating strength among a company's creditors who may own debt at different group entities. 10. Our recovery rating analysis follows a common framework comprising six steps (see chart 1). Key Steps In Our Recovery Analysis Step 1: Decide whether, following a hypothetical default, the company would be restructured as a going concern or liquidated 11. We determine if, following the point of hypothetical default, the company is likely to be: Restructured as a going concern, which we expect to be the case in most instances, where we generally use an EBITDA multiple valuation approach, or Liquidated, which we expect to be the case in a minority of instances based on empirical data, where we would generally use a discrete asset valuation (DAV) approach. Step 2: Estimate the EV at emergence 12. We estimate EV generally by using one of three methods: The EBITDA multiple method, The DAV method, or Other valuation methods, including sector-specific approaches or a combination of the above three approaches. Step 3: Estimate the exposure at default (EAD) 13. We estimate the amount of debt (and certain nondebt) claims outstanding at the point of hypothetical default. We generally assume that the company will meet contractual debt repayments before the hypothetical default and that the final debt maturities due prior to the hypothetical default date will be refinanced at market rates. Common nondebt claims include pension deficits and other postretirement obligations as well as leases. Step 4: Allocate EV to each debt instrument 14. We allocate EV to the debt and nondebt claims (that is, EAD), according to a "waterfall" that reflects the relative ranking or seniority of each debt and nondebt claim, given local laws, customs, and insolvency regimes of the issuer and its subsidiaries. 15. The allocation of EV to the debt and nondebt claims results in an anchor recovery percentage for each debt instrument. Step 5: Determine if a recovery adjustment applies 16. We then assess whether to apply case-specific judgment to the anchor recovery percentage if we believe that it does not fully capture the potential recovery. The recovery adjustment may be applied to the aggregated EV or to a component of EV (see paragraphs 84-89 for details). If a recovery adjustment is applied, we then reallocate the adjusted EV

across the waterfall and determine an adjusted recovery percentage. Step 6: Determine if a recovery rating cap applies 17. We derive the final recovery estimate and recovery rating after assessing whether to cap the recovery rating. For example, our criteria typically cap the recovery and issue credit ratings of unsecured debt instruments and debt issued by companies from Group B jurisdictions (see paragraphs 90-98 for details). 18. We then generally derive the issue credit rating from the recovery rating and ICR (see table 1), subject to any issue rating caps that may apply. Recovery Rating Scale 19. We have not made any substantive changes to the recovery ratings scale (see table 1). 20. The criteria revise the conditions under which we would assign a '1+' recovery rating. It would be assigned to debt that has exceptionally strong collateral and structural protections (see paragraphs 100-103 for details). 21. We will round down our pinpoint calculation of the recovery rate to the nearest 5%. For example, a calculation of 49% would be rounded down to 45%. 22. See table 1 which shows how we map recovery percentages to recovery ratings. Table 1 Group A And B Jurisdictions FOR ISSUERS WITH A SPECULATIVE-GRADE ISSUER CREDIT RATING GROUP A JURISDICTION GROUP B JURISDICTION NOMINAL RECOVERY EXPECTATIONS RECOVERY RATING* RECOVERY DESCRIPTION GREATER THAN OR EQUAL TO LESS THAN GREATER THAN OR EQUAL TO LESS THAN ISSUE RATING NOTCHES RELATIVE TO ICR 1+ Highest expectation, full recovery 100% N/A N/A N/A +3 notches 1 Very high recovery 90% 100% N/A N/A +2 notches 2 Substantial recovery 70% 90% 90% 100% +1 notch 3 Meaningful recovery 50% 70% 50% 90% 0 notches 4 Average recovery 30% 50% 30% 50% 0 notches 5 Modest recovery 10% 30% 10% 30% -1 notch 6 Negligible recovery 0% 10% 0% 10% -2 notches *Recovery ratings are capped in certain countries to adjust for reduced creditor recovery prospects in these jurisdictions. Recovery ratings on unsecured debt issues are generally also subject to caps (see Step 6, paragraphs 90-98 for further detail). A recovery rating of '1+' or '1' can only be applied in Group A jurisdictions. ICR--Issuer credit rating. N/A--Not applicable. C. METHODOLOGY Step 1: Decide Whether Following A Hypothetical Default, The Company Would Be Restructured As A Going Concern Or Liquidated 23. Following a default, whether a firm continues as a going concern or is liquidated has historically been a key determinant of the actual level of recovery. Creditors typically receive higher recoveries if the company continues as a going concern. This reflects its turnaround potential (a liquidated company ceases to exist) as well as the value of assets such as its brands and customer base. On the other hand, liquidations are generally characterized by lower valuations of assets, because they are typically sold at significant discounts, and higher debt and nondebt claims, because long-term liabilities such as operating leases may be immediately payable on liquidation (rather than being repaid over time as a regular operating expense under a going-concern scenario). 24. We generally assume that defaulted companies will be restructured as a going concern rather than liquidated, based on empirical data. Liquidations are only assumed in a minority of cases where we believe the business model cannot be sustained. 25. The hypothetical default scenario used to derive our recovery ratings assumes that the company defaults because its earnings have declined below the level needed to cover its debt interest and debt principal as well as capital expenditure (capex) payments. Step 2: Estimate The EV At Emergence 26. We apply one or more of the following valuation approaches: EBITDA multiple valuation, DAV, or a sector-specific valuation approach (see table 2). Table 2 Valuation Approaches EBITDA MULTIPLE VALUATION DISCRETE ASSET VALUATION SECTOR-SPECIFIC METHODOLOGY This approach is typically used when we believe that the company will be sold or restructured as a going concern following a hypothetical default. It is the most widely used valuation approach in our recovery analysis. This approach is typically used when we believe that a liquidation of the business would be the most likely outcome following a hypothetical default. In addition, this approach is generally used when: This approach is used when the issuer operates in an industry where we believe a sector-specific valuation methodology is more suitable, such as, for example, for certain real estate companies, and the oil and gas exploration and production sector. · The issuer’s industry is asset-intensive, for example, transportation (airlines and shipping); and asset-heavy (oil & gas equipment companies, leisure, telecom, and homebuilders) financial services firms transacting financial assets, such as most investment holding companies. These industries are characterized by liquid secondary markets for key assets and the availability of independent asset appraisals. · We believe that a DAV provides a better estimate of realizable value, for instance, when the issuer has raised asset-specific financing to fund

the acquisition of a discrete set of assets. 27. We may use a combination of these approaches to value different business segments or asset holdings. For example, when valuing conglomerates, depending on the nature of the subsidiaries, we might value some using an EBITDA multiple approach and others using a DAV approach. Similarly, if a company owns substantial liquid assets that have value independent of its operations (real estate, for instance), we may value the assets using a DAV approach and the rest of the company using an EBITDA multiple approach. EBITDA multiple valuation 28. We calculate EV at the point where the issuer is assumed to emerge from bankruptcy using the following formulas: 29. EV = Emergence EBITDA x EBITDA multiple 30. Emergence EBITDA = Default EBITDA proxy x (1+ cyclicality adjustment) 31. Emergence EBITDA, or EBITDA at emergence following a hypothetical default, is a proxy for the company's continuing EBITDA, which we believe potential acquirers or restructuring experts would use to value a company (rather than a forecast EBITDA at the exact point of emergence). 32. To calculate the emergence EBITDA, we estimate the default EBITDA proxy (which we sometimes refer to as a fixed-charge proxy). This is our view of the level of EBITDA below which the company could not meet its fixed obligations. This is based on the company's existing debt structure and is the sum of: Interest expense due in the "hypothetical year of default" (see paragraphs 34, 57, and 58). Principal amortizations due in the hypothetical year of default, which are capped at 5% of the original principal to be amortized and exclude bullet or ballooning payments (see definitions) due at maturity. A minimum level of capex (minimum capex), which we assume must be spent to allow the company to continue as a going concern. This estimate should be forward looking to a hypothetical default scenario and thus be relatively stable absent a fundamental change to the business or our expectations. This level is typically below the company's ongoing capex, but higher than minimum maintenance capex. Our base assumption is that capex will be 2% of three-year average revenues (or pro forma revenue as appropriate for entities that for example have recently undertaken an acquisition or disposal). We may revise this in certain circumstances (see the Recovery Adjustment section). The base capex assumption for financial corporates will often be amended through the recovery adjustment to reflect the often low capital intensity of financial corporates. In selected cases, we may include other cash payments that the company is contractually or effectively obligated to make, and that are not already captured as an operating expense in EBITDA (for example, pension deficit funding obligations). These may include cash payments for financial corporates that we assume are imposed by regulators in our default scenario. 33. The default EBITDA proxy calculation excludes operating lease payments because they are already accounted for as an operating expense in EBITDA, and income tax payments, which are assumed to be zero or negligible at the point of default. In addition, our recovery methodology treats capital and finance leases as operating leases, and thereby also excludes them from our default EBITDA proxy calculation. 34. Our default EBITDA proxy calculation takes into account our hypothetical year of default for the company. Generally, our year of default assumption is linked to the ICR, as issuers with lower ICRs are assumed to default within a shorter time frame than issuers with higher ICRs (see table 3). The link between the ICR and the hypothetical year of default is established to simulate a default under our recovery analysis and is not predictive of an actual default. Table 3 Year Of Default By Issuer Credit Rating RATING OF THE ISSUER SUGGESTED TIME TO DEFAULT 'CCC-' and below <1 year CCC 1 year CCC+ 1.5 years B- 2 years B 3 years 'BB-' or 'B+' 4 years 'BB' or 'BB+' 5 years 35. We typically do not assign or maintain recovery ratings for an entity rated 'D'. On rare occasions, we continue assessing the recovery expectations of debt instruments issued by companies following an actual default. In such a case, our analysis is not based on a hypothetical year of default, but on the actual year of default. 36. We derive the EBITDA at emergence after applying a cyclicality adjustment for potential cyclical rebounds in EBITDA. This adjustment will change the default EBITDA proxy if a cyclical industry downturn is assumed to have contributed to the hypothetical default and we expect the industry to at least partly recover by the time the company is assumed to emerge from bankruptcy. This adjustment is guided by the industry cyclicality assessments we derive from our industry risk criteria (see "Methodology: Industry Risk" and "Standard & Poor's Assigns Industry Risk Assessments To 38 Nonfinancial Corporate Industries," published on Nov. 20, 2013). Industries are grouped into four categories, each with different assumed levels of EBITDA rebound potential (see table 4). Table 4 Cyclicality Adjustment CYCLICALITY INDUSTRY CYCLICALITY ASSESSMENT CYCLICALITY ADJUSTMENT (CYCLICAL

