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March 13, 2019

VIA ELECTRONIC FILING

Hon. David Jones, Chairman
c/o Tory Lawless
Tennessee Public Utilities Commission
502 Deaderick Street, 4th Floor
Nashville, TN 37243

RE: Tennessee-American Water Company's Response to Commission's Investigation of Impacts of Federal Tax Reform on the Public Utility Revenue Requirements, TPUC Docket No. 18-00039

Dear Chairman Jones:

Attached please find *Tennessee-American Water Company's Responses to the Consumer Advocate's First Discovery Requests* to Nos. 2 and 13.

As required, an original of this filing along with four (4) hard copies will follow. Should you have any questions concerning this filing, or require additional information, please do not hesitate to contact me.

Very truly yours,

BUTLER SNOW LLP

Melvin Malone

Melvin J. Malone

pkg
Attachments
cc: Elaine Chambers, Tennessee-American Water Company
Daniel Whitaker, Assistant Attorney General , Consumer Advocate Unit (via email)
Karen H. Stachowski, Assistant Attorney General, Consumer Advocate Unit (via email)

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TENNESSEE AMERICAN WATER COMPANY
DOCKET NO. 18-00039
FIRST DISCOVERY REQUEST OF THE
CONSUMER ADVOCATE DIVISION

Responsible Witness: Elaine Chambers

Question:

1-2 Refer to page 7, lines 6-16, of Ms. Bridwell's Direct Testimony. Ms. Bridwell references the stress on various financial metrics that would occur with an immediate pass-through of the reduction in federal income tax expense savings. With respect to this statement, provide the following:

a. Identify and define the financial metrics that directly bear on credit ratings and quantify such metrics for American Water Company (AWC) for 2017;

b. Identify at what point the decline in such metrics would result in a credit downgrade; and

c. Based upon 2017 AWC results, provide pro-forma metric results based upon those identified above, assuming the 21% federal tax rate had been in effect the entire year and that AWC's base rates had reflected the flow-through tax savings as of January 1, 2017.

Response:

TAWC objects to this Request on the grounds that it is overbroad, speculative, unduly burdensome and seeks information that is neither relevant nor reasonably calculated to lead to the discovery of admissible evidence. Further, there is no entity known as "American Water Company." TAWC understands and believes that this Request refers to TAWC's parent, American Water Works Company.

Subject to and without waiving the foregoing objections, TAWC states as follows:

a. Please see the following attachments:

Standard & Poor's

TAWC_CADDR1_NUM002_03122019_Attachment 1 (Methodology)
TAWC_CADDR1_NUM002_03122019_Attachment 2 (Ratio Definitions)
TAWC_CADDR1_NUM002_03122019_Attachment 3 (2017 Ratios for AWK)
TAWC_CADDR1_NUM002_03122019_Attachment 4 (2017 Credit Opinion)

Moody's

TAWC_CADDR1_NUM002_03122019_Attachment 5 (Methodology)
TAWC_CADDR1_NUM002_03122019_Attachment 6 (Ratio Definitions)
TAWC_CADDR1_NUM002_03122019_Attachment 7 (2017 Ratios for AWK)
TAWC_CADDR1_NUM002_03122019_Attachment 8 (2017 Credit Opinion)

b. Objection. TAWC and/or American Water Works Company are unable to provide a response to this Request, as it would require speculation. Subject to and without waiving the foregoing objection, TAWC states as follows:

Please see attachments 4 and 8 provided in part a, which discuss the ratings downgrade triggers for Standard & Poor's and Moody's, respectively.

c. Objection. TAWC objects to this Request as overly broad and unduly burdensome. TAWC and/or American Water Works Company do not maintain this information in the ordinary course of business. This Request would require an extensive and burdensome parent company-wide study.

S&P Global
Ratings

Research

Criteria | Corporates | Utilities:

Key Credit Factors For The Regulated Utilities Industry

November 19, 2013

(***Editor's Note:*** *We're republishing this article following our periodic review completed on June 5, 2018. See the "Revisions And Updates" section for details.)*

1. This article presents S&P Global Ratings' methodology and assumptions for Regulated Utilities. This article relates to "Corporate Methodology," Nov. 19, 2013 and "Principles Of Credit Ratings," Feb. 16, 2011.
2. This paragraph has been deleted.

SCOPE OF THE CRITERIA

3. These criteria apply to entities where regulated utilities represent a material part of their business, other than U.S. public power, water, sewer, gas, and electric cooperative utilities that are owned by federal, state, or local governmental bodies or by ratepayers. A regulated utility is defined as a corporation that offers an essential or near-essential infrastructure product, commodity, or service with little or no practical substitute (mainly electricity, water, and gas), a business model that is shielded from competition (naturally, by law, shadow regulation, or by government policies and oversight), and is subject to comprehensive regulation by a regulatory body or implicit oversight of its rates (sometimes referred to as tariffs), service quality, and terms of service. The regulators base the rates that they set on some form of cost recovery, including an economic return on assets, rather than relying on a market price. The regulated operations can range from individual parts of the utility value chain (water, gas, and electricity networks or "grids," electricity generation, retail operations, etc.) to the entire integrated chain, from procurement to sales to the end customer. In some jurisdictions, our view of government support can also affect the final rating outcome, as per our government-related entity criteria (see "General Criteria: Rating Government-Related Entities: Methodology and Assumptions," March 25, 2015).

SUMMARY OF THE CRITERIA

4. This article presents S&P Global Ratings criteria for analyzing regulated utilities, applying its corporate criteria. The criteria for evaluating the competitive position of regulated utilities amend and partially supersede the "Competitive Position" section of the corporate criteria when evaluating these entities. The criteria for determining the cash flow leverage assessment partially supersede the "Cash Flow/Leverage" section of the corporate criteria for the purpose of

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evaluating regulated utilities, specifically, the conditions to apply low, medial, and standard volatility tables. The section on liquidity for regulated utilities partially amends existing criteria. All other sections of the corporate criteria apply to the analysis of regulated utilities.

5. This paragraph has been deleted.

6. This paragraph has been deleted.

METHODOLOGY

Part I--Business Risk Analysis

Industry risk

7. Within the framework of Standard & Poor's general criteria for assessing industry risk, we view regulated utilities as a "very low risk" industry (category '1'). We derive this assessment from our view of the segment's low risk ('2') cyclicality and very low risk ('1') competitive risk and growth assessment.

8. In our view, demand for regulated utility services typically exhibits low cyclicality, being a function of such key drivers as employment growth, household formation, and general economic trends. Pricing is non-cyclical, since it is usually based in some form on the cost of providing service.

Cyclicality

9. We assess cyclicality for regulated utilities as low risk ('2'). Utilities typically offer products and services that are essential and not easily replaceable. Based on our analysis of global Compustat data, utilities had an average peak-to-trough (PTT) decline in revenues of about 6% during recessionary periods since 1952. Over the same period, utilities had an average PTT decline in EBITDA margin of about 5% during recessionary periods, with PTT EBITDA margin declines less severe in more recent periods. The PTT drop in profitability that occurred in the most recent recession (2007-2009) was less than the long-term average.

10. With an average drop in revenues of 6% and an average profitability decline of 5%, utilities' cyclicality assessment calibrates to low risk ('2'). We generally consider that the higher the level of profitability cyclicality in an industry, the higher the credit risk of entities operating in that industry. However, the overall effect of cyclicality on an industry's risk profile may be mitigated or exacerbated by an industry's competitive and growth environment.

Competitive risk and growth

11. We view regulated utilities as warranting a very low risk ('1') competitive risk and growth assessment. For competitive risk and growth, we assess four sub-factors as low, medium, or high risk. These sub-factors are:

- Effectiveness of industry barriers to entry;
- Level and trend of industry profit margins;
- Risk of secular change and substitution by products, services, and technologies; and
- Risk in growth trends.

Effectiveness of barriers to entry--low risk

12. Barriers to entry are high. Utilities are normally shielded from direct competition. Utility services are commonly naturally monopolistic (they are not efficiently delivered through competitive channels and often require access to public thoroughfares for distribution), and so regulated utilities are granted an exclusive franchise, license, or concession to serve a specified territory in exchange for accepting an obligation to serve all customers in that area and the regulation of its rates and operations.

Level and trend of industry profit margins--low risk

13. Demand is sometimes and in some places subject to a moderate degree of seasonality, and weather conditions can significantly affect sales levels at times over the short term. However, those factors even out over time, and there is little pressure on margins if a utility can pass higher costs along to customers via higher rates.

Risk of secular change and substitution of products, services, and technologies--low risk

14. Utility products and services are not overly subject to substitution. Where substitution is possible, as in the case of natural gas, consumer behavior is usually stable and there is not a lot of switching to other fuels. Where switching does occur, cost allocation and rate design practices in the regulatory process can often mitigate this risk so that utility profitability is relatively indifferent to the substitutions.

Risk in industry growth trends--low risk

15. As noted above, regulated utilities are not highly cyclical. However, the industry is often well established and, in our view, long-range demographic trends support steady demand for essential utility services over the long term. As a result, we would expect revenue growth to generally match GDP when economic growth is positive.

B. Country risk

16. In assessing "country risk" for a regulated utility, our analysis uses the same methodology as with other corporate issuers (see "Corporate Methodology").

C. Competitive position

17. In the corporate criteria, competitive position is assessed as ('1') excellent, ('2') strong, ('3') satisfactory, ('4') fair, ('5') weak, or ('6') vulnerable.

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

- Competitive advantage,
- Scale, scope, and diversity,
- Operating efficiency, and

- Profitability.

19. In the corporate criteria we assess the strength of each of the first three components. Each component is assessed as either: (1) strong, (2) strong/adequate, (3) adequate, (4) adequate/weak, or (5) weak. After assessing these components, we determine the preliminary competitive position assessment by ascribing a specific weight to each component. The applicable weightings will depend on the company's Competitive Position Group Profile. The group profile for regulated utilities is "National Industries & Utilities," with a weighting of the three components as follows: competitive advantage (60%), scale, scope, and diversity (20%), and operating efficiency (20%). Profitability is assessed by combining two sub-components: level of profitability and the volatility of profitability.

20. "Competitive advantage" cannot be measured with the same sub-factors as competitive firms because utilities are not primarily subject to influence of market forces. Therefore, these criteria supersede the "competitive advantage" section of the corporate criteria. We analyze instead a utility's "regulatory advantage" (section 1 below).

Assessing regulatory advantage

21. The regulatory framework/regime's influence is of critical importance when assessing regulated utilities' credit risk because it defines the environment in which a utility operates and has a significant bearing on a utility's financial performance.

22. We base our assessment of the regulatory framework's relative credit supportiveness on our view of how regulatory stability, efficiency of tariff setting procedures, financial stability, and regulatory independence protect a utility's credit quality and its ability to recover its costs and earn a timely return. Our view of these four pillars is the foundation of a utility's regulatory support. We then assess the utility's business strategy, in particular its regulatory strategy and its ability to manage the tariff-setting process, to arrive at a final regulatory advantage assessment.

23. When assessing regulatory advantage, we first consider four pillars and sub-factors that we believe are key for a utility to recover all its costs, on time and in full, and earn a return on its capital employed:

24. Regulatory stability:

- Transparency of the key components of the rate setting and how these are assessed
- Predictability that lowers uncertainty for the utility and its stakeholders
- Consistency in the regulatory framework over time

25. Tariff-setting procedures and design:

- Recoverability of all operating and capital costs in full
- Balance of the interests and concerns of all stakeholders affected
- Incentives that are achievable and contained

26. Financial stability:

- Timeliness of cost recovery to avoid cash flow volatility
- Flexibility to allow for recovery of unexpected costs if they arise
- Attractiveness of the framework to attract long-term capital
- Capital support during construction to alleviate funding and cash flow pressure during periods

of heavy investments

27. Regulatory independence and insulation:

- Market framework and energy policies that support long-term financeability of the utilities and that is clearly enshrined in law and separates the regulator's powers
- Risks of political intervention is absent so that the regulator can efficiently protect the utility's credit profile even during a stressful event

28. We have summarized the key characteristics of the assessments for regulatory advantage in table 1.

Table 1

Preliminary Regulatory Advantage Assessment

Qualifier	What it means	Guidance
Strong	The utility has a major regulatory advantage due to one or a combination of factors that support cost recovery and a return on capital combined with lower than average volatility of earnings and cash flows.	The utility operates in a regulatory climate that is transparent, predictable, and consistent from a credit perspective.
	There are strong prospects that the utility can sustain this advantage over the long term.	The utility can fully and timely recover all its fixed and variable operating costs, investments and capital costs (depreciation and a reasonable return on the asset base).
	This should enable the utility to withstand economic downturns and political risks better than other utilities.	The tariff set may include a pass-through mechanism for major expenses such as commodity costs, or a higher return on new assets, effectively shielding the utility from volume and input cost risks.
		Any incentives in the regulatory scheme are contained and symmetrical.
		The tariff set includes mechanisms allowing for a tariff adjustment for the timely recovery of volatile or unexpected operating and capital costs.
		There is a track record of earning a stable, compensatory rate of return in cash through various economic and political cycles and a projected ability to maintain that record.
		There is support of cash flows during construction of large projects, and pre-approval of capital investment programs and large projects lowers the risk of subsequent disallowances of capital costs.
		The utility operates under a regulatory system that is sufficiently insulated from political intervention to efficiently protect the utility's credit risk profile even during stressful events.
Adequate	The utility has some regulatory advantages and protection, but not to the extent that it leads to a superior business model or durable benefit.	It operates in a regulatory environment that is less transparent, less predictable, and less consistent from a credit perspective.

Table 1

Preliminary Regulatory Advantage Assessment (cont.)

Qualifier	What it means	Guidance
	The utility has some but not all drivers of well-managed regulatory risk. Certain regulatory factors support the business's long-term stability and viability but could result in periods of below-average levels of profitability and greater profit volatility. However, overall these regulatory drivers are partially offset by the utility's disadvantages or lack of sustainability of other factors.	The utility is exposed to delays or is not, with sufficient certainty, able to recover all of its fixed and variable operating costs, investments. and capital costs (depreciation and a reasonable return on the asset base) within a reasonable time.
		Incentive ratemaking practices are asymmetrical and material, and could detract from credit quality.
		The utility is exposed to the risk that it doesn't recover unexpected or volatile costs in a full or less than timely manner due to lack of flexible reopeners or annual revenue adjustments.
		There is an uneven track record of earning a compensatory rate of return in cash through various economic and political cycles and a projected ability to maintain that record.
		There is little or no support of cash flows during construction, and investment decisions on large projects (and therefore the risk of subsequent disallowances of capital costs) rest mostly with the utility.
		The utility operates under a regulatory system that is not sufficiently insulated from political intervention and is sometimes subject to overt political influence.
Weak	The utility suffers from a complete breakdown of regulatory protection that places the utility at a significant disadvantage.	The utility operates in an opaque regulatory climate that lacks transparency, predictability, and consistency.
	The utility's regulatory risk is such that the long-term cost recovery and investment return is highly uncertain and materially delayed, leading to volatile or weak cash flows. There is the potential for material stranded assets with no prospect of recovery.	The utility cannot fully and/or timely recover its fixed and variable operating costs, investments, and capital costs (depreciation and a reasonable return on the asset base).
		There is a track record of earning minimal or negative rates of return in cash through various economic and political cycles and a projected inability to improve that record sustainably.
		The utility must make significant capital commitments with no solid legal basis for the full recovery of capital costs.
		Ratemaking practices actively harm credit quality.
		The utility is regularly subject to overt political influence.

29. After determining the preliminary regulatory advantage assessment, we then assess the utility's business strategy. Most importantly, this factor addresses the effectiveness of a utility's

management of the regulatory risk in the jurisdiction(s) where it operates. In certain jurisdictions, a utility's regulatory strategy and its ability to manage the tariff-setting process effectively so that revenues change with costs can be a compelling regulatory risk factor. A utility's approach and strategies surrounding regulatory matters can create a durable "competitive advantage" that differentiates it from peers, especially if the risk of political intervention is high. The assessment of a utility's business strategy is informed by historical performance and its forward-looking business objectives. We evaluate these objectives in the context of industry dynamics and the regulatory climate in which the utility operates, as evaluated through the factors cited in paragraphs 24-27.

30. We modify the preliminary regulatory advantage assessment to reflect this influence positively or negatively. Where business strategy has limited effect relative to peers, we view the implications as neutral and make no adjustment. A positive assessment improves the preliminary regulatory advantage assessment by one category and indicates that management's business strategy is expected to bolster its regulatory advantage through favorable commission rulings beyond what is typical for a utility in that jurisdiction. Conversely, where management's strategy or businesses decisions result in adverse regulatory outcomes relative to peers, such as failure to achieve typical cost recovery or allowed returns, we adjust the preliminary regulatory advantage assessment one category worse. In extreme cases of poor strategic execution, the preliminary regulatory advantage assessment is adjusted by two categories worse (when possible; see table 2) to reflect management decisions that are likely to result in a significantly adverse regulatory outcome relative to peers.

Table 2

Determining The Final Regulatory Advantage Assessment

	--Strategy modifier--			
Preliminary regulatory advantage score	**Positive**	**Neutral**	**Negative**	**Very negative**
Strong	Strong	Strong	Strong/Adequate	Adequate
Strong/Adequate	Strong	Strong/Adequate	Adequate	Adequate/Weak
Adequate	Strong/Adequate	Adequate	Adequate/Weak	Weak
Adequate/Weak	Adequate	Adequate/Weak	Weak	Weak
Weak	Adequate/Weak	Weak	Weak	Weak

Scale, scope, and diversity

31. We consider the key factors for this component of competitive position to be primarily operational scale and diversity of the geographic, economic, and regulatory foot prints. We focus on a utility's markets, service territories, and diversity and the extent that these attributes can contribute to cash flow stability while dampening the effect of economic and market threats.

32. A utility that warrants a Strong or Strong/Adequate assessment has scale, scope, and diversity that support the stability of its revenues and profits by limiting its vulnerability to most combinations of adverse factors, events, or trends. The utility's significant advantages enable it to withstand economic, regional, competitive, and technological threats better than its peers. It typically is characterized by a combination of the following factors:

- A large and diverse customer base with no meaningful customer concentration risk, where residential and small to medium commercial customers typically provide most operating income.

- The utility's range of service territories and regulatory jurisdictions is better than others in the sector.
- Exposure to multiple regulatory authorities where we assess preliminary regulatory advantage to be at least Adequate. In the case of exposure to a single regulatory regime, the regulatory advantage assessment is either Strong or Strong/Adequate.
- No meaningful exposure to a single or few assets or suppliers that could hurt operations or could not easily be replaced.

33. A utility that warrants a Weak or Weak/Adequate assessment lacks scale, scope, and diversity such that it compromises the stability and sustainability of its revenues and profits. The utility's vulnerability to, or reliance on, various elements of this sub-factor is such that it is less likely than its peers to withstand economic, competitive, or technological threats. It typically is characterized by a combination of the following factors:

- A small customer base, especially if burdened by customer and/or industry concentration combined with little economic diversity and average to below-average economic prospects;
- Exposure to a single service territory and a regulatory authority with a preliminary regulatory advantage assessment of Adequate or Adequate/Weak; or
- Dependence on a single supplier or asset that cannot easily be replaced and which hurts the utility's operations.

34. We generally believe a larger service territory with a diverse customer base and average to above-average economic growth prospects provides a utility with cushion and flexibility in the recovery of operating costs and ongoing investment (including replacement and growth capital spending), as well as lessening the effect of external shocks (i.e., extreme local weather) since the incremental effect on each customer declines as the scale increases.

35. We consider residential and small commercial customers as having more stable usage patterns and being less exposed to periodic economic weakness, even after accounting for some weather-driven usage variability. Significant industrial exposure along with a local economy that largely depends on one or few cyclical industries potentially contributes to the cyclicality of a utility's load and financial performance, magnifying the effect of an economic downturn.

36. A utility's cash flow generation and stability can benefit from operating in multiple geographic regions that exhibit average to better than average levels of wealth, employment, and growth that underpin the local economy and support long-term growth. Where operations are in a single geographic region, the risk can be ameliorated if the region is sufficiently large, demonstrates economic diversity, and has at least average demographic characteristics.

37. The detriment of operating in a single large geographic area is subject to the strength of regulatory assessment. Where a utility operates in a single large geographic area and has a strong regulatory assessment, the benefit of diversity can be incremental.

Operating efficiency

38. We consider the key factors for this component of competitive position to be:

- Compliance with the terms of its operating license, including safety, reliability, and environmental standards;
- Cost management; and
- Capital spending: scale, scope, and management.

39. Relative to peers, we analyze how successful a utility management achieves the above factors within the levels allowed by the regulator in a manner that promotes cash flow stability. We consider how management of these factors reduces the prospect of penalties for noncompliance, operating costs being greater than allowed, and capital projects running over budget and time, which could hurt full cost recovery.

40. The relative importance of the above three factors, particularly cost and capital spending management, is determined by the type of regulation under which the utility operates. Utilities operating under robust "cost plus" regimes tend to be more insulated given the high degree of confidence costs will invariably be passed through to customers. Utilities operating under incentive-based regimes are likely to be more sensitive to achieving regulatory standards. This is particularly so in the regulatory regimes that involve active consultation between regulator and utility and market testing as opposed to just handing down an outcome on a more arbitrary basis.

41. In some jurisdictions, the absolute performance standards are less relevant than how the utility performs against the regulator's performance benchmarks. It is this performance that will drive any penalties or incentive payments and can be a determinant of the utilities' credibility on operating and asset-management plans with its regulator.

42. Therefore, we consider that utilities that perform these functions well are more likely to consistently achieve determinations that maximize the likelihood of cost recovery and full inclusion of capital spending in their asset bases. Where regulatory resets are more at the discretion of the utility, effective cost management, including of labor, may allow for more control over the timing and magnitude of rate filings to maximize the chances of a constructive outcome such as full operational and capital cost recovery while protecting against reputational risks.

43. A regulated utility that warrants a Strong or Strong/Adequate assessment for operating efficiency relative to peers generates revenues and profits through minimizing costs, increasing efficiencies, and asset utilization. It typically is characterized by a combination of the following:

- High safety record;
- Service reliability is strong, with a track record of meeting operating performance requirements of stakeholders, including those of regulators. Moreover, the utility's asset profile (including age and technology) is such that we have confidence that it could sustain favorable performance against targets;
- Where applicable, the utility is well-placed to meet current and potential future environmental standards;
- Management maintains very good cost control. Utilities with the highest assessment for operating efficiency have shown an ability to manage both their fixed and variable costs in line with regulatory expectations (including labor and working capital management being in line with regulator's allowed collection cycles); or
- There is a history of a high level of project management execution in capital spending programs, including large one-time projects, almost invariably within regulatory allowances for timing and budget.

44. A regulated utility that warrants an Adequate assessment for operating efficiency relative to peers has a combination of cost position and efficiency factors that support profit sustainability combined with average volatility. Its cost structure is similar to its peers. It typically is characterized by a combination of the following factors:

- High safety performance;
- Service reliability is satisfactory with a track record of mostly meeting operating performance

requirements of stakeholders, including those of regulators. We have confidence that a favorable performance against targets can be mostly sustained;

- Where applicable, the utility may be challenged to comply with current and future environmental standards that could increase in the medium term;
- Management maintains adequate cost control. Utilities that we assess as having adequate operating efficiency mostly manage their fixed and variable costs in line with regulatory expectations (including labor and working capital management being mostly in line with regulator's allowed collection cycles); or
- There is a history of adequate project management skills in capital spending programs within regulatory allowances for timing and budget.

45. A regulated utility that warrants a weak or weak/adequate assessment for operating efficiency relative to peers has a combination of cost position and efficiency factors that fail to support profit sustainability combined with below-average volatility. Its cost structure is worse than its peers. It typically is characterized by a combination of the following:

- Poor safety performance;
- Service reliability has been sporadic or non-existent with a track record of not meeting operating performance requirements of stakeholders, including those of regulators. We do not believe the utility can consistently meet performance targets without additional capital spending;
- Where applicable, the utility is challenged to comply with current environmental standards and is highly vulnerable to more onerous standards;
- Management typically exceeds operating costs authorized by regulators;
- Inconsistent project management skills as evidenced by cost overruns and delays including for maintenance capital spending; or
- The capital spending program is large and complex and falls into the weak or weak/adequate assessment, even if operating efficiency is generally otherwise considered adequate.

Profitability

46. A utility with above-average profitability would, relative to its peers, generally earn a rate of return at or above what regulators authorize and have minimal exposure to earnings volatility from affiliated unregulated business activities or market-sensitive regulated operations. Conversely, a utility with below-average profitability would generally earn rates of return well below the authorized return relative to its peers or have significant exposure to earnings volatility from affiliated unregulated business activities or market-sensitive regulated operations.

47. The profitability assessment consists of "level of profitability" and "volatility of profitability."

Level of profitability

48. Key measures of general profitability for regulated utilities commonly include ratios, which we compare both with those of peers and those of companies in other industries to reflect different countries' regulatory frameworks and business environments:

- EBITDA margin,

- Return on capital (ROC), and
- Return on equity (ROE).

49. In many cases, EBITDA as a percentage of sales (i.e., EBITDA margin) is a key indicator of profitability. This is because the book value of capital does not always reflect true earning potential, for example when governments privatize or restructure incumbent state-owned utilities. Regulatory capital values can vary with those of reported capital because regulatory capital values are not inflation-indexed and could be subject to different assumptions concerning depreciation. In general, a country's inflation rate or required rate of return on equity investment is closely linked to a utility company's profitability. We do not adjust our analysis for these factors, because we can make our assessment through a peer comparison.

50. For regulated utilities subject to full cost-of-service regulation and return-on-investment requirements, we normally measure profitability using ROE, the ratio of net income available for common stockholders to average common equity. When setting rates, the regulator ultimately bases its decision on an authorized ROE. However, different factors such as variances in costs and usage may influence the return a utility is actually able to earn, and consequently our analysis of profitability for cost-of-service-based utilities centers on the utility's ability to consistently earn the authorized ROE.

51. We will use return on capital when pass-through costs distort profit margins--for instance congestion revenues or collection of third-party revenues. This is also the case when the utility uses accelerated depreciation of assets, which in our view might not be sustainable in the long run.

Volatility of profitability

52. We may observe a clear difference between the volatility of actual profitability and the volatility of underlying regulatory profitability. In these cases, we could use the regulatory accounts as a proxy to judge the stability of earnings.

53. We use actual returns to calculate the standard error of regression for regulated utility issuers (only if there are at least seven years of historical annual data to ensure meaningful results). If we believe recurring mergers and acquisitions or currency fluctuations affect the results, we may make adjustments.

Part II--Financial Risk Analysis

D. Accounting

54. Our analysis of a company's financial statements begins with a review of the accounting to determine whether the statements accurately measure a company's performance and position relative to its peers and the larger universe of corporate entities. To allow for globally consistent and comparable financial analyses, our rating analysis may include quantitative adjustments to a company's reported results. These adjustments also align a company's reported figures with our view of underlying economic conditions and give us a more accurate portrayal of a company's ongoing business. We discuss adjustments that pertain broadly to all corporate sectors, including this sector, in "Corporate Methodology: Ratios And Adjustments." Accounting characteristics and analytical adjustments unique to this sector are discussed below.

Accounting characteristics

55. Some important accounting practices for utilities include:

- For integrated electric utilities that meet native load obligations in part with third-party power contracts, we use our purchased power methodology to adjust measures for the debt-like obligation such contracts represent (see below).
- Due to distortions in leverage measures from the substantial seasonal working-capital requirements of natural gas distribution utilities, we adjust inventory and debt balances by netting the value of inventory against outstanding short-term borrowings. This adjustment provides an accurate view of the company's balance sheet by reducing seasonal debt balances when we see a very high certainty of near-term cost recovery (see below).
- We deconsolidate securitized debt (and associated revenues and expenses) that has been accorded specialized recovery provisions (see below).
- For water utilities that report under U.K. GAAP, we adjust ratios for infrastructure renewals accounting, which permits water companies to capitalize the maintenance spending on their infrastructure assets (see below). The adjustments aim to make those water companies that report under U.K. GAAP more comparable to those that report under accounting regimes that do not permit infrastructure renewals accounting.

56. In the U.S. and selectively in other regions, utilities employ "regulatory accounting," which permits a rate-regulated company to defer some revenues and expenses to match the timing of the recognition of those items in rates as determined by regulators. A utility subject to regulatory accounting will therefore have assets and liabilities on its books that an unregulated corporation, or even regulated utilities in many other global regions, cannot record. We do not adjust GAAP earnings or balance-sheet figures to remove the effects of regulatory accounting. However, as more countries adopt International Financial Reporting Standards (IFRS), the use of regulatory accounting will become more scarce. IFRS does not currently provide for any recognition of the effects of rate regulation for financial reporting purposes, but it is considering the use of regulatory accounting. We do not anticipate altering our fundamental financial analysis of utilities because of the use or non-use of regulatory accounting. We will continue to analyze the effects of regulatory actions on a utility's financial health.

Purchased power adjustment

57. We view long-term purchased power agreements (PPA) as creating fixed, debt-like financial obligations that represent substitutes for debt-financed capital investments in generation capacity. By adjusting financial measures to incorporate PPA fixed obligations, we achieve greater comparability of utilities that finance and build generation capacity and those that purchase capacity to satisfy new load. PPAs do benefit utilities by shifting various risks to the electricity generators, such as construction risk and most of the operating risk. The principal risk borne by a utility that relies on PPAs is recovering the costs of the financial obligation in rates.

58. We calculate the present value (PV) of the future stream of capacity payments under the contracts as reported in the financial statement footnotes or as supplied directly by the company. The discount rate used is the same as the one used in the operating lease adjustment, i.e., 7%. For U.S. companies, notes to the financial statements enumerate capacity payments for the coming five years, and a thereafter period. Company forecasts show the detail underlying the thereafter amount, or we divide the amount reported as thereafter by the average of the capacity payments

in the preceding five years to get an approximation of annual payments after year five.

59. We also consider new contracts that will start during the forecast period. The company provides us the information regarding these contracts. If these contracts represent extensions of existing PPAs, they are immediately included in the PV calculation. However, a contract sometimes is executed in anticipation of incremental future needs, so the energy will not flow until some later period and there are no interim payments. In these instances, we incorporate that contract in our projections, starting in the year that energy deliveries begin under the contract. The projected PPA debt is included in projected ratios as a current rating factor, even though it is not included in the current-year ratio calculations.

60. The PV is adjusted to reflect regulatory or legislative cost-recovery mechanisms when present. Where there is no explicit regulatory or legislative recovery of PPA costs, as in most European countries, the PV may be adjusted for other mitigating factors that reduce the risk of the PPAs to the utility, such as a limited economic importance of the PPAs to the utility's overall portfolio. The adjustment reduces the debt-equivalent amount by multiplying the PV by a specific risk factor.

61. Risk factors based on regulatory or legislative cost recovery typically range between 0% and 50%, but can be as high as 100%. A 100% risk factor would signify that substantially all risk related to contractual obligations rests on the company, with no regulatory or legislative support. A 0% risk factor indicates that the burden of the contractual payments rests solely with ratepayers, as when the utility merely acts as a conduit for the delivery of a third party's electricity. These utilities are barred from developing new generation assets, and the power supplied to their customers is sourced through a state auction or third parties that act as intermediaries between retail customers and electricity suppliers. We employ a 50% risk factor in cases where regulators use base rates for the recovery of the fixed PPA costs. If a regulator has established a separate adjustment mechanism for recovery of all prudent PPA costs, a risk factor of 25% is employed. In certain jurisdictions, true-up mechanisms are more favorable and frequent than the review of base rates, but still do not amount to pure fuel adjustment clauses. Such mechanisms may be triggered by financial thresholds or passage of prescribed periods of time. In these instances, a risk factor between 25% and 50% is employed. Specialized, legislatively created cost-recovery mechanisms may lead to risk factors between 0% and 15%, depending on the legislative provisions for cost recovery and the supply function borne by the utility. Legislative guarantees of complete and timely recovery of costs are particularly important to achieving the lowest risk factors. We also exclude short-term PPAs where they serve merely as gap fillers, pending either the construction of new capacity or the execution of long-term PPAs.

62. Where there is no explicit regulatory or legislative recovery of PPA costs, the risk factor is generally 100%. We may use a lower risk factor if mitigating factors reduce the risk of the PPAs on the utility. Mitigating factors include a long position in owned generation capacity relative to the utility's customer supply needs that limits the importance of the PPAs to the utility or the ability to resell power in a highly liquid market at minimal loss. A utility with surplus owned generation capacity would be assigned a risk factor of less than 100%, generally 50% or lower, because we would assess its reliance on PPAs as limited. For fixed capacity payments under PPAs related to renewable power, we use a risk factor of less than 100% if the utility benefits from government subsidies. The risk factor reflects the degree of regulatory recovery through the government subsidy.

63. Given the long-term mandate of electric utilities to meet their customers' demand for electricity, and also to enable comparison of companies with different contract lengths, we may use an evergreening methodology. Evergreen treatment extends the duration of short- and intermediate-term contracts to a common length of about 12 years. To quantify the cost of the extended capacity, we use empirical data regarding the cost of developing new peaking capacity, incorporating regional differences. The cost of new capacity is translated into a

dollars-per-kilowatt-year figure using a proxy weighted-average cost of capital and a proxy capital recovery period.

64. Some PPAs are treated as operating leases for accounting purposes--based on the tenor of the PPA or the residual value of the asset on the PPA's expiration. We accord PPA treatment to those obligations, in lieu of lease treatment; rather, the PV of the stream of capacity payments associated with these PPAs is reduced to reflect the applicable risk factor.

65. Long-term transmission contracts can also substitute for new generation, and, accordingly, may fall under our PPA methodology. We sometimes view these types of transmission arrangements as extensions of the power plants to which they are connected or the markets that they serve. Accordingly, we impute debt for the fixed costs associated with such transmission contracts.

66. Adjustment procedures:

- Data requirements:
- Future capacity payments obtained from the financial statement footnotes or from management.
- Discount rate: 7%.
- Analytically determined risk factor.
- Calculations:
- Balance sheet debt is increased by the PV of the stream of capacity payments multiplied by the risk factor.
- Equity is not adjusted because the recharacterization of the PPA implies the creation of an asset, which offsets the debt.
- Property, plant, and equipment and total assets are increased for the implied creation of an asset equivalent to the debt.
- An implied interest expense for the imputed debt is determined by multiplying the discount rate by the amount of imputed debt (or average PPA imputed debt, if there is fluctuation of the level), and is added to interest expense.
- We impute a depreciation component to PPAs. The depreciation component is determined by multiplying the relevant year's capacity payment by the risk factor and then subtracting the implied PPA-related interest for that year. Accordingly, the impact of PPAs on cash flow measures is tempered.
- The cost amount attributed to depreciation is reclassified as capital spending, thereby increasing operating cash flow and funds from operations (FFO).
- Some PPA contracts refer only to a single, all-in energy price. We identify an implied capacity price within such an all-in energy price, to determine an implied capacity payment associated with the PPA. This implied capacity payment is expressed in dollars per kilowatt-year, multiplied by the number of kilowatts under contract. (In cases that exhibit markedly different capacity factors, such as wind power, the relation of capacity payment to the all-in charge is adjusted accordingly.)
- Operating income before depreciation and amortization (D&A) and EBITDA are increased for the imputed interest expense and imputed depreciation component, the total of which equals the entire amount paid for PPA (subject to the risk factor).
- Operating income after D&A and EBIT are increased for interest expense.

Natural gas inventory adjustment

67. In jurisdictions where a pass-through mechanism is used to recover purchased natural gas costs of gas distribution utilities within one year, we adjust for seasonal changes in short-debt tied to building inventories of natural gas in non-peak periods for later use to meet peak loads in peak months. Such short-term debt is not considered to be part of the utility's permanent capital. Any history of non-trivial disallowances of purchased gas costs would preclude the use of this adjustment. The accounting of natural gas inventories and associated short-term debt used to finance the purchases must be segregated from other trading activities.

68. Adjustment procedures:

- Data requirements:
- Short-term debt amount associated with seasonal purchases of natural gas devoted to meeting peak-load needs of captive utility customers (obtained from the company).
- Calculations:
- Adjustment to debt--we subtract the identified short-term debt from total debt.

Securitized debt adjustment

69. For regulated utilities, we deconsolidate debt (and associated revenues and expenses) that the utility issues as part of a securitization of costs that have been segregated for specialized recovery by the government entity constitutionally authorized to mandate such recovery if the securitization structure contains a number of protective features:

- An irrevocable, non-bypassable charge and an absolute transfer and first-priority security interest in transition property;
- Periodic adjustments ("true-up") of the charge to remediate over- or under-collections compared with the debt service obligation. The true-up ensures collections match debt service over time and do not diverge significantly in the short run; and,
- Reserve accounts to cover any temporary short-term shortfall in collections.

70. Full cost recovery is in most instances mandated by statute. Examples of securitized costs include "stranded costs" (above-market utility costs that are deemed unrecoverable when a transition from regulation to competition occurs) and unusually large restoration costs following a major weather event such as a hurricane. If the defined features are present, the securitization effectively makes all consumers responsible for principal and interest payments, and the utility is simply a pass-through entity for servicing the debt. We therefore remove the debt and related revenues and expenses from our measures. (See "Securitizing Stranded Costs," Jan. 18, 2001, for background information.)

71. Adjustment procedures:

- Data requirements:
- Amount of securitized debt on the utility's balance sheet at period end;
- Interest expense related to securitized debt for the period; and
- Principal payments on securitized debt during the period.

- Calculations:
- Adjustment to debt: We subtract the securitized debt from total debt.
- Adjustment to revenues: We reduce revenue allocated to securitized debt principal and interest. The adjustment is the sum of interest and principal payments made during the year.
- Adjustment to operating income after depreciation and amortization (D&A) and EBIT: We reduce D&A related to the securitized debt, which is assumed to equal the principal payments during the period. As a result, the reduction to operating income after D&A is only for the interest portion.
- Adjustment to interest expense: We remove the interest expense of the securitized debt from total interest expense.
- Operating cash flows:
- We reduce operating cash flows for revenues and increase for the assumed interest amount related to the securitized debt. This results in a net decrease to operating cash flows equal to the principal repayment amount.

Infrastructure renewals expenditure

72. In England and Wales, water utilities can report under either IFRS or U.K. GAAP. Those that report under U.K. GAAP are allowed to adopt infrastructure renewals accounting, which enables the companies to capitalize the maintenance spending on their underground assets, called infrastructure renewals expenditure (IRE). Under IFRS, infrastructure renewals accounting is not permitted and maintenance expenditure is charged to earnings in the year incurred. This difference typically results in lower adjusted operating cash flows for those companies that report maintenance expenditure as an operating cash flow under IFRS, than for those that report it as capital expenditure under U.K. GAAP. We therefore make financial adjustments to amounts reported by water issuers that apply U.K. GAAP, with the aim of making ratios more comparable with those issuers that report under IFRS and U.S. GAAP. For example, we deduct IRE from EBITDA and FFO.

73. IRE does not always consist entirely of maintenance expenditure that would be expensed under IFRS. A portion of IRE can relate to costs that would be eligible for capitalization as they meet the recognition criteria for a new fixed asset set out in International Accounting Standard 16 that addresses property, plant, and equipment. In such cases, we may refine our adjustment to U.K. GAAP companies so that we only deduct from FFO the portion of IRE that would not be capitalized under IFRS. However, the information to make such a refinement would need to be of high quality, reliable, and ideally independently verified by a third party, such as the company's auditor. In the absence of this, we assume that the entire amount of IRE would have been expensed under IFRS and we accordingly deduct the full expenditure from FFO.

74. Adjustment procedures:

- Data requirements:
- U.K. GAAP accounts typically provide little information on the portion of capital spending that relates to renewals accounting, or the related depreciation, which is referred to as the infrastructure renewals charge. The information we use for our adjustments is, however, found in the regulatory cost accounts submitted annually by the water companies to the Water Services Regulation Authority, which regulates all water companies in England and Wales.

- Calculations:
- EBITDA: Reduced by the value of IRE that was capitalized in the period.
- EBIT: Adjusted for the difference between the adjustment to EBITDA and the reduction in the depreciation expense, depending on the degree to which the actual cash spending in the current year matches the planned spending over the five-year regulatory review period.
- Cash flow from operations and FFO: Reduced by the value of IRE that was capitalized in the period.
- Capital spending: Reduced by the value of infrastructure renewals spending that we reclassify to cash flow from operations.
- Free operating cash flow: No impact, as the reduction in operating cash flows is exactly offset by the reduction in capital spending.

E. Cash flow/leverage analysis

75. In assessing the cash flow adequacy of a regulated utility, our analysis uses the same methodology as with other corporate issuers (see "Corporate Methodology"). We assess cash flow/leverage on a six-point scale ranging from ('1') minimal to ('6') highly leveraged. These scores are determined by aggregating the assessments of a range of credit ratios, predominantly 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.

76. The corporate methodology provides 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.

77. If an industry's volatility levels are low, the threshold levels for the applicable ratios to achieve a given cash flow leverage assessment are less stringent, although the width of the ratio range is narrower. Conversely, if an industry has standard levels of volatility, the threshold levels for the applicable ratios to achieve a given cash flow leverage assessment may be elevated, but with a wider range of values.

78. We apply the "low-volatility" table to regulated utilities that qualify under the corporate criteria and with all of the following characteristics:

- A vast majority of operating cash flows come from regulated operations that are predominantly at the low end of the utility risk spectrum (e.g., a "network," or distribution/transmission business unexposed to commodity risk and with very low operating risk);
- A "strong" regulatory advantage assessment;
- An established track record of normally stable credit measures that is expected to continue;
- A demonstrated long-term track record of low funding costs (credit spread) for long-term debt that is expected to continue; and
- Non-utility activities that are in a separate part of the group (as defined in our group rating methodology) that we consider to have "nonstrategic" group status and are not deemed high risk and/or volatile.

79. We apply the "medial volatility" table to companies that do not qualify under paragraph 78 with:

- A majority of operating cash flows from regulated activities with an "adequate" or better regulatory advantage assessment; or
- About one-third or more of consolidated operating cash flow comes from regulated utility activities with a "strong" regulatory advantage and where the average of its remaining activities have a competitive position assessment of '3' or better.

80. We apply the "standard-volatility" table to companies that do not qualify under paragraph 79 and with either:

- About one-third or less of its operating cash flow comes from regulated utility activities, regardless of its regulatory advantage assessment; or
- A regulatory advantage assessment of "adequate/weak" or "weak."

Part III--Rating Modifiers

F. Diversification/portfolio effect

81. In assessing the diversification/portfolio effect on a regulated utility, our analysis uses the same methodology as with other corporate issuers (see "Corporate Methodology").

G. Capital structure

82. In assessing the quality of the capital structure of a regulated utility, we use the same methodology as with other corporate issuers (see "Corporate Methodology").

H. Liquidity

83. In assessing a utility's liquidity/short-term factors, our analysis is consistent with the methodology that applies to corporate issuers (See "Methodology And Assumptions: Liquidity Descriptors For Global Corporate Issuers," Dec. 16, 2014) except for the standards for "adequate" liquidity set out in paragraph 84 below.

84. The relative certainty of financial performance by utilities operating under relatively predictable regulatory monopoly frameworks make these utilities attractive to investors even in times of economic stress and market turbulence compared to conventional industrials. Also, recognizing the cash flow stability of regulated utilities we allow more discretion when calculating covenant headroom. For this reason, when determining if utilities with business risk profiles of at least "satisfactory" meet our definition of "adequate" liquidity, we use slightly lower thresholds:

- A ratio of sources to uses higher than 1.1x, compared with the standard 1.2x;
- Positive sources over uses even if forecast EBITDA declines by 10% (compared with a 15% decline for corporate issuers); and
- No covenant breach even if forecast EBITDA declines by 10% (compared with a 15% decline for corporate issuers).

I. Financial policy

85. In assessing financial policy on a regulated utility, our analysis uses the same methodology as with other corporate issuers (see "Corporate Methodology").

J. Management and governance

86. In assessing management and governance on a regulated utility, our analysis uses the same methodology as with other corporate issuers (see "Corporate Methodology").

K. Comparable ratings analysis

87. In assessing the comparable ratings analysis on a regulated utility, our analysis uses the same methodology as with other corporate issuers (see "Corporate Methodology").

APPENDIX--Frequently Asked Questions

Does Standard & Poor's expect that the business strategy modifier to the preliminary regulatory advantage will be used extensively?

88. Globally, we expect management's influence will be neutral in most jurisdictions. Where the regulatory assessment is "strong," it is less likely that a negative business strategy modifier would be used due to the nature of the regulatory regime that led to the "strong" assessment in the first place. Utilities in "adequate/weak" and "weak" regulatory regimes are challenged to outperform due to the uncertainty of such regulatory regimes. For a positive use of the business strategy modifier, there would need to be a track record of the utility consistently outperforming the parameters laid down under a regulatory regime, and we would need to believe this could be sustained. The business strategy modifier is most likely to be used when the preliminary regulatory advantage assessment is "strong/adequate" because the starting point in the assessment is reasonably supportive, and a utility has shown it manages regulatory risk better or worse than its peers in that regulatory environment and we expect that advantage or disadvantage will persist. An example would be a utility that can consistently earn or exceed its authorized return in a jurisdiction where most other utilities struggle to do so. If a utility is treated differently by a regulator due to perceptions of poor customer service or reliability and the "operating efficiency" component of the competitive position assessment does not fully capture the effect on the business risk profile, a negative business strategy modifier could be used to accurately incorporate it into our analysis. We expect very few utilities will be assigned a "very negative" business strategy modifier.

Does a relatively strong or poor relationship between the utility and its regulator compared with its peers in the same jurisdiction necessarily result in a positive or negative adjustment to the preliminary regulatory advantage assessment?

89. No. The business strategy modifier is used to differentiate a company's regulatory advantage within a jurisdiction where we believe management's business strategy has and will positively or

negatively affect regulatory outcomes beyond what is typical for other utilities in that jurisdiction. For instance, in a regulatory jurisdiction where allowed returns are negotiated rather than set by formula, a utility that is consistently authorized higher returns (and is able to earn that return) could warrant a positive adjustment. A management team that cannot negotiate an approved capital spending program to improve its operating performance could be assessed negatively if its performance lags behind peers in the same regulatory jurisdiction.

What is your definition of regulatory jurisdiction?

90. A regulatory jurisdiction is defined as the area over which the regulator has oversight and could include single or multiple subsectors (water, gas, and power). A geographic region may have several regulatory jurisdictions. For example, the Office of Gas and Electricity Markets and the Water Services Regulation Authority in the U.K. are considered separate regulatory jurisdictions. In Ontario, Canada, the Ontario Energy Board represents a single jurisdiction with regulatory oversight for power and gas. Also, in Australia, the Australian Energy Regulator would be considered a single jurisdiction given that it is responsible for both electricity and gas transmission and distribution networks in the entire country, with the exception of Western Australia.

Are there examples of different preliminary regulatory advantage assessments in the same country or jurisdiction?

91. Yes. In Israel we rate a regulated integrated power utility and a regulated gas transmission system operator (TSO). The power utility's relationship with its regulator is extremely poor in our view, which led to significant cash flow volatility in a stress scenario (when terrorists blew up the gas pipeline that was then Israel's main source of natural gas, the utility was unable to negotiate compensation for expensive alternatives in its regulated tariffs). We view the gas TSO's relationship with its regulator as very supportive and stable. Because we already reflected this in very different preliminary regulatory advantage assessments, we did not modify the preliminary assessments because the two regulatory environments in Israel differ and were not the result of the companies' respective business strategies.

How is regulatory advantage assessed for utilities that are a natural monopoly but are not regulated by a regulator or a specific regulatory framework, and do you use the regulatory modifier if they achieve favorable treatment from the government as an owner?

92. The four regulatory pillars remain the same. On regulatory stability we look at the stability of the setup, with more emphasis on the historical track record and our expectations regarding future changes. In tariff-setting procedures and design we look at the utility's ability to fully recover operating costs, investments requirements, and debt-service obligations. In financial stability we look at the degree of flexibility in tariffs to counter volume risk or commodity risk. The flexibility can also relate to the level of indirect competition the utility faces. For example, while Nordic district heating companies operate under a natural monopoly, their tariff flexibility is partly restricted by customers' option to change to a different heating source if tariffs are significantly increased. Regulatory independence and insulation is mainly based on the perceived risk of political intervention to change the setup that could affect the utility's credit profile. Although political intervention tends to be mostly negative, in certain cases political ties due to state

ownership might positively influence tariff determination. We believe that the four pillars effectively capture the benefits from the close relationship between the utility and the state as an owner; therefore, we do not foresee the use of the regulatory modifier.

In table 1, when describing a "strong" regulatory advantage assessment, you mention that there is support of cash flows during construction of large projects, and preapproval of capital investment programs and large projects lowers the risk of subsequent disallowances of capital costs. Would this preclude a "strong" regulatory advantage assessment in jurisdictions where those practices are absent?

93. No. The table is guidance as to what we would typically expect from a regulatory framework that we would assess as "strong." We would expect some frameworks with no capital support during construction to receive a "strong" regulatory advantage assessment if in aggregate the other factors we analyze support that conclusion.

REVISIONS AND UPDATES

This article was originally published on Nov. 19, 2013. These criteria became effective on Nov. 19, 2013.

Changes introduced after original publication:

- Following our periodic review completed on June 17, 2016, we updated the contact information and criteria references and deleted paragraphs 2, 5, and 6, which were related to the initial publication of our criteria and no longer relevant.
- Following our periodic review completed on June 6, 2017, we updated the contact information and criteria references and clarified paragraphs 4 and 84.
- Following our periodic review completed on June 5, 2018, we updated the contact information and criteria references and renamed the "Revision History" section to "Revisions And Updates."

RELATED CRITERIA AND RESEARCH

Superseded Criteria

- Revised Methodology For Adjusting Amounts Reported By U.K. GAAP Water Companies For Infrastructure Renewals Accounting, Jan. 27, 2010
- Key Credit Factors: Business And Financial Risks In The Investor-Owned Utilities Industry, Nov. 26, 2008
- Assessing U.S. Utility Regulatory Environments, Nov. 7, 2007

Related Criteria

- Reflecting Subordination Risk In Corporate Issue Ratings, March 28, 2018

- Recovery Rating Criteria For Speculative-Grade Corporate Issuers, Dec. 7, 2016
- Methodology: Jurisdiction Ranking Assessments, Jan. 21, 2016
- General Criteria: Rating Government-Related Entities: Methodology And Assumptions, March 25, 2015
- Methodology And Assumptions: Liquidity Descriptors For Global Corporate Issuers, Dec. 16, 2014
- Corporate Methodology, Nov. 19, 2013
- Country Risk Assessment Methodology And Assumptions, Nov. 19, 2013
- Group Rating Methodology, Nov. 19, 2013
- Methodology: Industry Risk, Nov. 19, 2013
- Corporate Methodology: Ratios And Adjustments, Nov. 19, 2013
- Ratings Above The Sovereign--Corporate And Government Ratings: Methodology And Assumptions, Nov. 19, 2013
- Collateral Coverage And Issue Notching Rules For '1+' And '1' Recovery Ratings On Senior Bonds Secured By Utility Real Property, Feb. 14, 2013
- Methodology: Management And Governance Credit Factors For Corporate Entities and Insurers, Nov. 13, 2012
- General Criteria: Principles Of Credit Ratings, Feb. 16, 2011
- Securitizing Stranded Costs, Jan. 18, 2001

These criteria represent the specific application of fundamental principles that define credit risk and ratings opinions. Their use is determined by issuer- or issue-specific attributes as well as Standard & Poor's Ratings Services' assessment of the credit and, if applicable, structural risks for a given issuer or issue rating. Methodology and assumptions may change from time to time as a result of market and economic conditions, issuer- or issue-specific factors, or new empirical evidence that would affect our credit judgment.

S&P Global
Ratings

Research

Criteria | Corporates | General:

Corporate Methodology: Ratios And Adjustments

November 19, 2013

*(**Editor's Note:** On Dec. 4, 2018, 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 making analytical adjustments to companies' financial data.
2. This paragraph has been deleted.

