MOODY'S
INVESTORS SERVICE

RATING
METHODOLOGY
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Rating Methodology

Pay TV

This rating methodology replaces the *Pay TV* methodology published in December 2018. We have reordered and have made editorial updates to various sections of the methodology, and we have changed the presentation of the scorecard. These updates do not change our methodological approach.

Scope

This methodology applies to pay television companies globally, including cable operators and direct-to-home satellite (DTH) operators. Cable operators are primarily* engaged in the distribution of pay TV, high-speed-data and phone services to residential customers, as well as to commercial customers to a lesser degree. Cable operators typically deliver core services over a terrestrial, wired network. DTH operators transmit video programming to subscribers' homes via satellites, and they generally rely on partnerships to offer high-speed-data or voice services, or the consumer subscribes to these services separately.

Companies that are primarily engaged in the sale of content rather than in the physical distribution of video, high-speed-data and phone services are covered under our methodologies for the business and consumer service industry or for media companies.[1]

Companies that are primarily engaged in providing telecommunications services to other businesses or consumers are rated under our telecommunications service providers methodology.[2] The regulatory environment generally has less of an influence on the credit profiles of pay TV companies than it does on telecommunications companies, many of which grew out of government-sanctioned (and in some cases, government-owned) monopolies.

*The determination of a company's primary business is generally based on the preponderance of the company's business risks, which are usually proportionate to the company's revenues, earnings and cash flows.

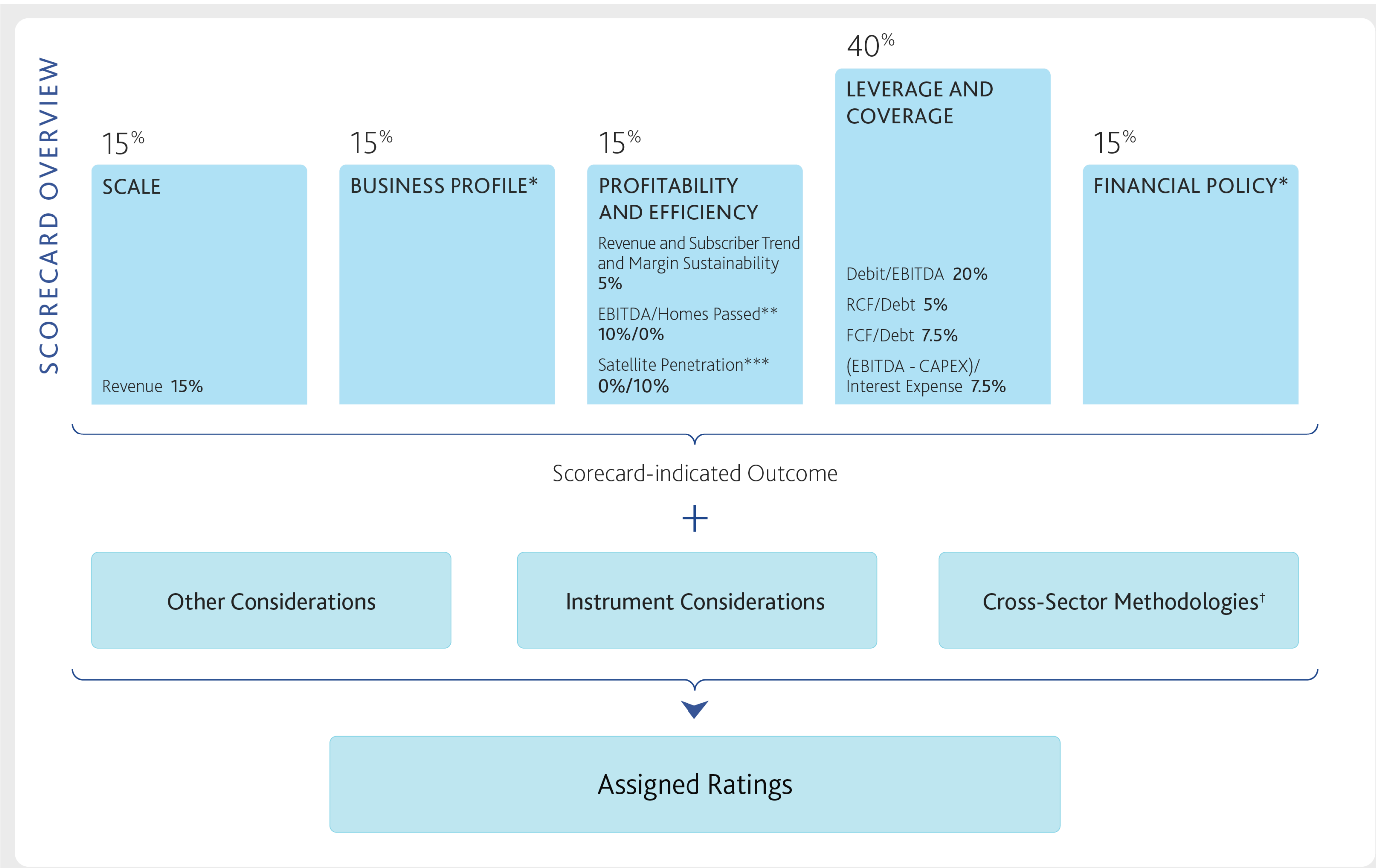
Rating approach

In this rating methodology, we explain our general approach to assessing credit risk of issuers in the pay TV industry globally, including the qualitative and quantitative factors that are likely to affect rating outcomes in this sector. We seek to incorporate all material credit considerations in ratings and to take the most forward-looking perspective that visibility into these risks and mitigants permits.

The following schematic illustrates our general framework for the analysis of pay TV companies, which includes the use of a scorecard.[3] The scorecard-indicated outcome is not expected to match the actual rating for each company. For more information, see the "Other considerations" and "Limitations" sections.

Exhibit 1

Illustration of the pay TV methodology framework



* This factor has no sub-factors.
** The EBITDA/Homes Passed sub-factor applies only to cable operators. Homes passed is the number of homes passed by a cable company's operations.
*** The Satellite Penetration sub-factor applies only to direct-to-home satellite operators.
† Some of the methodological considerations described in one or more cross-sector rating methodologies may be relevant to ratings in this sector. A link to a list of our sector and cross-sector methodologies can be found in the "Moody's related publications" section.
Source: Moody's Investors Service

Pay TV scorecard

For general information about how we use the scorecard and for a discussion of scorecard mechanics, please see the "Using the scorecard to arrive at a scorecard-indicated outcome" section. The scorecard does not include or address every factor that a rating committee may consider in assigning ratings in this sector. Please see the "Other considerations" and "Limitations" sections.