EBITDA REBOUND EXPECTATION)* Low Very low risk (1) and low risk (2) 0% Intermediate Intermediate risk (3) 5% Moderate Moderately high risk (4) 10% High High risk (5) and very high risk (6) 15% *Adjustments to default EBITDA proxy. For subsectors in secular decline, this assumption will be set to zero. 37. EBITDA multiple.The final step in deriving the EBITDA multiple valuation is determining the EBITDA multiple that is applied to the estimated EBITDA at emergence, which we estimate typically ranges from 5x-6.5x, based on our empirical analysis. However, the EBITDA multiple is not fixed, and we would consider revising it if empirical analysis of factors such as future defaults, valuations, and actual recoveries warranted that. 38. We have derived our industry-specific EBITDA multiples from empirical analysis of historical EBITDA multiples of both companies that did not default (nondistressed companies) and companies that were sold or restructured as a going concern after an actual default. This empirical data primarily relate to data on U.S. companies that have defaulted and then emerged from bankruptcy, and S&P; Global Ratings' proprietary data on rated companies that have defaulted since 2007. 39. We have derived our industry-specific EBITDA multiples by applying a discount to the actual historical EBITDA multiples (market EBITDA multiples) for nondistressed companies in the same industry. The market multiples and discounts that we applied to derive the industry-specific valuation multiples that we will use are published in "Sector And Industry Variables: Recovery Rating Criteria For Speculative-Grade Corporate Issuers." The market EBITDA multiples were derived from 15-year last 12-month (LTM) S&P; Capital IQ valuation multiples. 40. We discount the market EBITDA multiples to reflect our view that companies that have defaulted and are then restructured as a going concern will continue to be valued at lower multiples than nondistressed companies. The size of the discount is based on our analysis of the lower EBITDA valuation multiples of companies that have defaulted and emerged from bankruptcy, compared with the market EBITDA multiples of companies in the same industry. 41. The ranking of the sectors according to their 15-year LTM valuation multiples is generally consistent with our EBITDA multiples for each of the industries we rate. In other words, those industries with the lowest market multiples have the lowest EBITDA multiples, and those industries with the highest market multiples have the highest EBITDA multiples. 42. Typically, the EBITDA multiples that we plan to use to derive our anchor recovery percentage are at 25%-40% discounts to the market multiples. However, for a few industries with the highest market multiples, the EBITDA multiples that we plan to use to derive our anchor recovery percentage for companies in those industries are at discounts about 50% lower than the market multiple. 43. The size of the discount was largely derived by testing different EBITDA multiples to determine the impact of the different multiples on EV and recoveries on a portfolio of rated corporates that have defaulted. Different discounts to the market multiples were tested to determine which discounts and resultant EBITDA multiple and EV would have resulted in the greatest improvement in our estimated recoveries compared with actual recoveries. Going forward, we may change the EBITDA multiples (and the discounts to the market multiples that we use to derive our EBITDA multiples) that we use to derive anchor recovery percentages for companies in a certain industry. We may do this if in our view it is warranted by our empirical analysis of variables such as market multiples and EV, EBITDA multiples, valuation discounts, and actual recoveries of companies that have defaulted and were restructured as a going concern. 44. Companies within a specific industry may be heterogeneous and exhibit materially different growth prospects and risks. The recovery adjustment (see paragraphs 84-89) allows us to adjust our EBITDA multiples, if appropriate, for such differences. 45. While we may typically apply a DAV approach for certain sectors (see below) and an EBITDA multiple may not be predetermined for such sectors, it may be appropriate in what are expected to be rare circumstances to value some such companies using an EBITDA approach. For such companies, we would apply an EBITDA multiple based upon the most appropriate peers. DAV 46. We may evaluate enterprise value using the DAV method in the instances we believe an entity is likely to be liquidated (in whole or in parts), as opposed to restructured as going concern, following a default. Because of the highly heterogeneous nature of rated global corporate entities, asset value estimations (at default) are generally based on our best estimates of the break-up value, which includes an assessment of the potential for value erosion leading up to and at default. Asset-based valuation methods applied typically differ depending on the type and nature of assets an entity holds on balance sheet, sector-specific and local market-standard valuation approaches, availability of valuation data, reporting and accounting requirements, country specifics, and any legal and regulatory risks. For

instance, valuation of a portfolio of equity investments could take into account factors that determine the default scenario, such as maintenance covenants or liquidity, or characteristics of the portfolio. The most common techniques we may apply include, but are not limited to, discount-to-book or market value, relative value, and the income capitalization approach (common in valuing real estate). 47. We typically assume, based on historical experience, that asset values erode because of the reduction in the value of most fixed assets with the passage of time, due in particular to wear and tear, and/or because when a company is liquidated, it is typically distressed, which is reflected in lower asset valuations. Our estimate of potential value erosion incorporates: A dilution (depreciation) factor to reflect the assumed economic decline in value and possible reduction in fixed assets, in the period before the assumed point of hypothetical default; and A realization factor to reflect the assumed decline in value due to the challenge of valuing and selling assets when the company is distressed. In addition, we typically include an estimate of selling costs, if material, associated with the sale of the assets in our evaluation. For fixed assets, our evaluation of asset value at point of default typically considers regular depreciation of book values in line with general accounting standards for that asset class and region until the year of default. We may adjust the depreciated book value in case there is demonstrable evidence of market values materially exceeding book values, which, for example, is typically the case in the U.S. real estate sector (see "Key Credit Factors For The Real Estate Industry," published Feb. 26, 2018). The realization factor for most assets is typically asset and, in some cases, country specific, since each asset class and its valuation is typically bespoke. We generally derive estimates from, when available, empirical data of actual historical value reduction in a distressed scenario, or low points in the asset valuation cycle. When there is no historical sector-specific market data available, we may determine the appropriate level of stress by researching available market data and benchmarking to historical valuations of comparable assets. Asset classes that typically exhibit less volatility in valuations and where the resale market is deep and liquid will generally be subject to less onerous stressed valuations (such as high-quality inventory, accounts receivable, etc.). Conversely, asset classes, or individual assets, that are non-standard, obsolete, or where the resale market is illiquid are likely to be subject to more significant stresses (up to and including a full loss and no recovery value). See Appendix 3 of these criteria and "Sector And Industry Variables: Recovery Rating Criteria For Speculative-Grade Corporate Issuers" for details on the types of discounts that we apply in the valuation of different asset classes. Sector-specific valuation methodologies 48. For companies or assets with unique valuation characteristics, we use sector-specific valuation approaches. Examples of these include certain limited life asset companies, real estate companies, regulated utilities, investment holding companies, and various nonbank financial institutions (for more details on the different valuation approaches, please see Appendix 4). For the assumptions used in the recovery analysis of oil and gas exploration and production companies, see "Revised Assumptions For Assigning Recovery Ratings To The Debt Of Oil And Gas Exploration And Production Companies," published Sept. 14, 2012. 49. Real estate companies.The content of this paragraph has been moved to Appendix 4. 50. The content of this paragraph has been moved to Appendix 4. 51. The content of this paragraph has been moved to Appendix 4. 52. The content of this paragraph has been moved to Appendix 4. 53. The content of this paragraph has been moved to Appendix 4. 54. Limited life assets.The content of this paragraph has been moved to Appendix 4. Step 3: Estimate The EAD 55. We then estimate the EAD at the point of hypothetical default. We generally assume that the EAD at emergence is the same as the EAD at default. However, if a company files for bankruptcy and has announced a debtor-in-possession facility (or similar), we may include the facility in our final recovery analysis before withdrawing the recovery rating. We generally assume that the debt and nondebt claims at default are unchanged from the time of our most recent analysis of a company's recovery ratings, except as follows in paragraphs 56-68. 56. Debt claims include estimates for principal outstanding and accrued interest at the time of our hypothetical default. 57. Prepetition interest.We typically assume that all debt claims at default include interest accrued in the six months prior to the hypothetical default. The prepetition interest is generally based on either a fixed interest rate or a variable interest rate, comprised of a benchmark rate and a variable margin. For variable-rate instruments with financial covenants, we generally assume a minimum margin for the first- and second-lien facilities to reflect the potential margin increase as credit quality deteriorates ahead of the hypothetical default. For further details on the prepetition interest rates

