MOODY'S INVESTORS SERVICE

RATING METHODOLOGY

Privately Managed Airports and Related Issuers

Table of Contents:

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Summary

This rating methodology explains Moody's approach to assessing credit risk for companies in the privately managed airports industry 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 companies in the privately managed airports industry. 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 Operational Airports outside of the United States Methodology published in May 2008. While reflecting many of the same core principles as the 2008 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 rated companies against the factors in the grid. The grid is a reference tool that can be used to approximate credit profiles within the privately managed airport sector in most cases. The grid provides summarised guidance for the factors that are generally most important in assigning ratings to companies in the privately managed airport 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 seven factors that are important in our assessments for ratings in the privately managed airport sector:

1. Concession and Regulatory Framework
2. Market Position
3. Service Offering
4. Capacity and Capital
5. Financial Policy
6. Leverage and Coverage

The scoring for factors 1-6 results in a preliminary grid-indicated outcome. In addition, we apply the following factor 7, which can result in upward notching for issuers that benefit from structural enhancements in their corporate structure or financing arrangements – this is mainly relevant to project financing.

7. 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 the full grid (Appendix A), tables that illustrate the application of the grid to the 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 special considerations for the assessment of air traffic control providers (Appendix C).

This methodology describes the analytical framework used in determining credit ratings. In some instances our analysis is also guided by additional publications which 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 issuers whose principal line of business is the operation and maintenance of an airport or airport system and the provision of ancillary services, and which inherently have a profit maximisation motive. The principal source of revenue is derived from airport charges made to passengers and/or airlines for aircraft using the airport, the provision of retail and concession services to airport users, the provision of ancillary services to airport users, and in some cases the provision of retail and commercial property space for third party users located at the airport (which could be unrelated to airport operations).

This methodology is also applicable to air traffic control providers – please Appendix C. For clarity, the grid and notching factors described herein apply to privately managed airports, while air traffic controllers are assessed without a scoring grid.

Privately managed airport operators rated under this methodology may have different ownership structures. Whilst the majority of the issuers are privately owned, this methodology is also applied to companies classified as government-related issuers (GRI). In such cases, this rating methodology for privately managed airports speaks to the baseline credit assessment (BCA), while the GRI rating methodology explains how we assess support that may lift the BCA to a higher rating.

By contrast, airports that are government-owned and operated or are operated by a related governmental agency (e.g. an airport authority) are covered by a separate rating methodology - Airports with Unregulated Rate Setting, July 2011. The publicly-owned and operated model differs fundamentally from that of privately managed airports. In the former, airports do not have a profit maximisation motive but are operated for the public benefit of the municipal entity or entities that own them, and finance is only raised to meet expenditure required to fulfil the airport's development needs. Publicly-owned and operated airports typically benefit from an unfettered ability to set charges and fees in order to cover, on a sum-sufficient basis, current expected costs for both operations and maintenance (O&M) and debt service. To date, this model has been primarily used in the US and Canada.

For privately managed airports, which have a profit maximisation motive, there is a stronger relationship between credit strength and observed financial ratios. In the government-operated sector, this relationship

[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. In the case of Government-Related Issuers, we use the Baseline Credit Assessment (BCA), which is an indicator for the issuer's standalone intrinsic credit strength, absent extraordinary government support that could avoid a default. Individual debt instrument ratings also factor in decisions on notching for seniority level and collateral. Related documents that provide additional insight in this area are the rating methodologies "Loss Given Default for Speculative Grade Non-Financial Companies in the U.S., Canada and EMEA", published June 2009, and "Updated Summary Guidance for Notching Bonds, Preferred Stocks and Hybrid Securities of Corporate Issuers", published February 2007.

may be weaker since credit quality may hinge more on the ability and willingness to raise rates than on realised surpluses in prior fiscal rates that are carried forward.

This methodology is applied to single-asset operators and to companies operating a number of different airports. It also encompasses different types of financing used for privately managed airport assets, i.e. corporate and project finance.

Moody's currently rates 24 airport companies covered by this methodology, with aggregate debt of approximately $56 billion. The airport operators included in this methodology represent a diverse group of issuers differentiated by scale, market position and geographic service area. The airports rated under this methodology range from issuers that operate all the international airports of a large sovereign nation through to issuers that operate a small regional airport. Service areas correspondingly range from very large to relatively small. Nevertheless, in most cases, the airports managed by such issuers would be considered essential assets within the economic areas which they serve. Airports may be in competition with other airports or (to a lesser extent) other modes of transport, but the largest airports and systems serving major economic areas will have a strong element of monopoly power. Airport operators generally exhibit relatively low business risk compared to the broader universe of non-financial corporate issuers. This relatively low business risk is generally coupled with high leverage that often stems from significant capital expenditure to accommodate passenger growth and the optimisation of the capital structure to reduce the cost of capital.

Consequently, the majority of issuers rated under this methodology (83%) are investment-grade, while 17% are speculative grade. Although the ratings range from A1 to Caa1, the majority of issuers included in this methodology (67%) have low investment grade ratings in the Baa category, reflecting the high leverage typically used to finance the entity.

Credit quality in the sector also varies between regions and is affected by the economic health and activity of a service area. The greatest concentration by number of issuers is in Europe (46% of all issuers). Approximately 79% of issuers have a stable outlook, 8% have a negative outlook and 13% have a positive rating outlook.

The following table illustrates the distribution of ratings in the privately managed airports industry.

EXHIBIT 1

Privately Managed Airports Industry

Company Name	Rating/BCA (if applicable)	Outlook	Domicile
Aeroporti di Roma S.p.A.	Baa2	Positive	Italy
Romulus Finance s.r.l. *	Baa1	Positive	Italy
Aeropuertos Argentina 2000 S.A.	Caa1	Stable	Argentina
Aeropuertos Dominicanos Siglo XXI, S.A.	B1	Stable	Dominican Republic
Aerostar Airport Holdings, LLC	Ba2	Negative	Puerto Rico
Airports Company South Africa SOC Ltd	baa3	Stable	South Africa
Australia Pacific Airports (Melbourne) Pty Ltd	A3	Stable	Australia
Avinor AS	a3	Stable	Norway
Birmingham Airport (Finance) Plc	Baa1	Stable	United Kingdom
Brisbane Airport Corporation Pty Limited	Baa2	Stable	Australia
Brussels Airport Company NV/SA	baa1	Stable	Belgium

EXHIBIT 1

Privately Managed Airports Industry

Company Name	Rating/BCA (if applicable)	Outlook	Domicile
Cesky Aeroholding, a.s.	baa1	Negative	Czech Republic
Copenhagen Airports A/S	baa2	Stable	Denmark
Copenhagen Airports Denmark ApS **	Baa3	Stable	Denmark
Heathrow Finance plc	Ba1	Stable	United Kingdom
JFK International Air Terminal LLC	Baa3	Stable	United States
JFK Terminal One Group	A3	Stable	United States
Malaysia Airports Holdings Berhad	baa1	Positive	Malaysia
Manchester Airport Group Funding Plc	Baa1	Stable	United Kingdom
N.V. Luchthaven Schiphol	a3	Stable	Netherlands
New Terminal Financing Company Pty Limited	Baa2	Stable	Australia
Perth Airport Pty Ltd	Baa2	Stable	Australia
Princess Juliana Intl Airport Op Company N.V.	baa3	Stable	St. Maarten
Sydney Airport Finance Company Pty Ltd	Baa2	Stable	Australia

Ratings and outlooks are as of December 19, 2014

The illustrative mapping examples in Appendix B exclude issuers whose ratings are significantly affected by their location in a low rated domicile.

* Romulus Finance s.r.l. is a financing conduit of Aeroporti di Roma S.p.A. Whilst Aeroporti di Roma S.p.A.'s rating is a senior unsecured rating, Romulus Finance s.r.l.'s is a senior secured rating.

** Copenhagen Airports Denmark ApS is the majority-owner of Copenhagen Airports A/S.

About This Rating Methodology

This report explains the rating methodology for privately managed airports in seven sections, which are summarised as follows:

1. Identification and Discussion of the Grid Factors

The grid in this rating methodology focuses on seven rating factors. The first six factors are comprised of sub-factors that provide further detail. The seventh factor is used to make notching adjustments for structural considerations, which are usually only meaningful for project finance entities.

EXHIBIT 2
Privately Managed Airports Grid

Broad Factor	Factor Weighting	Sub-Factor	Sub-Factor Weighting
1. Concession and Regulatory Framework	15%	Ability to Increase Tariffs	10%
		Nature of Ownership / Control	5%
2. Market Position	15%	Size of Service Area	5%
		Economic Strength and Diversity of Service Area	5%
		Competition for Travel	5%
3. Service Offering	15%	Passenger Mix	5%
		Stability of Traffic Performance	5%
		Carrier Base	5%
4. Capacity and Capital	5%	Ability to Accommodate Expected Traffic Growth	5%
5. Financial Policy	10%	Financial Policy	10%
6. Leverage and Coverage	40%	(FFO + Cash Interest Expense) / (Cash Interest Expense)	10%
		FFO / Debt	10%
		Moody's Debt Service Coverage Ratio	15%
		RCF / Debt	5%
Total	**100%**	Total	**100%**

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 historical data (in most cases, the last twelve months of reported results) in this document to illustrate the application of the rating grid. 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.

For definitions of Moody's most common ratio terms, please see Moody's Basic Definitions for Credit Statistics, User's Guide (June 2011). For a description of Moody's standard adjustments, please see Moody's Approach to Global Standard Adjustments in the Analysis of Financial Statements for Non-Financial

Corporations (December 2010). These documents can be found at www.moodys.com under the Research and Ratings directory.

In most cases, the illustrative examples in this document use historic financial data from a recent 12 month period with Moody's standard adjustments. 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 historical and expected future performance for periods of several years or more.