I. SCOPE OF THE CRITERIA

3. These criteria apply to nonfinancial corporate entities we rate globally as well as companies we rate under "Key Credit Factors For Asset Managers," published Dec. 9, 2014, "Key Credit Factors For Financial Market Infrastructure Companies," published Dec. 9, 2014, and "Key Credit Factors For Financial Services Finance Companies," published Dec. 9, 2014. It excludes project finance entities and corporate securitizations because of their unique characteristics.

II. SUMMARY OF THE CRITERIA

4. The analytical adjustments that S&P Global Ratings makes to the reported financial results of companies worldwide allow for globally consistent and comparable financial data.
5. These adjustments also enable better alignment of a company's reported figures with our view of underlying economic conditions. Moreover, they allow a more accurate portrayal of a company's ongoing business, for example, following acquisitions or disposals, through pro forma adjustments.
6. There are general analytical adjustments that apply across multiple industries, but some are industry specific. The general adjustments are described in this criteria article, whereas the details of industry-specific adjustments are in the relevant criteria articles, labeled "Key Credit Factors." A guidance article, "Guidance: Applying "Corporate Methodology: Ratios & Adjustments"," was published Feb. 6, 2018.
7. This paragraph has been deleted.
8. This paragraph has been deleted.

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III. METHODOLOGY AND ASSUMPTIONS

A. Reasons For Analytical Adjustments

9. A company's financial statements are the starting point of our financial analysis. Our analysis of a company's financial statements begins with a review of the accounting features to determine whether the data in the statements accurately measure a company's performance and position relative to that of its peers and the larger universe of corporate entities.

10. Understanding accounting frameworks such as International Financial Reporting Standards (IFRS), U.S. generally accepted accounting principles (U.S. GAAP), and other local or statutory GAAP, is therefore crucial to our corporate rating methodology. It is equally important to understand the differences between the accounting standards and how those differences can affect the reporting of economically equivalent transactions.

11. Accounting rules often provide options for the treatment of certain items, making the comparison of data difficult, even among companies using the same accounting frameworks. Moreover, business transactions have become increasingly complex, and so have the related accounting rules and concepts, which often involve greater reliance on subjective estimates and judgments.

12. In addition, several fundamental shortcomings of reporting requirements could reduce the quality and quantity of information in financial statements. One example relates to recognition and measurement: What circumstances determine whether an item such as a special-purpose entity or a synthetic lease should be reflected on or off a company's balance sheet, and at what value? Another example concerns transparency: What should a company disclose about the nature of off-balance-sheet commitments, compensation arrangements, or related-party transactions?

13. To allow for globally consistent and comparable financial analyses, our rating analysis includes quantitative adjustments to companies' reported results. These adjustments also enable better alignment of a company's reported figures with our view of underlying economic conditions. Moreover, they allow a more accurate portrayal of a company's ongoing business, for example following acquisitions or disposals, through pro forma adjustments.

14. Although our adjustments revise certain amounts that companies report under applicable accounting principles, this does not imply that we challenge the company's application of those principles, the adequacy of its audit or financial reporting process, or the appropriateness of the accounting judgments made to fairly depict the company's financial position and results for other purposes.

15. Rather, the methodology seeks to address a fundamental difference between accounting and analysis. An accountant puts figures together in the form of financial statements. An analyst, by definition, picks the numbers apart and considers the implications of their components as well as the reported totals. It is rarely possible to completely recast a company's financial statements (so we do not attempt to apply double-entry accounting), but adjustments improve the relevance and consistency of the financial ratios we use in our analysis.

B. How And When Adjustments Apply

16. Certain adjustments pertain broadly to all industries because they apply to many types of companies at all times. These include adjustments for operating leases and postretirement employee benefits. Other adjustments may pertain only to a certain industry. Industry-specific adjustments are in the relevant criteria articles labeled Key Credit Factors.

17. In rare circumstances, consistent with the principles underpinning our explicit adjustments, we may make nonstandard analytical adjustments to depict a transaction differently from the reported financial statements or simply to increase the comparability of financial data across industries. For example, we may treat certain cash-raising transactions as akin to borrowing if they do not follow the standard trade terms of an industry and are in lieu of conventional debt issuance.

18. Our use of analytical adjustments depends on whether events and items a company reports could have a material impact on our view of the company's creditworthiness. Therefore, we may not make certain adjustments if the related amounts are too small to be material to our analysis.

19. Additionally, the transparency or extent of a company's disclosure in its financial statements may preclude adjustments to reported figures. For example, in many industries there is insufficient disclosure to allow full adjustments to income for inventory figures that reflect the "last in first out" valuation method.

C. Adjusted Debt Principle

20. Many of the analytical adjustments we make result from our view of certain implicit financing arrangements as being debt-like. Our depiction of these transactions as debt, which is often contrary to how a company reports them, affects not only the quantification of debt but also the measures of earnings and cash flows we use in our analysis. Therefore, it is instructive to understand the principles underpinning our adjustments to debt.

21. In general, items that we add to reported debt include:

- Incurred liabilities that provide no future offsetting operating benefit (such as unfunded postretirement employee benefits and self-insurance reserves);
- On- and off-balance-sheet commitments for the purchase or use of long-life assets (such as lease obligations) or businesses (such as deferred purchase consideration) where the benefits of ownership are accruing to the company; and
- Amounts relating to certain instances when a company accelerates the monetization of assets in lieu of borrowing (such as through securitization or factoring of accounts receivable).

22. Many of the items that increase debt under the adjustments are probable future calls on cash, but not all future calls on cash are forms of debt. We do not consider a company's future commitments to purchase goods or services it has not received as akin to debt. This is because these are executory contracts, which means a counterparty must still perform an action and the benefits of ownership have yet to accrue to the company.

23. Not all incurred liabilities are added to reported debt. The adjusted debt figure excludes short-term obligations, such as accounts payable and other accrued liabilities, because we regard them as trade credit rather than the incurrence of long-term debt. However, to the extent that a company defers payment beyond the term customary for its supply chain, we may add that amount to debt.

24. Additionally, we may exclude certain obligations a company reports as debt. This is, for example, because we perceive those obligations as equity rather than debt.

25. Companies' recognition and measurement of the numerous financing mechanisms vary. Some are reported at amortized cost (for example, issued debt), others at fair value (such as for contingent consideration), and others somewhere in between (as for pension obligations). Companies may also exclude certain financing from the balance sheet (such as operating leases). Ideally, we add to reported debt the amounts that approximate the amortized cost of commitments we consider

to represent a debt, although from a practical standpoint this is not always possible.

26. Lastly, we may reduce the adjusted debt figure by netting surplus cash (see paragraphs 237-251).

Adjusted Debt Principle Frequently Asked Questions

The adjusted debt principle mentions that "to the extent that a company defers payment beyond the term customary for its supply chain, we may add that amount to debt." Under what circumstances would you apply this and how would it be calculated? And how does S&P Global Ratings treat reverse factoring arrangements?

27. If we believe that an issuer's trade payable days are well beyond the range of what would be deemed normal trade terms for the industry, and the improvement to cash flow/leverage measures that results from the stretch in trade payables is deemed to be material, then we'd make an adjustment. In the case of reverse factoring--which we define as financing initiated by a company in order to help its suppliers finance their receivables--we may make a debt adjustment for the customer, if we believe that the trade payable days are well beyond the range of what would be deemed normal trade terms for the industry (see above). However, we would not make an adjustment to debt for the supplier if the supplier has no contractual commitment to meet the customer's obligations and we are confident there is no moral recourse or reputational risk to the supplier as part of the reverse factoring program.

Do structured settlements (e.g., tax settlements and tobacco settlements) qualify as debt under the adjusted debt principle?

28. Yes. The adjusted debt principle says that we add to debt "incurred liabilities that provide no future offsetting operating benefit." Structured settlements of dispute, whether with commercial or governmental entities, fit this principle and are added to debt (on a discounted basis if feasible).

Under the adjusted debt principle, do you treat a redeemable minority interest as debt?

29. Yes, but only when the redemption is outside of the control of the issuer (i.e., the minority interest holder has a put option on the subsidiary's shares as opposed to the issuer having a call option to repurchase the shares) and we fully consolidate the subsidiary in our analysis. The liability would be added to our adjusted debt figure based on the adjusted debt principle (see paragraph 21) since the subsidiary is fully consolidated into the parent's accounts and, therefore, the benefits of ownership are accruing to the issuer.

D. Financial Ratios

30. The components of our ratios are derived from figures in companies' financial statements, subject to adjustments (subsequently referred to as "all applicable adjustments") defined in this criteria article and in the applicable Key Credit Factors articles. The definitions of the components are in the glossary (see paragraphs 261-276).

E. Analytical Adjustments

31. To calculate our financial ratios, we may make analytical adjustments related to the following:

- 1. Adjusted debt and interest

a) Accrued interest and dividends

b) Debt issuance costs

c) Debt at fair value

d) Fair-value hedging

e) Convertible debt

f) Foreign currency hedges of debt principal

g) Initial measurement of debt

- 2. Asset-retirement obligations
- 3. Capitalized development costs
- 4. Capitalized interest
- 5. Financial and performance guarantees
- 6. Hybrid capital instruments
- 7. Inventory accounting methods
- 8. Litigation
- 9. Multi-employer pension plans
- 10. Nonoperating activities and nonrecurring items
- 11. Leases
- 12. Postretirement employee benefits and deferred compensation
- 13. Scope of consolidation
- 14. Securitization and factoring
- 15. Seller-provided financing
- 16. Share-based compensation expenses
- 17. Surplus cash
- 18. Workers' compensation and self-insurance

1. Adjusted debt and interest

32. In reflecting reported debt in our metrics, our objective is to use an amortized cost method, consistent with the amortized cost method under accounting standards like IFRS and U.S. GAAP. This method reflects debt as the amount of the original proceeds, plus interest calculated using the effective interest rate, minus payments of principal and interest. The effective interest rate is equivalent to the yield to maturity of a bond and takes into account the compounding of interest.

This rate is consistent over the term of a fixed-rate debt instrument. For variable-rate debt, the effective interest rate after issuance will vary each time the coupon rate is reset. Under the amortized cost method, interest expense is measured at the full cost of the borrowing.

33. However, companies do not always report debt in this manner. Several factors can distort the measurement of debt, such as the exclusion of accrued and unpaid interest, the inclusion of debt-issuance costs, reporting debt at fair value, applying fair-value hedge accounting, and the method of accounting for convertible instruments. The use of different measures for debt may also result in interest expense amounts that differ from those under the amortized cost method. We make adjustments to the measurement of reported debt and interest in certain circumstances as described in paragraphs 34 to 73.

a) Accrued interest and dividends

34. We reclassify as debt any accrued interest that is not already included in reported debt. This adjustment enables a more consistent comparison among companies' financial obligations, by eliminating the disparity arising from differences in the frequency of interest payments (for example, quarterly rather than annually) or in payment due dates (for example, Jan. 1 or Dec. 31).

35. Additionally, we treat accrued interest or dividends on hybrid securities as debt. Deferred cumulative interest--whether the deferral was optional or mandatory--is also treated as debt.

Adjustment procedures

36. Data requirements:

- Reported accrued interest on debt, and dividends on hybrid securities, as of the balance-sheet date.

37. Calculations:

- Debt: Add to reported debt any accrued interest on debt and any dividends on hybrid securities.

b) Debt issuance costs

38. Debt issuance costs are a form of prepaid interest, which companies record on the balance sheet and amortize as an interest expense over the term of the debt. We regard them as part of the total cost of borrowing and therefore do not deduct the amortization of debt issuance costs from reported interest.

39. However, there are different approaches to where these amounts are reported on the balance sheet. A company may either report debt issuance costs as a separate asset, or deduct them from reported debt as a "contra liability" (that is, a liability with a debit balance, rather than the typical credit balance). We look to exclude these prepaid amounts from debt, when reported as a contra liability, to attain comparability. Similarly, if a company deducts premiums paid for modifications or redemptions from debt, we exclude those amounts from debt if practicable.

Adjustment procedures

40. Data requirements:

- Amount of debt issuance costs or modification premiums reported as a contra liability, which

reduces reported debt.

41. Calculations:

- Debt: Add to reported debt the amount of debt issuance costs or modification premiums reported as a contra liability.

c) Debt at fair value

42. In certain circumstances, a company may report debt at fair value instead of at amortized cost. In such cases, we adjust the reported figure to reflect the amortized cost method. If the amortized cost figure is not shown in the financial statements, we may estimate it, based on the amount originally received or the face value plus accrued but unpaid interest.

43. In addition, we seek to exclude gains or losses from the revaluation of debt at fair value from our measure of interest expense. However, from a practical standpoint, if a company does not disclose these figures, it is difficult to adjust interest expense for the difference between the reported figure and the effective rate achieved by the amortized cost method.

44. When this difference is material, we may make estimates to arrive at a figure that approximates interest expense, exclusive of mark-to-market effects. We would make such an estimate by, for example, multiplying the face value of the obligation by an interest rate estimated from other similar debt instruments.

Adjustment procedures

45. Data requirements:

- The amount of debt using the amortized cost method (from the financial statements) or, if this is not available, an estimate based on the amount originally received or the face value plus accrued but unpaid interest.
- The amount of any charge or benefit for debt reported at fair value and recorded as an interest expense.

46. Calculations:

- Debt: Increase or decrease reported debt by the difference between the reported amount and our estimate of the amortized cost.
- Interest expense: Increase or decrease reported interest expense by the amount of any charge or benefit for debt reported at fair value and recorded as an interest expense.

d) Fair-value hedging

47. A company may issue fixed-rate debt and at the same time enter a derivative contract to synthetically create a variable-rate debt instrument. If all necessary conditions are met, companies may elect to apply fair-value hedge accounting to such an arrangement. The effect of this accounting approach is that a company would report both the derivative instrument and the debt (but only the risk being hedged) at fair value. Changes in the fair values of both items from one reporting date to the next are netted off against each other in the income statement.

48. When a company applies fair-value hedge accounting to debt, we adjust the reported debt figure

to reflect the amortized cost method.

49. It is not necessary to adjust interest expense in this case because the fair-value adjustments the company makes in the income statement generally offset each other, and settlements under the derivative are reported as an interest expense.

Adjustment procedures

50. Data requirements:

- The debt figure expressed as the amortized cost amount in the financial statements.
- If this is not available, we (1) determine the amount of the fair-value adjustment made to reported debt as a consequence of hedge accounting; or (2) estimate the adjustment amount using the fair value of the related derivative instrument; or (3) adjust debt to reflect the amount originally received as proceeds or the face value plus accrued and unpaid interest.

51. Calculations:

- Debt: Increase or decrease debt by the difference between the reported amount and our estimate of debt under the amortized cost method.

e) Convertible debt

52. Due to their complex nature, we take a slightly different approach to measuring convertible debt instruments that give the holder the option of converting the debt into shares. Because of this option, the coupon rate on such obligations is normally lower than market interest rates.

53. Under U.S. GAAP and IFRS the value of a convertible debt obligation is split into a debt component and an equity component (following the split-accounting method).

54. The debt component is the fair value of a similar debt obligation without the conversion feature. This amount is accounted for under the amortized cost method and increases toward the face value of the convertible debt instrument until maturity or conversion.

55. The equity component (the value of the conversion feature) represents the difference between the debt component and the issue price of the convertible debt instrument. The value of the equity portion remains constant.

56. Although uncommon, we may regard a convertible debt instrument as having equity content in our analysis, depending on its terms and conditions and our view of the likelihood that the debt holder will convert it to equity (see "Hybrid Capital Handbook: September 2008 Edition," published on Sept. 15, 2008). If we consider such an instrument to have high equity content, we reclassify it as equity. If we consider that there is minimal equity content, we treat the instrument fully as debt.

57. We typically add to reported debt the unamortized value of the discount created by the conversion option, bringing the value of such an instrument back to par.

58. In our ratios, we seek to include the full effective cost of the obligation as interest. We believe the interest resulting from the split-accounting method achieves this goal and therefore no adjustment is necessary.

59. If a company does not use split accounting we estimate the cost of debt by increasing reported interest expense when the difference in value under the other method is material.

Adjustment procedures

60. Data requirements:

- The face value of convertible debt instruments or the remaining unamortized discount as of the balance-sheet date.
- The amount of interest expense reported in the period, if we consider the instruments to have high equity content.

61. Calculations:

- Debt: Increase reported debt by the amount necessary to bring an instrument back to par. If an instrument has high equity content according to our criteria, we deduct the reported amount from debt.
- Interest: Subtract from interest the amount of interest expense on convertible debt considered to have high equity content.

f) Foreign currency hedges of debt principal

62. Foreign-currency-denominated debt is typically included in consolidated debt on the balance sheet at the amount of foreign currency, translated at the spot rate on the balance-sheet date.

63. Many companies hedge the foreign currency exposure by entering into derivatives that fix the foreign exchange rate that will apply on the debt's repayment date. To better reflect the economics of such transactions, we adjust the reported amount of foreign-currency-denominated debt to reflect the net amount required for repayment as a result of the hedge.

64. We may not make this adjustment if other factors can neutralize the benefit of the derivative. These factors include concerns about risk relating to the derivative counterparty (such as when a derivative counterparty has credit quality equivalent to 'BB+' or lower) and other derivative contracts that can offset the benefit of the derivative hedge.

65. The adjustment amount results from restating the hedged debt principal using the "locked-in" foreign exchange rate achieved through the derivative. The adjustment amount is broadly equivalent to the fair value of a derivative representing a foreign currency hedge of debt principal, but may differ for various reasons, such as because the derivative's fair value also reflects liquidity and counterparty risk.

66. We use the derivative's value as a proxy for our adjustment amount if retranslation of the debt balance is not practical because of insufficient information.

67. However, companies often hedge the foreign currency exposure related to debt principal and interest simultaneously. In this instance, we take care to adjust only for the fair value of the derivative that hedges the principal, and not the portion that hedges the interest.

Adjustment procedures

68. Data requirements:

- The amount of hedged foreign-currency-denominated debt (from the balance sheet); and
- The locked-in foreign exchange rate (or locked-in principal value of outstanding debt) achieved via the hedge transaction.

- Alternatively, the fair value of the derivative that applies only to the principal (that is, excluding any fair value associated with hedged interest payments).

69. Calculations:

- Debt: Retranslate foreign-currency-denominated debt using the locked-in foreign exchange rate (or adjust the balance-sheet value of debt to equal the locked-in principal value). Alternatively, add to or subtract from reported debt the fair value of the hedging instrument on the balance-sheet date.

g) Initial measurement of debt

70. We subscribe to amortized cost as the preferred method of measuring debt after debt is issued. However, in certain circumstances, we may take an alternative view toward a company's initial measurement, and therefore ongoing measurement, of a particular debt instrument, as described in the next paragraph.

71. Companies usually initially measure debt at an amount equal to the net proceeds received at issuance. However, there are other methods of initial measurement of debt that we believe can in certain instances distort the initial and ongoing carrying value of debt. This may include the methods applied to debt assumed in an acquisition, or debt that has been modified or is part of a distressed exchange. When our judgment about the initial measurement (and therefore ongoing measurement) of a debt instrument differs from a company's, we may adjust debt, funds from operations (FFO), and interest expense if practical and the effect is material.

Adjustment procedures

72. Data requirements:

- Initial measurement of the applicable debt instrument.
- Our assumed measurement of the applicable debt instrument.
- Interest expense associated with the applicable debt instrument that is reported during the period.
- Interest expense for the period, based on our assumed initial measurement of the applicable debt instrument.

73. Calculations:

- Debt: Increase or decrease debt by the difference between the reported amount of debt and our estimate of amortized cost based on our assumed initial measurement.
- Interest expense: Increase or decrease interest expense by the difference between reported interest expense and the estimated interest expense based on our assumed initial measurement.
- FFO: Increase or decrease FFO by the difference between reported interest expense and the estimated interest expense based on our assumed initial measurement.

2. Asset-retirement obligations

74. Asset-retirement obligations (AROs) are legal obligations associated with a company's retirement

of tangible long-term assets. Examples of AROs include the cost of plugging and dismantling oil and gas wells, decommissioning nuclear power plants, and treating or storing spent nuclear fuel and capping and restoring mining and waste-disposal sites.

75. We treat AROs as debt-like obligations, although several characteristics distinguish them from conventional debt, including timing and measurement uncertainties.

76. A company's liability for AROs is independent from the amount and timing of the cash flows the associated assets generate. In certain situations, companies fund AROs by adding a surcharge to customer prices; or the AROs are paid by third parties, such as a state-related body. In these cases there would typically be no debt adjustment.

77. The measurement of AROs involves a subjective assessment and is therefore imprecise. We generally use the reported ARO figures, but we may make adjustments for anticipated reimbursements, asset-salvage value, or any of the company's assumptions we view as unrealistic. Those assumptions may include the ultimate cost of abandoning an asset, the timing of asset retirement, and the discount rate used to calculate the balance-sheet value.

78. Under most accounting standards, company balance sheets show the ARO figure before tax, and any expected tax benefits as a separate deferred tax asset on the balance sheet (because the associated ARO-related asset is subject to depreciation). Tax savings that coincide with settling ARO payments (as opposed to their provisioning), reduce the cash cost of the AROs, and we factor them into our analysis to the extent that we expect the company to generate taxable income in the same tax jurisdiction.

79. Our approach is to add AROs--after deducting any dedicated retirement-fund assets or provisions, salvage value, and anticipated tax savings--to debt. We generally adjust for the net aggregate funding position, even if some specific obligations are underfunded and others are overfunded. The adjustment amounts are tax effected (that is, adjusted for any tax benefit the company may receive) if the company will likely be able to use tax deductions.

80. The accretion of an ARO that reflects the time value of money is akin to noncash interest and similar to postretirement benefit interest charges. Accordingly, we reclassify the accretion (net of earnings on any dedicated funds), using a floor of zero for the net amount as interest expense, in analyzing the income and cash flow statements.

81. If dedicated funding is in place and the related returns are not entirely reflected in reported earnings and cash flows, we add the unrecognized portion of the related returns to earnings and cash flows. We reclassify the recognized portion to interest expense and cash flow from operations (CFO).

82. We treat cash payments for the abandonment of assets and contributions to dedicated funds that exceed ARO interest costs (after deducting ARO fund earnings) as repayment of the ARO. We therefore add these amounts to FFO and CFO.

83. We treat cash payments for the abandonment of assets and contributions to dedicated funds that are less than the ARO interest costs (after deducting ARO fund earnings) as the incurrence of a debt obligation. We therefore deduct the shortfall in payments from FFO and CFO.

Adjustment procedures

84. Data requirements:

- The ARO figure (from the financial statements or S&P Global Ratings' estimate).
- Any associated assets or funds set aside for AROs.
- ARO interest costs irrespective of whether charged to operating or financing costs.

- The reported gain or loss on assets set aside for funding AROs.
- Any cash payments for AROs.

85. Calculations:

- Debt: Add net ARO to debt (net ARO equals the reported or estimated ARO minus any assets set aside to fund AROs, multiplied by 1 minus the tax rate).
- EBITDA: Add ARO interest costs included in operating costs.
- Interest: Deduct ARO interest costs (net of ARO fund earnings) from reported operating expenses, if included there, and add to interest expense.
- FFO: Our definition of FFO is EBITDA minus net interest expense minus current tax expense, after adjusting each of the three components according to our criteria. EBITDA and interest expense are adjusted as described in the previous two bullet points. The figure to adjust the current tax expense results from multiplying the applicable tax rate by the net result of (1) new provisions, plus (2) interest costs, minus (3) the actual return on funded assets, minus (4) fund contributions or ARO payments in the corresponding period. The net effect of these adjustments is that FFO is reduced by net ARO interest and adjusted for tax effects.
- CFO: Subtract the gain (or add the loss) on assets set aside for AROs from interest expense. Then compare the resulting amount with payments on the AROs to arrive at the excess contribution or shortfall to add to, or subtract from, CFO. Additionally, we adjust CFO for tax effects in a similar way as for FFO.

3. Capitalized development costs

86. In financial reporting, research costs are almost universally treated as an expense; however the treatment of development costs varies. U.S. GAAP, with limited exceptions (such as for software development costs in certain instances), requires companies to treat development costs as an expense, whereas IFRS allows such costs to be capitalized under certain conditions. In addition to these differences between accounting regimes, there is an element of subjectivity in determining when development costs are capitalized, which can lead to a disparity among companies' reported figures.

87. To enhance the comparability of data, we adjust reported financial statements when a company capitalizes development costs, if the information is available and the amounts material. The adjustment aims to treat the capitalized development costs as if they had been expensed in the period incurred.

88. We aim to adjust EBITDA, FFO, and CFO for the amount of development costs capitalized during the year. This is because a company's position in its product life cycle has a great effect on its current spending relative to the amortization of previously capitalized development costs. However, in the absence of accurate figures, we use the annual amortization figure reported in the financial statements as a proxy for the current year's development costs. To the extent that the amortization of previously capitalized costs equals current development spending, there is no impact on operating expenses and EBIT because these amounts are after amortization. However, there is an impact on EBITDA, FFO, and CFO, which are calculated before amortization.

89. We do not carry through the adjustment to the cumulative asset (and equity) accounts, weighing the complexity of such adjustments against their typically limited impact on amounts that are secondary to our analysis.

90. We make one exception to this approach, and that is for capitalized development costs relating to

internal-use software. Consistent with our goal of achieving comparability, we do not want to create a gap between companies that develop software for internal use and those that purchase software and capitalize equivalent products. We therefore attempt to exclude such costs from our adjustment.

Adjustment procedures

91. Data requirements:

- Amount of development costs incurred and capitalized during the period, excluding, if practical, capitalized development costs for internal-use software.
- Amortization amount for relevant capitalized costs.

92. Calculations:

- EBITDA, FFO, and CFO: Subtract the amount of net capitalized development costs or, alternatively, the amortization amount for that period.
- EBIT: Subtract (or add) the difference between the spending and amortization in the period.
- Capital expenditures: Subtract the amount capitalized in the period.

4. Capitalized interest

93. Under most major accounting regimes, financial statements show interest costs related to the construction of fixed assets as capitalized, that is, as a component of the historical cost of capital assets. This can obscure the total interest that has been incurred during the period, hindering comparisons of the interest burden of companies that capitalize and do not capitalize interest.

94. Under our methodology, interest costs that have been capitalized are adjusted and included as interest expense in the period in which the interest was incurred.

95. In the statement of cash flows, we reclassify any capitalized interest shown as an investing cash flow to operating cash flow. This adjustment reduces CFO and capital expenditures by the amount of interest capitalized in the period. Free operating cash flow remains unchanged.

96. We make no adjustment for the cumulative effect on the value of property, plant, and equipment resulting from any prior-year interest capitalization, tax effects, or depreciation, due to disclosure limitations and the minimal analytical benefit this would provide.

Adjustment procedures

97. Data requirements:

- The amount of capitalized interest during the period.

98. Calculations:

- Interest expense: Add amount of interest capitalized during the period.
- FFO: Our definition of FFO is EBITDA minus net interest expense minus current tax expense, after adjusting each of the three components according to our criteria. Net interest expense includes the interest capitalized during the period, as described in the previous bullet point. Therefore, FFO is reduced by the amount of interest capitalized in the period.

- CFO: Subtract the amount of capitalized interest recorded as an investing cash flow.
- Capital expenditures: Subtract the amount of capitalized interest recorded as an investing cash flow.

5. Financial and performance guarantees

a) Financial guarantees

99. A financial guarantee is a promise by one party to assume a liability of another party if that party fails to meet its obligations under the liability. A guarantee can be limited or unlimited. If a company has guaranteed liabilities of a third party or an unconsolidated affiliate, we may add the guaranteed amount to the company's reported debt.

100. We do not add the guaranteed amount to debt if the other party is sufficiently creditworthy (that is if the other party has credit quality equivalent to 'BBB-' or higher) in its own right, or we believe that the net amount payable if the guarantee were called would be lower than the guaranteed amount. This could happen, for example, if the company that has provided the guarantee has been counter-guaranteed by another party. In this case, we add the lower amount to debt. We do not adjust interest expense because the guarantor is only obliged to service interest if called upon to meet the guarantee.

b) Performance guarantees

101. A performance guarantee is a promise to provide compensation if a company does not complete a project or deliver a product or service according to the agreed terms. An insurance company or bank may issue such guarantees on a company's behalf. Construction companies often provide performance guarantees to meet a condition in a work contract. If the project, product, or service is not completed as agreed, the customer can call on the performance guarantee.

102. We do not regard performance guarantees as debt if a company is likely to maintain sufficient work or product quality to avoid making large payments under those guarantees.

103. A company's past record of payments under performance guarantees could indicate the likelihood of future payments under such guarantees. Only if this payment history suggests a high likelihood of future payments would we estimate a potential liability and add that amount to debt.

Adjustment procedures

104. Data requirements:

- The value of guarantees on and off the balance sheet, net of any tax benefit.

105. Calculations:

- Debt: Add to debt the amount of on- and off-balance-sheet debt-equivalent related to guarantees, net of any tax benefit.
- Equity: Subtract from equity the amount of off-balance-sheet debt-equivalent related to guarantees, net of any tax benefit.

6. Hybrid capital instruments

106. Hybrid capital instruments (or hybrids) have features of both debt and common equity. We classify a corporate hybrid as having minimal, intermediate, or high equity content depending on the specific terms and conditions of the instrument and our view of whether the issuer intends to maintain the instrument as loss-bearing capital. Our classification of equity content determines the type of adjustments we make to a company's reported figures.

107. A company's issuance of conventional hybrids, in an aggregate amount of up to 15% of capitalization, can be eligible for equity credit, which means that we exclude at least some of the hybrid instrument and its interest costs from our debt and interest measures (see "Hybrid Capital Handbook: September 2008 Edition," published on Sept. 15, 2008). We exclude bonds that are mandatorily convertible into shares from this calculation. Capitalization is equal to balance-sheet equity, plus debt and hybrids, after adjusting for goodwill and making all applicable adjustments. The capitalization calculation excludes any goodwill asset that exceeds 10% of total assets.

108. The treatment of hybrids for the purposes of our leverage and debt service ratio calculations depends on the equity content classification:

- Hybrids that have high equity content are treated as equity and the interest or dividends are treated as dividends.
- For hybrids with intermediate equity content, 50% of the principal is treated as debt and 50% as equity (excluding unpaid accrued interest or dividends, which are added to debt). Similarly, we treat one-half of the period's interest or dividends as dividends and one-half as interest. There is no adjustment to related taxes.
- Hybrids with minimal equity content are treated entirely as debt and all interest or dividends as interest.

109. In all cases, accrued coupon payments are treated as debt.

110. The criteria for adjustments related to convertible debt are in paragraphs 52-61 of this article and in "Hybrid Capital Handbook: September 2008 Edition," published on Sept. 15, 2008.

Adjustment procedures

111. Data requirements:

- Documentation for reported hybrid capital instruments.
- Amount of hybrids, debt, goodwill, and shareholders' equity on the balance sheet.
- Amount of associated interest or dividend expense and interest or dividend payments in the period.
- Amount of accrued unpaid interest or dividends.

112. Calculations:

- Hybrids reported as equity: (1) If we classify equity content as high, there is no adjustment to equity. (2) If we classify equity content as intermediate we deduct 50% of the value from equity and add it to debt. We also deduct 50% of the dividend accrued during the accounting period and add it to interest expense, thereby reducing FFO. Likewise, 50% of any dividends paid are deducted from CFO. (3) If we classify equity content as minimal, we deduct the full principal amount from equity and add it to debt. We add associated dividends to interest expense,

thereby reducing FFO. Likewise dividends paid are added to interest paid, thereby reducing CFO.

- Hybrids reported as debt: (1) We deduct the value of hybrids with high equity content from debt and add it to equity. We also deduct the associated interest charge from interest expense and add it to dividends, thereby removing it from FFO. Likewise, interest paid is added to CFO and dividends. (2) If we classify equity content as intermediate, we deduct 50% of its value from debt and add it to equity. We also deduct 50% of the associated interest expense from interest expense and add it to dividends accrued, thereby increasing FFO. 50% of interest paid is added to CFO. (3) If equity content is minimal there is no adjustment because we treat such hybrids as debt.
- Debt: We add to debt the accrued and unpaid interest and dividends on all hybrids.

7. Inventory accounting methods

113. Accounting frameworks allow companies a choice of inventory accounting method, and this leads to reporting differences within industries and among regions. The disparity is more pronounced in inventory-intensive industries, particularly when the price of inventory (such as raw materials) fluctuates significantly. This is because the method a company uses influences the amount of inventory it can charge as an expense, and therefore also its taxable income. The inventory accounting methods under U.S. GAAP are "first in first out" (FIFO), "last in first out" (LIFO), weighted-average cost, and specific identification.

114. Similar costing methods exist in other generally accepted accounting principles. However, many frameworks, including IFRS, do not allow LIFO. The tax treatment is a key factor in a company's choice of inventory costing method and it varies significantly by jurisdiction. For example, LIFO is permitted for tax-reporting purposes in the U.S., and a company that uses it for tax purposes must also use it for preparing its financial statements.

115. The greatest potential disparity in financial results comes from using FIFO as opposed to LIFO. When inventory prices are rising, the LIFO method results in lower income than under FIFO because the most recent and higher cost of goods is transferred to the income statement, while the remaining inventory is shown at the older, lower cost on the balance sheet. Furthermore, LIFO results in improved cash flows for that period because income taxes are lower as a result of the lower taxable income.

116. Apart from hindering comparison between different companies, the different methods can also obscure a company's true performance record. For example, LIFO arguably allows for a more realistic depiction of current costs on the income statement, but showing inventory at older costs distorts the balance-sheet position. The FIFO method, on the other hand, provides a more up-to-date valuation of inventory on the balance sheet, but can significantly understate the cost of goods sold during a period of rising prices and overstate income.

117. We adjust the reported inventory figures if material to our analytical process. Companies that use LIFO have to disclose what the inventory valuation would be under FIFO, through an account called the LIFO reserve that represents the cumulative effect on gross profit from the use of the LIFO method. For such companies, we add the balance in the LIFO reserve to the reported inventory. This enables us to reflect inventory balances at approximately the current market value. A corresponding adjustment, net of tax, is made to equity.

118. We do not adjust the income statement when a company uses LIFO because we believe the LIFO method results in costs of goods sold that closely reflect replacement-cost values.

119. Typically, there are no adjustments to the income statement for companies that use FIFO or the

average cost method because the data are generally not available.

120. When a company using the LIFO method has inventory balances that decrease over a period of time, LIFO liquidation may result. This means that older layers of inventory are turned into cost of goods sold as a result ("older" refers to inventory in terms of their accounting and not necessarily in a physical sense). Assuming an inflationary environment, the cost of goods sold is reduced and, as a result, income increases because of LIFO liquidation gains. To capture the true sustainable profitability of a company, we generally exclude the gains generated from LIFO liquidation from our profitability measures.

Adjustment procedures

121. Data requirements:

- The balance of the LIFO reserve account.
- LIFO liquidation gains from the income statement.

122. Calculations:

- Assets: Add the LIFO reserve to inventory.
- Equity: Add the LIFO reserve (after tax) to equity.
- EBITDA, EBIT, and FFO: Deduct LIFO liquidation gains from EBITDA, EBIT, and FFO.

8. Litigation

123. If a company is a defendant in a major lawsuit, we may adjust its debt to account for the potential cost when an adverse outcome (payment of a cash settlement or damages) is probable or has materialized. If the estimated or known amount of the potential payment is material in relation to the company's cash flow or leverage ratios, we add that figure to reported debt. Before doing so, we may reduce the potential payment to reflect the expected reimbursement from legal insurance coverage, cash held in reserve, and extended payment dates; or add accruing interest penalties.

124. The adjusted debt figure therefore includes the present value of the net estimated payout, on an aftertax basis.

125. To achieve the difficult task of sizing the litigation exposure, we may use as a reference any resolved lawsuits that can serve as benchmarks. We also consider the company's reported litigation reserves and the different thresholds for their recognition under IFRS and U.S. GAAP.

126. Because the full financial effects of a lawsuit are difficult to quantify accurately, the analysis also involves techniques such as calculating ranges of outcomes or performing a sensitivity analysis. The results of these techniques can indicate, for example, what effect even higher potential payouts would have on a company's financial profile.

127. If, to allow for a possible adverse financial judgment, a company has placed cash in escrow with the courts or is expected to do so; or if it had to provide a financial guarantee to the courts, we incorporate the impact of this actual or contingent commitment into the liquidity assessment.

Adjustment procedures

128. Data requirements:

- An estimate or actual amount of the litigation exposure.

129. Calculations:

- Debt: Add the estimated or actual amount of litigation exposure (net of any applicable tax deduction) to reported debt.
- Equity: Subtract the amount of estimated litigation exposure considered to be debt-like that exceeds the accrued litigation exposure, if any.

Litigation Frequently Asked Question

How does S&P Global Ratings capture the risk associated with a large legal settlement, if not quantitatively captured as part of an adjustment to debt?

130. As stated in paragraphs 191 and 192 of "Corporate Methodology," we consider as part of our Comparable Ratings Analysis factors that may not be already or fully captured elsewhere in our analysis, such as this type of risk. 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. In particular, we could assign a negative assessment for Comparable Ratings Analysis, depending on how well (or not) a company identifies, manages, and reserves for contingent risk exposures that can arise if guarantees are called, derivative contract break clauses are activated, or substantial lawsuits are lost.

9. Multi-employer pension plans

131. Some companies in the U.S. participate in multi-employer, defined-benefit pension plans on behalf of their employees. Such companies are predominantly in the transportation, building, construction, manufacturing, hospitality, and grocery sectors. The pension plans are often are referred to as "Taft-Hartley" plans because they fall under the Taft-Hartley Labor Act (officially termed the "The Labor Management Relations Act") of 1947.

132. A multi-employer pension plan is forged by a collective bargaining agreement between companies that generally operate in the same sector and the union(s) that represent the sector's workers. These arrangements share many of the attributes of single-employer plans.

133. We regard the liability associated with a funding deficit on multi-employer pension plans as debt, as we do deficits on single-employer defined-benefit, postretirement obligations. For practical reasons, and because of a lack of pertinent data, we generally do not adjust cash flow measures in our analysis unless significant catch-up contributions are made; nor do we generally adjust our profitability measures.

a) Unique characteristics of multi-employer pension plans

134. Multi-employer pension plans pose some unique challenges, mainly because they are complex, and information about them in companies' financial statements is limited. For example, unlike for single-employer plans, there is generally no information on a company's potential share of a shortfall under a multi-employer plan, unless that company is withdrawing from the plan. Further, because the plans are collective, the sponsoring companies may become liable beyond their otherwise pro rata share of the obligation if another company becomes insolvent.

135. These challenges make it difficult to estimate the amount each company might have to pay to meet current and future obligations under such plans. It is therefore crucial to gather additional

information that is timely and relevant, including the specific features of the plan and the collective bargaining process.

136. A company participating in a multi-employer plan faces problems that a company sponsoring a single-company pension plan does not, in particular if it wants to withdraw from such a plan. Companies that withdraw from an underfunded multi-employer plan may incur a withdrawal liability representing their pro rata shares of the total underfunded pension obligation. Determining the withdrawal liability amount accurately is difficult because statutes provide several different ways to calculate it. Moreover, special rules in certain industries (such as construction, entertainment, and trucking) determine the withdrawal liability trigger points and the size of the obligation. For example, the withdrawal liability may be limited in cases such as a bona fide sale of substantially all of the employer's assets or the company's liquidation or dissolution.

137. A solvent company that exits an underfunded multi-employer pension plan generally continues to make payments for its share of the liabilities for as many years as the Employee Retirement Income Security Act specifies. However, if a company is insolvent, the other participating companies must assume all of its obligations. For single-employer plans, the sponsoring company is liable only for the underfunded portion of its own plan.

138. All of these factors make it difficult to estimate the amount of a company's potential liability under a multi-employer plan to add as debt. To do so, we consider the facts and circumstances associated with the plan. For example, instead of a pro rata share of the collective obligation, we may estimate a lower amount if we view it as plausible that the plan's trustees could reduce the plan's total liability over time by decreasing the level of future employee benefits. We primarily base this determination on information from the company and publicly available data.

b) Accounting and disclosure limitations

139. Under U.S. GAAP and IFRS, a company's withdrawal liability must be both probable and estimable for it to be recognized as a contingent liability in the financial statements. This obligation is therefore seldom accrued or disclosed.

140. Financial statement disclosure on multi-employer plans is typically limited to the significant plans an employer participates in, the company's annual contributions to each plan over the previous three years, and the relative financial health of the plans as indicated by regulatory guidelines.

141. Using publicly available tax and regulatory filings to approximate the funded status of a multi-employer pension is also problematic, considering filing delays. Plans must file Form 5500 (Annual Return/Report of Employee Benefit Plan) with the U.S. Department of Labor. This form provides useful data about a plan's overall financial health, its funding status, number of participants, and contribution levels. However, the form must be filed within 210 days after the end of the plan year (subject to a 75-day extension), and there may be an additional time lag before the Department of Labor publishes the information. The resulting data will therefore be somewhat out of date. In particular, in the period before the publication of the data, fluctuations in discount rates, market returns, and the terms of collective bargaining agreements, participation levels, and other actuarial assumptions may result in changes in the financial health of the plan that the filings do not reflect.

Adjustment procedures

142. Data requirements: Where material, obtain an estimate of the withdrawal liability for each plan a company participates in. If this figure is unavailable, we make an estimate of the company's pro

rata share of the funded status based on the following information:

- The funded status of each of the multi-employer plans to which the company contributes. This information may be provided by the company for more recent years, or it may be obtained from the publicly available Form 5500s filed with the Department of Labor. To estimate the funded status, we use the Retirement Protection Act of 1994 liability, minus the fair value of assets as of the same date.
- The company's contributions to each of its multi-employer plans in the corresponding years.
- The total contributions to the multi-employer pension plan by all employers in the corresponding years.
- An applicable haircut for anticipated negotiations.

143. Calculations:

- Debt: Add the estimated withdrawal liability for all plans, net of tax, to debt. Alternatively, if not available, add to debt the estimate of the employer's share of the funded status of each plan (net of any applicable haircut and net of tax).

10. Nonoperating activities and nonrecurring items

144. We define our key income-statement-based metrics (EBITDA, EBIT, and FFO) in a particular fashion. However, the reported financials often do not conform to our views. Therefore it is necessary for us to adjust the reported financial information so that they fit in with our methodology.

a) Operating versus nonoperating items

145. Our decision to include or exclude an activity from a particular metric depends on whether we consider that activity to be operating or nonoperating in nature (see paragraphs 146-162). Independent of that decision, we consider whether an activity is recurring or nonrecurring (see paragraphs 163-168).

146. Our EBIT measure is a traditional view of profit that factors in capital intensity. We consider all income statement activity integral to EBIT, with the exception of interest and taxes. This includes all activity we consider nonoperating that is excluded from EBITDA.

147. Our definition of EBITDA is: Revenue minus operating expenses plus depreciation and amortization (including noncurrent asset impairment and impairment reversals). We include cash dividends received from investments accounted for under the equity method, and exclude the company's share of these investees' profits. This definition generally adheres to what EBITDA stands for: earnings before interest, taxes, depreciation, and amortization. However, it also excludes certain other income statement activity that we view as nonoperating.

148. Our definition of EBITDA aims to capture the results of a company's core operating activities before interest, taxes, and the impact on earnings of capital spending and other investing and financing activities. This definition links to the cash flow statement because we use EBITDA to calculate FFO, which we use as an accrual-based proxy for CFO (cash flow from operations).

149. Generally, this means that any income statement activity whose cash effects have been (or will be) classified as being from operating activities (excluding interest and taxes) are included in our definition of EBITDA.

150.

Conversely, income statement activity whose cash effects have been (or will be) classified in the statement of cash flows as being from investing or financing activities is excluded from EBITDA.

151. We may however take alternative views about the classification of transactions to that presented in the statement of cash flows, and this would flow through to our other metrics.

152. Below are examples of how we apply this principle to various scenarios.

153. **Disposals:-** Under accounting standards, proceeds from the sale of a subsidiary are classified in the statement of cash flows as an investing cash flow rather than an operating cash flow. Moreover, we view the disposal of a subsidiary as outside core business operations. As such, we do not treat a gain or loss from the sale of a subsidiary as an operating activity and exclude this from our calculation of EBITDA and FFO.

154. The same rationale holds for the sale of property, plant, and equipment. The cash flows arising from such transactions are classified, under accounting standards, as investing activities in the statement of cash flows. Therefore, we would typically view any gains or losses on the sale of property, plant, and equipment as nonoperating items.

155. **Restructuring costs:-** We include restructuring costs in our calculation of EBITDA, consistent with their treatment in the cash flow statement as operating activities. Moreover, most companies need to restructure at some point, as the global economy is constantly evolving and businesses alter their operations to remain competitive and viable.

156. **Acquisition-related costs:-** These include advisory, legal, and other professional and administrative fees related to an acquisition. We include them in EBITDA, consistent with their treatment in the statement of cash flows as operating activities. Many businesses make acquisitions as part of their growth strategy; therefore it is important to factor these expenses into our metrics.

157. **Asset impairments/write-downs:-** Impairments on tangible and intangible noncurrent assets are akin to depreciation or amortization in that they represent a company's income-statement recognition of earlier capital expenditures. We therefore exclude them from our definition of EBITDA. Our definition of EBIT includes impairment charges or reversals. Our decision to exclude an impairment cost or reversal from EBIT would depend on whether we consider it to be recurring or nonrecurring (see paragraphs 163-168).

158. However, impairments on current assets, such as inventory and trade receivables, are included in our calculation of EBITDA. The charges for inventory represent a company's recognition in the income statement of cash that it has already spent, and those for trade receivables represent the reduction of income previously recognized, but which the company will not fully collect.

159. **Unrealized gains or losses on derivatives:-** If a company has not achieved the requirements of technical hedge accounting (even though an effective economic hedge may exist), it reports all mark-to-market gains or losses related to the fair-valuing of derivative contracts in the income statement. Although the nature of the underlying activity is often integral to EBITDA, FFO, or both, using mark-to-market accounting can distort these metrics because the derivative contract may be used to hedge several future periods.

160. Therefore, when we have sufficient information, we exclude the unrealized gains or losses not related to current-year activity, so that the income statement represents the economic hedge position achieved in the current financial year (that is, as if hedge accounting had been used). This adjustment is common in the utilities and oil and gas sectors.

161. **Foreign currency transaction gains and losses:-** Foreign currency transaction gains or losses arise from transactions denominated in a currency other than a company's functional currency (generally the currency in which it transacts most of its business). Examples include selling goods at prices denominated in a foreign currency, borrowing or lending in a foreign currency, or other contractual obligations denominated in a foreign currency.

162. Currency transaction gains and losses may be viewed as operating or nonoperating in nature. If gains or losses included in operating profit are operating in nature, we do not make adjustments. We may however adjust reported operating results for currency gains and losses that are nonoperating. For example, we may adjust (or exclude) foreign currency gains or losses resulting from the issuance of foreign-currency-denominated debt.

b) Nonrecurring items and pro forma figures

163. The relative stability or volatility of a company's earnings and cash flow is an important measure of credit risk that is embedded in our corporate criteria. For this reason, our use of nonrecurring or pro forma adjustments is limited to the extent that there has been some transformative change in a company's business. Examples of such changes are the divestment of part of the business or a fundamental change in operating strategy.

164. **Discontinued operations and business divestments:-** Companies typically segregate their profits or losses from discontinued operations from those of the continuing business; although the segregation of related cash flows is less consistent. We typically exclude profits, losses, and cash flows from discontinued operations from our metrics so that they more accurately reflect the company's ongoing operations.

165. **Pro forma accounts for intrayear acquisitions or irregular reporting periods:-** If an acquisition has taken place, the financial statements for the year of the acquisition include all the debt of the enlarged group in the year-end balance sheet, but less than the full year's results and cash flows of the enlarged group. This distorts debt-coverage ratios, which therefore do not accurately indicate the company's likely future performance.

166. A similar issue exists when companies have irregular accounting periods, such as after a change in their accounting year-end. In these cases, we may use pro forma financial statements to allow for a more representative measure of full-year performance and more meaningful ratios.

167. **Asset impairments and write-downs:-** We generally exclude impairment charges on long-life assets from our measure of EBIT if they are very large and irregular. Excluding a nonrecurring impairment from EBIT produces a better estimate of a company's ongoing profitability, but does not mean we ignore the impairment in our analysis. On the contrary, a significant impairment may indicate that a company's ability to generate future cash flows has diminished.

168. We rarely exclude impairments of operating assets, such as inventories and receivables, from our EBITDA and FFO metrics because we wish to capture this volatility. An exception might be a genuine nonrecurring impairment, such as inventory impairment resulting from damage caused by a fire.

Adjustment procedures

169. Data requirements:

- Amounts of income, expense, and cash flows to be reclassified. The amounts are based on our

analytical judgment, using information from the company and our assessments.

170. Calculations:

- Add or subtract amounts from the respective measures--such as, revenue, operating income before and after depreciation and amortization (D&A), D&A, EBIT, EBITDA, CFO, and FFO--and reclassify them according to our view of the underlying activities.
- Because CFO and FFO are aftertax measures, they are also adjusted to reflect tax effects, where feasible.

171. Beyond the standard adjustment, additional insights may be gleaned by adjusting individual line items within cost of goods sold or selling, general, and administrative expense, if there is sufficient data to reflect adjustments at such levels.

Non-Operating Activities And Non-Recurring Charges Frequently Asked Questions

What types of events constitute "transformative events" for the purpose of adjusting for non-recurring items? Is this the same threshold used in the cash/flow leverage criteria, and if so why is there a need to adjust if the weighted average is going to exclude history?

172. A transformative event is any event that could cause a material change in a company's financial profile. Examples of such changes are the divestment of part of the business or a fundamental change in operating strategy. The idea of a transformative event in these criteria is a similar concept to that contained in paragraph 112 of "Corporate Methodology." When transformative events have occurred and there is sufficient disclosure such that pro forma historical financials are representative of the ongoing entity, historical periods can be used in the cash flow leverage weighted average. Conversely, if the transformative event so alters the business or contorts the historical financials--such that analytical adjustments to historical financials cannot be reasonably employed to in effect pro forma the historical results to be representative of the ongoing entity--then adjustments will not be attempted. Instead, our cash flow leverage analysis will rely on the forecasted periods as described in paragraph 112 of "Corporate Methodology."

Do you adjust for certain accounting anomalies on a regular basis? Do these distortions for "measurement effects" or "accounting distortions," which can lead to misleading figures in the annual financial statements, qualify for adjustment under the non-recurring criteria despite not meeting the "transformative" threshold?

173. While such distortions are not transformative events per se, we do make adjustments for accounting distortions in certain circumstances for a similar reason: that is to arrive at more meaningful ratios (see paragraphs 144-171). The "nonoperating activities and nonrecurring items" section of the ratio and adjustments criteria gives examples of measurement effects and accounting distortions that we exclude from our financial measures, such as goodwill impairments or unrealized mark-to-market gains or losses on derivatives where a company has not achieved the requirements of technical hedge accounting, even though an effective economic

hedge may exist. Other examples of measurement effects and accounting distortions that we exclude from our financial measures include:

- A change in the measurement of a material litigation provision that leads to very significant gains or losses in the year; and
- Fair valuation gains or losses on investment properties under IFRS.

11. Leases

174. Companies commonly use leases as a means of financing, and the accounting method for leases distinguishes between operating and finance leases. Finance leases (also known as capital leases) are accounted for in a manner similar to a debt-financed acquisition of an asset and as a balance-sheet liability. Conversely, many operating leases are not accounted for as a balance-sheet liability, but the lease cost is recorded in the profit and loss account in each accounting period.

175. We view this accounting distinction as substantially artificial because under both types of lease arrangements, a company signs a contract that allows it to use an asset, thereby entering into a debt-like obligation to make periodic rental payments.

176. For this reason, we treat operating and finance lease obligations as debt. Reclassifying leases as debt seeks to enhance comparability between companies that finance assets using operating or financing leases and those that do so by incurring debt to finance the purchase of the asset. This adjustment aims to bring companies' financial ratios closer to the underlying economics and to make them more comparable by taking into consideration all of a company's financial obligations, whether on or off the balance sheet.