that we apply, please see "Sector And Industry Variables: Recovery Rating Criteria For Speculative-Grade Corporate Issuers." 58. Our benchmark rate is generally comparable to the relevant currency's long-term 15- to 20-year average benchmark interest rate (for example, the Euro Interbank Offered Rate (EURIBOR) for euro-denominated debt). However, in certain cases, when the rate is very high, we cap it to avoid distorting the valuation. These instances have historically been more frequent in Group B jurisdictions. See "Sector And Industry Variables: Recovery Rating Criteria For Speculative-Grade Corporate Issuers" for further details. 59. For standby letters of credit that we assume will be undrawn at default, we only include the margin for the calculation (and not the benchmark rate). 60. We will generally increase the principal amount of debt assumed to be outstanding at the point of hypothetical default when we expect: Debt drawdowns, including revolving credit facility (RCF) drawdowns, before the hypothetical year of default. Additional debt issuance before the hypothetical year of default. We will include additional debt issuance when permitted by existing debt documentation, and in our view debt is very likely to be raised in the short to medium term. Where an uncommitted or committed exposure has a committed back-up line, then only one of these facilities would be considered as outstanding at default. 61. We make the following assumptions regarding debt reduction: Bullet debt maturities due prior to the hypothetical year of default are generally assumed to roll over and be refinanced on similar terms at prevailing market interest rates at the time, unless we believe that the company will repay the debt at maturity. Scheduled amortizations: We generally assume that debt amortizations due more than six months before our hypothetical default are paid, unless they cumulatively exceed 40% of the original principal. We generally assume that any amortization in excess of 40% would be too large to be repaid and require refinancing, that is, at least 60% of the original principal would need to be refinanced. In circumstances where we believe a higher level of amortization is highly likely, such as when the cash flows are matched to the amortization schedule, or where the debt is already materially amortized and there is clear visibility on the ability to meet the remaining schedule, or where there are material available cash balances, then the contractual amortization schedule can be used even if greater than the 40% amortization cap. We may use current or estimated principal amounts when the original principal or repayment amounts are not available. Cash flow sweeps are typically not expected as we assume that the company will be unable to generate sufficient cash flows for the sweep to apply. 62. RCF usage refers to cash drawings and capacity used for standby letters of credit. Our drawdown assumptions, based on empirical analysis, at the point of hypothetical default are: Committed cash flow RCFs: We typically assume 85% will be outstanding. Uncommitted RCFs: We typically assume an amount equivalent to the facility's regular drawings will be outstanding. Asset-based loans: We typically assume 60% of the committed facility will be outstanding. 63. For receivable securitizations and factoring programs, we typically assume that the amount drawn under the facility is equivalent to the seasonal low point of its borrowing base. 64. Exceptions to the assumptions in paragraphs 62 and 63 may be applied if we have more specific information regarding current or projected usage, if there are drawdown restrictions due to covenants, or if there is limited availability under borrowing base formulas. We generally assume that standby letters of credit are drawn in a liquidation, and undrawn for a going concern, unless they serve as collateral for other debt. In that case, we would assume the letters of credit are drawn and the collateralized debt is reduced. If a stand-alone facility is secured by specific collateral, we assume that the collateral value is unavailable to other creditors. We generally assume that capex, acquisition, and delayed drawdown facilities are undrawn unless we have reason to believe otherwise. This may be based on our assessment of a company's plans, pending funding needs, current utilization levels, or past utilization experience. 65. Nondebt claims include nondebt liabilities that we believe will have a claim on EV. The amount of nondebt claims will vary depending on whether we expect a firm to continue as a going concern or to be liquidated. We generally assume, based on empirical data, that more liabilities are payable in case of a liquidation scenario. In contrast, we assume that, for example, contingent liabilities will generally not become due if a company is restructured as a going concern. 66. For a going concern, we typically include in nondebt claims at default: If material, liabilities relating to unfunded pension schemes and other postretirement employee benefits, Litigation or environmental liabilities that are unusual or significant (and thus not otherwise captured in our valuation), and Deficiency claims on operating and finance leases or other long-term contracts (for example, purchase

contracts) that we expect to be canceled. 67. We typically exclude tax liabilities and derivative termination costs and other liabilities unless we are aware of sizable and unmitigated senior tax or derivative liabilities. 68. In a liquidation scenario, we generally assume all liabilities become due and payable, and as such EAD would also include: All long-term obligations including operating and finance leases; long-term purchase, supply, or servicing contracts; as well as litigation or environmental liabilities (rather than just those that are significant or unusual); Contingent liabilities such as standby letters of credit, surety bonds, and performance guarantees (unless these contingent liabilities support the long-term liabilities cited above, which have already been included in the calculation of EAD); and Current liabilities such as trade payables and customer deposits. Step 4: Allocate EV To Each Debt Instrument 69. Once EV and EAD at emergence have been estimated, EV is allocated to the claims. The allocation follows a waterfall approach that reflects the debt instrument's relative ranking or seniority, as well as applicable laws, customs, and insolvency regimes. (See chart 2, which illustrates a simplified waterfall.) 70. Administrative costs are assumed to be paid out before all other liabilities. They include bankruptcy and other costs that generally are payable by companies in distress (such as legal, financial advisory, and accountancy costs) and are generally assumed to equal 5% of EV (after pension-related adjustments). They may occasionally be assumed to exceed 5% of EV (up to a maximum of 10%), if we expect the costs would be exceptionally high (for example, due to a complex structure, or a lengthy restructuring process). Conversely, in rare circumstances, the assumed costs may be below 5% (for example for the hypothetical default of a large company with a simple capital structure). 71. The following paragraphs in this section describe factors we typically consider when examining a debt and nondebt claim's seniority or ranking. The analysis of the relative seniority relies on contractual and structural provisions included in the documentation of the claim and applicable insolvency laws. 72. Certain debt or nondebt claims may rank at the top of the waterfall, for example, securitization-related and factoring-related liabilities, and debt at nonguarantor operating subsidiaries: Debt secured by liens, which generally ranks ahead of unsecured debt. We assume that the value available to secured creditors is limited to that of its collateral. The estimated value available to secured creditors will typically include the value of the assets pledged by the borrowers, guarantors, and affiliates. Debt lent to operating companies typically ranks ahead of debt lent to holding companies, as long as the operating companies are not guaranteeing the holding company's debt. Any residual value is assumed to be available to the holding company. However, if the debt or nondebt claims at the holding company are guaranteed by the operating subsidiaries, the claims of the holding company rank pari passu with those of the operating subsidiaries in the amount of the claim under the guarantee subject to the conditions described in paragraph 76. We may separately break out the value of nonguarantor subsidiaries if their value accounts for more than 5% of our estimated EV. 73. We generally assume that nonguarantor subsidiaries, particularly those operating in different jurisdictions from the holding company, do not default. This reflects the fact that the company and its creditors are often keen to avoid the complications and costs brought on by multijurisdictional bankruptcy filings. The calculation of EAD may also include securitizations and pension liabilities, and may reflect jurisdictional factors. For example, the amount and ranking of EAD claims in the U.S. may be different from that in other jurisdictions. 74. The estimated value available to secured creditors will typically include the assets pledged by the borrowers, guarantors and affiliates, including the pledge of equity in nonguarantor subsidiaries. This is relevant for holding companies in the U.S., where foreign operating companies may not guarantee or directly provide asset security coverage in favor of the holding company debt, but may instead provide a partial stock pledge to avoid adverse tax implications. 75. As part of our analysis, we look at the collateral and guarantees used to secure the debt. The starting point of our valuation is to include all of the company's assets, whether pledged or not. In cases, where we have evidence or conditions exist that support our belief that certain assets may not be available to creditors at the point of hypothetical default, we would ascribe no values to those assets. 76. In addition, when considering whether upstream guarantees from subsidiaries can bring holding company creditors pari passu with operating company creditors in the waterfall, we require that such upstream guarantees be unconditional, irrevocable, and we generally require that at least one of the following conditions is met (subject to jurisdictional considerations): 1) the subsidiary providing the guarantee benefits from the proceeds of the financing either directly or indirectly (for example, via downstreaming