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, or Caa).

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

In Appendix B, we provide a table showing how each public company maps to grid-indicated ratings for each sub-factor and factor. 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	Ca
1	3	6	9	12	15	18	20

A further weighting is then 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 in this grid because a serious weakness in one area often cannot be completely offset by strength in another. For example, the lack of flexibility normally associated with a high degree of leverage can increase risk more than would be reflected without the additional weighting for a speculative grade score on this measure.

The mapping exercise outlined above produces a final distribution of weights by rating category. These weights are then multiplied by a number which relates to a numeric value of the respective rating category 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.

Grid-Indicated Rating

Grid-Indicated Rating	Aggregate Weighted Total Factor 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	x ≥ 19.5

For example, an issuer with a composite weighted factor score of 8.7 for factors 1-6 would have a Baa2 preliminary grid-indicated rating.

We apply a seventh factor called "Uplift for Structural Considerations" to the preliminary grid indicated rating score that results from factors 1-6, in order to arrive at a final grid-indicated rating. Factor 7 can result in upward notching for issuers based on structural enhancements in financing arrangements, which are mainly relevant for project financings.

We used a similar procedure with all seven 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, as well as a discussion of the key rating considerations in assessing the credit quality of air traffic control providers.

Factor 1: Concession and Regulatory Framework (15% Weight)

Why it Matters

The extent to which an airport operator is free to raise or modify its aeronautical charges and its ability to manage key airport assets without constraint are critical elements in determining the credit rating of an airport.

Given the relatively scarce nature of airport sites and the significant environmental and political hurdles needed to be overcome to create new ones, all airports are likely to have some element of monopoly power. As a consequence, many airports are subject to a framework of regulation that oversees/determines the level and structure of the fees that they can charge. In practice, the spectrum of an airport's ability to set aviation charges varies from having complete discretion, through being required to set charges in accordance with an established, consistently applied framework of economic regulation, to facing considerable pressure from political agents to limit fee increases or to reduce charges, thereby creating unpredictability of airport revenues. Complete freedom to set charges provides an airport with significant current and future financial flexibility, whilst increasing degrees of price control have an incrementally more constraining impact on financial flexibility.

The length of time an airport operator has to enjoy the revenue earning capacity of key airport assets, as well as its ability to manage and, if necessary, sell these assets without constraint are key determinants of an issuer's operational and capital flexibility over the longer term. The nature of the ownership and/or rights of use of an airport's assets can vary from full ownership and control of all or at least all key assets, through some form of concession arrangement, to a lease or licence arrangement that may be terminated relatively easily by the grantor.

How We Assess it For the Grid

In assessing the concession and regulatory framework, we look at the following two Sub-factors:

» Ability to Increase Tariffs

» Nature of Ownership / Control

Ability to Increase Tariffs

Our assessment focuses primarily on the ability of the airport operator to increase tariffs. The greater the extent to which the decision lies with the operator, the higher the potential flexibility afforded to the issuer to exert its market power and achieve above average returns, typically leading to higher sub-factor scoring.

Whilst an operator may be nominally entitled to change tariffs, the actual ability to increase tariffs may be untested or constrained by other market forces, such as the airlines' bargaining power.

In many cases, airports are subject to regulation. There may be an established framework of economic regulation that has proven to be transparent and provides for a consistent approach to setting rates. A good regulatory framework does not mean that charges would always be permitted to rise, but rather that they would be set fairly in relation to the issuer's costs and other revenues, and give rise to a fair return on capital employed. Other frameworks may be similar, but may lack a track record of implementation upon which to judge their effectiveness in practice. Government-owned airports may also face regulation of their fees and charges by a separate governmental entity. In some cases, this may lead to less transparency in the process than typically occurs in the regulation of private sector companies, even when rates are set at a fair level.

Finally, and irrespective of the rate setting arrangements, an issuer's ability to increase tariffs may be impaired by political interference, and a strong likelihood of delays or blockages in implementation of tariff changes typically leads to a low score in this sub-factor.

Nature of Ownership / Control

We assess the issuer's rights, as conveyed through ownership or legal arrangements, to operate the airport, and the period of time that the arrangements will last. An airport that owns critical assets, can operate them without impediment, and has full rights of disposal and/or redevelopment will typically have a high score in this sub-factor. If key assets are not owned outright, we assess the nature and term of the issuer's lease or concession, risks of termination and non-renewal, and whether third parties control significant aviation assets that could constrain the issuer's ability to manage its operations and future growth. When the remaining life of an issuer's right to profit from the use of the airport assets is short and therefore limits its ability to repay or refinance its debt obligations, or when there is a material risk of lease termination, the issuer will likely score very low in this sub-factor.

FACTOR 1

Concession and Regulatory Framework (15%)

Sub-Factor	Sub-factor Weight	Aaa	Aa	A	Baa	Ba	B	Caa
Ability to Increase Tariffs	10%	Operator is entitled to adjust tariffs freely; and Operator has a successful track record (>15 years), which is expected to continue, of implementing tariff increases in order to generate above average returns; and No contractual or commercial impediments to raise charges in the short term	Operator is entitled to adjust tariffs freely; and Operator has a successful track record (>10 years), which is expected to continue, of implementing tariff increases in order to generate sufficient or average returns; and No contractual or commercial impediments to raise charges in the short term	Established and transparent framework of economic regulation (>10 years) allowing a fair return on invested capital or Operator is entitled to adjust tariffs freely but: (i) The operator has a limited track record of implementing tariff increases in order to generate sufficient or average returns; or (ii) The ability of the operator to raise charges is limited in the short term by the existence of multiannual contracts with airlines or an evenly-matched bargaining power between the airport and the airlines	Framework of economic regulation or government rate setting which is expected to allow a fair return on invested capital but which is somewhat untested or unclear in its application or Operator is entitled to adjust tariffs freely but: (i) The operator has a limited track record of implementing tariff increases in order to generate sufficient or average returns; and (ii) The ability of the operator to raise charges is limited in the short term by the existence of multiannual contracts with airlines, an evenly-matched bargaining power between the airport and the airlines, or the possible recourse to an existing framework of economic regulation if proposed increases are not accepted by airlines	Framework of economic regulation or government rate setting which may allow a fair return on invested capital but which places the entity in a position that it needs a material increase in revenues from growth in volume or other revenue sources to maintain a reasonable financial balance or Operator is entitled to adjust tariffs freely but: (i)The operator has a limited track record of implementing tariff increases in order to generate sufficient or average returns; and (ii) The ability of the operator to raise charges is limited in the short and medium term by the existence of long multiannual contracts with airlines, a bargaining power tilted towards the airlines, or the threat of regulation / intervention if increases are perceived as excessive	Charges are set by government or third party agency on an arbitrary basis and not necessarily in line with fair investment criteria or Whilst operator is legally entitled to adjust tariffs, there is a history and expectation of Government or third party interference in tariff setting	There is a history or expectation of Government or other third party intervention to impose reductions in charges or consistently deny increases in charges, in either case with an expected result of a material detrimental impact on the entity's financial position

FACTOR 1
Concession and Regulatory Framework (15%)

Sub-Factor	Sub-factor Weight	Aaa	Aa	A	Baa	Ba	B	Caa
Nature of Ownership / Control	5%	All key airport assets held outright in perpetuity and controlled by airport management	All key airport assets controlled by airport management and held under a long term concession agreement with very limited grantor termination rights	All key airport assets controlled by airport management and held under a medium to long term concession agreement with limited grantor termination rights (e.g. for insolvency only)	All key airport assets controlled by airport management and held under a medium to long term concession agreement with grantor termination rights for under-performance, failure to meet certain financial parameters, or similar triggers	Certain key assets held and managed by third parties (e.g. airport terminals, gates etc.), while other assets are held by the issuer in perpetuity, or controlled by the issuer under medium to long term leases or concession agreements	Key assets managed by the issuer are held under leases, concessions or license type arrangements with a limited remaining life	The airport is close to a breach under a material lease or concession arrangement that may lead to the termination of that contract

Factor 2: Market Position (15% Weight)

Why it Matters

An airport's relative competitiveness for air traffic in its market, competition from other modes of transport, the size, economic base and other fundamental characteristics of the market it serves, as well as the stability and growth prospects of that market can vary meaningfully from issuer to issuer and are critical aspects of the airport's credit profile. Strong, stable demand for air travel is closely associated with the population size of the market served and its level of wealth. A vibrant local economy with a growing population and strong employment trends is an important characteristic in generating air travel demand. An airport that has a monopoly or dominant market position in a large, populous geographical area has a reduced risk of operational and financial volatility compared to an airport that must compete with similar or larger airports for the air service of a population. International gateway airports in particular may be somewhat more insulated from the impact of regional, or even national economic downturns because they operate in a more global market and typically also benefit from substantial origin and destination (O&D) passenger market. The volume of passengers, both connecting and O&D, provides a strong incentive for air carriers to serve international gateways with consistent and attractive service offerings.

How We Assess it For the Grid

In assessing the market position of an issuer, we look at the following three sub-factors:

» Size of Service Area

» Economic Strength and Diversity of Service Area

» Competition for Travel

Size of Service Area

We assess the population size of the market area an airport serves as well as its scope – national, major metropolitan area, or smaller urban area/region.

Obtaining the population size of a defined region is usually fairly straight forward as such information is readily available from government sources. However, the assessment of the geographical area served is less clear-cut. For an issuer that provides all of the main commercial airport service in a country, the determination of population size is simple, but for major airports within a country, the service area may be

larger than is evident simply from the population size of the city that the airport serves directly (for example a gateway international airport). Conversely, the service areas of two regional airports may have some overlap. Ultimately, scoring may require an element of estimation based on available population and traffic data. To the extent that an area is served by more than one airport, it will affect not only the assessment of the relevant population size, but also the scoring of the Competition for Travel sub-factor.