177. The methodology does not replicate a scenario in which a company finances the acquisition of an asset with debt. Rather, the adjustment is narrower in scope: It attempts to capture only a debt-equivalent for a company's lease contracts. For example, when a company enters into a five-year lease for an asset with a 20-year productive life, the adjustment includes only payments relating to the contracted five-year lease period. We do not use alternative methodologies that fully capitalize the value of the asset, given disclosure and other limitations.

178. However, if we view the term of a lease as artificially short relative to the length of expected use of the leased asset, we may make adjustments to reflect a more economically appropriate depiction of the underlying lease obligation. An example of this approach is for sale-and-leaseback transactions, where if practical we capitalize the entire sale amount.

Adjustment procedures

179. Data requirements:

- Minimum lease payments: The schedule of noncancellable future lease payments over the next five years and beyond (and residual-value guarantees if not included in minimum lease payments).
- Reported annual lease-related operating expenses for the most recent year.
- Deferred gains on sale-and-leaseback transactions that created operating leases.
- We use a fixed discount rate of 7% for all corporate entities we rate. Theoretically, the discount factor could be calculated as the weighted average of the implicit interest rates (that is, the rates charged by the lessors) in each of the company's operating lease arrangements. This is

not practicable, however, given accounting disclosure limitations.

- The annual operating-lease-related expense, which we estimate using the average of the first projected annual payment disclosed at the end of the most recent year and the previous year.

180. Calculations (operating leases):

- Debt: We add to debt the present value of future lease payments, calculated using a 7% discount rate. Since minimum lease payments beyond the fifth year are regularly disclosed in aggregate as "thereafter," our methodology assumes that payments beyond the fifth year equal the payment amount in year five, and that the number of years in the "thereafter" period equals the "thereafter" amount divided by the fifth-year amount, rounded to the nearest year. This assumption is capped at a total payment profile of 30 years. IFRS allow companies to disclose amounts payable in years two through five as a single combined amount, instead of separate amounts for each year. In this case, we assume a flat annual payment amount in years two through five, based on the total minimum lease payment disclosed for these four years. We consider future lease payments to be net of sublease rental income only if the lease and sublease terms match and the holder of the sublease is sufficiently creditworthy (that is, has credit quality equivalent to 'BBB-' or higher).
- Income statement and cash flow measures: The lease-related expense is allocated to interest and depreciation expense. EBITDA is increased by adding back the interest and depreciation expense. EBIT is increased by adding back the interest expense. FFO and CFO are increased by adding back the depreciation expense. Gains or losses on sale-and-leaseback transactions are excluded from these measures.
- Interest expense: Interest expense is increased by the product of the 7% discount rate multiplied by the average net present value of the lease payments for the current and previous years.
- Capital expenditures: Our base calculation of capital expenditures, and therefore free operating cash flow (FOCF), excludes any implied capital expenditures relating to operating leases. For lease-intensive sectors, we may use a separate FOCF measure, which includes a capital-expenditure operating lease adjustment, to compare companies' lease and purchase decisions. For this separate FOCF measure, the capital expenditures figure is increased by an implied amount of capital expenditures relating to leases, calculated as the year-over-year change in lease debt, plus annual operating lease depreciation. This amount cannot be negative.
- Property, plant, and equipment: We add the amount of operating leases we reclassify as debt to property, plant, and equipment to approximate the depreciated asset cost.

181. Calculations (finance leases):

- Debt: To the extent that they are not already included in reported debt, we add to debt, finance lease obligations and any obligation associated with failed sale-and-leaseback transactions.
- Capital expenditures: Our base calculation of capital expenditures, and therefore FOCF, excludes any implied capital expenditures relating to finance leases. For lease-intensive sectors, we may use a separate FOCF measure, which includes a capital-expenditure finance lease adjustment, to compare companies' lease and purchase decisions. For this separate FOCF measure, capital expenditures are increased by the value of assets acquired via finance leases during the period.

12. Postretirement employee benefits and deferred compensation

182. We include underfunded defined-benefit obligations for retirees, including pensions and health care coverage (collectively, postretirement benefits or PRB) in our measure of debt. These obligations also include other forms of deferred compensation like retiree lump-sum payment schemes and long-service awards. We include these obligations in our measure of debt because they represent financial obligations that must be paid over time.

183. The adjustments we make relate solely to existing obligations, rather than to potential future obligations.

184. Unlike debt, the measurement of PRB obligations is inherently uncertain: The amount of benefits payable and the value of any assets earmarked to fund those obligations fluctuate over time.

185. To simplify the numerical analysis, we aggregate all retiree benefit plan assets and liabilities for pension, health, and other obligations, netting the positions of a company's plans in surplus against those that are in deficit.

186. We tax-effect our PRB adjustment amounts (that is, give credit for associated tax benefits), unless the related tax benefits have already been, or are unlikely to be, realized. We use the tax rates applicable to the company's plans or, if this is unavailable, the current corporate rate, even though the actual effect of tax charges or benefits in the future may be different. In a typical situation, the company has credible prospects of generating sufficient future taxable income to take advantage of tax deductions related to PRB and so reduce future tax payments.

187. We do not tax-effect the adjustment amounts if we consider a company's ability to generate profits uncertain. Moreover, in such cases, our main focus is the company's liquidity, rather than its capitalization or debt-coverage levels.

a) Capital structure

188. We adjust capitalization for PRB effects by adjusting both debt and equity, where applicable. Debt is increased by the company's tax-effected unfunded PRB obligation. In the instances where equity does not reflect the full extent of the underfunded deficit, equity is adjusted by the difference between the amount accrued on the corporate balance sheet and the amount of net over- or underfunded obligation (net surplus or deficit), net of tax. Debt is not adjusted downward for net surpluses, so net overfunding (surplus) leaves debt unchanged. Equity can be adjusted upward (if the net recognized asset is less than the pretax surplus) or downward. We do not split the debt adjustment between short and long term.

b) Cash flow

189. With PRB and deferred compensation plans, companies are effectively compensating their employees by issuing debt. Our cash flow view is that companies are constructively borrowing from the employees and paying the employees an amount equal to service costs. Additionally, because there is an interest element to the amount borrowed, our cash flow measures assume that imputed interest is paid as incurred. This approach takes a normalized view of cash flows: That is, regardless of when the pension plan is funded over the life of the plan, service costs and net interest costs are paid when incurred.

190. With that in mind, if a company is funding postretirement obligations at a level that is below its net expense (service cost and net interest cost), we interpret this as a form of borrowing that artificially bolsters reported CFO. Conversely, we try to identify catch-up contributions made to

reduce unfunded obligations, which would artificially depress reported CFO. We view these contributions as akin to debt amortization, which represents a financing cash flow rather than an operating cash flow.

c) Income statement

191. For the purposes of arriving at income statement measures, we disaggregate the periodic benefit cost into its component parts, allocate those amounts to operating and financing components, and eliminate components we believe are not indicative of the current year's activity. The period's current service cost--reflecting the present value of future benefits employees earned for services rendered during the period--is the sole item we keep as part of operating expenses. We view the interest expense as a finance charge and reclassify it as such if reported differently, such as within operating expenses.

192. Under U.S. GAAP, the expected return on plan assets represents management's subjective, long-range expectation about the performance of the investment portfolio. This concept has been abandoned under IFRS, which under revised accounting standards, now calculates a net interest figure by multiplying the deficit (or surplus) on the PRB by the discount rate. For the purposes of global comparability, we make adjustments to the reported data of companies still incorporating an expected return element into their interest calculations, such as those reporting under U.S. GAAP, to mimic the IFRS method of calculating net interest. This measure of PRB interest, if a net expense, is added to reported interest. No adjustment is made if net interest is a net income item.

Adjustment procedures

193. Data requirements (for adjustments to income and cash flow items):

- Service cost;
- Interest cost;
- Expected return on pension plan assets, if applicable;
- Actuarial gains or losses (amortization or immediate recognition in earnings);
- Prior service costs (amount included in earnings);
- Other amounts included in earnings (such as special benefits, settlements, and curtailments of benefits);
- Total benefit costs; and
- The sum of employer contributions and direct payments to employees.

194. Data requirements (for adjustments to balance-sheet items):

- PRB-related assets on the balance sheet, including intangible assets, prepaid or noncurrent assets, or any other assets;
- Reported liabilities attributed to PRB, including current and noncurrent liabilities;
- Deferred tax assets related to PRB (or the tax rate applicable to related costs);
- Fair value of plan assets; and
- Total plan liabilities.

Note: Relevant pension and other PRB amounts are combined for all plans.

195. Calculations (income statement and cash flows):

- Operating income: Add to EBIT and EBITDA the total amount of PRB costs charged to operating income, less the current service cost.
- Interest: PRB interest is the net interest cost as reported by companies under IFRS, or as we estimate for companies reporting under U.S. GAAP and other companies using the expected-return approach. If PRB interest is a cost, we include it in adjusted interest expense (we do not reduce interest expense if PRB interest is an income item). This PRB interest is added to reported interest when the net benefit costs are included in operating income. If reported interest already includes an interest component for PRB we adjust it, if necessary, to ensure it reflects the amount of PRB interest.
- Tax expense: We add to, or subtract from, reported tax expenses any tax charge or benefit that results if a company makes additional contributions to postretirement plans or falls short of planned contributions for the current year.
- FFO: FFO equals EBITDA minus net interest expense, minus current tax, with our analytical adjustments applying to each of the three components. EBITDA is adjusted for PRB as described in the first bullet point of this paragraph, while the adjusted net interest expense includes the PRB net interest cost or credit. The current tax expense is adjusted to reflect any tax benefit or charge that the company has received through making excess or insufficient contributions. The net effect of this is that FFO is reduced by the sum of current service costs and net PRB interest, adjusting for tax effects.
- CFO: The adjustment to CFO starts with a calculation of excess contributions or PRB borrowing: Total employer cash contributions (including direct payments to retirees), minus current service costs, minus PRB interest yields the excess contribution if positive, or PRB borrowing if negative. The excess contribution or PRB borrowing is reduced by taxes at the rate applicable to PRB costs (that is, the figure multiplied by 1 minus the tax rate) to create the adjustment amount to CFO. The excess contribution or PRB borrowing is added to, or subtracted from, CFO.

196. Calculations (balance sheet):

- Debt: The net balance sheet asset or liability position (funded status) is calculated as the balance-sheet PRB assets minus PRB liabilities. For the adjustment to debt, if the net pension and postretirement funded status is positive, debt is not adjusted. If the net pension and postretirement funded status is negative, this amount is reduced by the expected tax shield, that is, the amount is multiplied by 1 minus the tax rate. The resulting net amount is added to debt.
- In some jurisdictions, the tax benefit is realized in advance of funding the deficit or paying benefits, for example, when the liability is accrued for tax purposes. The expected tax shield used in our calculation only takes into account amounts that have not yet been received. The adjustment to equity also considers existing balance-sheet amounts.
- Equity: We add to, or subtract from, equity the tax-effected difference (that is, after multiplying that figure by 1 minus the tax rate) between the deficit or surplus on the PRB plan and the reported net plan assets and liabilities.

13. Scope of consolidation

197. When analyzing the creditworthiness of a group, a first critical step is to determine the manner in which a company reports the results of its subsidiaries and affiliates (including their operations,

cash flows, assets, and liabilities) in its financial statements. There are several accounting methods to reflect a company's relationship with another company: full consolidation, proportionate consolidation, equity-method consolidation, and deconsolidation (that is, accounted for as an investment).

198. Full consolidation of a subsidiary entails including 100% of each line item of its income, cash flows, assets, and liabilities in the group's financial statements. When a parent owns less than 100% of a subsidiary, the non-controlling-interest holder's share is shown on a separate line in the consolidated income statement and balance sheet.

199. Proportionate consolidation of an affiliate is when all line items of a parent's financial statements include its pro rata share of the affiliate's income, cash flows, assets, and liabilities. This method of consolidation is not common in accounting, but we use it from time to time if we believe that proportionate consolidation best reflects a company's business and financial ties with subsidiaries and affiliates.

200. The equity method of consolidation involves showing the parent's share of profits (or losses) on one line in the income statement, and the parent's investment (initial price paid plus the post-acquisition share of changes in the affiliate's net assets) on the balance sheet. Only cash dividends are reflected in the parent's cash flow statement.

201. Reporting as a nonconsolidated (or deconsolidated) investment means the parent company shows the value of the investment on its balance sheet, typically measured at cost or fair value. The parent does not include any of the income of that affiliate in its results, but reports cash dividends received in the cash flow statement.

202. Although most often the scope of consolidation we employ when analyzing a company is the same as that in the company's financial statements, we may use any consolidation method that in our opinion best reflects a company's business and financial ties with its subsidiaries and affiliates. The analytical adjustments would therefore serve to convert the reported figures to those consistent with our chosen method.

203. No single factor determines our analytical view of a company's relationship with a particular business venture. Rather, the decision will reflect an assessment of factors that, taken together, will lead to a particular characterization. These factors include:

- Strategic importance--integrated lines of business or critical supplier;
- Percentage of ownership (current and prospective);
- Management control;
- Shared name;
- Domicile in the same country;
- Common sources of capital and lending relationships;
- Financial capacity for providing support;
- Significance of the amount of investment;
- Investment relative to the amount of debt at the affiliate or project;
- Position of the other owners (whether strategic or financial investment) and their financial capacity;
- Management's stated stance toward the affiliate or project;
- Whether the creditors of the subsidiary or affiliate have recourse to the parent;

- Shared collective bargaining agreements;
- The bankruptcy-law regimes applicable to the parent and subsidiary;
- Track record of the parent company in similar circumstances; and
- The nature of potential risks.

Adjustment procedures

204. Because a company can use various consolidation methods, there is no standard adjustment procedure. We adjust the reported figures to reflect our quantitative view of the group.

14. Securitization and factoring

205. Securitization can be an important financing vehicle for many companies, potentially enhancing liquidity and enabling them to diversify their funding sources. An important factor is whether the assets and liabilities of a securitization are shown on a company's balance sheet, or deconsolidated and reported as an off-balance-sheet transaction.

206. We may reconsolidate a securitization that a company reports as off-balance-sheet financing. This is because securitizations do not ordinarily transform the risks or the underlying economic reality of the business activity, nor do they necessarily provide equity relief, which allows the company to retain less equity or incur more debt than would otherwise be the case, without affecting its credit quality.

207. If a securitization accomplishes true transfer of risk (contractual, legal, and reputation risk), as is the case with securitization of a tax asset, we regard the transaction as an asset sale and make no adjustments, subject to the considerations in paragraphs 208-212.

208. More commonly, a company retains risks related to the assets transferred under the securitization transaction. We regard such transactions as being akin to secured financing and bring them back onto the balance sheet if the company has treated them as off-balance-sheet items. The analysis also indicates whether the securitization creates a disadvantage for a company's unsecured creditors that would affect our rating on unsecured debt issues.

209. For example, in our analysis, we treat as on-balance-sheet items, securitization of assets (such as trade receivables) that are regenerated in the ordinary course of business and financed on an ongoing basis. This is because the assets and trading relationships these assets represent are an integral part of a company's operations. Even if a transaction legally transferred risks related to a pool of assets and the company has no obligation to support failing securitizations, this does not mean the company would receive equity relief or that we would not reconsolidate the securitization in our analysis. If a company has a recurring need to finance similar assets, we do not presume it will have permanent access to the securitization market. The company may have to meet future funding needs by other means, and therefore have the requisite equity (and the equivalent level of borrowings) to do so.

210. We treat factoring (or invoice discounting) of trade receivables in a similar way, by including the trade receivable asset and the associated funding liability in the company's balance sheet.

211. Other key considerations for the adjustment of securitizations include:

- The riskiness of the securitized assets. If, as is often the case, a company securitizes its highest-quality or most liquid and therefore low-risk assets, this would limit the extent of any meaningful equity relief, and may create subordination of unsecured creditors, which if

significant enough could have an impact on our rating on unsecured debt.

- First-loss exposure. A company may retain liability for a defined portion of loss from a securitization (known as "first-loss exposure"), thereby providing structural credit protection for the securitized asset, which would lower funding costs. The first-loss layer may absorb much of the risk of the securitized asset, and the total gain or loss from the securitization will vary depending on the performance of the assets. Often, only the risk of loss that exceeds the first-loss exposure is transferred to third-party investors.
- Moral recourse. This refers to the likelihood that a company will support a securitization although not legally obliged to do so. Our assessment of moral recourse reflects our view of how a company could behave if losses on the securitization reached catastrophic levels. There is evidence to suggest that companies often tend to bail out troubled securitization transactions (for example, by repurchasing problematic assets or replacing them with other assets) to preserve access to this funding source and, more broadly, to preserve their good name in the capital markets. Moral recourse is magnified when securitizations make up a significant portion of a company's total financing, or when a company remains linked to the securitized assets through the use of a shared corporate name or by continuing in the role of servicer or operator. If we regard the likelihood of moral recourse as significant, we regard the securitized asset and liability as part of the company's balance sheet.

212. The adjustments to a company's financial statements also depend on the extent of risk transfer resulting from a securitization:

- If a company retains most of the risk, our cash flow/leverage ratio calculations include the securitized debt, regardless of whether the securitized debt was reported as on-balance-sheet debt or accounted for as an off-balance-sheet transaction.
- If the company retains none of the risk, the securitized assets are not regenerated in the ordinary course of business, and there are no contingent or indirect liabilities resulting from the transaction, we view the securitization as equivalent to an asset sale and exclude it from our analysis of the company. This means that if a company has consolidated such a transaction, we use adjustments to remove the securitization assets, debt, earnings, and cash flows from the reported consolidated results in our analysis. We also adjust shareholders' equity, including for the effect of deferred taxes and imputed (or assumed) interest.

213. Several factors limit our ability to make full adjustments for securitizations. When a company reports a securitization as an asset sale in its financial statements, this may create an upfront gain or loss on the sale. When we reconsolidate such a securitization, it is appropriate to reverse such gains because of the uncertainty about whether they will be realized and because they represent nonrecurring income. Likewise, we reverse any loss on the sale that reflects the discount on the sale, to prevent double counting the interest component of the transactions.

214. To calculate the imputed interest, we generally estimate an interest rate because of insufficient information. That rate approximates the interest rate on similar transactions.

215. It is impractical to fully recast the financial statements to consolidate off-balance-sheet securitizations because companies are not required to include pro forma schedules including the securitization transaction in their published accounts.

216. Under U.S. GAAP and IFRS, companies report cash inflows or outflows related to working-capital assets or liabilities, or finance receivables, as operating items on the statement of cash flows. Consequently, securitizations of assets such as receivables affect CFO, and the effect may be particularly significant in reporting periods when the securitizations are initiated or mature.

217. The reporting convention varies with the balance-sheet classification. If a company consolidates a

securitization, the related borrowings are treated as a financing activity. If the securitization is off the balance sheet, the effect is akin to accelerated liquidation of the associated assets. There is no separate record of the incurrence of debt, either as an operating liability or a financing source of cash.

218. When our approach is to consolidate a securitization (or, in rare situations, to deconsolidate a securitization), we adjust the cash flow statement to smooth out the variations in CFO that can result from the treatment of a securitization as a sale, which can distort the pattern of recurring cash flow.

Adjustment procedures

219. Data requirements:

- The period-end amount and average outstanding amount of trade receivables sold or securitized that are not on the balance sheet and require adjustments according to our criteria.

220. Calculations:

- Debt and receivables: Add the amount of period-end trade receivables sold or securitized (that is, the uncollected receivables as of the balance-sheet date) to reported debt and receivables.
- Interest expense: Add to interest expense the amount of imputed interest, calculated using the average trade receivables sold over a two-year period (if the data are available) or the trade receivables sold as of the period-end date, at an appropriate benchmark interest rate.
- CFO: Deduct from CFO the proceeds from the securitization if the transaction results in large cash flow movements, such as on the creation of a securitization or subsequent changes in amounts securitized. Rolling over an existing securitization requires no cash flow adjustment.

15. Seller-provided financing

221. Companies acquiring other companies sometimes finance a portion of the purchase price (or consideration), via seller-provided financing and/or entering into contingent consideration arrangements (that is, "earn outs"). We often view these transactions as a form of financing and therefore we make analytical adjustments to reflect this view. The accounting approach under U.S. GAAP is materially consistent with that under IFRS.

222. The most straightforward form of seller-provided financing is a loan reported at amortized cost plus interest. We include the reported debt amount and interest expense in our respective measures to the extent that they are not already reported as such. No adjustment is necessary on the statement of cash flows, apart from any interest reported under IFRS outside of CFO.

223. The reporting of contingent consideration is more convoluted given the complexity and variability of the instruments. Contingent consideration can take many forms: It can be paid in cash or shares, it can be contingently payable by the acquirer or prepaid and contingently returnable to the acquirer, or it can be contingent upon the recipient's continued employment with the acquirer after the acquisition. The nature and terms of an arrangement dictate the accounting for the arrangement and our analytical treatment.

224. Contingent consideration payable in shares is generally reported within equity and is not remeasured in reporting periods subsequent to the transaction. We do not add to debt an amount for the anticipated settlement of these transactions because we consider them to be prospective equity issuance.

225. Contingent consideration that is prepaid and contingently returnable to the acquiring entity results in an asset on the acquirer's balance sheet that is marked to market in each accounting period until settled. We make no adjustments for these arrangements because they are effectively receivables with no potential future cash outlay. However, we would adjust CFO if the acquirer reported any returned consideration within CFO.

226. Contingent arrangements that require continued employment are technically not part of the consideration paid for the acquisition under U.S. GAAP and IFRS. Rather, such transactions represent remuneration for services after the acquisition. As such, the company does not record the transaction as a liability or expense until the services are performed. We also view such arrangements as payment for services and generally make no analytical adjustments. The recognized expense is a component of our EBITDA and FFO, and its ultimate payment should reduce CFO. Additionally, we do not adjust the reported debt figure unless the original term of the liability was greater than 12 months.

227. Our primary focus is on contingent consideration that is payable in cash, or contracts to be settled in shares that do not qualify as equity. The most common example is a contract to be settled with a variable number of shares. Companies typically record such arrangements, initially, as a liability at fair value and subsequently mark them to market at the end of each accounting period via charges or credits to income until settled. We add to debt the reported value of the liability-classified contingent consideration on each reporting date, understanding that it is not at amortized cost.

228. Consistent with our view of cash flows, described in the next paragraph, we exclude the charges or credits to income from our measurement of EBITDA and FFO, on the basis that this recognition of measurement uncertainty in the income statement is not a core operating cost, but an additional cost of the acquisition. We generally do not attempt to make adjustments to interest expense; such adjustments are usually impractical because interest on the contingent consideration is typically not disclosed.

229. When a company ultimately pays the contingent consideration to the seller, it may report the cash outflow in several ways in the statement of cash flows. We regard these outflows as investing cash flows because they represent cash paid for the purchase of a business. Any cash settlements reported in other ways (for example, as operating or financing cash flows) will be adjusted to reflect this view.

Adjustment procedures

230. Data requirements:

- The carrying value of seller-financed debt or liability-classified contingent consideration on the balance-sheet date.
- Charges or credits included in reported EBITDA.
- Cash paid for or received from the settlement of contingent consideration reported either in cash flows from operating activities or cash flows from financing activities.

231. Calculations:

- Debt: Add to debt, to the extent not already reported as such, the carrying amount of seller-financed debt at amortized cost, as well as any liability-classified contingent consideration reported at fair value.
- EBITDA: If charges or credits from the change in fair value of contingent consideration are included in reported EBITDA, add them back to or subtract them from EBITDA.

- CFO: If cash settlements are reported in CFO, remove the outflow because we consider it an investing activity (acquisition of businesses).

16. Share-based compensation expenses

232. Most major accounting regimes require companies to report the fair value of equity-based grants (such as stock options and restricted share awards) as an expense in the income statement. This amount is generally expensed over the benefiting period, that is, the period over which the company estimates the employee is providing services in exchange for the award.

233. Our cash-flow measures, such as CFO, are not affected by share-based grants payable in shares, given their inherent noncash nature. Additionally, we add back stock-based compensation that is payable in shares to EBITDA and FFO. Our key cash flow/leverage ratios--FFO to debt and debt to EBITDA--therefore exclude stock option expense related to arrangements payable in shares.

234. Certain other share-based arrangements, unlike options or restricted share awards, are payable solely in cash. Examples are stock appreciation rights that are required to be settled in cash, which represent a future call on a company's cash flow. Because they are payable in cash, we do not add back the expense related to these arrangements to EBITDA and FFO. We treat obligations under these arrangements as debt.

Adjustment procedures

235. Data requirements:

- Total share-based compensation expense reported in the period that is payable in shares.
- In jurisdictions that do not require the expensing of such compensation, an estimate of the expense.

236. Calculations:

- EBITDA: If a company has accounted for noncash stock compensation costs as an expense, we add that figure back to EBITDA.
- Operating income, before and after D&A, and EBIT: In jurisdictions that do not require companies to report share-based compensation as expenses, we estimate an expense amount and deduct it from these measures.
- Debt: Add to debt share-based arrangements payable solely in cash.

17. Surplus cash

237. We apply a standard method of calculating surplus cash, which is the amount of cash and liquid investments that is subtracted from gross debt to calculate debt.

238. S&P Global Ratings' payback ratios are intended to capture the degree to which a company has leveraged its risk assets. Highly liquid financial assets are often low risk. Moreover, we consider that, in addition to cash flow generation, surplus cash is available to repay debt, providing additional flexibility that enhances a company's credit quality. Therefore, it is appropriate to evaluate debt net of surplus cash.

239. Our standard methodology for calculating surplus cash allows the netting of available cash and liquid investments if in our judgment they are highly liquid, and if they are accessible; that is, the

cash and liquid investments are truly surplus and therefore could be used to repay debt immediately.

240. We analyze the specifics of a company's cash holdings to evaluate how much of its cash is immediately accessible to reduce debt. To calculate how much cash can be netted off from debt, and unless we get enough information or identify analytical reasons supporting either a lower or higher haircut, we will deduct 25% from the available cash (A), identified as "cash and liquid investments" in "Methodology And Assumptions: Liquidity Descriptors For Global Corporate Issuers," published on Dec. 16, 2014, to reflect cash that is inaccessible. If we apply the default 25% haircut, adjusted cash (B) available for netting from gross debt would be A x 0.75 = B.

241. We identify cash that might be inaccessible due, among other reasons, to:

- Being held in a nonconvertible currency to the currency of a company's borrowings;
- Distribution restrictions (for example, covenants or cash held in escrow);
- Cash trapped at subsidiaries;
- Tax effects on the repatriation of cash;
- Period-end timing differences unrelated to working capital; or
- Being held in a country whose country risk we assess as high (country risk score of 5) or very high (country risk score of 6), and is in a different currency from the currency of the company's borrowings.

242. If available information indicates greater or lesser accessibility to cash and liquid investments, the haircut would be raised or lowered. For example, the haircut would increase if a company holds a large proportion of cash abroad in a nonconvertible currency, or if the marginal tax payable on repatriation would exceed 25%. On the other hand, the haircut percentage would be lowered if, for example, detailed analysis showed that the amount of cash and liquid investments accessible on short notice would be higher than our standard assumption, or if any tax payable on repatriation of the cash and liquid investments would be at a rate of less than 25% and we believed that no other factors make the cash and liquid investments inaccessible.

243. If we forecast that a company will generate negative cash flow available for debt repayment, our cash flow/leverage criteria places greater reliance on the current year and the first and second forecast years (see paragraph 117 in "Corporate Methodology," published on Nov. 19, 2013). Forecast negative cash flows could stem from operating activities as well as share buybacks, dividends, or acquisitions, if we forecast these uses of cash based on the company's track record.

244. We will generally not deduct surplus cash from debt if a company is (1) owned by a financial sponsor as defined in Section H.2 of "Corporate Methodology," published on Nov. 19, 2013, or (2) has a business risk profile assessment of "weak" or "vulnerable." However, we deduct surplus cash from debt even if a company meets either of these conditions, as long as:

- We believe that the company has surplus cash identified to retire maturing debt or other debt-like obligations; and
- We believe--typically from the company's track record, market conditions, or financial policy--that management will use the cash to pay off maturing debt or debt-like obligations.

Surplus Cash Frequently Asked Questions

Is the 25% deduction from cash and liquid investments, as described in paragraph 240, the standard amount S&P Global Ratings uses to arrive at surplus cash and calculate adjusted debt?

245. No. The 25% deduction from cash and liquid investments should only be used if we do not have information that would enable the calculation of a more precise amount. If available information indicates greater--or lesser--accessibility to cash and liquid investments than what is assumed by the 25% deduction, we'd lower or raise the amount of the deduction. The deduction should only represent cash at the balance sheet date that is inaccessible to pay interest or repay debt in case of need. Often, we would expect the deduction to be less than 25%.

Can it be appropriate to have a different deduction from cash and liquid investments in arriving at surplus cash each year?

246. Yes. A different deduction from cash and liquid investments each year is often appropriate. We deduct from cash and liquid investments the amount of cash and liquid investments we believe is, or will be, inaccessible. That amount may not remain constant so a different percentage in each year can better reflect reality.

When developing the deduction from cash and liquid investments to arrive at surplus cash, do you exclude a minimum amount of cash necessary to run the business from the deduction? Could such a minimum amount of cash qualify as "cash trapped at subsidiaries," as noted in paragraph 241?

247. Generally, no. When calculating surplus cash, cash and liquid investments should not be reduced by the amount of expected working capital investment needs. This is because this would disadvantage companies that fund working capital from cash rather than by drawing down on bank lines. In addition, as working capital investment should be "self-extinguishing" or "self-liquidating"--as stock and debt (i.e. inventory and receivables) are converted into cash--it is not appropriate to increase debt for working capital investment needs by reducing cash and liquid investments in the calculation of surplus cash. However, to the extent that we believe that some of the company's working capital investment won't be "self-extinguishing"--due to factors such as stock write-offs, stock discounting, or bad debts--this would be captured in weaker profits in the base-case forecast, which would reduce cash flows and future cash balances. In addition, such working capital investment needs would not qualify as "cash trapped at subsidiaries." An exception to this approach could be where a company has indicated to us an operational cash requirement such that 'cash in the tills' is not practically accessible because it is needed to operate their business (examples include a supermarket who needs cash in tills, or a casino who needs to retain cash in cages). In such cases, we treat this cash need as part of the 'cash trapped at subsidiaries' condition (see paragraph 241).

Do you consider future events (e.g., large expected cash outflows related to capital expenditures, acquisitions, share buybacks and dividends, or lower forecasted earnings) in developing the haircut to gross cash and liquid investments in a particular period?

248. No. The haircut to gross cash and liquid investments is only for matters of inaccessibility, not future events or needs. The expected cash outflow or reduced earnings should be included in the base-case forecasts. This will reduce forecast cash flows and period-end cash balances.

Should the haircut applied to liquid investments consider the taxes that would be incurred upon the sale of liquid investments?

249. Yes. The same principle we apply when tax-effecting cash held overseas should apply here. If the issuer needs to sell liquid investments to generate cash to pay interest or repay debt, the cash that would be received and would be available to pay interest and repay debt would be the net amount of cash after any taxes payable.

Paragraph 241 states that "We identify cash that might be inaccessible due, among other reasons, to...distribution restrictions (for example, covenants or cash held in escrow...)". Are there cases where S&P Global Ratings could net off cash that is subject to distribution restrictions from gross debt to calculate debt? If so, do the qualitative preclusions to deducting surplus cash noted in paragraph 244 apply?

250. Yes. There can be situations where we net off cash that is subject to distribution restrictions from gross debt as part of the surplus cash adjustment--if the cash is restricted for the benefit of creditors with obligations that we include in debt. In these cases, the qualitative restrictions on giving surplus cash credit do not apply, just as they do not apply to netting off other committed assets such as pension assets. For example, if the purpose of the cash distribution restriction is to retain the cash for the benefit of counterparties to debt or debt-like obligations that are otherwise included in our adjusted debt metric, such restricted cash could be netted off gross debt. For example, cash held in escrow for the benefit of debtholders would be fully netted off from debt if the debt is included in S&P Global Ratings' debt calculation. Additionally, if the exclusion of restricted cash from cash and liquid investments in the calculation of surplus cash would run counter to one of our other analytical adjustments, the restricted cash could be netted off gross debt. An example of this is a cash-collateralized letter of credit facility whereby an issuer overfunds a term loan and places the excess funds in escrow as a back stop for letters of credit or performance guarantees. As long as we believe that the company will not have to make payments under the guarantee, such cash would be eligible for netting against gross debt. This is because, as paragraphs 102 and 103 state, "We do not regard performance guarantees as debt if a company is likely to maintain sufficient work or product quality to avoid making large payments under those guarantees. A company's past record of payments under performance guarantees could indicate the likelihood of future payments under such guarantees. Only if this payment history suggests a high likelihood of future payments would we estimate a potential liability and add that amount to debt."

If an issuer that S&P Global Ratings classifies as volatile or highly volatile under the cash flow/leverage criteria has a large amount of surplus cash on hand during a favorable part of the industry cycle, but based on historical evidence you expect it will use most of that cash to meet operating needs during periods of stress, do you take this into account in the surplus cash

analysis?

251. No. When calculating surplus cash, we would only haircut cash and liquid investments by the amount of any of the cash and liquid investments that are inaccessible. Any expected future uses of cash can be captured in the base-case forecast. If an issuer is assessed under the cash flow/leverage criteria to be volatile or highly volatile, then the cash flow/leverage assessment could be modified by one or two categories weaker (as per paragraph 124, section 5, of "Corporate Methodology," published Nov. 19, 2013).

18. Workers' compensation and self-insurance

252. Workers' compensation schemes provide compensation for employees injured in the course of employment. Although schemes differ across jurisdictions, provisions may be made for payments to employees in lieu of wages, compensation for economic losses (past and future), reimbursement for, or payment of, medical and similar expenses, general damages, and benefits payable to the dependents of workers killed during employment.

253. Workers' compensation coverage may be provided through insurance companies, and therefore is not a financial concern for the company. But, in certain instances and/or industries, employers assume direct responsibility for payments such as medical treatment or lost wages.

254. In these cases, under U.S. GAAP or IFRS, the company reports incurred liabilities on the balance sheet as "other liabilities," using an actuarially determined present value of known and estimated claims. Accordingly, these obligations represent a call on future cash flow, distinguishing them from many other less-certain contingencies. They are analogous to postretirement obligations, which we also add to debt.

255. Treating the workers' compensation liability as debt affects many line items on the financial statements. Ideally, if there is sufficient information in the statements, we would make full adjustments, using the same approach as for postretirement employee benefits (see paragraphs 182-196). In practice, the data is not available, so we reclassify these obligations, adjusted for tax, as debt. We may also treat similar self-insurance-type liabilities as debt.

Adjustment procedures

256. Data requirements:

- Net amount reported as a liability for workers' compensation obligations and self-insurance claims.

257. Calculations:

- Debt: Add to debt, the amount recognized for workers' compensation obligations (net of tax) and the net amount recognized for self-insurance claims (net of tax).

F. Index Of Key Ratios

258. Core debt-payback ratios:

- Funds from operations (FFO)/debt
- Debt/EBITDA

259. Supplemental debt-payback and debt-service ratios:

- Cash flow from operations (CFO)/debt
- Free operating cash flow (FOCF)/debt
- Discretionary cash flow (DCF)/debt
- (FFO + interest)/cash interest (FFO cash interest cover)
- EBITDA/interest

260. Profitability ratios:

- EBIT/revenues (EBIT margin)
- EBITDA/revenues (EBITDA margin)
- EBIT/average beginning-of-year and end-of-year capital (return on capital)

IV. GLOSSARY

261. **Capital:** Debt plus noncurrent deferred taxes plus equity (plus or minus all applicable adjustments).

262. **Capital expenditures:** Funds spent to acquire or develop tangible and certain intangible assets (plus or minus all applicable adjustments).

263. **Cash interest:** For the purposes of calculating the FFO cash-interest-cover ratio, "cash interest" includes only cash interest payments on gross financial debt (including bank loans, debt capital market instruments, finance leases, and capitalized interest). Cash interest does not include any S&P Global Ratings-adjusted interest on debt-like obligations, such as postretirement benefit obligations or operating leases.

264. **CFO (cash flow from operations):** CFO is also referred to as operating cash flow. This measure reflects cash flows from operating activities (as opposed to investing and financing activities), including all interest received and paid, dividends received, and taxes paid in the period (plus or minus all applicable adjustments). For companies that do not use U.S. GAAP, we reclassify as CFO any dividends received, or interest paid or received, that a company reports as investing or financing cash flows.

265. **Current tax expense:** This is the amount of income taxes payable on taxable profit, or income tax recoverable from tax losses, in an accounting period (plus or minus all applicable adjustments). Current tax expense is to be distinguished from deferred tax expense.

266. **DCF (discretionary cash flow):** FOCF minus cash dividends paid on common stock and preferred stock (plus or minus all applicable adjustments).

267. **Debt:** Gross financial debt (including items such as bank loans, debt capital market instruments, and finance leases) minus surplus cash (plus or minus all applicable adjustments).

268. **Dividends:** Dividends paid to common and preferred shareholders and to minority interest shareholders of consolidated subsidiaries (plus or minus all applicable adjustments).

269. **EBIT:** A traditional view of profit that factors in capital intensity, but also includes interest income, the company's share of equity earnings of associates and joint ventures, and other recurring, nonoperating items (plus or minus all applicable adjustments).

270. **EBITDA:** A company's revenue minus operating expenses, plus depreciation and amortization expenses, including impairments on noncurrent assets and impairment reversals (plus or minus all applicable adjustments). Dividends (cash) received from affiliates, associates, and joint ventures accounted for under the equity method are added, while the company's share of profits and losses from these affiliates is excluded.

271. **Equity:** Common equity and equity hybrids and minority interests (plus or minus all applicable adjustments).

272. **FFO (funds from operations):** EBITDA, minus net interest expense minus current tax expense (plus or minus all applicable adjustments).

273. **FOCF (free operating cash flow):** CFO minus capital expenditures (plus or minus all applicable adjustments).

274. **Interest:** This is the reported interest expense figure, including noncash interest on conventional debt instruments (such as payment-in-kind, zero-coupon, and inflation-linked debt), minus any interest income derived from assets structurally linked to a debt instrument (plus or minus all applicable adjustments).

275. **Net interest expense:** This is the reported interest expense figure, including noncash interest on conventional debt instruments (such as payment-in-kind, zero-coupon, and inflation-linked debt), minus the sum of interest income and dividend income (plus or minus all applicable adjustments).

276. **Revenues:** Total sales and other revenues we consider to be operating (plus or minus all applicable adjustments).

V. REVISIONS AND UPDATES

This article was originally published on Nov. 19, 2013. These criteria became effective upon publication.

These criteria relate to our global corporate criteria, "Corporate Methodology," published on Nov. 19, 2013, and to the criteria article "Principles Of Credit Ratings," published on Feb. 16, 2011.

Changes introduced after original publication:

- We republished this article on April 10, 2014, to correct the first bullet point in paragraph 180, regarding the lease disclosure requirements under International Financial Reporting Standards, and the second bullet point in the same paragraph to add that CFO, as well as FFO, are increased by adding back the depreciation expense. These corrections had no impact on our ratings.
- We republished this article on Oct. 31, 2014, to clarify a term in paragraph 107.
- We republished this article on Nov. 6, 2015, to integrate within the pertinent sections the content formerly located in a "Frequently Asked Questions" section we'd added on Sept. 16, 2014, subsequent to the criteria review.
- Following our periodic review completed on Oct. 17, 2016, we updated the scope of the criteria and criteria references, adding "Key Credit Factors For Financial Market Infrastructure

Companies," "Key Credit Factors For Financial Services Finance Companies," and "Key Credit Factors For Asset Managers," published Dec. 9, 2014.

- Following our periodic review completed on Oct. 17, 2017, we updated criteria references and deleted Appendix 1, which contained a list of superseded criteria that was no longer relevant. Appendix 2 was renamed "Revisions And Updates."
- On Dec. 4, 2018, we republished this criteria article to make nonmaterial editorial changes. We updated the contact information.

VI. RELATED CRITERIA AND RESEARCH

Related Criteria

- Methodology And Assumptions: Liquidity Descriptors For Global Corporate Issuers, Dec. 16, 2014
- Key Credit Factors For Financial Market Infrastructure Companies, Dec. 9, 2014
- Key Credit Factors For Financial Services Finance Companies, Dec. 9, 2014
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These criteria represent the specific application of fundamental principles that define credit risk and ratings opinions. Their use is determined by issuer- or issue-specific attributes as well as Standard & Poor's Ratings Services' assessment of the credit and, if applicable, structural risks for a given issuer or issue rating. Methodology and assumptions may change from time to time as a result of market and economic conditions, issuer- or issue-specific factors, or new empirical evidence that would affect our credit judgment.

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Capital IQ

American Water Works Company, Inc. (NYSE:AWK) > CreditStats Direct® > Select Stats & Ratios

In Millions of the reported currency.

Template:	Adjusted	**Restatement:**	Latest Filings
Period Type:	Annual	**Order:**	Latest on Right
Currency:	Reported Currency	**Conversion:**	Historical
Units:	S&P Capital IQ (Defau	**Decimals:**	Capital IQ (Default)

Select Stats & Ratios

For the Fiscal Period Ending	Most Recent 3 Yrs. Unweighted Avg.	12 months Dec-31-2012	12 months Dec-31-2013	12 months Dec-31-2014	12 months Dec-31-2015	12 months Dec-31-2016	12 months Dec-31-2017
Currency	*USD*	*USD*	*USD*	*USD*	*USD*	*USD*	*USD*
Revenues	3,272.67	2,876.89	2,901.86	3,011.33	3,159.0	3,302.0	3,357.0
Operating Income (Bef. D&A)	1,619.5	1,363.86	1,395.94	1,424.78	1,541.5	1,568.5	1,748.5
EBITDA	1,630.5	1,375.33	1,408.41	1,437.83	1,552.5	1,579.5	1,759.5
Operating Income (After D&A)	1,144.08	970.55	978.53	992.13	1,094.04	1,090.59	1,247.61
EBIT	1,168.75	992.51	951.69	1,002.79	1,122.04	1,119.59	1,264.61
Net Income From Continuing Operations	456.67	374.25	369.26	429.84	476.0	468.0	426.0
Funds From Operations (FFO)	1,263.04	948.45	1,075.53	1,093.87	1,206.59	1,204.35	1,378.18
Operating Cash Flow	1,292.04	1,006.34	913.15	1,095.45	1,170.59	1,269.35	1,436.18
Capital Expenditures, Adj.	1,294.33	920.8	973.88	950.28	1,152.0	1,305.0	1,426.0
Free Operating Cash Flow	(2.29)	85.54	(60.73)	145.17	18.59	(35.65)	10.18
Discretionary Cash Flow	(265.79)	(128.48)	(210.69)	(71.64)	(220.91)	(297.15)	(279.32)
Cash and Short-Term Investments	58.33	24.43	26.96	23.08	45.0	75.0	55.0
Debt	7,566.07	6,191.0	6,117.87	6,395.57	6,970.46	7,571.77	8,155.99
Total Liabilities	13,115.4	10,151.97	10,386.07	11,144.32	12,096.46	13,146.77	14,102.99
Equity	5,222.67	4,454.42	4,736.39	4,923.34	5,055.0	5,223.0	5,390.0
Debt and Equity	12,788.74	10,645.42	10,854.26	11,318.91	12,025.46	12,794.77	13,545.99
Revenue Growth (%)	3.7	7.9	0.87	3.77	4.9	4.53	1.67
Operating Income (Bef. D&A)/Revenues (%)	49.46	47.41	48.1	47.31	48.8	47.5	52.09
Operating Income (After D&A)/Revenues (%)	34.94	33.74	33.72	32.95	34.63	33.03	37.16
Net Cash Flow/Capital Expenditures (%)	77.51	79.76	95.04	92.29	83.95	72.25	76.35
ROCE (%), Adj. For AFUDC	8.76	8.09	7.64	8.6	9.39	9.0	7.88
Return on Common Equity (%)	8.9	8.62	8.05	8.91	9.55	9.12	8.04
Return on Capital (%)	7.96	8.2	7.66	7.66	8.07	7.52	8.28
Common Dividend Payout Ratio (%)	59.34	46.24	53.99	51.65	51.26	57.05	69.72
EBIT Interest Coverage (x)	3.17	2.72	2.72	3.02	3.17	3.0	3.34
EBITDA Interest Coverage (x)	4.43	3.76	4.02	4.33	4.39	4.23	4.65
FFO Cash Interest Coverage (x)	4.92	3.9	4.4	4.65	4.93	4.74	5.08
Cash Flow From Oper. Interest Coverage (x)	4.4	3.66	3.52	4.21	4.2	4.29	4.7
FFO/Debt (%)	16.7	15.32	17.58	17.1	17.31	15.91	16.9

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Operating Cash Flow/Debt (%)	17.06	16.25	14.93	17.13	16.79	16.76	17.61
Free Operating Cash Flow/Debt (%)	(0.03)	1.38	(0.99)	2.27	0.27	(0.47)	0.12
Debt/EBITDA (x)	4.64	4.5	4.34	4.45	4.49	4.79	4.64
Debt/Debt and Equity (%)	59.12	58.16	56.36	56.5	57.96	59.18	60.21
Last Update Date	NA	Dec-09-2013	May-19-2014	Mar-04-2015	Mar-10-2016	Apr-17-2017	May-07-2018

Company Last Updated: May-07-2018 1:11:43 AM EST.

S&P Credit Ratings and Research provided by S&P Global Ratings

S&P
Capital IQ

American Water Works Company, Inc. (NYSE:AWK) > CreditStats Direct® > Income Statement

In Millions of the reported currency.

