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the capital infusions made in late December 2020. Similarly, when the CRAs conduct their next annual credit reviews in mid-2022, they will incorporate the reported amounts of debt and equity for the year ended December 31, 2021, that include the enhanced equity and reduced debt as shown in the audited financial statements. The credit ratios will reflect a capital structure (calculated as the Commission does for regulatory purposes) of 45% equity and 55% long-term debt, and not the Commission's currently authorized capital structure of 42.5% equity and 57.5% long-term debt.

Q. WHAT WAS ONCOR'S CAPITAL STRUCTURE IN ITS FORM 10-K FILED FOR THE PERIOD ENDING DECEMBER 31, 2019?

A. In the year ended December 31, 2019, Oncor's actual capital structure was consistent with the Commission-authorized capital structure of 42.5% equity and 57.5% long-term debt. The related credit rating analyses were conducted by the three CRAs in mid-2020. The year 2019 was the last year in which Oncor's capital at year end reflected the authorized regulatory capital structure.

Table EL-2 below summarizes the actual amounts of long-term capital at year-end for the years 2019-2021, as measured on a regulatory basis by the Commission in calculating Oncor's cost of capital.

**Table EL-2      Oncor Regulatory Capital**

	Dec. 31, 2021		Dec. 31, 2020		Dec. 31, 2019	
	\$ MM	%	\$ MM	%	\$ MM	%
Common Equity (a)	8,209	45.0	7,574	45.1	5,937	42.5
Long-Term Debt	<u>10,042</u>	<u>55.0</u>	<u>9,232</u>	<u>54.9</u>	<u>8,017</u>	<u>57.5</u>
Total Reg. Capital (a)	18,251	100.0	16,805	100	13,954	100

NOTES: \$MM - \$ Millions

(a) Excludes InfraREIT goodwill (\$676 MM), the basis for Commission's authorized cost of capital.

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1 Q. DO THE DIFFERENCES IN ONCOR'S CAPITAL COMPOSITION AT  
2 YEAR-END 2020 AND 2021 VERSUS 2019 AS SHOWN IN TABLE EL-2  
3 SUGGEST A METHOD TO ANALYZE THE EFFECTS OF ALTERING  
4 ONCOR'S REGULATORY EQUITY AND DEBT TO 45%/55% FROM  
5 42.5%/57.5%?

6 A. Yes, there are several analyses that can be conducted with the information  
7 presented in Tables EL-2. The first approach is to analyze the actual capital  
8 structures at year-end 2019 and 2020 and correlate that with the reports  
9 that the CRAs published regarding Oncor's adherence to financial  
10 guidelines for each year. In 2020, the CRAs published reports regarding  
11 Oncor's financial performance in 2019, with actual capital that conformed to  
12 the Commission's authorized capital ratio of 42.5% equity and 57.5% long-  
13 term debt, noting whether the CRAs viewed that capital structure as  
14 adequate for Oncor and sufficient to maintain its credit ratings.<sup>16</sup> Similarly,  
15 in mid-2021, the CRAs analyzed credit ratios based upon Oncor's financial  
16 statements for the year ended December 31, 2020, which reflected a higher  
17 proportion of equity and lower debt leverage (45% equity and 55% debt).<sup>17</sup>  
18 This approach, which I will refer to as "Actual Capital Structure Analysis,"  
19 gives direct evidence from the CRAs' commentaries regarding the  
20 effectiveness of the currently authorized regulatory capital structure of  
21 42.5% equity and 57.5% debt to sustain the current sound credit ratings for  
22 Oncor, and it allows us to compare the credit rating effect of the 45% equity  
23 and 55% debt capital structure that Oncor is proposing in its current rate  
24 filing.

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<sup>16</sup> See Ex. EL-6 - Moody's Investors Service, "Credit Opinion: Oncor Electric Delivery LLC", April 9, 2020; Ex. EL-7 - Fitch Ratings, "Rating Report: Oncor Electric Delivery Company, LLC", May 7, 2020; Ex. EL-8 - S&P Global Direct, Ratings Direct, "Oncor Electric Delivery LLC", April 7, 2020.

<sup>17</sup> See Ex. EL-9 - Moody's Investors Service, "Credit Opinion: Oncor Electric Delivery LLC", June 3, 2021; Ex. EL-10 - S&P Global Direct, Ratings Direct, "Oncor Electric Delivery Co. LLC", May 14, 2021. Ex. EL-11 - Fitch Ratings, "Rating Action Commentary: Fitch Affirms Sempra and Subsidiaries; Rating Outlook Stable", April 8, 2021.

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1 Q. SPECIFICALLY, WHAT INFORMATION DO YOU DERIVE FROM THE  
2 CRA CREDIT REVIEW REPORTS TO SUPPORT THE “ACTUAL CAPITAL  
3 STRUCTURE” ANALYSIS?

4 A. Each CRA reveals its own calculations of the key credit ratios used in its  
5 ratings evaluation, including its own individual credit adjustments. It also  
6 reveals its guidance on what performance level the CRA anticipated for the  
7 key leverage ratios for the next several future years at the time that the  
8 rating analysis was performed. If the actual performance in the subsequent  
9 years falls short of the CRA’s guidance levels, it may conduct a new review  
10 or reconsider the targets. Also, each CRA discloses the ratio level of its  
11 most important cash flow leverage ratio that would be the minimum  
12 threshold for maintaining the rated entity’s ratings at the existing credit  
13 rating (the so-called “Downgrade Trigger”). We extract this information  
14 directly from each CRA’s published reports and compare that to the actual  
15 capital structure that the CRA reviewed during its formal credit evaluation.

16 Q. WHAT IS THE SECOND ANALYTICAL APPROACH THAT YOU APPLY?

17 A. The second approach employs “Pro Forma Financial Analysis.” To test the  
18 effectiveness of a hypothetical capital structure we can adjust the actual  
19 reported financial results for a year to simulate the credit ratios that would  
20 be produced at the hypothetical capital structure. Then we can compare  
21 the resulting credit ratios with the CRA’s published guideline ratios for a  
22 specific credit rating. In this form of analysis, the scenario involves applying  
23 adjustments to Oncor’s year-end 2020 and 2021 reported financial results  
24 to match the authorized capital structure of 42.5% equity and 57.5% debt,  
25 including any related changes in income and cash flow that would affect  
26 calculation of credit ratios. The final step is the comparison of the resulting  
27 pro forma credit ratios for 2020 and 2021 with each CRA’s published  
28 guidance and downgrade triggers for maintaining Oncor credit ratings.

**A. Actual Capital Structure Analysis**

Q. FOR 2019, WITH EQUITY AND DEBT CONSISTENT WITH THE AUTHORIZED REGULATORY CAPITAL STRUCTURE OF 42.5% EQUITY AND 57.5% DEBT, WAS THE COMPANY'S FINANCIAL PERFORMANCE CONSISTENT WITH THE RATING BENCHMARKS FOR MAINTAINING ONCOR'S EXISTING CREDIT RATINGS?

A. No, not in the case of Moody's and Fitch. The resulting key cash flow leverage ratios actually calculated by each CRA for the year ended December 31, 2019, are shown in Table EL-3 below and compared with the downgrade trigger ratios as defined by each CRA for maintaining Oncor's rating at the existing level.

**Table EL-3: Oncor Key Leverage Ratios, 2019**

Agency	Key Leverage Ratio	2019 <sup>18</sup>	Agency's Disclosed Downgrade Trigger	Interpretation
Moody's	CFO pre-WC / Debt			
Fitch	Debt-to-FFO			
S&P	FFO-to-Total Debt			

<sup>18</sup> See Ex. EL-6, EL-7 & EL-8.

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1 Q. WHAT COMMENTS DID THE RATING AGENCIES PUBLISH IN 2020  
2 REGARDING ONCOR'S 2019 FINANCIAL LEVERAGE?  
3 A. [REDACTED]  
4 [REDACTED]  
5 [REDACTED]  
6 [REDACTED]  
7 [REDACTED]  
8 [REDACTED]  
9 [REDACTED]<sup>19</sup> [REDACTED]  
10 [REDACTED]  
11 [REDACTED]  
12 [REDACTED]  
13 [REDACTED]  
14 [REDACTED]  
15 [REDACTED]  
16 [REDACTED]  
17 [REDACTED]  
18 [REDACTED]<sup>20</sup> [REDACTED]  
19 [REDACTED]  
20 [REDACTED]  
21 [REDACTED]  
22 [REDACTED]  
23 [REDACTED]  
24 [REDACTED]  
25 [REDACTED]  
26 [REDACTED]

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<sup>19</sup> See Ex. EL-6 at 2.

<sup>20</sup> See Ex. EL-7 at 2, 3.

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1 [REDACTED]  
2 [REDACTED]<sup>21</sup>  
3 Q. WHEN RATING AGENCIES REVIEWED ONCOR'S CREDIT RATIOS FOR  
4 THE YEAR 2020, DID THE ENHANCED EQUITY CAPITAL AND  
5 REDUCED DEBT HAVE AN IMPACT ON THEIR RATING  
6 EVALUATIONS?  
7 A. [REDACTED]  
8 [REDACTED]  
9 [REDACTED]  
10 [REDACTED]  
11 [REDACTED]  
12 [REDACTED]  
13 [REDACTED]  
14 [REDACTED]  
15 [REDACTED]  
16 [REDACTED]<sup>22</sup> [REDACTED]  
17 [REDACTED]  
18 [REDACTED]  
19 [REDACTED]  
20 [REDACTED]<sup>23</sup> [REDACTED]  
21 [REDACTED]

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<sup>21</sup> See Ex. EL-8 at 3.

<sup>22</sup> See Exs. EL-9 & EL-11.

<sup>23</sup> See Ex. EL-10.

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**Table EL-4: Oncor Key Leverage Ratios, 2020**

Agency	Key Leverage Ratio	2020 <sup>24</sup>	Agency's Disclosed Downgrade Trigger	Interpretation
Moody's	CFO pre-WC / Debt			
Fitch	Debt-to-FFO			
S&P	FFO-to-Total Debt			

1

2 Q. PLEASE SUMMARIZE THE RESULTS OF THE ACTUAL CAPITAL  
3 STRUCTURE ANALYSIS FOR THE YEARS 2019 AND 2020.

4 A. For each year, the analysis makes use of the actual capital structure that  
5 was in effect at December 31 of the year and compares the actual CRA  
6 responses to Oncor's leverage metrics as calculated by the CRA.

7 In 2019, with actual capitalization that conformed to the  
8 Commission's authorized regulatory capital structure (42.5% equity and  
9 57.5% debt on a regulatory basis), Oncor's key leverage ratios compared  
10 unfavorably with the threshold ratios applied by Moody's and Fitch for  
11 maintaining Oncor's existing credit ratings. In 2020, with year-end  
12 capitalization that enhanced equity and reduced debt that emulated the 45%  
13 equity and 55% debt ratios that Oncor requests in this proceeding, Oncor's  
14 credit ratios improved to levels that were within the lower part of the  
15 acceptable range to preserve Oncor's current Fitch and Moody's ratings.

16 Q. IS A SIMILAR "ACTUAL CAPITAL STRUCTURE" ANALYSIS OF  
17 ONCOR'S FINANCIAL RESULTS AVAILABLE FOR 2021?

18 A. No. The CRAs have not yet conducted or published their 2022 credit  
19 reviews of Oncor, and thus we still do not have any of the CRAs' evaluation  
20 of data for the year ended December 31, 2021. However, we can apply the

<sup>24</sup> Ex. EL-9; Ex. EL-11; Ex. EL-10, respectively.

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1 same principles of scenario analysis to compute the adequacy of Oncor's  
2 December 31, 2021 capital structure versus the CRAs' guideline credit  
3 ratios and downgrade triggers.

4 **B. Pro Forma Analysis**

5 Q. HAVE YOU PERFORMED A PRO FORMA SCENARIO ANALYSIS TO  
6 TEST THE EFFECT OF ALTERNATE PROPORTIONS OF EQUITY AND  
7 DEBT UPON ONCOR'S KEY CASH FLOW LEVERAGE METRICS IN  
8 RELATION TO THE CRA BENCHMARKS?

9 A. Yes I have. That analysis appears in my Exhibit EL-12.

10 Q. PLEASE DESCRIBE THE ANALYSIS SET FORTH IN THAT EXHIBIT.

11 A. Exhibit EL-12 presents Oncor's financial results of 2020 and 2021 with pro  
12 forma adjustments to represent all the expected financial statement effects  
13 of a regulatory capital structure with 42.5% equity/57.5% debt in Scenario  
14 1 and 45% equity/55% debt in Scenario 2. For each scenario, I calculated  
15 the cash flow leverage metrics for 2020 and 2021 in the manner defined by  
16 each of the three major CRAs. I also included financial information for 2019  
17 on Exhibit EL-12.

18 Q. DID YOU MAKE ANY ADJUSTMENTS TO THE ACTUAL 2021 RESULTS  
19 FOR SCENARIO 1, AND IF SO, WHY?

20 A. Yes. The primary adjustment in Scenario 1 was to restore the capital  
21 structure at December 31 of each year 2020 and 2021 to the authorized  
22 regulatory capital structure of 42.5% equity and 57.5% long-term debt. To  
23 accomplish this, the pro forma (PF) adjustments remove equity and add  
24 back the corresponding amount of long-term debt in each year as follows:

25	<u>Equity investment:</u>	2020: -\$431 million
26		2021: -\$450 million
27	<u>Long-term debt:</u>	2020: +\$431 million
28		2021: +\$450 million

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1 Consistent with these changes, I also increased interest expense for the  
2 year to reflect additional interest expense for a portion of each year  
3 associated with the incremental debt. No adjustment is needed to reduce  
4 the revenues or net income representing the regulatory return on equity in  
5 Scenario 1, because during both years Oncor was only authorized to earn  
6 a return on equity reflecting a 42.5% capital structure, no matter how much  
7 actual equity was in place.

8 Q. WHAT ADJUSTMENTS DID YOU MAKE TO REPORTED 2020 AND 2021  
9 RESULTS TO FORM SCENARIO 2?

10 A. In Scenario 2, I adopted the actual capital structure that existed at  
11 December 31 of each year (approximately 45% equity and 55% long-term  
12 debt). There is no adjustment to increase equity or reduce debt. The  
13 hypothetical case in Scenario 2 assumes that customer rates set by the  
14 Commission in each year provided recovery during the year upon the  
15 incremental equity at the cost of equity capital authorized in Oncor's last  
16 rate proceeding; that results in corresponding pro forma adjustments to  
17 revenue, pre-tax income, provision in lieu of taxes, and various measures  
18 of cash flow from operations. The model also includes some relatively  
19 minor adjustments to Oncor's interest expense, reducing interest expense  
20 for a portion of 2021 as would be the case if Oncor employed more equity  
21 capital and less debt for the full year on an ongoing basis.

22 Q. DO THE KEY CREDIT RATIOS IN SCENARIO 2 (WITH 45% EQUITY)  
23 DIFFER FROM ONCOR'S ACTUAL RESULTS FOR 2020 AND 2021,  
24 WHEN THE ACTUAL YEAR-END EQUITY WAS 45%?

25 A. Yes, slightly. Although the year-end debt and equity are the same in  
26 Scenario 2 as those on the actual reported financial statements at  
27 December 31, the other differences are the addition of cash earnings on the  
28 incremental equity investment and some relatively minor interest expense  
29 adjustments.

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1 Q. WHAT ARE THE BENEFITS OF USING THE PRO FORMA ANALYTICAL  
2 MODEL?

3 A. A benefit of using the model is the ability to review Oncor's financial results  
4 of the past several years on a comparable basis despite the difference in  
5 the year-end balance sheets in 2019 versus 2020 and 2021. In Scenario 1,  
6 the primary credit ratios for 2021 and 2020 are adjusted to make the year-  
7 end debt and equity in each of those years comparable to the actual Oncor  
8 capital structure in 2019 and consistent with the Commission's authorized  
9 regulatory capital structure of 42.5% equity and 57.5% debt.

10 This comparative analysis is shown in Table EL-5 below. At the top  
11 half of the table, Table EL-5.1 shows the key financial leverage ratios as  
12 they are calculated by the three CRAs for 2019-2021 without any pro forma  
13 adjustments. But the ratios shown for 2020 and 2021 are advantaged by  
14 extra equity investments by Oncor's owners in December of 2020 and 2021  
15 and do not reflect the authorized regulatory capital structure upon which  
16 Oncor's cost of capital is determined. Table EL-5.2 presents the key credit  
17 ratios for all three years on a comparable footing and on a basis that is  
18 representative of the Commission's authorized capital structure. It provides  
19 a more accurate view of the effect on Oncor's creditworthiness of the  
20 regulatory capital structure that is currently authorized for Oncor.

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**Table EL-5: Comparing Oncor's Credit Rating Ratios, 2019-2021**

**EL-5.1: As Actually Reported**

CRA	Key Leverage Ratio	Actual 2019(a)	Actual 2020(b)	Actual 2021(c)	Downgrade Trigger
Moody's	CFO pre-WC / Debt				
S&P	FFO-to-Total Debt				
Fitch	Debt-to-FFO (times)				

(a) See Exs. EL-6, EL-7, and EL-8.

(b) For Moody's and S&P, see Exs. EL-9 & EL-10. Fitch ratios are from Pro Forma model, summarized in Ex. EL-12.

(c) Results of Pro Forma model, summarized in Ex. EL-12.

**EL-5.2: Adjusted, Comparable to Commission's Authorized Regulatory Capital Structure**

CRA	Key Leverage Ratio	Actual 2019(a)	PF 42.5% 2020 (b)	PF 42.5% 2021 (b)	Downgrade Trigger
Moody's	CFO pre-WC / Debt				
S&P	FFO-to-Total Debt				
Fitch	Debt-to-FFO (times)				

(a) See Exs. EL-6, EL-7, and EL-8.

(b) Results of Pro Forma model, summarized in Ex. EL-12.

- 1
- 2 Q. HOW DO YOU INTERPRET THE RESULTS SHOWN IN TABLES EL-5.1
- 3 AND EL-5.2?
- 4 A. In Table EL-5.1, the credit ratios we see for Oncor for 2020 and 2021 are
- 5 consistent with the benchmark credit ratios of Moody's and Fitch and would
- 6 help to maintain the current credit ratings, but this level of equity is not
- 7 supported under the current regulatory capital structure. Table EL-5.2 more
- 8 accurately shows the effects had the capital structure reviewed by the CRAs
- 9 matched the Commission's authorized 42.5% equity/57.5% debt regulatory
- 10 capital structure. Table EL-5.2 illustrates that Moody's credit rating is at risk
- 11 of a one-notch downgrade; on a pro forma basis, Oncor's cash flow debt
- 12 leverage in two years out of the past three years (2019 and 2021) dipped

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1 materially below 15%, thus exceeding Moody's rating downgrade trigger  
2 level, Moody's critical leverage ratio of Cash from Operations less Working  
3 Capital to Total Debt. Similarly, Oncor's performance on Fitch's key  
4 leverage metric exceeded the trigger level in two out of the last three years  
5 and is vulnerable to downgrade. Oncor's rating at only one agency, S&P,  
6 has a reasonable margin of safety.

7 Q. WHEN YOU COMPARE THE RESULTS OF SCENARIO 2 WITH THOSE  
8 OF SCENARIO 1, HOW DO YOU INTERPRET THE DIFFERENCES?

9 A. The pro forma comparison confirms that the authorized regulatory capital  
10 structure of 42.5% equity and 57.5% debt, as illustrated in Scenario 1, does  
11 not provide any assurance that Oncor can maintain its current credit at  
12 ratings at two of the three major rating agencies. This leveraged capital  
13 structure makes Oncor vulnerable to downgrade as it carries out a large \$15  
14 billion capital expenditure program requiring external funding.

15 Scenario 2 with a less leveraged capital structure (regulatory capital  
16 of 45% equity and debt of 55%) provides greater assurance that Oncor can  
17 retain its current credit ratings. The resulting cash flow leverage ratios are  
18 more consistent with the CRAs' benchmarks and avoid triggering  
19 downgrades by Moody's and Fitch.

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**Table EL-6 Summary of Oncor Credit Ratios in Pro Forma Scenarios, 2021**

		2021			
	<i>Year-End Equity % Cap</i>	<i>45%</i>	<i>PF 42.5%</i>	<i>PF 45%</i>	
CRA	Key Leverage Ratio	Actual	Scenario 1	Scenario 2	CRA Downgrade Trigger
Moody's	CFO pre-WC / Debt	██████	██████	██████	██████
S&P	FFO-to-Total Debt	██████	██████	██████	██████
Fitch	Debt-to-FFO (times)	██████	██████	██████	██████

Note: All ratios for 2021 are modeled results based on data from Oncor's Annual Report to the SEC on Form 10-K for the year ended Dec. 31, 2021, using the Pro Forma model, as summarized in Ex. EL-12.

As summarized in Table EL-6 above and in Exhibit EL-12, the Pro Forma Analysis confirms that increasing the equity from 42.5% to 45% of regulatory capital and reducing debt commensurately would result in improved core measures of financial strength and protect the current credit ratings. With reduced leverage and stronger cash flow measures, investors and rating agencies will judge Oncor to have satisfactory financial flexibility. If Oncor is subject to future operating challenges, financial surprises, or stress in the capital markets, Oncor would have greater ability to withstand the stress and continue to provide reliable service to customers. The resulting increase in financial flexibility and maintenance of the existing credit ratings at all three CRAs would better position the Company to fund its large capital expenditure program and withstand future operating or financial challenges, such as high capital expenditures required to meet increased demands for service, exposure to extreme weather events, and concentrated exposure to retail electric providers.