of proceeds from the parent to the subsidiary; 2) the subsidiary is solvent at the time it grants the guarantee (for example, our view of the creditworthiness of the guarantor is equivalent to at least 'B-' at the time the guarantee is put in place; 3) the legal risk period during which the value of the guarantee could be invalidated has passed; 4) we have a legal opinion from outside counsel saying the upstream guarantee is valid. 77. We make the following assumptions for on- and off-balance-sheet securitizations: Under the EBITDA multiple approach, we include the securitization claim as a priority claim. Under the DAV approach, we exclude the securitization claim from EAD. We also exclude the related assets from EV. 78. Our treatment of pension liabilities is as follows: In a going-concern reorganization, we factor in deficits for pensions and other postretirement liabilities if three-year average tax-adjusted deficits are more than 10% of debt claims at default, and are expected to be above the 10% level in future years. (We would factor in the deficit if it was below or dropped below 10% of debt claims and we expect this to be temporary.) We do so by reducing EV by half of the three-year average of the tax-adjusted deficit. This reflects our assumption that investors adjust EV for those liabilities where deficits are material. The assumed 50% haircut is an approximation given limited empirical data. In U.S. going-concern reorganizations, we include the three-year average reported deficit as an unsecured claim if we believe that these plans are likely to be rejected (because pension and other postretirement claims rejected under U.S. reorganizations become unsecured claims). In a liquidation scenario, we typically assume that the three-year average reported unfunded pension and other postretirement liabilities are an unsecured claim. 79. Our treatment of lease rejection claims is as follows: Lease rejections are rare outside the U.S. and as such we generally do not assume lease-rejection-related claims outside of the U.S. In U.S., and other jurisdictions which allow leases to be canceled in a bankruptcy reorganization, we factor in potential lease-rejection-related claims if the total value of operating and finance lease liabilities is more than 10% of debt claims at default. Rejected-lease claims are treated as unsecured claims and estimated at 25% of the level of rejected-lease liabilities. In a liquidation scenario, in the U.S., and in other jurisdictions that allow leases to be canceled in a bankruptcy, we typically assume that all leases are rejected and typically estimate the claims at 25% of the lease liability. 80. Material borrower-specific liabilities may affect EAD in a going-concern analysis. Examples of such liabilities would include environmental and asset retirement claims, derivative termination costs, regulatory and litigation claims, and trade creditor claims. 81. Other liabilities that could become payable in a liquidation are calculated from the point of the most recent recovery review. We generally include trade creditor claims as unsecured claims for companies that we expect to be liquidated. Contingent liabilities under a going-concern analysis are generally assumed to become unsecured claims in liquidation. In a liquidation, we would include such claims if we believe they could materially reduce the recoveries of unsecured creditors. 82. We generally assume tax claims to be zero, in line with historic evidence, under a going-concern scenario. If we believe that the tax liability would be material, we would include the estimated liability as a claim. 83. Once we allocate value to a debt claim (after satisfaction of any prior-ranking claim), we divide it by the outstanding debt principal and prepetition interest to derive the anchor recovery percentage for that claim. Step 5: Determine If A Recovery Adjustment Applies 84. We may use a recovery adjustment if we conclude that the anchor recovery percentage does not adequately reflect a debt instrument's recovery prospects. This would typically be the case under the following circumstances as described in paragraphs 85 to 89. Valuation adjustments 85. A company's EBITDA multiple would typically be raised or lowered by 0.5x or 1.0x to reflect particularly high or low growth prospects (in comparison to its industry), or particularly favorable or unfavorable business prospects (which could be informed by the business risk profile that we assess using the Corporate Methodology). If the company has material assets with a short life, its multiple could be lowered by 0.5x or 1.0x. In addition, if an industry subsector has EBITDA market multiples or risks that materially differ from those of the overall industry, we would adjust the EBITDA multiple (generally subject to a -1.0x to +1.0x limit). 86. An operational adjustment may be made to the estimated emergence EBITDA in 5% increments, if it is considered to be too high or too low compared with peers' or if we believe that the estimated emergence EBITDA may understate or overstate the actual EBITDA that the entity could earn at emergence following a hypothetical bankruptcy. An operational adjustment may also be made if a company has low leverage compared with peers'; if there is clear evidence that maintenance capex should be greater than 6%, or if the

difference between current (or prospective) actual EBITDA and the default EBITDA proxy is materially greater or less than the typical discount to the actual EBITDA of peers with similar ICRs. However, if the company is close to default (that is, if it has an ICR of 'CCC+' or lower), the default EBITDA proxy could be similar to its current (or prospective) EBITDA. For additional guidance on the potential application of the operational adjustment, see Appendix 3. 87. The capex assumption incorporated into the default EBITDA proxy may be adjusted if we believe our standard assumption is inappropriate. If minimum capex is expected to be consistently below 2%, then we may reduce this assumption. Alternatively, if minimum capex is expected to be consistently above 2%, we might increase our base assumption in increments of 0.5% up to a maximum of 6%. In addition, where appropriate, we may revise our capex assumption for a particular company as revenues decline on the path to default, so that our capex assumption and enterprise value remain relatively stable. 88. For companies deemed to be in secular decline, the cyclicality adjustment can be removed and the EBITDA multiple may be lowered by more than 1.0x. 89. For issuers domiciled in Group A or B jurisdictions, which have a particularly high proportion of immobile assets (such as mines or oil wells) located outside of Group A or B jurisdictions, the calculated EV may be adjusted downward to reflect the risk of value diminution from these assets in a default scenario. Step 6: Determine If A Recovery Rating Cap Applies 90. We then assess if we need to cap the recovery rating. We typically cap recovery and issue credit ratings for: Unsecured debt (see table 5), Debt of issuers from Group B jurisdictions, and Issue ratings for entities with ICRs of 'BB+' and 'BB'. Unsecured debt caps Table 5 Unsecured Debt Caps For all corporates except regulated utilities and asset-intensive companies that benefit from a diversified portfolio of assets (such as REITS and certain financial corporates) where the ICR is in the: The recovery rating is generally capped at: ‘BB’ category 3 ‘B’ category or lower 2 For regulated utilities and asset-intensive companies that benefit from a diversified portfolio of assets (such as REITs and certain financial corporates) where the ICR is in the: ‘BB’ category 2 ‘B’ category or lower No cap 91. The unsecured debt cap is applied as we assume, based on empirical analysis, that the size and ranking of debt and nondebt claims will change prior to the hypothetical default. As an example, a company with an ICR in the 'BB' category may have no secured debt (at the time of our recovery analysis), but would be expected to have to pledge security to raise new debt or roll over existing debt if its credit quality deteriorates. This framework is designed to ensure that our recovery assessment on unsecured debt is capped unless the company is close to default or there are structural reasons (such as a more junior class of debt and sufficient debt protections) that should boost recovery prospects for unsecured creditors. 92. In exceptional cases, we may treat secured debt as unsecured debt. This could arise if we view secured debt as being effectively unsecured due to weaknesses in the security package or for debt with collateral that in our view may have little or no benefit, for example, if there is a springing lien that we do not expect would provide effective security at the point of default. 93. We apply less stringent caps for regulated utilities, because the regulations under which they generally operate often limit their ability to raise new debt. Furthermore, their EV has historically proven to be more resilient even when companies are distressed as their assets are integral to providing an essential, quasi-public service that cannot be readily replicated. The less stringent regulated utility caps do not apply to unsecured debt issued by unregulated utility holding companies or unregulated subsidiaries that are part of a utility group. The general caps that relate to other corporate entities apply to such entities. 94. We may apply the less stringent cap to companies in asset-intensive sectors with significant diversity of assets and clients, a history of relative EV stability, and relatively high asset liquidity, even under severe market stress scenarios (for example, REITs and certain financial corporates). 95. The less stringent caps may also be applied when unsecured debtholders benefit from significant structural protections (for example, as a result of government regulations, sector-specific market practices, or financial covenants) that require a minimal level of unencumbered assets or asset values at all times. 96. Table 6 below describes how the unsecured debt caps apply in Group A and Group B jurisdictions. Table 6 Unsecured Debt Cap Application NO. SITUATIONS UNSECURED DEBT CAP 1 Jurisdiction A, rating 'BB' category, sector "general" 3 2 Jurisdiction A, rating 'B+' and lower, sector "general" 2 3 Jurisdiction A, rating 'BB' category, sector "exception" 2 4 Jurisdiction A, rating 'B+' and lower, sector "exception" No cap 5 Jurisdiction B, rating 'BB' category, sector "general" 3 6 Jurisdiction B, rating 'B+' and lower, sector "general" 3 7 Jurisdiction B, rating 'BB' category, sector "exception" 3 8 Jurisdiction B,