Template:	Adjusted	**Restatement:**	Latest Filings
Period Type:	Annual	**Order:**	Latest on Right
Currency:	Reported Currency	**Conversion:**	Historical
Units:	S&P Capital IQ (Defau	**Decimals:**	Capital IQ (Default)

Income Statement

For the Fiscal Period Ending	Most Recent 3 Yrs. Unweighted Avg.	12 months Dec-31-2012	12 months Dec-31-2013	12 months Dec-31-2014	12 months Dec-31-2015	12 months Dec-31-2016	12 months Dec-31-2017
Currency	*USD*	*USD*	*USD*	*USD*	*USD*	*USD*	*USD*
Sales	3,272.67	2,876.89	2,901.86	3,011.33	3,159.0	3,302.0	3,357.0
Other Operating Revenues							
Revenues, Pre-Adj.	**3,272.67**	**2,876.89**	**2,901.86**	**3,011.33**	**3,159.0**	**3,302.0**	**3,357.0**
- Captive Finance Revenues	0	0	0	0	0	0	0
+ Revenues, Consol. (Deconsol.)							
- Securitized Interest	0	0	0	0	0	0	0
- Amortized Portion of Securitized Debt	0	0	0	0	0	0	0
+ Revenues - Finance/Interest Income							
+ Revenues - Profit on Disposals							
+ Revenues - Derivatives							
Revenues - other							
Revenues, Adj.	**3,272.67**	**2,876.89**	**2,901.86**	**3,011.33**	**3,159.0**	**3,302.0**	**3,357.0**
Cost of Goods Sold		0	0	0	0	0	
SG&A				0	0	0	
R&D							
Raw Materials, Supplies, and Merchandise							
Change in Stocks	0	0	0	0	0	0	0
Capitalized Costs	0	0	0	0	0	0	0
Staff Expense, Total							
Taxes Other Than Income	253.33	221.21	234.64	236.73	243.0	258.0	259.0
Operating Expense, Other	1,427.0	1,350.04	1,312.72	1,349.86	1,404.0	1,499.0	1,378.0
Inc/(Exp) of Unconsolidated Companies	0	0	0	0	0	0	0
Special Items (Operating)	(9.67)	(0.84)	0.93	(1.93)	(3.0)	(10.0)	(16.0)
Total operating expense (Bef. D&A), Pre-Adj.	**1,670.67**	**1,570.41**	**1,548.29**	**1,584.67**	**1,644.0**	**1,747.0**	**1,621.0**
Operating Income (Bef. D&A), Pre-Adj.	**1,602.0**	**1,306.48**	**1,353.57**	**1,426.66**	**1,515.0**	**1,555.0**	**1,736.0**
+ Trade Receivables Sold							
+ OLA Rent	13.83	19.35	16.53	14.95	13.5	13.5	14.5
- Captive Finance EBITDA	0	0	0	0	0	0	0

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+ Revenues, Consol. (Deconsol.)							
- Expenses, Consol. (Deconsol.)	0	0	0	0	0	0	0
- Securitized Interest	0	0	0	0	0	0	0
- Amortized Portion of Securitized Debt	0	0	0	0	0	0	0
+ ARO Interest Charged to Operating Costs							
+ PPA Depreciation							
+ PPA Interest Expense	0	0	0	0	0	0	0
- Capitalized Development Costs	0	0	0	0	0	0	0
- Infrastructure Renewal Costs	0	0	0	0	0	0	0
+ Cap. Int. (EBITDA Transfer From Inventory)							
+ Pension & Other Postretirement Expense	11.33	38.87	24.92	(18.76)	10.0	10.0	14.0
+ Revenues - Finance/Interest Income							
+ Revenues - Profit on Disposals							
+ Revenues - Derivatives							
Revenue - Other							
+ COGS - Restructuring Costs							
+ COGS - Valuation Gains/(Losses)							
+ COGS - Other Non-Operating Nonrecurring Items							
+ COGS- LIFO Liquidation gains							
+ SG&A - Restructuring Costs							
+ SG&A - Valuation Gains/(Losses)							
+ SG&A - Other Non-Operating Nonrecurring Items							
+ R&D - Restructuring Costs							
+ R&D - Valuation Gains/(Losses)							
+ R&D - Other Non-Operating Nonrecurring Items							
+ RMS&M - Restructuring Costs							
+ RMS&M - Valuation Gains/(Losses)							
+ RMS&M - Other Non-Operating Nonrecurr. Items							
+ Staff - Restructuring Costs							
+ Staff - Valuation Gains/(Losses)							
+ Staff - Other Non-Operating Nonrecurring Items							
+ EBITDA - Inc/(Exp) of Unconsol. Companies							
+ EBITDA - Gain/(Loss) on Disp. of PP&E	(7.67)	(0.84)	0.93	1.93	3.0	(10.0)	(16.0)
+ EBITDA - FV changes of contingent consider.							
+ EBITDA - Foreign Exchange Gain/(Loss)							
+ EBITDA - Restructuring Costs							
+ EBITDA - Derivatives							
+ EBITDA - Streaming transactions							
+ EBITDA - Settlement (Litig./Insur.) Costs							
+ EBITDA - Valuation Gains/(Losses)							
+ EBITDA - Business Divestments							
+ EBITDA - Inventory							
+ EBITDA - Other Income/(Expense)							
+ EBITDA - Other							
Operating income (bef. D&A), Adj.	**1,619.5**	**1,363.86**	**1,395.94**	**1,424.78**	**1,541.5**	**1,568.5**	**1,748.5**
Impairment Charges/(Reversals)	NM					5.0	
Asset Valuation Gains/(Losses)	0	0	0	0	0	0	0
D&A	467.33	381.5	407.72	424.08	440.0	470.0	492.0
D&A, Impair. & Val. Changes, Pre-Adj.	**469.0**	**381.5**	**407.72**	**424.08**	**440.0**	**475.0**	**492.0**

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+ OLA Depreciation	8.09	11.8	9.69	8.57	7.46	7.91	8.89
- Captive Finance D&A	0	0	0	0	0	0	0
+ Depreciation, Consol. (Deconsol.)							
- Amortized Portion of Securitized Debt	0	0	0	0	0	0	0
+ PPA Depreciation							
- Amortized Development Costs	0	0	0	0	0	0	0
- Infrastructure Renewal Costs	0	0	0	0	0	0	0
+ D&A - Asset Valuation Gains/(Losses)							
+ D&A - Impairment Charges/(Reversals)						(5.0)	
+ D&A - Reverse Goodwill Amortisation							
+ D&A - Other							
D&A, Adj.	**475.42**	**393.31**	**417.41**	**432.65**	**447.46**	**477.91**	**500.89**
Operating Income (After D&A), Adj.	**1,144.08**	**970.55**	**978.53**	**992.13**	**1,094.04**	**1,090.59**	**1,247.61**
Non-Operating Income (Expense), Total	24.67	21.96	(26.84)	10.66	28.0	29.0	17.0
EBIT, Pre-Adj.	**1,157.67**	**946.93**	**919.01**	**1,013.24**	**1,103.0**	**1,109.0**	**1,261.0**
+ EBIT - Finance/Interest Income							
+ EBIT - Inc/(Exp) of Unconsol. Companies							
+ EBIT - Other							
- Captive Finance Investment Income	0	0	0	0	0	0	0
- Share of Profit/(Loss) of Eq. Affil. in Capt.	0	0	0	0	0	0	0
+ Non-Oper. Inc/(Exp), Consol. (Deconsol.)							
EBIT, Adj.	**1,168.75**	**992.51**	**951.69**	**1,002.79**	**1,122.04**	**1,119.59**	**1,264.61**
Interest Expense, Pre-Adj.	**334.0**	**315.68**	**313.54**	**303.42**	**321.0**	**339.0**	**342.0**
+ Capitalized Interest	7.33	7.77	6.38	5.84	8.0	6.0	8.0
Capitalized interest not in capex (IFRS)							
+ OLA Interest Expense	5.75	7.54	6.84	6.38	6.04	5.59	5.61
+ Interest From Receivables Sold	0	0	0	0	0	0	0
+ Receivables Sold Interest Adjustment							
- Captive Finance Interest	0	0	0	0	0	0	0
+ Interest Expense, Consol. (Deconsol.)							
+ PPA Interest Expense	0	0	0	0	0	0	0
+ ARO Interest Costs (Net of Fund Earnings)	0	0	0	0	0	0	0
- Nonrecourse Interest	0	0	0	0	0	0	0
- Securitized Interest	0	0	0	0	0	0	0
+ Low equity hybrid dividend accrual							
- High equity hybrid interest expense	0	0	0	0	0	0	0
- Interm-Equity hybrid interest expense	(0.5)	(0.56)	(0.51)	(0.46)	(0.5)	(0.5)	(0.5)
+ Interm-Equity hybrid dividend accrual	0	0	0	0	0	0	0
+ Pension & other postretirement interest exp.	21.6	34.88	24.09	17.09	18.87	22.93	22.98
+ Interest Expense - Derivatives							
+ Interest Expense - Shareholder Loan							
+ Interest - Streaming transaction							
+ Interest expense - Other							

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Interest expense, Adj.	**368.18**	**365.31**	**350.34**	**332.28**	**353.41**	**373.03**	**378.1**
EBITDA, Pre-Adj.	**1,602.0**	**1,306.48**	**1,353.57**	**1,426.66**	**1,515.0**	**1,555.0**	**1,736.0**
+ Trade Receivables Sold							
+ OLA rent	13.83	19.35	16.53	14.95	13.5	13.5	14.5
- Captive Finance EBITDA	0	0	0	0	0	0	0
+ Revenues, Consol. (Deconsol.)							
- Expenses, Consol. (Deconsol.)	0	0	0	0	0	0	0
+ Div. from Equity Invstmts, Consol. (Deconsol.)							
- Securitized Interest	0	0	0	0	0	0	0
- Amortized Portion of Securitized Debt	0	0	0	0	0	0	0
+ ARO Interest Charged to Operating Costs							
+ PPA Depreciation							
+ PPA Interest Expense	0	0	0	0	0	0	0
- Capitalized Development Costs	0	0	0	0	0	0	0
- Infrastructure Renewal Costs	0	0	0	0	0	0	0
+ Cap. Int. (EBITDA Transfer From Inventory)							
+ Exploration Costs							
+ Dividends Rec. From Equity Invest.							
+ Pension & Other Postretirement Expense	11.33	38.87	24.92	(18.76)	10.0	10.0	14.0
+ Stock Compensation Expense	11.0	11.47	12.47	13.04	11.0	11.0	11.0
+ Revenues - Finance/Interest Income							
+ Revenues - Profit on Disposals							
+ Revenues - Derivatives							
+ Revenues - Other							
+ COGS - Restructuring Costs							
+ COGS - Valuation Gains/(Losses)							
+ COGS - Other Non-Operating Nonrecurring Items							
+ COGS- LIFO Liquidation gains							
+ SG&A - Restructuring Costs							
+ SG&A - Valuation Gains/(Losses)							
+ SG&A - Other Non-Operating Nonrecurring Items							
+ R&D - Restructuring Costs							
+ R&D - Valuation Gains/(Losses)							
+ R&D - Other Non-Operating Nonrecurring Items							
+ RMS&M - Restructuring Costs							
+ RMS&M - Valuation Gains/(Losses)							
+ RMS&M - Other Non-Operating Nonrecurring Items							
+ Staff - Restructuring Costs							
+ Staff - Valuation Gains/(Losses)							
+ Staff - Other Non-Operating Nonrecurring Items							
+ EBITDA - Inc/(Exp) of Unconsol. Companies							
+ EBITDA - Gain/(Loss) on Disp. of PP&E	(7.67)	(0.84)	0.93	1.93	3.0	(10.0)	(16.0)
+ EBITDA - Fair value changes of contingent consideration							
+ EBITDA - Foreign Exchange Gain/(Loss)							
+ EBITDA - Restructuring Costs							
+ EBITDA - Derivatives							
+ EBITDA - Streaming transactions							

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+ EBITDA - Settlement (Litig./Insur.) Costs							
+ EBITDA - Valuation Gains/(Losses)							
+ EBITDA - Business Divestments							
+ EBITDA - Inventory							
+ EBITDA - Other Income/(Expense)							
+ EBITDA - Other							
EBITDA, Adj.	**1,630.5**	**1,375.33**	**1,408.41**	**1,437.83**	**1,552.5**	**1,579.5**	**1,759.5**
Summary FFO Calculation							
EBITDA, Adj.	**1,630.5**	**1,375.33**	**1,408.41**	**1,437.83**	**1,552.5**	**1,579.5**	**1,759.5**
- Interest expense, Adj.	(368.18)	(365.31)	(350.34)	(332.28)	(353.41)	(373.03)	(378.1)
+ Interest and dividend income, Adj.	14.67	12.65	11.75	11.44	13.0	14.0	17.0
- Current taxes, Adj.	13.95	74.22	(5.7)	23.12	5.5	16.12	20.22
+/- Other (Exploration costs & FFO other)	0	0	0	0	0	0	0
FFO, Adj.	**1,263.04**	**948.45**	**1,075.53**	**1,093.87**	**1,206.59**	**1,204.35**	**1,378.18**
Funds from operations							
EBITDA, Pre-Adj.	**1,602.0**	**1,306.48**	**1,353.57**	**1,426.66**	**1,515.0**	**1,555.0**	**1,736.0**
- Interest expense, Pre-Adj.	(334.0)	(315.68)	(313.54)	(303.42)	(321.0)	(339.0)	(342.0)
+ Interest income, Pre-Adj.	14.67	12.65	11.75	11.44	13.0	14.0	17.0
- Current tax expense, Pre-Adj.	(18.33)	(58.08)	12.79	(25.82)	(10.0)	(21.0)	(24.0)
- Capitalized interest	(7.33)	(7.77)	(6.38)	(5.84)	(8.0)	(6.0)	(8.0)
- Capitalized interest within inventory	0	0	0	0	0	0	0
+ Capitalized Int. (EBITDA trfr. fr. inventory)							
+ Trade Receivables sold							
- Interest from receivables sold	0	0	0	0	0	0	0
- Receivables sold interest adjustment	0	0	0	0	0	0	0
+ OLA rent	13.83	19.35	16.53	14.95	13.5	13.5	14.5
- OLA interest	(5.75)	(7.54)	(6.84)	(6.38)	(6.04)	(5.59)	(5.61)
- Captive Finance EBITDA	0	0	0	0	0	0	0
- Captive finance investment income	0	0	0	0	0	0	0
+ Captive finance interest	0	0	0	0	0	0	0
+ Captive Finance Current Tax Effect	0	0	0	0	0	0	0
+ Revenues, consolidating (Deconsol.)							
- Expenses, consolidating (Deconsol.)	0	0	0	0	0	0	0
+ Div. from Equity Invstmts, Consol. (Deconsol.)							
- Interest expense, consolidating (Deconsol.)	0	0	0	0	0	0	0
- Current Tax Expense, Consolidating (Deconsol.)	0	0	0	0	0	0	0
- Securitized interest	0	0	0	0	0	0	0
- Amortized portion of securitized debt	0	0	0	0	0	0	0
+ Nonrecourse interest							
+ Securitized interest							
+ ARO finance costs included in EBITDA							
- Total ARO Interest Costs	0	0	0	0	0	0	0
+Return on ARO plan assets							
- Tax effect on ARO net interest cost	0	0	0	0	0	0	0

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+ PPA depreciation							
+ PPA interest expense	0	0	0	0	0	0	0
- PPA interest expense	0	0	0	0	0	0	0
- Capitalized development costs	0	0	0	0	0	0	0
- Infrastructure renewal costs	0	0	0	0	0	0	0
+ Dividends received from equity investments							
+ Pension & other postretirement expenses (EBITDA adjustment)	11.33	38.87	24.92	(18.76)	10.0	10.0	14.0
- Pension & other postretirement benefit interest cost	(106.0)	(102.44)	(96.8)	(105.26)	(104.0)	(108.0)	(106.0)
- Imputed Return on Plan Assets (Non-IFRS)	84.4	67.55	72.7	88.16	85.13	85.07	83.02
- Pension & other postretirement tax effect	4.39	(16.14)	(7.09)	2.7	4.5	4.88	3.78
+ Exploration costs							
- Exploration costs	0	0	0	0	0	0	0
+ Stock compensation expense	11.0	11.47	12.47	13.04	11.0	11.0	11.0
- Low equity hybrid dividend accrual	0	0	0	0	0	0	0
+ High equity hybrid interest expense							
+ Interm-Equity hybrid interest expense	0.5	0.56	0.51	0.46	0.5	0.5	0.5
- Interm-Equity hybrid dividend accrual	0	0	0	0	0	0	0
+ Revenues - Finance/Interest Income							
+ Revenues - Profit on disposals							
+ Revenues - Derivatives							
+ Revenues - Other							
+ COGS- Restructuring costs							
+ COGS- Valuation gains/(losses)							
+ COGS- Other non-operating nonrecurring items							
+ COGS- LIFO Liquidation gains							
+ SG&A- Restructuring costs							
+ SG&A- Valuation gains/(losses)							
+ SG&A- Other non-operating nonrecurring items							
+ R&D- Restructuring costs							
+ R&D- Valuation gains/(losses)							
+ R&D- Other non-operating nonrecurring items							
+ RMS&M- Restructuring costs							
+ RMS&M Valuation gains/(losses)							
+ RMS&M- Other non-operating nonrecurring items							
+ Staff - Restructuring costs							
+ Staff - Valuation gains/(losses)							
+ Staff - Other non-operating nonrecurr. Items							
+ EBITDA - Income (expense) of unconsol. cos.							
+ EBITDA - Gain/(Loss) on disposals of PP&E	(7.67)	(0.84)	0.93	1.93	3.0	(10.0)	(16.0)
+ EBITDA - Fair value changes of contingent consideration							
+ EBITDA - Foreign Exchange gain/(loss)							
+ EBITDA - Restructuring costs							
+ EBITDA - Derivatives							
+ EBITDA - Streaming transactions							
+ EBITDA - Settlement (litigation/insur.) costs							
+ EBITDA - Valuation gains/(losses)							
+ EBITDA - Business Divestments							
+ EBITDA - Inventory							
+ EBITDA - Other income/(expense)							

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+ EBITDA - Other							
- Interest expense - Derivatives	0	0	0	0	0	0	0
- Interest expense - Shareholder loan	0	0	0	0	0	0	0
- Interest expense - Amortized cost	0	0	0	0	0	0	0
- Interest expense - Streaming transactions	0	0	0	0	0	0	0
- Interest expense - Other	0	0	0	0	0	0	0
FFO - Other							
FFO, Adj.	**1,263.04**	**948.45**	**1,075.53**	**1,093.87**	**1,206.59**	**1,204.35**	**1,378.18**
Last Update Date	NA	Dec-09-2013	May-19-2014	Mar-04-2015	Mar-10-2016	Apr-17-2017	May-07-2018

NM --- Not Meaningful
Company Last Updated: May-07-2018 1:11:43 AM EST.

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Capital IQ

American Water Works Company, Inc. (NYSE:AWK) > CreditStats Direct® > Balance Sheet

In Millions of the reported currency.

Template:	Adjusted	**Restatement:**	Latest Filings
Period Type:	Annual	**Order:**	Latest on Right
Currency:	Reported Currency	**Conversion:**	Historical
Units:	S&P Capital IQ (Defau	**Decimals:**	Capital IQ (Default)

Balance Sheet

For the Fiscal Period Ending	Most Recent 3 Yrs. Unweighted Avg.	12 months Dec-31-2012	12 months Dec-31-2013	12 months Dec-31-2014	12 months Dec-31-2015	12 months Dec-31-2016	12 months Dec-31-2017
Currency	*USD*	*USD*	*USD*	*USD*	*USD*	*USD*	*USD*
Cash & Short-Term Investments, Pre-Adj.	**58.67**	**24.43**	**26.96**	**23.08**	**45.0**	**76.0**	**55.0**
- Restricted cash (some IFRS reporters)	(0.33)	0	0	0	0	(1.0)	0
+ Cash, Consolidating (Deconsolidating)							
Cash & Short-Term Investments, Adj.	**58.33**	**24.43**	**26.96**	**23.08**	**45.0**	**75.0**	**55.0**
Receivables, Pre-Adj.	**442.0**	**385.0**	**427.76**	**452.65**	**522.0**	**532.0**	**272.0**
+ Finance Receivables Sold							
+ Trade Receivables Sold							
- Captive short-term finance receivables	0	0	0	0	0	0	0
Receivables, Adj.	**442.0**	**385.0**	**427.76**	**452.65**	**522.0**	**532.0**	**272.0**
Inventories, Pre-Adj.	**39.33**	**29.77**	**32.97**	**37.19**	**38.0**	**39.0**	**41.0**
Inventory - LIFO reserve							
Inventories, Adj.	39.33	29.77	32.97	37.19	38.0	39.0	41.0
Other Current Assets, Pre-Adj.	180.33	60.24	62.69	148.45	52.0	137.0	352.0
Total Current Assets, Adj.	**720.0**	**499.45**	**550.39**	**661.37**	**657.0**	**783.0**	**720.0**
Total Assets, Pre-Adj.	**18,401.67**	**14,718.98**	**15,069.53**	**16,130.96**	**17,241.0**	**18,482.0**	**19,482.0**
+ Finance Receivables Sold							
- Total Assets of Captive Finance Entity	0	0	0	0	0	0	0
+ Total Assets, Consol. (Deconsol.)							
+ Trade Receivables Sold							
+ Present Value of Operating Leases	80.81	103.69	91.83	90.56	82.11	77.67	82.67
Inventory - LIFO reserve							
+ Total Assets - Fair Value							
+ Total Assets (Other)							
Total Assets, Adj.	**18,482.48**	**14,822.67**	**15,161.36**	**16,221.51**	**17,323.11**	**18,559.67**	**19,564.67**
Debt							
Short-Term Debt	1,110.0	385.9	644.48	511.09	681.0	1,422.0	1,227.0
Long-Term Debt	6,043.0	5,209.37	5,230.06	5,444.68	5,872.0	5,759.0	6,498.0
Debt, Pre-Adj.	**7,153.0**	**5,595.27**	**5,874.54**	**5,955.77**	**6,553.0**	**7,181.0**	**7,725.0**
+ Trade Receivables Sold							
+ OLA Debt	80.81	103.69	91.83	90.56	82.11	77.67	82.67

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- Captive Finance Debt	0	0	0	0	0	0	0
+ Finance Receivables Sold							
+ Debt, Consolidating (Deconsolidating)							
- Surplus cash	(58.33)	(18.32)	(20.22)	(23.08)	(45.0)	(75.0)	(55.0)
- Nonrecourse Debt	0	0	0	0	0	0	0
- Securitized Debt	0	0	0	0	0	0	0
+ Purchase Power Debt Equivalent							
+ ARO Debt Adjustment	0	0	0	0	0	0	0
+ Low-Equity Hybrid Reported as Equity							
- High-Equity Hybrid Reported as Debt	0	0	0	0	0	0	0
- Interm-Equity hybrid rep as debt, Debt	(5.33)	(9.43)	(8.59)	(7.75)	(6.0)	(5.0)	(5.0)
+ Interm-Equity hybrid rep. as equity, Equity	0	0	0	0	0	0	0
+ Pension & Other Debt/Deferred Comp.	322.59	465.98	128.23	323.55	324.35	321.1	322.32
+ Accrued Int. Not Incl. in Pre-Adj. Debt	66.0	53.81	52.09	56.52	62.0	63.0	73.0
Debt - Guarantees							
+ Debt - Litigation							
+ Debt - Workers Comp./Self Insurance							
+ Debt - Volumetric Production Payments							
+ Debt - Unamort. Capital. Borrowing Costs							
+ Debt - Derivatives							
+ Debt - Foreign Currency Hedges							
Debt - Contingent considerations							
+ Debt - Fair Value Adjustments							
+ Debt - Finance Leases							
+ Debt - Put Options on Minority Stakes							
+ Debt - Debt Serviced By Third Parties							
Debt - Streaming transactions							
+ Debt - Shareholder Loans							
+ Debt - Equity Comp. of Convertible Debt							
+ Debt - Tax Liabilities							
Debt - Issuance cost						9.0	13.0
Debt - Seller financing repayable in cash							
Debt - Amortized cost							
+ Debt - Govt. Cost Recovery (Defense Sector)							
Debt - Other							
Debt, Adj.	**7,566.07**	**6,191.0**	**6,117.87**	**6,395.57**	**6,970.46**	**7,571.77**	**8,155.99**
Preferred Stock, Pre-Adj.		**1.72**	**0**				
- Low-Equity Hybrid Reported as Equity	0	0	0	0	0	0	0
+ High-Equity Hybrid Reported as Debt							
+ Interm-Equity hybrid rep as debt, Debt	5.33	9.43	8.59	7.75	6.0	5.0	5.0
- Interm-Equity hybrid rep. as equity, Equity	0	0	0	0	0	0	0
Preferred Stock, Adj.	**5.33**	**11.15**	**8.59**	**7.75**	**6.0**	**5.0**	**5.0**
Common Equity, Pre-Adj.	**5,217.33**	**4,443.27**	**4,727.8**	**4,915.59**	**5,049.0**	**5,218.0**	**5,385.0**
- Captive Finance Equity	0	0	0	0	0	0	0
+ Equity, Consolidating (Deconsolidating)							
+ Pension & Other Postretirement Equity	0	0	0	0	0	0	0
+ Equity - Government Grants							

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+ Equity - Fair Value Adjustments							
Equity - LIFO reserve							
Equity - Other							
Common Equity, Adj.	**5,217.33**	**4,443.27**	**4,727.8**	**4,915.59**	**5,049.0**	**5,218.0**	**5,385.0**
Last Update Date	NA	Dec-09-2013	May-19-2014	Mar-04-2015	Mar-10-2016	Apr-17-2017	May-07-2018

Company Last Updated: May-07-2018 1:11:43 AM EST.

S&P Credit Ratings and Research provided by S&P Global Ratings

S&P Capital IQ

American Water Works Company, Inc. (NYSE:AWK) > CreditStats Direct® > Cash Flow

In Millions of the reported currency.

Template:	Adjusted	**Restatement:**	Latest Filings
Period Type:	Annual	**Order:**	Latest on Right
Currency:	Reported Currency	**Conversion:**	Historical
Units:	S&P Capital IQ (Defau	**Decimals:**	Capital IQ (Default)

Cash Flow

For the Fiscal Period Ending	Most Recent 3 Yrs. Unweighted Avg.	12 months Dec-31-2012	12 months Dec-31-2013	12 months Dec-31-2014	12 months Dec-31-2015	12 months Dec-31-2016	12 months Dec-31-2017
Currency	*USD*	*USD*	*USD*	*USD*	*USD*	*USD*	*USD*
Changes in Assets and Liabilities							
Decrease (Increase) in Receivables	(11.67)	(34.53)	(52.35)	(25.36)	(52.0)	(4.0)	21.0
Decrease (Increase) in Inventories							
Inc. (Dec.) in Acct. Payable/ Creditors	59.33		16.22	(26.14)	80.0	60.0	38.0
Increase (Decrease) in Accrued Liabilities							
Inc. (Dec.) in Acct. Payable & Acc. Liab.		(10.57)					
Inc. (Dec.) in Income Taxes - Accrued		21.04	(26.37)	(4.69)			
Increase (Decrease) in Customer Advances							
Inc. (Dec.) in Other Assets/ Liab.	14.67	35.47	(47.92)	96.27	4.0	62.0	(22.0)
Changes in Assets and Liab., Pre-Adj.	**62.33**	**11.41**	**(110.42)**	**40.09**	**32.0**	**118.0**	**37.0**
- Trade Receivables Sold Movement	0	0	0	0	0	0	0
- Captive Finance Working Capital	0	0	0	0	0	0	0
+ Working Capital, Consol. (Deconsol.)							
+ Capitalized Interest Within Inventory	0	0	0	0	0	0	0
+ Working Capital - LIFO/FIFO							
+ Working Capital - Taxes							
+ Working Capital - Derivatives							
+ Working Capital (Ad Hoc)							
Changes in Assets and Liabilities, Adj.	**62.33**	**11.41**	**(110.42)**	**40.09**	**32.0**	**118.0**	**37.0**
Funds From Operations							
Cash Flow From Operations, Pre-Adj.	**1,301.33**	**955.6**	**896.16**	**1,097.29**	**1,179.0**	**1,276.0**	**1,449.0**
- Capitalized Interest	(7.33)	(7.77)	(6.38)	(5.84)	(8.0)	(6.0)	(8.0)
- Capitalized Interest Within Inventory	0	0	0	0	0	0	0
+ OLA Depreciation	8.09	11.8	9.69	8.57	7.46	7.91	8.89
- Captive Finance Cash Flow from Operations	0	0	0	0	0	0	0
+ OCF Bef. Working Capital, Consol. (Deconsol.)							
+ PPA Depreciation							
- Capitalized Development Costs	0	0	0	0	0	0	0
- Infrastructure Renewal Costs	0	0	0	0	0	0	0
- US Decommissioning Fund Contributions	0	0	0	0	0	0	0
+ ARO Adjustment (Costs)/Credit	0	0	0	0	0	0	0
- Low equity hybrid dividend cash payments	0	0	0	0	0	0	0
+ High equity hybrid interest cash payments							
+ Intermediate hybrid rep. as debt cash interest	0.5	0.56	0.51	0.46	0.5	0.5	0.5

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- Intermediate hybrid rep. as equity cash int.	0	0	0	0	0	0	0
+ Pension & Other Expense, Normalized Data	(10.54)	29.97	13.17	(5.02)	(8.37)	(9.06)	(14.21)
- Amortized Portion of Securitized Debt	0	0	0	0	0	0	0
+ OCF - LIFO/FIFO							
+ OCF - Taxes							
+ OCF - Restructuring costs							
+ OCF - Asset Disposals							
+ OCF - Discontinued Operations		16.18					
+ OCF - Regulatory Allowance							
+ OCF - Derivatives							
+ OCF - Other							
Int. (Incl. in Financing/Investing Acct.)	0	0	0	0	0	0	0
+ Dividends Rec. (Incl. Fin/Invest Acct.)	0	0	0	0	0	0	0
+ FX Movements (Rep. Below CFO)							
- Trade Receivables Sold Movement	0	0	0	0	0	0	0
+ Working Capital, Consol. (Deconsol.)							
+ Capitalized Interest Within Inventory	0	0	0	0	0	0	0
+ Working Capital - LIFO/FIFO							
+ Working Capital - Taxes							
+ Working Capital - Derivatives							
+ Working capital - Other							
Cash flow from operations, Adj.	**1,292.04**	**1,006.34**	**913.15**	**1,095.45**	**1,170.59**	**1,269.35**	**1,436.18**
Free operating and discretionary cash flows							
Capital Expenditures, Pre-Adj.	**1,301.67**	**928.57**	**980.25**	**956.12**	**1,160.0**	**1,311.0**	**1,434.0**
- Capitalized Interest	(7.33)	(7.77)	(6.38)	(5.84)	(8.0)	(6.0)	(8.0)
- Capitalized Development Costs	0	0	0	0	0	0	0
- Infrastructure Renewal Costs	0	0	0	0	0	0	0
- Captive Finance Capital Expenditure	0	0	0	0	0	0	0
+ PPA Depreciation							
+ Capex, Consolidating (Deconsolidating)							
+ Capex - Customer Contributions							
Capex - Routine sales of equipment	0	0	0	0	0	0	0
+ Capital expenditure - Other							
Capital Expenditures, Adj.	**1,294.33**	**920.8**	**973.88**	**950.28**	**1,152.0**	**1,305.0**	**1,426.0**
Dividends, Pre-Adj.	**263.0**	**213.46**	**149.45**	**216.35**	**239.0**	**261.0**	**289.0**
+ Dividends, Consol. (Deconsol.)							
- Low equity hybrid dividend cash payments	0	0	0	0	0	0	0
+ High equity hybrid interest cash payments							
+ Intermediate hybrid rep. as debt cash interest	0.5	0.56	0.51	0.46	0.5	0.5	0.5
- Intermediate hybrid rep. as equity cash int.	0	0	0	0	0	0	0
+ Dividend - Other							
Dividends, Adj.	**263.5**	**214.02**	**149.96**	**216.81**	**239.5**	**261.5**	**289.5**
Cash Flow From Operations, Pre-Adj.	**1,301.33**	**955.6**	**896.16**	**1,097.29**	**1,179.0**	**1,276.0**	**1,449.0**
- Int. Paid/Rec. (Incl. Fin/Invest. Act.)	0	0	0	0	0	0	0
+ Dividends Rec. (Incl. Fin/Invest. Act.)	0	0	0	0	0	0	0
+ FX Movements (Rep. Below CFO)							
Cash From Ops. + Reclassifcations, Rep.	**1,301.33**	**955.6**	**896.16**	**1,097.29**	**1,179.0**	**1,276.0**	**1,449.0**

S&P Capital IQ

- Capital Expenditures, Pre-Adj.	(1,301.67)	(928.57)	(980.25)	(956.12)	(1,160.0)	(1,311.0)	(1,434.0)
Free Operating Cash Flow, Pre-Adj.	**(0.33)**	**27.02**	**(84.09)**	**141.17**	**19.0**	**(35.0)**	**15.0**
- Dividends, Pre-Adj.	(263.0)	(213.46)	(149.45)	(216.35)	(239.0)	(261.0)	(289.0)
Discretionary Cash Flow, Pre-Adj.	**(263.33)**	**(186.44)**	**(233.54)**	**(75.19)**	**(220.0)**	**(296.0)**	**(274.0)**
Cash flow from operations, Adj.	**1,292.04**	**1,006.34**	**913.15**	**1,095.45**	**1,170.59**	**1,269.35**	**1,436.18**
- Capital Expenditures, Adj.	(1,294.33)	(920.8)	(973.88)	(950.28)	(1,152.0)	(1,305.0)	(1,426.0)
Free Operating Cash Flow, Adj.	**(2.29)**	**85.54**	**(60.73)**	**145.17**	**18.59**	**(35.65)**	**10.18**
- Dividends, Adj.	(263.5)	(214.02)	(149.96)	(216.81)	(239.5)	(261.5)	(289.5)
Discretionary Cash Flow, Adj.	**(265.79)**	**(128.48)**	**(210.69)**	**(71.64)**	**(220.91)**	**(297.15)**	**(279.32)**
Free operating cash flow, lease Adj.							
Cash Flow From Operations, Adj.	1,292.04	1,006.34	913.15	1,095.45	1,170.59	1,269.35	1,436.18
- Capital expenditure, Lease adj.	(1,300.12)	(924.48)	(973.88)	(957.58)	(1,152.0)	(1,308.47)	(1,439.89)
FOCF, Lease adj.	(8.08)	81.86	(60.73)	137.87	18.59	(39.12)	(3.71)
Utility Measures: Int. Coverage Comps, Net CF							
FFO, Adj. (For Interest Coverage Ratios)							
Cash Interest Paid	324.67	329.33	317.83	301.14	309.0	327.0	338.0
Cash From Ops. (For Int. Coverage Ratios)							
FFO, Adj.	**1,263.04**	**948.45**	**1,075.53**	**1,093.87**	**1,206.59**	**1,204.35**	**1,378.18**
- Dividends, Adj.	(263.5)	(214.02)	(149.96)	(216.81)	(239.5)	(261.5)	(289.5)
Net Cash Flow, Adj.	**999.54**	**734.43**	**925.57**	**877.06**	**967.09**	**942.85**	**1,088.68**
Last Update Date	NA	Dec-09-2013	May-19-2014	Mar-04-2015	Mar-10-2016	Apr-17-2017	May-07-2018

Company Last Updated: May-07-2018 1:11:43 AM EST.

S&P
Capital IQ

S&P Capital IQ

American Water Works Company, Inc. (NYSE:AWK) > CreditStats Direct® > Capital Structure

In Millions of the reported currency.

Template:	Adjusted	**Restatement:**	Latest Filings
Period Type:	Annual	**Order:**	Latest on Right
Currency:	Reported Currency	**Conversion:**	Historical
Units:	S&P Capital IQ (Defau	**Decimals:**	Capital IQ (Default)

Capital Structure

For the Fiscal Period Ending	Most Recent 3 Yrs. Unweighted Avg.	12 months Dec-31-2012	12 months Dec-31-2013	12 months Dec-31-2014	12 months Dec-31-2015	12 months Dec-31-2016	12 months Dec-31-2017
Currency	***USD***	***USD***	***USD***	***USD***	***USD***	***USD***	***USD***
Minority Interest							
+ Preferred Stock, Adj.	5.33	11.15	8.59	7.75	6.0	5.0	5.0
+ Common Stock, Adj.	5,217.33	4,443.27	4,727.8	4,915.59	5,049.0	5,218.0	5,385.0
Equity, Adj.	**5,222.67**	**4,454.42**	**4,736.39**	**4,923.34**	**5,055.0**	**5,223.0**	**5,390.0**
Debt, Adj.	7,566.07	6,191.0	6,117.87	6,395.57	6,970.46	7,571.77	8,155.99
Debt and Equity, Adj.	**12,788.74**	**10,645.42**	**10,854.26**	**11,318.91**	**12,025.46**	**12,794.77**	**13,545.99**
+ Deferred Taxes & Investment Tax Credit	2,175.33	1,499.06	1,848.5	2,145.75	2,334.0	2,619.0	1,573.0
Capital, Adj.	**14,964.07**	**12,144.48**	**12,702.76**	**13,464.66**	**14,359.46**	**15,413.77**	**15,118.99**
Avg. Adj. Capital For Return on Capital	**14,688.35**	**12,098.02**	**12,423.62**	**13,083.71**	**13,912.06**	**14,886.61**	**15,266.38**
Equity, Adj.	5,222.67	4,454.42	4,736.39	4,923.34	5,055.0	5,223.0	5,390.0
- Intangibles & Other Long-Term Assets	(2,624.33)	(2,480.17)	(2,127.98)	(2,440.29)	(2,651.0)	(2,706.0)	(2,516.0)
Tangible Net Worth, Adj.	**2,598.33**	**1,974.25**	**2,608.41**	**2,483.05**	**2,404.0**	**2,517.0**	**2,874.0**
Last Update Date	NA	Dec-09-2013	May-19-2014	Mar-04-2015	Mar-10-2016	Apr-17-2017	May-07-2018

Company Last Updated: May-07-2018 1:11:43 AM EST.

S&P
Capital IQ

American Water Works Company, Inc. (NYSE:AWK) > CreditStats Direct® > Supplemental

In Millions of the reported currency.

Template:	Adjusted	**Restatement:**	Latest Filings
Period Type:	Annual	**Order:**	Latest on Right
Currency:	Reported Currency	**Conversion:**	Historical
Units:	S&P Capital IQ (Defau	**Decimals:**	Capital IQ (Default)

Supplemental

For the Fiscal Period Ending	Most Recent 3 Yrs. Unweighted Avg.	12 months Dec-31-2012	12 months Dec-31-2013	12 months Dec-31-2014	12 months Dec-31-2015	12 months Dec-31-2016	12 months Dec-31-2017
Currency	*USD*	*USD*	*USD*	*USD*	*USD*	*USD*	*USD*
Gross Margin (%)	100.0	100.0	100.0	100.0	100.0	100.0	100.0
SG&A/Revenues (%)	(0.42)	(0.67)	(0.57)	(0.5)	(0.43)	(0.41)	(0.43)
Raw Mat., Suppl. & Merch./Rev.	0	0	0	0	0	0	0
Staff Expense/Rev.	0	0	0	0	0	0	0
Advertising/Revenues (%)	NM	NM	NM	NM	NM	NM	NM
R&D/Revenues (%)	NM	NM	NM	NM	NM	NM	NM
EBITDA/Revenues (%)	49.8	47.81	48.53	47.75	49.15	47.83	52.41
Fixed-Charge Coverage (EBITDAR) (x)	4.24	3.59	3.85	4.15	4.23	4.06	4.42
EBIT Margin (%)	35.7	34.5	32.8	33.3	35.52	33.91	37.67
Effective Tax Rate (%)	43.88	40.71	39.01	39.44	39.13	39.22	53.29
Net Margin (%)	13.98	13.01	12.73	14.27	15.07	14.17	12.69
Total Asset Turnover (x)	0.18	0.19	0.19	0.19	0.19	0.18	0.18
Return on Total Assets (%)	6.52	6.68	6.35	6.39	6.69	6.24	6.63
Receivables Turnover (x)	7.03	8.04	7.14	6.84	6.48	6.27	8.35
Receivables Days	52.76	45.41	51.12	53.36	56.31	58.25	43.71
Inventory Turnover (x)	0	0	0	0	0	0	0
Inventory Days	NM	NM	NM	NM	NM	NM	NM
Inventory Leverage (x)	4.01	9.39	8.02	7.68	3.32	3.95	4.76
Accounts Payable Days	NM	NM	NM	NM	NM	NM	NM
Cash Conversion Cycle	0	0	0	0	0	0	0
Working Capital Turnover (x)	(17.71)	16.78	(38.65)	(55.15)	(23.97)	(17.29)	(11.88)
Working Capital Growth (%)	78.8	(130.56)	(49.5)	35.48	161.96	9.17	65.27
Capital Expenditures/D&A (x)	2.72	2.34	2.33	2.2	2.57	2.73	2.85
Discretionary Cash Flow/Debt (%)	(3.51)	(2.08)	(3.44)	(1.12)	(3.17)	(3.92)	(3.42)
Discretionary Cash Flow/EBITDA (%)	(16.31)	(9.34)	(14.96)	(4.98)	(14.23)	(18.81)	(15.87)
Free Operating Cash Flow/Revenues (%)	(0.06)	2.97	(2.09)	4.82	0.59	(1.08)	0.3
Inventories/Current Assets (%)	5.49	5.96	5.99	5.62	5.78	4.98	5.69
Current Assets/Total Assets (%)	3.9	3.37	3.63	4.08	3.79	4.22	3.68
Net Plant/Total Assets (%)	81.85	79.9	82.33	80.88	80.9	81.2	83.46
Preferred Stock	5.33	11.15	8.59	7.75	6.0	5.0	5.0
Common Equity	5,217.33	4,443.27	4,727.8	4,915.59	5,049.0	5,218.0	5,385.0

S&P Capital IQ

Current Ratio (%)	35.52	50.2	44.55	53.29	42.86	32.73	30.97
Short-Term Debt/Debt (%)	14.53	6.23	10.53	7.99	9.77	18.78	15.04
Last Update Date	NA	Dec-09-2013	May-19-2014	Mar-04-2015	Mar-10-2016	Apr-17-2017	May-07-2018

NM --- Not Meaningful
Company Last Updated: May-07-2018 1:11:43 AM EST.

S&P Credit Ratings and Research provided by S&P Global Ratings

S&P Global
Ratings

Research

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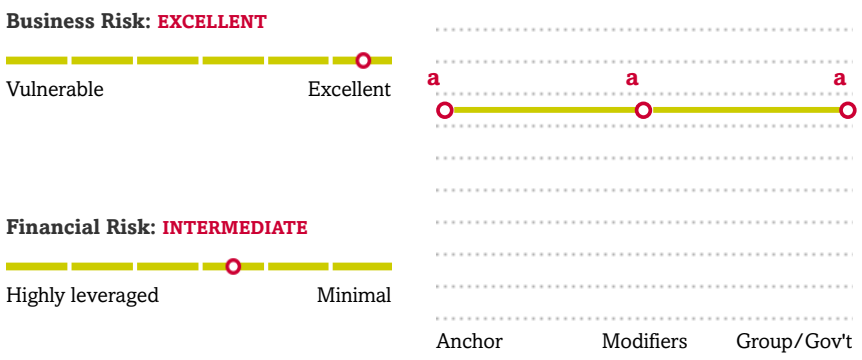
American Water Works Co. Inc.



CORPORATE CREDIT RATING

A/Stable/A-1

Rationale

Business Risk: Excellent	Financial Risk: Intermediate
• A low-risk, rate-regulated water utility; • Geographic and regulatory diversity; and • Effective management of regulatory risk.	• Financial measures evaluated under the most relaxed benchmarks; • Core financial measures consistent with the intermediate financial risk profile; • Large capital spending; and • External funding needs given negative discretionary cash flow.

Outlook: Stable

The stable rating outlook on American Water Works Co. Inc. (AWK) reflects S&P Global Ratings' expectation that the company will continue to effectively manage its regulatory risk while maintaining financial measures that remain consistently within the intermediate financial risk profile category. Under our base-case scenario forecast, we expect annual adjusted funds from operations (FFO) to debt averaging around 16%.

Downside scenario

We could lower the ratings on AWK if regulatory risk increased or performance stalled or deteriorated, which could result from substantial debt financing of capital spending or acquisitions, such that adjusted FFO to debt fell to less than 15%.

Upside scenario

We could raise the ratings if adjusted FFO to debt consistently remained over 20%. This could take place if the company managed its regulatory risk and achieved higher than expected rate case outcomes, along with continued prudently managed expenses.

Our Base-Case Scenario

Assumptions

- Ongoing effective management of regulatory risk;
- Annual capital spending of about $1.5 billion;
- Dividend growth of roughly 5%;
- Negative discretionary cash primarily due to higher capital spending; and
- All debt maturities refinanced.

Key Metrics

	2016A	2017E	2018E
FFO to debt (%)	15.9	15.5-17.5	15.5-17.5
Debt to EBITDA (x)	4.8	4.5-5.0	4.5-5.0
OCF to debt (%)	16.8	16-18	16.5-18.5

A--Actual. E--Estimated. FFO--Funds from operations. OCF—Operating cash flow.

Company Description

AWK is the largest and the most diversified U.S. investor-owned water utility, providing drinking water, waste water treatment, and other water-related services to about 15 million people in over 47 states in the U.S. In 2016, the regulated business contributed roughly 95% of AWK's EBITDA. Although AWK serves 3.3 million customers, principally residential homes and businesses, it also performs nonregulated contract operations for municipalities that own utility systems.

Business Risk: Excellent

Our assessment of AWK's business risk profile reflects the company's monopolistic and lower-risk, rate-regulated water distribution business providing an essential service in regulatory jurisdictions that we generally view as supportive of credit quality. The company benefits from constructive mechanisms such as the distribution system investment charge (DSIC) in a number of its jurisdictions, which allows for the recovery of high capital spending outside of a traditional rate-case proceeding and reduces regulatory lag. In addition, the company's geographic diversity, reliability, and efficiency further supports its business risk profile. AWK's elevated capital spending requirements for infrastructure replacement, increased compliance costs to meet water quality standards, and reliance on acquisitions to provide growth enhances these strengths. The company serves approximately 3.3 million water and wastewater customers across multiple states. Based on EBITDA, we consider AWK's operations about 95% regulated utility and 5% non-regulated. Although we view the non-regulated businesses as having higher business risk compared with the regulated operations, we also recognize that AWK's unregulated businesses marginally affect the company's business risk profile because of its modest expected capital requirements, affiliation with its regulated service jurisdictions, and lower-risk service contracts.

Peer comparison

Table 1.

American Water Works Co. Inc. -- Peer Comparison

Industry Sector: Water

	American Water Works Co. Inc.	Aqua America Inc.	Connecticut Water Service Inc.	American States Water Co.	The York Water Co.
Rating as of Sep. 20, 2017	A/Stable/A-1	(A+)/(Stable)/--	A/Stable/--	A+/Stable/--	A-/Stable/--
	--Average of the past three fiscal years--				
(Mil. $)					
Revenues	3,157.4	804.7	97.0	453.5	46.9
EBITDA	1,523.3	460.4	47.8	165.7	29.9
FFO	1,168.3	376.4	38.2	128.7	22.1
Net income from continuing operations	457.9	216.6	22.5	60.4	11.9
Cash flow from operations	1,178.5	377.6	34.0	121.6	20.1
Capital expenditures	1,135.8	352.0	52.7	98.8	13.6
Free operating cash flow	42.7	25.5	(18.7)	22.8	6.5
Discretionary cash flow	(196.6)	(95.9)	(30.6)	(10.0)	(1.2)
Cash and short-term investments	47.7	3.7	1.6	26.9	2.9
Debt	6,979.3	1,865.4	221.1	394.5	89.6
Equity	5,067.1	1,743.8	223.5	489.0	109.2
Adjusted ratios					
EBITDA margin (%)	48.2	57.2	49.2	36.5	63.9
Return on capital (%)	7.7	6.8	6.5	11.3	9.6
EBITDA interest coverage (x)	4.3	5.6	5.3	6.7	5.5
FFO cash interest coverage (X)	4.8	6.0	6.3	6.9	5.4
Debt to EBITDA (x)	4.6	4.1	4.6	2.4	3.0
FFO to debt (%)	16.7	20.2	17.3	32.6	24.6
Cash flow from operations to debt (%)	16.9	20.2	15.4	30.8	22.4
Free operating cash flow to debt (%)	0.6	1.4	(8.5)	5.8	7.2
Discretionary cash flow to debt (%)	(2.8)	(5.1)	(13.8)	(2.5)	(1.3)

FFO-Funds from operations

Financial Risk: Intermediate

Our base-case scenario forecast includes annual adjusted FFO to debt averaging around 16%, near the midpoint of the benchmark range. Adjusted OCF to debt bolsters this determination since in our base-case scenario we expect the measure to average 17%, slightly above the midpoint of the benchmark range. We expect debt leverage, as measured by adjusted debt to EBITDA, in the 4.5x-5x range, above the midpoint of the benchmark range. We expect capital

spending combined with dividend distributions will result in negative discretionary cash flow. Therefore external funding needs will limit any material deleveraging. We do expect AWK will continue to fund its investments in a manner that preserves credit quality. We base our financial risk assessment on our most relaxed financial ratio benchmarks, reflecting the company's steady cash flows from its low-risk, rate-regulated water utility operations and regulatory risk management.

Financial summary

Table 2.

American Water Works Co. Inc. -- Financial Summary

Industry Sector: Water

	--Fiscal year ended Dec. 31--				
	2016	**2015**	**2014**	**2013**	**2012**
Rating history	A/Stable/A-1	A/Stable/A-1	A-/Positive/A-2	A-/Stable/A-2	BBB+/Positive/A-2
(Mil. $)					
Revenues	3,302.0	3,159.0	3,011.3	2,901.9	2,876.9
EBITDA	1,579.5	1,552.5	1,437.8	1,408.4	1,375.3
FFO	1,204.4	1,206.6	1,093.9	1,075.5	948.4
Net income from continuing operations	468.0	476.0	429.8	369.3	374.3
Cash flow from operations	1,269.4	1,170.6	1,095.5	913.1	1,006.3
Capital expenditures	1,305.0	1,152.0	950.3	973.9	920.8
Free operating cash flow	(35.6)	18.6	145.2	(60.7)	85.5
Dividends paid	261.5	239.5	216.8	150.0	214.0
Discretionary cash flow	(297.1)	(220.9)	(71.6)	(210.7)	(128.5)
Debt	7,571.8	6,970.5	6,395.6	6,117.9	6,191.0
Preferred stock	5.0	6.0	7.8	8.6	11.2
Equity	5,223.0	5,055.0	4,923.3	4,736.4	4,454.4
Debt and equity	12,794.8	12,025.5	11,318.9	10,854.3	10,645.4
Adjusted ratios					
EBITDA margin (%)	47.8	49.1	47.7	48.5	47.8
EBITDA interest coverage (x)	4.2	4.4	4.3	4.0	3.8
FFO cash interest coverage (x)	4.7	4.9	4.7	4.4	3.9
Debt to EBITDA (x)	4.8	4.5	4.4	4.3	4.5
FFO to debt (%)	15.9	17.3	17.1	17.6	15.3
Cash flow from operations to debt (%)	16.8	16.8	17.1	14.9	16.3
Free operating cash flow to debt (%)	(0.5)	0.3	2.3	(1.0)	1.4
Discretionary cash flow to debt (%)	(3.9)	(3.2)	(1.1)	(3.4)	(2.1)
Net cash flow to Capex (%)	72.2	83.9	92.3	95.0	79.8
Return on capital (%)	7.5	8.1	7.7	7.7	8.2
Return on common equity (%)	9.0	9.4	8.6	7.6	8.1
Unadjusted common dividend payout ratio (%)	57.1	51.3	51.6	54.0	46.2

FFO-Funds from operations.

Liquidity: Adequate

We assess AWK's liquidity as adequate because we believe its liquidity sources are likely to cover uses by more than 1.1x over the next 12 months and meet cash outflows even with a 10% decline in EBITDA. The adequate assessment also reflects the company's generally prudent risk management, sound relationships with banks, and a generally satisfactory standing in credit markets.

Principal Liquidity Sources	Principal Liquidity Uses
• Cash and liquid investments of about $80 million; • We estimate cash FFO of about $1.3 billion; and • About $1.75 billion of available credit facility.	• Debt maturities, including outstanding commercial paper, of about $1.3 billion; • Capital spending of about $1.25 billion; and • Dividends of roughly $300 million.

Debt maturities

- 2017: $574 million
- 2018: $457 million
- 2019: $166 million
- 2020: $22 million
- 2021: $479 million

Covenant Analysis

As of March 31, 2017, AWK and its subsidiaries were in compliance with the financial covenants of their credit facilities and had sufficient cushion.

Compliance Expectations
• The company was in compliance as of March 31, 2017; • Single-digit EBITDA growth and elevated capital spending should still permit a cushion; and • Although we believe the company will remain in compliance, covenant headroom could decrease without adequate cost recovery of capital investments or if while making these investments debt rises rapidly without adequate growth in equity.

Requirements

Current: No more than 70%

As of year-end 2017: No more than 70%

As of year-end 2018: No more than 70%

Group Influence

Under our group rating methodology criteria, we assess AWK as the parent of a group that includes New Jersey American Water Co., Pennsylvania American Water Co., and American Water Capital Corp. (AWCC) As a result, AWK's standalone credit profile of 'a' becomes the group credit profile, leading to AWK's issuer credit rating of 'A'.

Ratings Score Snapshot

Corporate Credit Rating

A/Stable/A-1

Business risk: Excellent

- **Country risk:** Very low
- **Industry risk:** Very low
- **Competitive position:** Excellent

Financial risk: Intermediate

- **Cash flow/Leverage:** Intermediate

Anchor: a

Modifiers

- **Diversification/Portfolio effect:** Neutral (no impact)
- **Capital structure:** Neutral (no impact)
- **Financial policy:** Neutral (no impact)
- **Liquidity:** Adequate (no impact)
- **Management and governance:** Satisfactory (no impact)
- **Comparable rating analysis:** Neutral (no impact)

Stand-alone credit profile : a

- **Group credit profile:** a

Issue Ratings

We base our 'A-1' short-term rating on AWCC on our issuer credit rating on the company.

Subordination Risk Analysis
Capital structure

AWK's capital structure consists of about $7.2 billion of debt that includes priority debt of about $1.3 billion including that issued by AWK's operating subsidiaries.

Analytical conclusions

The unsecured debt at AWK's finance entity, AWCC, is rated the same as the issuer credit rating because priority debt does not exceed 50% of AWK's consolidated debt after which point AWCC's debt could be considered structurally subordinated.

Reconciliation

Table 3

Reconciliation Of American Water Works Co. Inc. Reported Amounts With S&P Global's Adjusted Amounts (Mil. $)

	--Fiscal year ended Dec. 31, 2016--								
American Water Works Co. Inc. reported amounts									
	Debt	**Shareholders' equity**	**EBITDA**	**Operating income**	**Interest expense**	**EBITDA**	**Cash flow from operations**	**Dividends paid**	**Capital expenditures**
Reported	7,181.0	5,218.0	1,555.0	1,080.0	339.0	1,555.0	1,276.0	261.0	1,311.0
S&P Global's adjustments									
Interest expense (reported)	--	--	--	--	--	(339.0)	--	--	--
Interest income (reported)	--	--	--	--	--	14.0	--	--	--
Current tax expense (reported)	--	--	--	--	--	(21.0)	--	--	--
Operating leases	77.7	--	13.5	5.6	5.6	7.9	7.9	--	--
Intermediate hybrids reported as debt	(5.0)	5.0	--	--	(0.5)	0.5	0.5	0.5	--
Postretirement benefit obligations to deferred compensation	321.1	--	10.0	10.0	22.9	(8.1)	(9.1)	--	--
Surplus cash	(75.0)	--	--	--	--	--	--	--	--
Capitalized interest	--	--	--	--	6.0	(6.0)	(6.0)	--	(6.0)
Share-based compensation expense	--	--	11.0	--	--	11.0	--	--	--
Non-operating income (expense)	--	--	--	29.0	--	--	--	--	--
Debt-Accrued interest not included in reported debt	63.0	--	--	--	--	--	--	--	--
Debt-Issuance cost	9.0	--	--	--	--	--	--	--	--
EBITDA - Gain or (Loss) on disposals of PP&E	--	--	(10.0)	(10.0)	--	(10.0)	--	--	--

Table 3

Reconciliation Of American Water Works Co. Inc. Reported Amounts With S&P Global's Adjusted Amounts (Mil. $) (cont.)

D&A - impairment charges or (reversals)	--	--	--	5.0	--	--	--	--	--
Total adjustments	390.8	5.0	24.5	39.6	34.0	(350.6)	(6.6)	0.5	(6.0)

S&P Global's adjusted amounts

	Debt	Equity	EBITDA	EBIT	Interest expense	Funds from operations	Cash flow from operations	Dividends paid	Capital expenditures
Adjusted	7,571.8	5,223.0	1,579.5	1,119.6	373.0	1,204.4	1,269.4	261.5	1,305.0

PP&E--Property, plant and equipment. D&A-Depreciation and amortization.