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1 Q. IS IT REASONABLE TO EXPECT ONCOR'S OWNERS TO MAINTAIN  
2 EQUITY INVESTMENT IN EXCESS OF THE AUTHORIZED  
3 REGULATORY CAPITAL STRUCTURE USED FOR RATE-SETTING?

4 A. No. Based on my professional experience, it is neither likely nor reasonable  
5 that Oncor's owners would persist over any long term in equity investments  
6 in Oncor greater than the amount eligible to receive the authorized return  
7 on equity. However, Oncor's owners have demonstrated that they can and  
8 will invest additional equity in Oncor if the Commission in this proceeding  
9 authorizes a capital structure of 45% equity/55% debt, as requested in  
10 Oncor's rate application.

11 If the Commission approves Oncor's proposed capital structure, the  
12 higher equity capital and reduced debt leverage similar to that at year-end  
13 2021 will continue to assure the Company's financial flexibility and will  
14 continue to attract fixed income investors in the context of the high capital  
15 expenditure program announced by Oncor for the next five years.

16 **VI. RECOMMENDATIONS AND CONCLUSIONS**

17 Q. IS ONCOR'S CURRENT REGULATORY CAPITAL STRUCTURE OF  
18 57.5% LONG-TERM DEBT AND 42.5% EQUITY APPROPRIATE FOR  
19 THE COMPANY?

20 A. No. Based on my experience in the capital market, it is my view that the  
21 current regulatory capital structure of 57.5% debt and 42.5% equity causes  
22 Oncor to bear more financial leverage than is usual among U.S. investor-  
23 owned electric utilities. The current situation provides a thin margin of  
24 safety when all goes well, when the capital markets are open and  
25 accommodating, and when Oncor faces no major operating or regulatory  
26 problems. However, Oncor currently lacks the margin of safety needed to  
27 meet unexpected needs due to an extreme operating situation or adverse  
28 market conditions.

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1 Q. WHAT IS YOUR RECOMMENDED REGULATORY CAPITAL  
2 STRUCTURE?

3 A. I strongly support Oncor's proposal to adopt a new regulatory capital  
4 structure of 55% long-term debt and 45% common equity. A more  
5 conservative capital structure with somewhat more equity and less debt, as  
6 proposed, would provide Oncor with greater resilience to withstand two  
7 types of adverse events: (1) the infrequent but severe systemic stresses of  
8 the downside of the capital market cycle; and (2) individual stress that could  
9 result from unexpected operating or business events affecting Oncor.  
10 Furthermore, my analysis leads me to conclude that the financial ratios  
11 resulting from the currently authorized regulatory capital structure are a  
12 constraint upon Oncor's financial strength, which could be improved by  
13 adopting a more conservative capital structure of 55% debt and 45% equity.  
14 Finally, with greater financial strength, Oncor would be better able to serve  
15 the demands of present and future customers with high quality and reliable  
16 service.

17 Q. DOES THIS CONCLUDE YOUR DIRECT TESTIMONY?

18 A. Yes.

**AFFIDAVIT**

STATE OF NEW YORK §  
§  
COUNTY OF NEW YORK §

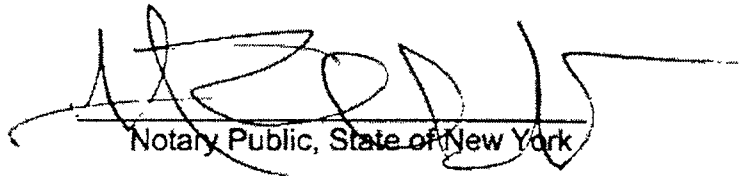
**BEFORE ME**, the undersigned authority, on this day personally appeared Ellen Lapson, who, having been placed under oath by me, did depose as follows:

My name is Ellen Lapson. I am of legal age and a resident of the State of New York. The foregoing direct testimony and attached exhibits offered by me is true and correct, and the opinions stated therein are, to the best of my knowledge and belief, accurate, true and correct.



Ellen Lapson, CFA

**SUBSCRIBED AND SWORN TO BEFORE ME** by the said Ellen Lapson this 13<sup>th</sup> day of April, 2022.

  
Notary Public, State of New York

MOHINDER S. GULATI  
Notary Public, State of New York  
No. 01GU4859357  
Qualified in New York County  
Commission Expires Nov. 30, 2022

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## EXPERIENCE AND QUALIFICATIONS

### ELLEN LAPSON, CFA

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LAPSON ADVISORY: Financial Consulting. Expert Testimony. Financial Training.

### SUMMARY

Expert on financing utilities and infrastructure projects, with over 50 years of professional MBA Accounting and finance, NYU Stern School of Business; Chartered Financial Analyst

### EMPLOYMENT HISTORY

<b>Lapson Advisory,</b> Trade Resources Analytics	Financial consulting services to utilities and infrastructure project developers. Financial strategy and credit advisory; expert financial witness.	2012 to present
<b>Fitch Ratings</b> Utilities, Power & Gas Managing Director; Senior Director	Manager or primary analyst on credit ratings of over 200 utility, pipeline, and power generation companies and utility tariff securitizations. Chaired rating committees for energy, utility, and project finance committees. Liaison with major fixed income investors.	1994 - 2011
<b>JP Morgan Chase</b> (formerly Chemical NY Corp.) Vice President, 1975-94 Asst. Vice President, 1974-75	Managed financial advisory transactions, structured debt placements, syndicated credit facilities for utilities, mining and metals, project finance. First of its kind stranded cost securitization for Puget Sound P&L, 1992-94. Led financings for utilities in bankruptcy or reorganizations. Divisional controller, 1981-86.	1974-1994
<b>Argus Research Corp.</b> Equity Analyst, Utilities	Equity analysis of U.S. electric and gas utilities, natural gas pipelines, regulated telephone companies. Research coverage and reports; forecasts and models.	1969-1974

### EDUCATION & PROFESSIONAL ORGANIZATIONS

Stern School of Business, New York University, MBA.	1975
Accounting major; Finance minor	
Barnard College, Columbia University, BA.	1969
Earned CFA Institute Charter, 1978	
Institute of Chartered Financial Analysts	Since 1978
Wall Street Utility Group	Since 1996

### ADVISORY COUNCILS AND BOARD SERVICE

Electric Power Research Institute, Advisory Council, 2004-2011; Chair, 2009 and 2010.  
MIT Energy Institute, External Advisory Council, The Future of Solar Energy, 2012-2014.  
Represented U.S. fixed income investors in responding to proposed financial accounting rules for rate-regulated utilities by the International Accounting Standards Board (IASB) at a panel sponsored by Edison Electric Institute and American Gas Assoc., December, 2014.

**EXPERT TESTIMONY**

<b>Jurisdiction</b>	<b>Proceeding</b>	<b>Topic</b>
Federal Energy Regulatory Commission	Docket No. ER21-2282, Application re Open Access Transmission Tariff, on behalf of PJM Transmission Owners (2022)	Application by Transmission Owners to invest in Network Upgrades
Federal Energy Regulatory Commission	Docket No. EL-20-72, LA Public Service Comm. et al. vs. System Energy Resources, Inc. on behalf of SERI (2022)	Financial impact of the termination of a support agreement
Federal Energy Regulatory Commission	Docket No. RM20-10-000, Electric Transmission Incentive Policy, on behalf of PJM Transmission Owners (2021)	Importance of financial incentives for RTO membership
Public Utilities Commission of Colorado	Proceeding No. No. 21R-0314G, NOPR on Purchased Gas Cost Adjustment on behalf of Public Service Company of CO (2021)	Investor and credit rating impact of proposed gas cost recovery rules
New Mexico Public Regulation Commission	Docket No 20-00222-UT, Application of Public Service Co. of NM, PNM Resources, Avangrid Inc., and NM Green Resources on behalf of Applicants (2020-21)	Financial strength and resilience in the context of merger proceeding
Public Utilities Commission Texas	Docket No 51547, Application of Texas-New Mexico Power Co., Avangrid Inc., and NM Green Resources on behalf of the Joint Applicants (2020-21)	Financial strength and resilience in the context of merger proceeding
Massachusetts Department of Public Utilities	DPU 20-16, 20-17, and 20-18, Long-term purchase contract for offshore wind energy, Eversource, National Grid, Unitil (2020)	Remuneration to utilities for entering into long-term contracts
Public Utilities Commission Texas	Docket No. 49849, Joint Application of El Paso Electric, Sun Jupiter Holdings and IIF US Holding 2 to acquire El Paso Electric... (2019-20)	Ring-fencing for utility merger and formation of holdco; financial strength
New Mexico Public Regulation Commission	Docket No. 19-00234 UT, Joint Application of El Paso Electric, Sun Jupiter Holdings, and IIF US Holding 2 to acquire El Paso Electric (2019-20)	Ring-fencing for utility merger and formation of holdco; financial strength
Public Utilities Commission of Colorado	Proceeding No. 19AL-0268E, Filing to Revise Electric Tariff, on behalf of Xcel Public Service Co, of Colorado (2019)	Capital structure and cash flow measures
Public Utilities Commission Texas	Docket No. 49421, Application of CenterPoint Energy Houston to change rates, on behalf of CEHE (2019)	Ring-fencing in context of a rate proceeding; financial strength
Public Utilities Commission Texas	Docket No. 48929, Application of Oncor Electric Delivery Co. LLC, Sharyland Utilities LP, and Sempra Energy, on behalf of Sharyland Utilities (2019)	Ring-fencing for formation of an electric transmission utility

<b>Jurisdiction</b>	<b>Proceeding</b>	<b>Topic</b>
Public Utilities Commission of Colorado	Proceeding No. 17AL-0363G, Filing to Revise Gas Tariff, on behalf of Xcel Public Service Co, of Colorado (2018)	Cash flow and credit impacts of tax reform; capital structure
South Carolina Public Service Commission	Docket No. 2017-370-E; Joint Application for Merger and for Prudency Determination, on behalf of South Carolina Electric & Gas Company (2018)	Benefits of merger and proposed rate plan; impact on cash flow and access to capital.
U.S. Federal District Court, District of SC	Civil Action No.: 3:18-cv-01795-JMC, Motion for Preliminary Injunction, on behalf of South Carolina Electric & Gas	Financial harm of rate cut compliant with Act
Public Utilities Commission Texas	Docket No. 48401, Texas-New Mexico Power Co. Application to Change Retail Rates, on behalf of TNMP (2018)	Cash flow and credit impacts of tax reform
Public Utilities Commission Texas	Docket No. 48371, Entergy Texas Inc., Application to Change Retail Rates, on behalf of ETI (2018)	Cash flow and credit impacts of tax reform
Public Utilities Commission Texas	Docket No. 47527, Southwestern Public Service Co. Application for Retail Rates, on behalf of SPS Co. (2018)	Adverse cash flow and credit impacts of tax reform; cap structure
New Mexico Public Regulation Commission	Case No. 17-00255-UT, Southwestern Public Service Co. Application for Retail Rates, on behalf of SPS Co. (2018)	Adverse cash flow and credit impacts of tax reform; cap structure
South Carolina Public Service Commission	Docket No. 2017-305-E, Response to ORS Request for Rate Relief, on behalf of S. Carolina Electric and Gas (2017)	Adverse financial implications of rate reduction sought by ORS
DC Public Service Commission	Formal Case No. 1142, Merger Application of AltaGas Ltd. and Washington Gas Light, Inc. (2017)	Ring-fencing for utility merger; financial strength
Public Service Commission of Maryland	Docket No. 9449, In the Matter of the Merger of AltaGas Ltd. and Washington Gas Light, Inc. (2017)	Ring-fencing for utility merger; financial strength
Public Utilities Commission Texas	Docket No. 46957, Application of Oncor Electric Delivery LLC to Change Rates, on behalf of Oncor. (2017)	Appropriate capital structure. Financial strength.
Public Utilities Commission Texas	Docket No. 46416, Application of Entergy Texas, Inc. for a Certificate of Convenience & Necessity, on behalf of Entergy Texas (2016-2017)	Debt equivalence and capital cost associated with capacity purchase obligations (PPA)
U.S. Federal Energy Regulatory Commission	Dockets No. EL16-29 and EL16-30, NCEMC, et al. vs Duke Energy Carolinas and Duke Energy Progress, on behalf of the Respondents (2016)	Capital market environment affecting the determination of the cost of equity capital

<b>Jurisdiction</b>	<b>Proceeding</b>	<b>Topic</b>
Hawaii Public Utilities Commission	Docket No. 2015-0022, Merger Application on behalf of NextEra Energy and Hawaiian Electric Inc. (2015)	Ring-fencing and financial strength
U.S. Federal Energy Regulatory Commission	Dockets No. EL14-12 and EL15-45, ABATE, vs MISO, Inc. et al., on behalf of MISO Transmission Owners (2015)	Capital market environment; capital spending and risk
U.S. Federal Energy Regulatory Commission	Dockets No. EL12-59 and 13-78, Golden Spread Electric Coop., on behalf of South-western Public Service Co. (2015)	Capital market environment; capital spending and risk
U.S. Federal Energy Regulatory Commission	Dockets No. EL13-33 and EL14-86, on behalf of New England Transmission Owners. (2015)	Capital market environment affecting the cost of equity capital
U.S. Federal Energy Regulatory Commission	Dockets No. ER13-1508 et alia, Entergy Arkansas, Inc. and other Entergy utility subsidiaries, on behalf of Entergy (2014)	Capital market environment affecting the measurement of the cost of equity capital
Delaware Public Service Commission	DE Case 14-193, Merger of Exelon Corp. and Pepco Holdings, Inc. on behalf of the Joint Applicants (2015)	Ring-fencing for utility merger; avoidance of financial harm
Maryland Public Service Commission	Case No. 9361, Merger of Exelon Corp. and Pepco Holdings, Inc. on behalf of the Joint Applicants (2015)	Ring-fencing for utility merger; avoidance of financial harm
New Jersey Board of Public Utilities	BPU Docket No. EM 14060581, Merger of Exelon Corp. and Pepco Holdings, Inc., on behalf of the Joint Applicants (2015)	Ring-fencing for utility merger; avoidance of financial harm
U.S. Federal Energy Regulatory Commission	Docket ER15-572 Application of New York Transco, LLC, on behalf of NY Transmission Owners (2015)	Incentive compensation for electric transmission; capital market access
U.S. Federal Energy Regulatory Commission	Docket EL 14-90-000 Seminole Electric Cooperative, Inc. and Florida Municipal Power Agency vs. Duke Energy FL on behalf of Duke Energy (2014)	Capital market environment affecting the determination of the cost of equity capital
DC Public Service Commission	Formal Case No. 1119 Merger of Exelon Corp. and Pepco Holdings Inc., on behalf of the Joint Applicants (2014-2015)	Ring-fencing for utility merger; avoidance of financial harm
U.S. Federal Energy Regulatory Commission	Docket EL14-86-000 Attorney General of Massachusetts et. al. vs. Bangor Hydro-Electric Company, et. al., on behalf of New England Transmission Owners (2014)	Return on Equity; capital market environment
Arkansas Public Service Commission	Docket No. 13-028-U. Rehearing on behalf of Entergy Arkansas. (2014)	Investor and rating agency reactions to ROE set by Order.
Illinois Commerce Commission	Docket No. 12-0560 Rock Island Clean Line LLC, on behalf of Commonwealth Edison Company, an intervenor (2013)	Access to capital for a merchant electric transmission line.

<b>Jurisdiction</b>	<b>Proceeding</b>	<b>Topic</b>
U.S. Federal Energy Regulatory Commission	Docket EL13-48-000 Delaware Public Advocate, et. al. vs. Baltimore Gas and Electric Company and PEPCO Holdings et al., on behalf of (i) Baltimore Gas and Electric; (ii) PEPCO subsidiaries (2013)	Return on Equity; capital market view of transmission investment
U.S. Federal Energy Regulatory Commission	Docket EL11-66-000 Martha Coakley et. al. vs. Bangor Hydro-Electric Company, et. al. on behalf of New England Transmission Owners (2012-13)	Return on Equity; capital market view of transmission investment
New York Public Service Commission	Cases 13-E-0030; 13-G-0031; and 13-S-0032 on behalf of Consolidated Edison Company of New York. (2013)	Cash flow and financial strength; regulatory mechanisms
Public Service Commission of Maryland	Case. 9214 re “New Generating Facilities To Meet Long-Term Demand For Standard Offer Service”, on behalf of Baltimore Gas and Electric Co., Potomac Electric Power Co., and Delmarva Power & Light (2012)	Effect of proposed power contracts on the credit and financial strength of MD utility counterparties

**CONSULTING & ADVISORY ASSIGNMENTS (1)**

<b>Client</b>	<b>Assignment</b>	<b>Objective</b>
Xcel Energy/ Public Service Co. of CO	Studied likely investor and credit impact of the PSC’s proposed changes in the recovery of purchased gas cost (Docket 21R-0314G), 2021	Analyze financial impacts of regulatory proposal.
Eversource Energy Inc./Public Service Co. of New Hampshire	White paper analyzing the financial implications of two methods for recovering costs of energy efficiency programs (related to Docket DE 20-092). 2020	Analyze feasibility and financial impacts of regulatory proposal; prepare white paper
Washington Gas Light Co.	Quantified the effect of merger upon the cost of long-term and short-term debt. 2019	Comply with regulatory requirement
Cravath, Swaine & Moore LLP	Evaluated factors that influenced utility spending decisions on operations, maintenance, and capital projects. 2019	Support litigation strategy in bankruptcy proceedings.
NJ American Water Co.	Analyzed impacts of tax reform on water utility’s cash flow and ratings. 2018	Support regulatory strategy
AltaGas Ltd.	Credit advisory on ratings under merger and no-merger cases. 2017	Compare strategic alternatives
Entergy Texas, Inc.	Research study on debt equivalence and capital cost associated with capacity purchase obligations. Impact of new GAAP lease accounting standard on PPAs. 2016	Economic comparison of power purchase obligations and self-build options.
Eversource Energy	Evaluated debt equivalence of power purchase obligations. 2014	Clarify credit impact of various contract obligations.
International Money Center Bank (Undisclosed)	Research study and recommendations on estimating Loss Given Default and historical experience of default and recovery in regulated utility sector. 2014	Efficient capital allocation for loan portfolio.

<b>Jurisdiction</b>	<b>Proceeding</b>	<b>Topic</b>
GenOn Energy Inc.	White Paper on appropriate industry peers for a competitive power generation and energy company. 2012	Appropriate peer comparisons in SEC filings and shareholder communications, compensation studies
Transmission utility (Undisclosed)	Recommended the appropriate capital structure and debt leverage during a period of high capital spending. 2012	Efficient book equity during multi-year capex project; preserve existing credit ratings
Toll Highway (Undisclosed)	Advised on adding debt while minimizing risk of downgrade. Recommended strategy for added leverage and rating agency communications. 2012	Free up equity for alternate growth investments via increased leverage while preserving credit ratings
District Thermal Cooling Project (Undisclosed)	Recommended a project loan structure to deal with seasonal cash flow. Optimized payment schedule, form and timing of financial covenants.	Reduce default risk; efficient borrowing structure

1. Confidential assignments are omitted or client's identity is masked, at client request.

### Professional and Executive Training

Southern California Edison Co., Rosemead CA	Designed and delivered in-house training program on evaluation of the credit of energy market counterparties. 2016
Financial Institution, NYC (Undisclosed)	In-house training. Developed corporate credit case for internal credit training program and coordinated use in training exercise. 2016
CoBank, Denver CO	Designed and delivered "Midstream Gas and MLPs: Advanced Credit Training". 2014
Empire District Electric Co., Joppa MO	Designed and delivered in-house executive training session Utility Sector Financial Evaluation. 2014
PPL Energy Corp, Allentown PA	Designed and delivered in-house Financial Training. 2014
SNL Knowledge Center Courses, New York NY	Designed and delivered public courses "Credit Analysis for the Power & Gas Sector", 2011-2014
SNL Knowledge Center Courses, New York NY	Designed and delivered public courses "Analyst Training in the Power & Gas Sectors: Financial Statement Analysis. 2013 -2014
EEI Transmission and Wholesale Markets	Designed and delivered "Financing and Access to Capital". 2012
National Rural Utilities Coop Finance Corp.	Designed and delivered in-house training "Credit Analysis for the Power Sector". 2012
Judicial Institute of Maryland	Designed and delivered "Impact of Court Decisions on Financial Markets and Credit", section of continuing education seminar for MD judges: "Utility Regulation and the Courts", Annapolis MD. 2007
Edison Electric Institute, New York, NY	"New Analyst Training Institute: Fixed Income Analysis and Credit Ratings", 2008; 2004

## Ratings Equivalence: Correspondences Among Credit Ratings

Long-Term Credit Ratings				Short-term Credit Ratings		
			<i>Equiva- lent Points (a)</i>			
Moody's	S&P and Fitch	S&P Stand- alone credit profile		Moody's	S&P	Fitch
Aaa	AAA	<i>aaa</i>	1	P-1	A-1+	F1+
Aa1	AA+	<i>aa+</i>	2	P-1	A-1+	F1+
Aa2	AA	<i>aa</i>	3	P-1	A-1+	F1+
Aa3	AA-	<i>aa-</i>	4	P-1	A-1+	F1+
A1	A+	<i>a+</i>	5	P-1	A-1	F1
A2	A	<i>a</i>	6	P-1	A-1	F1
A3	A-	<i>a-</i>	7	P-2 (or P-1)	A-2	F2
Baa1	BBB+	<i>bbb+</i>	8	P-2	A-2	F2
Baa2	BBB	<i>bbb</i>	9	P-2	A-2	F3
Baa3	BBB-	<i>bbb-</i>	10	P-3	A-3	F3
Ba1	BB+	<i>bb+</i>	11	NP	B	B
Ba2	BB	<i>bb</i>	12	NP	B	B
Ba3	BB-	<i>bb-</i>	13	NP	B	B
B1	B+	<i>b+</i>	14	NP	C	C
B2	B	<i>b</i>	15	NP	C	C
B3	B-	<i>b-</i>	16	NP	C	C
Caa1	CCC+	<i>ccc+</i>		NP	C	C
Caa2	CCC	<i>ccc</i>		NP	C	C
Caa3	CCC-	<i>ccc-</i>		NP	C	C
Ca	CC	<i>cc'</i>		NP	C	C
C	C	<i>c</i>		NP	C	C
D*	D*	<i>d*</i>				
	SD*	<i>sd*</i>				

\*D= In default; SD and sd denote a selective default on specific debt instruments rather than a general default

(a) Equivalent ranking points are a convention used by some investors to compute average ratings when several rating agencies' ratings for an entity diverge. This is an alternative to "lower of two ratings" or "middle of three ratings".