rating 'B+' and lower, sector "exception" 3 Jurisdictional caps 97. For issuers expected to undergo insolvency proceedings in jurisdictions that we assess as Group B according to our criteria article, "Methodology: Jurisdiction Ranking Assessments," we cap the secured debt recovery rating at '2' to account for the lower creditor-friendliness and higher rule of law risk in those jurisdictions. For further details on the impact of the jurisdictional assessment on recovery ratings, please see table 1 and the criteria referenced above. Recovery ratings for ICRs of 'BB+' and 'BB' 98. The recovery prospects for the creditors of issuers rated 'BB+' and 'BB', which are assumed to be further away from any hypothetical default, may be less predictable and more variable than those of lower rated issuers. Given this, we typically do not notch up the issue credit ratings of debt instruments issued by companies with an ICR of 'BB' more than twice (from the ICR). Similarly, the ratings of debt issued by companies with an ICR of 'BB+' are typically not notched up more than once (above the ICR), regardless of the recovery rating. This guidance typically does not apply to debt issued by real estate or utility companies. Deriving The Recovery Rating 99. Finally, after having applied any potential recovery adjustments to the anchor recovery percentage, we estimate the adjusted recovery percentage. We map the adjusted recovery percentage to our recovery ratings and apply caps on the recovery rating if appropriate. We generally map the recovery rating to an issue rating (see table 1) and our published output reflects the adjusted recovery percentage incorporating any recovery rating caps and rounded down to the nearest 5%. 1+ recovery ratings 100. When the valuation indicates robust overcollateralization, we will consider whether it meets the conditions for a '1+' recovery rating. A recovery rating of '1+' would be assigned to a debt instrument when the instrument features exceptional collateral and structure, and meets the following conditions: 101. For general debt instruments: First-priority security position; Coverage of at least 250%, based on the portion of enterprise value represented by the collateral package (excluding equity pledges), and assuming that any committed and uncommitted incremental facilities are fully drawn (but with no increase in our estimated valuation for the company); and Where recovery prospects are assessed under an EBITDA multiple approach but where we believe there is a material risk of liquidation, collateral coverage of at least 100% under a DAV analysis (excluding equity pledges and assuming that any committed and uncommitted facilities are fully drawn). 102. For asset-based and similar loans (ABL): The ABL must have a first-priority lien on assets covered by the borrowing base; Drawdown must be determined by reference to a borrowing base tied to current assets such as receivables and inventory We must be confident that the ABL contains provisions that support the maintenance of the borrowing base and access to assets whose value will exceed that of the assumed ABL usage at default. Specifically we require that the ABL includes a cash dominion (see definitions) or springing cash dominion (see definitions) that triggers when excess availability under the ABL falls below 12.5% of the borrowing base. 103. For certain sectors, we may apply different overcollateralization thresholds based on the specific credit characteristics of the sector, for example, regulated utilities. D. DEFINITIONS *Adjusted recovery percentage: Recovery expectations for a debt instrument after the application of the recovery adjustment. In the case of valuation approaches other than the EBITDA multiple approach, there is no difference between the anchor and the adjusted recovery percentage. *Anchor recovery percentage: The recovery we expect, expressed as a percentage, from a debt instrument that we are analyzing for a rating, before the application of the recovery adjustment or any caps. Asset-based loans: Revolving loans secured by tangible assets, where drawdowns are linked to a borrowing base or similar calculation. These loans benefit from tight monitoring (that is, frequent valuations and borrowing base recalculations). Typically, these loans are tied to assets such as inventory, or accounts receivable that have a reliable open market value. Ballooning payments: Some facilities have a repayment schedule that increases over time, for example, 10% of the principal is repayable in years 1 and 2, 20% in year 3, and 40% in year 4. Borrowing base: A formula used to determine potential availability under an asset-based loan or compliance with debt covenants. Bullet repayment: A lump-sum payment for the bulk or entire amount of the remaining debt amount paid at maturity. Capital and finance lease: A lease considered to have the economic characteristics of asset ownership with the asset and liability included on the balance sheet. It would be considered a purchased asset for accounting purposes. Cash dominion: Dominions are used in ABLs and give the lenders the right to pay down loans with funds from the borrower's collection account when unused loan availability falls below a specified threshold. Cash

flow sweep: This term refers to a clause in the loan agreement between borrower and lenders detailing the conditions under which excess cash is used to make mandatory debt prepayments. Company: Our definition includes such entities as corporates, trusts, and partnerships. *Default EBITDA proxy: Sometimes referred to as the fixed-charge proxy, this is the level of ongoing EBITDA below which the company in our opinion would not be able to cover its fixed obligations from cash flows. *Default resolution: The conclusion of the restructuring and recovery process after which the company may either continue to operate as a going concern or stop operating upon liquidation. It may also refer to either of the following scenarios: emergence from bankruptcy, or insolvency or a debt restructuring under a going-concern scenario; or a wind-down of the business and liquidation of its assets under a liquidation scenario. *Emergence EBITDA: The EBITDA that we believe potential acquirers would use to value the business. It is a proxy for the company's expected EBITDA after emergence from default and might include the benefit of restructuring or cost reduction initiatives. It is not a forecast of EBITDA at the exact point of emergence from bankruptcy. Going concern: This means that we expect that the company will continue to operate after a default and restructuring following either an informal out-of-court debt restructuring; a formal, legal reorganization such as a bankruptcy; or a sale of the business. *Hypothetical year of default: Our assumed year of default. Letters of credit: An unconditional irrevocable obligation that is used as a payment of last resort, should the client fail to fulfill a contractual commitment with a third party. Liquidation: The scenario where a business ceases to operate, is wound down, and sells its assets. *Minimum capex: A minimum level of capex, which we assume must be spent to allow the company to continue as a going concern. Nonstabilized properties: Non-income-generating properties that are either under development or under construction; or raw land or properties that are completed, but have not achieved occupancy high enough to generate sufficient rent revenues and cash flows. Operating lease: In contrast to capital leases, operating leases are considered as true leases or rentals for accounting purposes. *Orderly liquidation value: The gross amount that typically could be realized from a liquidation sale, given a reasonable period of time to find a purchaser (or purchasers), with the seller being compelled to sell on an as-is, where-is basis, as of a specific date. Prepetition interest: Any unpaid interest that has accrued before default. Priority claims: Claims that are typically paid out before regular debt claims in the waterfall. Typically, these claims may include account receivable securitizations, finance leases, as well as debt at nonguarantor operating subsidiaries. Rejected operating leases: U.S. bankruptcy law provides companies the opportunity to accept or reject leases during the bankruptcy process. If a lease is rejected, which is typically because it is uneconomic, the company must discontinue using the asset, and the lessor may file a general unsecured claim against the estate for the amount of the liability that is not covered by the return of the asset (often referred to as the deficiency claim). Springing cash dominion: Springing cash dominions are used in ABLs and give the lenders the right to pay down loans with funds from the borrower's collection account when unused loan availability falls below a specified threshold and a financial covenant is breached. Stabilized properties: These are income-generating properties that have achieved high enough occupancy to generate sufficient rent revenues and cash flows. *S&P; Global Ratings criteria terminology. E. APPENDIXES Appendix 1: Superseded Or Partially Superseded Criteria The information in this appendix has been moved to the "Related Publications" section. Appendix 2: Scope Exclusions The information in this appendix has been moved to Section F. Appendix 3: Criteria Application Guidelines For All Sectors Intangible assets depreciation and realization rates Generally, we assign no values to intangible assets. However, included as appropriate are intangibles that are unique to the business, readily identifiable, generally desirable, and where the value of the asset can be quantified through appraisal of the asset. Our valuations are determined by applying a realization estimate (from a range of distressed realizations) to third-party appraisals, where the realization rate selected reflects our estimate of the intangibles' value at emergence or liquidation. Table 5 of "Sector And Industry Variables: Recovery Rating Criteria For Speculative-Grade Corporate Issuers" details the realization ranges that we generally apply to the appraised value of intangible assets. Working capital Shrinkage for working-capital assets depends on the default scenario that is assumed for the hypothetical default. If default is specified as a decline in demand for a company's products, finished goods inventory levels may not decline (shrink) significantly, but the realization rate we assume would reflect the lack of demand and thus be deeply depressed (at the lower end of the