Related Criteria

- Criteria - Corporates - General: Reflecting Subordination Risk In Corporate Issue Ratings, Sept. 21, 2017
- General Criteria: Methodology For Linking Long-Term And Short-Term Ratings, April 7, 2017
- Criteria - Corporates - General: Methodology And Assumptions: Liquidity Descriptors For Global Corporate Issuers, Dec. 16, 2014
- Criteria - Corporates - General: Corporate Methodology: Ratios And Adjustments, Nov. 19, 2013
- Criteria - Corporates - General: Corporate Methodology, Nov. 19, 2013
- Criteria - Corporates - Utilities: Key Credit Factors For The Regulated Utilities Industry, Nov. 19, 2013
- General Criteria: Group Rating Methodology, Nov. 19, 2013
- General Criteria: Country Risk Assessment Methodology And Assumptions, Nov. 19, 2013
- General Criteria: Methodology: Industry Risk, Nov. 19, 2013
- Criteria - Corporates - Utilities: Collateral Coverage And Issue Notching Rules For '1+' And '1' Recovery Ratings On Senior Bonds Secured By Utility Real Property, Feb. 14, 2013
- General Criteria: Methodology: Management And Governance Credit Factors For Corporate Entities And Insurers, Nov. 13, 2012
- General Criteria: Use Of CreditWatch And Outlooks, Sept. 14, 2009
- Criteria - Insurance - General: Hybrid Capital Handbook: September 2008 Edition, Sept. 15, 2008

Business And Financial Risk Matrix

Business Risk Profile	Financial Risk Profile					
	Minimal	Modest	**Intermediate**	Significant	Aggressive	Highly leveraged
Excellent	aaa/aa+	aa	**a+/a**	a-	bbb	bbb-/bb+
Strong	aa/aa-	a+/a	a-/bbb+	bbb	bb+	bb
Satisfactory	a/a-	bbb+	bbb/bbb-	bbb-/bb+	bb	b+
Fair	bbb/bbb-	bbb-	bb+	bb	bb-	b
Weak	bb+	bb+	bb	bb-	b+	b/b-
Vulnerable	bb-	bb-	bb-/b+	b+	b	b-

Ratings Detail (As Of October 25, 2017)	
American Water Works Co. Inc.	
Corporate Credit Rating	A/Stable/A-1
Corporate Credit Ratings History	
07-May-2015	A/Stable/A-1
02-Jun-2014	A-/Positive/A-2
24-May-2013	A-/Stable/A-2
Related Entities	
American Water Capital Corp.	
Issuer Credit Rating	A/Stable/A-1
Commercial Paper	
Local Currency	A-1
Senior Unsecured	A
New Jersey-American Water Co.	
Issuer Credit Rating	A/Stable/--
Pennsylvania-American Water Co.	
Issuer Credit Rating	A/Stable/--

*Unless otherwise noted, all ratings in this report are global scale ratings. S&P Global Ratings' credit ratings on the global scale are comparable across countries. S&P Global Ratings' credit ratings on a national scale are relative to obligors or obligations within that specific country. Issue and debt ratings could include debt guaranteed by another entity, and rated debt that an entity guarantees.

DECEMBER 22, 2015 INFRASTRUCTURE

MOODY'S INVESTORS SERVICE

RATING METHODOLOGY

Regulated Water Utilities

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Summary

This rating methodology explains Moody's approach to assessing credit risk for rated issuers in the regulated water utilities sector, globally. This document provides general guidance that helps companies, investors, and other interested market participants understand how qualitative and quantitative risk characteristics are likely to affect rating outcomes for regulated water utilities. This document does not include an exhaustive treatment of all factors that are reflected in Moody's ratings but should enable the reader to understand the qualitative considerations and financial information and ratios that are usually most important for ratings in this sector.

This rating methodology replaces[1] the Global Regulated Water Utilities Methodology published in December 2009. While reflecting many of the same core principles as the 2009 methodology, this updated document provides a more transparent presentation of the rating considerations that are usually most important for companies in this sector and incorporates refinements in our analysis that better reflect credit fundamentals of the industry. No rating changes will result from publication of this rating methodology.

This report includes a detailed rating grid and illustrative examples that compare the mapping of publicly rated companies against the factors in the grid. The grid is a reference tool that can be used to approximate credit profiles within the regulated water sector in most cases. The grid provides summarised guidance for the factors that are generally most important in assigning ratings to companies in the regulated water utilities industry. However, the grid is a summary that does not include every rating consideration. The weights shown for each factor in the grid represent an approximation of their importance for rating decisions but actual importance may vary substantially. In addition, the illustrative mapping examples in this document use historical results while ratings are based on our forward-looking expectations. As a result, the grid-indicated rating is not expected to match the actual rating of each company.

[1] This update may not be effective for some regulatory jurisdictions until certain requirements are met, such as local language translation.

The grid contains four factors that are important in our assessments for ratings of regulated water utilities:

1. Business Profile

2. Financial Policy

3. Leverage and Coverage

The scoring for factors 1-3 results in a preliminary grid-indicated outcome. In addition, we apply the following factor 4, which can result in upward notching for issuers that benefit from structural enhancements in their corporate structure, their regulatory licence or their financing arrangements – this has mainly been relevant for highly-leveraged financing structures that apply to an entire corporate group and for project financings.

4. Uplift for Structural Considerations

Some of these factors also encompass a number of sub-factors. Since an issuer's scoring on a particular grid factor or sub-factor often will not match its overall rating, in Appendix B we include a discussion of some of the grid "outliers" – companies whose grid-indicated rating for a specific sub-factor differs significantly from the actual rating – in order to provide additional insights.

This rating methodology is not intended to be an exhaustive discussion of all factors that our analysts consider in assigning ratings in this sector. We note that our analysis for ratings in this sector covers factors that are common across all industries such as ownership, management, liquidity, corporate legal structure, governance and country related risks which are not explained in detail in this document, as well as other factors that can be meaningful on a company-specific basis. Our ratings consider these and other qualitative considerations that do not lend themselves to a transparent presentation in a grid format. The grid used for this methodology reflects a decision to favour a relatively simple and transparent presentation rather than a more complex grid that would map grid-indicated ratings more closely to actual ratings.

Highlights of this report include:

» An overview of the rated universe

» A summary of the rating methodology

» A description of factors that drive rating quality

» Comments on the rating methodology assumptions and limitations, including a discussion of rating considerations that are not included in the grid

The Appendices show (1) the full rating grid (Appendix A); (2) tables that illustrate the application of the grid to a sample of covered issuers, with explanatory comments on some of the more significant differences between the grid-implied rating for each sub-factor and our actual rating (Appendix B);[2] and (3) a more

[2] In general, the rating utilised for comparison to the grid-implied rating is the Corporate Family Rating (CFR) for speculative-grade issuers and the senior unsecured rating for investment-grade issuers. For issuers that benefit from rating uplift from parental support, government ownership or other institutional support, we consider the underlying credit strength or baseline credit assessment for comparison to the grid-indicated rating. For an explanation of baseline credit assessment please refer to Moody's Rating Methodology entitled "Government-Related Issuers". Individual debt instrument ratings also factor in decisions on notching for seniority level and collateral. The documents that provide broad guidance for such notching decisions are the rating methodology on loss given default for speculative grade non-financial companies and the methodology for aligning corporate instrument ratings based on differences in security and priority of claim. These two cross-sector methodologies can be found here.

detailed description of the water and wastewater industry, including different operational models, and certain regional differences (Appendix C).

This methodology describes the analytical framework used in determining credit ratings. In some instances our analysis is also guided by additional publications that describe our approach for analytical considerations that are not specific to any single sector. Examples of such considerations include but are not limited to: the assignment of short-term ratings, the relative ranking of different classes of debt and hybrid securities, how sovereign credit quality affects non-sovereign issuers, and the assessment of credit support from other entities. Documents that describe our approach to such cross-sector methodological considerations can be found here.

About the Rated Universe

This methodology is applicable to regulated utilities whose principal line of business is the provision of water and/or wastewater (also referred to as sanitation or sewerage) services. Many companies provide services along the entire value chain of the process, from resources/collection, transport, via distribution through to supplying the end consumer. However, the methodology also applies to pure wholesalers, or single asset providers (e.g., water desalination plants, water reservoirs, or sewage interceptor tunnels), where revenues are earned under a regulated licensing, concession or similar arrangement. Services may be provided under contract or concession agreements or direct licensing arrangements with the relevant governmental authority, and the assets may be owned outright by the issuer or operated under the terms of a concession or licence.

Companies rated under this methodology are primarily rate-regulated monopolies or, where companies are not outright monopolies, their ability to freely set tariffs is typically restricted through government policy or other regulations.

Independently-regulated water utilities are in the minority in the broader universe of global water utilities. Given the public importance of water supply and the health risks related to its service provision, most water services globally are provided by government entities that are not subject to independent regulation for the rates or tariffs they charge. Even where privatised, the sector maintains strong links to national, regional or local government bodies that ensure compliance with environmental and health and safety standards.

This methodology is applicable to regulated water utilities that are investor-owned (i.e. private sector) and to those owned by a regional or national government, provided they have an operating and financial profile that is distinct from that of the government administration (they may also be distinct legal entities), with revenues linked to a regulated (or in some cases, self-regulating) tariff-setting model. This methodology is not applicable to water and sanitary sewer utilities that operate as departments, boards, or independent authorities of US states or local governments, which are typically financed with tax-exempt revenue bonds and are covered under the US Municipal Utility Revenue Debt methodology.

There are a variety of business models in the water sector, with varying degrees of private sector involvement. In the rated universe, companies have also adopted a range of different funding models. This methodology encompasses different types of financing for water utilities, including typical corporate funding with limited financial covenants, as well as more highly-structured arrangements with credit enhancing features. The most complex corporate financing structures currently in use were developed in the United Kingdom (UK), where a number of water companies have overlaid structural enhancements on typical long-dated capital market funding, often incorporating comprehensive inter-creditor arrangements with certain project finance-type features. Some single asset financing structures are also rated under this

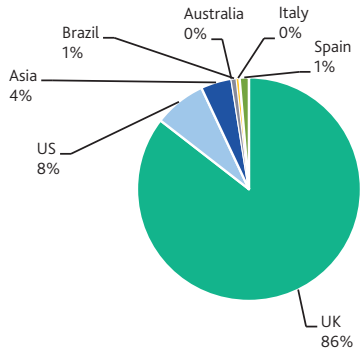
methodology, but privately financed, public infrastructure projects that receive specific availability-based payments sufficient to service their debt from government procurement agencies are rated under Moody's rating methodologies for PPP and PFI transactions: Operational Privately Financed Public Infrastructure (PFI/PPP/P3) Projects and Construction Risk in Privately Financed Public Infrastructure (PFI/PPP/P3) Projects.

Moody's currently rates 33 regulated water utility families, including multi-utilities in France and Italy, whose core business includes regulated water operations.

Publicly-rated regulated water utilities (including their fully-guaranteed finance subsidiaries) currently account for more than US$55 billion of total rated debt (this figure excludes the issuances of multi-utilities). UK issuers represent the vast majority of rated debt in the sector (see Exhibit 1).

EXHIBIT 1

Geographical distribution of rated debt within the regulated water sector (excluding multi-utilities)



Source: Moody's

Utilities rated under this methodology include those in Exhibit 2.

EXHIBIT 2

Regulated water utilities rated under this rating methodology include the following:

Issuer/Family	Issuer or Senior Unsecured Rating / BCA where applicable	Outlook	Jurisdiction
ACEA S.p.A.*	Baa2	Stable	Italy
Acquedotto Pugliese S.p.A.	Baa3/ba1	Stable	Italy
Affinity Water Limited	Baa1 (CFR)	Stable	United Kingdom
Aigues de Barcelona	Baa1	Stable	Spain
Aguas de Valencia S.A.	Baa3	Stable	Spain
American Water Works Company, Inc.	A3	Stable	Unites States
Anglian Water Services Ltd.	Baa1 (CFR)	Stable	United Kingdom
Anglian Water (Osprey) Financing plc	Ba3**	Stable	United Kingdom
Aquarion Company	Baa3	Stable	United States
Aquarion Water Company of Connecticut	Baa1	Stable	United States
Bristol Water plc	Baa1	Stable	United Kingdom

EXHIBIT 2

Regulated water utilities rated under this rating methodology include the following:

Issuer/Family	Issuer or Senior Unsecured Rating / BCA where applicable	Outlook	Jurisdiction
Canal de Isabel II Gestion, S.A.	Baa2/baa2	Positive	Spain
Companhia de San Bas do Estado de Sao Paulo	Ba1/ba2	Negative	Brazil
Companhia de Saneamento de Minas Gerais	Ba1/ba2	Under Review-Down	Brazil
Companhia de Saneamento do Parana – SANEPAR	Ba1/ba2	Under Review-Down	Brazil
Dee Valley Water PLC	Baa1 (CFR)	Stable	United Kingdom
Dwr Cymru Cyfyngedig	A3 (CFR)	Positive	United Kingdom
Golden State Water Company	A2	Stable	United States
Hera S.p.A.*	Baa1/baa1	Stable	Italy
Hunter Water Corporation	A1/baa2	Stable	Australia
Korea Water Resources Corporation	Aa3/baa2	Positive	South Korea
New Jersey-American Water Company, Inc.	A3	Stable	United States
Northumbrian Water Ltd.	Baa1	Stable	United Kingdom
Pennsylvania-American Water Company	A3	Stable	United States
Portsmouth Water Limited	Baa1 (CFR)	Stable	United Kingdom
Severn Trent Water Limited	A3	Negative	United Kingdom
Severn Trent plc	Baa1	Negative	United Kingdom
South East Water Limited	Baa2	Stable	United Kingdom
South Staffordshire Water Plc	Baa2	Stable	United Kingdom
Southern Water Services Limited	Baa2 (CFR)	Stable	United Kingdom
Suez Environnement Company*	A3	Stable	France
Sutton and East Surrey Water plc	Baa1	Stable	United Kingdom
Sydney Water Corporation	Aa3/baa1	Stable	Australia
Thames Water Utilities Ltd.	Baa1 (CFR)	Stable	United Kingdom
Thames Water (Kemble) Finance PLC	B1**	Stable	United Kingdom
United Utilities Water Limited	A3	Stable	United Kingdom
United Utilities PLC	Baa1	Stable	United Kingdom
Veolia Environnement S.A.*	Baa1	Stable	France
Wessex Water Services Limited	A3	Stable	United Kingdom
Yorkshire Water Services Limited	Baa2 (CFR)	Stable	United Kingdom

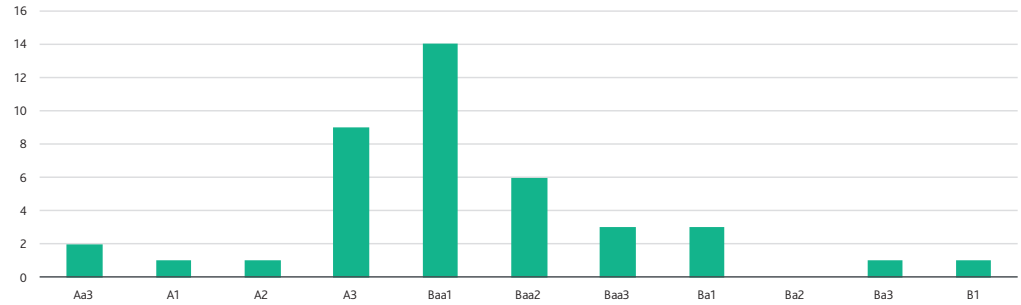
Note: * Multi-utilities with significant operations in the water/wastewater sector. ** Debt ratings reflect deeply subordinated position of the rated instrument in the group structure and cash waterfall.

Source: Moody's

The rating distribution in this sector ranges from Aa3 to B1, and is summarised in Exhibit 3. The average sector rating is Baa1.

EXHIBIT 3

Summary of ratings in the regulated water utilities sector



Note: Ratings represent issuer ratings (including corporate family ratings for highly-leveraged companies in the UK) or senior unsecured ratings
Source: Moody's

About this Rating Methodology

This report explains the rating methodology for regulated water utilities in seven sections, which are summarised as follows:

1. Identification and Discussion of the Grid Factors

The grid in this rating methodology is comprised of four rating factors. The first three grid factors are comprised of sub-factors that provide further detail. The fourth factor is used to make notching adjustments for structural enhancements where they are incorporated either in the company's corporate structure, its regulatory licence or its financing arrangements.

EXHIBIT 4

Rating Grid for Regulated Water Utilities

Rating Factors	Factor Weighting	Sub-Factors	Sub-Factor Weighting
BUSINESS PROFILE	50%	Stability and Predictability of Regulatory Environment	15%
		Asset Ownership Model	5%
		Cost and Investment Recovery (Ability & Timeliness)	15%
		Revenue Risk	5%
		Scale and Complexity of Capital Programme & Asset Condition Risk	10%
FINANCIAL POLICY	10%	Financial Policy	10%
LEVERAGE AND COVERAGE	40%	Adjusted Interest Coverage OR FFO Interest Coverage	12.5%
		Net Debt / Regulated Asset Base OR Debt/Capitalisation	10%
		FFO / Net Debt	12.5%
		RCF / Net Debt	5%
Total	100%	Total	100%
UPLIFT FOR STRUCTURAL CONSIDERATIONS		Up to 3 notches	

2. Measurement or Estimation of Factors in the Grid

We explain our general approach for scoring each grid factor and show the weights used in the grid. We also provide a rationale for why each of these grid components is meaningful as a credit indicator. The information used in assessing the sub-factors is generally found in or calculated from information in company financial statements, derived from other observations or estimated by Moody's analysts.

Our ratings are forward-looking and reflect our expectations for future financial and operating performance. However, historical results are helpful in understanding patterns and trends in a company's performance as well as for peer comparisons. We utilise an average of historical data over the last three years in this document to illustrate the application of the rating grid. However, the factors in the grid can be assessed using various time periods. For example, rating committees may find it analytically useful to examine both historic and expected future performance for periods of one year, several years or more.

All of the quantitative credit metrics incorporate Moody's standard adjustments to the income statement, cash flow statement and balance sheet amounts for restructuring, impairment, off-balance sheet accounts, receivable securitisation programmes, under-funded pension obligations, and recurring operating leases. Moody's may also make other analytical adjustments that are specific to a particular company.

For definitions of Moody's most common ratio terms, please see 'Moody's Basic Definitions for Credit Statistics, User's Guide'. For a description of Moody's standard adjustments, please see 'Financial Statement Adjustments in the Analysis of Non-Financial Corporations'. These documents can be found on the methodologies page at www.moodys.com.

3. Mapping Grid Factors to the Rating Categories

After estimating or calculating each sub-factor, the outcomes for each of the sub-factors are mapped to a broad Moody's rating category (Aaa, Aa, A, Baa, Ba, B, Caa, or Ca).

4. Mapping Issuers to the Grid and Discussion of Grid Outliers

In Appendix B, we provide a table showing grid-indicated ratings for each sub-factor and factor for a representative sample of companies. We highlight companies whose grid-indicated performance on a specific sub-factor is two or more broad rating categories higher or lower than its actual rating and discuss some general reasons for such positive and negative outliers for a particular sub-factor.

5. Assumptions and Limitations and Rating Considerations Not Included in the Grid

This section discusses limitations in the use of the grid to map against actual ratings, some of the additional factors that are not included in the grid but can be important in determining ratings, and limitations and assumptions that pertain to the overall rating methodology.

6. Determining the Overall Grid-Indicated Rating

To determine the overall grid-indicated rating, we convert each of the sub-factor scores into a numeric value based upon the scale below.

Aaa	Aa	A	Baa	Ba	B	Caa
1	3	6	9	12	15	18

A further weighting is applied by rating category as shown in the table below.

Aaa	Aa	A	Baa	Ba	B	Caa
1	1	1	1.15	2	3	5

We weight lower rating scores more heavily than higher scores for two reasons. In the first instance, we need to adjust for those situations where an issuer exhibits weak characteristics across the first two factors, which are not typically encountered within the rated universe and which would require more demanding thresholds for the credit metrics. Secondly, we recognise that a serious weakness in one area often cannot be completely offset by a strength in another area and that the lack of flexibility normally associated with high degrees of leverage can heighten risk.

The actual weighting applied to each sub-factor is the product of that sub-factor's standard weighting and its over-weighting, divided by the sum of these products for all the sub-factors (an adjustment that brings the sum of all the sub-factor weightings back to 100%).

The numerical score for each sub-factor is multiplied by the adjusted weight for that sub-factor with the results then summed to produce a composite weighted-factor score. The composite weighted-factor score is then mapped back to an alphanumeric rating based on the ranges in the table below.

Indicated Rating	Overall Score
Aaa	$x < 1.50$
Aa1	$1.50 \le x < 2.50$
Aa2	$2.50 \le x < 3.50$
Aa3	$3.50 \le x < 4.50$
A1	$4.50 \le x < 5.50$
A2	$5.50 \le x < 6.50$
A3	$6.50 \le x < 7.50$
Baa1	$7.50 \le x < 8.50$
Baa2	$8.50 \le x < 9.50$
Baa3	$9.50 \le x < 10.50$
Ba1	$10.50 \le x < 11.50$
Ba2	$11.50 \le x < 12.50$
Ba3	$12.50 \le x < 13.50$
B1	$13.50 \le x < 14.50$
B2	$14.50 \le x < 15.50$
B3	$15.50 \le x < 16.50$
Caa1	$16.50 \le x < 17.50$
Caa2	$17.50 \le x < 18.50$
Caa3	$18.50 \le x < 19.50$

For example, an issuer with a composite weighted factor score of 11.7 would have a Ba2 preliminary grid-indicated rating.

Finally, we consider whether the grid-indicated rating should be adjusted to incorporate uplift from structural enhancements that may be included in the company's financial arrangements. The effectiveness of any such enhancements is graded to determine the appropriate uplift, as described in the section "Structural Considerations and Sources of Rating Uplift from Creditor Protection" below. This allows us to

apply the methodology to regulated water utilities that have adopted certain credit-enhancing structural features typical of highly-geared financing structures.

We used the above described procedure with all four factors to derive the grid indicated ratings shown in the illustrative examples in Appendix B.

7. Appendices

The Appendices provide illustrative examples of grid-indicated ratings based on historical financial information, and also provide additional commentary and insights on different operating models within the industry.

Discussion of the Grid Factors

The grid for regulated water utilities focuses on four broad factors:

1. Business Profile
2. Financial Policy
3. Leverage and Coverage
4. Uplift for Structural Considerations

Factor 1: Business Profile

WHY IT MATTERS

Regulated water utilities typically provide monopoly-type, relatively price-inelastic services that are viewed as a true necessity and are generally highly regulated. The combination of essentiality of service and regulatory frameworks that are typically well established lend themselves to high levels of business visibility and revenue stability for most issuers. As a result, regulated water utilities are likely to have a longer-term strategic and financial horizon than most other corporate sectors. Accordingly, assessing the historical and expected stability of the regulated water utility's business and cash flow generation is a critical component of our analysis. Generally speaking, revenues and cash flows are a function of tariff levels and tariff-setting mechanisms as well as volumes sold. Tariffs are embedded in the broader framework of the applicable regulatory environment and/or a utility's concession agreement or lease contract. As such, the characteristics and transparency of the concession(s) and regulations under which the utility operates, the track record of the regulatory regime in setting tariffs and applying regulations consistently are key elements in assessing the overall stability of a water utility's business profile. We also assess the execution risk associated with a water utility's investment programme and the asset quality of a regulated water utility, which can have a material influence on its ability to provide services that meet regulatory expectations and on its future financial position.

HOW WE ASSESS IT FOR THE GRID

In assessing a water utility's regulatory environment and business model we look at five sub-factors:

» Stability & Predictability of Regulatory Environment

» Asset Ownership Model

» Cost and Investment Recovery (Sufficiency & Timeliness)

» Revenue Risk

» Scale and Complexity of the Capital Programme & Asset Condition Risk

Stability & Predictability of Regulatory Environment

This sub-factor assesses the regulatory and/or concession framework under which the water utility operates.

The provision of water and wastewater services is generally a monopoly or quasi-monopoly regulated on a national or regional basis. Where water services are provided by a private sector company, the monopoly service responsibilities are typically performed under a concession agreement or license. Often the enabling legislation/legal framework sets out common terms and conditions for concessions and lays out the framework under which tariff decisions are made, but there may be meaningful variations in the granularity and transparency of the framework. The stability and predictability of such regulatory regime or concession framework is a key determinant in assessing a water utility's business risk profile, reflected in the grid weighting of 15%.

Issuers operating under regulatory regimes that have a very long track record of clearly defined risk allocation principles, which have been consistently applied and transparently disclosed to the public receive the highest scores under this sub-factor. Issuers operating in a jurisdiction that has not implemented a defined regulatory framework and/or is extremely unpredictable or politically driven receive the lowest scores under this sub-factor. For instance the regulator or government may have a track record of making unilateral changes to the terms and conditions of concessions in water (or similar infrastructure sectors that are relevant precedents) to the detriment of the concession-holder without providing compensation.[3] Concerns about the independence of the regulatory authorities and the risk of politically-motivated intervention in the regulatory process generally also result in a lower score.

In considering whether a regulatory framework is independent and developed, we also take into account the strength of the rule of law within the jurisdiction in which the relevant utility operates, and whether an independent judiciary exists that allows for legal rights (and especially concession rights) to be enforceable in practice. For a water company that is located in a country with generally poor institutional strength, our scoring of the regulatory framework typically reflects that weakness.

Where companies operate in multiple jurisdictions or under regulatory or concession models with differing characteristics, the score for this sub-factor will reflect our assessment of the blended profile of these regulatory frameworks.

[3] Where regulatory or legislative changes do occur, water utilities can still be scored high on this sub-factor if the changes are sufficiently consulted upon, supportive of companies' credit quality and have involved the affected companies within the process. In contrast, water utilities will be scored low on this factor if changes to the regulatory framework have been implemented without consultation, are unclear, or are detrimental to credit quality.

Asset Ownership Model

The rated universe includes companies that own their assets outright in perpetuity or for a defined time horizon under a concession or other contractual agreement.[4]

In those cases where the water and wastewater assets are owned outright, Moody's assesses the implication of ownership rights that are subject to a licence or franchise agreement and the risk of termination thereof. Moody's also considers whether the right to operate the assets is long term in nature or may only be granted over a short-term period. Moody's also considers the recovery mechanism in relation to any residual asset value at the end of a concession or other contractual arrangement when scoring this sub-factor.

A water company that owns all its key water and wastewater assets outright in perpetuity and has ultimate control over them would typically score high on the grid. On the other end of the spectrum, a utility that holds the assets under a concession contract, which may be relatively short term or does not provide clear principles for the recovery of the residual asset value at the termination of the concession, would typically score relatively low (i.e. Ba or lower). In those instances, a track record of concession renewal or compensation arrangements being applied consistently could improve the score.

Most of the rated regulated water utilities own their key assets under a licence regime or long-term concessions. Outright ownership in perpetuity is less common. Operators with multiple concession arrangements are generally assessed based on the average concession life, weighted by each concession's contribution to overall cash flows.

The general rule of law and the value and enforcement of asset property rights and contracts are important considerations in assessing this sub-factor, since they affect the issuer's ability to benefit from its assets or concession/contract and the likelihood that compensation that an issuer expects to receive at the end of the concession or contract's life will be paid. For example, if there is a heightened risk of expropriation of assets for political reasons, we would score a company lower, even though it may own its assets. The expropriation risk may be higher for water and wastewater assets than for other infrastructure assets, given the significance of the services provided.

Cost and Investment Recovery (Sufficiency & Timeliness)

As part of our assessment of the overall regulatory or concession regime, the ability of a regulated water utility to recover the cost of its operations and/or investments in a timely manner is another key determinant for the evaluation of the stability of cash flow generation. In this sub-factor we assess the nature of the tariff regime, including the mechanisms under which the water utility is able to recover its ongoing costs and invested capital and earn a fair return on it, as well as the risk allocation between the water utility and its customers. We assess whether the regulator seeks to insulate consumers from the volatility and the uncertainty associated with operating and financial costs, whether there is risk-sharing between the water utility and its consumers, and whether the water utility is easily able to pass through its incurred costs, including financial costs.

Issuers regulated under frameworks that provide highly flexible arrangements to adjust tariffs as required to reflect the full range of incurred costs and investments score very high in this sub-factor. At the other end of the spectrum are tariff mechanisms that do not adequately cover the operator's costs, for instance due to politically-motivated low tariffs that hinder the utility's viability in the absence of government support.

[4] Please refer to Appendix C for further details on the water industry sector and the different business models applied.

In general, most tariff formulas seek to achieve a balance between reliability and quality of service standards, provide incentives for operational efficiency, protect consumers from monopoly-overcharging and meet certain social objectives, while allowing an adequate return for companies to be able to attract the debt and equity capital required to finance their investments.

In jurisdictions with separate regional regulation, e.g., in the US or Spain, we typically assess each state or region individually to consider the various factors that affect the utilities' profitability, including the type of fixed- versus variable-rate design allowed, historically-authorised tariff decisions, and the existence of mechanisms that permit recovery of operating and capital costs outside of a general tariff setting process. Furthermore, we take into account contractual obligations that restrict a water utility's ability to submit a tariff reset for approval within a defined period of time.

The ability of a water utility to recover its costs will also depend on its performance against regulatory cost allowances and efficiency targets. Companies that have a track record of significant overspending or are unlikely to meet target allowances may score lower. We also consider whether the tariffs can actually be afforded by the users of the water and wastewater services. This could be measured for example through the level of unpaid bills. If the level of unpaid bills is high or increasing materially we would normally score a water utility's ability to recover its costs lower than the theoretical tariff formula may imply.

Revenue Risk

Under this sub-factor we assess the potential volatility of revenues generated by a regulated water utility, including considerations such as a company's exposure to fluctuations in the volume of water used. Volume of usage may be affected by scarcity of supply or decreases in demand. Some utilities are exposed to greater differences in weather patterns from year to year. Others have a more concentrated customer structure or reliance on a particular customer to generate a large proportion of revenues. If this customer chooses a different service provider or closes its operations, a significant portion of revenues could be lost. Similarly, a higher exposure to industrial customers or a tariff plan that assumes increasing revenues will be generated from new customers may have a negative impact on revenues in a recession scenario.

When scoring this sub-factor we also consider whether a regulatory regime provides mechanisms whereby companies may be allowed to adjust tariffs within a regulatory period or at the next price review to reflect a divergence between collected and allowed revenues caused by fluctuating volumes.

Issuers that have no exposure to volume or customer concentration risk and are thus effectively immune from revenue volatility risks typically score Aaa. Water companies that are not immune but benefit from regulatory safeguards that allow them to adjust tariffs to recover lost revenue under a tested and transparent procedure typically score a bit lower but still at the high end of the grid. Water utilities that are subject to greater revenue risks from changes in volume (from droughts, recession, or a material reliance on new customer connections, etc) that are not offset by increases in tariffs, or where the tariff re-set is delayed or uncertain, typically score at the lower end of the grid.

Scale and Complexity of the Capital Programme & Asset Condition Risk

Our assessment of a company's risk exposure captures (1) the general operational risk of dealing with an extensive capex programme and management's ability to deliver without significant delays or cost overruns; (2) the technological challenges of very complex investment projects; and (3) the financing risk that a significant capex programme may pose, if it cannot be funded out of operating cash flows.

To some extent, the size of a water utility's capital expenditure plans can be representative of the complexity of the programme. Thus, we consider the size of the annual capital expenditure plan[5] as a percentage of Regulated Asset Base (RAB – where applicable, it is typically obtained from regulatory filings) or the Fixed Assets (tangible and intangible)[6] as reported in a company's financial statements. However, this percentage may not directly correlate to risk in all scenarios, and replacement programmes that are large in scope may nevertheless present only limited execution risk. For example, a large capital expenditure programme could reflect a significant number of individual projects where overall execution risk is reduced through diversification, the repetitive nature of the programme, or the ability to reduce/modify the plan in light of changing circumstances. The experience of the utility in taking on expansion projects and delivering them within budget is also a relevant consideration in assessing the level of risk.

Capex programmes that are very large relative to existing asses base have a greater potential to create significant tariff increases for the end-consumer or disallowance or delay of cost and investment recovery by a regulator seeking to avoid such increases. For example, the asset value of companies that have been privatised may not reflect the actual replacement costs of such assets (essentially a form of subsidy to consumers to keep tariffs low). These companies may be required to undertake very large capital investment programmes to maintain and upgrade their infrastructure compared with a relatively small regulatory asset base, with the attendant execution and cost recovery risks. Expansionary programmes may not deliver expected revenue increases if new demand does not materialise, and even when the utility can adjust tariffs in light of lower-than-expected volumes, customer dissatisfaction and regulatory pressures may result.

Some regulatory frameworks or concession regimes may incentivise investment, either generally or for a particular project, in a manner that limits a company's exposure to capex-related risks, such as cost overruns. When this dynamic reduces the issuers risk in the capex programme, it is considered in our scoring of this sub- factor. Some incentive programmes simply provide capital that reduces the regulatory asset base (essentially a subsidy for consumers) without reducing the water utility's exposure to construction risks.

When scoring this factor, we also take into account the underlying asset condition and the related risk of potential asset failure. A functioning asset base is paramount for the water and wastewater utilities to comply with their regulatory duties and ensure stability of future cash flow generation. Deferred maintenance and under-investment may lead to the need for rapidly increasing capex in future years.

Issuers with large, modern asset bases requiring a limited amount of simple maintenance (with capital expenditure representing a low percentage of fixed assets) will likely have very high scores for this sub-factor. In contrast, water utilities that are engaging in highly complex, concentrated programs (and where annual capex represents a high percentage of fixed assets) will likely have very low scores for this factor. Furthermore, if a water utility has a history of serious asset failures or exhibits a significant deterioration in asset performance, it will typically have a score of Ba or lower under this sub-factor, depending on the severity of failures.

5 Capital expenditure is considered before any government grants, construction subsidies or developers' contributions, to assess the full scale of the investment programme and potential execution risk.

6 We include intangible assets in the denominator as companies may report their concession assets as intangibles. However, we do not include Goodwill as part of Fixed Assets.

Factor 1: Business Profile (50%)

The following tables show the grid-scoring categories for each Business Profile sub-factor and the weighting thereof.

Sub-Factor	Weight	Aaa	Aa	A	Baa	Ba	B	Caa
Stability and Predictability of Regulatory Environment	15%	Regulation is and expected to remain independent, well established (>15 years of being predictable and stable) and transparent. Well-established, published regulatory principles clearly define risk allocation between companies and customers and are consistently applied, with public or shared financial model.	Regulation is independent, reasonably well established (>10 years of being predictable and stable) and transparent. Well-established, published regulatory principles clearly define risk allocation between companies and customers and are generally consistently applied. Regulatory or concession framework has in recent years been (and is expected to remain) highly predictable, stable and supportive of utilities.	Regulation is generally independent and developed (e.g. published regulatory principles of risk allocation between companies and customers, based on established precedents in the same jurisdiction), and has above average predictability and reliability, although regulatory or concession regime may be sometimes less supportive of utilities.	Regulatory framework is well developed, with evidence of some inconsistency or unpredictability in the framework's application. OR Regulatory framework is relatively new and untested, but regulatory principles are based on established precedents and jurisdiction has history of independent and transparent regulation for other utility services. Regulatory environment or concession framework may sometimes be challenging or politically charged.	Regulatory or concession framework is defined but there is a high degree of inconsistency or unpredictability in its application. Tariff setting may be subject to negotiation and political interference; there has been a history of difficult or less supportive regulatory decisions; however, there are some precedents in the relevant jurisdiction of predictable regulation for other utility services.	Regulatory or concession framework is unclear, untested or undergoing significant change, with a history of political interference. Utility regulatory body lacks a consistent track record and is or is expected to be unsupportive, uncertain or highly unpredictable.	Regulatory or concession framework is not defined, or is expected to be extremely unsupportive, unpredictable or politically driven.

Sub-Factor	Weight	Aaa	Aa	A	Baa	Ba	B	Caa
Asset Ownership Model	5%	All key water and/or sewerage assets held outright in perpetuity.	All key water and/or sewerage assets held outright subject to a licence that can be terminated only for material underperformance, failure to meet certain financial parameters or insolvency OR held under long-term concession with clearly defined right to timely recovery of residual asset value at termination/end of concession underpinned by highly rated entity; clear track record of consistently applying concession termination / recovery regime.	All key water and/or sewerage assets held under long-term concession with clearly defined right to recover value of residual assets at termination/end of concession underpinned by highly rated entity but with undefined timeframe OR held/operated under medium-/ long-term operating leases or mgmt contract with very substantial portfolio diversification, very established market position and very high renewal rate (>95%).	All key water and/or sewerage assets held under long-term concession with entitlement to recover value of residual assets at termination/end of concession but procedures untested/undefined OR held/operated under medium-/ long-term operating leases or mgmt contract with substantial portfolio diversification, established market position and high renewal rate (>90%). Expropriation possible in case of insolvency or material failure to comply with licence conditions, but with full compensation for asset value.	All key water and/or sewerage assets held under concession with recovery of residual asset value at termination/end of concession subject to negotiation OR held/operated under short-term operating leases or mgmt contract with good degree of portfolio diversification and renewal rate (>80%). Expropriation possible, with some uncertainty in the prospect of full compensation.	All key water and/or sewerage assets held under concession with no recovery of residual asset value at termination/end of concession OR held/operated under short-term operating leases or mgmt contract (limited portfolio diversification). Expropriation likely, with material uncertainty in the prospect of full compensation.	Issuer is in default under its licence, concession or lease/contract, likely to lead to termination. Expropriation highly likely, with little or no prospect of compensation.

Sub-Factor	Weight	Aaa	Aa	A	Baa	Ba	B	Caa
Cost and Investment Recovery (Sufficiency & Timeliness)	15%	No regulatory or contractual impediment to adjust tariffs (no approval or reviews required).	Tariff formula allows for timely recovery of operating expenditure including depreciation and a fair return on all investment. Depreciation allowance fairly reflects asset consumption. All capital expenditure is included in asset base as incurred or fully covered by specific riders/surcharges prior to the next rate case. Minimal challenges by regulators to companies' cost assumptions.	Tariff formula allows for recovery of operating expenditure including depreciation based on allowances set at frequent price reviews (e.g., 5-yearly intervals or shorter) and a fair return on all efficient investment: Depreciation allowance fairly reflects asset consumption; Capital expenditure is included in asset base as incurred or partially covered by specific riders/surcharges prior to the next rate case; Opex and capex can be subject to efficiency tests; Limited instances of regulatory challenges; limited delays to rate or tariff increases or cost recovery Performance is likely to be in line with regulatory expectations.	Tariff formula allows for recovery of operating expenditure including depreciation and return on investment but subject to retrospective regulatory approval or infrequent price reviews (e.g., > 5-yearly intervals): Some instances of revenue back-loading (e.g. depreciation allowance set below asset consumption or operating expenditure is capitalised) OR Rate/tariff reviews and cost recovery outcomes are usually predictable, although application of tariff formula may be unclear; potentially greater tendency for regulatory intervention and/or to disallow or delay costs Performance may be below regulatory expectations.	Tariff formula does not take into account all cost components and depreciation may be set below asset consumption. Revenues allow coverage of operating expenditures; however, investment is not clearly or fairly remunerated OR Rate/tariff reviews are inconsistent, with some history of unwillingness to make timely rate changes OR Operational underperformance likely to significantly impact the returns achieved by the business.	Highly uncertain rate reviews and cost recovery outcomes; regulators may materially delay or deny tariff increases based on more arbitrary questioning of the utility's costs or financing arrangements. Revenues only cover cash operating expenditures OR Tariff formula does not take into account material cost and investment recovery components:	Revenues only partially cover cash operating costs.

Sub-Factor	Weight	Aaa	Aa	A	Baa	Ba	B	Caa
Revenue Risk	5%	No exposure to volume or customer concentration risk.	Minimal exposure to volume risk and timely recovery mechanism in place. AND Very limited customer concentration of volumes and revenues and to a customer/industry viewed as stable.	Some exposure to volume risk; recovery mechanism in place with some delay until next regulatory price review; generally limited revenue volatility expected. May have small concentration of volumes and revenues to a particular customer/industry viewed as stable.	Moderate exposure to volume risk but recovery mechanism in place, with some delay until next regulatory price review; moderate revenue volatility expected. May have a moderate concentration of volumes and revenues to a particular customer/industry.	More material exposure to risk of volumes decreasing or not meeting growth targets embedded in tariff levels; recovery mechanism, may not follow regular intervals. OR Significant concentration of volumes and revenues to a particular customer/industry.	High exposure to risk of volumes decreasing or not meeting growth targets embedded in tariff levels with recovery mechanism unclear or subject to very long delays. OR Very high concentration of volumes and revenues to one particular customer/industry.	Very high exposure to risk of volumes decreasing or not meeting growth targets embedded in tariff levels with no meaningful recovery mechanism in place. OR Very high concentration of volumes and revenues to a particular customer/industry viewed as vulnerable.
Scale and Complexity of Capital Programme & Asset Condition Risk	10%	Capex programme is very limited in scale, with only minimum maintenance requirements (typically, total annual capex ≤ 4% of total fixed assets or regulated asset base). AND No asset condition risk (e.g. full and immediate cost pass-through).	Capex programme is limited in scale, with small maintenance or enhancement requirements (typically, total annual capex 4-6% of total fixed assets or regulated asset base). AND Well-developed asset base under tight regulatory supervision; asset performance is generally stable or improving.	Modest capex programme, including standard maintenance and enhancement expenditures (typically, total annual capex 6-8% of total fixed assets or regulated asset base). Well-developed asset base and no history of serious asset failure; asset performance is generally stable or improving.	Capex programme of manageable scale, including straight-forward maintenance and enhancement expenditure (typically, total annual capex 8-12% of total fixed assets or regulated asset base). Company has a reasonably developed asset base; may have some precedents of serious asset failures but asset performance is now and is expected to remain broadly stable.	Large capex programme (typically, total annual capex 12%-20% of total fixed assets or regulated asset base) or challenging in scope (small number of large and complex projects may account for majority of capital programme). OR Asset base not fully developed; or average asset performance is gradually deteriorating or there is some concern about asset condition.	Very large capex programme (typically, total annual capex 20-30% of total fixed assets or regulated asset base) or highly complex (one large and complex project may account for majority of capital programme). OR Performance of most assets is materially deteriorating, with serious assets failures likely or ongoing, or asset development is seriously below required target.	Extremely large capex programme (typically, total annual capex > 30% of total fixed assets or regulated asset base) or technically highly complex (includes one or more large projects of extreme technical complexity). OR Rapidly deteriorating asset performance or condition could put issuer at risk of termination of licence, concession or lease/contract.

Factor 2: Financial Policy

WHY IT MATTERS

Management and shareholder tolerance for financial risk is an important rating factor as it directly affects debt levels, credit quality and risk in the capital structure (e.g., refinancing risk, counterparty risk or exposure to interest rates or foreign exchange movements).

The generally stable and predictable cash flows of a regulated water utility create significant capacity to incur debt financing and potentially to invest in related businesses. While debt financing may be considered essential to the efficient capital structure of a water utility, a desire to enhance shareholder returns may lead to the pursuit of higher leverage, which increases credit risk. The way in which a water utility's owner uses its debt capacity, therefore, is a key rating consideration.

In this factor we assess the likelihood that financial policy decisions, in their totality, could add uncertainty to future cash flow levels and divert resources away from creditors. In this regard, management's track record and their public commitment to maintaining the issuer's credit quality are key considerations.

HOW WE ASSESS IT FOR THE GRID

We consider the company's approach to financing its activities, in particular the balance it strikes in apportioning risk between shareholders and creditors. We assess both the company's historical track record and its stated objectives with respect to leverage and financing decisions, as well as the investment return requirements of its owners. The behaviour of owners can be a key differentiating credit consideration – where owners' objectives are short-term, opaque or where there is a lack of track record, the regulated water utility will likely be scored lower in this factor than if its shareholders have more long-term return requirements and may be willing to forego near-term distributions to maintain financial flexibility.

Issuers are likely to have a high score on this factor if they have an extended track record of low levels of leverage plus a public commitment to maintaining high levels of credit quality. A water utility that has demonstrated a commitment to maintaining an average level of leverage for the industry (e.g. to a level implied within the regulator's allowed rate return) is likely to be scored in the middle of the range. However, scores of Baa and above would generally only apply where there are no (or only very limited) concerns regarding owners' behaviour – this would be the case, for example, for listed companies, government majority owned companies or those owned by industrial shareholders. Issuers with consistently higher levels of leverage or those with a less transparent financial policy would likely score Ba or lower on this factor.

This factor is scored separately from a notching factor for specific structural enhancements that provide additional creditor protection (Factor 4). However, where they exist, such enhancements will be considered to the extent they define or clarify the issuer's overall financial policy.

Factor 2 – Financial Policy (10%)

Rating Factor	Weight	Aaa	Aa	A	Baa	Ba	B	Caa
Financial Policy	10%	Long track record and expected maintenance of extremely conservative financial policy; very stable metrics; low debt levels for the industry; AND Public commitment to the highest credit quality over the long-term.	Long track record and expected maintenance of a conservative financial policy; stable metrics; lower than average debt levels for the industry; AND Public commitment to a very high credit quality over the long-term.	Extended track record and expected maintenance of a conservative financial policy; moderate debt leverage and a balance between shareholders and creditors; Not likely to increase shareholder distributions and/or make acquisitions which could lead to a weaker credit profile; Solid commitment to high credit quality.	Track record and expected maintenance of a conservative financial policy; an average level of debt for the industry and a balance between shareholders and creditors; Some risk that shareholder distributions and/or acquisitions could lead to a weaker credit profile; Solid commitment to targeted metrics.	Track record or expectation of maintenance of a financial policy that is likely to favour shareholders over creditors; higher than average, but not excessive, level of leverage; Owners are likely to focus on extracting distributions and acquisitions but not at the expense of financial stability.	Track record of aggressive financial policies or expected to have a financial policy that favours shareholders through high levels of leverage with only a modest cushion for creditors; OR High financial risk resulting from shareholder distributions or acquisitions.	Expected to have a financial policy unfavourable to creditors with a track record of or expected policy of maintaining excessively high debt leverage; OR Elevated risk of debt restructuring.

Factor 3: Leverage and Coverage

WHY IT MATTERS

In the first two rating factors we assess the credit strengths and weaknesses afforded by the water utility's fundamental business and its financial policies. However, a company's ultimate credit profile must also incorporate its financial metrics, as a water utility that is substantially weaker than its peers in terms of cash flow generated or debt relative to the value of its asset base will generally have a higher probability of default.

When examining credit metrics, there is no single measure that can predict the likelihood of default. We utilise metrics that measure both the absolute capacity of the issuer to service its debt and the size of its debt burden relative to those of its peers. Leverage ratios aim to capture different measures of how easily an issuer can repay its debt; coverage ratios focus more on the ability to service the debt prior to repayment but may also take into account the necessary maintenance investments that are needed to ensure that the future cash flow generation is not impaired.

HOW WE ASSESS IT FOR THE GRID

We use four financial metrics in the grid when examining a water utility's leverage and coverage.

» Adjusted Interest Coverage Ratio OR FFO Interest Coverage

» Net Debt to Regulated Asset Base (RAB)[7] OR Debt to Capitalisation

» Funds from Operation (FFO) to Net Debt

» Retained Cash Flow (RCF) to Net Debt

Adjusted Interest Coverage Ratio OR FFO Interest Coverage

The Adjusted Interest Coverage Ratio is our preferred metric for water utilities where allowed revenues/tariffs are determined using a 'building block' or equivalent approach and where the components of allowed revenues/tariffs are consistently available from an independent source – in many cases, publications from the regulatory authority itself. Typical components of the revenue building block include: (1) the amount of expenditure recovered on an annual basis and not capitalised into the RAB; (2) the depreciation of the RAB as well as a depreciation or maintenance allowance for assets that may not be fully factored in the RAB; and (3) the return allowed over the invested capital, typically calculated or estimated by applying an industry- or company-specific rate of return on the RAB. The building block generally also includes several other elements, such as taxes and levies, and adjustments for past over or under-recoveries.

The Adjusted Interest Coverage Ratio aims to measure the amount of "headroom" afforded by the company's cash flows in servicing its debt burden after taking into account the cost of maintaining a stable asset base. It thus recognises that the regulatory revenue allowances for a water utility include significant amounts that customers are required to pay to enable the utility to maintain and replenish its assets, both those that are included in the RAB and those that may be operated by the utility but not financed by its investors (e.g. assets built with public grants or assets that were privatised at a value below their replacement cost). As a result the utility's revenues (and thus FFO) can be boosted by significant amounts

[7] The Regulatory Asset Base (RAB) or equivalent regulatory term (e.g. RAV, Rate Base) is the monetary value attributed in the tariff setting regulatory model to the capital invested by the water utility, on which the regulator calculates an allowed return.

that are simply funding required expenditure, which is reported in company's financial statements not as operating expenditure but as capital expenditure.

Where this regulatory dynamic applies, an EBITDA- or FFO-based interest coverage may limit the comparability of companies' interest coverage.[8] Given the amounts of embedded subsidies often inherent in a private water utility model, the amounts of expenditure that the utility needs to manage to provide its services can be very significant in relation to the capital provided by its investors compared to other industries. This results in a high level of operational leverage, which is disguised by the accounting reporting of expenditure and has the illusive effect of boosting FFO and EBITDA-based metrics.[9]

The formula for the Adjusted Interest Coverage ratio is a variation on the typical FFO Interest Coverage ratio. In calculating the Adjusted Interest Coverage, the standard FFO Interest Coverage is adjusted for (1) the Capital Charges, i.e. expenditures recovered in revenues that are not accounted for as operating expenses and are not treated as additional invested capital incrementing the RAB; and (2) Inflation Accretion, a non-cash interest expense.

It is calculated or estimated as follows:

$$\frac{\text{FFO} + (\text{Interest Expense} - \text{Inflation Accretion}^{10}) - \text{Capital Charges}}{(\text{Interest Expense} - \text{Inflation Accretion})}$$

Inflation Accretion typically arises when the regulatory authority sets tariffs for the water utility in real terms, using a real rate of return, and then allows the utility to adjust tariffs annually by an inflation index. In this type of regulatory model, such as used in the UK, the utility's RAB is also revalued annually by inflation. Hence, inflation-linked debt aligns the debt service requirements with the utility's future cash flows, because the utility only pays a real rate of interest on the outstanding principal, which is adjusted annually by an inflation index. With positive inflation, the debt grows annually at the rate of inflation and this non-cash increment, which we define as Inflation Accretion, is typically reported as part of the Interest Expense in the company's income statement. The related increase in debt is captured by the leverage ratio below.

The Capital Charges represent the portion of revenues (and thus FFO) that is needed to replenish the regulated asset base. The maintenance of a stable asset base ensures that the earned return does not fall due to a decline in the asset base. Regulators – or issuers as part of their business plan submissions to the regulator during the price review process – may decide to allow more revenues today to the detriment of a slower growing asset base and, consequently lower revenues in the future, or vice versa. The Capital Charges in the Adjusted Interest Coverage Ratio incorporate these timing differences or other similar adjustments, e.g., regulatory revenue profiling to smooth the impact of tariff increases on customer bills.

In jurisdictions where regulatory revenues/tariffs are not determined with a 'building block approach' or where the regulatory information needed to calculate Capital Charges may not be consistently available, we use the FFO Interest Coverage, calculated (or for forward periods estimated) as (FFO + Interest Expense) / Interest Expense.

8 For further details, please see Moody's Special Comment: "UK Water Sector: Key Ratios Used by Moody's in Assessing Companies' Credit Strength", March 2006.

9 This is recognised in slightly more demanding ratio guidance.

10 For the numerator, Interest net of Inflation Accretion is added back to the extent it was deducted in calculating FFO, i.e. FFO would be after Interest Expense, net of Inflation Accretion.

Net Debt to Regulated Asset Base OR Debt to Capitalisation

As explained above, regulated water utilities service their debt principally through the return they earn on the capital invested for the provision of the regulated services. Hence, we seek to measure leverage as the relationship between their debt and their invested capital.

For the utilities regulated under a RAB-based model where the RAB accurately represents the invested capital on which the water utility will earn a return over time, we measure leverage as Net Debt to RAB.

For water utilities that (1) are regulated under tariff models without a RAB; (2) are regulated under a RAB-based model but where the RAB may not accurately represent the invested capital on which the water utility will earn a return over time (e.g. because of ex-post rate-setting); or (3) where the RAB may not be consistently available, we use Debt to Capitalisation as a measure of balance sheet leverage.

FFO to Net Debt

This ratio is a measure of dynamic leverage. As discussed above, this measure does not take into account the capital expenditures needed to maintain the asset base when comparing cash flows to a company's stock of debt. However, it allows a wider comparison across industries on a global basis and can be a useful indicator of a company's ability to generate cash flows over a period of time.

The numerator for this ratio is FFO. We use net debt owing to the sector's propensity to pre-fund its significant capital investments, which can result in substantial cash amounts held on balance sheet. The use of net debt also recognises the requirements under certain financing structures to maintain liquidity and debt service reserves. Where the debt position of a company may be overstated or understated by the debt figures as reported in the financial statements, we typically make non-standard adjustments for certain derivative transactions subject to the relevant hedge accounting rules for US-GAAP and IFRS accounting.