19-Nov-2013 | 17:23 EST

# Criteria | Corporates | General: Corporate Methodology

**(EDITOR'S NOTE: —**On Dec. 15, 2021, we republished this criteria article to make nonmaterial changes. See the "Revisions And Updates" section for details.)

1. These criteria present S&P Global Ratings' methodology for rating corporate industrial companies and utilities. The criteria organize the analytical process according to a common framework and articulate the steps in developing the stand-alone credit profile (SACP) and issuer credit rating (ICR) for a corporate entity. For the related guidance article, see "**Guidance: Corporate Methodology.**"

2. This article is related to our criteria article "**Principles Of Credit Ratings.**"

## SUMMARY OF THE CRITERIA

3. The criteria describe the methodology we use to determine the SACP and ICR for corporate industrial companies and utilities. Our assessment reflects these companies' business risk profiles, their financial risk profiles, and other factors that may modify the SACP outcome (see "**General Criteria: Stand-Alone Credit Profiles: One Component Of A Rating,**" for the definition of SACP). The criteria provide clarity on how we determine an issuer's SACP and ICR and are more specific in detailing the various factors of the analysis. The criteria also provide clear guidance on how we use these factors as part of determining an issuer's ICR. S&P Global Ratings intends for these criteria to provide the market with a framework that clarifies our approach to fundamental analysis of corporate credit risks.

4. The business risk profile comprises the risk and return potential for a company in the markets in which it participates, the competitive climate within those markets (its industry risk), the country risks within those markets, and the competitive advantages and disadvantages the company has within those

markets (its competitive position). The business risk profile affects the amount of financial risk that a company can bear at a given SACP level and constitutes the foundation for a company's expected economic success. We combine our assessments of industry risk, country risk, and competitive position to determine the assessment for a corporation's business risk profile.

5. The financial risk profile is the outcome of decisions that management makes in the context of its business risk profile and its financial risk tolerances. This includes decisions about the manner in which management seeks funding for the company and how it constructs its balance sheet. It also reflects the relationship of the cash flows the organization can achieve, given its business risk profile, to the company's financial obligations. The criteria use cash flow/leverage analysis to determine a corporate issuer's financial risk profile assessment.

6. We then combine an issuer's business risk profile assessment and its financial risk profile assessment to determine its anchor (see table 3). Additional rating factors can modify the anchor. These are: diversification/portfolio effect, capital structure, financial policy, liquidity, and management and governance. Comparable ratings analysis is the last analytical factor under the criteria to determine the final SACP on a company.

7. These criteria are complemented by sector-specific provisions, included in industry-specific criteria articles called Key Credit Factors (KCFs) or in the guidance related to this criteria article ("**Guidance: Corporate Methodology**"). The KCFs describe the industry risk assessments associated with each sector and may identify sector-specific criteria that supersede certain factors of these criteria in the analysis. "**Guidance: Corporate Methodology**" also provides guidelines on the analytical factors we consider when applying "Corporate Methodology" to certain sectors.

## SCOPE OF THE CRITERIA

8. This methodology applies to nonfinancial corporate issuer credit ratings globally. Please see "**Recovery Rating Criteria For Speculative-Grade Corporate Issuers**," and "**Reflecting Subordination Risk In Corporate Issue Ratings**," for further information on our methodology for determining issue ratings. This methodology does not apply to the following sectors, based on the unique characteristics of these sectors, which require either a different framework of analysis or substantial modifications to one or more factors of analysis: project finance entities, project developers, commodities trading, investment holding

companies and companies that maximize their returns by buying and selling equity holdings over time, Japanese general trading companies, corporate securitizations, nonprofit and cooperative organizations (other than agricultural cooperatives), and other entities whose cash flows are primarily derived from partially owned equity holdings.

9. This paragraph has been deleted.

10. This paragraph has been deleted.

## **METHODOLOGY**

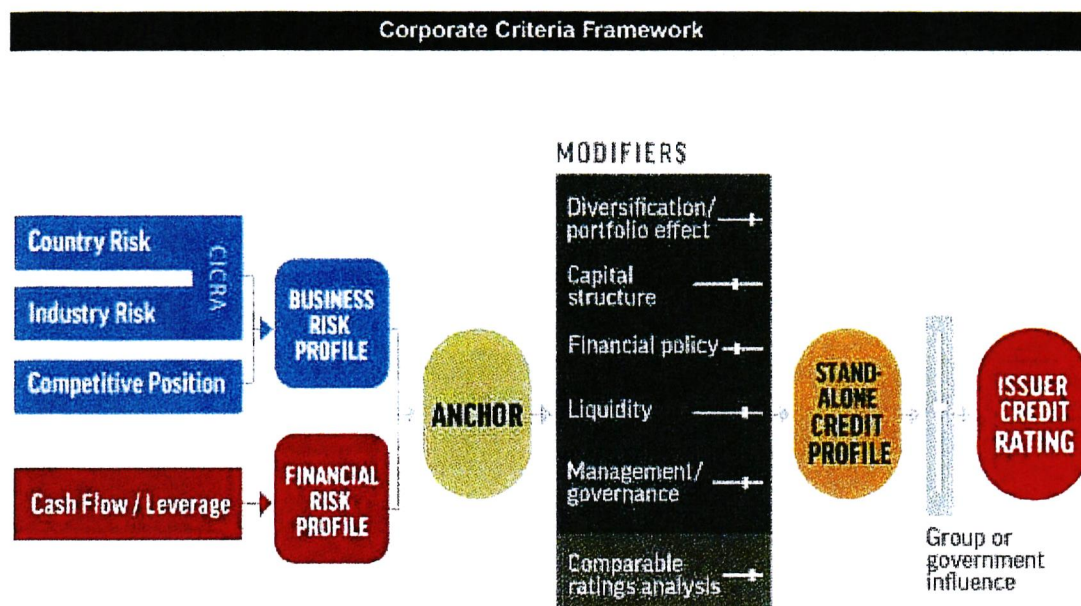
### **A. Corporate Ratings Framework**

11. The corporate analytical methodology organizes the analytical process according to a common framework, and it divides the task into several factors so that S&P Global Ratings considers all salient issues. First we analyze the company's business risk profile, then evaluate its financial risk profile, then combine those to determine an issuer's anchor. We then analyze six factors that could potentially modify our anchor conclusion.

12. To determine the assessment for a corporate issuer's business risk profile, the criteria combine our assessments of industry risk, country risk, and competitive position. Cash flow/leverage analysis determines a company's financial risk profile assessment. The analysis then combines the corporate issuer's business risk profile assessment and its financial risk profile assessment to determine its anchor. In general, the analysis weighs the business risk profile more heavily for investment-grade anchors, while the financial risk profile carries more weight for speculative-grade anchors.

13. After we determine the anchor, we use additional factors to modify the anchor. These factors are: diversification/portfolio effect, capital structure, financial policy, liquidity, and management and governance. The assessment of each factor can raise or lower the anchor by one or more notches--or have no effect. These conclusions take the form of assessments and descriptors for each factor that determine the number of notches to apply to the anchor.

14. The last analytical factor the criteria call for is comparable ratings analysis, which may raise or lower the anchor by one notch based on a holistic view of the company's credit characteristics.



15. The three analytic factors within the business risk profile generally are a blend of qualitative assessments and quantitative information. Qualitative assessments distinguish risk factors, such as a company's competitive advantages, that we use to assess its competitive position. Quantitative information includes, for example, historical cyclicity of revenues and profits that we review when assessing industry risk. It can also include the volatility and level of profitability we consider in order to assess a company's competitive position. The assessments for business risk profile are: 1, excellent; 2, strong; 3, satisfactory; 4, fair; 5, weak; and 6, vulnerable.

16. In assessing cash flow/leverage to determine the financial risk profile, the analysis focuses on quantitative measures. The assessments for financial risk profile are: 1, minimal; 2, modest; 3, intermediate; 4, significant; 5, aggressive; and 6, highly leveraged.

17. The ICR results from the combination of the SACP and the support framework, which determines the extent of the difference between the SACP and the ICR, if any, for group or government influence. Extraordinary influence is then captured in the ICR. Please see "[Group Rating Methodology](#)," and "[Rating](#)

**Government-Related Entities: Methodology And Assumptions,**" for our methodology on group and government influence.

18. Ongoing support or negative influence from a government (for government-related entities), or from a group, is factored into the SACP (see "SACP criteria"). While such ongoing support/negative influence does not affect the industry or country risk assessment, it can affect any other factor in business or financial risk. For example, such support or negative influence can affect: national industry analysis, other elements of competitive position, financial risk profile, the liquidity assessment, and comparable ratings analysis.

19. The application of these criteria will result in an SACP that could then be constrained by the relevant sovereign rating and transfer and convertibility (T&C) assessment affecting the entity when determining the ICR. In order for the final ICR to be higher than the applicable sovereign rating or T&C assessment, the entity will have to meet the conditions established in "**Ratings Above The Sovereign--Corporate And Government Ratings: Methodology And Assumptions.**"

## **1. Determining the business risk profile assessment**

20. Under the criteria, the combined assessments for country risk, industry risk, and competitive position determine a company's business risk profile assessment. A company's strengths or weaknesses in the marketplace are vital to its credit assessment. These strengths and weaknesses determine an issuer's capacity to generate cash flows in order to service its obligations in a timely fashion.

21. Industry risk, an integral part of the credit analysis, addresses the relative health and stability of the markets in which a company operates. The range of industry risk assessments is: 1, very low risk; 2, low risk; 3, intermediate risk; 4, moderately high risk; 5, high risk; and 6, very high risk. The treatment of industry risk is in section B.

22. Country risk addresses the economic risk, institutional and governance effectiveness risk, financial system risk, and payment culture or rule of law risk in the countries in which a company operates. The range of country risk assessments is: 1, very low risk; 2, low risk; 3, intermediate risk; 4, moderately high risk; 5, high risk; and 6, very high risk. The treatment of country risk is in section C.

23. The evaluation of an enterprise's competitive position identifies entities that are best positioned to take advantage of key industry drivers or to mitigate associated risks more effectively--and achieve a competitive advantage and a stronger business risk profile than that of entities that lack a strong value proposition or are more vulnerable to industry risks. The range of competitive position assessments is: 1, excellent; 2, strong; 3, satisfactory; 4, fair; 5, weak; and 6, vulnerable. The full treatment of competitive position is in section D.

24. The combined assessment for country risk and industry risk is known as the issuer's Corporate Industry and Country Risk Assessment (CICRA). Table 1 shows how to determine the combined assessment for country risk and industry risk.

**Table 1**

### Determining The CICRA

INDUSTRY RISK ASSESSMENT	--COUNTRY RISK ASSESSMENT--					
	1 (VERY LOW RISK)	2 (LOW RISK)	3 (INTERMEDIATE RISK)	4 (MODERATELY HIGH RISK)	5 (HIGH RISK)	6 (VERY HIGH RISK)
1 (very low risk)	1	1	1	2	4	5
2 (low risk)	2	2	2	3	4	5
3 (intermediate risk)	3	3	3	3	4	6
4 (moderately high risk)	4	4	4	4	5	6

5 (high risk)	5	5	5	5	5	6
6 (very high risk)	6	6	6	6	6	6

25. The CICRA is combined with a company's competitive position assessment in order to create the issuer's business risk profile assessment. Table 2 shows how we combine these assessments.

**Table 2**

### Determining The Business Risk Profile Assessment

	--CICRA--					
	1	2	3	4	5	6
<b>COMPETITIVE POSITION ASSESSMENT</b>						
1 (excellent)	1	1	1	2	3*	5
2 (strong)	1	2	2	3	4	5
3 (satisfactory)	2	3	3	3	4	6
4 (fair)	3	4	4	4	5	6
5 (weak)	4	5	5	5	5	6
6 (vulnerable)	5	6	6	6	6	6

\*See paragraph 26.

26. A small number of companies with a CICRA of 5 may be assigned a business risk profile assessment of 2 if all of the following conditions are met:

- The company's competitive position assessment is 1.
- The company's country risk assessment is no riskier than 3.
- The company produces significantly better-than-average industry profitability, as measured by the level and volatility of profits.
- The company's competitive position within its sector transcends its industry risks due to unique competitive advantages with its customers, strong operating efficiencies not enjoyed by the large majority of the industry, or scale/scope/diversity advantages that are well beyond the large majority of the industry.

27. For issuers with multiple business lines, the business risk profile assessment is based on our assessment of each of the factors--country risk, industry risk, and competitive position--as follows:

- Country risk: We use the weighted average of the country risk assessments for the company across all countries where companies generate more than 5% of sales or EBITDA, or where more than 5% of fixed assets are located.
- Industry risk: We use the weighted average of the industry risk assessments for all business lines representing more than 20% of the company's forecasted earnings, revenues or fixed assets, or other appropriate financial measures if earnings, revenue, or fixed assets do not accurately reflect the exposure to an industry.
- Competitive position: We assess all business lines identified above for the components competitive advantage, scope/scale/diversity, and operating efficiency (see section D). They are then blended using a weighted average of revenues, earnings, or assets to form the preliminary competitive position assessment. The level of profitability and volatility of profitability are then assessed based on the consolidated financials for the enterprise. The

preliminary competitive position assessment is then blended with the profitability assessment, as per section D.5, to assess competitive position for the enterprise.

## 2. Determining the financial risk profile assessment

28. Under the criteria, cash flow/leverage analysis is the foundation for assessing a company's financial risk profile. The range of assessments for a company's cash flow/leverage is 1, minimal; 2, modest; 3, intermediate; 4, significant; 5, aggressive; and 6, highly leveraged. The full treatment of cash flow/leverage analysis is the subject of section E.

## 3. Merger of financial risk profile and business risk profile assessments

29. An issuer's business risk profile assessment and its financial risk profile assessment are combined to determine its anchor (see table 3). If we view an issuer's capital structure as unsustainable or if its obligations are currently vulnerable to nonpayment, and if the obligor is dependent upon favorable business, financial, and economic conditions to meet its commitments on its obligations, then we will determine the issuer's SACP using "Criteria For Assigning 'CCC+', 'CCC', 'CCC-', And 'CC' Ratings." If the issuer meets the conditions for assigning 'CCC+', 'CCC', 'CCC-', and 'CC' ratings, we will not apply Table 3.

Table 3

### Combining The Business And Financial Risk Profiles To Determine The Anchor

--FINANCIAL RISK PROFILE--						
BUSINESS RISK PROFILE	1 (MINIMAL)	2 (MODEST)	3 (INTERMEDIATE)	4 (SIGNIFICANT)	5 (AGGRESSIVE)	6 (HIGHLY LEVERAGE
1 (excellent)	aaa/aa+	aa	a+/a	a-	bbb	bbb-/bb+

2 (strong)	aa/aa-	a+/a	a-/bbb+	bbb	bb+	bb
3 (satisfactory)	a/a-	bbb+	bbb/bbb-	bbb-/bb+	bb	b+
4 (fair)	bbb/bbb-	bbb-	bb+	bb	bb-	b
5 (weak)	bb+	bb+	bb	bb-	b+	b/b-
6 (vulnerable)	bb-	bb-	bb-/b+	b+	b	b-

30. When two anchor outcomes are listed for a given combination of business risk profile assessment and financial risk profile assessment, an issuer's anchor is determined as follows:

- When a company's financial risk profile is 4 or stronger (meaning, 1-4), its anchor is based on the comparative strength of its business risk profile. We consider our assessment of the business risk profile for corporate issuers to be points along a possible range within its category (e.g., "strong"). Consequently, each of these assessments that ultimately generate the business risk profile for a specific issuer can be at the upper or lower end of such a range. Issuers with a stronger business risk profile for the range of anchor outcomes will be assigned the higher anchor. Those with a weaker business risk profile for the range of anchor outcomes will be assigned the lower anchor.
- When a company's financial risk profile is 5 or 6, its anchor is based on the comparative strength of its financial risk profile. Issuers with stronger cash flow/leverage ratios for the range of anchor outcomes will be assigned the higher anchor. Issuers with weaker cash flow/leverage ratios for the range of anchor outcomes will be assigned the lower anchor. For example, a company with a business risk profile of (1) excellent and a financial risk profile of (6) highly leveraged would generally be assigned an anchor of 'bb+' if its ratio of

debt to EBITDA was 8x or greater and there were no offsetting factors to such a high level of leverage.

#### 4. Building on the anchor

31. The analysis of diversification/portfolio effect, capital structure, financial policy, liquidity, and management and governance may raise or lower a company's anchor. The assessment of each modifier can raise or lower the anchor by one or more notches--or have no effect in some cases (see tables 4 and 5). We express these conclusions using specific assessments and descriptors that determine the number of notches to apply to the anchor. However, this notching in aggregate can't lower an issuer's anchor below 'b-' (see "Criteria For Assigning 'CCC+', 'CCC', 'CCC-', And 'CC' Ratings," for the methodology we use to assign 'CCC' and 'CC' category SACPs and ICRs to issuers).

32. The analysis of the modifier diversification/portfolio effect identifies the benefits of diversification across business lines. The diversification/portfolio effect assessments are 1, significant diversification; 2, moderate diversification; and 3, neutral. The impact of this factor on an issuer's anchor is based on the company's business risk profile assessment and is described in Table 4. Multiple earnings streams (which are evaluated within a firm's business risk profile) that are less-than-perfectly correlated reduce the risk of default of an issuer (see Appendix D). We determine the impact of this factor based on the business risk profile assessment because the benefits of diversification are significantly reduced with poor business prospects. The full treatment of diversification/portfolio effect analysis is the subject of section F.

Table 4

**Modifier Step 1: Impact Of Diversification/Portfolio Effect On The Anchor**

--BUSINESS RISK PROFILE ASSESSMENT--						
DIVERSIFICATION/PORTFOLIO EFFECT	1 (EXCELLENT)	2 (STRONG)	3 (SATISFACTORY)	4 (FAIR)	5 (WEAK)	6 (VULNERABLE)
1 (significant diversification)	+2 notches	+2 notches	+2 notches	+1 notch	+1 notch	0 notches
2 (moderate diversification)	+1 notch	+1 notch	+1 notch	+1 notch	0 notches	0 notches
3 (neutral)	0 notches	0 notches	0 notches	0 notches	0 notches	0 notches

33. After we adjust for the diversification/portfolio effect, we determine the impact of the other modifiers: capital structure, financial policy, liquidity, and management and governance. We apply these four modifiers in the order listed in Table 5. As we go down the list, a modifier may (or may not) change the anchor to a new range (one of the ranges in the four right-hand columns in the table). We'll choose the appropriate value from the new range, or column, to determine the next modifier's effect on the anchor. And so on, until we get to the last modifier on the list--management and governance. For example, let's assume that the anchor, after adjustment for diversification/portfolio effect but before adjusting for the other modifiers, is 'a'. If the capital structure assessment is very negative, the indicated anchor drops two notches, to 'bbb+'. So, to determine the impact of the next modifier--financial policy--we go to the column 'bbb+ to bbb-' and find the appropriate assessment--in this theoretical example, positive. Applying that assessment moves the anchor up one notch, to the 'a- and higher' category. In our example, liquidity is strong, so the impact is zero notches and the anchor remains unchanged. Management and governance is satisfactory, and thus the anchor remains 'a-' (see chart following table 5).