Economic Strength and Diversity of Service Area

In scoring this sub-factor, we assess the size, diversity and robustness of the service area. We consider the size and growth rate of the service area economy, the impact that economic cycles or shocks may have on air travel, and the diversity of the area's industries in order to assess the impact weakness in a single sector may have on the area economy and on the demand for air service.

Airports in large cities that serve as international gateways for an economically well-developed and diversified country tend to have a very strong market position, including direct access to major international destinations and an extensive network of domestic connections, and thus typically have a high score in this sub-factor. A large city in a developing economy heavily dependent on oil revenues would typically be scored lower than the same sized city in a highly developed and diverse economy. Small, undeveloped service areas highly dependent on a single, cyclical industry usually have low scores in this sub-factor.

Competition for Travel

For this sub-factor, we consider an airport's proximity to competing airports or other transportation modes and its market position relative to those facilities. When there are multiple airports in a region and when data is available, we assess an airport's market share by passenger volumes. Airports with very high market shares (typically in excess of 85%) are generally considered to have a dominant position within their air travel market[3]. The judgement as to whether modal competition is material typically depends on an airport's route network (e.g. long-haul versus short-haul) and the nature and state of local transport alternatives. For the sake of simplicity, the lower end of the grid focuses solely on air travel competition, because markets large enough to attract multiple airports typically have sufficient demand for multiple modes of transport. Nonetheless, our ratings consider all forms of competition that an airport may face.

An airport that has a monopoly or dominant market position in a given market would have a reduced risk of operational and financial volatility and would thus score higher than an airport that must compete with similar or larger airports for the air service of a population. Whilst the vast majority of rated airports currently have a dominant position in their immediate metropolitan area, the outer edges of their service areas tend to overlap with the service areas of other, similar airports. In some cases two or more airports can serve one large, metropolitan area successfully, provided there is sufficient demand for service or the different airports segment the market in some way (e.g. one airport can serve as an international gateway and major connecting hub, whilst other, smaller airports can focus on servicing short haul leisure passengers and provide greater geographical convenience to certain portions of the metropolitan area). Their respective market positions are considered for scoring this sub-factor.

Airports also compete with other means of transport. Given the relatively small number of airports within any given region, air travel will generally not be competitive with road or rail traffic for distances under about 250-300 km (other than in nations with an under-developed or poorly maintained road and/or rail network).

[3] The revenue base of most rated airports primarily relates to passenger travel. When pertinent, we also consider the market position of air cargo.

Rail services can be competitive with air travel for long-distance travel times of under about 2½ to 3 hours. This is more common in regions of the world with fairly concentrated populations and well developed rail networks, such as Europe and Japan. The competition from rail is likely to be more intense where high speed rail services have been established, good examples being the Japanese Shinkansen network, the French TGV and the cross-English Channel high speed rail services. As Europe and parts of Asia (notably China) have active high speed rail building programmes, competition for services may increase for certain airports in the future. Clearly, for very long distance travel (such as intercontinental trips) air travel is the only viable solution for most travelers. An airport would typically have a fairly wide route network and it would unlikely be exposed to rail travel on the majority of its route network.

FACTOR 2
Market Position (15%)

Sub-Factor	Sub-factor Weight	Aaa	Aa	A	Baa	Ba	B	Caa
Size of Service Area	5%	Network of airports that serves the entire needs of a large sovereign state	Serves major metropolitan area or region of over 5m people	Serves major metropolitan area or region of between 1.5m and 5m people	Serves significant urban area or region of between 0.5m and 1.5m people	Serves an urban area or region of between 0.25m and 0.5m people	Serves an urban area or region of between 0.1m and 0.25m people	Serves an urban area or region of less than 0.1m people
Economic Strength & Diversity of Service Area	5%	Serves a large international gateway city with a highly diversified economy with solid historical and projected growth (e.g. a capital city of a G7 country)	Serves a large city or region with a strong and well diversified economic base with solid growth (e.g. major city in a large country or a capital city of a mid-sized European nation)	Serves a city or region with a developed and reasonably diversified economic base (e.g. regional city in a large country or a capital city of a smaller European nation)	Serves a city or region with a good economic base but subject to some industry concentration (e.g. a tourist region in an advanced economy)	Serves a small city or region, or a city or region with an evolving economy currently at a low base or with heavy industry concentration and hence susceptible to volatility	Serves a city or region with a weak or deteriorating economic base and very little diversification (e.g. a small island nation dependent on tourism)	Serves a city or region with a poor economic base with constrained recovery prospects and limited diversification
Competition for Travel	5%	Has a virtual monopoly with no reasonable alternatives	Has a monopoly of air travel within its geographical area but exposed to material competition from other modes of transport or Has dominant position (typically in excess of 85%) for providing air travel within its geographical area with limited competition from weaker airports and no material competition from other modes of transport	Has a dominant position for providing air travel within its geographical area with limited competition from weaker airports but exposed to material competition from other modes of transport	Has a majority of air travel market within its geographical area but exposed to substantial competition within its geographical area	Has a minority of air travel market within its geographical area but not dominated by other airport providers	Has a minority of air travel market within its geographical area and is dominated by a competitor	Offers no substantial competitive air service or Has a rapidly shrinking minority share within its geographical area

Factor 3: Service Offering (15% weight)

Why it Matters

Airports primarily generate revenues from the airlines that use their facilities and from those airlines' passengers. The attractiveness of an airport to airlines and the scope and stability of service offerings for passengers are a critically important factor in determining an airport's creditworthiness.

How We Assess it For The Grid

In assessing the service offering of an issuer, we look at the following three sub-factors:

» Passenger Mix

» Stability of Traffic Performance

» Carrier Base

There are two main types of airports, O&D airports and hub airports (see definitions below), and these sub-factors incorporate the impact of the airport type on stability of traffic. An airport primarily serving passengers who have a need to travel to or from the geographic area served by the airport (called origin and destination or "O&D" traffic), is an O&D airport. Some airports host one or more airlines whose business model includes a comprehensive route network that concentrates air service from multiple cities (also called "feeder" traffic) to a single, reasonably central airport (the "hub airport") as a more cost-effective way to provide service than a point-to-point route network. Typically, at least 20% of a hub airport's passenger traffic is comprised of transfer passengers, but we may also consider other factors, including the revenue derived from these passengers.

Hub airports have certain advantages, including more passengers and the ability to draw passengers from a larger geographic area, due to more robust service offerings. However, passengers can quickly be lost if the airline chooses to change its operating patterns or if the airline fails. A hub airport that has incurred significant debt to finance a terminal with capacity to serve transiting passengers may be vulnerable if it is "de- hubbed", i.e. its anchor airline stops providing service or moves its hub to another airport, leading to a dramatic decrease in passenger volumes[4]. Such collapses of traffic may be somewhat temporary (i.e. a high proportion of the natural transfer traffic within a nation may be picked up by another airline) or more permanent if the departing airline had been aggressive in capturing more distant transfer traffic. That part of an airport's revenue that is derived from transfer traffic is generally considered more at risk than revenue generated from O&D traffic, and airports with a higher proportion of O&D traffic tend to have a more resilient traffic profile.

Passenger Mix

For this sub-factor, we assess the share of origin and destination traffic as a percentage of total traffic. An airport's passenger mix provides an indication of its susceptibility to loss of connecting or transfer traffic.

Stability of Traffic Performance

For this sub-factor we consider historical passenger traffic information as a tool to assess the likely future traffic performance. As part of our assessment, we generally look at the historical standard deviation of the annual year on year growth rates of passenger traffic over a number of consecutive years (typically ten years or more). Generally, the longer the track record of stable and predictable passenger traffic, the more comfort we derive from traffic projections that remain in line with this track record. However, when traffic performance is expected to show increased volatility, for instance during periods of economic or political

[4] Examples include Brussels Airport after the collapse of Sabena, and Zurich Airport after the collapse of the original Swiss Air

upheaval, in the aftermath of a disruptive event (e.g. air space closures after volcanic eruptions) or following the introduction of stricter, more cumbersome security measures to deter or prevent security threats, historical data may be less useful in scoring this sub-factor.

Carrier Base

For this sub-Factor, we assess the airport's exposure to the risks associated with the profile of the airlines operating at the airport, including their diversity or concentration and their credit profiles.

For hub airports there is almost always a meaningful concentration in one airline; thus, for simplicity, the scoring focuses on the main airline's credit profile and share of transit passengers as the main drivers of risk. However, if an airport were materially exposed to de-hubbing by a financially healthy airline, the issuer's final rating would reflect that risk.

For O&D airports, we assess the diversity of the airlines measured by their respective shares of passenger traffic. There are many benefits from diversity, including reduced dependence on a single airline for passenger traffic and gate fee revenues and reduced risk of a sharp decrease in traffic should an airline discontinue service or go out of business. Furthermore, a market place with substantial service from many airlines typically indicates the strength of the market, and a crowded marketplace prevents a single carrier from using market power to drive up airfares and suppress passenger traffic.