RCF to Net Debt

This ratio is also an indicator for financial leverage. However, in contrast to FFO to Net Debt, it considers the strength of a water utility's cash flow after dividend payments are made. Dividend obligations can be substantial, quasi-permanent outflows that affect the ability of a water utility to cover its debt obligations, and this ratio can also provide insight into its financial policies. The higher the level of retained cash flow relative to a water utility's debt, the more cash it has to support its capital expenditure programme. The numerator of this ratio is FFO minus dividends, and the denominator is net debt.

Factor 3 – Leverage and Coverage (40%)

The following tables show the grid-scoring categories for each Leverage and Coverage sub-factor and the weighting thereof.

Rating Factor	Weight	Aaa	Aa	A	Baa	Ba	B	Caa
Adjusted Interest Coverage Ratio (1)	12.5%	≥8x	4.5-8x	2.5-4.5x	1.5-2.5x	1.2-1.5x	1-1.2x	<1x
		OR	OR	OR	OR	OR	OR	OR
OR		≥10x	7-10x	4.5-7x	2.5-4.5x	1.8-2.5x	1.5-1.8x	<1.5x
FFO Interest Coverage (2)								
Net Debt / Regulated Asset Base (3)	10%	<25%	25-40%	40-55%	55-70%	70-85%	85-100%	≥100%
OR								
Debt / Capitalisation								
FFO / Net Debt	12.5%	≥40%	25-40%	15-25%	10-15%	6-10%	4-6%	<4%
RCF / Net Debt	5%	≥30%	20-30%	10-20%	6-10%	4-6%	2-4%	<2%

Notes:

(1) The Adjusted Interest Coverage Ratio is our preferred metric for water utilities where allowed revenues/tariffs are determined using a 'building block' or equivalent approach and where the components of allowed revenues/tariffs are consistently available and can be verified by from an independent source – in many cases, publications from the regulatory authority itself. For the numerator, Interest net of Inflation Accretion is added back to the extent it was deducted in calculating FFO. Capital Charges represent expenditures recovered in revenues that are not accounted for as operating expenses and are not treated as additional invested capital incrementing the RAB, including regulatory revenue profiling to smooth the impact of tariff increases on customer bills.

(2) In jurisdictions where regulatory revenues/tariffs are not determined with a 'building block approach' or where the regulatory information needed to calculate Capital Charges may not be consistently available, we use the FFO Interest Coverage, calculated (or for forward periods estimated) as (FFO + Interest Expense) / Interest Expense.

(3) For the utilities regulated under a RAB-based model where the RAB accurately represents the invested capital on which the water utility will earn a return over time, we measure leverage as Net Debt to RAB. For water utilities that (1) are regulated under tariff models without a RAB; (2) are regulated under a RAB-based model but where the RAB may not accurately represent the invested capital on which the water utility will earn a return over time (e.g. because of ex-post rate-setting); or (3) where RAB may not be consistently available, we use Debt to Capitalisation.

Factor 4: Structural Considerations and Sources of Rating Uplift From Creditor Protection

WHY IT MATTERS

Regulated water utilities are financed under different financing structures. Companies may have entered into complex financing structures that provide additional creditor protection to maintain credit quality while increasing gearing. Such arrangements have been most common in the UK. A transition from a publicly listed model to private ownership by infrastructure, pension and other specialist funds has led to the adoption of financing structures that incorporate structural enhancements similar to those used in project finance transactions in various infrastructure sectors.

We believe that structural enhancements may provide valuable protection to financial creditors in the regulated water utilities sector, and this can result in rating uplift. Such enhancements may be incorporated into the terms and conditions of financing agreements pertaining to essentially all of a utility's securities holders, or they may be a feature within the utility's regulatory licence, and include requirements such as maintaining a certain credit rating and demonstrating sufficient operating and financial resources (as is the case in the UK).

HOW WE ASSESS IT FOR THE GRID

Our determination of the degree of ratings uplift for a regulated water utility provided by debt structural features and/or regulatory provisions that insulate a utility's credit profile from its parent/owners is based primarily on an assessment of the following:

A. Factors that reduce risks that can lead to default, and

B. Factors that give creditors either the right, or ability to influence the taking of corrective action - to stop or reverse credit deterioration.

In order for structural features to provide ratings uplift they typically must benefit all debt creditors, although individual creditors may be subject to different payment priorities.

A. Factors that reduce risks that can lead to default

1. **Restriction on business activities.** Prohibiting an issuer from engaging in new activities or making acquisitions is seen as credit positive because it eliminates the business risk associated with corporate activity and ensures that all critical functionality is subject to the debt structural features.
2. **Restriction on raising additional debt.** Restricting additional indebtedness reduces the risk that a higher debt level can cause a payment default.
3. **Distribution lock-up tests.** Prohibiting distributions to shareholders in a distressed scenario preserves cash within the business, thus reducing the risk of default.
4. **Limits on debt structure.** Requiring the issuer to remove or mitigate certain financial risks, such as interest rate, currency or refinancing risk. The latter can range from restrictions on debt maturity concentration to the implementation of a fully amortizing debt structure, which in itself can achieve a full notch of ratings uplift. Covenants can also restrict the issuer's use of derivative products, thus reducing the likelihood of additional and/or sizeable claims on the business.
5. **Reserves to cover large future or unforeseen costs.** Dedicated timing reserves for large-cost items, e.g., one-off capital expenditure.

B. Factors that give creditors either the right, or ability, to influence the taking of corrective action – to stop or reverse credit deterioration

An important element of leveraged infrastructure debt structures has been the ability of debt creditors to force owners to reduce debt ahead of the point where equity value is lost and debt is impaired, and to take action to repay debt through the enforcement of security if this is not achieved. The debt event of default tests and the consequences of these are key elements of this protection. To provide effective protection to creditors, these features need to work within the context of the business being financed, in most cases to allow the operating businesses to continue as a going concern and to allow debt service to be paid though available liquidity facilities while action is being taken.

The elements of debt structural features that provide control rights are assessed in the following areas:

1. **Effectiveness of control rights.** The degree to which the exercise of control rights may be impeded (e.g., local jurisdiction laws or certain regulatory restrictions). We assess the proposed terms and conditions in conjunction with legal guidance to ascertain whether the proposed control rights are likely to operate as intended.
2. **Length of the control period.** The length of time debt creditors have to exercise control rights before the issuer loses the right to generate cash flow from the assets (e.g., before an insolvency process or before a concession/regulatory licence is terminated).
3. **Dedicated liquidity support.** Dedicated liquidity support facilities to cover ongoing debt service while control rights are exercised. To be considered valuable, such dedicated liquidity would need to be available for use in circumstances where control rights are exercised.

In almost all cases, to be effective and/or to assure the structure has integrity, debt structural features need to include the following elements:

1. The entity subject to the financing and the restrictions would be separated from the wider ownership group and any wider business group. The separation is achieved through legal means related to the creation of the issuer and/or restrictions in the financial structure.
2. All debt creditors must be subject to common terms that ensure that individual creditors or creditors cannot take unilateral action to destabilize the financing.
3. Creditor step-in rights should be specifically permitted under the concession, regulatory licence or legal framework, as well as the finance documents. Note that we give value to security arrangements only as one element, albeit usually a critical element, of a wider package of features designed to improve creditors' ability to detect early potential problems and rectify them if possible (in the first instance by retaining cash surpluses within the company). Further, if remedial action is not possible or fails, the security arrangements are used to maximize recovery prospects.

Structural features that provide a meaningful level of creditor protection would provide a notching uplift to the composite score generated from the grid factors, a final step to arrive at the grid-indicated rating.

When assessing rating uplift we consider the package as a whole (i.e. elements of both A. and B. above) in order to gauge the overall effectiveness. For example, independent validation of compliance with financial ratio covenants may be an important consideration in assessing the ongoing effectiveness of such covenants.

Security is sometimes not allowed or is not enforceable on certain assets, the title of which may be retained by the state or other granting authority, or where the company is restricted from giving security over its assets by a pre-existing statute.

Structural enhancements that we view as very comprehensive and effective can deliver an uplift of up to three notches within the grid. However, across the rated universe, the current typical uplift is in the range of zero to two notches. Due to the broad spectrum of possible financing structures (which can contain a variety of elements in an array of potential combinations), these enhancements are scored in increments of half-a-notch. While debt structural features could in theory be stronger than those we have encountered, more restrictive terms and conditions would constrain management abilities to pursue strategies and policies and may not be suited to certain types of businesses, so they have typically fallen within a moderately narrow range.

Ratings fully incorporate our view of the actual structural or contractual features in a particular transaction. In rare cases contractual features may provide greater uplift to the issuer's credit quality that what is reflected in the scorecard.

Assumptions and Limitations, and Rating Considerations That Are Not Covered in the Grid

The grid in this rating methodology represents a decision to favour simplicity that enhances transparency and to avoid greater complexity that would enable the grid to map more closely to actual ratings. Accordingly, the four rating factors in the grid do not constitute an exhaustive treatment of all of the considerations that are important for ratings of companies in the regulated water utilities sector. In addition, our ratings incorporate expectations for future performance, while the financial information that is used to illustrate the mapping in the grid in this document is mainly historical. In some cases, our expectations for future performance may be informed by confidential information that we cannot disclose. In other cases, we estimate future results based upon past performance, industry trends, competitor actions or other factors. In either case, predicting the future is subject to the risk of substantial inaccuracy.

Assumptions that may cause our forward-looking expectations to be incorrect include unanticipated changes in any of the following factors: the macroeconomic environment and general financial market conditions, industry competition, disruptive technology, regulatory and legal actions.

Key rating assumptions that apply in this sector include our view that sovereign credit risk is strongly correlated with that of other domestic issuers, that legal priority of claim affects average recovery on different classes of debt sufficiently to generally warrant differences in ratings for different debt classes of the same issuer, and the assumption that access to liquidity is a strong driver of credit risk.

In choosing metrics for this rating methodology grid, we did not explicitly include certain important factors that are common to all companies in any industry such as the quality and experience of management, assessments of corporate governance and the quality of financial reporting and information disclosure. Therefore ranking these factors by rating category in a grid would in some cases suggest too much precision in the relative ranking of particular issuers against all other issuers that are rated in various industry sectors.

Ratings may include additional factors that are difficult to quantify or that have a meaningful effect in differentiating credit quality only in some cases, but not all. Such factors include financial controls, exposure to uncertain licensing regimes and possible government interference in some countries. Regulatory, litigation, liquidity, technology and reputational risk as well as changes to consumer and business spending patterns, competitor strategies and macroeconomic trends also affect ratings. While these are important

considerations, it is not possible to precisely express these in the rating methodology grid without making the grid excessively complex and significantly less transparent. Ratings may also reflect circumstances in which the weighting of a particular factor will be substantially different from the weighting suggested by the grid.

This variation in weighting rating considerations can also apply to factors that we choose not to represent in the grid. For example, liquidity is a consideration frequently critical to ratings and which may not, in other circumstances, have a substantial impact in discriminating between two issuers with a similar credit profile. As an example of the limitations, ratings can be heavily affected by extremely weak liquidity that magnifies default risk. However, two identical companies might be rated the same if their only differentiating feature is that one has a good liquidity position while the other has an extremely good liquidity position, unless they are low-rated companies for which liquidity can be a substantial differentiator for relative default risk.

Other Rating Considerations

Ratings consider a number of additional considerations. These include but are not limited to: our assessment of the impact of non-core businesses, the quality of management, corporate governance, financial controls, parental support, liquidity management and event risk.

Impact of Non-Core Businesses / Multi-Utilities

This methodology grid is applied to the assessment of issuers whose primary activity is the ownership and operation of regulated water and wastewater assets. Where the company has or will seek to diversify its operations towards other business types, we consider the impact of such diversification on credit quality. In particular, the ownership of material businesses with higher credit risk than regulated water and wastewater services would likely result in an actual rating that is lower than the grid-indicated rating.

In some cases, it is generally useful to apply this methodology to the monopoly-based water and wastewater business of multi-utilities, but a multi-utility's overall credit quality will reflect a combination of risk factors related to the combined group's activities, which may include regulated electric and gas networks, environmental services, etc. This is the case, for example, for issuers such as Veolia Environnement S.A, Suez Environnement Company, ACEA S.p.A., and Hera S.p.A. , where substantial non-water utility businesses have a meaningful impact on the credit profile and ratings.

Liquidity and Access to Capital Markets

Liquidity analysis is a key element in the financial analysis of water utilities, and it encompasses a company's ability to generate cash from internal sources as well as the availability of external sources of financing to supplement these internal sources. Liquidity and access to financing are of particular importance in this sector. Some water and wastewater assets can often have a very long useful life, even in excess of 50 years, as well as high price tags. Furthermore, the sector has historically experienced prolonged periods of negative free cash flow, such that a portion of capital expenditure must be debt financed. Dividends also represent a quasi-permanent outlay, as companies will only rarely cut their dividend. Liquidity is also important to meet maturing obligations, which often occur in large chunks.

Our assessment of liquidity for regulated water utilities typically involves an analysis of total sources and uses of cash over the next 12 months or more. Using our financial projections and our analysis of its available sources of liquidity (including an assessment of the quality and reliability of alternate liquidity such as committed credit facilities), we evaluate how its projected sources of cash (cash from operations, cash on hand and existing committed multi-year credit facilities) compare to its projected uses (including all or most capital expenditures, dividends, maturities of short and long-term debt, our projection of potential liquidity calls on financial hedges, and important issuer-specific items such as special tax payments). We assume no

access to capital markets or additional liquidity sources, no renewal of existing credit facilities, and no cut to dividends. We examine a company's liquidity profile under this scenario, its ability to make adjustments to improve its liquidity position, and any dependence on liquidity sources with lower quality and reliability.

Management Strategy

The quality of management is an important factor supporting a company's credit strength. Assessing the execution of business plans over time can be helpful in assessing management's business strategies, policies, and philosophies and evaluates management performance relative to performance of competitors and our projections. A record of consistency provides Moody's with insight into management's likely future performance in stressed situations and can be an indicator of management's tendency to depart significantly from its stated plans and guidelines.

Size

The size and scale of a regulated water utility has generally not been a major determinant of its credit strength in the same way that it has been for most other industrial sectors. However, size can still be a very important factor in our assessment of certain risks that impact ratings, including event risk, construction risk and access to external funding. While the grid incorporates some of the execution risk around large or complex projects into the Scale and Complexity of Capital Programme & Asset Condition Risk sub-factor, for some issuers these considerations may be sufficiently important that the rating reflects a greater weight for these risks.

Interaction of Ratings with Government Policies and Sovereign Ratings

Compared with most industrial sectors, regulated water utilities are more likely to be impacted by government actions. Credit impacts can occur directly through regulation, and indirectly through environmental and tax policies. While Factor 1 – Business Profile captures many of these risks, for some issuers a greater weighting may be appropriate in assessing the rating. As purely domestic enterprises (in most cases), water utilities are typically subject to the same macro-economic trends as the sovereign in the country or countries in which they operate. For instance, the ratings of Aigues de Barcelona and Canal de Isabel II Gestion, S.A. are currently constrained by the credit quality of Spain (Baa2 positive).

Ownership

Ownership (by a government or other entity) can also provide ratings lift for a particular water utility if it is owned by a highly rated owner(s) and of strategic importance to those owners. In our analysis of parental support, we consider whether the parent has the financial capacity and strategic incentives to provide support in times of stress or financial need, or has already done so in the past. Conversely, if the parent puts a high dividend burden on the issuer which in turn reduces its flexibility, the ratings would typically reflect this risk.

Corporate Governance

Among the areas of focus in corporate governance are audit committee financial expertise, the incentives created by executive compensation packages, related party transactions, interactions with outside auditors, and ownership structure.

Financial Controls

We rely on the accuracy of audited financial statements to assign and monitor ratings in this sector. The quality of financial statements may be influenced by internal controls, including centralised operations and the proper tone at the top and consistency in accounting policies and procedures. Auditors comments in financial reports and unusual financial statement restatements or delays in regulatory filings may indicate weaknesses in internal controls.

Event Risk

We also recognize the possibility that an unexpected event could cause a sudden and sharp decline in an issuer's fundamental creditworthiness. Typical special events include mergers and acquisitions, asset sales, spin-offs, capital restructuring programs, litigation and shareholder distributions.

Structural Subordination

A utility company can finance itself in many different ways but it may involve a regulated operating company (OpCo) and a holding company (HoldCo) structure with debt located at different levels. Given that creditors of the HoldCo usually have a secondary claim on the group's cash flows and assets after OpCo creditors, this leads to structural subordination. Our ratings of HoldCo debt are usually notched downwards from our assessment of group credit quality (which ignores priority of claim). In addition, our analysis takes into account a number of other factors including, *inter alia*, the following:

» Regulatory or other barriers to cash movement from OpCos to HoldCos

» Specific ring-fencing provisions or financial covenants at the OpCo level

» HoldCo exposure to subsidiaries with high business risk or volatile cash flows

» Strained liquidity at the HoldCo level

Low Inflation & Deflation / High Inflation

In a number of regulatory models, including the UK and Australia, tariffs are designed in real terms (as opposed to nominal terms), where allowed revenues are computed in a fixed price base and subsequently inflated by a retail/consumer or other price index. Some of the stated purpose of indexation are to allocate the cost of the service across different generations of customers and to provide utilities some protection against cost inflation. However, water utilities governed by this type of regulatory model generally need to raise a material, if not predominant portion of their debt on a conventional basis (i.e. debt instruments whose coupon is based on nominal interest rates, which include an assumption of long-term inflation rates within the interest cost). This may cause a timing mismatch of cash flows and debt service, as well as a potentially higher reliance on continued market access to raise debt. Furthermore, subject to a company's dividend policy and tendency to maintain leverage (measured in relation to the regulated asset base) at constant levels close to the guidelines supporting their rating category, lower-than-expected inflation or deflation could lead certain companies to breach such parameters. In such cases, affected utilities have typically taken corrective actions (e.g. in the form of temporary reduction in shareholder distributions) to ensure that such breaches, if any, are of a temporary nature only. In the absence of such actions, ratings pressure may result.

Other regulatory models, including the US, typically set rates in nominal terms based on actual capital costs at the time of rate-setting. Although the framework may have some forward-looking cost components, they are rarely linked to inflation. In such regulatory models, high inflation represents the greater risk, since tariff-setting typically lags well behind incurred expenditures in a rapidly rising cost environment. When deflation or inflation is severe, actual ratings may vary more materially from grid-indicated ratings, especially those based on historical metrics.

Droughts and Potable Water Shortages

Periodic droughts can seriously reduce water available to utilities, and natural and man-made disasters can contaminate or otherwise reduce potable water supplies. Depending on the regulatory framework, there is some regional variation in utilities' cash flow impacts during periods of droughts and water rationing, or stemming from flooding or other disasters that interrupt service. Water shortages have the potential to increase customer dissatisfaction with service and damage regulatory relationships. Droughts may be a

catalyst for large increases in capital spending, to secure water supplies or reduce leakage in the system. Particularly in regulatory frameworks where the utility retains exposure to volumetric changes in usage, severe or long-lasting droughts may impact revenues and cash flows in a manner that causes actual ratings to vary more materially from grid-indicated ratings, especially those based on historical metrics.

Conclusion: Summary of the Grid-Indicated Rating Outcomes

For the 26 regulated water utilities scored in detail under the methodology (see Appendix B), the methodology grid-indicated ratings map to current assigned ratings (or BCAs where relevant) as follows:

» 6 companies map to their assigned rating (or BCA where relevant)

» 15 companies have grid-indicated ratings that are within one alpha-numeric notches of their assigned ratings (or BCAs where relevant)

» 5 companies have grid-indicated ratings that are within two alpha-numeric notches of their assigned ratings (or BCAs where relevant)

Appendix A – Regulated Water Utilities Rating Grid

	Weight	Aaa	Aa	A	Baa	Ba	B	Caa
Factor 1 – Business Profile								
Stability and Predictability of Regulatory Environment	15%	Regulation is and expected to remain independent, well established (>15 years of being predictable and stable) and transparent. Well-established, published regulatory principles clearly define risk allocation between companies and customers and are consistently applied, with public or shared financial model.	Regulation is independent, reasonably well established (>10 years of being predictable and stable) and transparent. Well-established, published regulatory principles clearly define risk allocation between companies and customers and are generally consistently applied. Regulatory or concession framework has in recent years been (and is expected to remain) highly predictable, stable and supportive of utilities.	Regulation is generally independent and developed (e.g. published regulatory principles of risk allocation between companies and customers, based on established precedents in the same jurisdiction), and has above average predictability and reliability, although regulatory or concession regime may be sometimes less supportive of utilities.	Regulatory framework is well developed, with evidence of some inconsistency or unpredictability in the framework's application. OR Regulatory framework is relatively new and untested, but regulatory principles are based on established precedents and jurisdiction has history of independent and transparent regulation for other utility services. Regulatory environment or concession framework may sometimes be challenging or politically charged.	Regulatory or concession framework is defined but there is a high degree of inconsistency or unpredictability in its application. Tariff setting may be subject to negotiation and political interference; there has been a history of difficult or less supportive regulatory decisions; however, there are some precedents in the relevant jurisdiction of predictable regulation for other utility services.	Regulatory or concession framework is unclear, untested or undergoing significant change, with a history of political interference. Utility regulatory body lacks a consistent track record and is or is expected to be unsupportive, uncertain or highly unpredictable.	Regulatory or concession framework is not defined, or is expected to be extremely unsupportive, unpredictable or politically driven.

	Weight	Aaa	Aa	A	Baa	Ba	B	Caa
Asset Ownership Model	5%	All key water and/or sewerage assets held outright in perpetuity.	All key water and/or sewerage assets held outright subject to a licence that can be terminated only for material underperformance, failure to meet certain financial parameters or insolvency OR held under long-term concession with clearly defined right to timely recovery of residual asset value at termination/end of concession underpinned by highly rated entity; clear track record of consistently applying concession termination / recovery regime.	All key water and/or sewerage assets held under long-term concession with clearly defined right to recover value of residual assets at termination/end of concession underpinned by highly rated entity but with undefined timeframe OR held/operated under medium-/ long-term operating leases or mgmt contract with very substantial portfolio diversification, very established market position and very high renewal rate (>95%).	All key water and/or sewerage assets held under long-term concession with entitlement to recover value of residual assets at termination/end of concession but procedures untested/undefined OR held/operated under medium-/ long-term operating leases or mgmt contract with substantial portfolio diversification, established market position and high renewal rate (>90%). Expropriation possible in case of insolvency or material failure to comply with licence conditions, but with full compensation for asset value.	All key water and/or sewerage assets held under concession with recovery of residual asset value at termination/end of concession subject to negotiation OR held/operated under short-term operating leases or mgmt contract with good degree of portfolio diversification and renewal rate (>80%). Expropriation possible, with some uncertainty in the prospect of full compensation.	All key water and/or sewerage assets held under concession with no recovery of residual asset value at termination/end of concession OR held/operated under short-term operating leases or mgmt contract (limited portfolio diversification). Expropriation likely, with material uncertainty in the prospect of full compensation.	Issuer is in default under its licence, concession or lease/contract, likely to lead to termination. Expropriation highly likely, with little or no prospect of compensation.

	Weight	Aaa	Aa	A	Baa	Ba	B	Caa
Cost and Investment Recovery (Sufficiency & Timeliness)	15%	No regulatory or contractual impediment to adjust tariffs (no approval or reviews required).	Tariff formula allows for timely recovery of operating expenditure including depreciation and a fair return on all investment. Depreciation allowance fairly reflects asset consumption. All capital expenditure is included in asset base as incurred or fully covered by specific riders/surcharges prior to the next rate case. Minimal challenges by regulators to companies' cost assumptions.	Tariff formula allows for recovery of operating expenditure including depreciation based on allowances set at frequent price reviews (e.g., 5-yearly intervals or shorter) and a fair return on all efficient investment: Depreciation allowance fairly reflects asset consumption; Capital expenditure is included in asset base as incurred or partially covered by specific riders/surcharges prior to the next rate case; Opex and capex can be subject to efficiency tests; Limited instances of regulatory challenges; limited delays to rate or tariff increases or cost recovery Performance is likely to be in line with regulatory expectations.	Tariff formula allows for recovery of operating expenditure including depreciation and return on investment but subject to retrospective regulatory approval or infrequent price reviews (e.g., > 5-yearly intervals): Some instances of revenue back-loading (e.g. depreciation allowance set below asset consumption or operating expenditure is capitalised) OR Rate/tariff reviews and cost recovery outcomes are usually predictable, although application of tariff formula may be unclear; potentially greater tendency for regulatory intervention and/or to disallow or delay costs Performance may be below regulatory expectations.	Tariff formula does not take into account all cost components and depreciation may be set below asset consumption. Revenues allow coverage of operating expenditures; however, investment is not clearly or fairly remunerated OR Rate/tariff reviews are inconsistent, with some history of unwillingness to make timely rate changes OR Operational underperformance likely to significantly impact the returns achieved by the business.	Highly uncertain rate reviews and cost recovery outcomes; regulators may materially delay or deny tariff increases based on more arbitrary questioning of the utility's costs or financing arrangements. Revenues only cover cash operating expenditures OR Tariff formula does not take into account material cost and investment recovery components:	Revenues only partially cover cash operating costs.

	Weight	Aaa	Aa	A	Baa	Ba	B	Caa
Revenue Risk	5%	No exposure to volume or customer concentration risk.	Minimal exposure to volume risk and timely recovery mechanism in place. AND Very limited customer concentration of volumes and revenues and to a customer/industry viewed as stable.	Some exposure to volume risk; recovery mechanism in place with some delay until next regulatory price review; generally limited revenue volatility expected. May have small concentration of volumes and revenues to a particular customer/industry viewed as stable.	Moderate exposure to volume risk but recovery mechanism in place, with some delay until next regulatory price review; moderate revenue volatility expected. May have a moderate concentration of volumes and revenues to a particular customer/industry.	More material exposure to risk of volumes decreasing or not meeting growth targets embedded in tariff levels; recovery mechanism, may not follow regular intervals. OR Significant concentration of volumes and revenues to a particular customer/industry.	High exposure to risk of volumes decreasing or not meeting growth targets embedded in tariff levels with recovery mechanism unclear or subject to very long delays. OR Very high concentration of volumes and revenues to one particular customer/industry.	Very high exposure to risk of volumes decreasing or not meeting growth targets embedded in tariff levels with no meaningful recovery mechanism in place. OR Very high concentration of volumes and revenues to a particular customer/industry viewed as vulnerable.
Scale and Complexity of Capital Programme & Asset Condition Risk	10%	Capex programme is very limited in scale, with only minimum maintenance requirements (typically, total annual capex ≤ 4% of total fixed assets or regulated asset base). AND No asset condition risk (e.g. full and immediate cost pass-through).	Capex programme is limited in scale, with small maintenance or enhancement requirements (typically, total annual capex 4-6% of total fixed assets or regulated asset base). AND Well-developed asset base under tight regulatory supervision; asset performance is generally stable or improving.	Modest capex programme, including standard maintenance and enhancement expenditures (typically, total annual capex 6-8% of total fixed assets or regulated asset base). Well-developed asset base and no history of serious asset failure; asset performance is generally stable or improving.	Capex programme of manageable scale, including straight-forward maintenance and enhancement expenditure (typically, total annual capex 8-12% of total fixed assets or regulated asset base). Company has a reasonably developed asset base; may have some precedents of serious asset failures but asset performance is now and is expected to remain broadly stable.	Large capex programme (typically, total annual capex 12%-20% of total fixed assets or regulated asset base) or challenging in scope (small number of large and complex projects may account for majority of capital programme). OR Asset base not fully developed; or average asset performance is gradually deteriorating or there is some concern about asset condition.	Very large capex programme (typically, total annual capex 20-30% of total fixed assets or regulated asset base) or highly complex (one large and complex project may account for majority of capital programme). OR Performance of most assets is materially deteriorating, with serious assets failures likely or ongoing, or asset development is seriously below required target.	Extremely large capex programme (typically, total annual capex > 30% of total fixed assets or regulated asset base) or technically highly complex (includes one or more large projects of extreme technical complexity). OR Rapidly deteriorating asset performance or condition could put issuer at risk of termination of licence, concession or lease/contract.

	Weight	Aaa	Aa	A	Baa	Ba	B	Caa
Factor 2 – Financial Policy								
Financial Policy	10%	Long track record and expected maintenance of extremely conservative financial policy; very stable metrics; low debt levels for the industry; AND Public commitment to the highest credit quality over the long-term.	Long track record and expected maintenance of a conservative financial policy; stable metrics; lower than average debt levels for the industry; AND Public commitment to a very high credit quality over the long-term.	Extended track record and expected maintenance of a conservative financial policy; moderate debt leverage and a balance between shareholders and creditors; Not likely to increase shareholder distributions and/or make acquisitions which could lead to a weaker credit profile; Solid commitment to high credit quality.	Track record and expected maintenance of a conservative financial policy; an average level of debt for the industry and a balance between shareholders and creditors; Some risk that shareholder distributions and/or acquisitions could lead to a weaker credit profile; Solid commitment to targeted metrics.	Track record or expectation of maintenance of a financial policy that is likely to favour shareholders over creditors; higher than average, but not excessive, level of leverage; Owners are likely to focus on extracting distributions and acquisitions but not at the expense of financial stability.	Track record of aggressive financial policies or expected to have a financial policy that favours shareholders through high levels of leverage with only a modest cushion for creditors; OR High financial risk resulting from shareholder distributions or acquisitions.	Expected to have a financial policy unfavourable to creditors with a track record of or expected policy of maintaining excessively high debt leverage; OR Elevated risk of debt restructuring.

	Weight	Aaa	Aa	A	Baa	Ba	B	Caa
Factor 3 – Leverage and Coverage								
Adjusted Interest Coverage Ratio (1)	12.5%	≥8x	4.5-8x	2.5-4.5x	1.5-2.5x	1.2-1.5x	1.0-1.2x	<1.0x
OR		OR	OR	OR	OR	OR	OR	OR
FFO Interest Coverage (2)		≥10x	7-10x	4.5-7x	2.5-4.5x	1.8-2.5x	1.5-1.8x	<1.5x
Net Debt / Regulated Asset Base (3)	10%	<25%	25-40%	40-55%	55-70%	70-85%	85-100%	≥100%
OR								
Debt / Capitalisation								
FFO / Net Debt	12.5%	≥40%	25-40%	15-25%	10-15%	6-10%	4-6%	<4%
RCF / Net Debt	5%	≥30%	20-30%	10-20%	6-10%	4-6%	2-4%	<2%

Notes:

(1) The Adjusted Interest Coverage Ratio is our preferred metric for water utilities where allowed revenues/tariffs are determined using a 'building block' or equivalent approach and where the components of allowed revenues/tariffs are consistently available and can be verified by from an independent source – in many cases, publications from the regulatory authority itself. For the numerator, Interest net of Inflation Accretion is added back to the extent it was deducted in calculating FFO. Capital Charges represent expenditures recovered in revenues that are not accounted for as operating expenses and are not treated as additional invested capital incrementing the RAB, including regulatory revenue profiling to smooth the impact of tariff increases on customer bills.

(2) In jurisdictions where regulatory revenues/tariffs are not determined with a 'building block approach' or where the regulatory information needed to calculate Capital Charges may not be consistently available, we use the FFO Interest Coverage, calculated (or for forward periods estimated) as (FFO + Interest Expense) / Interest Expense.

(3) For the utilities regulated under a RAB-based model where the RAB accurately represents the invested capital on which the water utility will earn a return over time, we measure leverage as Net Debt to RAB. For water utilities that (1) are regulated under tariff models without a RAB; (2) are regulated under a RAB-based model but where the RAB may not accurately represent the invested capital on which the water utility will earn a return over time (e.g. because of ex-post rate-setting); or (3) where RAB may not be consistently available, we use Debt to Capitalisation.

Preliminary Grid-Indicated Rating (Factors 1-3)

Factor 4 – Structural Considerations and Sources of Rating Uplift From Creditor Protection
Rating uplift of up to 3 notches provided by structural features to grid-indicated outcome from Factors 1-3 above

Grid-Indicated Rating

Appendix B – Indicated Rating and Results of Mapping

In the table below, we identify positive or negative "outliers" for a given sub-factor, defined as issuers whose grid sub-factor score is at least two broad rating categories higher or lower than a company's rating (e.g. a B-rated company whose rating on a specific sub-factor is in the Baa-rating category is flagged as a positive outlier for that sub-factor). Green is used to denote a positive outlier, whose grid-indicated performance for a sub-factor is two or more broad rating categories higher than Moody's rating. Red is used to denote a negative outlier, whose grid-indicated performance for a sub-factor is two or more broad rating categories lower than Moody's rating.

Company	Moody's Rating / bca / Consolidated Corporate Credit Profile	Outlook	Grid Indicated Rating	Stability and Predictability of Regulatory Environment	Asset Ownership Model	Cost and Investment Recovery (Sufficiency & Timeliness)	Revenue Risk	Scale and Complexity of Capital Programme & Asset Condition Risk	Financial Policy	Adjusted Interest Coverage Ratio OR FFO Interest Coverage	Net Debt / Regulated Asset Base OR Debt / Capitalisation	FFO / Net Debt	RCF / Net Debt	Structural Considerations & Rating Uplift
Acquedotto Pugliese S.p.A.	ba1	Stable	Baa2	Baa	Ba	Baa	Aa	B	A	Aa	Baa	Aa	Aaa	0
Affinity Water Limited	Baa1	Stable	A3	Aaa	Aa	A	A	Ba	Ba	Baa	Ba	A	Baa	1.5
American Water Works Company, Inc.	A3	Stable	A3	Aa	Aa	Baa	Baa	Baa	Baa	Baa	A	A	A	0
Anglian Water Services Ltd.	Baa1	Stable	A3	Aaa	Aa	A	A	A	Ba	Baa	Ba	Ba	Ba	1.5
Aquarion Company	Baa3	Stable	Baa2	Aa	Aa	Baa	Baa	Baa	Baa	Baa	Baa	Ba	Baa	0
Bristol Water plc	Baa1	Stable	A2	Aaa	Aa	A	Baa	Ba	Ba	Baa	Baa	A	A	1.5
Companhia de San Bas do Estado de Sao Paulo	ba2	Negative	Ba1	Ba	Ba	Ba	B	Ba	Baa	Baa	A	A	A	0
Companhia de Saneamento de Minas Gerais	ba2	Under Review - Down	Ba1	B	Ba	Ba	Baa	Ba	Baa	A	A	Aa	Aa	0
Companhia de Saneamento do Parana - SANEPAR	ba2	Under Review - Down	Ba1	B	Ba	B	Baa	Baa	Baa	Aa	Aa	Aaa	Aaa	0
Dee Valley Water PLC	Baa1	Stable	A2	Aaa	Aa	A	Baa	Ba	Ba	Baa	Baa	A	A	1.5
Dwr Cymru Cyfyngedig	A3	Positive	A2	Aaa	Aa	A	A	A	Baa	Baa	Baa	Baa	A	0.5
Golden State Water Company	A2	Stable	A1	Aa	Aa	A	A	Baa	A	A	Aa	Aa	Aa	0

Company	Moody's Rating / bca / Consolidated Corporate Credit Profile	Outlook	Grid Indicated Rating	Stability and Predictability of Regulatory Environment	Asset Ownership Model	Cost and Investment Recovery (Sufficiency & Timeliness)	Revenue Risk	Scale and Complexity of Capital Programme & Asset Condition Risk	Financial Policy	Adjusted Interest Coverage Ratio OR FFO Interest Coverage	Net Debt / Regulated Asset Base OR Debt / Capitalisation	FFO / Net Debt	RCF / Net Debt	Structural Considerations & Rating Uplift
Hunter Water Corporation	baa2	Stable	Baa3	Aa	Aa	A	A	Aa	Baa	Ba	A	B	B	0
Korea Water Resources Corporation	baa2	Positive	Baa3	A	A	Ba	Baa	Ba	Ba	Baa	A	Ba	Baa	0
Northumbrian Water Ltd.	Baa1	Stable	Baa1	Aaa	Aa	A	A	Baa	Ba	Baa	Baa	Baa	Ba	0.5
Portsmouth Water Limited	Baa1	Stable	A3	Aaa	Aa	A	A	Baa	Ba	Baa	Ba	Baa	A	1.5
Severn Trent Water Limited	A3	Negative	A3	Aaa	Aa	A	A	A	Baa	Baa	Baa	Baa	Baa	0
South East Water Limited	Baa2	Stable	A3	Aaa	Aa	A	A	Baa	Ba	Baa	Ba	Baa	Baa	1.0
South Staffordshire Water Plc	Baa2	Stable	A3	Aaa	Aa	A	A	Ba	Ba	Baa	Baa	A	A	1.0
Southern Water Services Limited	Baa2	Stable	Baa1	Aaa	Aa	A	A	Baa	B	Ba	Ba	Baa	A	1.5
Sutton and East Surrey Water plc	Baa1	Stable	A3	Aaa	Aa	A	A	Ba	Ba	Baa	Ba	A	A	1.5
Sydney Water Corporation	baa1	Stable	Baa1	Aa	Aa	A	A	Aa	Baa	Ba	A	Ba	Ba	0
Thames Water Utilities Ltd.	Baa1	Stable	Baa1	Aaa	Aa	A	A	Ba	Ba	Baa	Ba	Ba	Baa	1.5
United Utilities Water Limited	A3	Stable	A2	Aaa	Aa	A	A	Baa	Baa	Baa	Baa	Baa	A	0.5
Wessex Water Services Limited	A3	Stable	A3	Aaa	Aa	A	A	Baa	Baa	A	Ba	Baa	Baa	0.5
Yorkshire Water Services Limited	Baa2	Stable	Baa1	Aaa	Aa	A	A	A	B	Ba	Ba	Ba	Baa	1.5

Outlier Discussion:

Acquedotto Pugliese S.p.A's ba1 bca, which compares to a grid-indicated rating of Baa2, is currently constrained by the uncertainties on future investment financing associated with the limited residual life of its concession and by its operational performance levels, which are weaker than its industry peers and show some sign of macroeconomic pressure on working capital. It is also a positive outlier for Revenue Risk, Financial Policy and several Leverage and Coverage Ratios, as these strengths are not sufficient to offset an untested concession renewal environment and operational underperformance.

For Bristol Water plc and Dee Valley Water plc, due to the small size of the company combined with very large investment requirements, Scale and Complexity of Capital Programme & Asset Condition Risk currently take on a greater than standard weight in the actual Baa1 ratings, which compare to A2 grid-indicated ratings.

For South Staffordshire Water plc., additional holding company debt in combination with permitted leverage at the utility currently constrains the ratings at Baa2, compared to grid-indicated ratings of A3.

The illustrative scoring shown above reflects 3-year average historical financial metrics for the latest available annual account in 2015. For the majority of issuers, primarily in the UK and the US, historical metrics tend to benefit from higher allowed revenues, either through regulatory return assumptions that companies were able to outperform in a low interest rate environment or additional bonus depreciation allowances. We expect a deterioration in the projected financial metrics resulting from reduced regulatory returns that will lead to grid-indicated ratings mapping closer to assigned ratings for the affected issuers.

Stability and Predictability of Regulatory Environment and Asset Ownership Model

Water utilities in the UK benefit from a very stable and predictable regulatory and asset ownership framework that has been tested through many tariff cycles, including the most recent price determination published in 2014. This stability is offsetting relatively high financial leverage. The same dynamic exists for the Australian utilities, Hunter Water Corporation and Sydney Water Corporation.

Scale and Complexity of Capital Programme & Asset Condition Risk

Hunter Water Corporation and Sydney Water Corporation are positive outliers, but the small risk associated with maintaining their systems is offset by low allowed returns that affect the Leverage and Coverage ratios.

Financial Policy

Southern Water Services Limited and Yorkshire Water Services Limited are negative outliers, primarily due to risks in their derivatives portfolios that are sensitive to interest rate movements. These risks are partially offset by strong Business Profiles, as reflected in strong scores in those sub-factors.

Leverage and Coverage

The Brazilian water companies, Companhia de San Bas do Estado de Sao Paulo, Companhia de Saneamento de Minas Gerais and Companhia de Saneamento do Parana – SANEPAR, are positive outliers in certain Leverage and Coverage ratios. Prolonged drought conditions in the country have affected water volumes and revenues, and financial metrics on a forward-looking basis are expected to underperform the three year historical averages.

Structural Considerations and Rating Uplift for Creditor Protections

Certain issuers currently receive additional rating uplift either from creditor protections embedded in these companies' licence conditions that create greater credit insulation from their corporate parents (up to 0.5 notches) and/or through creditor benefits embedded within their financing structures (1.0-1.5 notches).

Appendix C – Industry Overview

Generally, regulated water utilities exhibit significantly lower business risk than many other rated corporate sectors, and one of the lowest business risk profiles even among infrastructure issuers.

Under developed regulatory frameworks, the very low business risk primarily reflects:

» Monopoly-type activities, most commonly supported by long-term licence or concession agreements.

» Characteristically strong visibility in revenues and profit generation, due to (1) importance of water and wastewater services provided, which results in overall low demand volatility and general resilience to economic fluctuations; and (2) clear and predictable mechanisms for tariff increases (embedded in the regulatory framework or concession regime), which will sustain revenues over the long term.

» Strong regulatory supervision due to the critical element of health and environmental implications of the water and wastewater services.

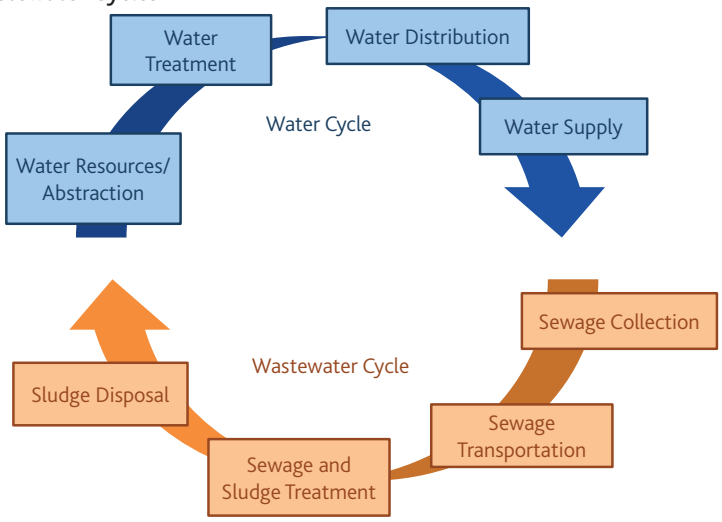
The stable and sustainable levels of cash flows afforded by these characteristics can also translate into a significant capacity to sustain high debt levels over the long term. This is of particular importance as the sector as a whole has massive infrastructure funding needs to enhance existing facilities to improve health and environmental standards. Due to the significant investment requirements issuers will need constant access to external funding as the vast amount of investments cannot be solely covered from internal cash flow generation. Although customer bills continue to rise to cover the additional capital costs of financing the water and wastewater infrastructure (partly offset by efficiency savings in the operations), the industry also remains heavily subsidised in many jurisdictions.

Levels and forms of subsidies differ from jurisdiction to jurisdiction. Most countries provide some form of cross subsidisation between customers through the application of average tariffs across any given water supply area compared to the actual cost of delivery to each respective customer. Furthermore, there are a number of explicit or implicit measures by which governments provide subsidies, such as reduced trade taxes for utilities, or income support and/or targeted assistance for customers in need. Subsidies can also be built directly into the tariff system. For example, when the UK water companies (in England and Wales) were privatised, the value of the regulated asset base was set at the amount achieved through privatisation. The privatisation value, however, was significantly lower than the replacement cost of the regulated assets, as it reflected the historically low charges paid by customers for water and wastewater services. Given that the companies need to incur large amounts of maintenance capex, which has to be spent at the replacement value, water tariffs include a maintenance capex allowance to reflect such higher replacement values, but the return that companies earn is based on the lower regulated asset base. This ensured that customer prices did not rise as much as would otherwise have been the case.

Exhibit 5 illustrated the entire value chain of services in the water and wastewater cycle:

EXHIBIT 5

Water and Wastewater Cycles



Source: Moody's

The combination of water abstraction and treatment is also referred to as bulk supply or upstream wholesale activities. The vertical integration of the water supply chain can stop at this point. This is the case in a number of EU countries, where one large utility may be responsible for the upstream water activities, whilst a number of smaller – usually municipal-owned – suppliers undertake the distribution to the end-consumer. Most of the water utilities rated by Moody's are integrated providers of water and/or wastewater services along the entire value chain, which in addition to the bulk supply also includes the distribution and sale to customers. Among the Moody's rated universe, we only have one rated water wholesaler: Korea Water Resources Group.

Different business models have been adopted globally in managing the water and wastewater activities. In many countries around the world, the supply of water and treatment of wastewater are public services and the legal responsibility of municipalities. In these cases the legal ownership of the assets also lies with the municipalities. However, there exist a variety of operational models that are derived from this set-up.

First, the water and wastewater infrastructure assets can be operated under direct management by the municipality itself. In these cases, the water and wastewater services would be part of the general regional or local administration (such instances are not covered under this rating methodology). Second, the management of the water and wastewater infrastructure can be delegated to another entity. Such entity can be – and in many instances is – partly or wholly owned by the regional or local government that retains the legal responsibility for the provision of water and wastewater services. Third, water services may be completely privatised along the entire value chain of water and/or wastewater provision, which has occurred in relatively few countries. The UK (more specifically England and Wales) is the most notable example of a country that has transferred the responsibility of water and wastewater services entirely to the private sector, albeit under stringent regulatory oversight.

With respect to delegated management, a variety of different forms of contracts, concessions or licence arrangements exists, which can be summarised into the following main business models:

Management Contract: This is usually a short-term (3-5 years) arrangement for the management of operational facilities. The assets remain in the public sector, usually with the relevant municipality, which

also collects the user charges from the customers. The managing entity is remunerated by the municipality through payment of a management fee. Depending on the contract, it may include a number of performance targets against which the managing entity will be measured. Capital expenditure requirements and their funding remain principally the responsibility of the relevant municipality.

Lease Contract: A lease contract is similar to a management contract in that the asset ownership remains with the municipality. However, the relevant service undertaker responsible for the operation of the assets collects the user charges directly from the end customers, and may also be responsible for funding investments in the assets over the life of the contract. Lease contracts commonly apply over periods of 8-15 years.

Concession Contract: This is one of the most wide-ranging options in transferring responsibility for the assets to the relevant service undertaker. Concession arrangements usually cover a period of 25-30 years and transfer the economic benefits and costs of asset ownership to the service undertaker for the time of the concession. The service undertaker therefore also takes responsibility for capital investments and funding requirements. The terms of the concession are negotiated on a bilateral basis, but may be based on a general legislative and/or regulatory framework applied throughout a jurisdiction. Given the length of the contract, a concession also generally includes tariff reviews at specified intervals. Examples of this model include water and wastewater operation in France, Italy, Spain and Brazil.

Licence: The licence approach is usually very similar to a long-term concession. However, the terms of the licence are usually set in law and are commonly applied to all licensed undertakers. Licences may have maturities similar to long-term concession or run in perpetuity, with an option to terminate the licence for severe performance failures. For example, licences apply for water companies operating in England and Wales; for these companies the licences include a condition that allows licence termination subject to a 25 year notice period.

Furthermore, for single asset transactions or projects, a number of specific arrangements can be applied, such as Design, Build, Operate (DBO); Build, Own, Operate (BOO); or Build, Operate, Transfer (BOT). These contractual arrangements are generally used in cases of large investment requirements for a specific asset, which can be transferred to the private sector, for example through project finance arrangements. Such contracts are commonly restricted to one particular asset, such as the construction and operation of a treatment work, and can have similar terms as concessions.

Generally, all contracts and concessions are initially put out to competitive tender, and will usually require re-tendering at their expiry.

Regional Profiles

United Kingdom

Moody's currently rates nine of the ten water and sewerage companies (WaSCs) operating in England and Wales as well as seven of the eight water only companies (WoCs). The WoCs are generally smaller in size and provide only water services within the overall franchise area of the larger WaSCs, which also undertake sewerage services.

The average rating of the UK water sector based on the credit quality of the relevant corporate family is currently around A3-Baa1, with most of the debt rated at A3. This reflects certain regulatory constraints that have tended to restrict the ability of companies to position themselves lower in the rating scale, but also the industry's fundamental characteristics.

Over the last two decades, leverage among the UK rated water utilities has increased significantly. This development largely reflects a combination of shareholders' desire to maximise returns, regulatory constraints that restrict the ability of operating companies to position themselves lower in the rating scale and the way industry has been regulated. As low-risk but highly capital intensive businesses, water companies have sought to optimise their capital structures by balancing the attractions of high leverage in benign debt markets with the need to preserve solid investment-grade ratings to retain good access to the range of debt funding available to infrastructure issuers. As part of this development, regulated water companies that have been acquired have generally been leveraged materially to re-finance acquisition debt. This trend increases event risk for lower-leveraged entities to follow suit, including in other countries.

Overall, Moody's currently regards the regulatory risk profile of the UK regulated water utilities as one of the lowest globally. The framework is transparent and well-established, leading to a high predictability of cash flows for the sector. This has allowed UK water companies to sustain a relatively high level of leverage and maintain an investment-grade profile.

The UK water sector has recently completed the regulatory review process to determine prices for the five-year period 2015-20. The final price determination, published in December 2014, includes challenging assumptions for the UK water companies, including a significant reduction in the allowed return. Whilst the price review has been overall neutral for credit ratings in the sector in light of lower financing costs, we expect that shareholder returns will decline and that dividend policies will reflect the realities of both the new price limits and the size of each company's capital investment programme. Should dividend policies of individual companies become out of sync with earnings, downward rating pressure may result.

Over the long term, the UK water sector faces challenges from the proposed introduction of competition to certain elements of the value chain. Competition for retail water supply to business customers will commence in April 2017. Whilst this part of the business is relatively small and competition in this area is unlikely to result in negative credit implication, government plans to introduce household retail competition and proposals for developing upstream markets, both from 2020, may prove more disruptive for the sector's long term credit quality.

Rest of Western Europe

Water services in the rest of Western Europe remain largely in public hands. In particular, the water and wastewater infrastructure usually remains in the ownership of local or regional governments. The assets and/or their operations could be transferred to a government-related corporate entity. However, very few of these entities have accessed the debt capital markets to date.

In a number of cases, local or regional governments have outsourced the operations of their water and wastewater infrastructure to the private sector, mainly through short-term management contracts, e.g. in France.

United States

The US water industry is highly fragmented, mostly comprised of small municipal water and waste water systems that suffer from underinvestment. Investor-owned utilities are a small minority of companies in the sector. Tariff-setting regulation primarily takes place at the state level, and the regulatory environment can vary meaningfully from state to state. Generally, however, US state regulators have been more interventionist than their UK counterparts in terms of requiring an actual capital structure that matches the regulatory construct (which can act as a limitation on distributions) as well as limitations on loans to and transactions with affiliates, which has led to a greater degree of credit insulation between operating companies and their parents. US water utilities are also subject to federal and state laws and regulations that govern water quality and environmental considerations such as wastewater discharge.

Brazil

Brazilian water utilities are currently challenged by the lack of a consolidated regulatory framework to ensure stable and predictable levels of income and cash flows supportive of their capital-intensive activities. Water and wastewater services in Brazil are subject to several laws at federal, state and municipal levels. In general, they operate pursuant to long-term concession agreements with the various municipalities in their region of service, and the municipalities retain ownership of the underlying concession assets. Concession contracts often lack provisions for tariff adjustments, so rates are set by the state government, leaving ample room for politically driven decisions. The concession contracts often have written provision clauses that entitle the company to the recovery of the assets' residual value at termination; however, because the municipalities lack sufficient financial resources to fund investments or to reimburse past investments themselves, concessions tend to be renewed upon maturity rather than being terminated.

Korea

Korea's water utility sector is tightly controlled by the Korean government (Aa3 positive). The government's policies and regulations towards the country's water utility sector have material impact on the rated water utility's market position and operating performance. The market structure of the county's water utility sector has been very stable, because of the government's policy to ensure stable water supply. However, stability and predictability of the company's cash flows from operations have generally been weak. Tariff adjustments are subject to the government's final approval, and the government has a weak track record in the consistency of tariff decisions and in providing reasonable rates of return. Nevertheless, the government has shown very high willingness to provide on-going financial support that has benefited the credit quality of the rated water utility.