Exhibit 2
Pay TV scorecard

	SCALE (15%)	BUSINESS PROFILE (15%)	PROFITABILITY and EFFICIENCY (15%)			LEVERAGE and COVERAGE (40%)				FINANCIAL POLICY (15%)
	Revenue (USD Billion)[1] (15%)	Business Profile (15%)	Revenue and Subscriber Trend and Margin Sustainability (5%)	EBITDA / Homes Passed[3] (10% or 0%)	Satellite Penetration[4] (0% or 10%)	Debt / EBITDA[5] (20%)	RCF / Debt[6] (5%)	FCF / Debt[7] (7.5%)	(EBITDA - Capex) / Interest Expense[8] (7.5%)	Financial Policy (15%)
Cable Operators	15%	15%	5%	10%	0%	20%	5%	7.5%	7.5%	15%
DTH	15%	15%	5%	0%	10%	20%	5%	7.5%	7.5%	15%
Aaa	≥ $60	Outstanding business profile, typically: Sole provider of services in markets with no competition expected; exceptional product offerings and execution in customer service; sole mobile network operator in a convergent quad-play market; and exceptional potential to benefit from emerging business opportunities, e.g., wireless service, content, alternative distribution.	Strong, sustainable revenue and subscriber growth (for example, revenue growth > 15%); and exceptional, sustainable margin levels.	≥ $1,000	≥ 90%	≤ 0.5x	≥ 60%	≥ 35%	≥ 10x	Expected to have extremely conservative financial policies (including risk and liquidity management); very stable metrics; essentially no event risk that would cause a rating transition; and public commitment to a very strong credit profile over the long term.
Aa	$30 - $60	Extremely strong business profile, typically: Extremely strong competitive position in markets with a low level of competition; excellent product offerings and execution in customer service; among principal mobile network operators in a convergent quad-play market; and excellent potential to benefit from emerging business opportunities, e.g., wireless service, content, alternative distribution.	Moderate, sustainable revenue and subscriber growth (for example, revenue growth in 8% - 15% range); and very high, sustainable margin levels.	$800 - $1,000	70% - 90%	0.5x - 1x	45% - 60%	20% - 35%	6.5x - 10x	Expected to have very conservative financial policies (including risk and liquidity management); stable metrics; minimal event risk that would cause a rating transition; and public commitment to a strong credit profile over the long term.
A	$15 - $30	Very strong business profile, typically: Very strong competitive position in markets with a low level of competition and potential for competition to develop; very good product offerings and execution in customer service; very strong mobile network operator in a convergent quad-play market; very good potential to benefit from emerging business opportunities, e.g., wireless service, content, alternative distribution.	Good, sustainable revenue and subscriber growth (for example, revenue growth in 4% - 8% range); and high, sustainable margin levels.	$600 - $800	50% - 70%	1x - 2x	35% - 45%	15% - 20%	5x - 6.5x	Expected to have predictable financial policies (including risk and liquidity management) that preserve creditor interests; although modest event risk exists, the effect on leverage is likely to be small and temporary; strong commitment to a solid credit profile.

	SCALE (15%)	BUSINESS PROFILE (15%)	PROFITABILITY and EFFICIENCY (15%)			LEVERAGE and COVERAGE (40%)				FINANCIAL POLICY (15%)
	Revenue (USD Billion)[1] (15%)	Business Profile (15%)	Revenue and Subscriber Trend and Margin Sustainability (5%)	EBITDA / Homes Passed[3] (10% or 0%)	Satellite Penetration[4] (0% or 10%)	Debt / EBITDA[5] (20%)	RCF / Debt[6] (5%)	FCF / Debt[7] (7.5%)	(EBITDA - Capex) / Interest Expense[8] (7.5%)	Financial Policy (15%)
Cable Operators	15%	15%	5%	10%	0%	20%	5%	7.5%	7.5%	15%
DTH	15%	15%	5%	0%	10%	20%	5%	7.5%	7.5%	15%
Baa	$7.5 - $15	Strong business profile, typically: Strong competitive position in markets with moderate competition and potential for competition to develop; good product offerings and execution in customer service; well-positioned mobile network operator in a convergent quad-play market; good potential to benefit from emerging business opportunities, e.g., wireless service, content, alternative distribution.	Slight revenue and subscriber growth on a sustainable basis (for example, revenue growth in 2% - 4% range); and moderately high, sustainable margin levels.	$400 - $600	25% - 50%	2x - 3x	25% - 35%	10% - 15%	3.5x - 5x	Expected to have financial policies (including risk and liquidity management) that balance the interests of creditors and shareholders; some risk that debt-funded acquisitions or shareholder distributions could lead to a weaker credit profile.
Ba	$2 - $7.5	Moderately strong business profile, typically: Moderately strong competitive position in competitive markets and potential for more competition to develop; somewhat differentiated product offerings and execution in customer service; mobile network operator or mobile virtual network operator[2] in a convergent quad-play market; some potential to benefit from emerging business opportunities, e.g., wireless service, content, alternative distribution.	Stable revenue and subscriber base on a sustainable basis (for example, approximately flat revenue); or moderate, sustainable margin levels.	$250 - $400	15% - 25%	3x - 4x	15% - 25%	6% - 10%	2x - 3.5x	Expected to have financial policies (including risk and liquidity management) that tend to favor shareholders over creditors; above-average financial risk resulting from shareholder distributions, acquisitions or other significant capital structure changes.
B	$0.5 - $2	Moderately weak business profile; typically: Defensible competitive position in competitive markets or competition expected to increase significantly; undifferentiated product offerings and inconsistent execution in customer service; modest mobile network operator or mobile virtual network operator in convergent quad-play market; some risk or threat from emerging business opportunities, e.g., wireless service, content, alternative distribution.	Moderate, sustained decline in revenue or subscribers (for example, revenue declining 2% to 4%); or sustained modest margin levels.	$125 - $250	7.5% - 15%	4x - 6x	5% - 15%	2% - 6%	1x - 2x	Expected to have financial policies (including risk and liquidity management) that favor shareholders over creditors; high financial risk resulting from shareholder distributions, acquisitions or other significant capital structure changes.