FACTOR 3
Service Offering (15%)

Sub-Factor	Sub-factor Weight	Aaa	Aa	A	Baa	Ba	B	Caa
Passenger Mix	5%	Share of origin and destination (O&D) passengers is greater than 95%	Share of O&D passengers is between 80% and 95%	Share of O&D passengers is between 70% and 80%	Share of O&D passengers is between 60% and 70%	Share of O&D passengers is between 50% to 60%	Share of O&D passengers is between 40% to 50%	Share of O&D passengers is less than 40%
Stability of traffic performance	5%	Long track record (>10 years) of traffic performance with minimal volatility and no history of negative shocks (e.g. standard deviation of long term passenger growth < 2%); and observed volatility trends are expected to continue	Long track record of traffic performance with very low volatility and quick recovery from any negative shocks (e.g. standard deviation of long term passenger growth < 4%); and observed volatility trends are expected to continue	Long track record of traffic performance with low volatility (e.g. standard deviation of long term passenger growth < 6%); and observed volatility trends are expected to continue	Long track record of traffic performance with moderate volatility (e.g. standard deviation of long term passenger growth < 8%); and observed volatility trends are expected to continue	Long track record of traffic performance with substantial volatility (e.g. standard deviation of long term passenger growth < 10%) or Future traffic performance is expected to show substantial volatility	Highly volatile traffic performance record (e.g. standard deviation of long term passenger growth > 10%) or Future traffic performance is expected to be highly volatile	No historical data or start up airport or Data of questionable quality
Carrier base (hub airports)	5%	Primary carrier has credit profile of Ba or above and captures less than 50% of total transfer traffic	Primary carrier has credit profile of Ba or above and captures between 50% and 75% of total transfer traffic	Primary carrier has credit profile of B or below and captures less than 50% of total transfer traffic	Primary carrier has credit profile of Ba or above and captures more than 75% of total transfer traffic	Primary carrier has credit profile of B or below and captures between 50% and 75% of total transfer traffic	Primary carrier has credit profile of B or below and captures more than 75% of total transfer traffic	Primary carrier is expected to cease operations in the near future
Carrier base (O&D airports)		Passenger traffic is diversified across a wide spectrum of domestic and international carriers with no carrier accounting for more than 10% of total passenger traffic	Primary carrier accounts for between 10% and 20% of total passenger traffic; remaining passenger traffic is spread out across a spectrum of domestic and international carriers	Primary carrier accounts for between 20% and 40% of total passenger traffic; remaining passenger traffic is well diversified across a number of other airlines	Primary carrier accounts for between 40% and 55% of total passenger traffic; remaining passenger traffic is diversified across a number of carriers	Primary carrier accounts for between 55% and 75% of total passenger traffic; remaining passenger traffic is spread out across a limited number of other carriers	Primary carrier accounts for between 75% and 90% of total passenger traffic; limited service from a number of other carriers	Primary carrier accounts for more than 90% of total passenger traffic

Factor 4: Capacity and Capital (5% weight)

Why it Matters

Given the secular trend of global air travel growth and travelers' increasing expectations regarding airport amenities, most airports will be required to undertake capacity increases or significant renovation projects at some point in the future. Customer service can suffer if an airport does not have the necessary capacity to accommodate passenger growth. Whether the capacity is limited for airline operations, parking, terminal facilities or curbside access, such limitations can discourage airlines from continuing service at that airport and can cause significant political pressure. These major capital projects can be very costly and complex in nature, especially if they need to overcome particularly challenging physical conditions or accommodate other external constraints to construction and/or expansion. As a result, capacity and capital can have a material impact on an airport's credit profile.

How We Assess it For The Grid

For this sub-factor, we assess the extent to which an airport's capacity can accommodate growth over the next five to ten years without requiring significant capital investment. We also consider the complexity of any capital plans that would be required to add necessary capacity, as well as the issuer's track record in managing such plans and delivering projects on time and within budget. Growth can also be constrained by government-imposed regulations on operations. Such restrictions may include limits on traffic movements, night time flying, transport access to the airport, and restrictions on additional land access. These limits may reduce the airport's ability to effectively serve the needs of the community and, therefore, reduce its economic value.

In assessing project management capabilities of the issuer, we assess the full life cycle of the process. Effective capital planning is one of the most important of management's responsibilities, because excessive capital spending is one of the most common causes for credit deterioration in the airport sector. A strong strategic, long-term vision for the airport would include a comprehensive plan for what facilities will be needed and how they can be provided in a cost effective manner, given the many constraints airports face. Flexibility of the plan to adapt to changing growth trends is a key element because so many aspects of the industry change over time and most major capital projects take five to ten years from planning to completion. Most highly rated airports strategically manage facility expansion and renovation to accommodate passenger growth and expectations regarding the airport environment, whilst retaining sufficient flexibility to provide for volatility in that expected growth. Airport capital projects tend to occur at discreet points, but they accommodate growth that occurs more gradually, so effective planning is key as major capital projects are often difficult to stop or change in scope once they have begun.

Project construction risk often stems from complexity, scope changes between design and completion, outdated or inaccurate cost estimates, material or labour cost escalations, poor contracting/bidding procedures, contractor management/oversight issues, environmental compliance, or community concerns. We evaluate both the complexity of the capital programme and the airport's management experience and performance on recent projects of similar complexity.

FACTOR 4
Capacity and Capital (5%)

Sub-Factor	Sub-factor Weight	Aaa	Aa	A	Baa	Ba	B	Caa
Ability to accommodate expected traffic growth	5%	Ability to accommodate expected future growth is unconstrained and No expansion capex required (maintenance capex only)	Ability to accommodate expected growth is unconstrained in the near and medium term; Accommodation of long-term growth requires moderate, standard capital improvements and The entity has a long history of delivering projects on budget and on time	Accommodation of mid-term growth requires moderate, standard capital improvements; Accommodation of long-term growth may require significant capital investment or lifting of externally imposed operational restrictions. and Project complexity is similar to projects the entity has completed on budget and on time in the past	Accommodation of near to mid-term growth requires significant capital investment or lifting of externally imposed operational restrictions and Project complexity is typically similar to projects the entity has completed on budget and on time in the past	Government action or settlement agreement and/or physical limitations and/or obsolescence of key assets restrict growth or Projects required to address limitations to accommodate growth are fairly complex relative to projects completed by the entity in the past	Government action or settlement agreement and/or physical limitations and/or obsolescence of key assets severely restrict growth or Projects required to address limitations to accommodate growth are very complex relative to projects completed by the entity in the past and/or the entity has a history of significant cost overruns and poor project management	Operational restrictions and/or obsolescence of key assets make it difficult to sustain current levels of operations

Factor 5: Financial Policy (10% Weight)

Why it Matters

Management and board tolerance for financial risk is a rating determinant as it directly affects debt levels, credit quality, and the risk of adverse changes in financing and capital structure.

Our assessment of financial policies includes the perceived tolerance of a company's governing board and management for financial risk and the future direction for the company's capital structure. Considerations include a company's public commitments in this area, its track record for adhering to commitments, and our views on the ability for the company to achieve its targets.

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 a company that has built flexibility within its rating category if we believe the company will use that flexibility to fund a strategic acquisition, distribute significant cash to shareholders, or conduct a 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.

How We Assess it For The Grid

Financial Policy

Moody's assesses the issuer's desired capital structure or targeted credit profile, history of prior actions and adherence to its commitments. Attention is paid to management's operating performance and use of cash flow through different phases of economic 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, and regulatory pressures.

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

The financial policy of airport operators with project financings typically includes the distribution of all excess cash flow, which reflects their single-purpose nature and has typically led to a Ba score for this sub-factor, although issuers with long and consistent track records of prudent financial policies may be scored higher on this factor. While most if not all airport project financing structures set limits on shareholders' ability to extract excessive returns or to make acquisitions, these and other structural enhancements that may be key to credit quality are assessed as a notching adjustment to the initial grid score in a separate factor, Uplift for Structural Considerations. Hence, these considerations are not evaluated under this factor to avoid double counting.

FACTOR 5
Financial Policy (10%)

Sub-Factor	Sub-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/or 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 6: Leverage and Coverage (40% Weight)

Why it Matters

The first five rating factors aim to capture the credit strengths and weaknesses afforded by the airport operator's fundamental business and its financial policies. An issuer's overall credit profile also incorporates its financial profile. All other things being equal, an issuer with substantially more debt than its peers relative to its cash flow will typically have a higher probability of default.

For the grid, we utilise metrics that indicate the absolute capacity of the issuer to service its debt and permit comparison of the size of its debt burden relative to its peers. Leverage and coverage ratios in this sector need to take into account the fact that the issuer may have an asset with a limited economic life such as a concession or lease of fixed duration. While scoring of metrics presented in Appendix B is based on recent 12 month historical financials, ratings in this sector typically consider a combination of historical ratios and our forward-looking estimates, taking into account the remaining life of the concession/lease, or the implied perpetual concession in the cases of assets owned outright.

How We Assess It For The Grid

To score this factor in the grid, we use four financial ratios:

» Cash Interest Coverage: (FFO + Cash Interest Expense[5]) / (Cash Interest Expense)

[5] Cash Interest Expense = Interest Expense – Non Cash Accretion. For issuers that use unconventional debt funding, such as zero-coupon, capital accretion, index-linked bonds or swap arrangements, we seek to make the appropriate adjustments to the ratio calculations by removing the non-cash expense element. For clarity, Non-Cash Accretion is deducted in the numerator only to the extent it has been added to FFO, and it is deducted from the denominator only to the extent that it has been included in Interest Expense

» Funds from Operations (FFO) / Debt

» Moody's Debt Service Coverage Ratio ("Moody's DSCR")[6]

» Retained Cash Flow (RCF) / Debt

However, no single financial ratio can adequately convey the relative credit strength of these highly diverse companies. Our ratings consider the overall financial strength of a company, and in individual cases other financial indicators may also play an important role.

Cash Interest Coverage:

The cash interest coverage ratio is an indicator of an airport's ability to cover the cost of its borrowed capital. The numerator is Funds from Operations plus Cash Interest Expense, and the denominator is Cash Interest Expense. The calculation of Cash Interest Coverage utilises cash interest rather than accrued interest in order to improve comparability among peers of the financial flexibility that an operator has in meeting interest payments due on its debt in this sector, where some issuers have material non-traditional financings.