Australia

Australia's water utilities are GRIs owned by state governments, and the high likelihood of support from the states has been a material driver of their ratings. Operations and management of the water and waste water services are outsourced by the states to the water utilities under license agreements. Due to the ownership structure, the water utilities typically have very strong liquidity and funding profiles, because all funding is sourced entirely from state treasury corporations. This arrangement has ensured that the water utilities have ongoing access to liquidity and long-term capital. To-date, the water utilities have disclosed no plans to seek external funding. Water utilities in Australia are regulated by state-based regulators, with regulatory regimes which are considered to be stable and mature. Regulatory frameworks - based on the "building-block" approach - are well established and increasingly transparent, which has provided stability and predictability of revenue outcomes for the water utilities.

Moody's Related Research

The credit ratings assigned in this sector are primarily determined by this credit rating methodology. Certain broad methodological considerations (described in one or more secondary or cross-sector credit rating methodologies) may also be relevant to the determination of credit ratings of issuers and instruments in this sector. Potentially related secondary and cross-sector credit rating methodologies can be found here.

For data summarizing the historical robustness and predictive power of credit ratings assigned using this credit rating methodology, see link.

Please refer to Moody's Rating Symbols & Definitions, which is available here, for further information.

To access any of these reports, click on the entry above. Note that these references are current as of the date of publication of this report and that more recent reports may be available. All research may not be available to all clients.

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MOODY'S INVESTORS SERVICE

DECEMBER 21, 2016 CREDIT STRATEGY AND STANDARDS

MOODY'S INVESTORS SERVICE

CROSS-SECTOR RATING METHODOLOGY

Financial Statement Adjustments in the Analysis of Non-Financial Corporations

Table of Contents:

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This revised cross-sector rating methodology replaces the version with the same name published on December 22, 2015. We have 1) clarified that capitalized interest is reclassified from investing cash flow to operating cash flow in the cash flow statement; 2) clarified that capitalized development costs, other than software, are viewed as an operating expense; and 3) clarified that reverse factoring arrangements are an example of a non-standard adjustment. No other changes have been made to the content of this methodology.

Summary

This cross-sector rating methodology explains Moody's approach to making financial statement adjustments for non-financial corporations[1]. We adjust companies reported financial statements to improve analytical insight from the perspective of assessing credit risk and to improve the comparability of financial data between peers. When computing credit-relevant ratios, we use adjusted data and base our ratings, in part, on those ratios.[2]

Our adjustments do not imply that a company's financial statements fail to comply with applicable accounting rules. Our goal is to enhance the analytical value of financial data for credit analysis. We recognize that achieving full comparability of financial statements on a global basis is wholly impossible due to different measurement, recognition, presentation and disclosure practices that exist within and across various countries, regions and accounting regimes. However, where our key metrics may be significantly affected by differing accounting treatments that are generally well disclosed, we make adjustments to improve the quality and comparability of the data. Over time, as global reporting and analytical issues evolve, we may modify or add to our adjustments.

This methodology discusses standard adjustments to financial statements prepared under US, Japan and other local country accounting principles (collectively referred to as GAAP in this publication unless noted otherwise) and International Financial Reporting Standards (IFRS). The adjustments we discuss herein may be unique to GAAP or IFRS but may also be applied to other accounting jurisdictions, collectively termed "local GAAP", whenever it is appropriate to do so in order to make statements more comparable to corporations that report under GAAP or IFRS.

[1] Non-financial corporations include utilities and corporate infrastructure, REITS, asset managers, and insurance brokers.

[2] This update may not be effective in some jurisdictions until certain requirements are met, such as local language translation.

Certain adjustments are considered 'standard adjustments' and are designed to encapsulate adjustments across all non-financial corporates, where applicable. In limited circumstances, our presentation of financial information may differ from the standard adjustments indicated in this document because we think a different presentation is more analytically appropriate. Where differences from standard adjustments are pervasive in a particular industry, we will generally note this in the industry methodology.

In addition to the standard adjustments, we may also make non-standard adjustments to financial statements for other matters to better reflect underlying economics and improve comparability with peer companies. Non-standard adjustments tend to involve a higher degree of analytic judgment. For example, we may adjust financial statements to reflect estimates or assumptions that we believe are more suitable for credit analysis.

Purpose and Application

In general, Moody's adjusts financial statements to improve analytical insight from the perspective of assessing credit risk and to improve the comparability of a company's financial statements with those of its peers. In standardizing certain adjustments, our goal is to enhance consistency of our global approach across countries and industries, and to promote transparency for market participants. We adjust those items for which reliable source data is available. However, we are cognizant of differences in reporting requirements and accounting regimes, and take such limitations into consideration when conducting our analysis.

More specifically, we adjust financial statements for the below reasons:

» ***Apply accounting principles that we believe more faithfully capture underlying economics.*** One example is our view that operating leases have debt-like financing characteristics that should be recognized on balance sheets. Most of our standard adjustments fall in the accounting principle category.

» ***Improve comparability by aligning accounting principles.*** For example, we adjust LIFO (last-in-first-out) inventories so that all companies in a peer group measure inventory on a comparable FIFO (first-in-first-out) basis.

» ***Reflect estimates or assumptions that we believe are more appropriate for credit analysis in a company's particular circumstances.*** These adjustments typically relate to highly judgmental areas such as asset valuation allowances, impairment of assets, and contingent liabilities. No standard adjustment falls in this category as the calculations are too company-specific. Instead, we adjust financials in this area based on individual facts and circumstances.

We make comprehensive adjustments to complete sets of financial statements and then compute ratios based on adjusted financial statements. As a result, our basic financial ratios do not contain complicated add backs to the numerators and denominators, but instead are simpler constructs based on fully adjusted sets of financial statements.

Our adjustments affect all three primary financial statements which, after our adjustments, continue to interact:

» ***Balance sheet:*** We adjust the value of certain items, remove the artificial effects of smoothing permitted by accounting standards, recognize certain off-balance sheet transactions, and change the debt versus equity classification of certain hybrid financial instruments with both debt and equity features.

» *Income statement:* We eliminate the effects of certain smoothing, recognize additional expenses, attribute interest to new debt that we recognize, and segregate the effects of unusual or non-recurring items.

» *Cash flow statement:* We adjust the cash flow statement to be consistent with our adjustments to the balance sheet and income statement. For example, we identify and segregate the cash effects of the unusual transactions and events that we separate on the income statement.

Our objective is to fully adjust interim reporting periods in the same manner as we adjust full-year financial statements. However, in some cases this may not be possible due to more limited accounting disclosures that are made in interim reporting periods. In such cases, we use our judgment in determining whether or not an adjustment can be made and how it should be calculated. Where there is lack of interim disclosure information for an adjustment, we tend to use the prior annual disclosure to make estimates.

We maintain "unadjusted financials" (i.e. publicly reported financials) and "adjusted financials" (i.e. publicly reported data plus adjustments) in a database and use it to generate peer comparisons and quantitative data by industry. This data facilitates rating comparability and more transparent communication.

Standard Adjustments

Standard adjustments are identified below along with the applicable accounting regime. For example, the defined benefit pension plan adjustment applies to US GAAP, IFRS and Japan GAAP while the off-balance-sheet finance lease adjustment only applies to Japan GAAP.

EXHIBIT 1

Standard Adjustment Application

	US GAAP	IFRS	JGAAP
Defined benefit pension plans	x	x	x
Multiemployer pension plans	x	-	-
Operating leases	x	x	x
Off-balance-sheet finance leases	-	-	x
Capitalized interest	x	x	x
Capitalized development costs	-	x	-
Interest expense related to discounted long-term liabilities other than debt	-	x	-
Hybrid securities	x	x	x
Securitizations and factoring arrangements	x	x	x
Inventory reported on a LIFO cost basis	x	-	-
Consistent measurement of Funds from Operations	-	x	-
Unusual and non-recurring items	x	x	x

The following exhibit provides a brief description of each the standard adjustments. Each standard adjustment is described more fully later in this report.

EXHIBIT 2

Financial Statement Adjustments in the Analysis of Non-Financial Corporations

Adjustment	Purpose
Defined benefit pension plans	To eliminate the effects of artificial smoothing of pension expense permitted by accounting standards and recognize as debt the amount the pension obligation is underfunded or unfunded (subject to equity credit). We also change the classification of cash contributed to the pension trust on the cash flow statement under certain circumstances.
Multiemployer pension plans	To recognize as debt an estimate of the company's portion of an underfunded multiemployer pension liability.
Operating leases	To capitalize operating and off-balance sheet finance leases and recognize a related debt obligation. We re-characterize rent expense on the income statement by imputing interest on lease debt and considering the residual amount as depreciation.
Capitalized interest	To expense interest capitalized in the current year. On the cash flow statement, we reclassify capitalized interest from an investing cash outflow to an operating cash outflow.
Capitalized development costs	To expense development costs capitalized in the current year and adjust intangible assets on the balance sheet accordingly. On the cash flow statement, we reclassify capitalized development costs from an investing cash outflow to an operating cash outflow.
Interest expense related to discounted long-term liabilities other than debt	To adjust interest expense to reclassify the accretion of discounted long-term liabilities other than debt as an operating expense.
Hybrid securities	To classify securities with characteristics of both debt and equity in accordance with Moody's classification of hybrid securities, which sometimes differs from accounting treatment. We adjust interest expense, dividends and related cash flows consistent with our classification of the hybrid security.
Securitizations and factoring arrangements	To classify off balance sheet securitization and factoring arrangements as collateralized borrowings.
Inventory reported on a LIFO cost basis	To adjust inventory recorded on a LIFO cost basis to FIFO value.
Consistent measurement of Funds from Operations	To adjust working capital where appropriate to include the difference between tax paid and current tax expense, and net interest paid and interest expense.
Unusual and non-recurring items	To reclassify the effects of unusual or nonrecurring transactions and events to a separate category on the income and cash flow statements. Our analytical ratios that include income or operating cash flows generally exclude amounts in those separate categories.

Non-Standard Adjustments

In addition to the standard adjustments, Moody's may also make non-standard adjustments to financial statements for other matters to better reflect underlying economics and improve comparability with peer companies. While not a comprehensive list, below are some examples of non-standard adjustments that we might make based on the underlying facts and circumstances of each issuer.

» Debt reported at fair value based on the election of a 'fair value option'

» Other post-employee benefit (OPEB) obligation market changes reported on the income statement

Defined Benefit Pension Plans

There are two types of defined benefit pension plans: (i) "pre-funded" plans where companies are required to set aside assets in a separate trust to fund future benefits, and (ii) "unfunded" plans where companies are not required and elect not to set aside assets in a separate trust. Part 1 of our discussion addresses both types of plans. Part 2 addresses an incremental adjustment that is unique to unfunded plans.

A Supplemental Executive Retirement Plan (SERP) is a special type of pension plan that provides tax-deferred retirement income to executives. Unlike single employer pension plans (SEPs) which are protected by the Employee Retirement Income Security Act (ERISA) with, among other things, minimum funding levels and benefit guarantees, SERP benefits are largely at risk and usually unfunded. Despite the lack of regulatory protection, Moody's views SERP obligations no differently than SEP obligations due to the contractual nature of these plans and how they operate in bankruptcy in many jurisdictions. As such, the standard adjustments we make for SERPs are identical to, and made together with, those we make for SEPs. We do not give equity credit for SERPs.

We do not consider Other Post-Employment Benefits (OPEB), such as health benefit plans, as debt-like obligations. Among other considerations, our treatment considers the lack of regulatory protection, funding flexibility and treatment in bankruptcy in many jurisdictions.

The Reporting Problem – Part 1

Current accounting standards often fail to recognize or fully recognize on the balance sheet the amount and/or nature of a company's economic obligation to its pension trust, in part because of smoothing mechanisms permitted in pension accounting. Artificial smoothing also distorts the measurement of pension expense on the income statement. Smoothing mechanisms permit the deferral of large losses and gains, which can result in incongruous reporting such as:

» Recording pension income during a period when the economic status of a plan deteriorates, and

» Recording pension-related assets on the balance sheet when a pension plan is underfunded

Standards require companies to classify cash contributions to the pension trust as an operating cash outflow in the cash flow statement, including the portion that is reducing plan underfunding, which arguably represents the reduction of pension debt. As a result, cash from operations (CFO) is diminished for a contribution to the trust that is more akin to a financing activity.

Moody's Analytical Response – Part 1

Moody's believes that for pre-funded pension plans a company's balance sheet should reflect a debt-like liability equal to the plan's underfunded status because of the contractual and regulatory nature of pension obligations. We measure the liability as the excess of the actuarially determined projected benefit obligation or defined benefit obligation (PBO or DBO)[3] over the fair value of assets held in separate pension trusts. As assets cannot generally be transferred from one pension trust to another, in most cases we adjust debt by the gross underfunding of all underfunded trusts.

Because of the contractual nature of pension obligations, we view a pension liability as "debt - like". Thus, we classify it as debt on the balance sheet and include it in the computation of ratios that use debt. On the income statement, our goal is to report pension expense absent the effects of artificial smoothing, such as

[3] Some argue that a better measure of the pension obligation is the accumulated benefit obligation (ABO). Unlike PBO/DBO, ABO does not assume future compensation increases for employees. Moody's believes that PBO/DBO is the better measure for a company that is a going concern.

the amortization of prior service cost and actuarial gains and losses. We view pension expense as the current year's service cost, plus interest on the gross PBO, minus actual earnings on plan assets[4]. However, volatility in the performance of pension plan assets is not reflected in EBIT because Moody's reflects actual earnings on plan assets in "other non-recurring expense" and excludes this amount from EBIT. On the cash flow statement, we view cash contributions in excess of service cost as the repayment of (pension) debt.

How Moody's Adjusts the Financial Statements – Part 1

The following exhibit describes Moody's adjustments related to underfunded defined benefit pension obligations.

EXHIBIT 3

Financial Statement Adjustments in the Analysis of Non-Financial Corporations

Balance Sheet	We record as debt the amount by which the defined benefit pension obligation is underfunded. Our adjustment recognizes the gross underfunded pension obligation (PBO or DBO - FMV of assets) as debt, and removes any remaining intangible pension assets and liabilities.
Income Statement	» We reverse all pension costs and recognize service cost, which Moody's considers the best estimate of the operating cost of the pension plan (in proportion to COGS, Operating Expenses and SG&A). » We attribute interest expense to pension-related debt using an interest rate that represents a theoretical average borrowing cost for each issuer based upon its rating. » We recognize interest cost on the PBO or DBO in excess of interest attributed to pension-related debt in other non-recurring income/expense; add or subtract actual losses or gains on pension assets (but only in an amount up to the interest cost after attributing interest expense to pension-related debt) in other non-recurring income/expense.
Cash Flow Statement	We reclassify employer cash pension contributions in excess of service cost from CFO to a financing cash outflow. We do not adjust the cash flow statement if pension contributions are less than the service cost.

The most critical assumptions in pension accounting often relate to the discount rate used to assess the present value of future payments and the assumed returns on pension assets. Where these assumptions appear unsustainable or significantly different than those of a company's peers, we will often investigate the reasons why management chose those assumptions. The explanation may cause us to change our adjustment or provide other insight into credit risk. For example, if we conclude that the discount rate is aggressive, we may request that management calculate PBO or DBO using a lower rate and base our pension adjustment on that calculation. As another example, understanding the reason for a high expected rate of return on assets[5] could provide us with insight into the nature and risk of the assets in the pension trust.

The Reporting Problem – Part 2

For countries such as Germany and Austria with an unfunded pension system, there are a number of significant differences compared to pre-funded schemes. In particular, unfunded pension arrangements:

» Result in the inclusion of the gross pension obligation (in place of the net obligation) on the balance sheet;

» Typically have no statutory requirement for cash pre-funding of the gross obligation; and

[4] We limit the amount of gains on assets to the amount of interest to avoid recording pension income that is probably not sustainable. Also, in general, plan sponsors cannot utilize the gain on pension plan assets to satisfy non-pension related obligations and the monetization of plan assets may give rise to significant tax penalties.

[5] The assumed rate of return on pension assets is irrelevant to our pension-related adjustments.

» Allow a long time horizon to deal with the actual funding of pension payments which provides the sponsoring companies with a choice of how to meet their obligations.

Moody's Analytic Response – Part 2

For unfunded pension plans that generally lack the jurisdictional and legal requirement to maintain the plan, Moody's considers the PBO or DBO to be only partially "debt-like". To improve comparability with pre-funded pensions, Moody's simulates a pre-funding of pension obligations for companies that are not required to pre-fund. Given the long-term horizon for payment of pension obligations and the general predictability of the payment streams, the company may have time to secure the necessary financing. In cases where the company has the ability to easily access the capital markets, Moody's may assume that management's targeted debt and equity mix will be used to fund future pension obligations.

In circumstances where a company's financial policy is to pre-fund a previously unfunded pension obligation, Moody's will continue to treat the arrangement as unfunded unless the plan assets amount to or are expected to amount to approximately three-quarters of the PBO or DBO. Consequently, for unfunded pensions, an additional adjustment may be made to the balance sheet to incorporate an "equity credit" which reduces the amount of the gross pension obligation (PBO or DBO) that would otherwise be added to debt. However, excess liquid funds reduce the likelihood of additional equity being raised and equity credit is therefore calculated after excess liquid funds have been deducted from the PBO or DBO. Excess liquid funds are discretionary amounts of cash and marketable securities that exceed day-to-day needs for operations.

Moody's does not further adjust the income statement or the cash flow statement for companies with unfunded pension obligations, other than to align interest expense with the adjustment to debt described in the previous paragraph. The remaining interest cost on the PBO or DBO is included in other non-recurring expense.

How Moody's Adjusts the Financial Statements – Part 2

The following exhibit describes Moody's adjustment related to unfunded defined benefit pension obligations.

EXHIBIT 4

Standard Adjustments for Unfunded Defined Benefit Pension Plans

Balance Sheet	We record an "equity credit" that simulates funding of the company's unfunded PBO or DBO. Our adjustment: » Reverses a portion of the debt recognized in Part 1 of our adjustment for defined benefit pension plans, and » Recognizes a corresponding increase in equity.
Income Statement	We do not further adjust the income statement for unfunded pension plans, other than to align interest expense with our adjustment to debt.
Cash Flow Statement	We do not further adjust the cash flow statement for unfunded pension plans.

Multiemployer Pension Plans

The Reporting Problem

Under US GAAP, multiemployer pension plans (MEPP) are not reflected as a liability on the balance sheet. MEPPs generally cover workers from more than one employer, and employer contributions, determined by collective bargaining with a labor union, fund the plans. If one participating employer in an MEPP fails, the remaining employers participating in the plan could be required to share in the failed employer's obligation.

Moody's Analytical Response

Consistent with our treatment of single employer pension plans, we believe that a company's share of multiemployer pension plan underfunding represents a long-term debt-like liability.

Our ability to precisely estimate a company's share of MEPP under-funding is limited as companies are not required to disclose their share of any under-funding. Our rating methodology employs an industry multiple computation based on publicly available information contained in MEPP's annual reports[6] to roughly estimate a company's share of any under-funding. The steps of that computation are:

1. Compute an "under-funding multiple" for individual major MEPPs based on the relationship between a plan's funded status and total annual contributions to the plan from all participating companies using information from the plans' annual reports in three steps:

    a. Measure the plans' funded status. We subtract "net plan assets" from 90% of the Retirement Protection Act of 1994 (RPA 94) current liability[7] ("the adjusted liability").

    b. Calculate the gross multiple. We divide the funded status by total contributions to the MEPP from all participating companies.

    c. Determine the "under-funding multiple". We take 50% of the gross multiple. This reduction reflects our view that in contract negotiations with unions, companies will ultimately fund about 50% of the under-funding and union employees will "fund" the remaining 50% by foregoing current wages, benefits or work rules.

2. Group major MEPPs into broad industry categories and compute an "industry under-funding multiple" as the weighted average of the under-funding multiples for the MEPPs in that industry.

3. Estimate a company's share of under-funding by multiplying the company's most recent annual contribution to its plans by the applicable industry under-funding multiple. We may refine this multiple if the company participates in plans whose individual multiples are materially different than the overall industry multiple.

[6] The Employee Retirement Income Security Act of 1974, requires employee benefit plans to file an annual report with the Internal Revenue Service and the Department of Labor (DOL) using a Form 5500. Form 5500 contains various schedules of information detailing plans' financial position and are publically available on the DOL's website.

[7] The RPA 94 current liability represents expected future benefit payments discounted at the risk free rate of interest.

How Moody's Adjusts the Financial Statements

The following exhibit describes Moody's adjustment related to multiemployer pension obligations.

EXHIBIT 5

Standard Adjustments for Multiemployer Pension Plans

Balance Sheet	We increase debt by the amount attributed as the company's share of underfunding, record a deferred tax asset related to the resulting temporary difference, and record the remainder as a reduction to shareholders' equity.
Income Statement	We recognize related interest expense using an interest rate that represents a theoretical average borrowing cost for each issuer based upon its rating.
Cash Flow Statement	We do not adjust the cash flow statement.

Operating Leases

The Reporting Problem

Accounting standards distinguish between capital and operating leases, and the accounting for the two is very different. Accounting standards view capital leases as the acquisition of a long-term property right and the incurrence of debt. During the lease term, companies depreciate the capitalized property right and divide the lease payment between interest expense and the repayment of debt.

In contrast, accounting standards view operating leases as executory contracts that are treated as being off-balance sheet and are generally accounted for on a pay-as-you-go basis. That is, companies do not recognize operating leases as the incurrence of debt but simply report lease payments as rent expense on the income statement and as an operating cash outflow on the cash flow statement.

Further, accounting standards distinguish between capital and operating leases using arbitrary bright line tests. As a result, companies structure transactions to achieve certain accounting and, at the margin, the economic distinction between capital and operating leases is insignificant even though the accounting is very different. This results in diminished comparability between companies that account for similar economic transactions differently and between companies that lease assets versus those that buy them.

Moody's Analytical Response

Our rationale for capitalizing operating leases centers around the view that leases have debt-like financing characteristics that reduce a company's borrowing capacity. Leases are contractual commitments for future cash outlays and failure to make the contractual payments can result in adverse consequences that eventually lead to a default. In the absence of lease financing options, a company would normally borrow money to purchase the asset. For credit analysis, capitalizing operating leases enhances comparability between companies that buy assets financed with debt and those that lease assets.

Moody's approach entails adjustments to the balance sheet, income statement and cash flow statement. On the balance sheet, our approach emphasizes a present value (PV) concept. The present value of minimum lease commitments reflects an estimate of an issuer's actual legal liability. Our debt adjustment (matched by an equal adjustment to assets) uses an estimate of the PV of committed lease liabilities, with a floor and cap to enhance comparability where companies have very short or very long lease tenors. The use of a floor reflects our view that PV may significantly understate the economic liability for companies with very short tenor leases that will be renewed because the assets are needed in ongoing business operations. Additionally, we believe that the floor better captures the liability where issuers use variable or contingent

rent structures that lead to small reported minimum lease liability amounts. We further believe that a PV concept overstates the economic liability of very long leases because long leases tend to have conditional terms, often contain explicit break clauses, and in practice can often be exited for less than the full payment. Therefore, we cap the debt adjustment at 10x annual rent expense.

On the income statement, we align interest expense with our debt adjustment by reclassifying rent expense to interest and depreciation expense. This approach is similar to the accounting treatment for capital leases. We multiply the operating lease debt adjustment by an interest rate that represents a theoretical average borrowing cost for each issuer based upon its rating, with the remaining portion of rent expense being allocated to depreciation expense. On the cash flow statement, our adjustment moves lease depreciation expense out of CFO and into capital expenditures within cash flow from investing activities, which is also similar to the accounting for capital leases.

How Moody's Adjusts the Financial Statements

We increase balance sheet debt and fixed assets by an amount that equals the greater of:

1. The present value of minimum lease commitments (capped at 10x), or
2. A sector multiple times annual rent expense

Present Value of Minimum Lease Commitments

The present value of minimum lease commitments is calculated by discounting minimum lease commitments disclosed in the company's footnotes by an intermediate term interest rate that is estimated based on the issuer's rating. We recognize that interest rates for a given rating category differ regionally and all-in borrowing costs differ between issuers in the same region. However, these differences will fluctuate over time and we believe that using a common rate and approach is a transparent way to make an adjustment that is globally consistent to enhance comparability.

In most jurisdictions, GAAP does not require companies to segregate committed lease liabilities of greater than five years. In these cases, the 'thereafter' portion is discounted assuming that the year five liability will remain flat in subsequent years. This assumption may overstate PV for issuers with very long leases but we think this is a reasonable way to make the analytical adjustment for global comparability given insufficient detail in financial statement disclosures, and the 10x cap is a separate mechanism to address issues related to very long leases.

Sector Multiple Times Annual Rent Expense

Sector multiples were set to levels that approximate the sector's median-implied PV multiple and range from 3-6. Medians were determined by reference to the present value of minimum lease commitments / annual rent expense for each rated issuer with leases in a sector. The process for establishing the proposed sector multiples has also included a degree of judgment in some cases. For example, in sectors with a small number of issuers for which the median is less meaningful, we considered the type of leased assets and made a comparison to sectors with similar assets and lease profiles to determine the multiple. Refer to the Appendix for a listing of sector multiples.

We may consider updating sector multiples over time if the median-implied PV multiple changes significantly and we believe this change will be lasting as well as meaningful, or if it seems appropriate to aggregate sectors to use a common multiple. However, we do not currently envision making updates until

after the lease-related changes that have been proposed by the accounting boards have been implemented. In very rare cases, we may utilize a non-standard multiple or cap if an issuer has sufficiently unique characteristics. Adjustments to rent expense are also expected to be rare. For example, we typically do not offset rent expense with sublease income because there is often a mismatch between the duration of the sub-lease and the head lease. Additionally, sublease income comes with counterparty credit risk. However, we do not ignore sublease income completely and may consider qualitatively the value of sublease income in a company's ability to tolerate more leverage when sublease income is substantial.

We use the minimum lease commitment for the next year (as disclosed in the financial statement footnotes) instead of rent expense when annual rent expense is not disclosed.

The following exhibit summarizes Moody's adjustments to capitalize operating leases.

EXHIBIT 6

Standard Adjustments for Operating Leases

Balance Sheet	We increase debt and fixed assets by an amount that equals the greater of (i) the present value of minimum lease commitments, capped at 10x, or (ii) a sector multiple times annual rent expense.
Income Statement	We reclassify rent expense to interest and depreciation expense using the following calculation, and we adjust operating expenses (or cost of goods sold and selling, general & administrative expenses) proportionally: » Lease Interest Expense = Lease debt times an intermediate term interest rate based on the issuer's rating (capped at rent expense) » Lease Depreciation Expense = Rent Expense less Lease Interest Expense
Cash Flow Statement	We reclassify lease depreciation expense from operating cash flow to capital expenditures.

In August 2010, in connection with global accounting convergence, the U.S. Financial Accounting Standards Board (FASB) and the International Accounting Standards Board (IASB) released similar exposure drafts proposing to significantly change operating lease accounting. We will consider whether it is appropriate to make any further changes to our analytical adjustments for operating leases after the accounting standards are adopted and there is more clarity on the details for reporting and disclosure, particularly the treatment for the income and cash flow statements where there currently are differences in the FASB and IASB proposals.

Off-Balance Sheet Finance Leases (Japan GAAP)

The Reporting Problem

Under JGAAP, companies are allowed to report some types of finance lease transactions on a pay-as-you-go basis, just like operating lease transactions. Companies recognize these lease payments as lease expense on income statements and as operating cash outflows on cash flow statements.

Moody's Analytical Response

Moody's views an off-balance sheet finance lease as a debt-like transaction, similar to operating leases.

How Moody's Adjusts the Financial Statements

The following exhibit describes Moody's adjustments to capitalize off-balance sheet finance leases.

EXHIBIT 7

Standard Adjustments for Off-Balance-Sheet Finance Leases

Balance Sheet	We increase both debt and fixed assets. We assume the debt amount to be the PV of the unpaid lease amount as disclosed in a footnote.
Income Statement	We reclassify rent expense to interest expense and depreciation expense, and we adjust operating expenses (or cost of goods sold and selling, general & administrative expenses) proportionally.
Cash Flow Statement	We reclassify lease depreciation expense from operating cash flow to capital expenditures.

Capitalized Interest

The Reporting Problem

We typically wish to separately analyze the operations of a business from the financing of that business. This separation enables a more accurate portrayal of business operations, which is often the primary source of cash to repay debt.

However, accounting standards sometimes commingle operating and financing activities. One prominent example is capitalized interest where, under certain circumstances, GAAP and IFRS require a company to capitalize interest costs as a part of property, plant and equipment (PP&E). In the year the company capitalizes interest, reported capital assets, income and cash flow from operations are all higher relative to what would have been reported had the company expensed all interest.

Moody's Analytical Response

Moody's views capitalized interest as a cost for obtaining financing (i.e. interest expense) and believes that analysis of interest coverage should expense when incurred all interest costs regardless of whether a company recognizes that cost as an expense on its income statement or as an asset on its balance sheet. This requires modification to the balance sheet and income statement.

How Moody's Adjusts the Financial Statements

The following exhibit describes Moody's adjustments to expense interest capitalized:

EXHIBIT 8

Standard Adjustments for Capitalized Interest

Balance Sheet	We reduce PP&E by the amount of interest capitalized during the period, adjust deferred taxes, and reduce retained earnings by the after-tax cost of the additional interest expense recognized on the income statement.
Income Statement	We increase interest expense by the amount of capitalized interest during the current period, and reduce applicable tax expense.
Cash Flow Statement	We reclassify capitalized interest from investing cash flow (capital expenditure) to operating cash flow..

Capitalized Development Costs

The Reporting Problem

Provided certain criteria are met, capitalization of product development costs is mandatory under IFRS, but not permitted under US GAAP, with the exception of some internally developed software expenditures which can be capitalized under US GAAP. Companies use different approaches to assess the future profitability of products under development and therefore the amount capitalized is dependent on judgment with respect to the profitability and expected life of the product. In addition, capitalization produces an intangible asset which can sometimes have a relatively short life.

Moody's Analytical Response

To obtain consistency across accounting regimes and best reflect the transaction economics, Moody's views capitalized development costs, other than software, as an operating expense and believes that the analysis of profitability should consider all operating costs, regardless of whether a company recognizes that cost immediately as an expense on its income statement or as a depreciable asset on its balance sheet.

How Moody's Adjusts the Financial Statements

The following exhibit describes Moody's adjustments to expense capitalized development costs.

EXHIBIT 9

Standard Adjustments For Capitalized Development Costs

Balance Sheet	We reduce intangible assets, other than software, by the cumulative amount of development costs capitalized, adjust deferred taxes accordingly, and reduce retained earnings by the cumulative amount of development costs capitalized, net of tax.
Income Statement	We increase operating expenses, other than software, by the amount of capitalized development costs for the period, remove the amortization charge related to the capitalized development costs (including any impairment charge), and adjust applicable tax expense.
Cash Flow Statement	We reclassify capitalized development costs, other than software, from an investing cash outflow to an operating cash outflow.

Interest Expense Related To Discounted Long-Term Liabilities Other Than Debt

The Reporting Problem

Under IFRS, companies discount certain long-term liabilities other than debt to present value, and record the unwinding of the discount in interest expense. This reporting distorts the relationship between interest expense and debt and impacts interest coverage ratios. It also undermines the comparability of companies, particularly when comparing a company following IFRS with a company following US GAAP, where companies generally do not report the unwinding of discounts on non-debt liabilities as interest expense.

Moody's Analytical Response

In the income statement, Moody's reclassifies the portion of interest expense resulting from the unwinding of the discount to operating expenses. This reclassification preserves the tight relationship between interest expense and debt, keeps interest coverage ratios focused on pure interest, and improves comparability among companies. For example, under US GAAP certain long-term liabilities such as asset retirement obligations under FASB Statement 143 are discounted to present value. The unwinding of the discount is reported as an operating expense under US GAAP.

How Moody's Adjusts the Financial Statements

The following exhibit describes Moody's adjustments to reclassify interest expense arising from discounting.

EXHIBIT 10

Standard Adjustments for Interest Expense Related to Discounting Long-term Liabilities Other Than Debt

Balance Sheet	No impact on the balance sheet.
Income Statement	We increase operating expenses by the cost of unwinding the discounted liabilities, and reduce interest expense by that same amount.
Cash Flow Statement	As the related cash outflows are reported as an operating cash flow (CFO), this adjustment has no impact on the cash flow statement.

Hybrid Securities

The Reporting Problem

Although accounted for as debt, equity or minority interest, hybrid securities have characteristics of both debt and equity instruments. For some instruments, the economics suggest a different classification from the accounting treatment. For example, certain preferred stocks are classified as 100% equity, even though these instruments have important attributes of debt.

Moody's Analytical Response

Since hybrid securities are generally not pure debt or pure equity, Moody's places a particular hybrid security on a debt - equity continuum. We assign weights to the debt and equity components of a hybrid based on the security's particular features. The weights determine where it lies on the continuum. As a result, for example, Moody's may view a particular hybrid as 75% debt and 25% equity, while accounting standards may classify the instrument as 100% equity[8].

On the balance sheet we classify the instrument in accordance with the weights we assign to its equity and debt features:

EXHIBIT 11

Basket	Debt Component	Equity Component
A	100%	0%
B	75%	25%
C	50%	50%
D	25%	75%
E	0%	100%

Often this requires an adjustment from the classification in current accounting, which often classifies instruments as all debt or all equity, or in some cases, minority interest. In certain cases, we limit the amount of equity credit given.

We also adjust the income statement to reflect interest expense or dividends, depending on our balance sheet classification. For example, if we deem a portion of a debt instrument as "equity - like", Moody's

[8] For additional information on hybrid basket treatment, see our hybrid equity credit cross-sector rating methodology, which can be found in the Related Research section at the end of this report.

reclassifies the ratable amount of interest expense to dividends. Conversely, if we deem a portion of an equity instrument as "debt - like", Moody's reclassifies the ratable amount of dividends to interest expense.

We apply similar thinking to the cash flow statement, again reflecting cash outflows as interest or dividends depending on our balance sheet classification.

How Moody's Adjusts the Financial Statements

The following exhibit describes Moody's adjustments related to hybrid securities.

EXHIBIT 12

Standard Adjustments for Reclassification to Equity for Hybrid Securities Classified as Debt

Balance Sheet	We reclassify to equity (i.e. preferred stock) hybrid securities classified as debt, based on the hybrid basket treatment assigned to the particular hybrid security.
Income Statement	We reclassify interest expense to preferred dividends for the calculated equity portion of hybrid securities based on the hybrid basket treatment.
Cash Flow Statement	We reclassify interest expense (an operating cash outflow) to preferred dividends (a financing cash outflow) for the calculated equity portion of hybrid securities based on the hybrid basket treatment.

EXHIBIT 13

Standard Adjustments for Reclassification to Debt for Hybrid Securities Classified as Equity

Balance Sheet	We reclassify to debt (i.e. subordinated debt) hybrid securities classified as equity, based on the hybrid basket treatment assigned to the particular hybrid security.
Income Statement	We reclassify preferred dividends to interest expense for the calculated debt portion of hybrid securities based on the hybrid basket treatment.
Cash Flow Statement	We reclassify preferred dividends (a financing cash outflow) to interest expense (an operating cash outflow) for the calculated debt based on the hybrid basket treatment.

Securitizations And Factoring Arrangements

The Reporting Problem

Companies often report as a sale the transfer of receivables to a factor or a securitization trust. In most cases, the primary motive of the arrangement is to obtain cash at a low cost. Accounting standards that treat these arrangements as sales result in non-comparable reporting among companies. Companies that borrow from traditional sources (e.g., draw on a revolver to fund working capital needs) appear different from those that raise cash from the sale of receivables, even though the economics of the borrowings are likely to be very similar. The sale of receivables may temporarily improve financial ratios because of the related debt reduction. However, Moody's believes that in general the sale of receivables does not reduce the credit risk of the issuer for several reasons: the related receivables usually represent some of the best assets on the balance sheet, the sale of such prime assets reduces future financial flexibility, and unless the issuer continues to sell receivables forever it will face an eventual drain on cash. The sale of receivables also is likely to have an adverse effect on expected credit losses because the remaining assets for the company's creditors typically will be less liquid with greater uncertainty around their value.

Moody's Analytical Response

When cash is raised from the value of working capital assets, we see little analytical difference between sale/securitization and collateralized borrowing. Accordingly, Moody's credit analysis focuses on the cash impact - both the short term benefit and the longer term risk if the arrangement terminates - rather than on the legal issues that may be a key focus for the accounting treatment. We make a standard assumption that these programs do not continue and, if the unwinding of a receivable (or other asset) factoring or securitization arrangement would result in cash consumption, we almost always treat such arrangements as being no different than a collateralized borrowing for credit analysis purposes and adjust the financial statements.

For some issuers, the disclosure of factoring and securitization transactions may be limited or absent even when the amounts are material. When issuers report accounts receivables that are materially lower than peers in the same industry and geography, such differences may result from undisclosed factoring and securitization transactions, negotiation of non-standard terms of payment with their customers, or may simply reflect enduring differences in the basic nature of their business. Unless Moody's believes that the difference reflects fundamental business differences, Moody's may estimate how debt would change if the amount of accounts receivable was normalized, without changing the financial ratios we publish, and qualitatively consider this in our risk analysis for the rating.

An example of a rare exception where we would not treat such an arrangement as collateralized borrowings would be storm recovery securitization bonds for a regulated utility when enabling legislation has been passed to allow the utility to raise funds and impose a future levy on customers explicitly to repay those funds. We believe that the regulatory and/or legislative support makes these arrangements different from other receivables securitization transactions. Where the audited statements do not include a debt amount and Moody's does not make an adjustment, we will continue to qualitatively consider other impacts on the utility, such as potential reduced ability to obtain future rate increases.

How Moody's Adjusts Financial Statements

The following exhibit describes Moody's adjustments for arrangements that sponsors report as sales, which we consider to be analytically more appropriately represented as debt transactions.

EXHIBIT 14

Standard Adjustments for Securitizations and Factoring Arrangements

Balance Sheet	We increase debt by the ending balance of uncollected or unrealized assets that the company transferred in the securitization arrangement as of the balance sheet date. We also increase assets of the appropriate category by the same amount.
Income Statement	We impute interest expense on the amount of additional debt recognized, at the company's short-term borrowing rate, and reduce other expense by the same amount. Thus, our adjustment does not affect reported net income.
Cash Flow Statement	We reclassify amounts in the cash from operations (CFO) and cash from financing (CFF) categories: » Upon the initial transfer of assets, we reclassify the cash inflow from operating cash flow (CFO) to financing cash flow (CFF). » For each subsequent period, we base the amount of reclassification on changes in uncollected or unrealized sponsor assets in the securitization arrangement from the beginning to the end of the period. For example, if the amount of uncollected receivables in the securitization: – increases from the beginning to the end of the year, we reclassify the amount of that increase from cash inflow from operations (CFO) to cash inflow from financing activities (CFF). – decreases from the beginning to the end of the year, we increase cash from operations (CFO) by that amount and decrease cash from financing activities (CFF).

Inventory Reported On A LIFO Cost Basis

The Reporting Problem

The LIFO (last-in-first-out) cost method for carrying inventories on the balance sheet is an accounting choice under US GAAP but is not acceptable under other GAAPs, including IFRS. In periods of rising prices, the LIFO method can cause the carrying value of inventory on the balance sheet to be well below FIFO (first-in-first-out) value, replacement cost, and market value. As a result, the balance sheets of companies electing the LIFO cost method are not comparable to those that follow FIFO or other methods.

Moody's Analytical Response

Moody's adjusts inventories that companies report under the LIFO cost method to the FIFO cost method when LIFO cost is less than FIFO. This adjustment improves comparability among companies reporting under these two different inventory methods. It also states LIFO inventory at the most recent cost of inventory.

This adjustment only affects the balance sheet. We do not adjust the income or cash flow statements.

How Moody's Adjusts the Financial Statements

The following exhibit describes Moody's adjustment to inventory measured on a LIFO basis for reporting purposes.

EXHIBIT 15

Standard Adjustments for Inventory Reported on a LIFO Cost Basis

Balance Sheet	We increase inventories by the amount of the LIFO inventory valuation reserve, increase deferred tax liabilities for applicable tax effects, and increase retained earnings.
Income Statement	No adjustments made.
Cash Flow Statement	No adjustments made.

Consistent Measurement Of Funds From Operations

The Reporting Problem

Companies using IFRS have flexibility in reporting cash flow from operating activities in the cash flow statement. Diversity can exist in: (1) the starting point for the calculation (either net income, operating profit, or pre-tax income)[9], (2) how and where cash payments for interest and taxes are reported, and (3) how and where interest expense is reported. Cash from operations before changes in working capital, which we refer to as Funds from Operations (FFO), will be affected to the extent that working capital includes or excludes the difference between: (i) cash paid for taxes and current tax expense, and (ii) net interest paid and net interest expense (including any interest capitalized and excluding any interest related to discounting of long-term liabilities other than debt).

[9] The cash flow statement may appear to start at net income, but where net interest and tax expense are added back, this is equivalent to a starting point of operating profit. Similarly, where the starting point is net income, but tax expense is added back, this is equivalent to a starting point of pre-tax income.

Moody's Analytical Response

Under GAAP the cash flows statement is required to start at net income, therefore Moody's believes that adjustments to cash from operations may be necessary to make the calculation of funds from operations consistent across accounting regimes. For example, if a company reports its cash flow statement starting from pre-tax income[8], the difference between the current tax expense and tax paid needs to be included in the measurement of working capital when calculating FFO. Furthermore, if a company starts its cash flow statement with operating income, the difference between net interest expense (including any interest capitalized and excluding any interest related to discounting of long-term liabilities other than debt) and net interest paid and the difference between current tax expense and tax paid both need to be included in the measurement of working capital when calculating FFO.

How Moody's Adjusts the Financial Statements

The following exhibit describes Moody's adjustments for the different IFRS operating cash flow starting points.

EXHIBIT 16

Standard Adjustments for Consistent Measurement of Funds from Operations

Balance Sheet	No adjustments made.
Income Statement	No adjustments made.
Cash Flow Statement	» If the cash flow statement starting point is pre-tax income, we adjust working capital by the difference between current tax expense and tax paid. » If the cash flow statement starting point is operating profit[8], we adjust working capital by the difference between: current tax expense and tax paid; and net interest expense (including any interest capitalized and excluding any interest related to discounting of long-term liabilities other than debt) and net interest paid.

Unusual And Non-Recurring Items

The Reporting Problem

Financial statements generally do not contain complete information about unusual or non-recurring items. Although companies separately display the effects of a few non-recurring transactions and events (e.g. discontinued operations and extraordinary items), accounting standards do not require or permit companies to separately display on the face of the statements a sufficiently broad range of unusual or non-recurring items. Examples include:

» Unusually large transactions (creating revenues, costs or cash flows) that management does not expect to recur in the foreseeable future

» Unique transactions, such as selling real estate by a company that rarely sells real estate

» Transactions that have occurred in the past but that management expects will soon cease (for example, the tax benefits of deductible goodwill whose depreciable life is ending).

Inadequate information about the effects of unusual or non-recurring items can foster misleading impressions about key trends in financial data. For example, the impact of a one-time unusually large sale, if not separately considered, could create a misleading impression about a company's trends in market share, revenue, income and operating cash flow.

Moody's Analytical Response

Moody's captures the effects of unusual and non-recurring transactions and events in separate captions on the face of the income and cash flow statements. This enables us to more accurately portray trends in the underlying recurring core business. Our key financial ratios will generally exclude the effects of unusual and non-recurring transactions that we identify.

We identify unusual and non-recurring transactions and events from public disclosures, including management's discussion and analysis of operations. We may also discuss those types of transactions with management to help ensure that we have considered major items and accurately quantified their effects.

For practical reasons, we generally do not adjust the balance sheet for unusual or non-recurring items. Nevertheless, we will consider the possibility that an unusual or non-recurring item could materially affect the balance sheet and adjust it, if needed.

How Moody's Adjusts the Financial Statements

The following exhibit describes Moody's adjustments to capture the effects of unusual and non-recurring items.

EXHIBIT 17

Standard Adjustments for Unusual and Non-Recurring Items

Balance Sheet	We adjust the balance sheet in those instances where it is material to our analysis.
Income Statement	We reclassify the effects of unusual or non-recurring revenues, gains or costs, net of the related tax effect, to a special income statement caption that is below net profit after tax. Our computation of key ratios excludes amounts in the special income statement caption.
Cash Flow Statement	We reclassify the effects of unusual or non-recurring operating cash inflows and outflows to a special caption in the operating section of the cash flow statement. Our computation of key ratios excludes amounts in the special cash flow statement caption.

Non-Standard Adjustments

In addition to the standard adjustments, we may also make non-standard adjustments to financial statements for other matters to better reflect underlying economics and improve comparability with peer companies. Non-standard adjustments tend to involve a higher degree of analytic judgment, such as determining whether and how to make adjustments for the extension of trade payables in a payables finance arrangement. These adjustments are not as broad reaching and are less impactful to the overall population of companies that we rate, as compared to the standard adjustments. For example, we may adjust financial statements to reflect estimates or assumptions that we believe are more appropriate for credit analysis. We may also make non-standard adjustments where local GAAP or the interpretation of IFRS in a particular country or region differs from the norm in an area that would influence our analysis.

We compute our standard adjustments and non-standard adjustments based on public information. We are limited to publishing only publically available information, although private information may be considered in the rating process in a qualitative manner.

We highlight a few examples of non-standard adjustments:

Debt reported at fair value based on the election of a "fair value option." A fair value option exists under U.S. GAAP and IFRS whereby companies can choose to measure certain of their financial assets and

financial liabilities at fair value on an instrument-by-instrument basis. When a company elects this option for its debt, we may make adjustments to restate debt from fair value to amortized cost (or face value) on the balance sheet and to reverse any corresponding gains or losses recognized in the income statement related to changes in the fair value of debt. Other common causes for debt reported at amounts other than face value include hedge accounting (e.g. requiring periodic reassessment of debt) and the netting of debt discounts and issuance fees.

Other Post-Employee Benefit (OPEB) Obligation Market Changes Reported in Income Statement. Companies that have elected an accounting policy to record OPEB market changes through the income statement each period may experience periods of significant volatility. Our standard pension adjustment removes the impact of market volatility from operating income, EBIT and EBITDA. When a company also has a material OPEB obligation, the impact of market volatility may be moved on the income statement consistent with that of pension mark-to-market changes.

Moody's Related Research

A list of potentially related rating and cross-sector methodologies referenced in this report can be found here.