Table 5

**Modifier Step 2: Impact Of Remaining Modifier Factors On The Anchor**

--ANCHOR RANGE--

	<b>'A-' AND HIGHER</b>	<b>'BBB+' TO 'BBB-'</b>	<b>'BB+' TO 'BB-'</b>	<b>'B+' AND LOWER</b>
<b>FACTOR/ASSESSMENT</b>				
<b>CAPITAL STRUCTURE (SEE SECTION G)</b>				
1 (Very positive)	2 notches	2 notches	2 notches	2 notches
2 (Positive)	1 notch	1 notch	1 notch	1 notch
3 (Neutral)	0 notches	0 notches	0 notches	0 notches
4 (Negative)	-1 notch	-1 notch	-1 notch	-1 notch
5 (Very negative)	-2 or more notches	-2 or more notches	-2 or more notches	-2 notches
<b>FINANCIAL POLICY (FP; SEE SECTION H)</b>				
1 (Positive)	+1 notch if M&G is at least satisfactory	+1 notch if M&G is at least satisfactory	+1 notch if liquidity is at least adequate and M&G is at least satisfactory	+1 notch if liquidity is at least adequate and M&G is at least satisfactory

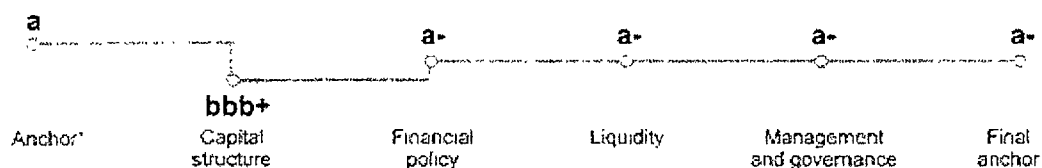
2 (Neutral)	0 notches	0 notches	0 notches	0 notches
3 (Negative)	-1 to -3 notches(1)	-1 to -3 notches(1)	-1 to -2 notches(1)	-1 notch
4 (FS-4, FS-5, FS-6, FS-6 [minus])	N/A(2)	N/A(2)	N/A(2)	N/A(2)
<b>LIQUIDITY (SEE SECTION I)</b>				
1 (Exceptional)	0 notches	0 notches	0 notches	+1 notch if FP is positive, neutral, FS-4, or FS-5 (3)
2 (Strong)	0 notches	0 notches	0 notches	+1 notch if FP is positive, neutral, FS-4, or FS-5 (3)
3 (Adequate)	0 notches	0 notches	0 notches	0 notches
4 (Less than adequate [4])	N/A	N/A	-1 notch(5)	0 notches
5 (Weak)	N/A	N/A	N/A	'b-' cap on SACP

**MANAGEMENT AND GOVERNANCE (M&G; SEE SECTION J)**

1 (Strong)	0 notches	0 notches	0, +1 notches(6)	0, +1 notches(6)
2 (Satisfactory)	0 notches	0 notches	0 notches	0 notches
3 (Fair)	-1 notch	0 notches	0 notches	0 notches
4 (Weak)	-2 or more notches(7)	-2 or more notches(7)	-1 or more notches(7)	-1 or more notches(7)

(1) Number of notches depends on potential incremental leverage. (2) See “Financial Policy,” section H.2. (3) Additional notch applies only if we expect liquidity to remain exceptional or strong. (4) See “Methodology And Assumptions: Liquidity Descriptors For Global Corporate Issuers.” SACP is capped at ‘bb+.’ (5) If issuer SACP is ‘bb+’ due to cap, there is no further notching. (6) This adjustment is one notch if we have not already captured benefits of strong management and governance in the analysis of the issuer’s competitive position. (7) Number of notches depends upon the degree of negative effect to the enterprise’s risk profile.

### Example: How Remaining Modifiers Can Change The Anchor



\*After adjusting for diversification/portfolio effect. See paragraph 33

34. Our analysis of a firm’s capital structure assesses risks in the firm’s capital structure that may not arise in the review of its cash flow/leverage. These risks include the currency risk of debt, debt maturity profile, interest rate risk of debt, and an investments subfactor. We assess a corporate issuer’s capital

structure on a scale of 1, very positive; 2, positive; 3, neutral; 4, negative; and 5, very negative. The full treatment of capital structure is the subject of section G.

35. Financial policy serves to refine the view of a company's risks beyond the conclusions arising from the standard assumptions in the cash flow/leverage, capital structure, and liquidity analyses. Those assumptions do not always reflect or adequately capture the long-term risks of a firm's financial policy. The financial policy assessment is, therefore, a measure of the degree to which owner/managerial decision-making can affect the predictability of a company's financial risk profile. We assess financial policy as 1) positive, 2) neutral, 3) negative, or as being owned by a financial sponsor. We further identify financial sponsor-owned companies as "FS-4", "FS-5", "FS-6", or "FS-6 (minus)." The full treatment of financial policy analysis is the subject of section H.

36. Our assessment of liquidity focuses on the monetary flows--the sources and uses of cash--that are the key indicators of a company's liquidity cushion. The analysis also assesses the potential for a company to breach covenant tests tied to declines in earnings before interest, taxes, depreciation, and amortization (EBITDA). The methodology incorporates a qualitative analysis that addresses such factors as the ability to absorb high-impact, low-probability events, the nature of bank relationships, the level of standing in credit markets, and the degree of prudence of the company's financial risk management. The liquidity assessments are 1, exceptional; 2, strong; 3, adequate; 4, less than adequate; and 5, weak. An SACP is capped at 'bb+' for issuers whose liquidity is less than adequate and 'b-' for issuers whose liquidity is weak, regardless of the assessment of any modifiers or comparable ratings analysis. (For the complete methodology on assessing corporate issuers' liquidity, see "**Methodology And Assumptions: Liquidity Descriptors For Global Corporate Issuers.**")

37. The analysis of management and governance addresses how management's strategic competence, organizational effectiveness, risk management, and governance practices shape the company's competitiveness in the marketplace, the strength of its financial risk management, and the robustness of its governance. The range of management and governance assessments is: 1, strong; 2, satisfactory; 3, fair; and 4, weak. Typically, investment-grade anchor outcomes reflect strong or satisfactory management and governance, so there is no incremental benefit. Alternatively, a fair or weak assessment of management and governance can lead to a lower anchor. Also, a strong assessment for management and governance for a weaker entity is viewed as a favorable factor, under the criteria, and can have a positive impact on the final SACP outcome. For the full treatment of management and governance, see "**Methodology: Management And Governance Credit Factors For Corporate Entities.**"

## 5. Comparable ratings analysis

38. The anchor, after adjusting for the modifiers, could change one notch up or down in order to arrive at an issuer's SACP based on our comparable ratings analysis, which is a holistic review of a company's stand-alone credit risk profile, in which we evaluate an issuer's credit characteristics in aggregate. A positive assessment leads to a one-notch improvement, a negative assessment leads to a one-notch reduction, and a neutral assessment indicates no change to the anchor. The application of comparable ratings analysis reflects the need to 'fine-tune' ratings outcomes, even after the use of each of the other modifiers. A positive or negative assessment is therefore likely to be common rather than exceptional.

## B. Industry Risk

39. The analysis of industry risk addresses the major factors that S&P Global Ratings believes affect the risks that entities face in their respective industries. (See "[Methodology: Industry Risk](#).")

## C. Country Risk

40. The analysis of country risk addresses the major factors that S&P Global Ratings believes affect the country where entities operate. Country risks, which include economic, institutional and governance effectiveness, financial system, and payment culture/rule of law risks, influence overall credit risks for every rated corporate entity. (See "[Country Risk Assessment Methodology And Assumptions](#).")

### 1. Assessing country risk for corporate issuers

41. The following paragraphs explain how the criteria determine the country risk assessment for a corporate entity. Once it's determined, we combine the country risk assessment with the issuer's industry risk assessment to calculate the issuer's CICRA (see section A, table 1). The CICRA is one of the factors of the issuer's business risk profile. If an issuer has very low to intermediate exposure to country risk, as represented by a country risk assessment of 1, 2, or 3, country risk is neutral to an issuer's CICRA. But if an issuer has moderately high to very high exposure to country risk, as represented by a country risk assessment of 4, 5, or 6, the issuer's CICRA could be influenced by its country risk assessment.

42. Corporate entities operating within a single country will receive a country risk assessment for that jurisdiction. For entities with exposure to more than one country, the criteria prospectively measure the proportion of exposure to each country based on forecasted EBITDA, revenues, or fixed assets, or other appropriate financial measures if EBITDA, revenue, or fixed assets do not accurately reflect the exposure to that jurisdiction.

43. Arriving at a company's blended country risk assessment involves multiplying its weighted-average exposures for each country by each country's risk assessment and then adding those numbers. For the weighted-average calculation, the criteria consider countries where the company generates more than 5% of its sales or where more than 5% of its fixed assets are located, and all weightings are rounded to the nearest 5% before averaging. We round the assessment to the nearest integer, so a weighted assessment of 2.2 rounds to 2, and a weighted assessment of 2.6 rounds to 3 (see table 6).

**Table 6**

### **Hypothetical Example Of Weighted-Average Country Risk For A Corporate Entity**

<b>COUNTRY</b>	<b>WEIGHTING (% OF BUSINESS*)</b>	<b>COUNTRY RISK§</b>	<b>WEIGHTED COUNTRY RISK</b>
Country A	45	1	0.45
Country B	20	2	0.4
Country C	15	1	0.15
Country D	10	4	0.4
Country E	10	2	0.2

Weighted-average country risk assessment (rounded to the nearest whole number)	--	--	2
---	----	----	---

\*Using EBITDA, revenues, fixed assets, or other financial measures as appropriate. §On a scale from 1-6, lowest to highest risk.

44. A weak link approach, which helps us calculate a blended country risk assessment for companies with exposure to more than one country, works as follows: If fixed assets are based in a higher-risk country but products are exported to a lower-risk country, the company's exposure would be to the higher-risk country. Similarly, if fixed assets are based in a lower-risk country but export revenues are generated from a higher-risk country and cannot be easily redirected elsewhere, we measure exposure to the higher-risk country. If a company's supplier is located in a higher-risk country, and its supply needs cannot be easily redirected elsewhere, we measure exposure to the higher-risk country. Conversely, if the supply chain can be re-sourced easily to another country, we would not measure exposure to the higher risk country.

45. Country risk can be mitigated for a company located in a single jurisdiction in the following narrow case. For a company that exports the majority of its products overseas and has no direct exposure to a country's banking system that would affect its funding, debt servicing, liquidity, or ability to transfer payments from or to its key counterparties, we could reduce the country risk assessment by one category (e.g., 5 to 4) to determine the adjusted country risk assessment. This would only apply for countries where we considered the financial system risk subfactor a constraint on the overall country risk assessment for that country. For such a company, other country risks are not mitigated: economic risk still applies, albeit less of a risk than for a company that sells domestically (potential currency volatility remains a risk for exporters); institutional and governance effectiveness risk still applies (political risk may place assets at risk); and payment culture/rule of law risk still applies (legal risks may place assets and cross-border contracts at risk).

46. Companies will often disclose aggregated information for blocks of countries, rather than disclosing individual country information. If the information we need to estimate exposure for all countries is not available, we use regional risk assessments. Regional risk assessments are calculated as averages of the

unadjusted country risk assessments, weighted by gross domestic product of each country in a defined region. The criteria assess regional risk on a 1-6 scale (strongest to weakest). Please see Appendix A, Table 26, which lists the constituent countries of the regions.

47. If an issuer does not disclose its country-level exposure or regional-level exposure, its individual country risk exposures or regional exposures will be estimated.

## **2. Adjusting the country risk assessment for diversity**

48. We will adjust the country risk assessment for a company that operates in multiple jurisdictions and demonstrates a high degree of diversity of country risk exposures. As a result of this diversification, the company could have less exposure to country risk than the rounded weighted average of its exposures might indicate. Accordingly, the country risk assessment for a corporate entity could be adjusted if an issuer meets the conditions outlined in paragraph 49.

49. The preliminary country risk assessment is raised by one category to reflect diversity if all of the following four conditions are met:

- If the company's head office, as defined in paragraph 51, is located in a country with a risk assessment stronger than the preliminary country risk assessment;
- If no country, with a country risk assessment equal to or weaker than the company's preliminary country risk assessment, represents or is expected to represent more than 20% of revenues, EBITDA, fixed assets, or other appropriate financial measures;
- If the company is primarily funded at the holding level, or through a finance subsidiary in a similar or stronger country risk environment than the holding company, or if any local funding could be very rapidly substituted at the holding level; and
- If the company's industry risk assessment is '4' or stronger.

50. The country risk assessment for companies that have 75% or more exposure to one jurisdiction cannot be improved and will, in most instances, equal the country risk assessment of that jurisdiction. But the country risk assessment for companies that have 75% or more exposure to one jurisdiction can be weakened if the balance of exposure is to higher risk jurisdictions.

51. We consider the location of a corporate head office relevant to overall risk exposure because it influences the perception of a company and its reputation--and can affect the company's access to capital. We determine the location of the head office on the basis of 'de facto' head office operations rather than just considering the jurisdiction of incorporation or stock market listing for public companies. De facto head office operations refers to the country where executive management and centralized high-level corporate activities occur, including strategic planning and capital raising. If such activities occur in different countries, we take the weakest country risk assessment applicable for the countries in which those activities take place.

## **D. Competitive Position**

52. Competitive position encompasses company-specific factors that can add to, or partly offset, industry risk and country risk--the two other major factors of a company's business risk profile.

53. Competitive position takes into account a company's: 1) competitive advantage, 2) scale, scope, and diversity, 3) operating efficiency, and 4) profitability. A company's strengths and weaknesses on the first three components shape its competitiveness in the marketplace and the sustainability or vulnerability of its revenues and profit. Profitability can either confirm our initial assessment of competitive position or modify it, positively or negatively. A stronger-than-industry-average set of competitive position characteristics will strengthen a company's business risk profile. Conversely, a weaker-than-industry-average set of competitive position characteristics will weaken a company's business risk profile.

54. These criteria describe how we develop a competitive position assessment. They provide guidance on how we assess each component based on a number of subfactors. The criteria define the weighting rules applied to derive a preliminary competitive position assessment. And they outline how this preliminary assessment can be maintained, raised, or lowered based on a company's profitability. S&P Global Ratings' competitive position analysis is both qualitative and quantitative.

### **1. The components of competitive position**

55. A company's competitive position assessment can be: 1, excellent; 2, strong; 3, satisfactory; 4, fair; 5, weak; or 6, vulnerable.

56. The analysis of competitive position includes a review of:

- Competitive advantage;
- Scale, scope, and diversity;
- Operating efficiency; and
- Profitability.

57. We follow four steps to arrive at the competitive position assessment. First, we separately assess competitive advantage; scale, scope, and diversity; and operating efficiency (excluding any benefits or risks already captured in the issuer's CICRA assessment). Second, we apply weighting factors to these three components to derive a weighted-average assessment that translates into a preliminary competitive position assessment. Third, we assess profitability. Finally, we combine the preliminary competitive position assessment and the profitability assessment to determine the final competitive position assessment. Profitability can confirm, or influence positively or negatively, the competitive position assessment.

58. We assess the relative strength of each of the first three components by reviewing a variety of subfactors (see table 7). When quantitative metrics are relevant and available, we use them to evaluate these subfactors. However, our overall assessment of each component is qualitative. Our evaluation is forward-looking; we use historical data only to the extent that they provide insight into future trends.

59. We evaluate profitability by assessing two subcomponents: level of profitability (measured by historical and projected nominal levels of return on capital, EBITDA margin, and/or sector-specific metrics) and volatility of profitability (measured by historically observed and expected fluctuations in EBITDA, return on capital, EBITDA margin, or sector specific metrics). We assess both subcomponents in the context of the company's industry.

Table 7

**Competitive Position Components And Subfactors**

Component	Explanation	Subfactors
1. Competitive advantage (see Appendix B, section 1)	The strategic positioning and attractiveness to customers of a company's products or services, and the fragility or sustainability of its business model	<ul style="list-style-type: none"> <li>• Strategy</li> <li>• Differentiation/uniqueness/product positioning/bundling</li> <li>• Brand reputation and marketing</li> <li>• Product and/or service quality</li> <li>• Barriers to entry and customers' switching costs</li> <li>• Technological advantage and capabilities and vulnerability to/ability to drive technological displacement</li> <li>• Asset base characteristics</li> </ul>
2. Scale, scope, and diversity (see Appendix B, section 2)	The concentration or diversification of business activities	<ul style="list-style-type: none"> <li>• Diversity of products or services</li> <li>• Geographic diversity</li> <li>• Volumes, size of markets and revenues, and market share</li> <li>• Maturity of products or services</li> </ul>
3. Operating efficiency (see Appendix B, section 3)	The quality and flexibility of a company's asset base and its cost management and structure	<ul style="list-style-type: none"> <li>• Cost structure</li> <li>• Manufacturing processes</li> <li>• Working capital management</li> <li>• Technology</li> </ul>
4. Profitability		<ul style="list-style-type: none"> <li>• Level of profitability (historical and projected return on capital, EBITDA margin, and/or sector-relevant measure)</li> <li>• Volatility of profitability</li> </ul>

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**2. Assessing competitive advantage, scale, scope, and diversity, and operating efficiency**

60. We assess competitive advantage; scale, scope, and diversity; and operating efficiency as: 1, strong; 2, strong/adequate; 3, adequate; 4, adequate/weak; or 5, weak. Tables 8, 9, and 10 provide guidance for assessing each component.

61. In assessing the components' relative strength, we place significant emphasis on comparative analysis. Peer comparisons provide context for evaluating the subfactors and the resulting component assessment. We review company-specific characteristics in the context of the company's industry, not just its narrower subsector. (See list of industries and subsectors in Appendix B, table 27.) For example, when evaluating an airline, we will benchmark the assessment against peers in the broader transportation-cyclical industry (including the marine and trucking subsectors), and not just against other airlines. Likewise, we will compare a home furnishing manufacturer with other companies in the

consumer durables industry, including makers of appliances or leisure products. We might occasionally extend the comparison to other industries if, for instance, a company's business lines cross several industries, or if there are a limited number of rated peers in an industry, subsector, or region. Additionally, our qualitative assessment of a company's competitive position can be influenced by environmental and social credit factors that, in our view, could positively or negatively affect an obligor's competitive position. If material and sufficiently certain, we could, for example, capture such environmental and social credit factors in the subfactors of brand reputation and cost structure. For example, a negative compliance track record, or the prospect of rapidly increasing pressure with respect to carbon emissions regulation, can result in wide-ranging adverse credit impacts, including a decline in market position and a significant hit to brand reputation.

62. An assessment of strong means that the company's strengths on that component outweigh its weaknesses, and that the combination of relevant subfactors results in lower-than-average business risk in the industry. An assessment of adequate means that the company's strengths and weaknesses with respect to that component are balanced and that the relevant subfactors add up to average business risk in the industry. A weak assessment means that the company's weaknesses on that component override any strengths and that its subfactors, in total, reveal higher-than-average business risk in the industry.

63. Where a component is not clearly strong or adequate, we may assess it as strong/adequate. A component that is not clearly adequate or weak may end up as adequate/weak.

64. Although we review each subfactor, we don't assess each individually--and we seek to understand how they may reinforce or weaken each other. A component's assessment combines the relative strengths and importance of its subfactors. For any company, one or more subfactors can be unusually important--even factors that aren't common in the industry. The industry KCF articles or "**Guidance: Corporate Methodology**" can identify subfactors that are consistently more important, or happen not to be relevant, in a given industry.

65. Not all subfactors may be equally important, and a single one's strength or weakness may outweigh all the others. For example, if notwithstanding a track record of successful product launches and its strong brand equity, a company's strategy doesn't appear adaptable, in our view, to changing competitive dynamics in the industry, we will likely not assess its competitive advantage as strong. Similarly, if its

revenues came disproportionately from a narrow product line, we might view this as compounding its risk of exposure to a small geographic market and, thus, assess its scale, scope, and diversity component as weak.

66. From time to time companies will, as a result of shifting industry dynamics or strategies, expand or shrink their product or service lineups, alter their cost structures, encounter new competition, or have to adapt to new regulatory environments. In such instances, we will reevaluate all relevant subfactors (and component assessments).