	SCALE (15%)	BUSINESS PROFILE (15%)	PROFITABILITY and EFFICIENCY (15%)			LEVERAGE and COVERAGE (40%)				FINANCIAL POLICY (15%)
	Revenue (USD Billion)[1] (15%)	Business Profile (15%)	Revenue and Subscriber Trend and Margin Sustainability (5%)	EBITDA / Homes Passed[3] (10% or 0%)	Satellite Penetration[4] (0% or 10%)	Debt / EBITDA[5] (20%)	RCF / Debt[6] (5%)	FCF / Debt[7] (7.5%)	(EBITDA - Capex) / Interest Expense[8] (7.5%)	Financial Policy (15%)
Cable Operators	15%	15%	5%	10%	0%	20%	5%	7.5%	7.5%	15%
DTH	15%	15%	5%	0%	10%	20%	5%	7.5%	7.5%	15%
Caa	$0.2 - $0.5	Weak business profile, typically: Weak or eroding competitive position in highly competitive markets and competition expected to increase; single undifferentiated product; weak execution in customer service; start-up mobile network operator or mobile virtual network operator in a convergent quad-play market; or elevated risk or threat from emerging business opportunities, e.g., wireless service, content, alternative distribution.	Strong decline in revenue or subscribers expected (for example, revenue declining 4% to 10%); or sustained weak margin levels.	$25 - $125	3% - 7.5%	6x - 8x	0% - 5%	(5)% - 2%	0.5x - 1x	Expected to have financial policies (including risk and liquidity management) that create elevated risk of debt restructuring in varied economic environments.
Ca	< $0.2	Extremely weak business profile, typically: New entrant in highly competitive markets and competition expected to increase; single product that is weaker than the competition and very weak execution in customer service; no mobile presence in a convergent quad-play market; or high risk or threat from emerging business opportunities, e.g., wireless service, content, alternative distribution.	Steep decline in revenue or subscribers expected (for example, revenue declining > 10%); or sustained very weak or extremely unpredictable margin levels.	< $25	< 3%	> 8x	< 0%	< (5)%	< 0.5x	Expected to have financial policies (including risk and liquidity management) that create elevated risk of debt restructuring even in healthy economic environments.

[1] For the linear scoring scale, the Aaa endpoint value is $80 billion. A value of $80 billion or better equates to a numeric score of 0.5. The Ca endpoint value is zero. A value of zero equates to a numeric score of 20.5.
[2] A mobile virtual network operator offers wireless service but, unlike a mobile network operator, does not own a wireless network. Instead, a mobile virtual network operator partners with a company that owns the wireless infrastructure.
[3] We use a year-over-year average for homes passed when at least two years of data are available. If a cable company derives a material percentage of its total EBITDA from selling content, wireless or any other services to customers outside of its core region, as represented by the number of homes passed, we typically deduct this EBITDA from the numerator. For the linear scoring scale, the Aaa endpoint value is $1,500. A value of $1,500 or better equates to a numeric score of 0.5. The Ca endpoint value is zero. A value of zero or worse equates to a numeric score of 20.5.
[4] For the linear scoring scale, the Aaa endpoint value is 95%. A value of 95% or better equates to a numeric score of 0.5. The Ca endpoint value is zero. A value of zero equates to a numeric score of 20.5.
[5] For the linear scoring scale, the Aaa endpoint value is zero. A value of zero equates to a numeric score of 0.5. The Ca endpoint value is 15x. A value of 15x or worse equates to a numeric score of 20.5, as does a negative Debt/EBITDA value.
[6] For the linear scoring scale, the Aaa endpoint value is 100%. A value of 100% or better equates to a numeric score of 0.5. The Ca endpoint value is (5)%. A value of (5)% or worse equates to a numeric score of 20.5.
[7] For the linear scoring scale, the Aaa endpoint value is 50%. A value of 50% or better equates to a numeric score of 0.5. The Ca endpoint value is (10%). A value of (10%) or worse equates to a numeric score of 20.5.
[8] For the linear scoring scale, the Aaa endpoint value is 15x. A value of 15x or better equates to a numeric score of 0.5. The Ca endpoint value is (1x). A value of (1x) or worse equates to a numeric score of 20.5.
Source: Moody's Investors Service

Discussion of the scorecard factors

In this section, we explain our general approach for scoring each scorecard factor or sub-factor, and we describe why they are meaningful as credit indicators.

Factor: Scale (15% weight)

Why it matters

Scale provides important indications of a company's revenue-generating capability, its overall market strength and its operating leverage.

Companies with larger scale generally have stronger negotiating leverage with suppliers of programming and equipment, as well as marketing-related cost efficiencies. The ability to pass on these cost savings to customers can help companies fend off competitive threats. Large companies in the pay TV sector can also invest more in new technology, spreading fixed costs over more customers, which can allow for more rapid innovation and the deployment of new services, as well as for time-to-market advantages. In addition, a high subscriber count generally improves a pay TV operator's ability to attract regional or possibly even national advertisers at higher advertising rates.

Larger scale generally brings greater geographic diversity, which tends to insulate operators from regional economic downturns, from highly competitive regions or from damage caused by the weather or other events. In the commercial segment, scale can enable companies to offer products and services to more sizable customers that have operations in multiple locations.

Cable companies operate physical terrestrial networks, so if a cable operator lacks tight geographic groupings of subscribers, then network maintenance, maximization of headend[4] usage and marketing can be inefficient regardless of the size of the subscriber base. As such, a smaller, more tightly clustered operator could have a better cost structure than a larger, geographically dispersed operator. We may consider such benefits qualitatively in our analysis, but more broadly, scale is generally associated with credit strength in this industry. This issue does not apply to a DTH operator, which can theoretically offer its video service to the entire region in which its operates (assuming the operator has necessary regulatory permission, which is generally the case).

How we assess it for the scorecard

REVENUE:

Scale is measured (or estimated in the case of forward-looking expectations) using total reported revenue in billions of US dollars.

Factor: Business Profile (15% weight)

Why it matters

A pay TV company's business profile is important because it influences its ability to generate operating cash flows, as well as the sustainability of those cash flows. Core aspects of a pay TV operator's business profile include its market position, the breadth and strength of its product offering, and its prospects for maintaining or improving its competitive position as the marketplace evolves.

The market position of a pay TV operator is important because a company with more customers within its footprint is generally able to achieve greater operational and marketing cost efficiencies. Also, an operator with high market share can promote new products and services to a larger pool of existing customers than one with low share.

The degree of competition a company faces generally influences its pricing power, marketing expenses and customer churn, and hence the level and sustainability of its cash flows. The sheer number of competitors within a market can also have an impact on performance.

The strength of a company's product offering typically influences demand for those products, and even among the core products of video, high-speed-data and voice service, the quality of the offering can vary among operators. The amount, type and packaging of content can also have an impact on a company's ability to attract customers. Some subscribers or potential subscribers might view particular content as a must-have, or might desire a significant amount of content (e.g., in the case of a family) or might be price-sensitive. Customer service is important because a company's strength or weakness in this area often affects its ability to attract and retain customers, as well as its reputation in the market. To the extent effective customer service diminishes churn, it can lower costs.

As technology advances and consumer preferences shift, product categories and customers' needs evolve. A company's ability to adapt to evolving customer needs influences its competitive position over the long term and therefore the sustainability of its cash flow. A pay TV company with a broader product spectrum typically benefits from a more established product and service platform, providing it with a stronger capacity to fulfill customers' needs as technologies evolve. Management's track record for responding to changing competition and technology is important, because it provides an indication of management's ability to implement emerging technologies and ramp up investments. Market acceptance of these new technologies can widen the opportunity for success.