Funds from Operation (FFO) / Debt:

This metric is an indicator for the cash generating ability of an airport operator compared to its total debt and provides information about the size of an issuer's debt relative to that of its peers[7]. The numerator is Funds from Operations, as defined above, and the denominator is Total Debt.

Moody's Debt Service Coverage Ratio (DSCR):

This ratio is a coverage ratio that aims to measure the amount of "headroom" afforded by the issuer's cash flows in servicing and ultimately repaying its debt burden, capturing the limited life of an issuer's cash-generating concession/lease.

The numerator is FFO, as defined above, plus Cash Interest Expense, and the denominator is Debt Service Annuity, where:

» Debt Service Annuity, refers to the annuity-type payment of interest and principal required to repay outstanding debt over the remaining life of the concession / lease, or implied perpetual concession in the cases of assets held in perpetuity. Debt Service Annuity is calculated using a standard formula that converts a present value ("PV") into an annuity payment with no residual value at maturity. In other words, we assume that: (1) annual debt service is a constant figure, (2) interest rates (the discount rate[8] used in the formula) are constant, and (3) the full amount of debt outstanding in the year of calculation (i.e. the PV of future payments) is paid down to zero over the remaining life of the concession.[9]

» Debt Service Annuity is calculated with the following formula: ((ST Debt + LT Debt, gross) x Discount Rate)) / (1 – (1/(1 + Discount Rate)$^{\text{remaining concession life}}$))

This ratio is forward-looking in the sense that the denominator does not capture the actual debt service (interest plus principal due) reported by the issuer for an historical period, but defines debt service as an

6 As outlined below this metric is not equivalent to a Debt Service Coverage Ratio as typically defined in a project finance debt structure

7 We use a measure of total (gross) debt for scoring this sub-factor, as operational airports do not typically carry large cash balances. However, analysts may find it analytically useful to also consider FFO / Net Debt when the track record of the issuer indicates material cash balances are held as part of pre-funding strategies, and this may be reflected in ratings.

8 The discount rate used is typically either (1) the company's actual future cost of debt, if the issuer has largely fixed the interest payable on its debt over the whole life of its concession / lease, or (2) an estimation for the long-term average cost of debt for the issuer's rating category.

9 Where an airport company holds its assets in perpetuity, we calculate the ratio based on a constant concession life of 100 years. Where the company holds a number of concessions with different maturities, we use a weighted-average remaining concession life

assumed annuity – as such, this ratio aims to capture the issuer's ability to service more "normalised" debt obligations, i.e. how debt repayment obligations would manifest themselves on average over the life of the concession/lease and assuming outstanding debt is fully repaid prior to expiry of the concession/lease.

Retained Cash Flow (RCF) / Debt

This ratio is an indicator of financial leverage as well as an indicator of the strength of an airport's cash flow after dividend payments are made. The higher the level of retained cash flow relative to an airport's debt, the more cash it has to support its capital expenditure program. For issuers with high leverage and complex structured financings, dividend obligations can sometimes be substantial, quasi-permanent outflows that can affect the ability to cover their debt obligations, and this ratio can also provide insight into their financial policies. The numerator of this ratio is FFO, as defined above, minus dividends, and the denominator is total debt.

FACTOR 6
Leverage and Coverage (40%)

Sub-Factor	Sub-factor Weight	Aaa	Aa	A	Baa	Ba	B	Caa
(FFO + Cash Interest Expense) / (Cash Interest Expense)	10%	≥10x	7-10x	4.5-7x	2.5-4.5x	1.8-2.5x	1.5-1.8x	<1.5x
FFO / Debt	10%	≥40%	25-40%	14-25%	8-14%	6-8%	3-6%	<3%
Moody's DSCR[10]	15%	≥8x	6-8x	4.5-6x	3-4.5x	2-3x	1.5-2x	<1.5x
RCF / Debt	5%	≥28%	16-28%	10-16%	6-10%	4-6%	2-4%	<2%

Factor 7: Uplift for Structural Considerations

Issuers covered under this methodology employ different debt structures. Whilst many airport operators may fund themselves with more typical senior unsecured/secured debt instruments, others may have agreed to creditor protection arrangements as a way of mitigating high leverage.

We believe that in the airport sector, structural enhancements may provide valuable protection to debt creditors. As such, they may be a source of rating uplift when compared to those issuers that do not grant such protections. The defined sources of ratings uplift, their potential characteristics, and their measurement, are set out below.

How We Assess It

Our determination of the degree of ratings uplift that debt structural features provide an airport issuer is based primarily on an assessment of the following:

A. Factors that reduce the likelihood that an issuer will default on its debt, 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.

[10] (FFO + Cash Interest Expense) / Debt Service Annuity. Debt Service Annuity is calculated with the following formula: ((ST Debt + LT Debt, gross) x Discount Rate)) / (1 – (1/(1 + Discount Rate)$^{\text{remaining concession life}}$))

A. Factors that reduce the likelihood that an issuer will default on its debt

These comprise:

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 additional obligations 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 amortising 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:

» 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.

» All debt creditors must be subject to common terms that ensure that individual creditors or creditors cannot take unilateral action to destabilise the financing.

» Creditor step-in rights should be specifically permitted under the concession 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 maximise 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, the typical uplift would be 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 very rare cases contractual features may provide greater uplift to the issuer's credit quality than the 3 notches that is the limit within the grid.

Assumptions and Limitations, and Rating Considerations That Are Not Covered in the Grid[11]

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 seven 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 privately managed airport 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 can't 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.

[11] For clarity, while the grid above applies to privately managed airports, this section applies to all issuers rated using this methodology, including air traffic control providers.

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. 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 these are low rated issuers 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 quality of management, corporate governance, financial controls, liquidity management, the impact of other businesses, event risk and seasonality.

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. 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.

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.

Liquidity Management

Liquidity is an important rating consideration for all privately managed airport operators. Liquidity can be particularly important for non-investment grade companies where issuers typically have less operating and financial flexibility. We form an opinion on likely near-term liquidity requirements from the perspective of both sources and uses of cash.

Impact of Other Businesses

This methodology grid is applied to the assessment of issuers, whose primary activity is the operation of airports. Where the company has or will seek to diversify its operations to non-core airport activities[12], we seek to determine the impact of the presence of such business on the overall fundamentals. In particular, investments into businesses that entail higher risk than the core airport business would likely result in a lower rating than the grid-indicated rating.

Event Risk

We also recognise 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 programmes, litigation and shareholder distributions.

Conclusion: Summary of the Grid-Indicated Rating Outcomes

After excluding two issuers whose ratings are significantly affected by their location in a low rated domicile, the illustrative mapping of the 22 issuers results in the following comparison of grid-indicated outcomes to ratings (see appendix B for details):

- 7 companies map to their rating;
- 11 companies have a grid-indicated rating that is one notch from their rating;
- 4 companies have a grid-indicated rating that is two notches from their rating;
- No companies have a grid-indicated rating more than 2 notches from their rating.

[12] In this context, "non-core" activities is not intended to pick up investments in activities that are ancillary to the management and development of the airport sites.

Appendix A: Privately Managed Airports Methodology Factor Grid

	Sub-factor Weight	Aaa	Aa	A	Baa	Ba	B	Caa
Factor 1: Concession and Regulatory Framework (15%)								
Ability to Increase Tariffs	10%	Operator is entitled to adjust tariffs freely; and Operator has a successful track record (>15 years), which is expected to continue, of implementing tariff increases in order to generate above average returns; and No contractual or commercial impediments to raise charges in the short term	Operator is entitled to adjust tariffs freely; and Operator has a successful track record (>10 years), which is expected to continue, of implementing tariff increases in order to generate sufficient or average returns; and No contractual or commercial impediments to raise charges in the short term	Established and transparent framework of economic regulation (>10 years) allowing a fair return on invested capital or Operator is entitled to adjust tariffs freely but: (i) The operator has a limited track record of implementing tariff increases in order to generate sufficient or average returns; or (ii) The ability of the operator to raise charges is limited in the short term by the existence of multiannual contracts with airlines or an evenly-matched bargaining power between the airport and the airlines	Framework of economic regulation or government rate setting which is expected to allow a fair return on invested capital but which is somewhat untested or unclear in its application or Operator is entitled to adjust tariffs freely but: (i) The operator has a limited track record of implementing tariff increases in order to generate sufficient or average returns; and (ii) The ability of the operator to raise charges is limited in the short term by the existence of multiannual contracts with airlines, an evenly-matched bargaining power between the airport and the airlines, or the possible recourse to an existing framework of economic regulation if proposed increases are not accepted by airlines	Framework of economic regulation or government rate setting which may allow a fair return on invested capital but which places the entity in a position that it needs a material increase in revenues from growth in volume or other revenue sources to maintain a reasonable financial balance or Operator is entitled to adjust tariffs freely but: (i)The operator has a limited track record of implementing tariff increases in order to generate sufficient or average returns; and (ii) The ability of the operator to raise charges is limited in the short and medium term by the existence of long multiannual contracts with airlines, a bargaining power tilted towards the airlines, or the threat of regulation / intervention if increases are perceived as excessive	Charges are set by government or third party agency on an arbitrary basis and not necessarily in line with fair investment criteria or Whilst operator is legally entitled to adjust tariffs, there is a history and expectation of Government or third party interference in tariff setting	There is a history or expectation of Government or other third party intervention to impose reductions in charges or consistently deny increases in charges, in either case with an expected result of a material detrimental impact on the entity's financial position