range). Similarly, if the hypothetical default scenario assumes the loss of one or more major customers, the shrinkage in receivables may be significant even though the remaining customers continue to pay as agreed, with the realization rate at the higher end of the range. Although we generally assume cash shrinks by 100% in a liquidation scenario, for those sectors where we assume reorganization but value the company using a DAV approach, we may assume modest cash at emergence. Table 10 of "Sector And Industry Variables: Recovery Rating Criteria For Speculative-Grade Corporate Issuers" details the realization and depreciation rates that we generally consider for working capital assets. Investments/marketable securities We generally value marketable securities using a discount to the market value as appropriate. Fixed assets Shrinkage for fixed assets should reflect the expected remaining life of the asset and condition; the valuation basis is the higher of net book value or appraised fair market value. Liquidation scenarios would use the lower part of the realization ranges. Table 11 of "Sector And Industry Variables: Recovery Rating Criteria For Speculative-Grade Corporate Issuers" details the depreciation and realization rates that we apply to fixed assets in all sectors. Additional guidance on operational adjustments Estimated emergence EBITDA may understate or overstate the actual EBITDA that a reorganized company could earn. Typically, in such cases, the anchor recovery percentage would not adequately reflect a debt instrument's recovery prospects and we may consider making an operational adjustment. The prospective actual EBITDA the reorganized company could earn will depend on its sector and the unique attributes that determine its going-concern value and ability to reorganize successfully. Some of the indicators that emergence EBITDA might be over- or understated are listed below: Unusually high or low anchor recovery percentages compared with historical experience. Historical recoveries vary between sectors, but we would typically consider anchor recovery percentages for first-lien instruments of below 50% after capex adjustments to be unusual, unless explained by other company- or industry-specific factors, such as differences in fixed charges, multiples, or relative leverage, or priority claims such as pension obligations. Where a company's decline to emergence EBITDA differs substantially from that of its peers and this is not fully explained by other factors, such as differences in operating leverage, capital intensity, cyclicality, or revenue volatility. Anchor recovery percentages being low, despite high levels of asset coverage (that is, asset values we believe to be high relative to the company's leverage) or, conversely, high anchor recovery percentages where there is negligible asset coverage. Appendix 4: Sector-Specific Criteria And Application Guidelines Real estate companies (homebuilders) For homebuilders, we believe that at emergence, inventories (depending on the level of cash on hand) will generally be within 25% of current inventory levels. That's because we assume a certain level of cash is used to replenish and/or fund the buildup of inventory. If liquidity is very tight (the homebuilder is unable to raise capital in the markets and/or if revolver capacity is fully drawn), we assume that it would need to raise cash by winding down its inventory at an accelerated pace. After adjusting for any shrinkage in inventory levels, we assess the inventory realization rate characteristics for each inventory type, according to the table below. After that, we apply the inventory realization rate ranges detailed in table 7 of "Sector And Industry Variables: Recovery Rating Criteria For Speculative-Grade Corporate Issuers." Table 7 Inventory Realization Rate Characteristics INVENTORY TYPE HIGH MEDIUM LOW Completed homes/construction in progress -- Homes are priced at or below conforming loan limits -- Short cycle of time to completion -- Low level of speculative builds -- Higher mix of detached and attached houses -- Homes are priced predominantly within conforming loan limits -- Short-medium cycle of time to completion -- Low-moderate level of speculative builds -- Moderate mix of detached and attached houses -- Homes are priced above conforming loan limits -- Medium-long cycle of time to completion -- Low-high level of speculative builds -- Lower mix of detached and attached houses Land under development -- Less amount of time and capital needed to complete improvements and renovation -- Low level of inactive/ mothballed community land developments -- Moderate amount of time and capital needed to complete improvements and renovations -- Low-moderate level of inactive/mothballed community land developments -- Higher amount of time and capital needed to complete improvements and renovations -- Moderate to high level of inactive/mothballed community land developments Raw land -- Prime location -- Low level of entitlement requirements -- Recently acquired -- Average location -- Moderate level of entitlement requirements -- Mothballed -- Poor location -- Higher level of entitlement requirements -- Mothballed Other factors that are applicable to all the above inventory types -- Low

geographic concentration -- Low lot supply -- Low level of impairments expected -- Moderate geographic concentration -- Low-moderate lot supply -- Moderate level of impairments expected -- Moderate to high geographic concentration -- Moderate to high lot supply -- Higher level of impairments expected Definition of terms used in the table above Mothballed means development and marketing activity on a community property is put on hold or shelved. Low geographic concentration means that the locations of the home sites (community) are diversified into different markets and not concentrated in one or two. A high concentration could subject the homebuilder to more sensitivity to the demand in and the strength of that local economy. A low lot supply means that the homebuilder carries a low level of land inventory relative to other homebuilders. This signals that the homebuilder will likely sell those lots sooner and at or close to current prices, but also that it might need to acquire land at current prices as well. (At times of high demand or in markets that are short in land supply, it could mean that the homebuilder must acquire land at higher prices than other homebuilders, which could hold larger land supplies acquired years ago at perhaps discount prices.) Generally, it takes about two years to get a community developed (including entitling the land, meaning getting all the regulatory approvals to build the community) from raw land into sellable lots that are ready for home construction. So homebuilders typically carry four to seven years of inventory in various phases of development. Those that are near completion, and thus require minimal additional capital, would likely carry a higher value than those that need a lot more time and capital for the phase to be completed. Model homes and speculative built homes that remain unsold for a relatively long period of time may carry lower values than homes that are contracted to be sold at completion. Aircraft Shrinkage rates for fixed assets rely on the remaining life of the aircraft; depreciation rates (the depreciation factor is 1-depreciation rate) usually mirror the company's accounting assumptions for useful life. For aircraft, we usually apply aircraft-specific depreciation and realization rates, which we update periodically. Table 2 of "Sector And Industry Variables: Recovery Rating Criteria For Speculative-Grade Corporate Issuers" details the depreciation and realization ranges that we generally apply to aircrafts. Auto fleets For auto fleet assets, we adjust net book values (NBVs) for expected disposal costs. We believe NBVs are a good reflection of disposal values, and so we only apply limited discounts to NBV. Debt facilities tend to be secured by individual vehicles with fleet reductions resulting in a similar reduction in debt financing. Consequently, we do not shrink assets on the path to default. Table 3 of "Sector And Industry Variables: Recovery Rating Criteria For Speculative-Grade Corporate Issuers" details the depreciation and realization ranges that we generally apply to auto fleet assets. Containers and chassis For container assets, we use NBV (or appraised values, when available), depreciated to the year of default, and then adjust asset values based on the relative desirability of the container by type. Table 4 of "Sector And Industry Variables: Recovery Rating Criteria For Speculative-Grade Corporate Issuers" details the depreciation and realization ranges that we generally apply to container assets. Ships For ship assets, we generally adjust the depreciated appraised ship value (to the year of default) based on the age and demand of the asset. Table 6 of "Sector And Industry Variables: Recovery Rating Criteria For Speculative-Grade Corporate Issuers" details the depreciation and realization ranges that we apply to typical ship assets. Telecom towers and telecom wireless spectrum For telecom towers, we reference recent transaction values as a proxy for current market values. See "Sector And Industry Variables: Recovery Rating Criteria For Speculative-Grade Corporate Issuers" for details on the transaction values we apply to telecom towers. For telecom wireless spectrum, see table 8 of "Sector And Industry Variables: Recovery Rating Criteria For Speculative-Grade Corporate Issuers" which details the depreciation and realization ranges that we generally use for wireless spectrum assets. Midstream oil refineries For midstream oil refineries, we apply price multiples that reflect average historical transaction prices, which we adjust for inflation, to back out the value of working-capital assets and to reflect distressed industry conditions, and which could change if future market conditions and empirical data justify that. See "Sector And Industry Variables: Recovery Rating Criteria For Speculative-Grade Corporate Issuers" for details on the price multiples we generally apply. Independent power producers (unregulated utilities) We generally value independent power producers according to their power generation capacity (as measured in kilowatts (kW)) and an assumed valuation on a $/kW basis. We update our valuations periodically based on market trends and recent sales data, with assets that have been sold under conditions of duress having the most relevance. Table 9 of "Sector And Industry