In the pay TV sector, the term "convergence" generally refers to when a company offers some combination of video, high-speed-data, and mobile service or wireline phone (voice) service, typically including an expansion into services not part of that company's legacy offering. If a pay TV company does not offer all four of these products and operates in a market where its competitors do offer all four, it is at a significant competitive disadvantage. However, in a regional market where no competitor offers four products on its own, a company that offers only three products might not be at a disadvantage.

To offer mobile service, a pay TV company can build or acquire a mobile network, or it can partner with a separate company. A company can generally control its overall costs better through ownership than through a partnership, but the acquisition or build-out of a mobile network can create execution risk and dilute margins (especially during the integration or start-up phase), and network ownership is capital-intensive. Nevertheless, even a minimally profitable mobile service can help a company sustain or improve its competitive position and can provide it with the ability to sell a broader spectrum of products cost effectively.

How we assess it for the scorecard

We consider the number of existing and expected competitors across the pay TV company's footprint (which can vary by region for larger operators) and the strength of the pay TV company's offering relative to those competitors.

We also assess the strength of the product offering, typically including the number of products offered and the quality of each relative to competitors. Core products include video, high-speed-data and voice services, but we also may consider add-ons, like home security. Operators can distinguish themselves with efforts to improve the customer experience by offering more content, more ways to access that content, faster Internet speeds, and the integration of the video, high-speed-data and voice products.

In assessing the quality of a company's products and service execution, we may, for example, consider the company's Internet speeds. Operators that use advancements in technology to improve customer satisfaction may receive a higher score for this factor. We generally assess the number of subscribers to each product and whether that number is growing or shrinking, which gives some indication of whether the company's market share is rising or falling and may indicate the strength or weakness of its customer service.

We also typically assess the overall market landscape in the company's key regions. A convergent quad-play market is generally defined as a market in which at least one established pay TV or telecommunications provider in that market offers all four products (video, high-speed-data, mobile service, wireline phone service), as opposed to a market in which no single provider offers all four products and a customer has to go to multiple providers to purchase individual products. For a company that operates primarily in convergent quad-play markets, it is generally more important to offer, or plan to offer, all four products in order to score at the higher end of the ratings scale for this factor.

For companies that offer mobile service, we typically assess the current and expected cash flow contribution from the mobile business or, in some cases, the drain on cash flow, but we also consider whether the mobile offering helps the company retain existing customers and boost demand for its other services.

In assessing a company's prospective position as new opportunities emerge, we consider its existing product and service platform relative to the competition as well as any product launches by the company or its competition. A company with a strong current position in its market may receive a lower score for this factor if we believe that the company is falling behind the competition and not investing enough to protect its position. Our assessment of management's historical and projected ability to adapt to changing technology typically plays a role in our assessment.

Generally, we do not expect a given company's business profile to exactly match each of the attributes listed for a given scoring category. We typically assign the factor score based on the alpha category for which the issuer has the greatest number of characteristics. However, there may be cases in which one characteristic is sufficiently important to a particular issuer's credit profile that it has an outsize influence on the factor score. For example, not all markets are convergent quad-play markets and the importance of whether or not a company offers all four products varies, based on our assessment of whether the competition currently offers or will soon offer all four products.

Factor: Profitability and Efficiency (15% weight)

Why it matters

Profits matter because they are needed to generate sustainable cash flow, maintain a competitive position and reinvest in the business. Sustained high profitability generally indicates a substantial competitive advantage.

This factor has three sub-factors. The Revenue and Subscriber Trend and Margin Sustainability sub-factor applies to cable and DTH operators. The EBITDA/Homes Passed sub-factor applies only to cable operators, and the Satellite Penetration sub-factor applies only to DTH operators. We use separate metrics for the two sub-sectors because the technology used to provide the services is different, resulting in different reporting.

Revenue and Subscriber Trend and Margin Sustainability (Cable and DTH operators)

Revenue and subscriber trends and margin sustainability provide important indications of whether a company's market position is growing or shrinking and of its ability to sustain that market position without a deterioration in profitability. While the level and stability of margins is a key consideration in assessing risk to debtholders, revenue and subscriber trends may also drive a company's capacity to sustain its profitability levels. It is important to consider both revenue and subscriber trends, because a company may raise prices to achieve stable revenue or revenue growth even while it loses subscribers. However, the resultant reduced subscriber base and loss of market share would likely have a negative impact on the company's longer-term cash flow potential.

As revenue or subscriber counts decline, a company may be able to cut costs to maintain margins on a short-term basis. But this approach may not be effective without putting the business model and resultant profitability prospects at risk over the longer term. High margins may also be supported by strong revenue or subscriber growth, but an operator may have little pricing power or cost control to mitigate any impact a slowdown in market dynamics may have on its margins. The strength and longevity of a company's profitability is therefore typically a function of the sustainability of its margins and its revenue and subscriber trajectory.

EBITDA / Homes Passed (Cable Operators)

The ratio of EBITDA to the number of homes passed by a cable operator provides indications of a cable company's success in adding new products, upselling existing products and retaining customers. The ratio shows the impact of customer penetration and churn on cash flow, since a household that subscribes to multiple products typically generates more cash flow for an operator than a household that subscribes to fewer products, and a household that subscribes to no products generates no cash flow.

The homes passed number is important because it encompasses the entire footprint and captures the significant historical capital investment of the cable operator. A company with low EBITDA and a large number of homes passed relative to peers has therefore not been as successful at achieving cash flow benefits from this investment. This sub-factor also provides an indication of the company's efficiency, since a company that effectively leverages its fixed-cost base and manages its per subscriber costs can achieve a higher ratio.

Satellite Penetration (DTH Operators)

Satellite penetration is an important indicator of the benefits of a DTH operator's historical investment in its satellite fleet and the ongoing fixed costs of the fleet.

Unlike cable operators, which build to specific homes in a given territory, satellite operators invest in a satellite fleet that can theoretically cover an entire country or region (assuming regulatory permission and line-of-sight capacity). This sub-factor provides important indications of how well a satellite operator is capitalizing on its ability to offer service to additional customers at a minimal incremental infrastructure cost per new subscriber and how well it is capitalizing on its national marketing campaigns.

How we assess it for the scorecard

Scoring for this factor is based on three sub-factors. The Revenue and Subscriber Trend and Margin Sustainability sub-factor applies to cable and DTH operators; the EBITDA/Homes Passed sub-factor applies only to cable operators; and the Satellite Penetration sub-factor applies only to DTH operators.

REVENUE AND SUBSCRIBER TREND AND MARGIN SUSTAINABILITY (CABLE AND DTH OPERATORS):

We score this sub-factor based on our forward-looking assessment of the sustainability of revenue and subscriber growth along with the company's ability to maintain margins. We consider the level and trajectory of margins (generally using EBITDA margin), revenue and subscribers as well as their respective sustainability, using historical and forecast metrics. We typically evaluate the cost base, assessing for example whether the company has reduced its marketing, customer service or network maintenance costs in ways that could negatively affect the subscriber base.