Table 8

### Competitive Advantage Assessment

Qualifier	What it means	Guidance
Strong	<ul style="list-style-type: none"> <li>The company has a major competitive advantage due to one or a combination of factors that supports revenue and profit growth, combined with lower-than-average volatility of profits.</li> <li>There are strong prospects that the company can sustain this advantage over the long term.</li> <li>This should enable the company to withstand economic downturns and competitive and technological threats better than its competitors can.</li> <li>Any weaknesses in one or more subfactors are more than offset by strengths in other subfactors that produce sustainable and profitable revenue growth.</li> </ul>	<ul style="list-style-type: none"> <li>The company's business strategy is highly consistent with, and adaptable to, industry trends and conditions and supports its leadership in the marketplace.</li> <li>It consistently develops and markets well-differentiated products or services, aligns products with market demand, and enhances the attractiveness or uniqueness of its value proposition through bundling.</li> <li>Its superior track record of product development, service quality, and customer satisfaction and retention support its ability to maintain or improve its market share.</li> <li>Its products or services command a clear price premium relative to its competitors' thanks to its brand equity, technological leadership, or quality of service; it is able to sustain this advantage with innovation and effective marketing.</li> <li>It benefits from barriers to entry from regulation, market characteristics, or intrinsic benefits (such as patents, technology, or customer relationships) that effectively reduce the threat of new competition.</li> <li>It has demonstrated a commitment and ability to effectively reinvest in its asset base, as evidenced by a continuous pipeline of new products and/or improvement in key capabilities, such as employee retention, customer care, distribution, and supplier relations. These tangible and intangible assets support long-term prospects of sustainable and profitable growth.</li> </ul>

Adequate	<ul style="list-style-type: none"> <li>• The company has some competitive advantages, but not so large as to create a superior business model or durable benefit compared to its peers'.</li> <li>• It has some but not all drivers of competitiveness. Certain factors support the business' long-term viability and should result in average profitability and average profit volatility during recessions or periods of increased competition. However, these drivers are partially offset by the company's disadvantages or lack of sustainability of other factors.</li> <li>• The company's strategy is well adapted to marketplace conditions, but it is not necessarily a leader in setting industry trends.</li> <li>• It exhibits neither superior nor subpar abilities with respect to product or service differentiation and positioning.</li> <li>• Its products command no price premium or advantage relative to competing brands as a result of its brand equity or its technological positioning.</li> <li>• It may enjoy some barriers to entry that provide some defense against competitors but don't overpower them. It faces some risk of product/service displacement or substitution longer term.</li> <li>• Its metrics of product or service quality and customer satisfaction or retention are in line with its industry's average. The company could lose customers to competitors if it makes operational missteps.</li> <li>• Its asset profile does not exhibit particularly superior or inferior characteristics compared to other industry participants. These assets generate consistent revenue and profit growth although long-term prospects are subject to some uncertainty.</li> </ul>
Weak	<ul style="list-style-type: none"> <li>• The company has few, if any, competitive advantages and a number of competitive disadvantages.</li> <li>• Because the company lacks many competitive advantages, its long-term prospects are uncertain, and its profit volatility is likely to be higher than average for its industry.</li> <li>• The company is less likely than its competitors to withstand economic, competitive, or technological threats.</li> <li>• Alternatively, the company has weaknesses in one or more subfactors that could keep its profitability below average and its profit volatility above average during economic downturns or periods of increased competition.</li> <li>• The company's strategy is inconsistent with, or not well adapted to, marketplace trends and conditions.</li> <li>• There is evidence of little innovation, slowness in developing and marketing new products, an inability to raise prices, and/or ineffective bundling.</li> <li>• Its products generally enjoy no price premium relative to competing brands and it often has to sell its products at a lower price than its peers can command.</li> <li>• It has suffered or is at risk of suffering customer defections due to falling quality and because customers perceive its products or services to be less valuable than those of its competitors.</li> <li>• Its revenues and market shares are vulnerable to aggressive pricing by existing or new competitors or to technological displacement risks over the near to medium term.</li> <li>• Its metrics of product or service quality and customer satisfaction or retention are weaker than the industry average.</li> <li>• Its reinvestment in its business is lower than its peers', its ability to retain operational talent is limited, its distribution network is inefficient, and its revenue could stagnate or decline as result.</li> </ul>

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Table 9

**Scale, Scope, And Diversity**

Qualifier	What it means	Guidance
Strong	<ul style="list-style-type: none"> <li>The company's overall scale, scope, and diversity supports stable revenues and profits by rendering it essentially invulnerable to all but the most disruptive combinations of adverse factors, events, or trends.</li> <li>Its significant advantages in scale, scope, and diversity enable it to withstand economic, regional, competitive, and technological threats better than its competitors can.</li> </ul>	<ul style="list-style-type: none"> <li>The company's range of products or services is among the most comprehensive in its sector. It derives its revenue and profits from a broader set of products or services than the industry average.</li> <li>Its products and services enjoy industry-leading market shares relative to other participants in its industry.</li> <li>It does not rely on a particular customer or small group of customers. If it does, the customer(s) is/are of high credit quality, their demand is highly sustainable, or the company and its customer(s) have significant interdependence.</li> <li>It does not depend on any particular supplier or related group of suppliers that it could not easily replace. If it does, the supplier(s) is/are of high credit quality, or the company and its supplier(s) have significant interdependence.</li> <li>It enjoys broader geographic diversity than its peers and doesn't overly depend on a single regional or local market. If it does, the market is local, often for regulatory reasons. The company's production or service centers are diversified across several locations.</li> <li>It holds a strategic investment that provides positive business diversification.</li> </ul>
Adequate	<ul style="list-style-type: none"> <li>The company's overall scale, scope, and diversity is comparable to its peers'.</li> <li>Its ability to withstand economic, competitive, or technological threats is comparable to the ability of others within its sector.</li> </ul>	<ul style="list-style-type: none"> <li>The company has a broad range of products or services compared with its competitors and doesn't depend on a particular product or service for the majority of its revenues and profits.</li> <li>Its market share is average compared with that of its competitors.</li> <li>Its dependence on or concentration of key customers is no higher than the industry average, and the loss of a top customer would be unlikely to pose a high risk to its business stability.</li> <li>It isn't overly dependent on any supplier or regional group of suppliers that it couldn't easily replace.</li> <li>It doesn't depend excessively on a single local or regional market, and its geographic footprint of production and revenue compares with that of other industry participants.</li> </ul>

**Weak**

- The company's lack of scale, scope, and diversity compromises the stability and sustainability of its revenues and profits.
- The company's vulnerability to, or reliance on, various elements of scale, scope, and diversity leaves it less likely than its competitors to withstand economic, competitive, or technological threats.
- The company's product or service lineup is somewhat limited compared to those of its sector peers. The company derives its profits from a narrow group of products or services, and has not achieved significant market share compared with its peers.
- Demand for its products or services is lower than for its competitors', and this trend isn't improving.
- It relies heavily on a particular customer or small group of customers, and the characteristics of the customer base do not mitigate this risk.
- It depends on a particular supplier or group of suppliers, which it would not be able to easily replace without incurring high switching costs.
- It depends disproportionately on a single local or regional economy for selling its goods or services, and the company's industry is global.
- Key production assets are concentrated by location, and the company has limited ability to quickly replace them without incurring high costs relative to its profits.

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Table 10

**Operating Efficiency Assessment**

Qualifier	What It Means	Guidance
Strong	<ul style="list-style-type: none"> <li>• The company maximizes revenues and profits via intelligent use of assets and by minimizing costs and increasing efficiency.</li> <li>• The company's cost structure should enable it to withstand economic downturns better than its peers.</li> </ul>	<ul style="list-style-type: none"> <li>• The company has a lower cost structure than its peers resulting in higher profits or margins even if capacity utilization or demand are well below ideal levels and during down economic and industry cycles.</li> <li>• It has demonstrated its ability to efficiently manage fixed and variable costs in cyclical downturns, and has a history of successful and often ongoing cost reductions programs.</li> <li>• Its capacity utilization is close to optimal at the peak of the industry cycle and outperforms the industry average over the cycle.</li> <li>• It has demonstrated that it can pass along increases in input costs and we expect this will continue.</li> <li>• It has a very high ability to adjust production and labor costs in response to changes in demand without repercussions for product quality, or has demonstrated the ability to operate very profitably in a more costly or less flexible labor environment.</li> <li>• Its suppliers have demonstrated an ability to meet swings in demand without causing bottlenecks or quality issues, and can absorb all but the most severe supply chain disruptions.</li> <li>• It has superior working capital management, as evidenced by a consistently better-than-average "cash conversion cycle" and other working capital metrics, supporting higher cash flow and lower funding costs.</li> <li>• Its investments in technology are likely to increase revenue growth and/or improve its cost structure and operating efficiency.</li> </ul>

Adequate	<ul style="list-style-type: none"> <li>A combination of cost structure and efficiency should support sustainable profits with average profit volatility relative to the company's peers. Its cost structure is similar to its peers'.</li> <li>The company has demonstrated the ability to manage some fixed and most variable costs except during periods of extremely weak demand, and has some history of cutting costs in good and bad times.</li> <li>Its cost structure permits some profitability even if capacity utilization or customer demand is well below ideal levels. The company can at least break even during most of the industry/demand cycle.</li> <li>Its cost structure is in line with its peers'. For example, its selling, general, and administrative (SG&amp;A) expense as a percent of revenue is similar to its peers' and is likely to be stable.</li> <li>It has demonstrated an ability to adjust labor costs in most scenarios without hurting product output and quality, or can operate profitably in a more costly or less flexible labor environment; it has some success passing on input cost increases, although perhaps only partially or with time lag.</li> <li>Its suppliers have met typical swings in demand without causing widespread bottlenecks or quality issues, and the company has some capacity to withstand limited supply chain disruptions.</li> <li>It has good working capital management, evidenced by its cash conversion cycle and working capital metrics that are on par with its peers'.</li> <li>Its investments in technology are likely to help it at least maintain its cost structure and current level of operating efficiency.</li> </ul>
Weak	<ul style="list-style-type: none"> <li>The company's operating efficiency leaves it with lower profitability than its peers' due to lower asset utilization and/or a higher, less flexible cost structure.</li> <li>The company's cost structure permits better-than-marginal profitability only if capacity utilization is at the top of the cycle or during periods of strong demand. The company needs solid and sustained industry conditions to generate fair profitability.</li> <li>It has limited success or capability of managing fixed costs and even most typically variable costs are fixed in the next two to three years.</li> <li>It has a limited track record of successful cost reductions, such as reducing labor costs in the face of swings in demand, or it has limited ability to pass along increases in input costs.</li> <li>Its costs are higher than its peers'. For example, the company's SG&amp;A expense as a percent of revenue is above that of its peers, and likely to remain so.</li> <li>Its suppliers may face bottlenecks or quality issues in the event of modest swings in demand, or have limited technological capabilities. There is evidence that a limited supply chain disruption would make it difficult for suppliers to meet their commitments to the company.</li> <li>Its working capital management is weak, as evidenced by working capital metrics that are significantly worse than those of its peers, resulting in lower cash flow and higher funding costs.</li> <li>It lacks investments in technology, which could hurt its revenue growth and/or result in a higher cost structure and less efficient operations relative to its peers'.</li> </ul>

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### 3. Determining the preliminary competitive position assessment: Competitive position group profile and category weightings

67. After assessing competitive advantage; scale, scope, and diversity; and operating efficiency, we determine a company's preliminary competitive position assessment by ascribing a specific weight to each component. The weightings depend on the company's Competitive Position Group Profile (CPGP).

68. There are six possible CPGPs: 1) services and product focus, 2) product focus/scale driven, 3) capital or asset focus, 4) commodity focus/cost driven, 5) commodity focus/scale driven, and 6) national industry and utilities (see table 11 for definitions and characteristics).

**Table 11**

### Competitive Position Group Profile (CPGP)

	DEFINITION AND CHARACTERISTICS	EXAMPLES
Services and product focus	Brands, product quality or technology, and service reputation are typically key differentiating factors for competing in the industry. Capital intensity is typically low to moderate, although supporting the brand often requires ongoing reinvestment in the asset base.	Typically, these are companies in consumer-facing light manufacturing or service industries. Examples include branded drug manufacturers, software companies, and packaged food.
Product focus/scale driven	Product and geographic diversity, as well as scale and market position are key differentiating factors. Sophisticated technology and stringent quality controls heighten risk of product concentration. Product preferences or sales relationships are more important than branding or pricing. Cost structure is relatively unimportant.	The sector most applicable is medical device/equipment manufacturers, particularly at the higher end of the technology scale. These companies largely sell through intermediaries, as opposed to directly to the consumer.

Capital or asset focus	Sizable capital investments are generally required to sustain market position in the industry. Brand identification is of limited importance, although product and service quality often remain differentiating factors.	Heavy manufacturing industries typically fall into this category. Examples include telecom infrastructure manufacturers and semiconductor makers.
Commodity focus/cost driven	Cost position and efficiency of production assets are more important than size, scope, and diversification. Brand identification is of limited importance	Typically, these are companies that manufacture products from natural resources that are used as raw materials by other industries. Examples include forest and paper products companies that harvest timber or produce pulp, packaging paper, or wood products.
Commodity focus/scale driven	Pure commodity companies have little product differentiation, and tend to compete on price and availability. Where present, brand recognition or product differences are secondary or of less importance.	Examples range from pure commodity producers and most oil and gas upstream producers, to some producers with modest product or brand differentiation, such as commodity foods.
National industries and utilities	Government policy or control, regulation, and taxation and tariff policies significantly affect the competitive dynamics of the industry (see paragraphs 72-73).	An example is a water-utility company in an emerging market.

69. The nature of competition and key success factors are generally prescribed by industry characteristics, but vary by company. Where service, product quality, or brand equity are important competitive factors, we'll give the competitive advantage component of our overall assessment a higher

weighting. Conversely, if the company produces a commodity product, differentiation comes less into play, and we will more heavily weight scale, scope, and diversity as well as operating efficiency (see table 12).

**Table 12**

### Competitive Position Group Profiles (CPGPs) And Category Weightings

Component	--(%)--					
	Services and product focus	Product focus/scale driven	Capital or asset focus	Commodity focus/cost driven	Commodity focus/scale driven	National industries and utilities
1. Competitive advantage	45	35	30	15	10	60
2. Scale, scope, and diversity	30	50	30	35	55	20
3. Operating efficiency	25	15	40	50	35	20
Total	100	100	100	100	100	100
Weighted-average assessment*	1.0-5.0	1.0-5.0	1.0-5.0	1.0-5.0	1.0-5.0	1.0-5.0

\*1 (strong), 2 (strong/adequate), 3 (adequate), 4 (adequate/weak), 5 (weak).

70. We place each of the defined industries (see Appendix B, table 27) into one of the six CPGPs (see above and Appendix B, table 27). This is merely a starting point for the analysis, since we recognize that some industries are less homogenous than others, and that company-specific strategies do affect the basis of competition.

71. In fact, the criteria allow for flexibility in selecting a company's group profile (with its category weightings). Reasons for selecting a profile different than the one suggested in the guidance table could include:

- The industry is heterogeneous, meaning that the nature of competition differs from one subsector to the next, and possibly even within subsectors. The KCF article for the industry or the relevant section in "**Guidance: Corporate Methodology**" will identify such circumstances.
- A company's strategy could affect the relative importance of its key factors of competition.

72. For example, the standard CPGP for the telecom and cable industry is services and product focus. While this may be an appropriate group profile for carriers and service providers, an infrastructure provider may be better analyzed under the capital or asset focus group profile. Other examples: In the capital goods industry, a construction equipment rental company may be analyzed under the capital or asset focus group profile, owing to the importance of efficiently managing the capital spending cycle in this segment of the industry, whereas a provider of hardware, software, and services for industrial automation might be analyzed under the services and product focus group profile, if we believe it can achieve differentiation in the marketplace based on product performance, technology innovation, and service.

73. In some industries, the effects of government policy, regulation, government control, and taxation and tariff policies can significantly alter the competitive dynamics, depending on the country in which a company operates. That can alter our assessment of a company's competitive advantage; scale, size, and diversity; or operating efficiency. When industries in given countries have risks that differ materially from those captured in our global industry risk profile and assessment (see "**Methodology: Industry Risk**," section B), we will weight competitive advantage more heavily to capture the effect, positive or negative, on competitive dynamics. The assessment of competitive advantage; scale, size, and diversity; and

operating efficiency will reflect advantages or disadvantages based on these national industry risk factors. Table 13 identifies the circumstances under which national industry risk factors are positive or negative.

Table 13

National Industry Risk Factors	
National industry risk factors are positive	<ul style="list-style-type: none"> <li>Government policy including regulation, ownership, and taxation is supportive and has a good track record of mitigating risks to the stability of industry margins.</li> <li>Any government ownership, tariff, and taxation policy supports growth prospects for revenues and profit generation.</li> <li>There is very little discernible risk of negative policy, regulatory, ownership, or taxation changes that could threaten business stability.</li> </ul>
National industry risk factors are negative	<ul style="list-style-type: none"> <li>Government policy and regulation has a weak track record of stabilizing margins and reducing industry risks.</li> <li>Any government ownership, tariff, and taxation policy undermine growth prospects for revenues and profit generation.</li> <li>There is an increasing risk of negative policy, ownership, and taxation changes that could undermine industry stability.</li> </ul>

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74. When national industry risk factors are positive for a company, typically they support revenue growth, profit growth, higher EBITDA margins, and/or lower-than-average volatility of profits. Often, these benefits provide barriers to entry that impede or even bar new market entrants, which should be reflected in the competitive advantage assessment. These benefits may also include risk mitigants that enable a company to withstand economic downturns and competitive and technological threats better in its local markets than its global competitors can. The scale, scope, and diversity assessment might also benefit from these policies if the company is able to withstand economic, regional, competitive, and technological threats better than its global competitors can. Likewise, the company's operating efficiency assessment may improve if, as a result, it is better able than its global competitors to withstand economic downturns, taking into account its cost structure.

75. Conversely, when national industry risk factors are negative for a company, typically they detract from revenue growth and profit growth, shrink EBITDA margins, and/or increase the average volatility of profits. The company may also have less protection against economic downturns and competitive and technological threats within its local markets than its global competitors do. We may also adjust the company's scale, scope, and diversity assessment lower if, as a result of these policies, it is less able to

withstand economic, regional, competitive, and technological threats than its global competitors can. Likewise, we may adjust its operating efficiency assessment lower if, as a result of these policies, it is less able to withstand economic downturns, taking into account the company's cost structure.

76. An example of when we might use a national industry risk factor would be for a telecommunications network owner that benefits from a monopoly network position, supported by substantial capital barriers to entry, and as a result is subject to regulated pricing for its services. Accordingly, in contrast to a typical telecommunications company, our analysis of the company's competitive position would focus more heavily on the monopoly nature of its operations, as well as the nature and reliability of the operator's regulatory framework in supporting future revenue and earnings. If we viewed the regulatory framework as being supportive of the group's future earnings stability, and we considered its monopoly position to be sustainable, we would assess these national industry risk factors as positive in our assessment of the group's competitive position.

77. The weighted average assessment translates into the preliminary competitive position assessment on a scale of 1 to 6, where one is best. Table 14 describes the matrix we use to translate the weighted average assessment of the three components into the preliminary competitive position assessment.

**Table 14**

### **Translation Table For Converting Weighted-Average Assessments Into Preliminary Competitive Position Assessments**

<b>WEIGHTED AVERAGE ASSESSMENT RANGE</b>	<b>PRELIMINARY COMPETITIVE POSITION ASSESSMENT</b>
1.00 – 1.50	1
>1.50 – 2.25	2
>2.25 – 3.00	3

>3.00 – 3.75	4
>3.75 – 4.50	5
>4.50 – 5.00	6

#### 4. Assessing profitability

78. We assess profitability on the same scale of 1 to 6 as the competitive position assessment.

79. The profitability assessment consists of two subcomponents: level of profitability and the volatility of profitability, which we assess separately. We use a matrix to combine these into the final profitability assessment.

##### a) Level of profitability

80. The level of profitability is assessed in the context of the company's industry. We most commonly measure profitability using return on capital (ROC) and EBITDA margins, but we may also use sector-specific ratios. Importantly, as with the other components of competitive position, we review profitability in the context of the industry in which the company operates, not just in its narrower subsector. (See list of industries and subsectors in Appendix B, table 27.)

81. We assess level of profitability on a three-point scale: above average, average, and below average. We may establish numeric guidance, for instance by stating that an ROC above 12% is considered above average, between 8%-12% is average, and below 8% is below average for the industry, or by differentiating between subsectors in the industry. In the absence of numeric guidance, we compare a company against its peers across the industry. When establishing numeric guidance for assessing profitability within an industry or subsector, we typically consider the distribution of profitability measures across rated issuers in the sector. Depending on the shape of the distribution, we choose logical breakpoints between above average, average, and below average profitability. For instance, for a distribution that resembles a normal

curve, we typically assess the top quartile of the relevant profitability indicator to be above average, the two middle quartiles average, and the bottom quartile below average. For a relatively flat distribution curve, we typically assess the top third to be above average, the middle third to be average, and the bottom third to be below average. We also may take averages of historical data or adjust the thresholds between the three ranges to consider factors such as variation over the business cycle and across regions. Finally, we may incorporate our expertise in the sector to adjust for underlying M&A trends or other distortions, as appropriate.

82. We calculate profitability ratios generally based on a five-year average, consisting of two years of historical data, our projections for the current year (incorporating any reported year-to-date results and estimates for the remainder of the year), and the next two financial years. There may be situations where we consider longer or shorter historical results or forecasts, depending on such factors as availability of financials, transformational events (such as mergers or acquisitions [M&A]), cyclical distortion (such as peak or bottom of the cycle metrics that we do not deem fully representative of the company's level of profitability), and we take into account improving or deteriorating trends in profitability ratios in our assessment. For example, a company's profitability trend may be forecast to decline over the next two years because of levied carbon taxes and our anticipation that such carbon tax rates will increase each year as regulations tighten.

## **b) Volatility of profitability**

83. We base the volatility of profitability on the standard error of the regression (SER) for a company's historical EBITDA, EBITDA margins, or return on capital. The KCF articles and "**Guidance: Corporate Methodology**" detail which measures are most appropriate for a given industry or set of companies. For each of these measures, we divide the standard error by the average of that measure over the time period in order to ensure better comparability across companies.

84. The SER is a statistical measure that is an estimate of the deviation around a 'best fit' linear trend line. We regress the company's EBITDA, EBITDA margins, or return on capital against time. A key advantage of SER over standard deviation or coefficient of variation is that it doesn't view upwardly trending data as inherently more volatile. At the same time, we recognize that SER, like any statistical measure, may understate or overstate expected volatility and thus we will make qualitative adjustments where

appropriate (see paragraphs 86-90). Furthermore, we only calculate SER when companies have at least seven years of historical annual data and have not significantly changed their line of business during the timeframe, to ensure that the results are meaningful.

85. As with the level of profitability, we evaluate a company's SER in the context of its industry group. For most industries, we establish a six-point scale with 1 capturing the least volatile companies, i.e., those with the lowest SERs, and 6 identifying companies whose profits are most volatile. We have established industry-specific SER parameters using the most recent seven years of data for companies within each sector. We believe that seven years is generally an adequate number of years to capture a business cycle. (See "**Guidance: Corporate Methodology**" for industry-specific SER parameters.) For companies whose business segments cross multiple industries, we evaluate the SER in the context of the organization's most dominant industry--if that industry represents at least two-thirds of the organization's EBITDA, sales, or other relevant metric. If the company is a conglomerate and no dominant industry can be identified, we will evaluate its profit volatility in the context of SER guidelines for all nonfinancial companies.

86. In certain circumstances, the SER derived from historical information may understate--or overstate--expected future volatility, and we may adjust the assessment downward or upward. The scope of possible adjustments depends on certain conditions being met as described below.