Variables: Recovery Rating Criteria For Speculative-Grade Corporate Issuers" details the valuation ranges that we apply to independent power producers. However, we may adjust the general guidelines in table 9 based on plant-specific attributes. For instance, the following attributes, among others, could cause us to assess a value outside the listed range: Exposure to future environmental regulation, either positively (generally for zero-carbon nuclear or renewable assets) or negatively (generally for coal assets); Participation in a constrained zone within one of the aforementioned RTOs; Any kind of contractual protections (such as power purchase agreements or PPAs, tolling arrangements, or operating contracts); Value for grid stability and reliability (such as a plant that contributes a large percentage of a zone's energy at any given time); and Operational history (assets with weaker track records might be assessed lower, while those that have run less frequently than designed could be assessed higher). Regulated utility fixed assets We use the utility's invested capital as the basis for our gross EV for the regulated business. Where regulators have a mandate to set rates sufficient to recover prudently incurred costs, including the opportunity to earn a return of and on its invested capital, we expect the post-bankruptcy value of a reorganized utility's regulated fixed assets to remain largely intact. We think value is likely to be preserved because utility defaults are not tied to a failure of their business model, and the bankruptcy would be likely resolved through a reorganization that would preserve the long-term value of the regulated fixed assets. In most cases, the base is net of property, plant, and equipment (typically without applying a depreciation or realization factor). If the utility is regulated on a different basis than original cost (e.g., fair value or replacement cost), we may use a different figure. We may reduce the value if full recoverability through rates is problematic and therefore the value is likely to be impaired. For instance, if construction cost overruns at a power plant could result in a disallowance, we would conservatively use the original cost estimate of the plant in our calculation. If an entity has other businesses that are unregulated, the value of these assets or operations will be calculated separately using the most relevant approach. For example, if a regulated utility also has some merchant power plants, these may be valued using the DAV guidelines for independent power producers, or a retail distribution business may be valued using a distressed EBITDA multiple approach. Investment holding companies We expect to use the DAV approach for the vast majority of investment holding companies (IHCs). For recovery analysis, we generally assume an IHC will default when the value of its investment portfolio is less than its total debt (when its net asset value, or NAV, turns negative) (see table 8 below). Until that happens, an IHC could avoid default by the timely monetization of its assets or successful refinancing. Exceptions to this would include situations where: We expect strong financial maintenance covenants may trigger a default before NAV becomes negative, or Favorable liquidity keeps an IHC from defaulting even though NAV is negative. Table 8 Investment Holding Company: Determining Investment Portfolio Values At Default CURRENT SITUATION INVESTMENT PORTFOLIO VALUE AT DEFAULT Current NAV is positive and its debt DOES NOT HAVE strong financial maintenance covenants Investment portfolio value = total debt (principal) Current NAV is positive and its debt HAS strong financial maintenance covenants Investment portfolio value = value that would trigger a default (i.e. investment portfolio value exceeds total debt, by definition, due to covenant triggers) Current NAV is negative Investment portfolio value = typically lower of current or average equity values (e.g. 52-week avg., 200-day moving avg., etc.) as appropriate NAV--Net asset value. Additionally, we assume that upon default, the IHC's assets are sold to resolve the default. In such a scenario, we expect the forced sale of the equity interests to meaningfully depress realization rates and that the relative liquidity and diversity of the IHC's equity interests will determine the extent of the discount. We use the asset liquidity and asset diversity scores in the IHC methodology to determine the relevant realization rates (1 - the discount rate) (see table 9 below). We may revise the realization rates in table 9 up or down by 5 percentage points based on expected changes to the portfolio on the path to default as assets are monetized. Table 9 Determining the Realization Rate To Investment Portfolio Value LIQUIDITY SCORE (%) Diversity score 1 2 3 4 5 1 85 85 80 75 75 2 85 80 80 75 70 3 85 80 75 75 70 4 80 80 75 70 70 5 80 75 75 70 65 Note: Liquidity and diversity scores are as determined by the IHC criteria. We may revise the realization rates by +/- 5 percentage points to account for likely changes in the portfolio before default. Financial services For financial institutions, we use the EBITDA multiple valuation approach, the DAV approach, or a combination of the two. Financial institutions are sometimes financial-asset-intensive companies and

are sometimes companies whose liquidation valuations are likely to be based on future earnings. In addition, financial institutions frequently have financial assets on their balance sheets that have observable values that should be realizable in a liquidation scenario, plus financial services operations that are cash generative for which the valuations are likely to be based on future earnings. When using the combination approach, we typically apply the DAV approach to the assets that we believe have a realizable, observable value while applying the EBITDA multiple approach for the remaining operations, as appropriate. In addition to the typical discount or haircut ranges by sector for corporates, we apply assumptions specific to financial institutions we view as financial corporates. Financial services finance companies We make sector- and asset-specific assumptions for financial services finance companies. After reducing the value of the assets to reflect a value possible at the time of default, the assets are further haircut to reflect liquidation. We determine asset value haircuts based on asset-specific information. For example, we typically haircut distressed assets (typically a portfolio of distressed loans or receivables) by 25% because much of the par value is already accounted for in the distressed asset values. We may make moderate adjustments to the haircut to account for differences in company-specific disclosures. For example, we may lower the standard 25% haircut if a company reported the assets at amortized cost rather than using a fair-value approach. We may also adjust the haircut for some distressed assets, such as small or midsize enterprise loans, which may be less liquid and as such have a less reliable mark-to-market relative to consumer credit, for example, and warrant a higher haircut. Real estate companies (including REITS) We do not use a single valuation approach for real estate companies because of regional differences in the availability of data, types of reporting requirements, and market-accepted valuation approaches. We generally use a DAV method (in the form of a discount-to-book-value approach) for real estate companies, including real estate investment trusts (REITs). However, in the U.S., we generally use an income capitalization approach--a common market practice--for stabilized income-generating real estate properties (see definitions), along with a DAV for nonstabilized non-income-generating properties (see definitions). We believe that the valuation derived from the income capitalization approach is comparable to valuations using a DAV approach. In applying the income capitalization approach to stabilized properties in the U.S., we generally apply our current commercial mortgaged-backed securities capitalization rates (see "Guidance: CMBS Global Property Evaluation Methodology," published March 13, 2019). These capitalization rates are the basis for table 12 of "Sector And Industry Variables: Recovery Rating Criteria For Speculative-Grade Corporate Issuers," which lists distressed capitalization rates according to the type of property, with valuation ranges based on the quality and location of the real estate. As part of our recovery analysis, we generally apply up to a 15% discount to the respective capitalization rates to reflect distress in the properties, depending on the location, and the company's vulnerability to rising vacancies and ability to refill vacant space or to repurpose the property. The primary types of properties we assess include, but are not limited to, office, retail, industrial, health care, storage, hotels and entertainment, and residential--including multifamily properties. We generally apply the income capitalization approach in the U.S. to assess stabilized property values because the use of a discount-to-book-value approach is generally not optimal. This is because the book value of real estate, as stated in the financial statements, reflects the historical cost of development or acquisition (unless the properties were recently acquired). As such, application of a DAV approach to determine debt recoveries for stabilized properties in the U.S. would not reflect fair value, especially with respect to long-held properties, where book values may be significantly different from fair values. Having said that, we may still use a DAV approach for stabilized property in the U.S. if such is deemed appropriate on a case-by-case basis. With respect to nonstabilized properties in the U.S., such as land, properties under development or construction, and/or properties completed but in the process of leasing out space, we generally use the discount-to-book-value approach. For non-U.S. jurisdictions, we generally apply a discount-to-book-value approach for both stabilized and nonstabilized properties, because under International Financial Reporting Standards (IFRS), the book value of real estate is required to reflect fair market value. In our application of the discount-to-book-value approach, we first determine the property realization rate characteristics, according to the guidelines provided in the table below. Table 10 Real Estate Property Realization Rate Characteristics PROPERTY TYPE HIGH MEDIUM LOW Stabilized income-generating properties -- Low concentration of tenants -- High tenant rent coverage --