We also typically consider the drivers of revenue growth, such as whether the company is achieving this growth by gaining market share or by raising prices. In assessing subscriber trends, we generally look at trends in the number of subscribers to each individual product and may also consider the total number of customers, to the extent disclosure permits.[5] Our evaluation generally focuses on organic growth, excluding the impact of acquisitions and divestitures.

EBITDA / HOMES PASSED (CABLE OPERATORS):

The numerator is EBITDA, and the denominator is average homes passed.

If a cable company derives a material percentage of its total EBITDA from selling content, wireless or any other services to customers outside of its core region, as represented by the number of homes passed, we typically deduct this EBITDA from the numerator. We believe this approach results in greater comparability among peers, because cash flow from the sale of content or other services outside of the cable operator's footprint does not stem from the investment in homes passed. We generally include EBITDA from commercial customers in this metric, because the cable operator serves those customers using the infrastructure within its region. If a cable operator provides wireless service to customers within its footprint, we typically include this EBITDA as well, again based on the use of infrastructure within the region.

We use a year-over-year average for homes passed when at least two years of data are available, to best reflect the number of homes served over the latest 12 months. We rely on the largest number of homes passed among the three products (whether for the video, data or phone product) for the denominator, because we expect the company to eventually attempt to sell its services to all homes in the market. We may also estimate the impact of acquisitions and divestitures on the number of homes passed, if data are available.

SATELLITE PENETRATION (DTH OPERATORS):

We estimate penetration by dividing the satellite company's total number of subscribers by the estimated total number of households within a region. For a company that operates in multiple regions but derives a disproportionate amount of revenue from any of these regions (relative to the number of households), we may adjust the penetration by considering a weighted average, i.e. calculating or estimating penetration for each region and using an average weighted by each region's revenue.

Factor: Leverage and Coverage (40% weight)

Why it matters

Leverage and cash flow coverage measures provide important indications of how much financial risk a pay TV company is willing to undertake. These metrics are also important indicators of a company's ability to sustain its competitive position, invest in growth opportunities and service debt.

This factor comprises four sub-factors:

Debt / EBITDA

The ratio of total debt to earnings before interest, taxes, depreciation and amortization (Debt/EBITDA) is an indicator of debt serviceability and financial leverage. The ratio is commonly used in this sector as a proxy for comparative financial strength.

RCF / Debt

The ratio of retained cash flow to total debt (RCF/Debt) is an indicator of a company's cash generation (before working capital movements and capital expenditures, and after dividend payments) relative to its debt burden.

FCF / Debt

The ratio of free cash flow to total debt (FCF/Debt) provides a different view of a company's ability to repay its debt, compared with Debt/EBITDA and RCF/Debt, because it compares cash flow generation after working capital movements, capital expenditures and dividends to total debt.

(EBITDA – Capex) / Interest Expense

The ratio of EBITDA minus capital expenditures to interest expense ((EBITDA – Capex)/Interest Expense) indicates a company's ability to meet its interest obligations and invest in fixed assets with EBITDA.

How we assess it for the scorecard

Scoring for this factor is based on four sub-factors: Debt/EBITDA; RCF/Debt; FCF/Debt; and (EBITDA – Capex)/Interest Expense.

DEBT / EBITDA:

The numerator is total debt, and the denominator is EBITDA.

RCF / DEBT:

The numerator is retained cash flow, and the denominator is total debt.

FCF / DEBT:

The numerator is free cash flow, and the denominator is total debt.

(EBITDA – CAPEX) / INTEREST EXPENSE:

The numerator is EBITDA minus capital expenditures, and the denominator is interest expense.

Factor: Financial Policy (15% weight)

Why it matters

Financial policy encompasses management and board tolerance for financial risk and commitment to a strong credit profile. It is an important rating determinant, because it directly affects debt levels, credit quality, the future direction for the company and the risk of adverse changes in financing and capital structure.

Financial risk tolerance serves as a guidepost to investment and capital allocation. An expectation that management will be committed to sustaining an improved credit profile is often necessary to support an upgrade. For example, we may not upgrade the ratings of a company that has built flexibility within its rating category if we believe the company will use that flexibility to fund a strategic acquisition, cash distribution to shareholders, spin-off or other leveraging transaction. Conversely, a company's credit rating may be better able to withstand a moderate leveraging event if management places a high priority on returning credit metrics to pre-transaction levels and has consistently demonstrated the commitment to do so through prior actions. Liquidity management[6] is an important aspect of overall risk management and can provide insight into risk tolerance.

Many pay TV operators have historically used acquisitions to spur revenue growth, expand business lines, consolidate market positions, advance cost synergies or seek access to new technology. Companies facing lower growth potential could experience shareholder pressure to raise dividends or otherwise enhance shareholder returns.

How we assess it for the scorecard

We assess the issuer's desired capital structure or targeted credit profile, its history of prior actions, including its track record of risk and liquidity management, and its adherence to its commitments. Attention is paid to management's operating performance and use of cash flow through different phases of economic and industry cycles. Also of interest is the way in which management responds to key events, such as changes in the credit markets and liquidity environment, legal actions, competitive challenges or regulatory pressures. Considerations include a company's public commitments in this area, its track record for adhering to commitments and our views on the ability of the company to achieve its targets.

When considering event risks in the context of scoring financial policy, we assess the likelihood and potential negative impact of M&A or other types of balance-sheet-transforming events. Management's appetite for M&A activity is assessed, with a focus on the type of transactions (i.e., core competency or new business) and funding decisions. Frequency and materiality of acquisitions and previous financing choices are evaluated. A history of debt-financed or credit-transforming acquisitions will generally result in a lower score for this factor. We may also consider negative repercussions caused by shareholders' willingness to sell the company.

We also consider a company's and its owners' past record of balancing shareholder returns and debtholders' interests. A track record of favoring shareholder returns at the expense of debtholders is likely to be viewed negatively in scoring this factor.

Other considerations

Ratings may reflect consideration of additional factors that are not in the scorecard, usually because the factor's credit importance varies widely among the issuers in the sector or because the factor may be important only under certain circumstances or for a subset of issuers. Such factors include financial controls and the quality of financial reporting; corporate legal structure; the quality and experience of management; assessments of corporate governance as well as environmental and social considerations; 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.

Following are some examples of additional considerations that may be reflected in our ratings and that may cause ratings to be different from scorecard-indicated outcomes.

Regulatory Considerations

Companies in the pay TV sector are subject to varying degrees of regulatory oversight. Regional differences in regulation, implementation or enforcement may advantage or disadvantage particular issuers. Our view of future regulations plays an important role in our expectations of future financial metrics as well as our confidence level in the ability of an issuer to generate sufficient cash flows relative to its debt burden over the medium and longer term. Regulatory considerations also play a role in our assessment of an issuer's ability to increase its scale in order to remain competitive or raise prices to offset subscriber losses. In some circumstances, regulatory considerations may also be a rating factor outside the scorecard, for instance when regulatory change is swift.