	Sub-factor Weight	Aaa	Aa	A	Baa	Ba	B	Caa
Nature of Ownership / Control	5%	All key airport assets held outright in perpetuity and controlled by airport management	All key airport assets controlled by airport management and held under a long term concession agreement with very limited grantor termination rights	All key airport assets controlled by airport management and held under a medium to long term concession agreement with limited grantor termination rights (e.g. for insolvency only)	All key airport assets controlled by airport management and held under a medium to long term concession agreement with grantor termination rights for under-performance, failure to meet certain financial parameters, or similar triggers	Certain key assets held and managed by third parties (e.g. airport terminals, gates etc.), while other assets are held by the issuer in perpetuity, or controlled by the issuer under medium to long term leases or concession agreements	Key assets managed by the issuer are held under leases, concessions or license type arrangements with a limited remaining life	The airport is close to a breach under a material lease or concession arrangement that may lead to the termination of that contract
Factor 2: Market Position (15%)								
Size of Service Area	5%	Network of airports that serves the entire needs of a large sovereign state	Serves major metropolitan area or region of over 5m people	Serves major metropolitan area or region of between 1.5m and 5m people	Serves significant urban area or region of between 0.5m and 1.5m people	Serves an urban area or region of between 0.25m and 0.5m people	Serves an urban area or region of between 0.1m and 0.25m people	Serves an urban area or region of less than 0.1m people
Economic Strength & Diversity of Service Area	5%	Serves a large international gateway city with a highly diversified economy with solid historical and projected growth (e.g. a capital city of a G7 country)	Serves a large city or region with a strong and well diversified economic base with solid growth (e.g. major city in a large country or a capital city of a mid-sized European nation)	Serves a city or region with a developed and reasonably diversified economic base (e.g. regional city in a large country or a capital city of a smaller European nation)	Serves a city or region with a good economic base but subject to some industry concentration (e.g. a tourist region in an advanced economy)	Serves a small city or region, or a city or region with an evolving economy currently at a low base or with heavy industry concentration and hence susceptible to volatility	Serves a city or region with a weak or deteriorating economic base and very little diversification (e.g. a small island nation dependent on tourism)	Serves a city or region with a poor economic base with constrained recovery prospects and limited diversification
Competition for Travel	5%	Has a virtual monopoly with no reasonable alternatives	Has a monopoly of air travel within its geographical area but exposed to material competition from other modes of transport or Has dominant position (typically in excess of 85%) for providing air travel within its geographical area with limited competition from weaker airports and no material competition from other modes of transport	Has a dominant position for providing air travel within its geographical area with limited competition from weaker airports but exposed to material competition from other modes of transport	Has a majority of air travel market within its geographical area but exposed to substantial competition within its geographical area	Has a minority of air travel market within its geographical area but not dominated by other airport providers	Has a minority of air travel market within its geographical area and is dominated by a competitor	Offers no substantial competitive air service or Has a rapidly shrinking minority share within its geographical area

	Sub-factor Weight	Aaa	Aa	A	Baa	Ba	B	Caa
Factor 3: Service Offering (15%)								
Passenger Mix	5%	Share of origin and destination (O&D) passengers is greater than 95%	Share of O&D passengers is between 80% and 95%	Share of O&D passengers is between 70% and 80%	Share of O&D passengers is between 60% and 70%	Share of O&D passengers is between 50% to 60%	Share of O&D passengers is between 40% to 50%	Share of O&D passengers is less than 40%
Stability of Traffic Performance	5%	Long track record (>10 years) of traffic performance with minimal volatility and no history of negative shocks (e.g. standard deviation of long term passenger growth < 2%); and observed volatility trends are expected to continue	Long track record of traffic performance with very low volatility and quick recovery from any negative shocks (e.g. standard deviation of long term passenger growth < 4%); and observed volatility trends are expected to continue	Long track record of traffic performance with low volatility (e.g. standard deviation of long term passenger growth < 6%); and observed volatility trends are expected to continue	Long track record of traffic performance with moderate volatility (e.g. standard deviation of long term passenger growth < 8%); and observed volatility trends are expected to continue	Long track record of traffic performance with substantial volatility (e.g. standard deviation of long term passenger growth < 10%) or Future traffic performance is expected to show substantial volatility	Highly volatile traffic performance record (e.g. standard deviation of long term passenger growth > 10%) or Future traffic performance is expected to be highly volatile	No historical data or start up airport or Data of questionable quality
Carrier Base (hub airports)	5%	Primary carrier has credit profile of Ba or above and captures less than 50% of total transfer traffic	Primary carrier has credit profile of Ba or above and captures between 50% and 75% of total transfer traffic	Primary carrier has credit profile of B or below and captures less than 50% of total transfer traffic	Primary carrier has credit profile of Ba or above and captures more than 75% of total transfer traffic	Primary carrier has credit profile of B or below and captures between 50% and 75% of total transfer traffic	Primary carrier has credit profile of B or below and captures more than 75% of total transfer traffic	Primary carrier is expected to cease operations in the near future
Carrier Base (O&D airports)		Passenger traffic is diversified across a wide spectrum of domestic and international carriers with no carrier accounting for more than 10% of total passenger traffic	Primary carrier accounts for between 10% and 20% of total passenger traffic; remaining passenger traffic is spread out across a spectrum of domestic and international carriers	Primary carrier accounts for between 20% and 40% of total passenger traffic; remaining passenger traffic is well diversified across a number of other airlines	Primary carrier accounts for between 40% and 55% of total passenger traffic; remaining passenger traffic is diversified across a number of carriers	Primary carrier accounts for between 55% and 75% of total passenger traffic; remaining passenger traffic is spread out across a limited number of other carriers	Primary carrier accounts for between 75% and 90% of total passenger traffic; limited service from a number of other carriers	Primary carrier accounts for more than 90% of total passenger traffic

	Sub-factor Weight	Aaa	Aa	A	Baa	Ba	B	Caa
Factor 4: Capacity and Capital (5%)								
Ability to accommodate expected traffic growth	5%	Ability to accommodate expected future growth is unconstrained and No expansion capex required (maintenance capex only)	Ability to accommodate expected growth is unconstrained in the near and medium term; Accommodation of long-term growth requires moderate, standard capital improvements and The entity has a long history of delivering projects on budget and on time	Accommodation of mid-term growth requires moderate, standard capital improvements; Accommodation of long-term growth may require significant capital investment or lifting of externally imposed operational restrictions. and Project complexity is similar to projects the entity has completed on budget and on time in the past	Accommodation of near to mid-term growth requires significant capital investment or lifting of externally imposed operational restrictions and Project complexity is typically similar to projects the entity has completed on budget and on time in the past	Government action or settlement agreement and/or physical limitations and/or obsolescence of key assets restrict growth or Projects required to address limitations to accommodate growth are fairly complex relative to projects completed by the entity in the past	Government action or settlement agreement and/or physical limitations and/or obsolescence of key assets severely restrict growth or Projects required to address limitations to accommodate growth are very complex relative to projects completed by the entity in the past and/or the entity has a history of significant cost overruns and poor project management	Operational restrictions and/or obsolescence of key assets make it difficult to sustain current levels of operations
Factor 5: Financial Policy (10%)								
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/or 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

	Sub-factor Weight	Aaa	Aa	A	Baa	Ba	B	Caa
Factor 6: Leverage and Coverage (40%)								
(FFO + Cash Interest Expense) / (Cash Interest Expense)[13]	10%	≥10x	7-10x	4.5-7x	2.5-4.5x	1.8-2.5x	1.5-1.8x	<1.5x
FFO / Debt	10%	≥40%	25-40%	14-25%	8-14%	6-8%	3-6%	<3%
Moody's Debt Service Coverage Ratio[14]	15%	≥8x	6-8x	4.5-6x	3-4.5x	2-3x	1.5-2x	<1.5x
RCF / Debt	5%	≥28%	16-28%	10-16%	6-10%	4-6%	2-4%	<2%
Factor 7: Uplift for Structural Considerations								
Number of Notches Provided by Debt Structural Features (0-3 notches)								

[13] Cash Interest Expense = Interest Expense – Non Cash Accretion. For issuers that use unconventional debt funding, such as zero-coupon, capital accretion, index-linked bonds or swap arrangements, we seek to make the appropriate adjustments to the ratio calculations by removing the non-cash expense element. For clarity, Non-Cash Accretion is deducted in the numerator only to the extent it has been added to FFO, and it is deducted from the denominator only to the extent that it has been included in Interest Expense

[14] (FFO + Cash Interest Expense) / Debt Service Annuity. Debt Service Annuity is calculated with the following formula: ((ST Debt + LT Debt, gross) x Discount Rate)) / (1 – (1/(1 + Discount Rate)$^{\text{remaining concession life}}$))

Appendix B: Privately Managed Airports Grid Outcomes

In the table below, positive or negative "outliers" for a given sub-factor are 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 Baa-rated company whose rating on a specific sub-factor is in the Aa-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.