Strong regional economy -- High asset liquidity with minimal restrictions to complete the sale (for example, a very low or no portion of properties locked by a specific tenant) -- Moderate concentration of tenants -- Moderate tenant rent coverage -- Moderate asset valuation by the company than that held by third party -- Moderate strength regional economy -- Moderate asset liquidity some restrictions to complete the sale (for example, a moderate portion of properties locked by a specific tenant) -- High concentration of tenants -- Low tenant rent coverage -- Weak regional economy -- Low asset liquidity with substantial restrictions to complete the sale (for example, the owner cannot sell it in distress unless the tenant releases the property) Non-stabilized mon-income-generating properties/land under development/construction -- Less amount of time and capital needed to complete improvements and renovations -- Strong likelihood of potential tenant ramp-up based on demography/geography -- Lower level of speculative land acquisition or construction in progress -- Moderate amount of time and capital needed to complete improvements -- Moderate likelihood of potential tenant ramp-up based on demography/geography -- Moderate level of speculative land acquisition or construction in progress -- Higher amount of time and capital needed to complete improvements and renovations -- Moderate to low likelihood of potential tenant ramp-up based on demography/geography -- Higher level of speculative land acquisition or construction in progress Land held for future development -- Prime location -- Low level of entitlement requirements -- Recently acquired -- Average location -- Moderate level of entitlement requirements -- Mothballed -- Poor location -- Lower level of entitlement requirements -- Mothballed All of the above--jurisdictional impacts and other factors that could affect the valuation -- Highly leveraged -- Low geographic concentration -- Diverse demographics -- Easy accessibility and convenience to property -- Strong regional economy/low volatility in housing prices -- Moderately leveraged -- Moderate geographic concentration -- Moderately diverse demographics -- Moderate accessibility and convenience to property -- Moderate regional economy/moderate volatility in housing prices -- Moderately-lowly leveraged -- Moderate to high geographic concentration -- Homogenous demographics -- Difficult accessibility and convenience to property -- Weak regional economy/high volatility in housing prices After this determination, we apply our current property realization rate ranges (see table 13 of "Sector And Industry Variables: Recovery Rating Criteria For Speculative-Grade Corporate Issuers"). Still, we may occasionally use the income capitalization approach outside the U.S., if appropriate Our use of different valuation approaches depending on region and property type does not result in divergent valuations because we are essentially re-creating the fair value of properties for U.S. companies through the income capitalization approach, whereas the fair value of properties for non-U.S. companies is already reflected in the book value. With respect to stabilized property, our view is that the DAV approach continues to be the most appropriate for all regions, except for the U.S. For non-U.S. regions, the DAV approach is the best way to capture stabilized and nonstabilized property values for the purpose of estimating recovery prospects for creditors and in the case of European companies that report under IFRS. This is because IFRS standards require property book values in financial statements to be fair valued on an annual basis. As such, we base our recovery analysis on the book value as the starting point for assessing debt recoveries for creditors. However, because it is not uncommon for real estate developers outside the U.S. to use an income capitalization approach in valuing properties, including the determination of fair value under IFRS, we may use the income capitalization approach in some instances outside the U.S. when we consider it to be more appropriate, on a case-by-case basis, in lieu of the discount-to-book-value approach. Limited life assets We value limited life assets (for example, unique corporate entities established to own finite period royalty rights) using a discounted cash flow approach, where we discount the adjusted cash flows available for debt service (typically revenues less expenses and capex) back to the present value at the assumed point of hypothetical default, to arrive at a limited life asset value. The discount rate would take into account our assessment of the risk of the enterprise. The discount rate can reflect factors such as country risk and expected asset values. This approach tends to be used for project-like entities that are not in scope of our project finance criteria. F. SCOPE EXCLUSIONS The scope of these criteria does not apply to: Hybrid debt instruments. We determine the issue credit ratings of hybrid debt instruments using our hybrid criteria. Debt issued by captive finance subsidiaries. Debt issued by all issuers in Group C jurisdictions and in unranked jurisdictions. Debt issued by issuers in a limited number of Group A or B jurisdictions (see "Methodology: Jurisdiction

Ranking Assessments," published Jan. 20, 2016). Equipment trust certificates and enhanced equipment trust certificates. Debt issued by project finance entities. Debt issued by Native American gaming companies because of significant uncertainties surrounding the exercise of creditor rights against a sovereign nation. Secured debt issued by regulated utilities (see "Collateral Coverage And Issue Notching Rules For '1+' And '1' Recovery Ratings On Senior Bonds Secured By Utility Real Property," published Feb. 14, 2013). Debt issued by government-related entities (GREs) guaranteed by the government, and those not guaranteed by the government but where the GRE's "likelihood of support" falls into one of the top-two categories (almost certain or extremely high). Debt issued by entities that are not subject to bankruptcy laws. Debt issued by financial market infrastructure companies (FMIs). We apply our criteria "Reflecting Subordination Risk In Corporate Issue Ratings," March 28, 2018, to determine the issue ratings on speculative-grade FMI issuers. G. REVISIONS AND UPDATES This article was originally published on Dec. 7, 2016. These criteria became effective upon publication. Changes introduced after original publication: Following our periodic review completed on Dec. 7, 2017, we updated the contact information and deleted paragraphs 2, 5, 6, and 7, which were related to the initial publication of our criteria. On May 18, 2018, we revised paragraphs 46-47 and removed Appendix 3, which we published in "Guidance: Recovery Rating Criteria For Speculative-Grade Corporate Issuers" on May 18, 2018. On Feb. 12, 2019, we republished this criteria article to make nonmaterial changes. We updated the contact information and criteria references. On Feb. 4, 2020, we republished this criteria article to make nonmaterial changes to update criteria references throughout the article. On March 7, 2022, we republished this criteria article to make nonmaterial changes by adding appendixes 3 and 4. As announced in "Evolution Of The Methodologies Framework: Introducing Sector And Industry Variables Reports," published Oct. 1, 2021, we are phasing out guidance documents over time. As part of that process, we have archived "Guidance: Recovery Rating Criteria For Speculative-Grade Corporate Issuers", published May 18, 2018. Some of the guidance content has now been moved to appendixes 3 and 4 of these criteria without any substantive changes. We did not move some parts of the guidance to the criteria, since we concluded that they duplicated the text already in the criteria article. At the same time, we have published "Sector And Industry Variables: Recovery Rating Criteria For Speculative-Grade Corporate Issuers," detailing market-driven inputs into the application of these criteria. Some guidance content--specifically tables 1-7, 9-10, and 13-16 and associated text--was moved to the sector and industry variables report. In addition, we made the following nonmaterial changes to these criteria: 1) we moved the content of paragraphs 49-54 to Appendix 4 to improve clarity and avoid redundancies; 2) we updated article references throughout the article; 3) we made editorial changes to improve readability; and 4) we updated the "Related Publications" section and contact information. On June 27, 2023, we republished this criteria article to make nonmaterial changes. We added to Appendix F (Scope Exclusions) the clarification that FMIs are out of scope for these criteria, consolidating content previously included in "Issue Credit Rating Methodology For Nonbank Financial Services Companies," which has been archived. We also updated criteria references, including in the "Related Criteria" section. H. RELATED PUBLICATIONS Superseded Criteria Revised Revolver Usage Assumptions For Recovery Analysis In Corporate Ratings, Nov. 20, 2014 Assumptions For Assigning Recovery Ratings To The Debt Of U.S. Oil Refining Companies, March 14, 2011 Criteria Guidelines For Recovery Ratings On Global Industrial Issuers' Speculative-Grade Debt, Aug. 10, 2009 Related Criteria Methodology For National And Regional Scale Credit Ratings, June 25, 2018 Reflecting Subordination Risk In Corporate Issue Ratings, March 28, 2018 Methodology: Jurisdiction Ranking Assessments, Jan. 20, 2016 Corporate Methodology, Nov. 19, 2013 Methodology: Industry Risk, Nov. 19, 2013 Revised Assumptions For Assigning Recovery Ratings To The Debt Of Oil And Gas Exploration And Production Companies, Sept. 14, 2012 Principles Of Credit Ratings, Feb. 16, 2011 Related Research Sector And Industry Variables: Recovery Rating Criteria For Speculative-Grade Corporate Issuers, March 7, 2022 Guidance: Recovery Rating Criteria For Speculative-Grade Corporate Issuers, May 18, 2018 [archived] Evolution Of The Methodologies Framework: Introducing Sector And Industry Variables Reports, Oct. 1, 2021