Environmental, Social and Governance Considerations

Environmental, social and governance (ESG) considerations may affect the ratings of issuers in the Pay TV sector. For information about our approach to assessing ESG issues, please see our methodology that describes our general principles for assessing these risks.[7]

Environmental issues have not been a major credit driver for pay TV companies.

For issuers in this sector, we also consider social issues that could materially affect the likelihood of default and severity of loss, for example through adverse impacts on business reputation, brand strength and employee relations.

Audit committee financial expertise, the incentives created by executive compensation packages, related-party transactions, interactions with outside auditors, and ownership structure are among the areas we may consider in our assessment of how corporate governance affects the issuer's credit profile.

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 the proper tone at the top, centralized operations, and consistency in accounting policies and procedures. Auditors' reports on the effectiveness of internal controls, auditors' comments in financial reports and unusual restatements of financial statements or delays in regulatory filings may indicate weaknesses in internal controls.

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 in evaluating management performance relative to performance of competitors and our projections. Management's track record of adhering to stated plans, commitments and guidelines provides insight into management's likely future performance, including in stressed situations.

Excess Cash Balances

Some companies in this sector may maintain cash balances (meaning liquid short-term investments as well as cash) that are far in excess of their operating needs. This excess cash can be an important credit consideration; however, the underlying policy and motivations of the issuer in holding high cash balances are often as or more important in our analysis than the level of cash held. We have observed significant variation in company behavior based on differences in financial philosophy, investment opportunities, availability of committed revolving credit facilities, and shareholder pressures.

Most issuers need to retain some level of cash in their business for operational purposes. The level of cash required to run a business can vary based on the region(s) of operation and the specific sub-sectors in which the issuer operates. Some issuers have very predictable cash needs and others have much broader intra-period swings; for instance, related to mark-to-market collateral requirements under hedging instruments. Some companies may hold large levels of cash at times because they operate without committed, long-term bank borrowing facilities. Some companies may hold cash on the balance sheet to meet long-term contractual liabilities, whereas other companies with the same types of liabilities have deposited cash into trust accounts that are off balance sheet. The level of cash that issuers are willing to hold can also vary over time based on the cost of borrowing and macroeconomic conditions. The same issuer may place a high value on cash holdings in a major recession or financial crisis but seek to pare cash when inflation is high. As a result, cash on the balance sheet is most often considered qualitatively, by assessing the issuer's track record and financial and liquidity policies rather than by measuring how a point-in-time cash balance would affect a specific metric.

Across all corporate sectors, an important shareholder-focused motivation for cash holdings, sometimes over very long periods, is cash for acquisitions. In these cases, we do not typically consider that netting cash against the issuer's current level of debt is analytically meaningful; however, the cash may be a material mitigant in our scenario analyses of potential acquisitions, share buybacks or special dividends. Tax minimization strategies have at times been another primary motivation for holding large cash balances. Given shareholder pressures to return excess cash holdings, when these motivations for holding excess cash are eliminated, we generally expect that a large portion of excess cash will be used for dividends and share repurchases.

By contrast, some companies maintain large cash holdings for long periods of time in excess of their operating and liquidity needs solely due to conservative financial policies, which provides a stronger indication of an enduring approach that will benefit creditors. For instance, some companies have a policy to routinely pre-fund upcoming required debt payments well in advance of the stated maturity. Such companies may also have clearly stated financial targets based on net debt metrics and a track record of maintaining their financial profile within those targets.

While the scorecard in this methodology uses leverage and coverage ratios with total (or gross) debt rather than net debt, we do consider excess cash holdings in our rating analysis, including in our assessment of the financial and liquidity policy. For issuers where we have clarity into the extent to which cash will remain on the balance sheet and/or be used for creditor-friendly purposes, excess cash may be considered in a more quantitative manner. While we consider excess cash in our credit assessment for ratings, we do not typically adjust the balance sheet debt for any specific amount because this implies greater precision than we think is appropriate for the uncertain future uses of cash. However, when cash holdings are unusually large relative to debt, we may refer to debt net of cash, or net of a portion of cash, in our credit analysis and press releases in order to provide additional insight into our qualitative assessment of the credit benefit. Alternatively, creditor-friendly use of cash may be factored into our forward view of metrics, for instance when the cash is expected to be used for debt repayment. We may also cite rating threshold levels for certain issuers based on net debt ratios, particularly when these issuers have publicly stated financial targets based on net debt metrics.

Even when the eventual use for excess cash is likely to be for purposes that do not benefit debtholders, large holdings provide some beneficial cushion against credit deterioration, and cash balances are often considered in our analysis of near-term liquidity sources and uses. Such downside protection is usually more important for low rated companies than for highly rated companies due to differences in credit stability and the typically shorter distance from potential default for issuers at the lower end of the ratings spectrum.

Liquidity

Liquidity is an important rating consideration for all pay TV companies, although it may not have a substantial impact in discriminating between two issuers with a similar credit profile. Liquidity can be particularly important for companies in highly seasonal operating environments where working capital needs must be considered, and ratings can be heavily affected by extremely weak liquidity. We form an opinion on likely near-term liquidity requirements from the perspective of both sources and uses of cash. For more details on our approach, please see our liquidity cross-sector methodology.[8]

Additional Metrics

The metrics included in the scorecard are those that are generally most important in assigning ratings to companies in this industry; however, we may use additional metrics to inform our analysis of specific companies. These additional metrics may be important to our forward view of metrics that are in the scorecard or other rating factors.

For example, we often evaluate penetration rates of cable operators using metrics such as the number of video, high-speed-data, or phone subscribers divided by homes passed. However, this ratio may not be an important differentiator of credit profiles. A company with a high but declining penetration rate may have a weaker credit profile than a company with a low but rising penetration rate.

As another example, trends in EBITDA margin may signal changes in a company's credit profile, although EBITDA margin is not always an important differentiator of credit profiles among companies. Highly leveraged companies may have apparently strong EBITDA margins but weak credit profiles, and a high EBITDA margin may reflect underinvestment in marketing or customer service rather than operating efficiency. Also, a strong EBITDA margin may be more indicative of the company's primary region or whether it is a satellite or cable operator, rather than the strength of the company.