Issuer Name	Rating/BCA (if applicable)	Outlook	Grid-Indicated Rating	Ability and Willingness to Increase Tariffs	Nature of Ownership / Control	Size of Service Area	Economic Strength & Diversity of Service Area	Competi-tion for Travel	Passenger Mix	Stability of Traffic Perfor-mance	Carrier Base	Ability to Accommo-date Expected Traffic Growth	Financia l Policy	Cash Interest Coverage	FFO / Debt	Moody's DSCR	RCF / Debt	Rating Uplift for Structural Considera-tions
Aeroporti di Roma S.p.A.	Baa2	Positive	Baa2	Baa	Baa	Aa	Aa	Aa	A	A	B	B	A	A	A	Baa	Aa	-
Romulus Finance s.r.l.	Baa1	Positive	Baa2	Baa	Baa	Aa	Aa	Aa	A	A	B	B	A	A	A	Baa	Aa	-
Aeropuertos Dominicanos Siglo XXI, S.A.	B1	Stable	Ba3	Baa	Baa	Aa	Ba	B	A	Baa	A	Aaa	Baa	Ba	Baa	Caa	Aa	-
Airports Company South Africa SOC Ltd	baa3	Stable	Baa2	Ba	Aaa	Aaa	Baa	Aa	Aa	Baa	Ba	A	Baa	Baa	A	Ba	Aa	-
Australia Pacific Airports (Melbourne) Pty Ltd	A3	Stable	Baa1	A	Aa	A	Aa	Aa	Aa	A	Baa	A	A	Baa	Baa	Ba	Ba	-
Avinor AS	a3	Stable	A2	Baa	Aaa	Aa	Aa	Aaa	Aa	A	A	Baa	A	A	A	Baa	A	-
Birmingham Airport (Finance) Plc	Baa1	Stable	Baa3	A	Aa	Aa	A	B	Aaa	A	Aa	A	Baa	Baa	A	Baa	Caa	-
Brisbane Airport Corporation Pty Limited	Baa2	Stable	Baa2	A	Aa	A	Aa	Baa	Aa	Baa	Baa	Baa	Baa	Ba	Baa	Ba	Baa	-
Brussels Airport Company NV/SA	baa1	Stable	A3	Baa	Aaa	Aa	A	Baa	Aa	A	A	Aa	Ba	A	A	Baa	Aa	-
Cesky Aeroholding, a.s.	baa1	Negative	A3	A	Aaa	A	A	Aa	Aa	Ba	Baa	Baa	Baa	Aa	Baa	Baa	A	-
Copenhagen Airports A/S	baa2	Stable	Baa2	Baa	Aaa	A	A	Aa	A	A	B	Aa	Ba	Baa	Baa	Baa	A	-
Copenhagen Airports Denmark ApS	Baa3	Stable	Baa2	Baa	Aaa	A	A	Aa	A	A	B	Aa	Ba	Baa	Baa	Baa	A	-
Heathrow Finance plc	Ba1	Stable	Ba3	A	Aaa	Aa	Aaa	Baa	Baa	Aa	Ba	Baa	Ba	B	B	B	Caa	-
JFK International Air Terminal LLC	Baa3	Stable	Baa1	Baa	Ba	Aa	Aaa	Ba	Baa	Baa	Ba	Ba	Ba	Baa	A	Ba	Aa	2
JFK Terminal One Group	A3	Stable	Baa2	Aa	Ba	Aa	Aaa	Ba	Aaa	Aa	Aa	Baa	Aa	Baa	Baa	Caa	A	2
Malaysia Airports Holdings Berhad	baa1	Positive	Baa1	Baa	A	Aa	A	Aa	Aa	A	Baa	Aa	Baa	Baa	Baa	Ba	A	-
Manchester Airport Group Funding Plc	Baa1	Stable	A3	A	Aa	Aa	Aa	Ba	Aaa	Baa	Baa	Aa	Baa	A	A	Baa	Baa	-

Issuer Name	Rating/BCA (if applicable)	Outlook	Grid-Indicated Rating	Ability and Willingness to Increase Tariffs	Nature of Ownership / Control	Size of Service Area	Economic Strength & Diversity of Service Area	Competi-tion for Travel	Passenger Mix	Stability of Traffic Perfor-mance	Carrier Base	Ability to Accommo-date Expected Traffic Growth	Financia l Policy	Cash Interest Coverage	FFO / Debt	Moody's DSCR	RCF / Debt	Rating Uplift for Structural Considera-tions
N.V. Luchthaven Schiphol	a3	Stable	A3	Baa	Aaa	Aaa	Aaa	Aa	Ba	A	B	A	A	A	A	Aa	Aa	-
New Terminal Financing Company Pty Limited	Baa2	Stable	Baa3	A	Aa	Baa	A	Aaa	Aa	A	Ba	A	Baa	Ba	Baa	Ba	B	-
Perth Airport Pty Ltd	Baa2	Stable	Baa2	A	Aa	A	Baa	Aa	Aa	Baa	Baa	A	Baa	Baa	Baa	Ba	Ba	-
Princess Juliana Intl Airport Op Company N.V.	baa3	Stable	Baa3	Baa	A	Baa	B	Baa	A	A	Aa	Aa	Baa	Baa	Baa	B	Aa	1
Sydney Airport Finance Company Pty Ltd	Baa2	Stable	Baa3	A	Aa	A	Aa	Aa	Aa	Aa	Baa	A	Baa	Ba	Baa	Ba	Caa	-

Outlier Discussion

The following comments provide some insights on outliers for Sub-factor grid scores.

Factor 1: Concession and Regulatory Framework

The high number of positive outliers for the Nature of Ownership / Control Sub-Factor generally reflects a high degree of control over key airport assets in the sector, whereas stability of traffic control, financial policy and leverage and coverage are either slightly below or in line with ratings. The only negative outlier is JFK Terminal One Group, where the issuer operates a concession with a relatively short life and only have effective control over some terminal facilities, which is offset by the strength of its project finance structures, economic strength and diversity of the service area, and passenger mix.

Ability to Increase Tariffs: Heathrow Finance plc is a positive outlier. The strong score on this factor is balanced by weaker scores for financial ratios.

Factor 2: Market Position

The large number of positive outliers in Size of the Service Area, Economic Strength & Diversity of Service Area, and Competition for Travel reflects that most of the rated airport operators have an entrenched position, are located in highly developed countries, serve large, stable markets with a diversified economic base. In general, these consideration have been balanced against higher leverage and weaker financial metrics.

Negative outliers for the Competition for Travel Sub-Factor and include Birmingham Airport (Finance) plc, an airport operator with several competitors within its catchment area and JFK Terminal One Group who faces direct competition within the perimeter of the airport where it operates, though the competitive environment is stable because of the space and flight constraints at the airport. Low scores on this sub-factor are balanced by high scores for size of service area and passenger mix.

Factor 3: Service Offering

Positive outliers for the Passenger Mix Sub-Factor tend to include Origin and Destination airports, whereas most negative outliers for the Carrier Base Sub-Factor, such as Aeroporti di Roma S.p.A. / Romulus Finance s.r.l., Copenhagen Airports A/S / Copenhagen Airports Denmark ApS and N.V. Luchthaven Schiphol are hub airports exposed to relatively weak carriers.

Factor 4: Capacity and Capital

Positive outliers include companies with ample spare capacity but their ratings are constrained by higher leverage and/or relatively weaker metrics (e.g. Brussels Airport Company NV/SA, Copenhagen Airports A/S, and Copenhagen Airports Denmark ApS) or by a particularly strong weakness elsewhere in its business profile (e.g. Aeropuertos Dominicanos Siglo XXI, S.A, and Princess Juliana Intl Airport Op Company N.V.).

Factor 5: Financial Policy

The results of mapping are generally consistent with a medium score, around the central "Baa" category. The only positive outlier is Aeropuertos Dominicanos Siglo XXI, S.A. for which a high score in this factor is balanced by particular weaknesses in its business profile, such as exposure to significant competition for travel and to a service area with an evolving economy susceptible to volatility; and a very weak score under Moody's DSCR.

Factor 6: Leverage and Coverage

The results of mapping generally show negative outliers reflecting the fairly leveraged financial profile of the rated airport operators. These weak credit metrics are typically balanced by strong business profiles.

JFK Terminal One Group, owned by an airline consortium, does not operate as a profit maximising entity and seeks to minimize costs. Rates are set only high enough for debt service coverage to reach break-even levels so the financial metrics are significantly lower than other issuers covered by this methodology. This is offset by the strength of the contracts and the diversity of the airlines that have agreed to pay tariffs that are sufficient to cover costs and debt service.

Appendix C: Rating Considerations for Air Traffic Control Providers

In this appendix we discuss key rating considerations in assessing the credit quality of air traffic control providers (ATCs, or ATC providers).

Moody's currently rates the following ATC providers:

EXHIBIT 3
ATC providers

Company Name	Rating / (BCA if applicable)	Approximate Rated Debt in US$ million	Jurisdiction
DFS Deutsche Flugsicherung GmbH	Aa3 (baa1), negative	60	Germany (Aaa, stable)
NAV CANADA	Aa2/Aa3*(aa2), stable	2,000	Canada (Aaa, stable)
NATS (En Route) Plc	A2 (a3), stable	1,000	United Kingdom (Aa1, stable)
Letove prevadzkove sluzby Slovenskej republiky, s.p. (LPS SR, s.p.)	A2 (Aa1.sk**), stable	0	Slovakia (A2, stable)

NB: * senior secured/senior unsecured ratings; ** national scale rating

The business risk profile of ATC providers is materially different from privately owned airports, which generally face an element of national or international competition and also derive part of their earnings from the provision of competitive retail activities and other services.

In contrast, ATC providers operate as natural monopolies, with revenues typically determined through tariff formulas that may or may not be regulated. In addition, given the strategic importance of national airspace and support to military operations, ATC providers are – in most cases – also closely linked to national governments, even when they are not government-owned.

In our analysis of ATCs, we take into account a variety of qualitative and quantitative factors, some of which apply to the sector as a whole and some of which are specific to individual issuers. While ratings reflect all pertinent considerations, we have identified five rating factors, enumerated below, that have general applicability and form a framework for our analysis of the credit quality of issuers in this sector.

1. Legal and regulatory environment
2. Traffic risk and airline concentration
3. Operational characteristics of service area and investment requirements
4. Financial policy
5. Leverage and coverage metrics

This framework is subject to the same assumptions and limitations as the grid for privately managed airport issuers, and our analysis of ATCs incorporates the other ratings considerations for airports[15]. In addition, ratings of ATCs incorporate other issuer-specific considerations, including the link to national security policy and government ownership.[16]

[15] See section above, Assumptions and Limitations, and Rating Considerations That Are Not Covered in the Grid.
[16] Please see Government-Related Issuers: Methodology, October 2014.