87. We might adjust the SER-derived volatility assessment to a worse assessment (i.e., to a higher assessment for greater volatility) by up to two categories if the expected level of volatility isn't apparent in historical numbers, and the company either:

- Has a weighted country risk assessment of 4 or worse, which may, notwithstanding past performance, result in a less stable business environment going forward;
- Operates in a subsector of the industry that may be prone to higher technology or regulation changes, or other potential disruptive risks that have not emerged over the seven year period;
- Is of limited size and scope, which will often result in inherently greater vulnerability to external changes; or
- Has pursued material M&A or internal growth projects that obscure the company's underlying performance trend line. As an example, a company may have consummated an

acquisition during the trough of the cycle, masking what would otherwise be a significant decline in performance.

88. The choice of one or two categories depends on the degree of likelihood that the related risks will materialize and our view of the likely severity of these risks.

89. Conversely, we may adjust the SER-derived volatility assessment to a better assessment (i.e., to a lower assessment reflecting lower volatility) by up to two categories if we observe that the conditions historically leading to greater volatility have receded and are misrepresentative. This will be the case when:

- The company grew at a moderately faster, albeit more uneven, pace relative to the industry. Since we measure volatility around a linear trend line, a company growing at a constant percentage of moderate increase (relative to the industry) or an uneven pace (e.g., due to "lumpy" capital spending programs) could receive a relatively unfavorable assessment on an unadjusted basis, which would not be reflective of the company's performance in a steady state. (Alternatively, those companies that grow at a significantly higher-than-average industry rate often do so on unsustainable rates of growth or by taking on high-risk strategies. Companies with these high-risk growth strategies would not receive a better assessment and could be adjusted to a worse assessment;)
- The company's geographic, customer, or product diversification has increased in scope as a result of an acquisition or rapid expansion (e.g. large, long-term contracts wins), leading to more stability in future earnings in our view; or
- The company's business model is undergoing material change that we expect will benefit earnings stability, such as a new regulatory framework or major technology shift that is expected to provide a significant competitive hedge and margin protection over time.
- The company has experienced a sharp drop in demand for its products and services due to the materialization of social credit factors related to health and safety, such as a pandemic, which had a significant negative impact on commercial activity for a period of time, but which we view as temporary and not indicative of future earnings trends.

90. The choice of one or two categories depends on the degree of likelihood that the related risks will materialize and our view of the likely severity of these risks.

91. If the company either does not have at least seven years of annual data or has materially changed its business lines or undertaken abnormally high levels of M&A during this time period, then we do not use its SER to assess the volatility of profitability. In these cases, we use a proxy to establish the volatility assessment. If there is a peer company that has, and is expected to continue having, very similar profitability volatility characteristics, we use the SER of that peer entity as a proxy.

92. If no such matching peer exists, or one cannot be identified with enough confidence, we perform an assessment of expected volatility based on the following rules:

- An assessment of 3 if we expect the company's profitability, supported by available historical evidence, will exhibit a volatility pattern in line with, or somewhat less volatile than, the industry average.
- An assessment of 2 based on our confidence, supported by available historical evidence, that the company will exhibit lower volatility in profitability metrics than the industry's average. This could be underpinned by some of the factors listed in paragraph 89, whereas those listed in paragraph 87 would typically not apply.
- An assessment of 4 or 5 based on our expectation that profitability metrics will exhibit somewhat higher (4), or meaningfully higher (5) volatility than the industry, supported by available historical evidence, or because of the applicability of possible adjustment factors listed in paragraph 87.
- Assessments of either 1 or 6 are rarely assigned and can only be achieved based on a combination of data evidence and very high confidence tests. For an assessment of 1, we require strong evidence of minimal volatility in profitability metrics compared with the industry, supported by at least five years of historical information, combined with a very high degree of confidence that this will continue in the future, including no country risk, subsector risk or size considerations that could otherwise warrant a worse assessment as per paragraph 87. For an assessment of 6 we require strong evidence of very high volatility in profitability metrics compared with the industry, supported by at least five years of historical information and very high confidence that this will continue in the future.

93. Next, we combine the level of profitability assessment with the volatility assessment to determine the final profitability assessment using the matrix in Table 15.

**Table 15**

## Profitability Assessment

--VOLATILITY OF PROFITABILITY ASSESSMENT--						
LEVEL OF PROFITABILITY ASSESSMENT	1	2	3	4	5	6
Above average	1	1	2	3	4	5
Average	1	2	3	4	5	6
Below average	2	3	4	5	6	6

### 5. Combining the preliminary competitive position assessment with profitability

94. The fourth and final step in arriving at a competitive position assessment is to combine the preliminary competitive position assessment with the profitability assessment. We use the combination matrix in Table 16, which shows how the profitability assessment can confirm, strengthen, or weaken (by up to one category) the overall competitive position assessment.

**Table 16**

### Combining The Preliminary Competitive Position Assessment And Profitability Assessment

--PRELIMINARY COMPETITIVE POSITION ASSESSMENT--						
PROFITABILITY ASSESSMENT	1	2	3	4	5	6

1	1	2	2	3	4	5
2	1	2	3	3	4	5
3	2	2	3	4	4	5
4	2	3	3	4	5	5
5	2	3	4	4	5	6
6	2	3	4	5	5	6

95. We generally expect companies with a strong preliminary competitive position assessment to exhibit strong and less volatile profitability metrics. Conversely, companies with a relatively weaker preliminary competitive position assessment will generally have weaker and/or more volatile profitability metrics. Our analysis of profitability helps substantiate whether management is translating any perceived competitive advantages, diversity benefits, and cost management measures into higher earnings and more stable return on capital and return on sales ratios than the averages for the industry. When profitability differs markedly from what the preliminary/anchor competitive position assessment would otherwise imply, we adjust the competitive position assessment accordingly.

96. Our method of adjustment is biased toward the preliminary competitive position assessment rather than toward the profitability assessment (e.g., a preliminary competitive assessment of 6 and a profitability assessment of 1 will result in a final assessment of 5).

## E. Cash Flow/Leverage

97. The pattern of cash flow generation, current and future, in relation to cash obligations is often the best indicator of a company's financial risk. The criteria assess a variety of credit ratios, predominately cash flow-based, which complement each other by focusing on the different levels of a company's cash flow waterfall in relation to its obligations (i.e., before and after working capital investment, before and after capital expenditures, before and after dividends), to develop a thorough perspective. Moreover, the criteria identify the ratios that we think are most relevant to measuring a company's credit risk based on its individual characteristics and its business cycle.

98. For the analysis of companies with intermediate or stronger cash flow/leverage assessments (a measure of the relationship between the company's cash flows and its debt obligations as identified in paragraphs 106 and 124), we primarily evaluate cash flows that reflect the considerable flexibility and discretion over outlays that such companies typically possess. For these entities, the starting point in the analysis is cash flows before working capital changes plus capital investments in relation to the size of a company's debt obligations in order to assess the relative ability of a company to repay its debt. These "leverage" or "payback" cash flow ratios are a measure of how much flexibility and capacity the company has to pay its obligations.

99. For entities with significant or weaker cash flow/leverage assessments (as identified in paragraphs 105 and 124), the criteria also call for an evaluation of cash flows in relation to the carrying cost or interest burden of a company's debt. This will help us assess a company's relative and absolute ability to service its debt. These "coverage"- or "debt service"-based cash flow ratios are a measure of a company's ability to pay obligations from cash earnings and the cushion the company possesses through stress periods. These ratios, particularly interest coverage ratios, become more important the further a company is down the credit spectrum.

## **1. Assessing cash flow/leverage**

100. Under the criteria, we assess cash flow/leverage as 1, minimal; 2, modest; 3, intermediate; 4, significant; 5, aggressive; or 6, highly leveraged. To arrive at these assessments, the criteria combine the assessments of a variety of credit ratios, predominately cash flow-based, which complement each other by focusing attention on the different levels of a company's cash flow waterfall in relation to its obligations. For each ratio, there is an indicative cash flow/leverage assessment that corresponds to a specified range of values in one of three given benchmark tables (see tables 17, 18, and 19). We derive the

final cash flow/leverage assessment for a company by determining the relevant core ratios, anchoring a preliminary cash flow assessment based on the relevant core ratios, determining the relevant supplemental ratio(s), adjusting the preliminary cash flow assessment according to the relevant supplemental ratio(s), and, finally, modifying the adjusted cash flow/leverage assessment for any material volatility.

## 2. Core and supplemental ratios

### a) Core ratios

101. For each company, we calculate two core credit ratios--funds from operations (FFO) to debt and debt to EBITDA--in accordance with S&P Global Ratings' ratios and adjustments criteria (see "**Corporate Methodology: Ratios And Adjustments**"). We compare these payback ratios against benchmarks to derive the preliminary cash flow/leverage assessment for a company. These ratios are also useful in determining the relative ranking of the financial risk of companies.

### b) Supplemental ratios

102. The criteria also consider one or more supplemental ratios (in addition to the core ratios) to help develop a fuller understanding of a company's financial risk profile and fine-tune our cash flow/leverage analysis. Supplemental ratios could either confirm or adjust the preliminary cash flow/leverage assessment. The confirmation or adjustment of the preliminary cash flow/leverage assessment will depend on the importance of the supplemental ratios as well as any difference in indicative cash flow/leverage assessment between the core and supplemental ratios as described in section E.3.b.

103. The criteria typically consider five standard supplemental ratios, although the relevant KCF article or "**Guidance: Corporate Methodology**" may introduce additional supplemental ratios or focus attention on one or more of the standard supplemental ratios. The standard supplemental ratios include three payback ratios--cash flow from operations (CFO) to debt, free operating cash flow (FOCF) to debt, and discretionary cash flow (DCF) to debt--and two coverage ratios, FFO plus interest paid to cash interest paid and EBITDA to interest.

104. The criteria provide guidelines as to the relative importance of certain ratios if a company exhibits characteristics such as high leverage, working capital intensity, capital intensity, or high growth.

105. If the preliminary cash flow/leverage assessment is significant or weaker (see section E.3), then two coverage ratios, FFO plus cash interest paid to cash interest paid and EBITDA to interest, will be given greater importance as supplemental ratios. For the definition of these metrics please see "**Corporate Methodology: Ratios And Adjustments**".

106. If the preliminary cash flow/leverage assessment is intermediate or stronger, the criteria first apply the three standard supplemental ratios of CFO to debt, FOCF to debt, and DCF to debt. When FOCF to debt and DCF to debt indicate a cash flow/leverage assessment that is lower than the other payback-ratio-derived cash flow/leverage assessments, it signals that the company has either larger than average capital spending or other non-operating cash distributions (including dividends). If these differences persist and are consistent with a negative trend in overall ratio levels, which we believe is not temporary, then these supplemental leverage ratios will take on more importance in the analysis.

107. If the supplemental ratios indicate a cash flow/leverage assessment that is different than the preliminary cash flow/leverage assessment, it could suggest an unusual debt service or fixed charge burden, working capital or capital expenditure profile, or unusual financial activity or policies. In such cases, we assess the sustainability or persistence of these differences. For example, if either working capital or capital expenditures are unusually low, leading to better indicated assessments, we examine the sustainability of such lower spending in the context of its impact on the company's longer term competitive position. If there is a deteriorating trend in the company's asset base, we give these supplemental ratios less weight. If either working capital or capital expenditures are unusually high, leading to weaker indicated assessments, we examine the persistence and need for such higher spending. If elevated spending levels are required to maintain a company's competitive position, for example to maintain the company's asset base, we give more weight to these supplemental ratios.

108. For capital-intensive companies, EBITDA and FFO may overstate financial strength, whereas FOCF may be a more accurate reflection of their cash flow in relation to their financial obligations. The criteria generally consider a capital-intensive company as having ongoing capital spending to sales of greater than 10%, or depreciation to sales of greater than 8%. For these companies, the criteria place more weight on the supplementary ratio of FOCF to debt. Where we place more analytic weight on FOCF to debt, we also seek to estimate the amount of maintenance or full cycle capital required (see Appendix C) under

normal conditions (we estimate maintenance or full-cycle capital expenditure required because this is not a reported number). The FOCF figure may be adjusted by adding back estimated discretionary capital expenditures. The adjusted FOCF to debt based on maintenance or full cycle capital expenditures often helps determine how much importance to place on this ratio. If both the FOCF to debt and the adjusted (for estimated discretionary capital spending) FOCF to debt derived assessments are different from the preliminary cash/flow leverage assessment, then these supplemental leverage ratios take on more importance in the analysis.

109. For working-capital-intensive companies, EBITDA and FFO may also overstate financial strength, and CFO may be a more accurate measure of the company's cash flow in relation to its financial risk profile. Under the criteria, if a company has a working capital-to-sales ratio that exceeds 25% or if there are significant seasonal swings in working capital, we generally consider it to be working-capital-intensive. For these companies, the criteria place more emphasis on the supplementary ratio of CFO to debt. Examples of companies that have working-capital-intensive characteristics can be found in the capital goods, metals and mining downstream, or the retail and restaurants industries. The need for working capital in those industries reduces financial flexibility and, therefore, these supplemental leverage ratios take on more importance in the analysis.

110. For all companies, when FOCF to debt or DCF to debt is negative or indicates materially lower cash flow/leverage assessments, the criteria call for an examination of management's capital spending and cash distribution strategies. For high-growth companies, typically the focus is on FFO to debt instead of FOCF to debt because the latter ratio can vary greatly depending on the growth investment the company is undergoing. The criteria generally consider a high-growth company one that exhibits real revenue growth in excess of 8% per year. Real revenue growth excludes price or foreign exchange related growth, under these criteria. In cases where FOCF or DCF is low, there is a greater emphasis on monitoring the sustainability of margins and return on capital and the overall financing mix to assess the likely trend of future debt ratios. In addition, debt service ratio analysis will be important in such situations. For companies with more moderate growth, the focus is typically on FOCF to debt unless the capital spending is short term or is not funded with debt.

111. For companies that have ongoing and well entrenched banking relationships we can reflect these relationships in our cash flow/leverage analysis through the use of the interest coverage ratios as supplemental ratios. These companies generally have historical links and a strong ongoing relationship with their main banks, as well as shareholdings by the main banks, and management influence and

interaction between the main banks and the company. Based on their bank relationships, these companies often have lower interest servicing costs than peers, even if the macro economy worsens. In such cases, we generally use the interest coverage ratios as supplemental ratios. This type of banking relationship occurs in Japan, for example, where companies that have the type of bank relationship described in this paragraph tend to have a high socioeconomic influence within their country by way of their revenue size, total debt quantum, number of employees, and the relative importance of the industry.

### **c) Time horizon and ratio calculation**

112. A company's credit ratios may vary, often materially, over time due to economic, competitive, technological, or investment cycles, the life stage of the company, and corporate or strategic actions. Thus, we evaluate credit ratios on a time series basis with a clear forward-looking bias. The length of the time series is dependent on the relative credit risk of the company and other qualitative factors and the weighting of the time series varies according to transformational events. A transformational event is any event that could cause a material change in a company's financial profile, whether caused by changes to the company's capital base, capital structure, earnings, cash flow profile, or financial policies.

Transformational events can include mergers, acquisitions, divestitures, management changes, structural changes to the industry or competitive environment, product development and capital programs, and/or business disruptions, including those that arise from the materialization of substantial environmental or social risks. This section provides guidance on the timeframe and weightings the criteria apply to calculate the indicative ratios.

113. The criteria generally consider the company's credit ratios for the previous one to two years, current-year forecast, and the two subsequent forecasted financial years. There may be situations where longer--or even shorter--historical results or forecasts are appropriate, depending on such factors as availability of financials, transformational events, or relevance. For example, a utility company with a long-term capital spending program may lend itself to a longer-term forecast, whereas for a company experiencing a near-term liquidity squeeze even a two-year forecast will have limited value. Alternatively, for most commodities-based companies we emphasize credit ratios based on our forward-looking view of market conditions, which may differ materially from the historical period.

114. Historical patterns in cash flow ratios are informative, particularly in understanding past volatility, capital spending, growth, accounting policies, financial policies, and business trends. Our analysis starts with a review of these historical patterns in order to assess future expected credit quality. Historical patterns can also provide an indication of potential future volatility in ratios, including that which results from seasonality or cyclical. A history of volatility could result in a more conservative assessment of future cash flow generation if we believe cash flow will continue to be volatile.

115. The forecast ratios are based on an expected base-case scenario developed by S&P Global Ratings, incorporating current and near-term economic conditions, industry assumptions, and financial policies. The prospective cyclical and longer-term volatility associated with the industry in which the issuer operates is addressed in the industry risk criteria (see section B) and the longer-term directional influence or event risk of financial policies is addressed in our financial policy criteria (see section H).

116. The criteria generally place greater emphasis on forecasted years than historical years in the time series of credit ratios when calculating the indicative credit ratio. For companies where we have five years of ratios as described in section E.3, generally we calculate the indicative ratio by weighting the previous two years, the current year, and the forecasted two years as 10%, 15%, 25%, 25%, and 25%, respectively.

117. This weighting changes, however, to place even greater emphasis on the current and forecast years when:

- The issuer meets the characteristics described in paragraph 113, and either shorter- or longer-term forecasts are applicable. The weights applied will generally be quite forward weighted, particularly if a company is undergoing a transformational event and there is moderate or better cash flow certainty.
- The issuer is forecast to generate negative cash flow available for debt repayment, which we believe could lead to deteriorating credit metrics. Forecast negative cash flows could be generated from operating activities as well as capital expenditures, share buybacks, dividends, or acquisitions, as we forecast these uses of cash based on the company's track record, market conditions, or financial policy. The weights applied will generally be 30%, 40%, and 30% for the current and two subsequent years, respectively.
- The issuer is in an industry that is prospectively volatile or that has a high degree of cash flow uncertainty. Industries that are prospectively volatile are industries whose competitive risk and growth assessments are either high risk (5) or very high risk (6) or

whose overall industry risk assessments are either high risk (5) or very high risk (6). The weights applied will generally be 50% for the current year and 50% for the first subsequent forecast year.

- An issuer experienced a significant business disruption due to exceptional events that are temporary and are not assumed to be repeated. These circumstances may stem, for example, from the materialization of environmental or social credit factors (e.g. an epidemic or pandemic health event, or man-made or natural environmental disaster). In such cases, we may take the view that historical financial performance is not indicative of the issuer's current and future earnings trends and put more weight on future year ratios.

118. When the indicative ratio(s) is borderline (i.e., less than 10% different from the threshold in relative terms) between two assessment thresholds (as described in section E.3 and tables 17, 18, and 19) and the forecast points to a switch in the ratio between categories during the rating timeframe, we will weigh the forecast even more heavily in order to prospectively capture the trend.

119. For companies undergoing a transformational event, the weighting of the time series could vary significantly.

120. For companies undergoing a transformational event and with significant or weaker cash flow/leverage assessments, we place greater weight on near-term risk factors. That's because overemphasis on longer-term (inherently less predictable) issues could lead to some distortion when assessing the risk level of a speculative-grade company. We generally analyze a company using the arithmetic mean of the credit ratios expected according to our forecasts for the current year (or pro forma current year) and the subsequent financial year. A common example of this is when a private equity firm acquires a company using additional debt leverage, which makes historical financial ratios meaningless. In this scenario, we weight or focus the majority of our analysis on the next one or two years of projected credit measures.

### **3. Determining the cash flow/leverage assessment**

#### **a) Identifying the benchmark table**

121. Tables 17, 18, and 19 provide benchmark ranges for various cash flow ratios we associate with different cash flow/leverage assessments for standard volatility, medial volatility, and low volatility industries. The tables of benchmark ratios differ for a given ratio and cash flow/leverage assessment along two dimensions: the starting point for the ratio range and the width of the ratio range.

122. If an industry exhibits low volatility, the threshold levels for the applicable ratios to achieve a given cash flow/leverage assessment are less stringent than those in the medial or standard volatility tables, although the range of the ratios is narrower. Conversely, if an industry exhibits medial or standard levels of volatility, the threshold for the applicable ratios to achieve a given cash flow/leverage assessment are elevated, albeit with a wider range of values.

123. The relevant benchmark table for a given company is based on our Corporate Industry and Country Risk Assessment, or the CICRA (see section A, table 1), as described in the bullet points below, unless otherwise indicated in a sector's KCF criteria or in "Guidance: Corporate Methodology."

- The low volatility table (table 19) will generally apply when a company's CICRA is '1' but can infrequently also apply to a company with a CICRA of '2' if the company exhibits or is expected to exhibit low levels of volatility.
- The medial volatility table (table 18) will generally apply for a company with a CICRA of '2' but can infrequently also apply to a company with a CICRA of '1' if the company exhibits or is expected to exhibit medial levels of volatility.
- The standard volatility table (table 17) serves as the relevant benchmark table for all CICRA scores other than '1', but we will always use it for companies with a CICRA of '1' or '2' whose competitive position is assessed as '5' or '6'.