Non-wholly owned subsidiaries

Some companies in the pay TV industry choose to dilute their equity stake in certain material subsidiaries, for example through an initial public offering, which may in some cases negatively impact future financial flexibility. While improving cash holdings on a one-off basis, selling minority interests in subsidiaries may have a negative impact on cash flows available to the parent company that may not be fully reflected in consolidated financial statements.[9] The parent's share of dividend flows from a non-wholly owned subsidiary are reduced, and minority stakes can increase structural subordination, since dividend flows to minority interest holders are made before the cash flows are available to service debt at the parent company. While less frequent, sale of a minority stake may be accompanied by policies protective of the subsidiary that further limit the parent's financial flexibility, for instance restrictions on cash pooling with other members of the corporate family, limitations on dividends and distributions, or arms-length business requirements. Minority stakeholders may have seats on the board of the subsidiary. In many cases, we consider the impact of non-wholly owned subsidiaries qualitatively. However, in some cases we may find that an additional view of financial results, such as analyzing cash flows on a proportional consolidation basis, may be very useful to augment our analysis based on consolidated financial statements. When equity dilution or structural subordination arising from non-wholly owned subsidiaries is material and negative, the credit impact is captured in ratings but may not be fully reflected in scorecard-indicated outcomes.

For companies that hold material minority interest stakes, consolidated funds from operations typically includes the dividends received from the minority subsidiary, while none of its debt is consolidated. When such dividends are material to the company's cash flows, these cash flows may be subject to interruption if they are required for the minority subsidiary's debt service, capital expenditures or other cash needs. When minority interest dividends are material, we may also find that proportional consolidation or another additional view of financial results is useful to augment our analysis of consolidated financials. We would generally also consider structural subordination in these cases.[10] When these credit considerations are material, their impact is captured in ratings but may not be fully reflected in scorecard-indicated outcomes.

Event Risk

We also recognize the possibility that an unexpected event could cause a sudden and sharp decline in an issuer's fundamental creditworthiness, which may cause actual ratings to be lower than the scorecard-indicated outcome. Event risks — which are varied and can range from leveraged recapitalizations to sudden regulatory changes or liabilities from an accident — can overwhelm even a stable, well-capitalized firm. Some other types of event risks include M&A, asset sales, spin-offs, litigation, pandemics, significant cyber-crime events and shareholder distributions.

Parental Support

Ownership can provide ratings lift for a particular company in the pay TV sector if it is owned by a highly rated owner(s) and is viewed to be 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 to the issuer in times of stress or financial need (e.g., a major capital investment or advantaged operating agreement), 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 reflect this risk.

Government-related issuers may receive ratings uplift due to expected government support. However, for certain issuers, government ownership can have a negative impact on the underlying Baseline Credit Assessment.[11] For example, price controls, onerous taxation and high distributions can have a negative effect on an issuer's underlying credit profile.

Other Institutional Support

In some countries, large corporate issuers have received government or banking support in the event of financial difficulties because of their overall importance to the functioning of the economy. In Japan, our corporate ratings consider the support that has operated there for large and systemically important organizations. Over the years, this has resulted in lower levels of default than might otherwise have occurred. Our approach considers whether the presence of group and banking relationships may provide support when systemically important companies encounter significant financial stress.

Using the scorecard to arrive at a scorecard-indicated outcome

1. Measurement or estimation of factors in the scorecard

In the "Discussion of the scorecard factors" section, we explain our analytical approach for scoring each scorecard factor or sub-factor,[12] and we describe why they are meaningful as credit indicators.

The information used in assessing the sub-factors is generally found in or calculated from information in the company's financial statements or regulatory filings, derived from other observations or estimated by Moody's analysts. We may also incorporate non-public information.

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 of a company's performance as well as for peer comparisons. Financial ratios,[13] unless otherwise indicated, are typically calculated based on an annual or 12-month period. However, the factors in the scorecard can be assessed using various time periods. For example, rating committees may find it analytically useful to examine both historical and expected future performance for periods of several years or more.

All of the quantitative credit metrics incorporate our standard adjustments[14] to income statement, cash flow statement and balance sheet amounts for items such as underfunded pension obligations and operating leases. We may also make other analytical adjustments that are specific to a particular company.

2. Mapping scorecard factors to a numeric score

After estimating or calculating each factor or sub-factor, each outcome is mapped to a broad Moody's rating category (Aaa, Aa, A, Baa, Ba, B, Caa or Ca, also called alpha categories) and to a numeric score.

Qualitative factors are scored based on the description by broad rating category in the scorecard. The numeric value of each alpha score is based on the scale below.

Exhibit 3

Aaa	Aa	A	Baa	Ba	B	Caa	Ca
1	3	6	9	12	15	18	20

Source: Moody's Investors Service

Quantitative factors are scored on a linear continuum. For each metric, the scorecard shows the range by alpha category. We use the scale below and linear interpolation to convert the metric, based on its placement within the scorecard range, to a numeric score, which may be a fraction. As a purely theoretical example, if there were a ratio of revenue to interest for which the Baa range was 50x to 100x, then the numeric score for an issuer with revenue/interest of 99x, relatively strong within this range, would score closer to 7.5, and an issuer with revenue/interest of 51x, relatively weak within this range, would score closer to 10.5. In the text or table footnotes, we define the endpoints of the line (i.e., the value of the metric that constitutes the lowest possible numeric score, and the value that constitutes the highest possible numeric score).

Exhibit 4

Aaa	Aa	A	Baa	Ba	B	Caa	Ca
0.5-1.5	1.5-4.5	4.5-7.5	7.5-10.5	10.5-13.5	13.5-16.5	16.5-19.5	19.5-20.5

Source: Moody's Investors Service

3. Determining the overall scorecard-indicated outcome

The numeric score for each sub-factor (or each factor, when the factor has no sub-factors) is multiplied by the weight for that sub-factor (or factor), with the results then summed to produce an aggregate numeric score. The aggregate numeric score is then mapped back to a scorecard-indicated outcome based on the ranges in the table below.

Exhibit 5

Scorecard-indicated outcome

Scorecard-indicated outcome	Aggregate numeric score
Aaa	x ≤ 1.5
Aa1	1.5 < x ≤ 2.5
Aa2	2.5 < x ≤ 3.5
Aa3	3.5 < x ≤ 4.5
A1	4.5 < x ≤ 5.5
A2	5.5 < x ≤ 6.5
A3	6.5 < x ≤ 7.5
Baa1	7.5 < x ≤ 8.5
Baa2	8.5 < x ≤ 9.5
Baa3	9.5 < x ≤ 10.5
Ba1	10.5 < x ≤ 11.5
Ba2	11.5 < x ≤ 12.5
Ba3	12.5 < x ≤ 13.5
B1	13.5 < x ≤ 14.5
B2	14.5 < x ≤ 15.5
B3	15.5 < x ≤ 16.5
Caa1	16.5 < x ≤ 17.5
Caa2	17.5 < x ≤ 18.5
Caa3	18.5 < x ≤ 19.5
Ca	19.5 < x ≤ 20.5
C	x > 20.5

Source: Moody's Investors Service

For example, an issuer with an aggregate numeric score of 11.7 would have a Ba2 scorecard-indicated outcome.