Appendix – Operating Lease Sector Multiples

Sector Name	Lease Multiple
Aerospace & Defense	3
Alcoholic Beverage	3
Apparel	4
Asset Managers	6
Automobile Manufacturer	3
Automotive Supplier	3
Broadcast & Advertising Related	4
Building Materials	3
Business Services	3
Chemical	3
Communications Equipment	3
Communications Infrastructure	5
Construction	3
Consumer Durables	3
Consumer Electronics	3
Consumer Services	4
Distribution & Supply Chain Services	3
Electric Generation & Transmission Cooperatives	3
Environmental Services & Waste Management	3
Equipment & Transportation Rental	3
Finance Companies	3
Gaming	4
Generic Project Finance	6
Government Owned Rail Network	3
Healthcare Service Providers	4
Homebuilding & Property Development	3
Independent Exploration & Production	4
Insurance Brokers & Service Companies	4
Insurers	4
Integrated Oil & Gas	3
Investment Holding Companies	3
Large Global Diversified Media	4
Lodging & Cruise	5
Manufacturing	3
Medical Product & Device	3
Midstream Energy	3
Mining	3
Natural Gas Pipelines	6
Oilfield Services	3
Packaged Goods	3

Sector Name	Lease Multiple
Packaging Manufacturers	3
Paper & Forest Products	3
Passenger Airlines	5
Passenger Railway	3
Pay TV-Cable & Direct-to-Home Satellite Operators	3
Pharmaceutical	3
Postal & Express Delivery	3
Privately Managed Airports & Related Issuers	6
Privately Managed Port Companies	6
Privately Managed Toll Roads	3
Protein & Agriculture	3
Publishing	4
Refining & Marketing	3
Regulated Electric & Gas Networks	4
Regulated Electric & Gas Utilities	4
Regulated Water Utilities	3
REITs & Other Commercial Property Firms	4
Restaurant	6
Retail	5
Securities Firms	5
Semiconductor	3
Shipping	3
Soft Beverage	3
Software	3
Steel	3
Surface Transportation & Logistics	3
Technology Hardware	3
Technology Services	3
Telecommunications	3
Tobacco	3
Trading Companies	3
Unregulated Power Companies	6
Unregulated Utilities	6

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Credit Opinion Ratios		12/31/17 (Annual) As Rep	Standard Adjustments								Non-Standard Adjustments	Total Adj	12/31/17 (Annual) As Adj	
			Pensions	Op Leases	Cap. Int.	Stk. Comp	Hybrids	Securitization	LIFO	Unusual				
Adjusted Interest Coverage Ratio (3 Year Avg)	SUM of 3 Years of:													
	FFO	3,741		64								64	3,805	
	- Regulatory Capital Charges	0.00											0.00	
	+ Interest Expense	1,016	36	10								46	1,062	
	– Non Cash Accretion =	0.00											0.00 =	4,867
	Interest Expense	1,016	36	10								46	1,062	1,062
	– Non Cash Accretion	0.00											0.00	
		4.7x												***4.6x***
FFO Interest Coverage (3 Year Avg)	SUM of 3 Years of:													
	Funds from Operations	3,741		64								64	3,805	
	+ Interest Expense =	1,016	36	10								46	1,062 =	4,867
	SUM of 3 Years of:													1,062
	Interest Expense	1,016	36	10								46	1,062	
		4.7x												***4.6x***
Net Debt / Regulated Asset Base (3 Year Avg)	SUM of 3 Years of:													
	ST Debt	0.00											0.00	
	+ LT Debt, Gross	0.00											0.00	
	- Cash and Cash Equivaler =	0.00											0.00 =	0
	SUM of 3 Years of:													0
	Regulated Asset Base (RAB)	0.00											0.00	
		NA												***N/A***
Debt / Capitalisation (3 Year Avg)	SUM of 3 Years of:													
	Short-term debt	2,382											2,382	
	+ Long-term Debt - Gross =	19,081	1,150	297							-20.00	1,427	20,508 =	22,890
	SUM of 3 Years of:													45,019
	Short-term debt	2,382											2,382	
	+ Long-term Debt - Gross	19,081	1,150	297							-20.00	1,427	20,508	
	+ Total Equity	15,652									20	20	15,672	
	+ Deferred Income Taxes - Non	6,457											6,457	
	+ Minority Interest	0.00											0.00	
		49.3%												***50.8%***
FFO / Net Debt (3 Year Avg)	SUM of 3 Years of:													
	Funds from Operations =	3,741		64								64	3,805 =	3,805
	SUM of 3 Years of:													22,715
	Short-term debt	2,382											2,382	
	+ Long-term Debt - Gross	19,081	1,150	297							-20.00	1,427	20,508	
	- Cash & Cash Equivalents	-175.00											-175.00	
		17.6%												***16.7%***
RCF / Net Debt (3 Year Avg)	SUM of 3 Years of:													
	Funds from Operations	3,741		64								64	3,805	
	- Preferred Dividends	0.00											0.00	
	- Common Dividends	-789.00											-789.00	
	- Minority Dividends =	0.00											0.00 =	3,016
	SUM of 3 Years of:													22,715
	Short-term debt	2,382											2,382	
	+ Long-Term Debt - gross	19,081	1,150	297							-20.00	1,427	20,508	
	- Cash & Cash Equivalents	-175.00											-175.00	
		13.9%												***13.3%***

American Water Works Company, Inc. Moody's Co. Num: 820490307 *Currency: USD'MIL* Final

Income Statement	12/31/17													12/31/17
(Adjustments)	(Annual)	Standard Adjustments									Non-Standard Adjustments			(Annual)
	As Rep	Pensions	Op Leases	Cap. Int.	Stk. Comp	Hybrids	Securitization	LIFO	Unusual	***Total***	Public	Fn#	***Total Adj.***	As Adj
Net Sales / Revenues	3,357													3,357
Gross Margin	3,357													3,357
Operating Expenses	1,378	(19)	(24)							(43)			(43)	1,335
Selling, general and administrative expenses	259	(3)	(5)							(8)			(8)	251
Depreciation	492													492
Depreciation - Capitalized Operating Leases	-		26							26			26	26
Unusual Expense (Gains)	(16)								16	16			16	-
Operating Profits	1,244													1,253
Other Income	31													31
Unusual Items - Expenses / (Gains)	7								(7)	(7)			(7)	-
EBIT	1,268													1,284
Interest Expense	356	13	3							17			17	373
Pretax Income	912													912
Taxes	486	3							(3)	(0)			(0)	486
Net Profit After-tax Before Unusual Items	426													426
Unusual & Non-Recurring Items - Adjust After-tax Inc / (Dec	-	(6)							6	0			0	0
Net Income after ADJ for Unusual & Non-Recur Items	426													426
Income Available to Common Shareholders	426													426

Analyst Optional Adjustments	
Fn #	**Description**

American Water Works Company, Inc. Moody's Co. Num: 820490307 *Currency: USD'MIL* Final

Balance Sheet *(Adjustments)*	12/31/17 (Annual) As Rep	Standard Adjustments									Non-Standard Adjustments			12/31/17 (Annual) As Adj
ASSETS		Pensions	Op Leases	Cap. Int.	Stk. Comp	Hybrids	Securitization	LIFO	Unusual	***Total***	Public	Fn#	***Total Adj.***	
Cash & Cash Equivalents	55													55
Restricted Cash	27													27
Accounts Receivable - Trade (net)	272													272
Unbilled revenues / accrued receivables	212													212
Inventories	41													41
Other Current Assets	113													113
CURRENT ASSETS	720													720
Gross Plant	21,716		101							101			101	21,817
Less: Accumulated Depreciation	5,470													5,470
Net Property Plant and Equipment	16,246													16,347
Goodwill	1,379													1,379
Other Assets	1,137													1,137
TOTAL ASSETS	19,482													19,583
LIABILITIES & EQUITY														
Short-term debt	905													905
Current portion of long-term debt	322		15							15			15	337
Accounts Payable - Trade	195													195
Accruals	703													703
Income taxes	33													33
Other Current Liabilities	167													167
CURRENT LIABILITIES	2,325													2,340
Secured Debt	1,325													1,325
Senior Debt	5,484	385								385	4	[1]	389	5,873
Mandatorily redeemable preferred securities	10													10
Capitalized Leases	1		101							101			101	102
Long-Term Debt-Gross	6,820													7,310
Less: Current Maturities	(322)		(15)							(15)			(15)	(337)
Net Long-term Debt	6,498													6,973
Deferred Income Taxes - Non-Current	1,551													1,551
Investment tax credit	22													22
Unfunded Accum. Pension Benefit Obligs. (API	424													424
Other Long-term Liabilities	3,277	(385)								(385)			(385)	2,892
TOTAL LIABILITIES	14,097													14,202
Common stock & paid-in-capital	6,187													6,187
Total Retained Earnings	(723)										(4)	[1]	(4)	(727)
Accumulated other comprehensive income	(79)													(79)
TOTAL EQUITY	5,385													5,381
TOTAL LIABILITIES & EQUITY	19,482													19,583

Analyst Optional Adjustments

Fn #	Description
[1]	Unamortized debt premium and debt issuance costs fn 10 page 100

Cash Flow *(Adjustments)*	12/31/17 (Annual) As Rep	Standard Adjustments									Non-Standard Adjustments			12/31/17 (Annual) As Adj
		Pensions	Op Leases	Cap. Int.	Stk. Comp	Hybrids	Securitization	LIFO	Unusual	***Total***	Public	Fn#	***Total Adj.***	
OPERATING ACTIVITIES														
Net Income	426													426
Depreciation & Amortization	492		26							26			26	518
Deferred Income Taxes	462													462
Other Non-Cash Items	29													29
Other Operating Cash Flow	(70)													(70)
Funds from Operations	1,339													1,365
Changes in Working Capital Items	59													59
Changes in Other Oper. Assets & Liab.-ST	64													64
Changes in Other Oper. Assets & Liabilities - LT	(13)	9								9			9	(4)
CASH FLOW FROM OPERATIONS	1,449													1,484
CASH FLOW FROM OPER After Unusual & Non-Recur Adjs	1,449													1,484
INVESTING ACTIVITIES														
Additions to PP&E (Capital Expenditures)	(1,434)		(26)							(26)			(26)	(1,460)
Business Acquisition	(177)													(177)
Sale of Investment Securities	15													15
Other investment activities	(76)													(76)
NET CASH FROM INVESTING ACTIVITIES	(1,672)													(1,698)
FINANCING ACTIVITIES														
Long-term Debt Proceeds	1,395		26							26			26	1,421
Long-term Debt Payments	(896)		(26)							(26)			(26)	(922)
Net Short-term Debt Changes	55													55
Other financing activities-net	(30)	(9)								(9)			(9)	(39)
Common Stock Issued / Repurchased	(54)													(54)
Stock Options / Warrants - Net - Including Rights	26													26
Cash Dividends - Common	(289)													(289)
NET CASH FROM FINANCING ACTIVITIES	207													198
NET INC(DEC) IN CASH & EQUIVALENT	(16)													(16)

Adjustment: Pensions — Worksheet (A)

Background

Moody's believes that a sponsor's balance sheet should reflect a liability equal to the under funded status of its defined benefit pension plan. We measure that liability at the balance sheet date as the excess of the actuarially determined projected benefit obligation (PBO) over the fair value of assets in the pension trust. To improve comparability with pre-funded pensions, Moody's simulates a pre-funding of pension obligations for companies that are not required to pre-fund. Consequently, for unfunded pension plans, the PBO is only partly considered as "debt-like." On the income statement, our goal is to report pension expense absent the effects of artificial smoothing, such as the amortization of prior service cost and actuarial gains and losses. We view pension expense to equal the year's service cost, plus interest on the gross pension obligations (PBO), minus actual earnings on plan assets. On the cash flow statement, we view cash contributions in excess of service cost as the repayment of (pension) debt.

Multiemployer pension plans (MEPP) generally cover workers from more than one employer and employer contributions, determined by collective bargaining with a labor union, fund the plan. Under US GAAP multiemployer pension plans are not reflected as a liability on the balance sheet. Consistent with our treatment of single employer pension plans we believe that a company's share of the multiemployer pension plan underfunding represents a long-term debt-like liability. On the balance sheet, we increase debt by the amount we attribute to the company's share of multiemployer under-funding, record a deferred tax asset related to the resulting temporary difference (generally equal to 35 percent of the incremental debt) and the difference as a reduction to shareholders' equity. We adjust the income statement to recognize related interest expense. We do not adjust the cash flow statement.

Company Name: American Water Works Company, Inc.

Financial Statement Period Ended: December 31, 2017

Note: Analyst data entry is required for all boxed items. Amounts indicated by * feed directly from the Input Template. All other amounts are calculated automatically.

Amounts in USD'000

Step 1 - Pension Disclosure Information (Common Input for Both Underfunded and Unfunded Plans)

Projected Benefit Obligation (End of Year)	2,034,000	(a)	
Fair Value of Plan Assets (End of Year)	1,649,000	(b)	
Net Periodic Pension Benefit Cost (Income)	55,000	(c)	
Service Cost	33,000	(d)	
Interest Cost	80,000	(e)	← from the "Pension" note included in the financial statement footnotes
Actual Return on Plan Assets	227,000	(f)	Indicate accounts where amounts are recorded
Employer Contributions	42,000	(g)	Account # / Account Description
Pension Asset Recorded	-	(h)	13404300 / Other Assets
Pension Liability Recorded	385,000	(i)	23404000 / Other Long-term Liabilities
Pension Contribution above FFO	NO	(w)	

Step 2 - Additional Pension Disclosure Information for Unfunded Pension Plans

Unfunded Projected Pension Benefit Obligation (End of Year)	-	(j)	← from the "Pension" note included in the financial statement footnotes
Service Cost for Unfunded Pensions (excl OPEB - if disclosed)	-	(k)	

Step 3 - Other Disclosure Information Used in Calculations:

a. Common Input for Both Underfunded and Unfunded Plans

35002600	Cost of Goods/Products/Services Sold	**0**	(l) *	
39001300	Operating Expenses	**1,378,000**	(m) *	
40006800	Selling, general and administrative expenses	**259,000**	(n) *	
90000900	Incremental LT Borrowing Interest Rate	**3.27%**	(o) *	FROM "MANDATORY SUPPLEMENTAL INFO"
90000700	Incremental Tax Rate	**35.00%**	(p) *	FROM "MANDATORY SUPPLEMENTAL INFO"

b. Additional Input for Unfunded Plans

Analyst Estimate: "Ideal" Percentage of Debt to Debt + Equity	0%	(q)	
Analyst Estimate: "Excess" cash related to *unfunded* pensions	-	(r)	Guideline: Excess cash = Liquid funds less 3% of sales.
			Excess cash should not exceed the unfunded pension obligation (j)

Note: The company followed FASB #158 during this reporting period.

Step 4 - Multi-Employer Pension Disclosure Information

MEPP Contribution	0	(y)	← from the "Multi Employer Pension" note included in the financial statement footnotes
MEPP Multiple		(z)	← from Multi Employer Pension Plan published document located on Moodys.com

Step 4 - Other Information:

a. Prior Quarter/Semiannual Interest Expense

Quarter 1 Interest Expense	3,574	(q1)
Quarter 2 Interest Expense	3,326	(q2)
Quarter 3 Interest Expense	3,287	(q3)
Quarter 1 MEPP Interest Expense	-	(A1)
Quarter 2 MEPP Interest Expense	-	(B1)
Quarter 3 MEPP Interest Expense	-	(C1)

Step 5 - Adjustments

	(A)-1 (Balance Sheet) (If Plan is Unfunded or Underfunded)	**Debit**	**(Credit)**		
25301700	Accumulated other comprehensive income	-	-		
23001900	Deferred Income Taxes - Non-Current	-	-		
23404000	Other Long-term Liabilities	**385,000**			= (i)
13404300	Other Assets		-		
22301700	Senior Debt		**(385,000)**	(t)	= (i) x -1

Purpose: *To record under funded pension balance as debt.*

	(A)-2 (Balance Sheet - Unfunded Pensions)				
22301700	Senior Debt	-		(u)	= [(j) - (r)] x [1 - (q)]
25201700	Total Retained Earnings		-		= (u) x -1

Purpose: *To give equity credit to a portion if the company's underfunded pension liability.*

	(A)-3 (Income Statement)			
35002600	Cost of Goods/Products/Services Sold	-	-	= [(d) - (c)] x [(l) / [(l) + (m) + (n)]]
39001300	Operating Expenses	-	**(18,519)**	= [(d) - (c)] x [(m) / [(l) + (m) + (n)]]

40006800	Selling, general and administrative expenses	-	**(3,481)**		= [(d) - (c)] x [(n) / [(l) + (m) + (n)]]
43401100	Other Non-Recurring Expenses/(Gains)	-		(v)	= If (e) - (w) > (f) then (e) - (w) - (f)
43202800	Interest Expense	**13,336**	-	(w)	=(q1) + (q2) + (q3) + [[(u) + (t)] x (o) x -1]/4
45101100	Taxes	**3,032**	-	(x)	= [(d) - (c) + (v) + (w)] x (p) x -1
47100100	Unusual & Non-Recurring Items - Adjust. After-tax	**5,632**	-		= [(d) - (c) + (v) + (w) + (x)] x -1

Purpose: *To properly reflect pension costs on the Income Statement*

		Source	(Use)	
(A)-4 (Cash Flow Statement)				
51302400	Changes in Other Oper. Assets & Liabilities - LT	**9,000**		**If (w)="No"; If (g) > (d) - (k) then (g) - [(d) - (k)]**
50603400	Other Non-Cash Items	-		**If (w)="Yes"; If (g) > (d) - (k) then (g) - [(d) - (k)]**
56501800	Other financing activities-net		**(9,000)**	
Purpose:	*To align cash flow treatment of under funded pension costs with balance sheet treatment.*			

		Debit	(Credit)		
(A)-5 (Balance Sheet - MEPP)					
22301700	Senior Debt		-	**(aa)**	**= [(y) x (z)] x -1**
13301400	Deferred Tax Asset - Non Current	-		**(ab)**	**= [(y) x (z)] x [(p)]**
25201700	Total Retained Earnings	-			**=[(aa) x -1] - (ab)**
Purpose:	*To record company's share of MEPP underfunding as debt.*				
(A)-6 (Income Statement - MEPP)					
43202800	Interest Expense	-		**(ac)**	**= [[(y) x (z) x (o)] x ¼] + (A1) + (B1) + (C1)**
39001300	Operating Expenses		-		**= (ac) x -1**
Purpose:	*To recognize MEPP related interest expense*				

1

Adjustment: Leases — Worksheet (B)

Background

Companies are contractually obligated for lease payments and a failure to make a lease payment often triggers events of default, as if the obligation were debt. Further, in the eyes of lenders, operating lease obligations reduce a company's borrowing capacity and, in the absence of a lease financing option, the company would likely borrow money to buy the asset. To address the problems listed above, Moody's treats all leases as capital leases and adjusts the balance sheet, income statement and cash flow statement accordingly.

Company Name: American Water Works Company, Inc.

Financial Statement Period Ended: December 31, 2017

Note: Analyst data entry is required for all boxed items. Amounts indicated by * feed directly from the Input Template. All other amounts are calculated automatically.

Amounts in USD'000

Step 1 - Use Multiple to Calculate Capitalized Lease Obligation

90000400	Current Year Rent Expense	29,000	(a) *
	Multiple of Rent to be used to calculate debt:	3x	(b)
	Multiple x Rent Expense	**87,000**	(c) = (a) x (b)

Step 2 - Use Minimum Lease Commitments to Calculate Present Value

90000900	Incremental LT Borrowing Interest Rate	3.27%	(d) *

	Disclosure of Minimum Lease Commitments	
Year 1 (next fiscal year)	15,000	(e)
Year 2	14,000	
Year 3	12,000	
Year 4	9,000	
Year 5	8,000	
Thereafter	65,000	
Sum of Minimum Lease Commitments	123,000	
PV of Lease Commitments	**101,170**	(f)

Step 3 - Calculate Adjustment to Debt / PP&E, Interest Expense, and Depreciation Expense

Incremental Debt and Addition to PP&E (g)	101,170	Greater of Multiple x Rent Expense (c) or PV of Minimum Lease Commitments (f). PV of Minimum Lease Commitments (f) will be capped at 10 x Rent Expense (c) or 10 x Year 1 Minimum Lease Commitment (e) if Rent Expense is zero.
Depreciation Component of Rent Expense (h)	25,690	Current Year Rent Expense (a) - Interest Component of Rent Expense (i)
Interest Component of Rent Expense (i)	3,310	Incremental Debt and Addition to PP&E (g) x Incremental LT Borrowing Interest Rate (d). Interest Component of Rent Expense will be capped at Current Year Rent Expense.

Step 4 - Other Disclosure Information and Analyst Estimates Used in Calculations:

35002600	Cost of Goods/Products/Services Sold	-	(j) *
39001300	Operating Expenses	1,378,000	(k) *
40006800	Selling, general and administrative expenses	259,000	(l) *

Step 5 - Adjustments

		Debit	(Credit)	
(B)-1 (Balance Sheet)				
12805500	Gross Plant	101,170		(g)
22601700	Capitalized Leases (Gross)		(101,170)	(g) x -1
20101700	Current portion of long-term debt		(15,000)	(e) x -1
22660000	Less: Current Maturities	15,000		(e)

Purpose: *To recognize capitalized lease obligation and addition to PP&E.*

(B)-2 (Income Statement)

43202800	Interest Expense	3,310		(i)
35002600	Cost of Goods/Products/Services Sold	-	-	(i) x [(j) / [(j) + (k) + (l)]] x -1
39001300	Operating Expenses	-	(2,787)	(i) x [(k) / [(j) + (k) + (l)]] x -1
40006800	Selling, general and administrative expenses	-	(524)	(i) x [(l) / [(j) + (k) + (l)]] x -1
40151100	Depreciation - Capitalized Operating Leases	25,690		(h)
35002600	Cost of Goods/Products/Services Sold	-	-	(h) x [(j) / [(j) + (k) + (l)] x -1
39001300	Operating Expenses	-	(21,625)	(h) x [(k) / [(j) + (k) + (l)] x -1
40006800	Selling, general and administrative expenses	-	(4,065)	(h) x [(l) / [(j) + (k) + (l)] x -1

Purpose: *To reclassify rent expense into interest and depreciation expense.*

***(B)-3** (Cash Flow Statement)*

		Source	(Use)	
50202400	Depreciation & Amortization	25,690		(h)
56201600	Long-term Debt Payments		(25,690)	
56102000	Long-term Debt Proceeds	25,690		
53004900	Additions to P.P. & E. (Capital Expenditures)		(25,690)	

Purpose: *To reclassify depreciation portion of rent expense from depreciation to a financing outflow, and a concomitant borrowing to fund capital expenditures.*

Supporting Calculations:

	Disclosed Commitment	
Year	Minimum Lease Payments	Cumulative Minimum Lease Payments
1	15,000	15,000
2	14,000	29,000
3	12,000	41,000
4	9,000	50,000
5	8,000	58,000
6	8,000	66,000
7	8,000	74,000
8	8,000	82,000
9	8,000	90,000
10	8,000	98,000
11	8,000	106,000
12	8,000	114,000
13	8,000	122,000
14	1,000	123,000

Adjustment: Unusual Items - Income Statement – Worksheet (H)

Background

Moody's captures the effects of unusual and non-recurring transactions and events in separate captions on the face of the income statement. This enables analysts to more accurately portray trends in the underlying recurring core business. Our key financial ratios will generally exclude the effects of unusual and non-recurring transactions that we identify.

- To increase a reported amount, enter a positive number. For example, an analyst may want to increase Cost of Sales if he believed the reported amount was lowered by exceptionally low commodity prices that distort comparability.
- To decrease a reported amount, enter a negative number. For example an analyst may want to reduce Operating Expenses if the reported results included restructuring charges which the analyst deems non-recurring.

Company Name: American Water Works Company, Inc.

Financial Statement Period Ended: December 31, 2017

Note: Analyst data entry is required for all boxed items. Amounts indicated by * feed directly from the Input Template.
All other amounts are calculated automatically.

Amounts in USD'000

Step 1 - Gather information on Unusual and/or Non-recurring Income/Gains and Expenses/Losses:

	Account Affected	(a) Revenue/Gains Increase (Decrease)	(b) Expense/Loss Taxable Increase (Decrease)	(c) Expense/Loss Non-Taxable Increase (Decrease)	Description of Unusual Item
40400300	Unusual Items - Expenses/(Gains)	(16,000)			Gain on asset dispositions and purchases
43301300	Unusual Items - Expenses/(Gains)		(7,000)		Loss on early extinguishment of debt

Net Pre-Tax Effect of Unusual/Non-Recurring Items	(9,000)	(d) ← Increase (Decrease) to EBIT [∑ Column (a) - ∑ Column (b) - ∑ Column (c)]
Income Tax Effect - (Increase) / Decrease to Income Tax Expense	3,150	(e) ← [∑ Column (a) - ∑ Column (b)] x (i) x -1
After-Tax Effect of Unusual/Non-Recurring Items	$ (5,850)	(f)

Step 2 - Other Disclosure Information Used in Calculations:

90000700	Incremental Tax Rate	**35.00%**	(i) *

Step 3 - Adjustments:

		Debit	(Credit)	
	(H)-1 (Income Statement)			
47100100	Unusual & Non-Recurring Items - Adjust. After-tax	-	**(5,850)**	(f)
45101100	Taxes	-	**(3,150)**	(e) x -1
40400300	Unusual Items - Expenses/(Gains)	16,000	-	
43301300	Unusual Items - Expenses/(Gains)	-	(7,000)	
		-	-	
		-	-	
		-	-	
		-	-	
		-	-	
		-	-	
		-	-	
		-	-	

Income Statement accounts to be adjusted

Purpose: *Reclassification unusual/non-recurring revenues/gains and expenses/losses, net of the related tax effect, to a special income statement caption.*

Non-Standard Public Adjustments -- Worksheet (J)
Background
Company Name: American Water Works Company, Inc.
Financial Statement Period Ended: December 31, 2017
Note: Analyst data entry is required for all boxed items. Amounts indicated by * feed
Amounts in USD'000

Step 1 - Other Disclosure Information Used in Calculations:

90000700	Effective Income Tax Rate	**35.00%**

Step 2 - Record Analyst Optional Adjustments:

Adjustment (J) - 1

	Account Affected	Assets Increase (Decrease)	Liabilities Increase (Decrease)	Equity Increase (Decrease)	Revenue/Gains Increase (Decrease)	Expense/Loss Taxable Increase (Decrease)	Expense/Loss Non-Taxable Increase (Decrease)	Net Income Before Unusual Increase (Decrease)	Cash Flow Source Increase (Decrease)	Cash Flow Use Increase (Decrease)
22301700	Senior Debt	-	(9,000)	-	-	-	-		-	-
22301700	Senior Debt	-	13,000	-	-	-	-		-	-
		-	-	-	-	-	-		-	-
		-	-	-	-	-	-		-	-
25201700	Retained Earnings			(4,000)						
45101100	Taxes					-				
47100100	Unusual & Non-Recurring Items Adjmts							-		

Explanation of Entry:
Unamortized debt premium and debt issuance costs fn 10 page 100

Adjustment (J) - 2

	Account Affected	Assets Increase (Decrease)	Liabilities Increase (Decrease)	Equity Increase (Decrease)	Revenue/Gains Increase (Decrease)	Expense/Loss Taxable Increase (Decrease)	Expense/Loss Non-Taxable Increase (Decrease)	Net Income Before Unusual Increase (Decrease)	Cash Flow Source Increase (Decrease)	Cash Flow Use Increase (Decrease)
		-	-	-	-	-	-		-	-
		-	-	-	-	-	-		-	-
		-	-	-	-	-	-		-	-
		-	-	-	-	-	-		-	-
25201700	Retained Earnings			-						
45101100	Taxes					-				
47100100	Unusual & Non-Recurring Items Adjmts							-		

Explanation of Entry:

Adjustment (J) - 3

	Account Affected	Assets Increase (Decrease)	Liabilities Increase (Decrease)	Equity Increase (Decrease)	Revenue/Gains Increase (Decrease)	Expense/Loss Taxable Increase (Decrease)	Expense/Loss Non-Taxable Increase (Decrease)	Net Income Before Unusual Increase (Decrease)	Cash Flow Source Increase (Decrease)	Cash Flow Use Increase (Decrease)

		-	-	-	-	-	-		-	-
		-	-	-	-	-	-		-	-
		-	-	-	-	-	-		-	-
		-	-	-	-	-	-		-	-
25201700	Retained Earnings			-						
45101100	Taxes					-				
47100100	Unusual & Non-Recurring Items Adjmts							-		

Explanation of Entry:

Adjustment (J) - 4

Account Affected		Assets Increase (Decrease)	Liabilities Increase (Decrease)	Equity Increase (Decrease)	Revenue/Gains Increase (Decrease)	Expense/Loss Taxable Increase (Decrease)	Expense/Loss Non-Taxable Increase (Decrease)	Net Income Before Unusual Increase (Decrease)	Cash Flow Source Increase (Decrease)	Cash Flow Use Increase (Decrease)
		-	-	-	-	-	-		-	-
		-	-	-	-	-	-		-	-
		-	-	-	-	-	-		-	-
		-	-	-	-	-	-		-	-
25201700	Retained Earnings			-						
45101100	Taxes					-				
47100100	Unusual & Non-Recurring Items Adjmts							-		

Explanation of Entry:

Adjustment (J) - 5

Account Affected		Assets Increase (Decrease)	Liabilities Increase (Decrease)	Equity Increase (Decrease)	Revenue/Gains Increase (Decrease)	Expense/Loss Taxable Increase (Decrease)	Expense/Loss Non-Taxable Increase (Decrease)	Net Income Before Unusual Increase (Decrease)	Cash Flow Source Increase (Decrease)	Cash Flow Use Increase (Decrease)
		-	-	-	-	-	-		-	-
		-	-	-	-	-	-		-	-
		-	-	-	-	-	-		-	-
		-	-	-	-	-	-		-	-
25201700	Retained Earnings			-						
45101100	Taxes					-				
47100100	Unusual & Non-Recurring Items Adjmts							-		

Explanation of Entry:

Adjustment (J) - 6

	Assets	Liabilities	Equity	Revenue/Gains	Expense/Loss Taxable	Expense/Loss Non-Taxable	Net Income Before Unusual	Cash Flow Source	Cash Flow Use

Account Affected	Assets Increase (Decrease)	Liabilities Increase (Decrease)	Equity Increase (Decrease)	Revenue/Gains Increase (Decrease)	Expense/Loss Taxable Increase (Decrease)	Expense/Loss Non-Taxable Increase (Decrease)	Net Income Before Unusual Increase (Decrease)	Cash Flow Source Increase (Decrease)	Cash Flow Use Increase (Decrease)
	-	-	-	-	-	-		-	-
	-	-	-	-	-	-		-	-
	-	-	-	-	-	-		-	-
	-	-	-	-	-	-		-	-
25201700 Retained Earnings			-						
45101100 Taxes					-				
47100100 Unusual & Non-Recurring Items Adjmts							-		

Explanation of Entry:

Adjustment (J) - 7

Account Affected	Assets Increase (Decrease)	Liabilities Increase (Decrease)	Equity Increase (Decrease)	Revenue/Gains Increase (Decrease)	Expense/Loss Taxable Increase (Decrease)	Expense/Loss Non-Taxable Increase (Decrease)	Net Income Before Unusual Increase (Decrease)	Cash Flow Source Increase (Decrease)	Cash Flow Use Increase (Decrease)
	-	-	-	-	-	-		-	-
	-	-	-	-	-	-		-	-
	-	-	-	-	-	-		-	-
	-	-	-	-	-	-		-	-
25201700 Retained Earnings			-						
45101100 Taxes					-				
47100100 Unusual & Non-Recurring Items Adjmts							-		

Explanation of Entry:

Adjustment (J) - 8

Account Affected	Assets Increase (Decrease)	Liabilities Increase (Decrease)	Equity Increase (Decrease)	Revenue/Gains Increase (Decrease)	Expense/Loss Taxable Increase (Decrease)	Expense/Loss Non-Taxable Increase (Decrease)	Net Income Before Unusual Increase (Decrease)	Cash Flow Source Increase (Decrease)	Cash Flow Use Increase (Decrease)
	-	-	-	-	-	-		-	-
	-	-	-	-	-	-		-	-
	-	-	-	-	-	-		-	-
	-	-	-	-	-	-		-	-
25201700 Retained Earnings			-						
45101100 Taxes					-				
47100100 Unusual & Non-Recurring Items Adjmts							-		

Explanation of Entry:

Adjustment (J) - 9

					Expense/Loss		Net Income	Cash Flow	

Account Affected	Assets Increase (Decrease)	Liabilities Increase (Decrease)	Equity Increase (Decrease)	Revenue/Gains Increase (Decrease)	Expense/Loss Taxable Increase (Decrease)	Expense/Loss Non-Taxable Increase (Decrease)	Net Income Before Unusual Increase (Decrease)	Cash Flow Source Increase (Decrease)	Cash Flow Use Increase (Decrease)
	-	-	-	-	-	-		-	-
	-	-	-	-	-	-		-	-
	-	-	-	-	-	-		-	-
	-	-	-	-	-	-		-	-
25201700 Retained Earnings			-						
45101100 Taxes					-				
47100100 Unusual & Non-Recurring Items Adjmts							-		

Explanation of Entry:

Adjustment (J) - 10

Account Affected	Assets Increase (Decrease)	Liabilities Increase (Decrease)	Equity Increase (Decrease)	Revenue/Gains Increase (Decrease)	Expense/Loss Taxable Increase (Decrease)	Expense/Loss Non-Taxable Increase (Decrease)	Net Income Before Unusual Increase (Decrease)	Cash Flow Source Increase (Decrease)	Cash Flow Use Increase (Decrease)
	-	-	-	-	-	-		-	-
	-	-	-	-	-	-		-	-
	-	-	-	-	-	-		-	-
	-	-	-	-	-	-		-	-
25201700 Retained Earnings			-						
45101100 Taxes					-				
47100100 Unusual & Non-Recurring Items Adjmts							-		

Explanation of Entry:

MOODY'S INVESTORS SERVICE

CREDIT OPINION
15 August 2017

Update

Rate this Research

RATINGS

American Water Works Company, Inc.

Domicile	Voorhees, New Jersey, United States
Long Term Rating	A3
Type	LT Issuer Rating - Dom Curr
Outlook	Stable

Please see the ratings section at the end of this report for more information. The ratings and outlook shown reflect information as of the publication date.

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CLIENT SERVICES

Americas	1-212-553-1653
Asia Pacific	852-3551-3077
Japan	81-3-5408-4100
EMEA	44-20-7772-5454

American Water Works Company, Inc.

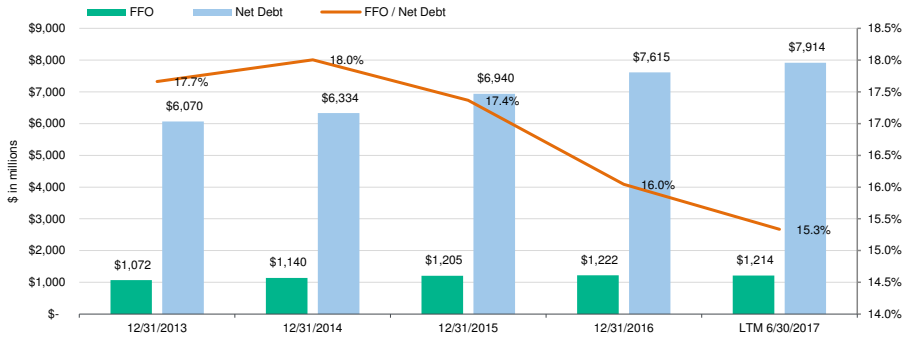
Update to credit analysis

Summary

American Water Works Inc.'s (AWK or American Water) credit reflects (1) its portfolio of low-risk, regulated utility operating subsidiaries; (2) regulatory diversity across 16 US states; and (3) consistent cash flow production, underpinned by strong regulatory support and cost recovery provisions in most jurisdictions.

American Water's credit is constrained by (1) declining financial metrics; (2) around $1.4 billion of holding company debt issued through American Water Capital Corp. (AWCC A3 stable - the financing vehicle for American Water); and (3) a debt-funded growth strategy.

Exhibit 1
Historical FFO, net debt and FFO to net debt



Source: Moody's Financial Metrics

Credit strengths

» Diversity of holdings with 16 regulated water utilities

» Supportive regulatory environments with timely recovery mechanisms

» Support agreement at AWCC not a "guarantee" but provides sufficient credit substitution

Credit challenges

» Financial metrics continue to weaken as debt and dividend growth outpaces cash flow

» High capital expenditures and more sizeable regulated acquisitions will continue

» Continues to target unregulated investment, albeit maintaining exposure to 15% of operations

Rating outlook

AWK's stable outlook reflects its sizeable asset base of utility operating companies that will outpace unregulated growth and maintain FFO to debt in the high teen's percent range over the next 12-18 months.

Factors that could lead to an upgrade

» FFO to Net Debt metrics were at 20%, on a sustainable basis, while maintaining its current business risk profile.

» RCF to debt around 15%.

» Improved credit profiles of a majority of its operating subsidiaries.

Factors that Could Lead to a Downgrade

» Less supportive regulatory provisions (especially in Pennsylvania or New Jersey).

» Increased financial risk, such as the stand-alone AWCC debt increasing toward 25% of consolidated debt or consolidated FFO to debt around 15% for a sustained period.

» Operational concerns such as supply or asset failure.

Key indicators

Exhibit 2

Key Indicators [1]

American Water Works Company, Inc.

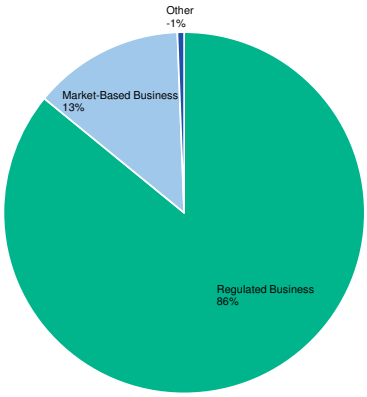
	12/31/2013	12/31/2014	12/31/2015	12/31/2016	6/30/2017(L)
FFO Interest Coverage	4.2x	4.6x	4.6x	4.5x	4.3x
Debt / Capitalisation	48.1%	47.7%	48.6%	49.6%	49.6%
FFO / Net Debt	17.7%	18.0%	17.4%	16.0%	15.3%
RCF / Net Debt	15.2%	14.6%	13.9%	12.6%	11.9%

[1] All ratios are based on 'Adjusted' financial data and incorporate Moody's Global Standard Adjustments for Non-Financial Corporations.
Source: Moody's Financial Metrics

Profile

Headquartered in Voorhees, New Jersey, American Water Works Company, Inc. is the largest investor-owned provider of water, wastewater and related services in North America, with operations serving an estimated 15 million people across approximately 47 states in the US and a Canadian province. American Water is a holding company and does not have any direct debt obligations; rather, it primarily issues debt through its non-operating financing subsidiary American Water Capital Corp, which has a support agreement with American Water. AWK's regulated operations span across 16 states and accounts for just under 90% of consolidated revenue.

Exhibit 3
The vast majority of American Water's operating revenue is derived from low-risk regulated utilities.



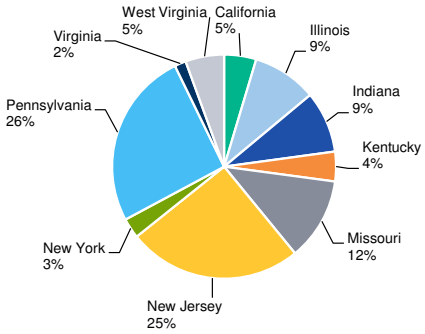
Source: American Water Works Company, Inc. 2016 10K

Detailed credit considerations

Broad utility diversity and improving regulatory support.

AWK is a holding company with around 87% of its revenue produced by low-risk water utility companies, spanning 16 states. AWK's credit strength reflects the size, scale of this diversity, along with the monopoly service characteristics of water utilities that offer stable and predictable cost recovery and cash flow coverage of debt and interest.

Exhibit 4
American Water has a very diverse asset base, with utility operations in 16 different states.



Source: American Water Works Company, Inc. 2016 10K

Over the past several years, we have observed improving regulatory trends in the US, which include the increased prevalence of automatic cost recovery provisions such as revenue decoupling and infrastructure replacement mechanisms, as well as the willingness to adopt more forward-looking test year data in rate making. This trend has helped to expedite cost recovery (and reduce regulatory lag) and improve fixed cost recovery across AWK's various utility service territories.

One of the more significant cost recovery features is the ability to make discrete rate filings in order to recover the costs of replacing aging infrastructure. Often called distribution system improvement charges (DSIC), these mechanisms provide AWK timely recovery of capital expenditures on an ongoing basis. Another important cost recovery feature is the use of declining usage adjustments (or "decoupling mechanisms" that target a specific gross profit needed to cover fixed operating costs, regardless of the volume of water sold) which are available in the rates of nine state, including AWK's six largest jurisdictions.

The exhibit below provides detail around some of the more important cost recovery features that are allowed in states that American Water serves.

Exhibit 5
Credit supportive cost recovery mechanisms exist in many of the states that American Water serves.

Cost Recovery Feature	States In-Use
Future Test Year	CA, HI, IL, IN, KY, NY, PA, TN, VA
Inrastructure Replacement	IL, IN, MO, NJ, NY, PA, TN, WV
Plant Recovery Mechanisms	CA, IL, KY, NY, PA, TN, VA
Decoupling	CA, IL, NY

Recovery feature names are per Moody's description
Source: American Water 10K, Moody's

The broad improvement in regulatory cost recovery, across all jurisdictions, has allowed AWK and AWCC ratings to overcome the limited structural subordination that exists at its operating companies, and has resulted in a ratings level on-par with its largest subsidiaries: New Jersey American Water (NJ-AWC A3 stable) and Pennsylvania American Water (PAWC A3 stable).

Financial metrics declining amidst debt-funded growth

AWK's financial metrics have been on a steady decline over the past several years, as increasing capital investment has been funded primarily with debt. For example, the company's FFO to net debt was at a peak of 18% in 2014 and has declined each year to just over 15% through LTM 2Q17. Similarly, RCF to net debt has been on a steady downward trend since 2013, from over 15% to just under 12% as of LTM 2Q17.

These metric declines are due to growth opportunities that have had capex increase by a compound annual growth rate (CAGR) of over 12% from 2014 to LTM 2Q17. During that time, debt has increased by a CAGR of over 10% and dividends by nearly 9%. While the company's efforts toward cost control have been successful and the advancement of regulatory trackers are improving cost recovery, the nearly 8% of FFO growth since 2014, albeit robust, has not been enough to keep pace with the capex spend, nor the financial policies around leverage and dividends. During this time, underfunded pension obligations have also grown due to low interest and discount rates, exacerbating the financial decline in our standard adjusted metrics.

With a busy regulatory calendar, including a general rate case in one of its largest jurisdictions, Pennsylvania, we expect the company's cash flow to continue to grow and that management will manage its leverage and dividend policies to maintain FFO to net debt in the high teen's percent range and RCF to net debt well above 10% on a sustainable basis. If these financial thresholds are not met, AWK's credit profile would worsen.

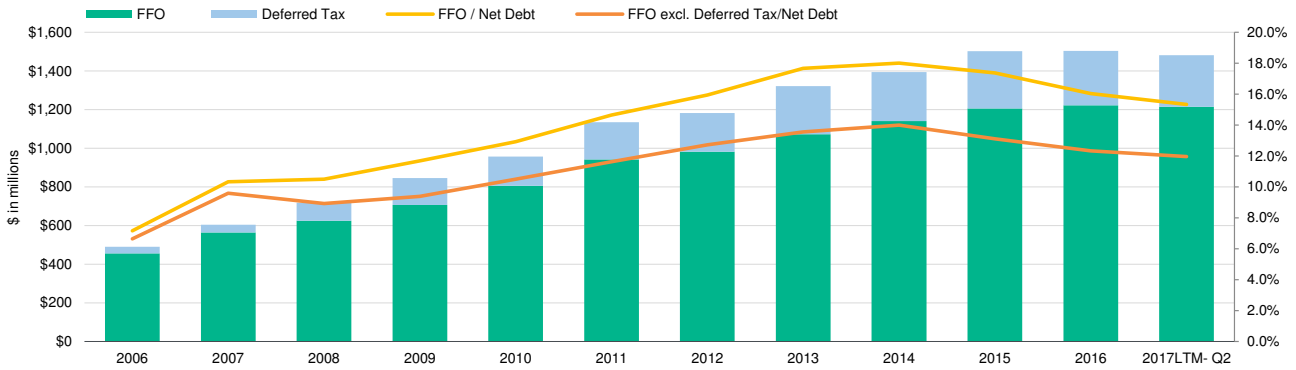
Deferred tax benefits continue to boost cash flow

Over the past 10 years, American Water, like most of the utility sector, has benefitted from various tax offsets that have kept cash tax payments low. Federal policies, like bonus depreciation, has resulted in a significant amount of temporary tax savings, resulting in higher increased deferred tax balances.

The impacts from bonus depreciation and other tax policies have provided significant boosts to cash flow, as seen in the exhibit below. For American Water, the deferred tax contribution to FFO has grown from a negligible amount in 2006, to around 22% through LTM 2Q17.

Exhibit 6

Deferred Tax has become a large boost to American Water's cash flow in recent years.



Source: American Water Works, Inc. financial statements, Moody's

Deferred tax benefits are non-core sources of cash flow that could decline in future years, as tax policies change and cash tax payments become due. This represents an additional risk to the company, as excluding the deferred tax benefit results in LTM 2Q17 FFO to net debt of around 12%, which is more reflective of a mid-Baa type of financial profile.

Growing rate base through more sizeable system acquisitions

The regulatory provisions that AWK receives from its utility jurisdictions also extends to recent legislation that supports industry consolidation, including the recovery of acquisition premiums and single-tariff rates. These mechanisms provide incentive for AWK to make acquisitions, since the full cost of the acquisition can be recovered, while spreading the costs across a broader customer base. Since 2010 such legislation has passed in AWK states of operations, such as Pennsylvania, New Jersey, Missouri and Illinois, among others.

This, has lead to more sizeable acquisitions, in Pennsylvania in particular. The most notable are Pennyslvania American's 2016 acquisition of the Scranton Sewer Authority wastewater system (adding around 33,000 customers) and its pending acquisition of the City of McKeesport's wastewater system (roughly 22,000 customers). Exhibit 7 shows the current pending acquisitions for American Water.

Exhibit 7

American Water continues to growth through water and wastewater system acquisitors.

Pending Acquisitions

State	No. of Acquisitions	Water Customers	Wastewater Customers	Total Customers
California	2	5,302		5,302
Illinois	6	2,448	2,426	4,874
Indiana	1	1,300		1,300
Pennsylvania	1		22,000	22,000
Missouri	4	103	93	196
West Virginia	1	215		215
Total	15	9,368	24,519	33,887

Source: American Water Works, Inc. second-quarter 2017 earnings presentation

We expect the trend of larger M&A activity, to continue. This will increase rate base and cash flow production, but the ultimate credit impact will depend upon the long-term financing of these transactions and continued support of regulatory and political officials. That is, if these transactions are highly levered or provoke customer and political intervention into cost recovery, it could undermine the credit benefit derived from the added cash flow.

Most unregulated businesses are utility-like and relatively small

Non-regulated operations are generally higher risk versus utility operations, since they depend on market prices for cost recovery and are subject to greater competition; however, AWK's contracted services (e.g., O&M agreements with municipalities) or homeowner services activities are within the core competencies of water system operations. In fact, once contracts are obtained for military base operations, they offer a stable and predictable source of revenue and cash flow for 50 years. Therefore, we do not view these business lines as negatively impacting the overall credit of AWK. Furthermore, these segments have not, to date, required a significant amount of capital or reliance on credit support from the parent.

Similarly, the company's growing homeowner services and a contract services groups operate and maintains water and wastewater facilities for residential, municipal and corporate customers. These contracts are of shorter duration, but are not viewed as high risk.

On the other hand, we view the company's ownership of Keystone Clearwater Solutions (Keystone; unrated - a provider of water services to support hydraulic fractionation of shale gas plays) as higher risk, since the revenue is more volume based, short-term and derived from a speculative credit grade Exploration and Production (E&P) industry that bases decisions on commodity prices. Furthermore, we think there is reputational risks that AWK takes on, as they intermingle operations with E&P companies that carry a higher level of environmental exposure.

Despite these negatives, Keystone is very small compared to AWK and has little bearing on the company's credit profile. Should more of AWK's unregulated investments carry this type of risk profile, or grow to be a meaningful portion of the business (i.e. above 15% of operations), AWK's credit would be negatively affected.

Liquidity Analysis

American Water's liquidity is managed through its financing subsidiary, AWCC, which extended its $1.75 billion credit facility to expire in June 2020. This credit facility provides support to the company's $1.6 billion commercial paper (CP) program (P-2). Although there are no restrictions for revolver borrowings, related to CP outstanding, we expect the company to leave ample cushion under the revolver to effectively backstop any CP borrowings. The facility has same-day drawing availability and no ongoing material adverse change clause. The lone financial covenant is maximum debt to capitalization ratio of 70%. As of June 30, 2017, the company's ratio was in compliance at 58%.

At June 30, 2017, $86 million in letters of credit were outstanding and about $1.1 billion of commercial paper was outstanding, leaving around $650 million available under the facility.

In August 2017, AWCC issued $600 million 2.95% Senior Notes due 2027 and $750 million of 3.75% Senior Notes due 2047. The use of proceeds is to (1) repay $524 million of AWCC notes upon maturity in October 2017; (2) prepay over $138 million of 5.62% AWCC debt due December 2018 and over $181 million aggregate principal of 5.77% AWCC notes due December 2021; and (3) repay AWCC's CP obligations and for general corporate purposes.

The next material long-term debt maturities for American Water include AWCC obligations of $110 million due in May of 2018 and $330 million due in December of 2018.

Structural Considerations

Following the aforementioned debt issuance in August 2017, AWK has approximately $8.0 billion of consolidated reported long-term debt, roughly $5.0 billion of which was issued at AWCC. The majority of AWCC's debt (approximately $3.6 billion) has been advanced via inter-company notes to various regulated utility subsidiaries and is part of their respective regulated capital structures. We estimate that about $1.4 billion of AWCC obligations are strictly holding company debt, which we view to be subordinate to the debt which supports the operating companies, since it only has utility dividend distributions as cash sources available for its debt service. Negative credit implications would ensue for AWCC and American Water if the holding company debt to consolidated debt ratio (currently at about 18%) grows to around 25%.

AWCC, a Delaware corporation, is the wholly-owned finance subsidiary of American Water, whose purpose is to streamline the financing function, create cash management efficiencies, and often obtain lower the cost of capital for American Water's regulated water utility subsidiaries. The source of upstream debt service funding comes from the regulated utility operations, which make cash

principal and interest payments directly to AWCC. We expect any additional up-streamed cash flows, in the form of dividends to AWK, will be limited to maintain the respective regulatory allowed equity capitalization for each utility (generally around 50%).

AWCC's A3 senior unsecured rating is equalized with its parent, American Water, which provides credit enhancement through a support agreement between American Water and AWCC. The features contained in the support agreement, that support Moody's view of credit substitution include: 1) no termination of the support agreement until all debt shall have been irrevocably paid in full, without all lenders' (including debt trustees) consent, 2) American Water has agreed to make timely payment of interest, principal or premium on any debt issued by AWCC, if AWCC is unable to make such payments 3) the aforementioned payment is in the form of cash or liquid assets and not merely collection, 4) American Water waives any claims related to a failure or delay by AWCC in enforcing its rights under the support agreement, 5) the support agreement is binding on any successors of American Water, 6) the lender may proceed directly against American Water to obtain payment of defaulted interest, principle or premium, and 7) any changes to the support agreement that adversely affect lenders must be approved by such parties. Furthermore, American Water has committed to own, during the term of the support agreement, all of the voting stock of AWCC and to ensure that a positive tangible net worth at AWCC will be maintained at all times and the support agreement is governed by the laws of the state of New York, which we view to be hospitable to the enforcement of guarantees.

Although the support agreement has many attributes of what a guarantee provides, we note that it is not specifically or legally considered a guarantee. Also, debt at AWCC does not benefit from any explicit upstream guarantees from the regulated utility subsidiaries nor does the debt obligations of the subsidiaries benefit from any explicit downstream guarantee from American Water or AWCC. Nevertheless, given the agreement's stated protections, and that a significant amount of AWCC's debt has been incurred to finance rate base, we effectively view the support agreement structure as being similar to a guarantee for rating purposes and have made no notching differentiation between the two entities.

Rating Methodology and Scorecard Factors

Exhibit 8

Rating Factors				
American Water Works Company, Inc.				
Regulated Water Utilities Industry Grid [1][2]	Current LTM 6/30/2017		Moody's 12-18 Month Forward View As of Date Published [3]	
Factor 1 : Business Profile(50%)	**Measure**	**Score**	**Measure**	**Score**
a) Stability and Predictability of Regulatory Environment	Aa	Aa	Aa	Aa
b) Asset Ownership Model	Aa	Aa	Aa	Aa
c) Cost and Investment Recovery (Sufficiency & Timeliness)	Baa	Baa	Baa	Baa
d) Revenue Risk	Baa	Baa	Baa	Baa
e) Scale and Complexity of Capital Programme & Asset Condition Risk	Baa	Baa	Baa	Baa
Factor 2 : Financial Policy (10%)				
a) Financial Policy	Baa	Baa	Baa	Baa
Factor 3 : Leverage and Coverage (40%)				
a) FFO Interest Coverage (3 Year Avg)	4.5x	A	4.4x - 4.8x	A
b) Debt / Capitalisation (3 Year Avg)	48.9%	A	46% - 56%	A
c) FFO / Net Debt (3 Year Avg)	16.6%	A	15.8% - 16.8%	A
d) RCF / Net Debt (3 Year Avg)	13.2%	A	12.1% - 13.1%	A
Rating:				
Indicated Rating from Grid Factors 1-3		A3		A3
Rating Lift	0	0	0	0
a) Indicated Rating from Grid		A3		A3
b) Actual Rating Assigned		A3		A3

[1] All ratios are based on 'Adjusted' financial data and incorporate Moody's Global Standard Adjustments for Non-Financial Corporations.
[2] As of 6/30/2017(L)
[3] This represents Moody's forward view; not the view of the issuer; and unless noted in the text, does not incorporate significant acquisitions and divestitures
Source: Moody's Financial Metrics

Ratings

Exhibit 9

Category	Moody's Rating
AMERICAN WATER WORKS COMPANY, INC.	
Outlook	Stable
Issuer Rating	A3
AMERICAN WATER CAPITAL CORP.	
Outlook	Stable
Issuer Rating	A3
Senior Unsecured	A3
Commercial Paper	P-2
PENNSYLVANIA-AMERICAN WATER COMPANY	
Outlook	Stable
Issuer Rating	A3
NEW JERSEY-AMERICAN WATER COMPANY, INC.	
Outlook	Stable
Issuer Rating	A3

Source: Moody's Investors Service

REPORT NUMBER 1085989

CLIENT SERVICES

Americas	1-212-553-1653
Asia Pacific	852-3551-3077
Japan	81-3-5408-4100
EMEA	44-20-7772-5454

TENNESSEE AMERICAN WATER COMPANY
DOCKET NO. 18-00039
FIRST DISCOVERY REQUEST OF THE
CONSUMER ADVOCATE DIVISION

Responsible Witness: Elaine Chambers

Question:

1-13 In light of the proposed reduction in ADIT balance reflected in Docket No. 18-00120 associated with the reduction in the federal income tax rate, coupled with the delay in the identification of the TAWC excess deferred income taxes (as discussed in the testimony of John Wilde in Docket 18-00039), provide a comprehensive discussion of whether it would be appropriate to apply carrying charges to TAWC's deferred liability balances that result from the Commission's Order in Docket No. 18-00001 (both Income Tax Expense and regulatory liability resulting from the reclassification from the ADIT balance). If TAWC believes such carrying charges should not apply, provide the rationale supporting this position.

Response:

The Company is unaware of any Tennessee Public Utility Commission ("TPUC") direction in either Docket No. 18-00039 or Docket No. 18-00001 to accrue interest on Tax Cuts and Jobs Act ("TCJA") related deferred liability balances. Furthermore, the Company is unaware of previous regulatory treatment whereby interest was to be accrued on deferred assets and liabilities for TAWC while these balances were awaiting regulatory treatment.

The TCJA related regulatory liability associated with excess Accumulated Deferred Income Taxes ("ADIT") is not appropriate for carrying charges. ADIT is a rate base deduction in base rates and Excess ADIT is merely a reclass of this deduction. More poignantly, ADIT and Excess ADIT are summed to create the total ADIT rate base deduction in the Company's capital rider reconciliations. The resulting rate base is part of a one-sided earnings test that prevents the Company from retaining returns in excess of those authorized for the overall level of rate base. Indeed, the current earnings test filing (in the 2019 Capital Rider Reconciliation of Calendar Year 2018) proposes to reduce recovery by $745,145. If the Company were forced to pay

interest on Excess ADIT, then the balance of Excess ADIT should no longer be a rate base deduction in this earnings test or in other ratemaking proceedings.

For deferred revenue associated with the TCJA, as noted above, the Company is unaware of any TPUC direction to accrue interest on the deferred regulatory liability. Similarly the Company is unaware of precedent by which interest was to be accrued on deferred regulatory assets and liabilities for Tennessee American Water while regulatory treatment was awaited.