Table 17

## Cash Flow/Leverage Analysis Ratios--Standard Volatility

	--CORE RATIOS--		--SUPPLEMENTARY COVERAGE RATIOS--		--SUPPLEMENTARY PAYBACK RATIOS--		
	FFO/DEBT (%)	DEBT/EBITDA (X)	FFO/CASH INTEREST(X)	EBITDA/INTEREST (X)	CFO/DEBT (%)	FOCF/DEBT (%)	DCF/DEBT (%)
Minimal	60+	Less than 1.5	More than 13	More than 15	More than 50	40+	25+
Modest	45-60	1.5-2	9-13	10-15	35-50	25-40	15-25
Intermediate	30-45	2-3	6-9	6-10	25-35	15-25	10-15
Significant	20-30	3-4	4-6	3-6	15-25	10-15	5-10
Aggressive	12-20	4-5	2-4	2-3	10-15	5-10	2-5
Highly leveraged	Less than 12	Greater than 5	Less than 2	Less than 2	Less than 10	Less than 5	Less than 2

Table 18

## Cash Flow/Leverage Analysis Ratios--Medial Volatility

	--CORE RATIOS--		--SUPPLEMENTARY COVERAGE RATIOS--		--SUPPLEMENTARY PAYBACK RATIOS--		
	FFO/DEBT (%)	DEBT/EBITDA (X)	FFO/CASH INTEREST (X)	EBITDA/INTEREST (X)	CFO/DEBT (%)	FOCF/DEBT (%)	DCF/DEBT (%)
Minimal	50+	less than 1.75	10.5+	14+	40+	30+	18+
Modest	35-50	1.75-2.5	7.5-10.5	9-14	27.5-40	17.5-30	11-18
Intermediate	23-35	2.5-3.5	5-7.5	5-9	18.5-27.5	9.5-17.5	6.5-11
Significant	13-23	3.5-4.5	3-5	2.75-5	10.5-18.5	5-9.5	2.5-6.5
Aggressive	9-13	4.5-5.5	1.75-3	1.75-2.75	7-10.5	0-5	(11)-2.5
Highly leveraged	Less than 9	Greater than 5.5	Less than 1.75	Less than 1.75	Less than 7	Less than 0	Less than (11)

Table 19

**Cash Flow/Leverage Analysis Ratios--Low Volatility**

	--CORE RATIOS--		--SUPPLEMENTARY COVERAGE RATIOS--		--SUPPLEMENTARY PAYBACK RATIOS--		
	FFO/DEBT (%)	DEBT/EBITDA (X)	FFO/CASH INTEREST (X)	EBITDA/INTEREST (X)	CFO/DEBT (%)	FOCF/DEBT (%)	DCF/DEBT (%)
Minimal	35+	Less than 2	More than 8	More than 13	More than 30	20+	11+
Modest	23-35	2-3	5-8	7-13	20-30	10-20	7-11
Intermediate	13-23	3-4	3-5	4-7	12-20	4-10	3-7
Significant	9-13	4-5	2-3	2.5-4	8-12	0-4	0-3
Aggressive	6-9	5-6	1.5-2	1.5-2.5	5-8	(10)-0	(20)-0
Highly leveraged	Less than 6	Greater than 6	Less than 1.5	Less than 1.5	Less than 5	Less than (10)	Less than (20)

**b) Aggregating the credit ratio assessments**

124. To determine the final cash flow/leverage assessment, we make these calculations:

1) First, calculate a time series of standard core and supplemental credit ratios, select the relevant benchmark table, and determine the appropriate time weighting of the credit ratios.

- Calculate the two standard core credit ratios and the five standard supplemental credit ratios over a five-year time horizon.
- Consult the relevant industry KCF article (if applicable) or "Guidance: Corporate Methodology," which may identify additional supplemental ratio(s). The relevant benchmark table for a given company is based on our assessment of the company's associated industry and country risk volatility, or the CICRA.
- Calculate the appropriate weighted average cash flow/leverage ratios. If the company is undergoing a transformational event, then the core and supplemental ratios will typically be calculated based on S&P Global Ratings' projections for the current and next one or two financial years.

2) Second, we use the core ratios to determine the preliminary cash flow assessment.

- Compare the core ratios (FFO to debt and debt to EBITDA) to the ratio ranges in the relevant benchmark table.
- If the core ratios result in different cash flow/leverage assessments, we will select the relevant core ratio based on which provides the best indicator of a company's future leverage.

3) Third, we review the supplemental ratio(s).

- Determine the importance of standard or KCF supplemental ratios based on company-specific characteristics, namely, leverage, capital intensity, working capital intensity, growth rate, or industry.

4) Fourth, we calculate the adjusted cash flow/leverage assessment.

- If the cash flow/leverage assessment(s) indicated by the important supplemental ratio(s) differs from the preliminary cash flow/leverage assessment, we might adjust the preliminary cash flow/leverage assessment by one category in the direction of the cash flow/leverage assessment indicated by the supplemental ratio(s) to derive the adjusted cash flow/leverage assessment. We will make this adjustment if, in our view, the supplemental ratio provides the best indicator of a company's future leverage.
- If there is more than one important supplemental ratio and they result in different directional deviations from the preliminary cash flow/leverage assessment, we will select one as the relevant supplemental ratio based on which, in our opinion, provides the best indicator of a company's future leverage. We will then make the adjustment outlined above if the selected supplemental ratio differs from the preliminary cash flow/leverage assessment and the selected supplemental ratio provides the best overall indicator of a company's future leverage.

5) Lastly, we determine the final cash flow/leverage assessment based on the volatility adjustment.

- We classify companies as stable for these cash flow criteria if cash flow/leverage ratios are expected to worsen by up to one category during periods of stress based on their business

risk profile. The final cash flow/leverage assessment for these companies will not be modified from the adjusted cash flow/leverage assessment.

- We classify companies as volatile for these cash flow criteria if cash flow/leverage ratios are expected to move one or two categories worse during periods of stress based on their business risk profiles. Typically, this is equivalent to EBITDA declining about 30% from its current level. The final cash flow/leverage assessment for these companies will be modified to one category weaker than the adjusted cash flow/leverage assessment; the adjustment will be eliminated if cash flow/leverage ratios, as evaluated, include a moderate to high level of stress already.
- We classify companies as highly volatile for these cash flow criteria if cash flow/leverage ratios are expected to move two or three categories worse during periods of stress, based on their business risk profiles. Typically, this is equivalent to EBITDA declining about 50% from its current level. The final cash flow/leverage assessment for these companies will be modified to two categories weaker than the adjusted cash flow/leverage assessment; the adjustment will be eliminated or reduced to one category if cash flow/leverage ratios, as evaluated, include a moderate to high level of stress already.

125. The volatility adjustment is the mechanism by which we factor a "cushion" of medium-term variance to current financial performance not otherwise captured in either the near-term base-case forecast or the long-term business risk assessment. We make this adjustment based on the following:

- The expectation of any potential cash flow/leverage ratio movement is both prospective and dependent on the current business or economic conditions.
- Stress scenarios include, but are not limited to, a recessionary economic environment, technology or competitive shifts, loss or renegotiation of major contracts or customers, the materialization of ESG credit risks, and key product or input price movements, as typically defined in the company's industry risk profile and competitive position assessment.
- The volatility adjustment is not static and is company specific. At the bottom of an economic cycle or during periods of stressed business conditions, already reflected in the general industry risk or specific competitive risk profile, the prospect of weakening ratios is far less than at the peak of an economic cycle or business conditions.

- The expectation of prospective ratio changes may be formed by observed historical performance over an economic, business, or product cycle by the company or by peers.
- The assessment of which classification to use when evaluating the prospective number of scoring category moves will be guided by how close the current ratios are to the transition point (i.e. "buffer" in the current scoring category) and the corresponding amount of EBITDA movement at each scoring transition.

## **F. Diversification/Portfolio Effect**

126. Under the criteria, diversification/portfolio effect applies to companies that we regard as conglomerates. They are companies that have multiple core business lines that may be operated as separate legal entities. For the purpose of these criteria, a conglomerate would have at least three business lines, each contributing a material source of earnings and cash flow.

127. The criteria aim to measure how diversification or the portfolio effect could improve the anchor of a company with multiple business lines. This approach helps us determine how the credit strength of a corporate entity with a given mix of business lines could improve based on its diversity. The competitive position factor assesses the benefits of diversity within individual lines of business. This factor also assesses how poorly performing businesses within a conglomerate affect the organization's overall business risk profile.

128. Diversification/portfolio effect could modify the anchor depending on how meaningful we think the diversification is, and on the degree of correlation we find in each business line's sensitivity to economic cycles. This assessment will have either a positive or neutral impact on the anchor. We capture any potential factor that weakens a company's diversification, including poor management, in our management and governance assessment.

129. We define a conglomerate as a diversified company that is involved in several industry sectors. Usually the smallest of at least three distinct business segments/lines would contribute at least 10% of either EBITDA or FOCF and the largest would contribute no more than 50% of EBITDA or FOCF, with the long-term aim of increasing shareholder value by generating cash flow. Industrial conglomerates usually hold a controlling stake in their core businesses, have highly identifiable holdings, are deeply involved in

the strategy and management of their operating companies, generally do not frequently roll over or reshuffle their holdings by buying and selling companies, and therefore have high long-term exposure to the operating risks of their subsidiaries.

130. In rating a conglomerate, we first assess management's commitment to maintain the diversified portfolio over a longer-term horizon. These criteria apply only if the company falls within our definition of a conglomerate.

### **1. Assessing diversification/portfolio effect**

131. A conglomerate's diversification/portfolio effect is assessed as 1, significant diversification; 2, moderate diversification; or 3, neutral. An assessment of moderate diversification or significant diversification potentially raises the issuer's anchor. To achieve an assessment of significant diversification, an issuer should have uncorrelated diversified businesses whose breadth is among the most comprehensive of all conglomerates'. This assessment indicates that we expect the conglomerate's earnings volatility to be much lower through an economic cycle than an undiversified company's. To achieve an assessment of moderate diversification, an issuer typically has a range of uncorrelated diversified businesses that provide meaningful benefits of diversification with the expectation of lower earnings volatility through an economic cycle than an undiversified company's.

132. We expect that a conglomerate will also benefit from diversification if its core assets consistently produce positive cash flows over our rating horizon. This supports our assertion that the company diversifies to take advantage of allocating capital among its business lines. To this end, our analysis focuses on a conglomerate's track record of successfully deploying positive discretionary cash flow into new business lines or expanding capital-hungry business lines. We assess companies that we do not expect to achieve these benefits as neutral.

### **2. Components of correlation and how it is incorporated into our analysis**

133. We determine the assessment for this factor based on the number of business lines in separate industries (as described in table 27) and the degree of correlation between these business lines as described in table 20. There is no rating uplift for an issuer with a small number of business lines that are

highly correlated. By contrast, a larger number of business lines that are not closely correlated provide the maximum rating uplift.

**Table 20**

### **Assessing Diversification/Portfolio Effect**

<b>DEGREE OF CORRELATION OF BUSINESS LINES</b>	<b>--NUMBER OF BUSINESS LINES--</b>		
	<b>3</b>	<b>4</b>	<b>5 OR MORE</b>
High	Neutral	Neutral	Neutral
Medium	Neutral	Moderately diversified	Moderately diversified
Low	Moderately diversified	Significantly diversified	Significantly diversified

134. The degree of correlation of business lines is high if the business lines operate within the same industry, as defined by the industry designations in Appendix B, table 27. The degree of correlation of business lines is medium if the business lines operate within different industries, but operate within the same geographic region (for further guidance on defining geographic regions, see Appendix A, table 26). An issuer has a low degree of correlation across its business lines if these business lines are both a) in different industries and b) either operate in different regions or operate in multiple regions.

135. If we believe that a conglomerate's various industry exposures fail to provide a partial hedge against the consolidated entity's volatility because they are highly correlated through an economic cycle, then we assess the diversification/portfolio effect as neutral.

## G. Capital Structure

136. S&P Global Ratings uses its capital structure criteria to assess risks in a company's capital structure that may not show up in our standard analysis of cash flow/leverage. These risks may exist as a result of maturity date or currency mismatches between a company's sources of financing and its assets or cash flows. These can be compounded by outside risks, such as volatile interest rates or currency exchange rates.

### 1. Assessing capital structure

137. Capital structure is a modifier category, which adjusts the initial anchor for a company after any modification due to diversification/portfolio effect. We assess a number of subfactors to determine the capital structure assessment, which can then raise or lower the initial anchor by one or more notches--or have no effect in some cases. We assess capital structure as 1, very positive; 2, positive; 3, neutral; 4, negative; or 5, very negative. In the large majority of cases, we believe that a firm's capital structure will be assessed as neutral. To assess a company's capital structure, we analyze four subfactors:

- Currency risk associated with debt,
- Debt maturity profile (or schedule),
- Interest rate risk associated with debt, and
- Investments.

138. Any of these subfactors can influence a firm's capital structure assessment, although some carry greater weight than others, based on a tiered approach:

- Tier one risk subfactors: Currency risk of debt and debt maturity profile, and
- Tier two risk subfactor: Interest rate risk of debt.

139. The initial capital structure assessment is based on the first three subfactors (see table 21). We may then adjust the preliminary assessment based on our assessment of the fourth subfactor, investments.

**Table 21**

## Preliminary Capital Structure Assessment

PRELIMINARY CAPITAL STRUCTURE ASSESSMENT	SUBFACTOR ASSESSMENTS
Neutral	No tier one subfactor is negative.
Negative	One tier one subfactor is negative, and the tier two subfactor is neutral.
Very negative	Both tier one subfactors are negative, or one tier one subfactor is negative and the tier two subfactor is negative.

140. Tier one subfactors carry the greatest risks, in our view, and, thus, could have a significant impact on the capital structure assessment. This is because, in our opinion, these factors have a greater likelihood of affecting credit metrics and potentially causing liquidity and refinancing risk. The tier two subfactor is important in and of itself, but typically less so than the tier one subfactors. In our view, in the majority of cases, the tier two subfactor in isolation has a lower likelihood of leading to liquidity and default risk than do tier one subfactors.

141. The fourth subfactor, investments, as defined in paragraph 153, quantifies the impact of a company's investments on its overall financial risk profile. Although not directly related to a firm's capital structure decisions, certain investments could provide a degree of asset protection and potential financial flexibility if they are monetized. Thus, the fourth subfactor could modify the preliminary capital structure assessment (see table 22). If the subfactor is assessed as neutral, then the preliminary capital structure assessment will stand. If investments is assessed as positive or very positive, we adjust the preliminary capital structure assessment upward (as per table 22) to arrive at the final assessment.

**Table 22**

## Final Capital Structure Assessment

--INVESTMENTS SUBFACTOR ASSESSMENT--			
PRELIMINARY CAPITAL STRUCTURE ASSESSMENT	NEUTRAL	POSITIVE	VERY POSITIVE
Neutral	Neutral	Positive	Very positive
Negative	Negative	Neutral	Positive
Very negative	Very negative	Negative	Negative

## 2. Capital structure analysis: Assessing the subfactors

### a) Subfactor 1: Currency risk of debt

142. Currency risk arises when a company borrows without hedging in a currency other than the currency in which it generates revenues. Such an unhedged position makes the company potentially vulnerable to fluctuations in the exchange rate between the two currencies, in the absence of mitigating factors. We determine the materiality of any mismatch by identifying situations where adverse exchange-rate movements could weaken cash flow and/or leverage ratios. We do not include currency mismatches under the following scenarios:

- The country where a company generates its cash flows has its currency pegged to the currency in which the company has borrowed, or vice versa (or the currency of cash flows has a strong track record and government policy of stability with the currency of borrowings), examples being the Hong Kong dollar which is pegged to the U.S. dollar, and the Chinese renminbi which is managed in a narrow band to the U.S. dollar (and China's

foreign currency reserves are mainly in U.S. dollars). Moreover, we expect such a scenario to continue for the foreseeable future;

- A company has the proven ability, through regulation or contract, to pass through changes in debt servicing costs to its customers; or
- A company has a natural hedge, such as where it may sell its product in a foreign currency and has matched its debt in that same currency.

143. We also recognize that even if an entity generates insufficient same-currency cash flow to meet foreign currency-denominated debt obligations, it could have substantial other currency cash flows it can convert to meet these obligations. Therefore, the relative amount of foreign denominated debt as a proportion of total debt is an important factor in our analysis. If foreign denominated debt, excluding fully hedged debt principal, is 15% or less of total debt, we assess the company as neutral on currency risk of debt. If foreign-denominated debt, excluding fully hedged debt principal, is greater than 15% of total debt, and debt to EBITDA is greater than 3.0x, we evaluate currency risks through further analysis.

144. If an entity's foreign-denominated debt in a particular currency represents more than 15% of total debt, and if its debt to EBITDA ratio is greater than 3.0x, we identify whether a currency-specific interest coverage ratio indicates potential currency risk. The coverage ratio divides forecasted operating cash flow in each currency by interest payments over the coming 12 months for that same currency. It is often easier to ascertain the geographic breakdown of EBITDA as opposed to operating cash flow. So in situations where we don't have sufficient cash flow information, we may calculate an EBITDA to interest expense coverage ratio in the relevant currencies. If neither cash flow nor EBITDA information is disclosed, we estimate the relevant exposures based on available information.

145. In such an instance, our assessment of this subfactor is negative if we believe any appropriate interest coverage ratio will fall below 1.2x over the next 12 months.

## **b) Subfactor 2: Debt maturity profile**

146. A firm's debt maturity profile shows when its debt needs to be repaid, or refinanced if possible, and helps determine the firm's refinancing risk. Lengthier and more evenly spread out debt maturity schedules reduce refinancing risk, compared with front-ended and compressed ones, since the former give an entity more time to manage business- or financial market-related setbacks.

147. In evaluating debt maturity profiles, we measure the weighted average maturity (WAM) of bank debt and debt securities (including hybrid debt) within a capital structure, and make simplifying assumptions that debt maturing beyond year five matures in year six.  $WAM = (Maturity1/Total\ Debt)*tenor1 + (Maturity2/Total\ Debt)*tenor2 + \dots (Thereafter/Total\ Debt)*tenor6$

148. In evaluating refinancing risk, we consider risks in addition to those captured under the 12-month to 24-month time-horizons factored in our liquidity criteria (see "**Methodology And Assumptions: Liquidity Descriptors For Global Corporate Issuers**"). While we recognize that investment-grade companies may have more certain future business prospects and greater access to capital than speculative-grade companies, all else being equal, we view a company with a shorter maturity schedule as having greater refinancing risk compared to a company with a longer one. In all cases, we assess a company's debt maturity profile in conjunction with its liquidity and potential funding availability. Thus, a short-dated maturity schedule alone is not a negative if we believe the company can maintain enough liquidity to pay off debt that comes due in the near term.

149. Our assessment of this subfactor is negative if the WAM is two years or less, and the amount of these near-term maturities is material in relation to the issuer's liquidity so that under our base-case forecast, we believe the company's liquidity assessment will become less than adequate or weak over the next two years due to these maturities. In certain cases, we may assess a debt maturity profile as negative regardless of whether or not the company passes the aforementioned test. We expect such instances to be rare, and will include scenarios where we believed a concentration of debt maturities within a five-year time horizon poses meaningful refinancing risk, either due to the size of the maturities in relation to the company's liquidity sources, the company's leverage profile, its operating trends, lender relationships, and/or credit market standings.

### **c) Subfactor 3: Interest rate risk of debt**

150. The interest rate risk of debt subfactor analyzes the company's mix of fixed-rate and floating-rate debt. Generally, a higher proportion of fixed-rate debt leads to greater predictability and stability of interest expense and therefore cash flows. The exception would be companies whose operating cash flows are to some degree correlated with interest rate movements--for example, a regulated utility whose revenues are indexed to inflation--given the typical correlation between nominal interest rates and inflation.

151. The mix of fixed versus floating-rate debt is usually not a significant risk factor for companies with intermediate or better financial profiles, strong profitability, and high interest coverage. In addition, the interest rate environment at a given point in time will play a role in determining the impact of interest rate movements. Our assessment of this subcategory will be negative if a 25% upward shift (e.g., from 2.0% to 2.5%) or a 100 basis-point upward shift (e.g., 2% to 3%) in the base interest rate of the floating rate debt will result in a breach of interest coverage covenants or interest coverage rating thresholds identified in the cash flow/leverage criteria (see section E.3).

152. Many loan agreements for speculative-grade companies contain a clause requiring a percentage of floating-rate debt to be hedged for a period of two to three years to mitigate this risk. However, in many cases the loan matures after the hedge expires, creating a mismatched hedge. We consider only loans with hedges that match the life of the loan to be--effectively--fixed-rate debt.

#### **d) Subfactor 4: Investments**

153. For the purposes of the criteria, investments refer to investments in unconsolidated equity affiliates, other assets where the realizable value isn't currently reflected in the cash flows generated from those assets (e.g. underutilized real-estate property), we do not expect any additional investment or support to be provided to the affiliate, and the investment is not included within S&P Global Ratings' consolidation scope and so is not incorporated in the company's business and financial risk profile analysis. If equity affiliate companies are consolidated, then the financial benefits and costs of these investments will be captured in our cash flow and leverage analysis. Similarly, where the company's ownership stake does not qualify for consolidation under accounting rules, we may choose to consolidate on a pro rata basis if we believe that the equity affiliates' operating and financing strategy is influenced by the rated entity. If equity investments are strategic and provide the company with a competitive advantage, or benefit a company's scale, scope, and diversity, these factors will be captured in our competitive position criteria and will not be used to assess the subfactor investments as positive. Within the capital structure criteria, we aim to assess nonstrategic financial investments that could provide a degree of asset protection and financial flexibility in the event they are monetized. These investments must be noncore and separable, meaning that a potential divestiture, in our view, has no impact on the company's existing operations.

154. In many instances, the cash flows generated by an equity affiliate, or the proportional share of the associate company's net income, might not accurately reflect the asset's value. This could occur if the equity affiliate is in high growth mode and is currently generating minimal cash flow or net losses. This could also be true of a physical asset, such as real estate. From a valuation standpoint, we recognize the subjective nature of this analysis and the potential for information gaps. As a result, in the absence of a market valuation or a market valuation of comparable companies in the case of minority interests in private entities, we will not ascribe value to these assets.