In general, the scorecard-indicated outcome is oriented to the corporate family rating (CFR) for speculative-grade issuers and to 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 scorecard-indicated outcome. For an explanation of the Baseline Credit Assessment, please refer to *Rating Symbols and Definitions* and to our cross-sector methodology for government-related issuers.[15]

Assigning issuer-level and instrument-level ratings

After considering the scorecard-indicated outcome, other considerations and relevant cross-sector methodologies, we typically assign a CFR to speculative-grade issuers or a senior unsecured rating for investment-grade issuers. For issuers that benefit from rating uplift from parental support, government ownership or other institutional support, we may assign a Baseline Credit Assessment.[16]

Individual debt instrument ratings may be notched up or down from the CFR or the senior unsecured rating to reflect our assessment of differences in expected loss related to an instrument's 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, the methodology for notching corporate instrument ratings based on differences in security and priority of claim, and the methodology for assigning short-term ratings.[17]

Key rating assumptions

For information about key rating assumptions that apply to methodologies generally, please see *Rating Symbols and Definitions*.[18]

Limitations

In the preceding sections, we have discussed the scorecard factors and many of the other considerations that may be important in assigning ratings. In this section, we discuss limitations that pertain to the scorecard and to the overall rating methodology.

Limitations of the scorecard

There are various reasons why scorecard-indicated outcomes may not map closely to actual ratings.

The scorecard in this rating methodology is a relatively simple tool that can be used in most cases to approximate credit profiles of companies in this sector and to explain, in summary form, many of the factors that are generally most important in assigning ratings to these companies. Credit loss and recovery considerations, which are typically more important as an issuer gets closer to default, may not be fully captured in the scorecard. The scorecard is also limited by its upper and lower bounds, causing scorecard-indicated outcomes to be less likely to align with ratings for issuers at the upper and lower ends of the rating scale.

The weights for each factor and sub-factor in the scorecard represent an approximation of their importance for rating decisions across the sector, but the actual importance of a particular factor may vary substantially based on an individual company's circumstances.

Factors that are outside the scorecard, including those discussed above in the "Other considerations" section, may be important for ratings, and their relative importance may also vary from company to company. In addition, certain broad methodological considerations described in one or more cross-sector rating methodologies may be relevant to ratings in this sector.[19] Examples of such considerations include the following: how sovereign credit quality affects non-sovereign issuers, the assessment of credit support from other entities, the relative ranking of different classes of debt and hybrid securities, and the assignment of short-term ratings.

We may use the scorecard over various historical or forward-looking time periods. Furthermore, in our ratings we often incorporate directional views of risks and mitigants in a qualitative way.

General limitations of the methodology

This methodology document does not include an exhaustive description of all factors that we may consider in assigning ratings in this sector. Companies in the sector may face new risks or new combinations of risks, and they may develop new strategies to mitigate risk. We seek to incorporate all material credit considerations in ratings and to take the most forward-looking perspective that visibility into these risks and mitigants permits.

Ratings reflect our expectations for an issuer's future performance; however, as the forward horizon lengthens, uncertainty increases and the utility of precise estimates, as scorecard inputs or in other considerations, typically diminishes. Our forward-looking opinions are based on assumptions that may prove, in hindsight, to have been incorrect. Reasons for this could include unanticipated changes in any of the following: the macroeconomic environment, general financial market conditions, industry competition, disruptive technology, or regulatory and legal actions. In any case, predicting the future is subject to substantial uncertainty.

Moody's related publications

Credit ratings are primarily determined through the application of sector credit rating methodologies. Certain broad methodological considerations (described in one or more cross-sector rating methodologies) may also be relevant to the determination of credit ratings of issuers and instruments. A list of sector and cross-sector credit rating methodologies can be found here.

For data summarizing the historical robustness and predictive power of credit ratings, please click here.

For further information, please refer to *Rating Symbols and Definitions*, which is available here.

Moody's Basic Definitions for Credit Statistics (User's Guide) can be found here.

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Endnotes

1 A link to a list of our sector and cross-sector methodologies can be found in the "Moody's related publications" section.

2 A link to a list of our sector and cross-sector methodologies can be found in the "Moody's related publications" section.

3 In our methodologies and research, the terms "scorecard" and "grid" are used interchangeably.

4 The headend refers to a master facility that receives the television programming signals, processes them into cable quality and then transmits them over the local cable infrastructure to each household.

5 An individual household may subscribe to all of a pay TV's operator services, or to a combination of them only. Companies generally report the total number of subscribers to each of video, high-speed-data and voice services, and the reporting typically counts the same household as more than one subscriber to the extent that a customer subscribes to multiple products. Companies may also report the total number of unique customers. Reporting of subscribers is not necessarily uniform across companies, and companies occasionally change their reporting. We may adjust reported numbers to better evaluate a company's organic trend over time as well as to make comparisons between companies.

6 Liquidity management is distinct from the level of liquidity, which is discussed in the "Other considerations" section.

7 A link to a list of our sector and cross-sector methodologies can be found in the "Moody's related publications" section.

8 A link to a list of our cross-sector methodologies can be found in the "Moody's related publications" section.

9 For example, in the case of an equity stake reduction in a subsidiary down to 75%, in the parent's financial statements, all revenue and EBITDA of the subsidiary would typically still be consolidated at the group level.

10 Proportional consolidation brings a portion of the minority subsidiary's debt onto the balance sheet, but this debt is structurally senior to debt at the parent company, because it is closer to the assets and cash flows of the minority subsidiary.

11 For an explanation of the Baseline Credit Assessment, please refer to *Rating Symbols and Definitions* and to our cross-sector methodology for government-related issuers. A link to a list of our sector and cross-sector methodologies and a link to *Rating Symbols and Definitions* can be found in the "Moody's related publications" section.

12 When a factor comprises sub-factors, we score at the sub-factor level. Some factors do not have sub-factors, in which case we score at the factor level.

13 For definitions of our most common ratio terms, please see *Moody's Basic Definitions for Credit Statistics (User's Guide)*. A link can be found in the "Moody's related publications" section.

14 For an explanation of our standard adjustments, please see the cross-sector methodology that describes our financial statement adjustments in the analysis of non-financial corporations.

15 A link to a list of our sector and cross-sector methodologies and a link to *Rating Symbols and Definitions* can be found in the "Moody's related publications" section.

16 For an explanation of the Baseline Credit Assessment, please refer to *Rating Symbols and Definitions* and to our cross-sector methodology for government-related issuers. A link to a list of our sector and cross-sector methodologies and a link to *Rating Symbols and Definitions* can be found in the "Moody's related publications" section.

17 A link to a list of our sector and cross-sector rating methodologies can be found in the "Moody's related publications" section.

18 A link to *Rating Symbols and Definitions* can be found in the "Moody's related publications" section.

19 A link to a list of our sector and cross-sector methodologies can be found in the "Moody's related publications" section.

This publication does not announce a credit rating action. For any credit ratings referenced in this publication, please see the ratings tab on the issuer/entity page on www.moodys.com for the most updated credit rating action information and rating history.

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