Legal and regulatory environment

The legislation/decrees under which ATCs are established and their legal form are foundational aspects of their credit quality. In general, ATCs are granted a monopoly position in navigational control of all aircraft operating within a nation's airspace. Their legal right to charge fees to all users of their airspace and the ability to enforce those charges are key considerations for their ability to generate sufficient revenues to recover costs, make investments and service their debt. ATCs may be government owned or controlled, or they may have a more independent organizational structure. ATCs may be operated for the public good, they may operate as a type of cooperative, or they may be privately-owned or partially privatised companies. Nonetheless, ATCs generally have a strong link to their national government, since a well-regulated airspace is of great importance to efficient air travel (and hence to a well-functioning economy) and to domestic security.

The ability and willingness to charge sufficient tariffs is one of the most important factors in assessing an ATC's credit quality, because a delay in cost recovery may cause financial stress. As monopoly providers of essential infrastructure, the tariffs charged by many ATCs are regulated in some form. In addition to setting tariffs, there are a number of ways that regulatory decisions can affect an ATC provider's business position, including how capital expenditure programmes are determined and how the regulator judges the ATC's cost-effectiveness, including the setting of efficiency targets to reduce operating costs. However, the regulatory approach can vary and, within our rated universe, ranges from no external regulator and no or limited restrictions on tariff increases to a more incentive-based approach under the supervision of an independent regulator.

In assessing the framework for tariff-setting (whether a regulatory process, a board of directors' decision, or some other approach), we consider the transparency, consistency, predictability and supportiveness of the process, the timeliness of tariff-setting (including how quickly capital investments are recovered, how frequently tariffs are reviewed, the length of process and mechanisms for re-setting rates within a regulatory period), and the sufficiency of tariffs to cover the issuer's costs, pay its debt service, and permit necessary investments in the air traffic control infrastructure. We would also consider any political or commercial interference in the process of tariff setting, which is generally a material credit negative.

A regulatory framework may have multiple components. For example, the Single European Sky initiative of the European Union sets the overarching regulatory principles as well as Europe-wide and national targets for cost efficiency, capacity, safety and environmental aspects for all European ATC providers. In addition, national regulators may provide detailed targets and design relevant incentive mechanisms specific to an ATC in that country.

The ability to set tariffs may also be affected by the value of the ATC's airspace to the global airline industry – see below.

Our assessment considers the track record for decision making and tariff-setting and also our forward-looking view on whether these conditions will continue to persist. Our assessment also considers the actions of management in establishing and maintaining constructive regulatory relationships.

A clearly defined tariff formula or overarching approach to tariff increases, either set out in national law or published as part of regulatory methodologies, are useful tools for investors to assess the predictability of future cash flows and, provided they are also supportive, are credit positive for ATCs. A framework that permitted an ATC to adjust rates within a regulatory period to compensate for changes in flight volumes such that revenues remain stable would generally also be considered as credit positive. Under an incentive-based approach, as is currently common across Europe, we consider the efficiency incentive targets set out by the regulator and the company's track record and expected future performance in achieving such targets.

A poorly defined formula, a history of untimely, meagre, or unpredictable tariff-setting would typically have a material negative impact on ratings.

Traffic risk and airline concentration

To assess the stability and predictability of revenues, we also take into account the ATC's exposure to fluctuation in traffic volumes, which are normally driven primarily by global or regional macroeconomic factors as well as local or regional developments, including geopolitical conditions. In addition, we also look at revenue concentration risk, e.g. exposure to a single or limited number of airlines.

We assess traffic risk in the context of the legal frameworks and regulatory price-setting mechanisms. These can include protection for traffic volume fluctuations. However, traffic decreases mean that the ATC's costs, which are largely fixed, must be recovered from a smaller number of flights, which could affect its customers (the airlines). ATC charges are typically an extremely small percentage of an airline's operating costs, which is an important mitigating factor.

We consider the exposure of an ATC to individual airlines, and when concentration is high, their credit quality. However, as with airports, exposure to credit quality may be materially mitigated by the attractiveness of the airspace to other airlines, who may increase their service offerings to replace those of a financially stressed or shrinking airline. Furthermore, counterparty risk may be transferred to a supranational collection agency, as is the case in Europe, or reduced through frequent and/or advance cash collection.

In assessing the implications that the loss of a key airline customer may pose, we consider the tariff adjustment mechanism that is available to the ATC provider, its liquidity in relation to any expected period of materially decreased traffic, the characteristics of the service area (which may drive demand for ATC services – see below), and other pertinent factors.

Operational characteristics of service area (including necessity of flight path for the global economy) and investment requirements

The operational characteristics of the ATC service area are typically an extremely important driver of demand for ATC services that underpin its cost efficiency and its credit quality. They can also affect capacity and safety performance requirements for the ATC provider. ATCs that have a stable, high level of traffic (both O&D flights and over-flights) typically benefit from efficiencies of scale. ATCs whose geography makes their airspace a fuel-efficient path for flights to populous destinations have a more entrenched essentiality and monopoly position, as well as an at least theoretical ability to increase tariffs, because ATC charges are generally very small in comparison to the cost of fuel for an airline. Extensive airspace in an area with numerous over-flights will, however, require the ATC to have more complex systems and a larger number of personnel to ensure efficient and safe handling of flights. These requirements will likely result in higher total operational costs for the affected ATC business. While an ATC's costs are largely fixed in the short run, a rapid increase in the number of flights creates upward cost pressures in the medium term – both for personnel and capital investment for systems and monitoring equipment. Furthermore, in regulatory regimes requiring cost efficiency targets, larger and more complex ATCs may have greater pressure to reduce operating expenses, since more airlines will benefit (and may be more likely to petition the regulator). Nonetheless, an ATC provider covering a large area that cannot be avoided for certain routes, may be better protected against general volume and customer concentration risks.

As part of the operational risk characteristics we also assess the capex programme and associated financing and execution risks. We primarily consider (1) the size of the programme relative to the issuer's existing asset base (e.g. expressed in percentage of its Regulatory Asset Base or total fixed assets); and (2) its technical complexity, i.e. the type of assets to be built or developed and associated technical issues as well as the relative concentration of challenging projects within the issuer's total capex programme.

The majority of investments for ATC providers are typically linked to the computer systems that process and manage flight data, whose integration into a live business not only poses technological risks, but may also have significant implications for airspace safety. In that respect, the track record of the ATC provider in implementing technological updates in a safe and controlled manner is an important aspect of our risk analysis.

Financial policy

The financial policy of ATC providers is an important factor in ratings, as it directly affects ATCs' debt levels, tolerance for risk, potential for adverse changes in financing and capital structure, and thus credit quality. Financial policy is often tied to the issuer's legal structure and governance. Our assessment of an ATC's financial policies includes the perceived tolerance of a company's governing board and management for financial risk and the future direction for the company's capital structure, its public commitments to maintain credit quality, its track record for adhering to commitments, and our views on the ability for the company to execute its investment plans in line with financial targets.

In this context, we consider the company's approach to financing its activities, in particular the balance it strikes in apportioning risk between creditors vis a vis owners and other stakeholders (including employees and their unions). We assess both the company's historical track record of financing decisions, its stated objectives and the investment return requirements of its owners. While returns/distributions to owners may be enhanced by higher levels of leverage, this is usually to the detriment of credit quality. In addition, ownership is a key differentiating credit consideration – we would view shareholders with either short-term or opaque financial objectives or a lack of track record as providing a more uncertain basis for a balanced financial policy than shareholders with more long-term horizons, who may be willing to forego near-term distributions in order to increase the financial flexibility of the company.

A low risk financial policy can also be driven by government policy or legal framework that stipulates a certain financial structure or not-for-profit character of the ATC provider. For example, not-for-profit organisations with no shareholders do not face external pressure for significant returns, a credit positive. However, the absence of a first-loss-absorbing equity piece in the capital structure will normally require creditors to be exceptionally comfortable with the predictability of the legal or regulatory framework underpinning the revenue generation.

Leverage and coverage metrics

Whilst the above factors capture the credit strengths and weaknesses afforded by the ATC provider's fundamental business and its financial policies, a company's credit profile also considers its financial metrics. An issuer with substantially more debt than its peers relative to the value of its asset base will generally have a higher probability of default.

We consider the same leverage and coverage metrics as for airports but these metrics may be less meaningful for ATCs with a different business model and less competition. No single leverage or coverage ratio provides a complete credit picture in any case. We may also look at profitability margins, which can help indicate an ATC's ability to manage its operating expenses in relation to its revenue growth and stability. Our assessment of all ratios takes into account the peculiarities of different regulatory frameworks, which is one reason that it is not useful to publish grid scores for the ATCs.

In assessing the financial risk profile on ATC providers, we also consider metrics in relation to the entity's business risk, its profit motive, and its ability to increase revenues when costs are increasing. As providers of monopolistic services, ATCs generally have good visibility of revenues and cash flows for a few years into the future, whether revenues are regulated or self-determined. Although any published metrics will tend to focus on audited historical financial information, our analysis is primarily forward-looking.

Structural considerations and sources of rating uplift from creditor protections

ATC providers may be financed using a variety of different techniques, ranging from a straight forward, unsecured debt structure with few, if any, covenants, to a more highly leveraged debt structure with tightly structured financial and operational covenants that significantly restrict management's flexibility to alter the business and financial risk profile. Such additional credit protection mechanisms are more akin to those of project financing transactions. Our assessment of these features for ATCs is similar to the considerations described above for Privately Managed Airports.[17]

[17] Please refer to the section Uplift for Structural Considerations.

Moody's Related Research

Rating Methodologies

» Government Related Issuers, October 2014 (173845)

» How Sovereign Credit Quality May Affect Other Ratings, February 2012 (139495)

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.

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.

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