155. We assess this subfactor as positive or very positive if three key characteristics are met. First, an estimated value can be ascribed to these investments based on the presence of an existing market value for the firm or comparable firms in the same industry. Second, there is strong evidence that the investment can be monetized over an intermediate timeframe--in the case of an equity investment, our opinion of the marketability of the investment would be enhanced by the presence of an existing market value for the firm or comparable firms, as well as our view of market liquidity. Third, monetization of the investment, assuming proceeds would be used to repay debt, would be material enough to positively move existing cash flow and leverage ratios by at least one category and our view on the company's financial policy, specifically related to financial discipline, supports the assessment that the potential proceeds would be used to pay down debt. This subfactor is assessed as positive if debt repayment from the investment sale has the potential to improve cash flow and leverage ratios by one category. We assess investments as very positive if proceeds upon sale of the investment have the potential to improve cash flow and leverage ratios by two or more categories. If the three characteristics are not met, this subfactor will be assessed as neutral and the preliminary capital structure assessment will stand.

156. We will not assess the investments subfactor as positive or very positive when the anchor is 'b+' or lower unless the three conditions described in paragraph 155 are met, and:

- For issuers with less than adequate or weak liquidity, the company has provided a credible near-term plan to sell the investment.
- For issuers with adequate or better liquidity, we believe that the company, if needed, could sell the investment in a relatively short timeframe.

## H. Financial Policy

157. Financial policy refines the view of a company's risks beyond the conclusions arising from the standard assumptions in the cash flow/leverage assessment (see section E). Those assumptions do not always reflect or entirely capture the short-to-medium term event risks or the longer-term risks stemming from a company's financial policy. To the extent movements in one of these factors cannot be confidently predicted within our forward-looking evaluation, we capture that risk within our evaluation of financial policy. The cash flow/leverage assessment will typically factor in operating and cash flows metrics we observed during the past two years and the trends we expect to see for the coming two years based on operating assumptions and predictable financial policy elements, such as ordinary dividend payments or recurring acquisition spending. However, over that period and, generally, over a longer time horizon, the firm's financial policies can change its financial risk profile based on management's or, if applicable, the company's controlling shareholder's (see Appendix E, paragraphs 254-257) appetite for incremental risk or, conversely, plans to reduce leverage. We assess financial policy as 1) positive, 2) neutral, 3) negative, or as being owned by a financial sponsor. We further identify financial sponsor-owned companies as "FS-4", "FS-5", "FS-6", or "FS-6 (minus)" (see section H.2).

## 1. Assessing financial policy

158. First, we determine if a company is owned by a financial sponsor. Given the intrinsic characteristics and aggressive nature of financial sponsor's strategies (i.e. short- to intermediate-term holding periods and the use of debt or debt-like instruments to maximize shareholder returns), we assign a financial risk profile assessment to a firm controlled by a financial sponsor that reflects the likely impact on leverage due to these strategies and we do not separately analyze management's financial discipline or financial policy framework.

159. If a company is not controlled by a financial sponsor, we evaluate management's financial discipline and financial policy framework. Management's financial discipline measures its tolerance for incremental financial risk or, conversely, its willingness to maintain the same degree of financial risk or to lower it compared with recent cash flow/leverage metrics and our projected ratios for the next two years. The company's financial policy framework assesses the comprehensiveness, transparency, and sustainability of the entity's financial policies. We do not assess these factors for financial sponsor controlled firms.

160. The financial discipline assessments can have a positive or negative influence on an enterprise's overall financial policy assessment, or can have no net effect. Conversely, the financial policy framework assessment cannot positively influence the overall financial policy assessment. It can constrain the overall financial policy assessment to no greater than neutral.

161. The separate assessments of a company's financial policy framework and financial discipline determine the financial policy adjustment.

162. We assess management's financial discipline as 1, positive; 2, neutral; or 3, negative. We determine the assessment by evaluating the predictability of an entity's expansion plans and shareholder return strategies. We take into account, generally, management's tolerance for material and unexpected negative changes in credit ratios or, instead, its plans to rapidly decrease leverage and keep credit ratios within stated boundaries.

163. A company's financial policy framework assessment is: 1, supportive or 2, non-supportive. We make the determination by assessing the comprehensiveness of a company's financial policy framework and whether financial targets are clearly communicated to a large number of stakeholders, and are well defined, achievable, and sustainable.

## Table 23

### Financial Policy Assessments

ASSESSMENT	WHAT IT MEANS	GUIDANCE
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Positive	<p>Indicates that we expect management's financial policy decisions to have a positive impact on credit ratios over the time horizon, beyond what can be reasonably built in our forecasts on the basis of normalized operating and cash flow assumptions. An example would be when a credible management team commits to dispose of assets or raise equity over the short to medium term in order to reduce leverage. A company with a 1 financial risk profile will not be assigned a positive assessment.</p>	<p>If financial discipline is positive, and the financial policy framework is supportive</p>
Neutral	<p>Indicates that, in our opinion, future credit ratios won't differ materially over the time horizon beyond what we have projected, based on our assessment of management's financial policy, recent track record, and operating forecasts for the company. A neutral financial policy assessment effectively reflects a low probability of "event risk," in our view.</p>	<p>If financial discipline is positive, and the financial policy framework is non-supportive. Or when financial discipline is neutral, regardless of the financial policy framework assessment.</p>
Negative	<p>Indicates our view of a lower degree of predictability in credit ratios, beyond what can be reasonably built in our forecasts, as a result of management's financial discipline (or lack of it). It points to high event risk that management's financial policy decisions may depress credit metrics over the time horizon, compared with what we have already built in our forecasts based on normalized operating and cash flow assumptions.</p>	<p>If financial discipline is negative, regardless of the financial policy framework assessment</p>

Financial Sponsor*	<p>We define a financial sponsor as an entity that follows an aggressive financial strategy in using debt and debt-like instruments to maximize shareholder returns. Typically, these sponsors dispose of assets within a short to intermediate time frame. Accordingly, the financial risk profile we assign to companies that are controlled by financial sponsors ordinarily reflects our presumption of some deterioration in credit quality in the medium term. Financial sponsors include private equity firms, but not infrastructure and asset-management funds, which maintain longer investment horizons.</p>	<p>We define financial sponsor-owned companies as nonfinancial corporate entities in which one or more financial sponsors own at least 40% of the entity's common equity, or retain the majority of the voting rights and control through preference shares, and where we consider that the sponsors exercise control of the company either solely or jointly.</p>
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\*Assessed as FS-4, FS-5, FS-6, or FS-6 (minus).

## 2. Financial sponsor-controlled companies

164. We define a financial sponsor as an entity that follows an aggressive financial strategy in using debt and debt-like instruments to maximize shareholder returns. Typically, these sponsors dispose of assets within a short-to-intermediate time frame. Financial sponsors include private equity firms, but not infrastructure and asset-management funds, which maintain longer investment horizons.

165. We define financial sponsor-owned companies as nonfinancial corporate entities in which one or more financial sponsors own at least 40% of the entity's common equity, or retain the majority of the voting rights and control through preference shares, and where we consider that the sponsors exercise control of the company either solely or jointly. "Control" refers to the sponsors' ability to dictate an entity's strategy and cash flow. The strategic goals of the sponsors must be aligned for us to consider the sponsors as having joint control.

166. We differentiate between financial sponsors and other types of controlling shareholders and companies that do not have controlling shareholders based on our belief that short-term ownership--such as exists in private equity sponsor-owned companies--generally entails financial policies aimed at achieving rapid returns for shareholders typically through aggressive debt leverage.

167. Financial sponsors often dictate policies regarding risk-taking, financial management, and corporate governance for the companies that they control. There is a common pattern of these investors extracting cash in ways that increase the companies' financial risk by utilizing debt or debt like instruments. Accordingly, the financial risk profile we assign to companies that are controlled by financial sponsors ordinarily reflect our presumption of some deterioration in credit quality or steadily high leverage in the medium term.

168. We assess the influence of financial sponsor ownership as "FS-4", "FS-5", "FS-6", and "FS-6 (minus)" depending on how aggressive we assume the sponsor will be and assign a financial risk profile accordingly (see table 24).

169. Generally, financial sponsor-owned issuers will receive an assessment of "FS-6" or "FS-6 (minus)", leading to a financial risk profile assessment of '6', under the criteria. A "FS-6" assessment indicates that, in our opinion, forecasted credit ratios in the medium term are likely to be consistent with a '6' financial risk profile, based on our assessment of the financial sponsor's financial policy and track record. A "FS-6 (minus)" will likely be applied to companies that we forecast to have near-term credit ratios consistent with a '6' financial risk profile, but we believe the financial sponsor to be very aggressive and that leverage could increase materially even further from our forecasted levels.

170. In a small minority of cases, a financial sponsor-owned entity could receive an assessment of "FS-5". This assessment will apply only when we project that the company's leverage will be consistent with a '5' (aggressive) financial risk profile (see tables 17, 18, and 19), we perceive that the risk of releveraging is low based on the company's financial policy and our view of the owner's financial risk appetite, and liquidity is at least adequate.

171. In even rarer cases, we could assess the financial policy of a financial sponsor-owned entity as "FS-4". This assessment will apply only when all of the following conditions are met: other shareholders own a material (generally, at least 20%) stake, we expect the sponsor to relinquish control over the intermediate

term, we project that leverage is currently consistent with a '4' (significant) financial risk profile (see tables 17, 18, and 19), the company has said it will maintain leverage at or below this level, and liquidity is at least adequate.

Table 24

### Financial Risk Profile Implications For Sponsor-Owned Issuers

Assessment	What it Means	Guidance
FS-4	Financial risk profile set at '4'	<p>Issuer must meet all of the following conditions:</p> <ul style="list-style-type: none"> <li>• Other shareholders must own a material (no less than 20%) stake;</li> <li>• We anticipate that the sponsor will relinquish control over the medium term;</li> <li>• For issuers subject to Table 17 (standard volatility), debt to EBITDA is less than 4x, and we estimate that it will remain less than 4x. For issuers that are subject to Table 18 (medial volatility), debt to EBITDA is below 4.5x and we forecast it to remain below that level. Or for issuers subject to Table 19 (low volatility), debt to EBITDA is less than 5x and our estimation is it will remain below that level;</li> <li>• The company has indicated a financial policy stipulating a level of leverage consistent with a significant or better financial risk profile (that is, debt to EBITDA of less than 4x when applying standard volatility tables, 4.5x when applying medial volatility tables, or less than 5x when applying low volatility tables) and</li> <li>• We assess liquidity to be at least adequate, with adequate covenant headroom.</li> </ul>
FS-5	Financial risk profile set at '5'	<p>Issuer must meet all of the following conditions:</p> <ul style="list-style-type: none"> <li>• For issuers subject to the standard volatility table, debt to EBITDA is less than 5x, and we estimate that it will remain less than 5x. For issuers that are subject to the medial volatility table, debt to EBITDA is below 5.5x and we forecast it to remain below that level. Or for issuers subject to the low volatility table, debt to EBITDA is less than 6x and our estimation is it will remain below that level;</li> <li>• We believe the risk of releveraging beyond 5x (standard volatility issuer), 5.5x (medial volatility issuer), or 6x (low volatility issuer) is low; and</li> <li>• We assess liquidity to be at least adequate, with adequate covenant headroom.</li> </ul>
FS-6	Financial risk profile set at '6'	Standard & Poor's debt to EBITDA is greater than 5x (when applying the standard volatility table), greater than 5.5x (when applying the medial volatility table), or greater than 6x (when applying the low volatility table). However, we believe leverage is unlikely to increase meaningfully beyond these levels.
FS-6 (minus)	Financial risk profile set at '6', and anchor reduced by one notch (unless this results in a final rating below 'B-')	In determining the anchor the financial risk profile is a '6', but we believe the track record of the financial sponsor indicates that leverage could increase materially from already high levels.

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### 3. Companies not controlled by a financial sponsor

172. For companies not controlled by a financial sponsor we evaluate management's financial discipline and financial policy framework to determine the influence on an entity's financial risk profile beyond what is implied by recent credit ratios and our cash flow and leverage forecasts. This influence can be positive, neutral, or negative.

173. We do not distinguish between management and a controlling shareholder that is not a financial sponsor when assessing these subfactors, as the controlling shareholder usually has the final say on financial policy.

#### **a) Financial discipline**

174. The financial discipline assessment is based on management's leverage tolerance and the likelihood of event risk. The criteria evaluate management's potential appetite to incur unforeseen, higher financial risk over a prolonged period and the associated impact on credit measures. We also assess management's capacity and commitment to rapidly decrease debt leverage to levels consistent with its credit ratio targets.

175. This assessment therefore seeks to determine whether unforeseen actions by management to increase, maintain, or reduce financial risk are likely to occur during the next two to three years, with either a negative or positive effect, or none at all, on our baseline forecasts for the period.

176. This assessment is based on the leverage tolerance of a company's management, as reflected in its plans or history of acquisitions, shareholder remuneration, and organic growth strategies (see Appendix E, paragraphs 258 to 263).

177. We assess financial discipline as positive, neutral, or negative, based on its potential impact on our forward-looking assessment of a firm's cash flow/leverage, as detailed in table 25. For example, a neutral assessment for leverage tolerance reflects our expectation that management's financial policy will unlikely lead to significant deviation from current and forecasted credit ratios. A negative assessment acknowledges a significant degree of event risk of increased leverage relative to our base-case forecast, resulting from the company's acquisition policy, its shareholder remuneration policy, or its organic growth strategy. A positive assessment indicates that the company is likely to take actions to reduce leverage, but we cannot confidently incorporate these actions into our baseline forward-looking assessment of cash flow/leverage.

178. A positive assessment indicates that management is committed and has the capacity to reduce debt leverage through the rapid implementation of credit enhancing measures, such as asset disposals, rights issues, or reductions in shareholder returns. In addition, management's track record over the past five years shows that it has taken actions to rapidly reduce unforeseen increases in debt leverage and that there have not been any prolonged periods when credit ratios were weaker than our expectations for the rating. Management, even if new, also has a track record of successful execution. Conversely, a negative assessment indicates management's financial policy allows for significant increase in leverage compared with both current levels and our forward-looking forecast under normal operating/financial conditions or does not have observable time limits or stated boundaries. Management has a track record of allowing for significant and prolonged peaks in leverage and there is no commitment or track record of management using mitigating measures to rapidly return to credit ratios consistent with our expectations.

179. As evidence of management's leverage tolerance, we evaluate its track record and plans regarding acquisitions, shareholder remuneration, and organic growth strategies (see Appendix E, paragraphs 258 to 263). Acquisitions could increase the risk that leverage will be higher than our base-case forecast if we view management's strategy as opportunistic or if its financial policy (if it exists) provides significant headroom for debt-financed acquisitions. Shareholder remuneration could also increase the risk of leverage being higher than our base-case forecast if management's shareholder reward policies are not particularly well defined or have no clear limits, management has a tolerance for shareholder returns exceeding operating cash flow, or has a track record of sustained cash returns despite weakening operating performance or credit ratios. Organic growth strategies can also result in leverage higher than our base-case forecast if these plans have no clear focus or investment philosophy, capital spending is fairly unpredictable, or there is a track record of overspending or unexpected or rapid shifts in plans for new markets or products.

180. We also take into account management's track record and level of commitment to its stated financial policies, to the extent a company has a stated policy. Historical evidence and any deviations from stated policies are key elements in analyzing a company's leverage tolerance. Where material and unexpected deviation in leverage may occur (for example, on the back of operating weakness or acquisitions), we also assess management's plan to restore credit ratios to levels consistent with previous expectations through rapid and proactive non-organic measures. Management's track record to execute its deleveraging plan, its level of commitment, and the scope and timeframe of debt mitigating measures will be key differentiators in assessing a company's financial policy discipline.

Table 25

**Assessing Financial Discipline**

DESCRIPTOR	WHAT IT MEANS	GUIDANCE
Positive	<p>Management is likely to take actions that result in leverage that is lower than our base-case forecast, but can't be confidently included in our base-case assumptions. Event risk is low.</p>	<p>Management is committed and has capacity to reduce debt leverage and increase financial headroom through the rapid implementation of credit enhancing measures, in line with its stated financial policy, if any. This relates primarily to management's careful and moderate policy with regard to acquisitions and shareholder remuneration as well as to its organic growth strategy. The assessments are supported by historical evidence over the past five years of not showing any prolonged weakening in the company's credit ratios, or relative to our base-case credit metrics' assumptions. Management, even if new, has a track record of successful execution.</p>
Neutral	<p>Leverage is not expected to deviate materially from our base-case forecast. Event risk is moderate.</p>	<p>Management's financial discipline with regard to acquisitions, shareholder remuneration, as well as its organic growth strategy does not result in significantly different leverage as defined in its stated financial policy framework.</p>

Negative	Leverage could become materially higher than our base-case forecast. Event risk is high.	Management's financial policy framework does not explicitly rule out a significant increase in leverage compared to our base-case assumptions, possibly reflecting a greater event risk with regard to its M&A and shareholder remuneration policy as well as to its organic growth strategy. These points are supported by historical evidence over the past five years of allowing for significant and prolonged peaks in leverage, which remained unmitigated by credit supporting measures by management.
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## b) Financial policy framework

181. The company's financial policy framework assesses the comprehensiveness, transparency, and sustainability of the entity's financial policies (see Appendix E, paragraphs 264-268). This will help determine whether there is a satisfactory degree of visibility into the issuer's future financial risk profile. Companies that have developed and sustained a comprehensive set of financial policies are more likely to build long-term, sustainable credit quality than those that do not.

182. We will assess a company's financial policy framework as supportive or non-supportive based on evidence that supports the characteristics listed below. In order for an entity to receive a supportive assessment for financial policy framework, there must be sufficient evidence of management's financial policies to back that assessment.

183. A company assessed as supportive will generally exhibit the following characteristics:

- Management has a comprehensive set of financial policies covering key areas of financial risk, including debt leverage and liability management. Financial targets are well defined and quantifiable.
- Management's financial policies are clearly articulated in public forums (such as public listing disclosures and investor presentations) or are disclosed to a limited number of key stakeholders such as main creditors or to the credit rating agencies. The company's adherence to these policies is satisfactory.

- Management's articulated financial policies are considered achievable and sustainable. This assessment takes into consideration historical adherence to articulated policies, existing financial risk profile, capacity to sustain capital structure through nonorganic means, demands of key stakeholders, and the stability of financial policy parameters over time.

184. A company receives a non-supportive assessment if it does not meet all the conditions for a supportive assessment. We expect a non-supportive assessment to be uncommon.

## I. Liquidity

185. Our assessment of liquidity focuses on monetary flows--the sources and uses of cash--that are the key indicators of a company's liquidity cushion. The analysis assesses the potential for a company to breach covenant tests related to declines in EBITDA, as well as its ability to absorb high-impact, low-probability events (such as those that may arise from the materialization of ESG risks), the nature of the company's bank relationships, its standing in credit markets, and how prudent (or not) we believe its financial risk management to be (see "Methodology And Assumptions: Liquidity Descriptors For Global Corporate Issuers").

## J. Management And Governance

186. The analysis of management and governance addresses how management's strategic competence, organizational effectiveness, risk management, and governance practices shape the issuer's competitiveness in the marketplace, the strength of its financial risk management, and the robustness of its governance. Stronger management of important strategic and financial risks may enhance creditworthiness (see "Methodology: Management And Governance Credit Factors For Corporate Entities").

## K. Comparable Ratings Analysis

187. The comparable ratings analysis is our last step in determining a SACP on a company. This analysis can lead us to raise or lower our anchor, after adjusting for the modifiers, on a company by one notch based on our overall assessment of its credit characteristics for all subfactors considered in arriving at

the SACP. This involves taking a holistic review of a company's stand-alone credit risk profile, in which we evaluate an issuer's credit characteristics in aggregate. A positive assessment leads to a one-notch upgrade, a negative assessment leads to a one-notch downgrade, and a neutral assessment indicates no change to the anchor.

188. The application of comparable ratings analysis reflects the need to "fine-tune" ratings outcomes, even after the use of each of the other modifiers. A positive or negative assessment is therefore likely to be common rather than exceptional.

189. We consider our assessments of each of the underlying subfactors to be points within a possible range. Consequently, each of these assessments that ultimately generate the SACP can be at the upper or lower end, or at the mid-point, of such a range:

- A company receives a positive assessment if we believe, in aggregate, its relative ranking across the subfactors typically to be at the higher end of the range;
- A company receives a negative assessment if we believe, in aggregate, its relative ranking across the subfactors typically to be at the lower end of the range;
- A company receives a neutral assessment if we believe, in aggregate, its relative ranking across the subfactors typically to be in line with the middle of the range.

190. The most direct application of the comparable ratings analysis is in the following circumstances:

- Business risk assessment. If we expect a company to sustain a position at the higher or lower end of the ranges for the business risk category assessment, the company could receive a positive or negative assessment, respectively.
- Financial risk assessment and financial metrics. If a company's actual and forecasted metrics are just above (or just below) the financial risk profile range, as indicated in its cash flow/leverage assessment, we could assign a positive or negative assessment.

191. We also consider additional factors not already covered, or existing factors not fully captured, in arriving at the SACP. Such factors will generally reflect less frequently observed credit characteristics, may be unique, or may reflect unpredictability or uncertain risk attributes, both positive and negative.

192. This paragraph has been deleted.